1. THE EDITOR

1.1 OVERVIEW

The following is a guide to using the PCIF word processing abilities on the 99/4A home computer. These may be utilized through the Editor and the Text Formatter. The Editor is used to enter the text of a document or program into a file on a disk. Once the text is on disk, the Text Formatter may be used to print it.

1.1.1 Calling Up the Editor

The Editor may be called into execution by pressing the E key when the p-System command menu is displayed at the top of the screen. If the program SYSTEM.EDITOR is present on one of the disks it will be loaded into memory and placed into execution. The message Cannot find SYSTEM.EDITOR will be displayed if the program is not available on the disks presently in the disk drives. Placing the proper disk (one having the SYSTEM.EDITOR) into any disk drive and pressing the E key is the only corrective action required.

When the editor has been loaded into memory and is placed into operation, it will clear the screen and display the prompt:

Text edit

> **Volume name:[DISK1]**
> **File name:[AFILENAME]**
> **File type:[FTYP]**

The default name (a string between square brackets) may be used by pressing <enter>, or a new name may be entered by typing it in beside the default and then pressing <enter>. A new text file may be started by typing <space> and then <enter>. Type <ctrl-.> and <enter> to leave the editor and return to the p-System command line.

The Editor command line will now be displayed on the top line of the screen followed by the first twenty three lines of text from the document named above. If no document name was given the screen will be blank except for the Editor prompt line which appears as follows.

>EDIT: Adj Cpy Del Fnd Ins Jmp Rep Xch Qt Set [E.8h]

NOTE: If word processing is required, then the editor operating mode must be modified before typing any data. This is accomplished by typing S for set, E for environment, **W** for word processing, and T for true. Now type <ctrl-C> twice to return to the Editor command line. This process is required only for new documents; old documents being modified will be in word processing mode if this process has been performed in the past.

1.1.2 Entering Text

To enter new text into an existing file, use the arrow keys and position the cursor at the place where the new text is to be inserted. Before typing anything, however, press the letter I to tell the Editor that new text is to be inserted. The Editor will acknowledge by displaying

INSERT: Text [<enter> accepts insertion, <esc> ignores insertion]

on the top line of the screen.

Now you can type in the desired text of the document, just as if using a typewriter. However, if the Editor is in Word processing mode (see section 1.3.8) when the end of a line is reached, do not press <enter>. Instead, just keep typing and let the Editor start each succeeding line automatically (if the Editor is not in Word processing mode <enter> does need to be pressed). This is called "auto Fill", and it will take a little getting used to. When in Word processing mode press <enter> only to force a line-break, such as at the end of a paragraph. In Word processing mode the line-break will appear on the screen as two vertical bars ("||"). The text formatter will not print the vertical bars on the final document.

Upon completion of entering the new text, press <ctrl-C> for the Editor to accept it. If <esc> is pressed the Editor will not accept the new text, i.e. the insertion will be aborted.

1.1.3 Saving the Text

Typing Q (the Quit command) will allow the user to access the Save option to store edited text on disk. When the S key is typed in response to the Quit menu, a new prompt is displayed on the screen which may look as follows:

Enter file name or <cr>

The file name in square brackets is the name entered when starting this edit session and is the default file name to update if the <enter> key is pressed. A new file name may be used to save the present document so as to retain the last version under its old name. Pressing <ctrl-.> will leave the save function and return to the Quit function prompts.

1.1.4 Quitting

After typing Q, the user will select the Leave editor option by typing L. This will allow the user to exit from the editor. If the current file has not been saved, a last chance for saving will be available at this time.

NOTE: More detailed, but necessary information about entering text, saving edited text, and leaving the Editor can be found in the Commands section - (1.3).

1.2 FUNDAMENTALS

1.2.1 The Edit Buffer

All text editing is accomplished in a large region of computer memory called the Edit buffer. When editing an existing text file, the Editor reads the file from disk into the Edit buffer. Editing changes are made in the Edit buffer, leaving the original file on disk unchanged. When creating a new text file, the Edit buffer starts out empty. At the conclusion of an editing session, the contents of the Edit buffer may be saved on disk.

1.2.2 The Cursor

The cursor identifies the position in the Edit buffer where editing is to take place. The Editor lets the cursor move to any desired place in the text. On the screen, the cursor position is identified by a distinctive white box which overlays one character position.

It is helpful to think of the cursor position as being at the lefthand edge of the white box. For example, if the Editor is instructed to Insert new text at the cursor position, the insertion is placed just ahead of the boxed character.

1.2.3 The Screen

The video screen always displays a portion of the Edit buffer in the vicinity of the cursor, the region of text in which editing may take place. Any changes to the text are immediately reflected on the screen. The cursor may be freely moved anywhere on the screen. If the cursor is moved to a position beyond the limits of the screen, then the screen is automatically updated to display the vicinity of the new cursor position.

1.2.4 The Prompt Line

The top line of the screen is called the prompt line, and is used by the Editor to remind the user of the current editing mode or level (Ins, Del, Rep, Zap, etc.), the principal options available in that mode or level, and the direction mode of the Editor. The remaining lines of the screen are used for text display.

When the Editor is first called up, the direction mode is forward. The directional mode affects the operation of many editing commands, and keys, that move the cursor, and is explained in detail in later sections.

1.2.5 Cursor Movement

The Cursor-Up, -Down, -Left, -Right keys move the cursor in the corresponding direction on the screen. These keys have arrows pointing in the direction of movement and are envoked by holding down the <fctn> key then pressing the desired

arrow key. They will not move the cursor off-screen, nor will they permit the cursor to be moved to a position beyond the rightmost character of a text line.

If the cursor is at the rightmost character of a text line, the Cursor-Right key will cause the cursor to 'wrap around' to the leftmost character of the following line. Likewise, if the cursor is at the leftmost character of a text line, the Cursor-Left key will move the cursor to the rightmost character of the preceding line.

1.2.6 Other Keys that Affect Cursor Movement

The space bar moves the cursor one position to the right/left in Foreward/Backward mode. The <ctrl-D> key moves the cursor to the next tabstop position to the right/left when in Forward/Backward mode. The <enter> key moves the cursor to the leftmost character of the next line (previous line in backward mode). If the cursor is on the last text line of the screen, <enter> will cause the screen to scroll up.

The W key (Word command) moves the cursor to the beginning/end of the next/previous word in Forward/Backward mode.

The P key (Page command) displays the next/previous screenful of lines in Forward/Backward mode, and leaves the cursor, if possible, on the same line on the screen although it is in a new spot in the text.

The = key (Equals command) moves the cursor to the 'Anchor' position. The Anchor is defined to be the beginning of the last section of text which was inserted, found or replaced from anywhere in the file.

The < (less than) or , (comma) key sets the direction mode of the Editor to Backward mode. The > (greater than) or . (period) key sets the direction mode to Forward mode.

1.2.7 Repetition

Many editing commands (including all of the cursor movement commands) allow repetition. To repeat a command, enter the desired repeat-factor before typing the command key. The execution of the command is repeated for the number of times indicated by the repeat-factor. For example, to move the cursor forward fifteen words, press the following keys in sequence:

15W

which is exactly equivalent to pressing W fifteen times.

It is also possible to specify indefinite repetition by pressing the / key followed by the desired command key. For example, typing a slash followed by a Cursor-Down key will put the cursor at the beginning of the last line in the Edit buffer.

1.2.8 The Copy Buffer

Whenever the Delete or Zap command is used to delete a portion of text from the Edit buffer, the deleted text is automatically saved in a region of computer memory called the Copy buffer. Thus, when a portion of text is deleted it may be retrieved with the proper command (see section 1.3.5). Another use is to move a portion of text from one part of a document to another. First delete the text (using Delete or Zap), then move the cursor to the desired new location, and finally get the deleted text back using the C command. (Note: When using the Delete command it is not necessary to perform the deletion to move text into the Copy buffer. Bracket the text to be put in the Copy buffer as if it was to be deleted, but rather than pressing <ctrl-C>, press <ctrl-.> (which aborts the deletion). The text will exist in the Copy buffer just as if it had been deleted.)

Whenever the Insert command is used to insert text into the Edit buffer, the inserted text is also saved in the Copy buffer. Thus, to insert the same text in several different places in a document, the text needs only to be typed in once. For all the other places where that same text is needed, simply position the cursor and then get the Copy buffer (see Copy, 1.3.5).

The Copy buffer is of limited size. Whenever a deletion is greater than the buffer available, the Editor will issue the following warning upon pressing <ctrl-C>:

There is no room to copy the deletion. Do you wish to delete anyway? (y,n)
Deletion is 4678 out of the 14111 characters in the total file.

(The numbers 4678 and 14111 are just examples here) Typing Y performs the deletion and typing N aborts it.

Remember that the Copy buffer contains only the text from the last Delete, Zap, or Insert; any previous content of the Copy buffer is lost. Also, using the Margin command (see Margin Text 1.3.12) invalidates the Copy buffer (the Margin command utilizes the same region of computer memory that the Copy buffer is in to perform its task).

1.3 COMMANDS

1.3.1 Exchange

The X key causes the Editor to enter eXchange mode.   The prompt

>EXCHANGE: text <vector keys> [<enter>,<esc> current line]

will be displayed.

In this mode, each character typed replaces one character on the screen, starting with the current cursor position. Pressing <ctrl-H> or the <Cursor-Left> key causes the cursor to back up one character.   Using the <Cursor-Right> key causes the cursor to move forward one character and does not change the original character in that position. Pressing the <Cursor-Up> key moves the cursor up one line if it is not on the first line in the file. Pressing the <Cursor-Down> or <enter> keys moves the cursor down one line. If the cursor is on the last line in the file then the Edit buffer will be extended.   Using the <Cursor-Up>, <Cursor-Down>, or <enter> keys will cause any changes on the line just left to be accepted.

Pressing <INS> (<fctn-2>) causes one space to be inserted into the line at the cursor position.   Pressing <DEL> (<fctn-1>) causes the character beneath the cursor to be deleted.

There are two ways of terminating eXchange mode.   Pressing <ctrl-C> causes the changes made on the same line as the cursor to be accepted.   Pressing <ctrl-.> causes the changes made on the same line as the cursor to be discarded and returns that line and cursor to their pre-eXchange state.

1.3.2 Insert

The I key causes the Editor to enter Insert mode.   The prompt

>INSERT: Text [<enter> accepts insertion, <esc> ignores insertion]

is displayed.

In this mode, characters typed in are inserted at the cursor position (i.e., immediately prior to the position that the cursor box occupied at the time that Insert mode was entered).   To help remind the user of the context of the insertion, the remainder of the line to the right of the cursor is displayed on the right edge of the screen.

As characters are typed, they appear on the screen and the cursor advances to the next position.   When the cursor reaches the Right margin on the screen, and Auto Fill is on (Auto Fill is a variable in the Editor's Environment section, see 1.3.8), a new line will be automatically started and any partially typed word moved to the beginning of the new line. If Auto Fill is off, characters may be typed in until the cursor reaches the right edge of the screen.   When the cursor reaches the right edge of the screen all the characters typed will be inserted into the Edit buffer, but the Editor will only show a "!" on the right edge of the screen.   In order to get these characters back on the screen, leave Insert mode (by pressing <ctrl-C>), position the

cursor before the "I", and insert <enter>.

If Auto Linebreak is on, pressing the <enter> key will insert a line-break character into the text, and will always begin a new line. If Auto Indent is on (Auto Indent is also an Environment variable), the new line will begin at the indentation of the line above, otherwise it will begin at the Left margin. A line-break appears on the screen as two vertical bars ("||"), but this will not print on the final document if the Text Formatter is used to print it. When typing in Insert mode, with Auto Linebreak on, do not press <enter> at the end of a line, except to force a line-break in the document (e.g., at the end of a paragraph).

