W o r d S t a r

Reference Manual

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TRADEMARK

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INTRODUCTION

WordStar is a powerful, comprehensive word-processing system that is easy to learn and easy to use. Although WordStar has a wide range of functions and commands, its use at the keyboard is simplified by screen menus that may be varied for different levels of users. Even though this manual contains over a hundred pages of detailed explanations, this does not mean that WordStar is overly complex and difficult to learn. WordStar is a visual system which you must experience "in the cockpit," i.e., seated at your terminal. Nevertheless, every phase of WordStar has been carefully documented, along with recommended procedures for getting the most out of its features.

To begin your WordStar experience, sit at a terminal, look at the menus, and note the convenient keyboard layout. Look at the range of functions, enter some text, and then try manipulating it by by changing margins, substituting, and inserting. Read the manual, and try the operations on your terminal as you read. We hope you will enjoy WordStar as much as we've enjoyed putting it together.

WordStar Release 3.0

This manual provides information current to WordStar Release 3.0. Specific features that have been added since Release 2.2 include the following:

Edit Function

Horizontal Scrolling: Documents wider than 80 columns can now be scrolled horizontally across the screen in either direction. You will be allowed to set margins up to 240 columns. (See Sections 2 and 3 for details.)

Column Move: A new command, ^KN, allows you to move, copy, or delete either **columns** of text or ordinary margin-to-margin blocks. The ^KN command acts as a toggle between column blocks and regular blocks and affects the way the other block commands work. (See Section 6 for details.)

New Menus: All menus have been re-designed for easier reading and better appearance. Although this re-design has been done mainly to accommodate smaller screen sizes, users of larger screen sizes will also benefit from it. Each menu will now contain more information, will display commands in related groups, and will display each group of commands in a more compact area of the screen. (See Sections 1 and 2 for details.)

A New WordStar Option

SpellStar: If you have purchased this WordStar option, a new "no-file" command, S, allows you to check the spelling of words in a document. Initially, you are allowed to check against a dictionary of some 20,000 words provided by SpellStar; but with continued use of this feature, you can then either add to the existing dictionary or create new dictionaries of your own. (See Sections 1 and 13 for details.)

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Section 1
Introduction

This section explains how to start WordStar and describes the commands available to you between editing tasks. The section covers everything you need to know before starting to enter documents with the editing function, as discussed in Section 2.

STARTING WORDSTAR

Prerequisites

Before you can call up WordStar, you must

- Have a diskette containing a copy of WordStar "installed" to work with your terminal and printer. The installed WordStar consists of three files (described in the **General Information Manual**):

    WS.COM (or other name chosen during installation)

    WSMSGS.OVR

    WSOVLY1.OVR

    If you or another person have not yet installed WordStar to work on your system, see the **Installation Manual.**

- Know how to turn on your computer and "boot" (cold-start) your CP/M operating system. Since these procedures depend on the computer and the version of CP/M, you will have to refer to other manuals.

To start WordStar, first boot your operating system (CP/M). When CP/M is ready, it will display the prompt "A>" (if A is the logged drive) or "B>" (if B is the logged drive). CP/M will also display this prompt any time you exit from Wordstar or whenever CP/M completes execution of a system command.

Calling Up WordStar

Once the system prompt "A>" appears, there are three ways to call up WordStar:

BASIC METHOD

At the system prompt "A>" type

    A>WS   RETURN

This starts WordStar with no file being edited; a copyright message appears for several seconds, then the no-file menu (as described below) is displayed. Example (you type underlined text):

    A>WS   RETURN

This basic method is sufficient for initial use; you may defer reading about
the other two methods for now.

DIRECTLY TO EDITING

Type WS, a space, and the name of the file, including disk drive and type as
appropriate. WordStar will proceed to editing this file, as though the "edit
a document" command had been given from the no-file menu as described below.
Examples (you type underlined text):

>   A>WS LETTER.DOC   RETURN

>   A>WS B:ABC.XYZ   RETURN

DIRECTLY TO EDITING
ON ANOTHER DISK DRIVE

This method is for extremely long files, where the new file must be placed on
a different diskette because of space limitations. Type WS, a space, the
source drive name, the name of the file, another space, and the target drive
name. (If the file is on the diskette in the drive currently logged, the
source drive name may be omitted.) A drive name, if used, consists of a
letter followed by a colon. Make sure you don't type anything after the
target drive name, not even a space. Example (you type underlined text):

>   A>WS A:BOOK.DOC B: RETURN

This means, "Edit file BOOK.DOC on the diskette on drive A and place the new
version on file BOOK.DOC on the diskette on drive B." When the save is com-
pleted, the file on the diskette on drive A will have been renamed BOOK.BAK,
while the file on the diskette on drive B will now be called BOOK.DOC. If you
use a "save and resume" command (^KS), the next editing session will result in
a save from B to A, the following session from A to B again, and so on.

Note

> If, when you call up WordStar, you get the message
>
>> You are trying to run an unINSTALLed WordStar.
>> Please run INSTALL first.
>
> then your WordStar has not yet been installed to work with your
> terminal and printer. Refer to the **Installation Manual** for informa-
> tion on installation.