If Word processing mode is on then Auto Fill and Auto Linebreak are on and Auto Indent is off. These and other values which describe the Editor's Environment are discussed in the Environment section.

There are two ways of terminating Insert mode. Pressing <ctrl-C> causes the insertion to be accepted, redisplays the remainder of the screen, and leaves the cursor positioned following the insertion. Pressing <ctrl-.> causes the insertion to be discarded and returns the screen and cursor to their pre-Insertion state.

1.3.3 Delete

The D key causes the Editor to enter Delete mode. The prompt

>DELETE: <Moving commands> {<enter> to delete, <esc> abort}

is displayed.

The position of the cursor at the time Delete mode is entered is known as the "anchor" position. Once in Delete mode, the cursor may be moved by means of the cursor arrow functions and the other cursor movement commands (spacebar, <ctrl-D>, <ctrl-H>, <enter> and W). As the cursor is moved away from the anchor position, all text between the anchor and the cursor disappears from the screen. When the desired deletion has been bracketed between the anchor and the cursor, Delete mode may be terminated.

There are two ways of terminating Delete mode. Pressing <ctrl-C> causes the bracketed text to be deleted from the Edit buffer, redisplays the screen to reflect the effect of the deletion, and leaves the cursor positioned following the deletion. Pressing <ctrl-.> cancels the deletion and returns the screen and cursor to their pre-Deletion state. Either mode of termination causes the Copy buffer to contain the text bracketed between the anchor and the cursor.

1.3.4 Zap

The Z key causes the Editor to enter Zap mode. The menu

ZAP: From To Help { <enter> to zap, <esc> to abort }
From what marker? *   [Beg End Taq 'marker' {<*> for current cursor}]
    To what marker? *

is displayed.

Zap deletes text in the Edit buffer between markers. It works like Delete in that the text to be deleted needs to be bracketed. Zap is terminated either by the <ctrl-C> or <ctrl-> keys like Delete. Pressing <ctrl-C> performs the deletion (and puts the text deleted into the Copy buffer), and pressing <ctrl-> aborts the deletion (unlike Delete the Copy buffer will not contain the text that would have been deleted).

To bracket the text that is to be deleted, the To and From points must be set. These points may be any of the following:

- the names of markers (see 1.3.10)
- B (the beginning of the Edit buffer)
- E (the end of the Edit buffer)
- T (the Tag point, discussed with markers later)
- * (the position of the cursor when Zap mode was entered)

To set the "From" point type F (the cursor will jump to the right of the question "From what marker?"), enter a valid "point" (as described above), and then press <enter>. To set the "To" point type T, a valid "point", and press <enter>.

Once the "To" and "From" points have been set, press <ctrl-C> to delete the text between the points set, or press <ctrl-> and no changes will be made to the Edit buffer.

1.3.5 Copy

The C key (Copy command) causes the Editor to copy the contents of a specified portion of a file, or of the Copy buffer, into the Edit buffer at the cursor position. The prompt

>COPY: Buffer contents From file   Help <esc>

will be displayed.

Typing B causes the Copy buffer contents to be inserted in the Edit buffer at the cursor. Typing F causes the following prompt to be displayed:

>Copy: From what file[marker,marker]?

A file name must be specified here. The Editor automatically appends ".TEXT" to the file name entered unless the name specified ends with ".TEXT" or a period (".").

If the file name did end with a period the Editor will strip it off. Following the file name the user may specify that only a certain portion of the file is to be inserted into the Edit buffer. This is done by typing the file name followed by a left bracket ("["), then the name of the marker that delimits the beginning of the portion of text to copy (or nothing to start copying at the beginning of the file), followed by a comma (","), then the name of the marker that is positioned at the end of the text to be inserted into the Edit buffer (or nothing to copy to the end of the file), finally followed by a right bracket ("]").

Examples of file name specifications:

DISK1:FARKLE	copies FARKLE.TEXT from DISK1 into the Edit buffer
DISK1:FILE[ONE,TWO]	copies from markers ONE to TWO in file FILE.TEXT on DISK1 into the buffer
DISK1:A.TEXT[ONE,]	copies from marker ONE to the end in the file A.TEXT into the buffer
A:DATA.[,TWO]	copies from the beginning to the marker TWO in the file DATA on disk A into the Edit buffer

1.3.6 Find and Replace

The Find and Replace commands have several similarities and are therefore discussed together.

The F key causes the Editor to enter the Find mode. The prompt

>Find[1]: Literal <target> =>

or

>Find[1]: Token Help <target> =>

is displayed. The prompt displayed is dependent upon the Environment variable, Search tokens. If Search tokens is on, then the first prompt is displayed as the default search mode is Token mode (explained later, see 1.3.8), otherwise the second prompt is displayed as the default search mode is Literal (also explained later).

Find searches through the Edit buffer, in the direction specified on the promptline, and looks for the text displayed between the square brackets, of the string specified. If the string is found, the cursor will be placed at the end of the string if the direction mode was forward, and at the beginning of the string if the direction mode was backward.

The R key causes the Editor to enter the Replace mode. The prompt

>Replace[1]: Literal Verify <targ> <sub> =>

or

>Replace[1]: Token Verify <targ> <sub> =>

is displayed. The prompt displayed is dependent upon Search tokens just as it is in the Find command.

A repeat-factor is valid and must be typed before typing F to select Find mode or before typing R to select Replace mode. The repeat-factor appears in square brackets on the prompt line immediately following the word Find or the word Replace. If no repeat-factor is specified, a repeat-factor of one is used. If a repeat-factor of "/" is used, searching or replacing ends at the last occurence of the specified string. Use of the repeat-factor is somewhat different for the two modes. If a repeat-factor of N (some number) is specifed with Find mode, the cursor is placed after the Nth occurrence of the specified string. If a repeat-factor of N is specified with Replace mode, the first N occurrences of the specified string are all replaced with the second specified string.

Find and Replace modes both operate on delimited strings. The Editor has two string storage variables. The first string, called <target> or <targ> by the prompt line, is the "target" string. The target string is the sequence of characters which will be sought by Find mode, or sought and replaced by Replace mode. The second string, used only in Replace mode, is called <sub> by the Replace prompt line and is the "substitute" string. The substitute string will replace the target string when the target string is found (only in Replace mode).

To allow the target and substitute strings to contain any characters (including <enter>), each string must be enclosed in "delimiters". A delimiter is just a character that does not occur in either the target or the substitute. Both delimiters of the string must be the same though the delimiters for the target and substitute may be different.

For example "*" is the delimiter for the string below

repeat-factor

Find and Replace modes both start searching for the target string beginning from the position of the cursor, and scan through the text in the current direction mode (the direction mode is indicated on the promptline).

The target string is treated somewhat differently, depending on whether Literal search or Token search is selected. The default setting is dependent upon the value of the Environment variable, Search tokens. If Search tokens is on (see the section on Environment 1.3.8), the default search mode is Token mode, otherwise it is Literal mode. The Find and Replace prompt lines indicate only the non-default choice. That is why the prompt lines have two different forms. To specify a search mode, type T (Token search) or L (Literal search) before entering the target string. If a search mode is not specified, the default search mode is used.

In Literal search mode, the Editor will look for any occurences of the target string. In Token search mode, the Editor will look for isolated occurrences of the target string. The Editor considers a string isolated if it is surrounded by any combination of delimiters. For example, in the sentence "Down by the sea you may find seashells.", using the target string "sea", Literal mode will find two occurrences of "sea" while Token mode will find only one, the word "sea". Token mode ignores spaces within strings so that both "('a')" and "('a')" are considered to be the same string.

In both Find and Replace modes, typing S in the place of a delimited string tells the Editor to use the same string that was last specified for that variable (target or substitute). For example, in Replace mode, typing

S/<any-string>/

causes the Replace mode to use the previous target string (and a new substitute string), while typing

/<any-string>/S

causes the previous substitute string to be used (and a new target string). From the Editor, typing

FS

will cause the cursor to jump to the next occurrence of the previously specified target string. When the Editor is in backward direction mode (movement towards the beginning of the file), FS may appear to have no effect. This is because Find mode places the cursor just after the found target string. Unless the cursor is moved, FS will find the next occurrence of the target string in the backwards direction, which in this case is just the same occurrence previously found.

Replace mode has a Verify option which permits examination of each target string as it is found, before the replacement is carried out. The user may then decide whether this occurrence of the target string is to be replaced or not. To select the verify option in replace mode, type V before typing the target string. The prompt line

>Replace[1]: <esc> aborts, 'R' replaces, ' ' doesn't

appears whenever Replace mode has found an occurrence of the target string in the file and Verify has been requested (the number in the square brackets represents the maximum number of times left, less one, Replace will search for the target). Typing R at this point will cause the specified replacement to be carried out, while pressing space will cause the Replace mode to search for the next occurrence of the target string, provided the specified repeat-factor has not been reached. The repeat-factor specifies the number of times an occurrence of the target string is to be found, not the number of times R was actually typed to cause its replacement. Use "/" as the repeat-factor in order to examine every occurrence of the target string.

1.3.7 The Set Level

The S key causes the Editor to enter the Set level. The prompt

>SET: Environment Marker Tabs <enter>

is displayed.

From the Set level the user may change the Environment variables by typing E (which puts the Editor in Environment mode), add or delete markers by typing M, or change and add tab stops by typing T.

1.3.8 Environment

The Editor lets the user set various aspects of the editing "environment" such as left and right margins, word processing mode, the default search mode, etc. Typing S, at the Edit level, then typing E will put the Editor in Environment mode and will display a menu similar to the following one.

```
>ENVIRONMENT: Help {options} <enter> to leave
        Word processing mode   True
   auto Fill                   True
   auto Breakline              True
   auto Indent                 False
   real Tabs                   True
        Left margin            1
        Right margin           80
        Search tokens          True
        Make backup            True
```

7566 bytes used, 8306 available

```
Patterns:
<target>= 'hello', <subst>= 'goodbye'
```

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By typing the letter that is in bold face for each option (the F in "auto Fill" for example), any or all of the options may be changed. When beginning a new document or program the Editor will start with a default Environment setting. The information stored in the Environment, however, is saved with the Edit buffer, so that the next time the file is edited, the Environment need not be changed even if it has been changed from the default setting.

The Environment options

Word processing mode

Using the Word processing option is a handy way of setting other options in the Environment. These options cause the Editor to prepare text suitable for input to the Text Formatter. Typing WT will set Word processing mode true (on), which sets auto Fill, auto Breakline, and real Tabs true (on) and auto Indent false (off). Typing WF sets Word processing mode false (off) and auto Fill, auto Breakline and real Tabs false (off) and auto Indent true (on). This last mode is more suitable for coding programs.

auto Fill

Auto Fill affects the Insert mode and allows the Margin command to function. If auto Fill is off, the Margin command will not operate. The effect of auto Fill on insertion is described in the section on Insert. Normally, when typing in a document, this option should be on and when entering a program, auto fill should be off. Entering FT sets auto Fill true (on) and entering FF sets auto Fill false (off).

auto Breakline

Auto Breakline affects only the Insert mode. When on, a line-break character (circumflex "a") will be inserted whenever the <enter> key is pressed in Insert mode. This option should only be on if the text being entered is to be input to the Text Formatter. Typing BT sets auto Breakline true (on) and typing BF sets auto Breakline false (off).

auto Indent

Auto Indent affects only the Insert mode and the Margin command of the Editor. If auto Indent is on, then in Insert mode each new line will be automatically indented the same amount as the previous line and the Margin command will not work. When auto Indent is off, the Margin command may work (if auto Fill is on also) and in Insert mode each new line will begin at the Left margin. This option may be true or false while typing in a document. It should be on though when typing in a program. Entering IT sets auto Indent true (on) and entering IF sets auto Indent false (off).

real Tabs

Real Tabs affects only the Insert mode. If this option is on, an actual tab character (ASCII 9) usually followed by some trailing dots (enough to place the cursor at the next tab stop) is inserted into the Edit buffer when the <ctrl-D> key is pressed. A character representing the tab is displayed on the screen and the cursor will be positioned at the next tab stop (see Tab Stops) on the line. If real Tabs is off and <ctrl-D> is pressed in Insert mode, enough spaces (rather than a single tab character) are inserted into the Edit buffer so that the cursor will

be positioned at the next tab stop. Real Tabs <u>should be off</u> for entering a program. Normally real Tabs is on for entering a document. Entering TT sets real Tabs true (on) and entering TF sets real Tabs false (off).

<u>Left margin</u>
<u>Right margin</u>

When auto Fill is on and auto Indent is off, the margins set in the Environment are the margins which are used by the Insert mode and the Margin command. These margins also affect the Center, Right, and Left Justifying commands in Adjust mode. To change the value of a margin, type L or R, and a whole number representing a margin value, then press <enter>.

<u>Search tokens</u>

This option affects the Find and Replace commands (see the section on Find and Replace 1.3.6). Entering ST sets Search tokens true (on) and entering SF sets Search tokens false (off).

<u>Make backup</u>

This option affects the Save command in Quit mode. When a user saves the Edit Buffer with the same name as an existing file, if Make backup is on, the existing file is renamed with a type of "BACK" and the Edit Buffer is written to a new file with the same name and type the existing file had. See the section on the Quit command (1.3.15) for more details. Entering MT sets Make backup true (on) and entering MF sets Make backup false (off).

Other Information Displayed

The numbers for "bytes used" and "available" can be used as approximations to the numbers of characters presently in the Edit buffer and how many more may be inserted. These numbers are dependent upon the system the Editor is running on. Some systems will allow larger edit buffers than others.

Patterns tell the current values of the target and substitute strings (see Find and Replace 1.3.6).

Revision is incremented by one each time the file is saved and the Editor is left.

1.3.9 Tab Stops

Tab stops are used by the Editor to determine where to put the cursor when the <ctrl-D> key is pressed, and may be changed by the user. The Editor's tab stops have no direct bearing on the Text Formatter because the tab stops for the formatter are set by formatter commands in the text. In the Edit level, type S followed by T to set the tabs. The prompt

SET TABS: <right,left vectors> Col# [None Tab stop] Help <enter> to leave

is displayed, the screen is redisplayed, and something like

```
T----T----T----T----T----T----T----T----T----T----T---
     Column #  1
```

will be displayed at the bottom of the screen or below the last line on the screen (whichever is closest to the top).

Tab stops are represented by the T's on the scaled line. Tab stops may be set or deleted by positioning the cursor on the line and typing N to remove the tab or T to add a tab stop at the position of the cursor. Position the cursor by using the Cursor-left and Cursor-right keys or by typing C (column), an integer (the column the cursor is to be positioned at), and pressing <enter>.

Typing H will display the portion of the Help file relevant to the set Tab command.

When finished, press <ctrl-C> once to get to the Set level. Press <ctrl-C> once more to get to the Edit level.

1.3.10 Markers

The Editor will allow the use of up to 20 markers in a file. The user may move to these markers quickly with the Jump command (described later 1.3.11) or use the markers in conjunction with the Copy or Zap commands. The markers are saved in the Edit buffer and in the file in which the Edit buffer is saved so that they will still exist the next time the file is edited. To set a marker, move the cursor to the spot in the Edit buffer where the marker is to be placed. When the cursor is in the desired spot, type S (while at the Edit level), followed by typing M. The prompt

SET MARKERS: Add Zero markers Help <enter> to leave

will be displayed. Any markers set will be listed too.

The A key allows the user to add markers. The prompt

Set what marker?

will be appear when A is pressed and the Editor is in Set Marker mode. Respond with a marker name and then press <enter>. A marker name may be up to eight characters, it will be truncated to the first eight if more are typed. Almost any

character except <enter> may be used in a marker name, but all lower-case letters are converted to upper-case letters. A marker may not be named "*", "B", "E", or "T" as these are reserved marker names. If a marker with the specified name has already been placed in the text at an earlier time, the old marker is moved to the current cursor position and the old position is lost.

A marker specifies an absolute position in the file. If an insertion, copy, or deletion is made between the beginning of the file and marker position, a jump to that marker may not return to the desired place because the absolute position has changed.

Entering Z will erase all markers in the Edit buffer.

1.3.11 Jump

The J key causes the Editor to enter Jump mode. The prompt

>JUMP: Beginning End Tag Marker Help <esc>

is displayed.

In this mode the cursor can be moved quickly and easily in the Edit buffer. Entering a B, E, or T will move the cursor to the beginning, end, or Tag marker respectively and will display the Edit prompt line as well as the text around the current cursor position. Entering M will cause the Editor to prompt you for the name of a Marker to jump to.

Jump to what marker?

Enter the name of an existing marker and the cursor will be placed at the marker position in the Edit buffer.

Entering H will cause the portion of the Help file relevant to the Jump command to be displayed.

1.3.12 Margin Text

The M key causes the Editor to Margin a paragraph (paragraph is defined below) of text. This command is normally used after some words or characters have been deleted from the text to rejustify the paragraph. While the Margin command is executing, the screen will go blank for a time (duration is dependent upon the length of the paragraph to be margined). Margin is an Environment dependent command; that is, it may only be executed when auto Fill is on and auto Indent is off in Environment. They are in this state if Word processing mode is on.

The Margin command uses the values of the Right and Left margins and the current Tab stops, and realigns the text of the paragraph containing the cursor to make it conform to those values while compressing the text as much as possible. Margin will not adjust the indentation of the first line of a paragraph.

A paragraph is defined to be a section of text bounded above by the beginning of the file or a line-break ("||" followed by an end-of-line), and bounded below by the end of the file or a line-break.

The use of a repeat factor is valid. The repeat-factor must be typed before typing M. If no repeat-factor is specified, a repeat-factor of one is used. The Margin command will margin the paragraph that contains the cursor when the command is executed as well as (repeat-factor-1) paragraphs below the first paragraph. If a repeat-factor of "/" is used, the paragraph with the cursor as well as all those paragraphs below it will be margined. It is normal for the screen to go blank for several seconds while the margining is being done.

The Margin command invalidates the Copy buffer.

1.3.13 Adjust

The A key causes the editor to enter Adjust mode. The prompt

>ADJUST: L-just R-just Center <left ,right,up,down-arrows> <enter> to leave}

is displayed.

In the Adjust mode the indentation of a line or a whole group of lines is easy. The entire line containing the cursor can be moved right and left by pressing the <Cursor-right> and the <Cursor-left> keys. Each time the <Cursor-right> key is typed, the whole line moves one space to the right. Each time the <Cursor-left> key is typed, the whole line moves one position to the left. When the line is adjusted to the desired indentation, press <ctrl-C>.

In order to adjust a whole sequence of lines, first adjust the top or the bottom line; then press the <Cursor-down>/<Cursor-up> key and the line below/above will automatically be adjusted by the same amount when the cursor jumps to that line. Finally, when the entire sequence has been adjusted, press <ctrl-C>.

Repeat-factors, including "/", are valid when used before any of the cursor moves in Adjust mode.

Adjust mode can also be used to center text on the page and to left or right-justify text. Typing L while in Adjust mode causes the line containing the cursor to be left-justified to the Left margin set in the Environment. Similarly, typing R right-justifies the line to the set Right margin. Typing C causes the line to be centered between the set Left and Right margins. Typing the Cursor-up/Cursor-down key before pressing <ctrl-C> will cause the line above/below to be adjusted to the same specification (left-justified, right-justified or centered) as the previously adjusted line.

1.3.14 Kolumn

The K key causes the editor to enter Kolumn mode. The prompt

>KOLUMN: <vector keys> {<enter> to leave}

is displayed.

In the Kolumn mode the deletion or insertion of a column of data into the Edit buffer is simple. First, insert or delete a column from the first (or the last) line of the data. This is done by placing the cursor on the left edge of the column that is to be inserted (or deleted) before entering Kolumn mode, pressing K, and then using the <Cursor-right> key if a column is to be inserted or the <Cursor-left> key if a column is to be deleted. Each time the <Cursor-right> key is typed, the part of the line that is to the right of the cursor will move one space to the right. Each time the <Cursor-left> key is typed, the character at the cursor position is deleted. When the line is adjusted as desired, press the <Cursor-down>/<Cursor-up> key and the line below/above will automatically be adjusted by the same amount when the cursor jumps to that line. Finally, when the entire sequence has been adjusted, press <ctrl-C>.

Repeat-factors, including "/", are valid when used before any of the cursor moves while in Kolumn mode.

1.3.15 Verify

Typing V executes the Verify command. The Editor will redisplay the current screen with the cursor as centered as possible. This command should be used whenever the user is unsure that the screen actually corresponds to what is in the Edit buffer.

1.3.16 Quit

The Q key (Quit command) permits the edited text to be saved on disk and/or terminates the editing session. Typing Q causes this menu to be displayed

>QUIT:
          Save Edit buffer
          Leave editor
          Return

The Quit command has three options which must be selected by pressing the S, L, or R key in response to the "QUIT:" menu.

The S key (Save option) causes a new menu to be displayed on the screen which may look as follows:

SAVE EDIT BUFFER:

<enter> = [AFILENAME] ,or filename

The string inside square brackets is the default file name and is the name entered at the beginning of the edit session. Pressing <enter> causes the default to be used and the Editor will attempt to save the Edit buffer. To change the default, type the new name. To abort the Save, press <ctrl-.>, and then press <enter>. The Quit menu will be redisplayed. If an attempt is made to save the Edit buffer with no name at all, the Editor will give it the name SYSTEM.WRK.TEXT; it will be saved on the system disk.

If Make backup is on (Make backup is a value in the Environment, see 1.3.8), then the Initial copy of the file being edited will not be written over, but will have it's name changed. The user is notified when a backup is created. For example the message

Backup named DISK1:AFILENAME.BACK created

may appear when the current Edit buffer is saved. The file AFILENAME.BACK is the previous copy of the file just edited and AFILENAME.FTYP is the name of the Edit buffer on disk.

The L key (Leave editor command) will allow the user to exit from the editor. If the current Edit buffer has not been saved the Editor will ask:

Do you want to Save the Edit buffer?

If the Y key is pressed, the Save menu will be displayed. Otherwise type the N key to leave without saving the current edit file.

The R key (Return to editor command) returns the Editor to the Edit mode and puts the cursor back where it was before the Quit mode was entered.

1.4 COMMAND SUMMARY

1.4.1 Repeat-Factors

Most of the commands allow repeat-factors. A repeat-factor is applied to a command by typing a number immediately before issuing the command which is then repeated for the number of times indicated by the repeat-factor. For example: typing 2 and pressing the <Cursor-Down> key will cause the Cursor-Down command to be executed twice. Commands which allow a repeat-factor assume the repeat-factor to be 1 if no number is typed before the command. A / typed before the command implies an infinite number.

1.4.2 Direction

Certain commands are affected by direction. If the direction is forward, then the commands operate from left to right and top to bottom. If the direction is backward, then the commands operate from right to left and bottom to top. The current direction is shown in front of the promptline. ">" is for forward and "<" for backward.

1.4.3 Moving Commands

<Cursor-Down>	moves repeat-factor lines down
<Cursor-Up>	" " lines up
<Cursor-Right>	" " spaces right
<Cursor-Left>	" " spaces left
<spacebar>	moves repeat-factor spaces in direction
<ctrl-H>	" " spaces left
<ctrl-D>	" " tab positions in direction
<enter>	moves to the beginning of line repeat-factor lines in direction
< < > < , > < - >	changes direction to backward
< > > < . > < + >	changes direction to foreward
< = >	moves to the beginning of what was just found/replaced/inserted/exchanged

The Page command is executed by typing P at the Edit level. Depending on the direction, the Page command moves the cursor one whole screenful up or down. The cursor always moves to the start of the line. A repeat-factor may be used before this command for moving several pages.
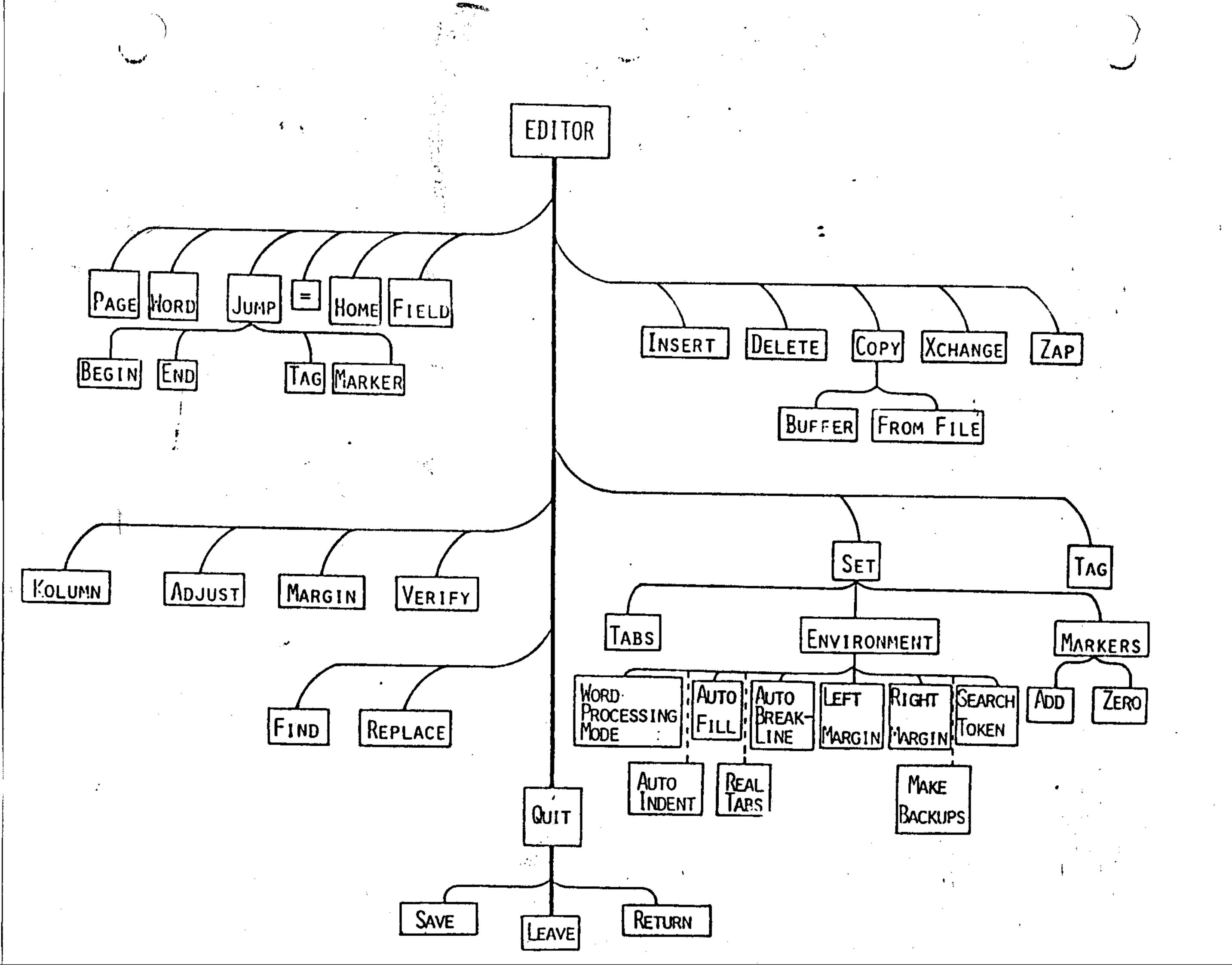
The Word command is executed by typing W at the Edit level. It moves the cursor as the Page command does except in words, rather than pages, at a time.

1.4.4 Command Modes and Levels

Adjust	- will adjust lines to the left, right or center of the screen
Copy	- copies the copy buffer or a specified file into the edit buffer
Delete	- deletes characters starting at the cursor using moving commands
Find	- finds a specified string
Insert	- puts editor into insert mode at the cursor
Jump	- moves cursor to a marker, the tag or anchor, or the beginning or end
Kolumn	- insets or deletes text in the middle of lines
Margin	- readjusts <repeat-factor> paragraphs
Page	- moves the cursor <repeat-factor> pages in direction
Quit	- will save the edit buffer, return to edit level, or leave the editor
Replace	- will replace a target string with a substitute <repeat-factor> times
Set	- allows changing of Tab stops, Environment or Markers
Tag	- sets a Tag in the edit buffer at the current cursor position
Verify	- redisplays the screen
Word	- moves the cursor <repeat-factor> words in direction
eXchange	- enables changing all text to whatever is typed
Zap	- will delete text between markers

```
EDITOR
├── PAGE
├── WORD
├── JUMP
│   ├── BEGIN
│   ├── END
│   ├── TAG
│   └── MARKER
├── =
├── HOME
├── FIELD
├── INSERT
├── DELETE
├── COPY
│   ├── BUFFER
│   └── FROM FILE
├── XCHANGE
├── ZAP
├── KOLUMN
├── ADJUST
├── MARGIN
├── VERIFY
├── FIND
├── REPLACE
├── SET
│   ├── TABS
│   ├── ENVIRONMENT
│   │   ├── WORD PROCESSING MODE
│   │   │   └── AUTO INDENT
│   │   ├── AUTO FILL
│   │   │   └── REAL TABS
│   │   ├── AUTO BREAK-LINE
│   │   ├── LEFT MARGIN
│   │   ├── RIGHT MARGIN
│   │   │   └── MAKE BACKUPS
│   │   └── SEARCH TOKEN
│   └── TAG
│       └── MARKERS
│           ├── ADD
│           └── ZERO
└── QUIT
    ├── SAVE
    ├── LEAVE
    └── RETURN
```

2. THE TEXT FORMATTER

2.1 SPECIFYING THE FORMAT OF A DOCUMENT

The Text Formatter allows users to control and direct the way in which text files will be printed. This is achieved through the use of various special instructrions available in the Formatter. A formatting program must be executed prior to printing any text files (see section 2.4).

2.1.1 Formatting Directives

When entering the text of a document, special instructions (called "formatting directives") which control various aspects of the document format (margins, tab stops, page headings and footings, justification and centering, etc.) may be specified. Formatting directives are always enclosed in a pair of square brackets

[......]

to distinguish them from ordinary text. Several directives may be enclosed in a single pair of square brackets if they are separated by the character slant:

[....../....../......]

Bracketed directives may appear anywhere in the text file, and need not be on a separate line.

All formatting directives consist of one or two plain English words, but all may be abbreviated to two letters. Some directives may be followed by an equal sign ("=") and one or more parameters:

[Horizontal Margins = 1.5, 1]
[Tabs = 5, 15, 30]

or equivalentiv:

[HM=1.5,1/TA=5,15,30]

It does not matter whether the directives are typed in upper- or lower-case.

The following format directives are used most often in text formatting.

2.1.2 Underlining and Boldface

Text to be printed underlined in the document must appear in the text file enclosed in a pair of underline characters:

...printed _underlined_ in the...

Text to be printed in boldface must appear in the text file enclosed in a pair of vertical bar characters:

...printed in |boldface| must appear...

Text can be both underlined and boldface if desired:

...be _|both|_ underlined...

2.1.3 Form Size and Margins

[FORM SIZE = width, height]
[FS=width,height]

The form size directive defines the dimensions of the form to be printed. Width and height are specified in inches (up to 2 decimal places). If no form size directive is given, 8.5-by-11 form size is assumed.

[HORIZONTAL MARGINS = left, right]
[HM=left,right]
[VERTICAL MARGINS = top, bottom]
[VM=top,bottom]

These directives specify the desired margins at left, right, top, and bottom of each page. All margins are specified in inches (up to 2 decimal places). If any margin is unspecified, a 1-inch margin is used.

2.1.4 Character and Line Spacing

[HORIZONTAL SPACING=chars-per-inch]
[HS=chars-per-inch]

The horizontal spacing directive specifies the horizontal spacing of characters in the printed line, and is specified in characters per inch. If horizontal spacing is unspecified, 10 characters per inch is assumed.

[VERTICAL SPACING = lines-per-inch]
[VS=lines-per-inch]

The vertical spacing directive specifies the vertical spacing of lines on the printed page, and is specified in lines per inch. If vertical spacing is unspecified, 6 lines per inch is used.

[LINE SPACING = spacing]
[LS=spacing]

The line spacing directive is used to specify vertical spacing of lines on the printed page . Line spacing should be specified as 1, 2, 3, etc., to denote single spacing, double spacing, triple spacing, etc. The directive [LS=0] causes

overprinting. If line spacing is unspecified, single spacing is assumed.

2.1.5 Vertical Skips

[PAGE]
[PA]
[PAGE = page-number]
[PA=page-number]
[CONDITIONAL PAGE = lines]
[CP=lines]

, The page directive causes a new page to be started. If a page-number is specified in the directive, page numbering begins with the specified number. The conditional page directive causes a new page to be started if there are not at least the specified number of print lines left on the current page prior to encountering the bottom margin; this may be used to ensure that a block of text is not split onto two pages.

[SKIP = lines]
[SK=lines]
[BLANK = inches]
[BL=inches]

The skip directive causes the specified number of blank print lines to be inserted before the next printed line; if no number is specified, one line is skipped. The blank directive causes the specified amount of vertical white space to be inserted before the next printed line; the amount is specified in inches (up to 2 decimal places). For both skip and blank directives, a new page is started if insufficient space is left on the page.

2.1.6 Justification and Centering

[JUSTIFY]
[JU]
[FLUSH LEFT]
[FL]
[FLUSH RIGHT]
[FR]
[CENTER MODE]
[CM]

These directives control the justification of subsequent text lines. The justify directive causes subsequent print lines to be adjusted so that both left and right margins are flush; this is accomplished by adjusting character spacing (variable pitch) or word spacing (fixed pitch). The flush left directive causes lines to be printed with a flush left margin but a ragged right margin (as with ordinary typewritten text). The flush right directive causes lines to be printed with a flush right margin and a ragged left margin. The center mode directive causes lines to be centered between the margins. In the absence of these directives, justify is assumed.

[CENTER]
[CE]

The center directive causes the next text line to be centered on the page. The text of the line to be centered should immediately follow the center directive, and should end with a line-break. Only one t-xt line is centered; subsequent lines are printed in accordance with the currently-effective justification mode.

2.1.7 Indentation

[INDENT = character-positions]
[IN=character-positions]

The indent directive causes subsequent print lines to be indented the specified number of character positions from the left margin. This indentation remains in effect for all subsequent lines until another indent directive is encountered. Indentation may be cancelled by either [IN] or [IN=0].

[UNDENT = character-positions]
[UN=character-positions]

The undent directive causes the next print line to start the specified number of character positions left of the currently effective indentation. Only one print line is affected, after which normal indentation is resumed. A line cannot be undented more character positions than the currently effective indent (i.e., cannot penetrate the left margin).

2.1.8 Tab Stops

[TABS = tab1, tab2, ..., tabN]
[TA=tab1, tab2, ..., tabN]

The tabs directive specifies tab stops for tabular formatting. Up to 25 tab stops may be listed. Tabulation is indicated by the presence of TAB characters in the text file. If no tab directive is given, tab stops are assumed at positions 5, 10, 15, etc. A tab directive without a list of tab stops serves to reinstate these standard tab settings.

2.1.9 Printing on Single Forms

[CONTINUOUS FORMS]
[CF]
[SINGLE FORMS]
[SF]

If single forms are specified, printing stops at the end of each page to allow

the next sheet to be positioned. If continuous forms are specified, printing does not stop between pages. If neither directive is given, continuous forms is assumed. In single forms mode, the operator should position each sheet in the printer and then press <enter> to restart printing.

When printing on single forms, it is generally necessary to position each sheet in the printer an inch or so from the top edge, so that the guide rollers can rest on the paper. It is necessary to compensate for this when specifying the form size and top margin. For single standard 8.5-by-11 sheets positioned one inch from the top, appropriate directives might be:

[Single Forms]
[Form Size=8.5,10]
[Vertical Margins=0,1]

2.2 ADVANCED FORMATTING DIRECTIVES

2.2.1 Hyphenation

Hyphenation is not needed in most applications, due to the capability of the Text Formatter to justify margins by varying character spacing. However, hyphenation may sometimes be used advantageously to improve the readability of text which contains exceptionally long words, or which is to be formatted into exceptionally narrow columns.

The tilde character ("~") may be used to indicate optional hyphenation points in long words; for example:

                    ...to in~di~cate op~tion~al...

Such hyphenation points (sometimes called "soft hyphens") may be inserted manually with the editor. The tilde characters do not print in the final document, but the formatter will break and hyphenate words at the indicated places when appropriate to improve justification.

The ordinary hyphen character ("-") indicates a mandatory hyphenation point in a compound word.

2.2.2 Un-Breakable Hyphens and Spaces

Two hyphens in a row ("--") are printed as a single hyphen, and may be used to prevent the hyphenated word from being broken across two lines. Similarly, the reverse slant character ("\") is printed as a single space and prevents a sequence of words from being broken across two lines. For example, the sequence:

                    ...call (213)\532--1702 when...

guarantees that the telephone number will not be broken across two lines.

A series of spaces enclosed in reverse slant characters are treated as all unbreakable. This may be used to force blank space in the middle of text. For example, if it is needed to leave blank spaces to fill in the date on a contract, the sequence:

                    ...the \   \ day of \   \, 19\ \...

may be entered or for contract fill-ins to be underlined, an example is:

                    ...the _\   _ day of _\   _, 19_\ _...

Note: A reverse slant is obtained by typing <ctrl-_>.

2.2.3 Printing Special Characters

Whenever it is desired to actually print any of the special characters tilde, underline, vertical bar, left bracket, or reverse slant, the text file must include two

successive characters for each character to be printed.

Alternatively, the formatting directive:

[SPECIAL DISABLE]
[SD]

causes subsequent occurrences of the characters tilde, underline, vertical bar, or reverse slant to be treated as ordinary printable characters. The directive:

[SPECIAL ENABLE]
[SE]

restores the normal mode in which those four characters have special meaning.

2.2.4 Printer and Font Characteristics

[VARIABLE PITCH = fontname]
[VP=fontname]
[FIXED PITCH]
[FP]

These directives specify whether a variable-pitch (word-processing printer) or fixed-pitch (matrix printer) is being used. If neither directive is given, fixed pitch is assumed. The variable pitch directive also implies that bidirectional printing and proportional spacing is to be used.

The variable pitch directive may specify a "fontname" parameter, which is actually the file name of a font table on disk that describes the type font being used.

The directives described on the remainder of this subsection are effective only when using variable pitch. NOTE: when using a fixed-pitch printer, horizontal spacing should normally be set to 10 characters per inch, and vertical spacing should normally be set to 6 lines per inch.

[BIDIRECTIONAL PRINTING]
[BP]
[UNIDIRECTIONAL PRINTING]
[UP]

If bidirectional printing is specified, printing is done bidirectionally to improve print speed. If unidirectional printing is specified, printing is done in the forward direction only. If neither directive is given, bidirectional printing is assumed.

[PROPORTIONAL SPACING = fontname]
[PS=fontname]
[UNIFORM SPACING]
[US]

If proportional spacing is specified, normal character spacing (as defined by the horizontal spacing directive) is adjusted to allow for differences in the width of various characters; thus, narrow characters such as "i", "l" and "." will be given less horizontal space than wide characters such as "M" and "W". If uniform spacing is specified, such adjustment is not performed. If neither directive is given, proportional spacing is assumed.

The proportional spacing directive may specify a "fontname" parameter, which is actually the file name of a font table on disk that describes the type font being used.

[STRIKE = 2] or [STRIKE = 1]
[ST=2] or [ST=1]

The strike directive specifies either single-strike or double-strike printing. Double-strike printing causes each printed character to be struck twice in place, and permits a significant improvement in print quality (with some sacrifice in print speed) when using conventional cloth ribbons. When using film ribbons, double-strike printing improves the darkness but reduces the sharpness of the impression. If neither directive is specified, single-strike is assumed.

2.2.5 Right, Decimal and Centered Tabs

[TABS = tab1, Rtab2, Ctab3,..., tabN]
[TA=tab1, Rtab2, Ctab3,..., tabN]

Tab stops, as specified by the tabs directive, normally establish the lefthand side of each tabular column, as on an ordinary typewriter. However, if any of the specified tab stops are prefixed by the letter "R", e.g.:

[TABS=10, R25, 35]

then those tab stops establish the righthand side of a column, and text in that column will be automatically right aligned at that position.

Similarly, if any of the specified tab stops are prefixed by the letter "C", e.g.:

[TABS=10, C25, 35]

then those tab stops establish the center of a column, and text in that column will be automatically centered about that position.

[RIGHT TAB = character]
[RT=character]

The right tab directive may be used to specify a particular character to be used in formatting right-aligned tabular columns. A common use of this directive [RT=.] is to permit a column of numbers to be decimal-point aligned at a tab stop. The right tab directive affects the alignment of all right-aligned (R-prefixed) tab stops, but has no effect on centered (C-prefixed) or ordinary left-aligned tab stops.

2.2.6 Save and Restore Settings

[SAVE SETTINGS]
[SS]
[RESTORE SETTINGS]
[RS]

The save settings directive saves the current margins, indentation, horizontal spacing, vertical spacing, line spacing, tab stops and right tab character. This directive is generally used just prior to changing any of these format parameter settings.

The restore settings directive restores all of the settings previously saved by the last save settings directive.

2.2.7 Page Headings, Footings and Numbering

Up to three lines of headings and three lines of footings may be specified, and will automatically be printed at the top and bottom of each page, respectively. Any heading or footing line may contain a page number, which is calculated by the text formatter. Five alternative heading and footing formats are provided: justified, centered, flush left, flush right, and alternating left and right. The latter format is perfect for copy prepared for two-sided reproduction.

[HEADING = level-number]
[HE=level-number]

The heading directive causes the specified line of formatted text to be used as a page heading at the top of all subsequent pages. Up to three levels of page heading may be used (1 is major heading, 2 is intermediate heading, 3 is minor heading). The text of the heading line should immediately follow the heading line directive, and should end with a line-break. All text formatter typographic capabilities (underlining, boldface, double-strike, proportional spacing, etc.) may be used in heading lines. Furthermore, if an at-sign ("@") character appears within the text of any heading line, it is automatically replaced by the correct page number (only one at-sign is necessary, regardless of how many digits are in the page number).

[HEADING GAP = lines]
[HG=lines]

The heading gap directive specifies how many blank lines should be skipped between the last heading line and the first text line on each page. If heading gap is unspecified, a gap of two lines is assumed.

[HEADING FORMAT = format-number]
[HF=format-number]

The heading format directive specifies one of six possible print formats for heading lines, according to the value of format-number:

[HF=0] means supress page headings
[HF=1] means headings flush left
[HF=2] means headings flush right
[HF=3] means headings centered
[HF=4] means headings justified
[HF=5] means headings alternate left/right

The last of these formats (alternating) is intended for documents which are to be printed on both sides of each sheet. If the heading format directive is not given, format 2 (flush right) is assumed.

[FOOTING = level-number]
[FO=level-number]
[FOOTING GAP = lines]
[FG = lines]
[FOOTING FORMAT = format-number]
[FF=format-number]

These directives work exactly like the heading directives just described, and permit up to three levels of page footing to appear at the bottom of each page.

2.2.8 Pad Lines

[PAD LINE]
[PL]
[PAD FORMAT]
[PF]

These directives permit you to "pad" all unused lines at the end of each page with a specified line of text. This capability is useful when printing pleadings and other legal documents where unused lines at the end of a page are not permissable.

The pad line directive causes the specified line of formatted text to be used as the end-of-page "pad" on all subsequent pages. The text of the pad line should immediately follow the pad line directive, and should end with a line break.

The pad format directive works exactly like the heading format directive, and lets you specify whether the pad line is to be printed left justified, right justified, etc.

As an example, the following sequence:

[PF=1/PL]///||

would cause the pad line "///" to be printed flush-left on any unused lines at the end of each page.

2.2.9 Leader Lines

[LEADER LINE]
[LL]
[END LEADER]
[EL]

A leader line is a long row of dots, such as might be found in a table of contents or a price list. The leader line directive causes subsequent tabs to be printed as leader lines. The end leader directive cancels the effect of the leader line directive. Leader lines may be used in conjunction with right-aligned tab stops.

2.2.10 Chaining One Text File to Another

[TEXT FILE = filename]
[TF=filename]

The text file directive permits chaining from one text file to another. This permits sections of a long document to be maintained on disk as separate text files, yet permits the entire document to be printed in a single formatting run. The text file directive causes a new text file to be opened, and formatting of text to be continued at the beginning of the new text file. The filename may be any valid disk file name. If filename is omitted, the current text file is simply rewound to its beginning.

2.2.11 Insertions from a Secondary File

[INSERTION FILE = filename]
[IF=filename]
[GET INSERTION = key]
[GI=key]
[GET INSERTION]
[GI]
[INSERTION KEY = key]
[IK=key]
[END INSERTION]
[EI]

Tnese directives permit the text file to reference blocks of text or directives ("insertions") contained in a secondary file. They may be used for such things as inserting a standard paragraphs into a document or inserting a series of names and addresses into an automatic form letter.

The insertion file directive [IF=filename] opens a secondary file called the insertion file. The filename may be any valid disk file.

The insertion file may contain any number of insertions. An insertion may consist of any combination of textual material and formatting directives. Each insertion must end with an end insertion directive [EI]. Optionally, an insertion may begin with an insertion key directive which gives the insertion a name ([IK=key]).

The get insertion directive causes the formatter to obtain and process an insertion from the insertion file. If the directive does not specify a key ([GI]), the next insertion in sequence from the insertion file is used. Alternatively, if the get insertion directive specifies a key ([GI=key]), the insertion file is searched for an insertion key directive ([IK=key]) with the corresponding key. Insertion keys may be any sequence of letters and/or digits up to 10 characters long.

NOTE: the [IF] and [GI] directives must appear in the text file, and the [IK] and [EI] directives must appear in the insertion file.

When the formatter is first called up, the format file is automatically opened as the initial insertion file, and an implicit [GI] directive is executed which causes the format file to be processed up to the first [EI] directive. Any additional insertions in the format file may be accessed explicitly with [GI] directives.

2.2.12 Repeated Printing

[REPEAT]
[RE]
[REPEAT COUNT = times]
[RC=times]

These directives permit a text file to be printed repetitively, either (1) a specified number of times or (2) until an insertion file has been exhausted. The repeat directive must appear at the end of the text to be repeated, and causes the current

text file to be rewound and reprinted from its beginning. After the last repetition, any text or directives following the repeat directive are processed. The repeat count directive is used when printing is to be repeated a specified number of times, and may appear anywhere prior to the repeat directive.

2.2.13 Miscellaneous Directives

[SUPRESS PRINTING = page-number]
[SP=page-number]

The supress printing directive causes printing of a document to be supressed until reaching the beginning of the specified page. This directive may be used to restart printing of a long document at a point other than the beginning of the document.

[SUPRESS BLANK]
[SB]

The supress blank directive causes the next print line to be supressed if that line contains no printing characters. (Ordinarily, such a line would print as a blank line.) The supress blank directive is normally used together with the get insertion directive, and permits supressing of null or blank insertions.

[HALFSPACE UP]
[HU]
[HALFSPACE DOWN]
[HD]

These directives may be interspersed into a text line to permit superscipts and subscripts to be printed. They cause subsequent characters on the line to be printed higher or lower on the page by one-half the current vertical spacing interval.

[PROMPT = message]
[PR=message]
[SWITCH]
[SW]

The prompt directive displays the specified message on the video console. The message may be of an, length, and may be used to request that the operator type in a text insertion, change typewheels, etc. The switch directive causes the formatter to suspend processing of the current text file or insert file and to accept text and/or directives from the console. This continues until <enter> <enter> is entered by the operator, at which point processing of the suspenced file is resumed.

NOTE: To enter line-breaks one must press <CTRL-/> and then press <enter>. Pressing <enter> alone is not sufficient as it is when using the Editor to enter text.

For example, to prompt for a fill-in within the text of a standard letter, you might enter the sequence:

...[PR=Enter Name and Address/SW]...

[COMMENT LINE]
[CL]

The comment line directive causes the next line of text to be treated as a comment and not printed. The comment line must immediately follow the comment line directive, and must end with a line-break.

[QUIT]
[QU]

The quit directive terminates printing of the document, ejects the last page from the printer, and returns control to the function menu. This directive should normally appear at the end of a document. Its use is optional, since encountering the end of the text file automatically causes these functions to be performed. However, it the quit directive is included, then any succeeding text or directives are ignored.

2.3 WORD PROCESSING EXAMPLES

This section illustrates the use of the Text Formatter by presenting a variety of documents and showing how the formatting and typographic effects in each was achieved.

In the following examples, the symbol "||" is used to denote a line-break (entered by pressing <enter> while entering text with the Editor), and the symbol

"___»"

is used to denote a tab character.

2.3.1 Simple Correspondence

2.3.1.1 Block-Style Letter

This example is a straightforward letter using the simplified block style (no indentation). Note that no formatting directives are required.

The Text

July 4, 19xx||
||
||
Mr. Frederick S. Whitehall||
|Franklin & Whitehall, Incorporated|||
4993 Stafford Avenue||
Phoenix, Arizona 85013||
||
||
Dear Mr. Whitehall:||
||
It was nice hearing from you today. Thank you for your interest in the Eberhardt line of industrial fasteners. Enclosed is the technical material you requested. If you have any further questions, please feel free to call. I look forward to receiving your order in the near future.||
||
Best regards,||
||
|EBERHARDT CORPORATION|||
-||
-||
||
||
James R. Calhoun||
Account Representative||
||
||
JRC/t||
Enclosures.||

Result When Printed

July 4, 19xx

Mr. Frederick S. Whitehall
Franklin & Whitehall, Incorporated
4993 Stafford Avenue
Phoenix, Arizona 85013

Dear Mr. Whitehall:

It was nice hearing from you today. Thank you for your interest in the Eberhardt line of industrial fasteners. Enclosed is the technical material you requested. If you have any further questions, please feel free to call. I look forward to receiving your order in the near future.

Best regards,

EBERHARDT CORPORATION

James R. Calhoun
Account Representative

JRC/t
Enclosures.

2.3.1.2 Indented-Style Letter

This is the same letter using the indented style. A [Tabs=...] directive is used to set up tab stops at positions 5 (for paragraph indent) and 35 (for the date and signature block).

The Text

```
[Tabs=5,35]||
——>——>July 4, 19xx||
||
|| .
Mr. Frederick S. Whitehall||
|Franklin & Whitehall, Incorporated|||
4993 Stafford Avenue||
Phoenix, Arizona 85013||
||
||
Dear Mr. Whitehall:||
||
——>It was nice hearing from you today.  Thank you for your interest in the Eberhardt
line of industrial fasteners.  Enclosed is the technical material you requested.  If you
have any further questions, please feel free to call.  I look forward to receiving your
order in the near future.||
||
——>——>Best regards,||
||
——>——>EBERHARDT CORPORATION|||
||
||
||
||
——>——>James R. Calhoun||
——>——>Account Representative||
||
||
JRC/t||
Enclosures.||
```

Result When Printed

July 4, 19xx

Mr. Frederick S. Whitehall
Franklin & Whitehall, Incorporated
4993 Stafford Avenue
Phoenix, Arizona 85013

Dear Mr. Whitehall:

It was nice hearing from you today. Thank you for your interest in the Eberhardt line of industrial fasteners. Enclosed is the technical material you requested. If you have any further questions, please feel free to call. I look forward to receiving your order in the near future.

Best regards,

EBERHARDT CORPORATION

James R. Calhoun
Account Representative

JRC/t
Enclosures.

2.3.1.3 Addressing an Envelope

One good way of addressing individual envelopes is to use the "type-thru" facility provided by the [Switch] directive. Create a file (possibly calling it "ENVELOPE") containing the following formatting directives:

[Form Size = 9, 5]
[Vertical Margins = 0, 0]
[Horizontal Margins = 4, 0]
[Prompt = Position Envelope, Then Type Address...]
[Switch]

The user can easily address an envelope by executing the Text Formatter (see section 2.4) and specifying that the file to print is "ENVELOPE". The user will then be prompted to:

Position Envelope, Then Type Address...

Type each line of the address, then press <enter>, and the line will be printed on the envelope. When the address is completed, press <enter> twice, and the envelope will be ejected from the printer.

2.3.1.4 Pre-Defined Format for Correspondence

If a lot of correspondence is created, it is a good idea to create a format file which sets up the margins, tab stops, etc., that is normally used for letters. This saves the trouble of entering formatting directives at the beginning of each individual letter. For example, a format file (possibly called "LETTER") could contain the formatting directives:

[Variable Pitch=FONTxxxx]
[Single Forms]
[Form Size = 8.5, 10]
[Vertical Margins = 0, 1]
[Horizontal Margins = 1, .75]
[Tabs = 5, 35]
[Heading Format = 1]

Now, to print a letter, specify that the format file is "LETTER" and all of those directives will be honored, just as if they had been typed at the beginning of the letter.

2.3.2 Repetitive Correspondence

2.3.2.1 Repetitive Letter with Prompted Fill-Ins

This letter is similar to the previous indented-style example. In this case, however, the date, address, salutation and product description are variable "fill-ins" to be typed in when the letter is printed. Note the use of the [Prompt] and [Switch] directives.

The Text

```
[Tabs=5,35]||
——→——→[Prompt = Enter Date / Switch]||
||
||
[Prompt = Enter Name and Address / Switch]||
||
||
Dear [Prompt = Enter Salutation / Switch]:||
||
——→It was nice hearing from you today.  Thank you for your interest in the Eberhardt
line of [Prompt = Enter Product Description / Switch].  Enclosed is the technical
material you requested.  If you have any further questions, please feel free to call.
I look forward to receiving your order in the near future.||
||
——→——→Best regards,||
||
——→——→EBERHARDT CORPORATION|||
||
||
||
||
——→——→James R. Calhoun!|
——→——→Account Representative||
||
||
JRC/t||
Enclosures.||
```

Prompting Dialog

<u>Prompt</u>	<u>Operator Response</u>
Enter Date	August 22, 19xx<enter> <enter>
Enter Name and Address	Stanley Krause, M. D.|<enter> 13401 North Van Deusen Circle|<enter> Los Alamitos, California 90730|<enter> <enter>
Enter Salutation	Dr. Krause<enter> <enter>
Enter Product Description	medical instrumentation<enter> <enter>

Result When Printed

August 22, 19xx

Stanley Krause, M. D.
13401 North Van Deusen Circle
Los Alamitos, California 90730

Dear Dr. Krause:

It was nice hearing from you today. Thank you for your interest in the Eberhardt line of medical instrumentation. Enclosed is the technical material you requested. If you have any further questions, please feel free to call. I look forward to receiving your order in the near future.

Best regards,

EBERHARDT CORPORATION

James R. Calhoun
Account Representative

JRC/t
Enclosures.

2.3.2.2 Repetitive Letter with File Insertions

In this example, a letter is printed repetitively, using a list of variable information contained in the format file. Note the use of the [Insertion File=...] directive to specify that insertions are to be obtained from another file called "NAMELIST". The [Get Insertion] and [End Insertion] directives are used to control the insertions. Also note the [Page] and [Repeat] directives at the end of the letter, which cause the letter to be printed over and over until the file of insertions has been exhausted.

The Text

```
[Tabs=5,35 / Insertion File = NAMELIST]||
———>———>August 22, 19xx||
||
||
[Get Insertion]||
||
||
Dear [Get Insertion]:||
||
———>It was nice hearing from you today.  Thank you for your interest in the Eberhardt
line of [Get Insertion].  Enclosed is the technical material you requested.  If you
have any further questions, please feel free to call.  I look forward to receiving your
order in the near future.||
||
———>———>Best regards,||
||
———>———>EBERHARDT CORPORATION||||
||
||
||
||
———>———>James R. Calhoun||
———>———>Account Representative||
||
||
JRC/t||
Enclosures.||
[Page / Repeat]
```

Insertion File

The insertion file "NAMELIST" contains a list of names, addresses, salutations and product descriptions, separated by [End Insertion] directives:

    Stanley Krause, M.D.||
    13401 North Van Deusen Circle||
    Los Alamitos, California 90730||
    [End Insertion]Dr. Krause[End Insertion]medical instrumentation[End Insertion]||
    Mr. Frederick S. Whitehall||
    |Franklin & Whitehall, Incorporated|||
    4933 Stafford Avenue||
    Phoenix, Arizona 85013||
    [End Insertion]Mr. Whitehall[End Insertion]industrial fastners[End Insertion]||
           .   .
                         .
                         .
                         .

Result When Printed

                                            August 22, 19xx

    Stanley Krause, M. D.
    13401 North Van Deusen Circle
    Los Alamitos, California 90730

    Dear Dr. Krause:

        It was nice hearing from you today. Thank you for your interest in the
    Eberhardt line of medical instrumentation. Enclosed is the technical material you
    requested. If you have any further questions, please feel free to call. I look
    forward to receiving your order in the near future.

                                    Best regards,

                                    EBERHARDT CORPORATION

                                    James R. Calhoun
                                    Account Representative

    JRC/t
    Enclosures.

    ...etc., etc. until insertion file runs out...

2.3.3 TABULAR WORK

2.3.3.1 Left, Right, and Centered Tabs

This example illustrates the difference between left-aligned, right-aligned, and centered tab stops.

The Text

```
[Tabs = 10, R40, C55]
——→   _|Left-Aligned|_ ——→    _|Right-Aligned|_ ——→ _|Centered|_


——→   H——→              H——→           H||
——→   HI——→             HI——→          HI||
——→   HI\——→            HI\——→         HI\||
——→   HI\T——→           HI\T——→        HI\T||
——→   HI\TH——→          HI\TH——→       HI\TH||
——→   HI\THE——→         HI\THE——→      HI\THE||
——→   HI\THER——→        HI\THER——→     HI\THER||
——→   HI\THERE——→       HI\THERE——→    HI\THERE||
```

Result When Printed

Left-Aligned	Right-Aligned	Centered
H	H	H
HI	HI	HI
HI	HI	HI
HI T	HI T	HI T
HI TH	HI TH	HI TH
HI THE	HI THE	HI THE
HI THER	HI THER	HI THER
HI THERE	HI THERE	HI THERE

2.3.3.2 Income Statement

This example of a personal income statement illustrates the use of decimal-aligned tab stops:

The Text

[Tabs=4, 10, R45, R58 / Right Tab = .]||
[Center]CHARLES BROWN||
[Center]INCOME STATEMENT||
[Center]For the Year Ended December 31, 19xx||
||
||
INCOME:||
--→   Service charges--→   --→ $96,492.80||
--→   Commissions--→   --→   _ 2,350.75_||
--→   --→   TOTAL INCOME:--→   --→ $98,843.55||
||
EXPENSES:||
--→   Employee wages--→ $48,392.50||
--→   Payroll taxes--→   2,177.66||
--→   Gasoline and oil--→   6,025.47||
--→   Auto maintenance and repairs--→   4,135.09||
--→   Office Rent--→   6,000.00||
--→   Gas and electricity--→   923.50||
--→   General insurance--→   1,975.00||
--→   Telephone--→   750.25||
--→   Office Supplies--→   4,826.90||
--→   Miscellaneous expense--→   3,426.87||
--→   Depreciation of furniture and equipment--→   285.50||
--→   Depreciation of motor trucks--→   3,850.00||
--→   Bad debts--→   _   24.00_||
--→   --→   TOTAL EXPENSES:--→   --→   _ 82,792.74_||
||
--→   --→   NET INCOME FOR THE YEAR:--→   --→   _$16,050.81_||

Result When Printed

CHARLES BROWN
INCOME STATEMENT
For the Year Ended December 31, 19xx

INCOME:

Service charges		$96,492.80
Commissions		2,350.75
TOTAL INCOME:		$98,843.55

EXPENSES:

Employee wages	$48,392.50	
Payroll taxes	2,177.66	
Gasoline and oil	6,025.47	
Auto maintenance and repairs	4,135.09	
Office Rent	6,000.00	
Gas and electricity	923.50	
General insurance	1,975.00	
Telephone	750.25	
Office Supplies	4,826.90	
Miscellaneous expense	3,426.87	
Depreciation of furniture and equipment	285.50	
Depreciation of motor trucks	3,850.00	
Bad debts	24.00	
TOTAL EXPENSES:		82,792.74
NET INCOME FOR THE YEAR:		$16,050.81

2.3.4 Special Formatting Effects

2.3.4.1 Table of Contents

This example illustrates the use of the [Leader Line] and [End Leader] directives in preparing a complex table of contents.

The Text

```
[Center]|TABLE OF CONTENTS|||
[Tabs = 5, R65]||
INTRODUCTION[LL]——>                                          [EL]iii||
||
APPLICATIONS OF THE AIRBRUSH[LL]——>                          [EL]13||
||
EQUIPMENT & MATERIALS[LL]——>                                 [EL]19||
||
BASIC TECHNIQUES[LL]——>                                      [EL]25||
——>     Working Setup[LL]——>                                 [EL]26||
——>     Airpainting[LL]——>                                   [EL]31||
——>     Airbrush Linework[LL]——>                             [EL]35||
——>     Trouble Shooting[LL]——>                              [EL]36||
——>     Flat Wash[LL]——>                                     [EL]37||
——>     Graded Wash[LL]——>                                   [EL]40||
——>     Spotlight Effect[LL]——>                              [EL]42||
——>     Checkerboard Effect[LL]——>                           [EL]44||
——>     Frisket-making[LL]——>                                [EL]48||
——>     "Soft-edged" Effects[LL]——>                          [EL]54||
——>     Rendering Basic Forms[LL]——>                         [EL]57||
——>     Use of Drawing & Drafting Instruments[LL]——>         [EL]65||
——>     Transparent & Opaque Color Techniques[LL]——>         [EL]70||
——>     Mask-making and Applications[LL]——>                  [EL]98||
——>     Drybrush, Stipple and Spatter[LL]——>                 [EL]102||
——>     ||
RENDERING PROJECTS[LL]——>                                    [EL]79||
——>     Product Design Rendering[LL]——>                      [EL]82||
——>     Pictorial Rendering[LL]——>                           [EL]89||
——>     Portrait and Figure Rendering[LL]——>                 [EL]105||
——>     Technical Illustration[LL]——>                        [EL]113||
——>     Architectural Rendering[LL]——>                       [EL]125||
||
PHOTO RETOUCHING[LL]——>                                      [EL]137||
——>     Newspaper[LL]——>                                     [EL]140||
——>     Advertising[LL]——>                                   [EL]142||
——>     Corrective[LL]——>                                    [EL]143||
——>     Mechanical[LL]——>                                    [EL]144||
||
ALPHABETICAL INDEX[LL]——>                                    [EL]147||
```

.Result When Printed

TABLE OF CONTENTS

2.3.4.2 Indentation Variations

The following example illustrates the use of [Indent=...] and [Undent=...].

The Text

|Variation Number 1|_||

⫪

The following facts should be taken into consideration:||

||

——>1. American Telephone & Telegraph Co. last week filed a petition asking the Federal Communications Commission to increase its earnings ceiling to 10.38 percent on an interim basis, and to 11 percent to 12 percent after examining the company's financial position.||

||

——>2. Currently, AT&T is permitted to earn between 9.5 percent and 10 percent on its interstate operations. However, in 1978 the rate of return was 10.02 percent.||

||

-——>3. AT&T management feels that this is not sufficient "because investors expect significantly higher return on their investment under current economic conditions."||

||

|Variation Number 2|_||

⫪

The following facts should be taken into consideration:||

[Indent=3]||

1. American Telephone & Telegraph Co. last week filed a petition asking the Federal Communications Commission to increase its earnings ceiling to 10.38 percent on an interim basis, and to 11 percent to 12 percent after examining the company's financial position.||

||

2. Currently, AT&T is permitted to earn between 9.5 percent and 10 percent on its interstate operations. However, in 1978 the rate of return was 10.02 percent.||

||

3. AT&T management feels that this is not sufficient "because investors expect significantly higher return on their investment under current economic conditions."||

[Indent=0]||

|Variation Number 3|_||

⫪

The following facts should be taken into consideration:||

[Indent=3 / Tab=3]||

[Undent=3]1.——>American Telephone & Telegraph Co. last week filed a petition asking the Federal Communications Commission to increase its earnings ceiling to 10.38 percent on an interim basis, and to 11 percent to 12 percent after examining the company's financial position.||

||

[Undent=3]2.——>Currently, AT&T is permitted to earn between 9.5 percent and 10 percent on its interstate operations. However, in 1978 the rate of return was 10.02 percent.||

||

[Undent=3]3.——>AT&T management feels that this is not sufficient "because investors expect significantly higher return on their investment under current economic conditions."||

Result When Printed

Variation Number 1

The following facts should be taken into consideration:

      1. American Telephone & Telegraph Co. last week filed a petition asking the Federal Communications Commission to increase its earnings ceiling to 10.38 percent on an interim basis, and to 11 percent to 12 percent after examining the company's financial position.

      2. Currently, AT&T is permitted to earn between 9.5 percent and 10 percent on its interstate operations. However, in 1978 the rate of return was 10.02 percent.

      3. AT&T management feels that this is not sufficient "because investors expect significantly higher return on their investment under current economic conditions."

Variation Number 2

The following facts should be taken into consideration:

      1. American Telephone & Telegraph Co. last week filed a petition asking the Federal Communications Commission to increase its earnings ceiling to 10.38 percent on an interim basis, and to 11 percent to 12 percent after examining the company's financial position.

      2. Currently, AT&T is permitted to earn between 9.5 percent and 10 percent on its interstate operations. However, in 1978 the rate of return was 10.02 percent.

      3. AT&T management feels that this is not sufficient "because investors expect significantly higher return on their investment under current economic conditions."

Variation Number 3

The following facts should be taken into consideration:

1. American Telephone & Telegraph Co. last week filed a petition asking the Federal Communications Commission to increase its earnings ceiling to 10.38 percent on an interim basis, and to 11 percent to 12 percent after examining the company's financial position.

2. Currently, AT&T is permitted to earn between 9.5 percent and 10 percent on its interstate operations. However, in 1978 the rate of return was 10.02 percent.

3. AT&T management feels that this is not sufficient "because investors expect significantly higher return on their investment under current economic conditions."

2.3.4.3 Justification Variations

This example illustrates the use of the justification mode directives [Justify], [Flush Left], [Flush Right], and [Center Mode].

The Text

[Center] |Fully Justified|_||
[Justify]The Corporation and Faculty of Brown University cordially invite all holders of Brown Degrees, all former students of the University, and all friends of the University to attend the public exercises of Commencement Week so far as limitations of space permit.||
||
||
[Center] |Flush Left (Ragged Right)|_||
[Flush Left]The Corporation and Faculty of Brown University cordially invite all holders of Brown Degrees, all former students of the University, and all friends of the University to attend the public exercises of Commencement Week so far as limitations of space permit.||
||
||
[Center] |Flush Right (Ragged Left)|_||
[Flush Right]The Corporation and Faculty of Brown University cordially invite all holders of Brown Degrees, all former students of the University, and all friends of the University to attend the public exercises of Commencement Week so far as limitations of space permit.||
||
||
[Center] |Center Mode|_||
[Center Mode]The Corporation and Faculty of Brown University cordially invite all holders of Brown Degrees, all former students of the University, and all friends of the University to attend the public exercises of Commencement Week so far as limitations of space permit.||
||
||
[Center] |Center Mode with Line Breaks|_||
[Center Mode]|The Corporation and Faculty||
of||
Brown University|||
cordially invite all holders of Brown Degrees,||
all former students of the University,||
and all friends of the University||
to attend the public exercises||
of Commencement Week||
so far as limitations of space permit.||
[Justify]||

Result When Printed

Fully Justified

The Corporation and Faculty of Brown University cordially invite all holders of Brown Degrees, all former students of the University, and all friends of the University to attend the public exercises of Commencement Week so far as limitations of space permit.

Flush Left (Ragged Right)

The Corporation and Faculty of Brown University cordially invite all holders of Brown Degrees, all former students of the University, and all friends of the University to attend the public exercises of Commencement Week so far as limitations of space permit.

Flush Right (Ragged Left)

The Corporation and Faculty of Brown University cordially invite all holders of Brown Degrees, all former students of the University, and all friends of the University to attend the public exercises of Commencement Week so far as limitations of space permit.

Center Mode

The Corporation and Faculty of Brown University cordially invite all holders of Brown Degrees, all former students of the University, and all friends of the University to attend the public exercises of Commencement Week so far as limitations of space permit.

Center Mode with Line Breaks

The Corporation and Faculty
of
Brown University
cordially invite all holders of Brown Degrees,
all former students of the University,
and all friends of the University
to attend the public exercises
of Commencement Week
so far as limitations of space permit.

2.4 FONT FILE LAYOUT

When you are finished entering all formatting directives, it is necessary to execute a formatting program before you are able to print out the finished document in your text file.

<u>For Diablo 1650s and 630s (or any variable pitch printer)</u>

1. eXecute **WP/FMTSAXD,**
2. input the name of the text file to be formatted,
3. the font file is **PP/XASCII,**
4. select "PRINTER:" to go directly to the printer
   or a print file for the final product.

To print the final product, after formatting,

1. eXecute **WP/PRTSAXD,**
2. input the name of the print file you selected above.

<u>For TI 810 printers (or any fixed pitch printer)</u>

1. eXecute **WP/FMT810,**
2. type the name of the text file to be formatted,
3. the font file is **PP/810INIT,**
4. select "PRINTER:" to go directly to the printer
   or a print file for the final product.

To print the final product, after formatting,

1. eXecute **WP/PRT810,**
2. type the name of the print file selected above.

In order to take advantage of the variable pitch printing capabilities of the Text Formatter (proportional spacing, variable hammer energy, letterspacing justification, underlining, boldface, double-strike, etc.), a substantial amount of information about the type font being used is needed. This information is stored on disk as a font file.

A font file is a special text file which contains an entry for each printable character in the type font. Each entry in the font file has the following format:

Character{'}, Code, Energy, Size

where:

- <u>Character</u> is the ASCII graphic character being described by this entry; alternate definitions of the characters `abcd...wxyz{|}~ (ASCII codes 96 through 126) may also be included in the font file by following the character by an apostrophe ("'").

- <u>Code</u> is the encoded value of the character to be passed to the printer. For

Diablo printers, this is the ASCII code. For NEC printers, this is the rotational position of the character on the print thimble.

- Energy is the hammer energy value of the character to be passed to the printer. For NEC printers, this is a value between 1 (lowest energy) and 7 (highest energy). For Diablo printers, this value is always zero.

- Size is the proportional spacing value of the character. For both Diablo and NEC printers, this is a value between 3 (narrowest characters) to 7 (widest characters).

In order to do variable-pitch printing, the Text Formatter requires that an appropriate font file be loaded into memory. This is generally accomplished by the following formatting directive:

[Variable Pitch = fontfile]

where "fontfile" is the file name of the font file on disk. Once a font file has been loaded, any of the character definitions may be temporarily modified by means of the directive:

[Define Character = Character['], Code, Energy, Size]

If the font file includes an alternate definition for any of the characters, then the directives:

[Alternate Characters]
[Primary Characters]

may be used to determine whether the alternate (apostrophe'd) or primary character definitions are to be used.

2.4.1 Listing of Font File FONT1355

,32,0,4, 1355 PS Table	J,74,0,5	t,116,0,4
!,33,0,3	K,75,0,7	u,117,0,5
",34,0,4	L,76,0,6	v,118,0,5
#,35,0,6	M,77,0,8	w,119,0,7
$,36,0,5	N,78,0,7	x,120,0,5
%,37,0,8	O,79,0,7	y,121,0,5
&,38,0,7	P,80,0,6	z,122,0,5
',39,0,3	Q,81,0,7	{,40,0,3
(,40,0,3	R,82,0,7	|,33,0,3
),41,0,3	S,83,0,5	},41,0,3
*,42,0,5	T,84,0,6	¯,95,0,4
+,43,0,5	U,85,0,7	ˇ,32,0,5, cents
,,44,0,3	V,86,0,6	a´,97,0,5
-,45,0,4	W,87,0,8	b´,98,0,5
.,46,0,3	X,88,0,7	c´,99,0,5
/,47,0,4	Y,89,0,7	d´,100,0,5
0,48,0,5	Z,90,0,6	e´,101,0,5
1,49,0,5	[,40,0,3	f´,102,0,4
2,50,0,5	\,47,0,4	g´,103,0,5
3,51,0,5	],41,0,3	h´,104,0,5
4,52,0,5	^,39,0,3	i´,105,0,3
5,53,0,5	_,95,0,4	j´,106,0,3
6,54,0,5	`,39,0,3	k´,107,0,5
7,55,0,5	a,97,0,5	l´,108,0,3
8,56,0,5	b,98,0,5	m´,109,0,8
9,57,0,5	c,99,0,5	n´,110,0,5
:,58,0,3	d,100,0,5	o´,111,0,5
;,59,0,3	e,101,0,5	p´,112,0,5
<,40,0,3	f,102,0,4	q´,113,0,5
=,61,0,5	g,103,0,5	r´,114,0,4
>,41,0,3	h,104,0,5	s´,115,0,4
?,63,0,5	i,105,0,3	t´,116,0,4
@,64,0,8	j,106,0,3	u´,117,0,5
A,65,0,7	k,107,0,5	v´,118,0,5
B,66,0,6	l,108,0,3	w´,119,0,7
C,67,0,7	m,109,0,8	x´,120,0,5
D,68,0,7	n,110,0,5	y´,121,0,5
E,69,0,6	o,111,0,5	z´,122,0,5
F,70,0,6	p,112,0,5	¼,60,0,6, one fourth
G,71,0,7	q,113,0,5	¦,33,0,3
H,72,0,7	r,114,0,4	½,62,0,6, one half
I,73,0,3	s,115,0,4	¯,95,0,4

2.4.2 Listing of Font File FONTNEMP

,32,0,4, NEC Emperor PS	J,49,4,5	t,92,4,4
!,28,4,3	K,59,6,7	u,99,5,5
",24,4,4	L,43,5,6	v,83,5,5
#,126,5,6	M,17,7,8	w,103,6,7
$,78,6,5	N,39,6,7	x,109,5,5
%,11,7,8	O,31,6,7	y,101,5,5
&,81,6,7	P,45,6,6	z,111,5,5
',22,2,3	Q,63,6,7	[,76,5,3
(,82,4,3	R,29,6,7	|,38,3,3
),80,4,3	S,47,4,5	},74,5,3
*,54,4,5	T,33,5,6	¯,48,3,5
+,46,4,5	U,23,6,7	~,67,5,5, cents
,,66,3,3	V,57,6,6	a',94,5,5
-,124,3,4	W,15,7,8	b',107,5,5
.,64,1,3	X,61,6,7	c',98,5,5
/,65,3,4	Y,19,6,7	d',87,5,5
0,114,5,5	Z,55,5,6	e',93,5,5
1,115,4,5	[,42,4,3	f',100,4,4
2,116,5,5	\,72,3,4	g',85,5,5
3,117,5,5	],40,4,3	h',97,5,5
4,118,5,5	^,50,3,5	i',96,3,3
5,119,5,5	_,04,1,5	j',84,4,3
6,120,5,5	`,26,2,4	k',108,5,5
7,121,5,5	a,94,5,5	l',88,4,3
8,122,5,5	b,107,5,5	m',105,6,8
9,123,5,5	c,98,5,5	n',95,5,5
:,20,3,3	d,87,5,5	o',91,5,5
;,125,3,3	e,93,5,5	p',86,5,5
<,56,3,5	f,100,4,4	q',110,5,5
=,112,4,5	g,85,5,5	r',90,4,4
>,52,3,5	h,97,5,5	s',89,4,4
?,79,6,5	i,96,3,3	t',92,4,4
@,13,7,8	j,84,4,3	u',99,5,5
A,37,6,7	k,108,5,5	v',83,5,5
B,53,6,6	l,88,4,3	w',103,6,7
C,25,6,7	m,105,6,8	x',109,5,5
D,27,6,7	n,95,5,5	y',101,5,5
E,35,6,6	o,91,5,5	z',111,5,5
F,51,6,6	p,86,5,5	|',07,6,6, one fourth
G,21,6,7	q,110,5,5	|',113,3,6, backarrow
H,41,6,7	r,90,4,4	|',09,6,6, one half
I,34,3,3	s,89,4,4	¯,48,3,5

2.4.3 Listing of Font File FONTNBOL

,32,0,4, NEC Bold PS	J,85,5,5	t,104,4,4
!,30,3,3	K,19,6,7	u,95,5,5
",36,3,4	L,17,5,6	v,83,4,5
#,125,6,6	M,27,7,7	w,87,6,7
$,73,6,5	N,31,6,7	x,81,5,5
%,121,6,6	O,39,6,7	y,80,5,5
&,45,6,6	P,29,6,6	z,82,5,5
',20,2,3	Q,119,6,7	{,123,3,3
(,88,5,3	R,35,6,7	|,65,5,3
),11,5,3	S,10,5,5	},05,3,3
*,34,3,5	T,53,5,6	¯,58,2,5
+,61,3,5	U,43,5,7	˘,70,5,5, cents
,,90,3,3	V,51,5,6	a',107,5,5
-,42,2,4	W,23,7,7	b',93,5,5
.,56,1,3	X,47,6,7	c',97,4,5
/,86,4,4	Y,16,5,7	d',99,5,5
0,115,5,5	Z,49,5,6	e',108,5,5
1,118,4,5	[,60,5,3	f',98,5,4
2,117,5,5	\,63,4,4	g',94,6,5
3,116,5,5	],68,5,3	h',101,5,5
4,114,5,5	^,41,3,5	i',103,4,3
5,113,5,5	_,03,1,5	j',77,4,3
6,112,5,5	`,06,2,5	k',84,5,5
7,111,5,5	a,107,5,5	l',96,4,3
8,110,5,5	b,93,5,5	m',91,6,7
9,109,5,5	c,97,4,5	n',105,5,5
:,72,3,3	d,99,5,5	o',106,5,5
;,79,4,3	e,108,5,5	p',89,5,5
<,15,4,5	f,98,5,4	q',74,5,5
=,54,3,5	g,94,6,5	r',100,4,4
>,78,4,5	h,101,5,5	s',102,5,4
?,18,4,5	i,103,4,3	t',104,4,4
@,66,7,6	j,77,4,3	u',95,5,5
A,52,5,7	k,84,5,5	v',83,4,5
B,25,6,6	l,96,4,3	w',87,6,7
C,55,6,6	m,91,6,7	x',81,5,5
D,12,6,7	n,105,5,5	y',80,5,5
E,33,6,6	o,106,5,5	z',82,5,5
F,37,5,6	p,89,5,5	{',64,5,5, one fourth
G,08,6,7	q,74,5,5	|',21,4,6, backarrow
H,76,6,7	r,100,4,4	}',71,5,5, one half
I,13,5,3	s,102,5,4	¯,14,3,5, not-sign

2.5 SUMMARY OF FORMATTING DIRECTIVES

Pg	Ab	Directive	Parameters
2-35	AC	Alternate Characters	
2-8	BP	Bidirectional Printing	
2-3	BL	Blank	inches
2-4	CE	Center	
2-3	CM	Center Mode	
2-14	CL	Comment Line	
2-3	CP	Conditional Page	# of lines
2-4	CF	Continuous Forms	
2-35	DC	Define Character	font info
2-12	EI	End Insertion	
2-11	EL	End Leader	
2-7	FP	Fixed Pitch	
2-3	FL	Flush Left	
2-3	FR	Flush Right	
2-10	FO	Footing	1, 2, or 3
2-10	FG	Footing Gap	# of lines
2-10	FF	Footing Format	0 to 5
2-2	FS	Form Size	width, height
2-12	GI	Get Insertion	key
2-13	HD	Halfspace Down	
2-13	HU	Halfspace Up	
2-9	HE	Heading	1, 2, or 3
2-10	HF	Heading Format	0 to 5
2-10	HG	Heading Gap	# of lines
2-2	HM	Horizontal Margins	left, right
2-2	HS	Horizontal Spacing	chars-per-inch
2-4	IN	Indent	char-positions
2-12	IF	Insertion File	filename
2-12	IK	Insertion Key	key
2-3	JU	Justify	

Pg	Ab	Directive	Parameters
2-11	LL	Leader Line	
2-2	LS	Line Spacing	spacing
2-10	PF	Pad Format	
2-10	PL	Pad Line	
2-3	PA	Page	page-number
2-35	PC	Primary Characters	
2-13	PR	Prompt	message
2-8	PS	Proportional Spacing	fontfile
2-14	QU	Quit	
2-12	RE	Repeat	
2-12	RC	Repeat Count	# of times
2-9	RS	Restore Settings	
2-9	RT	Right Tab	character
2-9	SS	Save Settings	
2-4	SF	Single Forms	
2-3	SK	Skip	# of lines
2-7	SD	Special Disable	
2-7	SE	Special Enable	
2-8	ST	Strike	1 or 2
2-13	SB	Supress Blank	
2-13	SP	Supress Printing	page-number
2-13	SW	Switch	
2-4	TA	Tabs	[R/C]tab,...
2-11	TF	Text File	filename
2-7	VP	Variable Pitch	fontfile
2-2	VM	Vertical Margins	top, bottom
2-2	VS	Vertical Spacing	lines-per-inch
2-4	UN	Undent	char-positions
2-8	UP	Unidirectional Printing	
2-8	US	Uniform Spacing	