THE NO-FILE COMMANDS

When started without a file name, or whenever editing of a file is terminated,
WordStar displays the "no-file menu". The words "editing no file" are dis-
played at the top of the screen, and a "menu" of commands that may be entered
is shown. Below the menu, WordStar displays the directory (the names of all
files on the diskette) of the logged drive if the file directory display is
ON. Figure 1-1 shows a typical screen display with the no-file menu:

```
          < < <  N O - F I L E   M E N U  > > >
 *  * * Preliminary Commands * *  * |*  File  Commands  *|* System Commands *
  L  Change logged disk drive      |  P  Print  a file  |R Run a  program
  F  File directory    off (ON)    |  E  Rename a file  |X Exit to system
  H  Set help level                |  O  Copy  a file   |
 *  * Commands to Open a File *  *| Y  Delete a file  |* WordStar Options *
    D  Open a  document  file       |                   |M Run MailMerge
    N  Open a non-document file     |                   |S Run SpellStar ∎


DIRECTORY of disk A:
 CHAPTR1.DOC  CHAPTR1.BAK  CHAPTR2.DOC  CHAPTR2.BAK  CHAPTR3.DOC  CHAPTR3.BAK
 CONTENTS.DOC CONTENTS.BAK FILE1.DOC    FILE1.BAK    FILE2.DOC    FILE2.BAK
 LETTER.DOC   LETTER.BAK   TEXT1.DOC    TEXT1.BAK    TEXT2.DOC    TEXT2.BAK
 MAILMRGE.OVR WS.COM       WSMSGS.OVR   WSOVLY1.OVR
```

Figure 1-1. Screen Showing No-file Menu

To perform one of the functions shown on the no-file menu, enter the single
letter shown for that function. The letter may be entered in upper or lower
case, or with the CTRL key depressed. Unrecognized characters are ignored.
No RETURN or other key is used after the command letter. When a command is
entered, the letter is displayed in the upper left hand corner of the screen
and further action is taken depending on the command.

THE PRELIMINARY COMMANDS

Table 1-1 gives brief descriptions of the preliminary commands, followed by
detailed descriptions in later paragraphs.

Table 1-1. Preliminary Commands

Command	Description
L	**Change Logged Disk Drive.** Displays the name of the current logged disk drive and allows selection of a new logged disk drive. Use L to allow display of directory of a different drive, or for convenience before working with files on a different drive.
F	**File Directory Toggle.** Controls display of file directory (names of all files on diskette in logged disk drive). The first F command turns the directory display off, the second F turns the directory display on again, etc. To display the directory of a different drive, change the logged disk with the L command.
H	**Set Help Level.** Asks for the new "help level" (0 to 3), which determines the degree of menu display and other prompting supplied by WordStar. Unless the help level is already 0, an explanation of the help levels is displayed.

Change Logged Disk Drive (the L Command)

The L command allows changing the logged disk drive. (The "logged disk drive" was explained in the **General Information Manual**). Typing an L at the no-file menu changes the screen display to the display shown in Figure 1-2 (at help level 3):

```
L          editing no file

  The LOGGED DISK (or Current Disk or Default Disk) is the
  disk drive used for files except those files for which
  you enter a disk drive name as part of the file name.
  WordStar displays the File Directory of the Logged Disk.

  THE LOGGED DISK DRIVE IS NOW A:

  NEW LOGGED DISK DRIVE (letter, colon, RETURN)? ▌

  DIRECTORY of disk A:
   CHAPTR1.DOC   CHAPTR1.BAK   CHAPTR2.DOC   CHAPTR2.BAK
   CONTENTS      FILE1.DOC     FILE1.BAK     FILE2.DOC
   LETTER.DOC    LETTER.BAK    MAILMRGE.OVR  TEST.DOC
   WS.COM        WSMSGS.OVR    WSOVLY1.OVR
```

Figure 1-2. L Command Display

To log a different drive, type the letter (A or B), an optional colon, and RETURN (C, D, etc. are also acceptable if you have more drives). To leave the logged drive unchanged, type ^U, or just press RETURN.

File Directory Toggle (the F Command)

The F command turns the file directory display off and on. The first F entered turns the directory display off, the next F restores it, etc. No additional information need be entered, and no screen changes take place. However, when directory display is off, the no-file menu item for F changes to read

          F=File directory on (OFF)

To display the directory of the diskette in a different disk drive, change the logged drive with the L command (next example). To cause the directory on the screen to be updated after putting a new diskette in a drive, re-log the same drive with the L command, or press F twice.

Set the Help Level (the H Command)

The **help level** setting controls the amount of explanatory material automatically displayed by WordStar, and determines whether and when part of the screen is used while editing to display a "menu" of command keys which may be entered.

The help level is initially set to 3, the most helpful level. As you gain experience with WordStar, you will want to reduce the help level in order to have more of the screen available for file display.

The help level is changed with either the H command on the no-file menu (above) or with the ^JH command (Section 2) while editing a file. Either command displays an explanation of help levels and current help level, and requests a new help level, as shown in Figure 1-3.

```
 H              editing no file

   HELP LEVELS
      3  all menus and explanations displayed
      2  main editing menu (1-control-char commands) suppressed
      1  prefix menus (2-character commands) also suppressed
      0  command explanations (including this) also suppressed

   CURRENT HELP LEVEL IS 3

   ENTER Space OR NEW HELP LEVEL (0, 1, 2, OR 3): ▮

 partial DIRECTORY of disk A:   ^Z=scroll up
   CHAPTR1.DOC   CHAPTR1.BAK   CHAPTR2.DOC   CHAPTR2.BAK
   CONTENTS      FILE1.DOC     FILE1.BAK     FILE2.DOC
   LETTER.DOC    LETTER.BAK    TEST.DOC
```

Figure 1-3. Help Level Command Display

The help level question takes a single-key response—no RETURN is needed. Pressing any key other than 0, 1, 2, or 3 leaves the help level unchanged.

Note

> If you enter a digit (or press any key) before the explanation displays, some or all of the explanation will be omitted. This provides rapid response for the user who knows what he wants and types, for example, "H2".

The differences between help levels 3, 2, and 1 are manifest primarily when editing a file, as noted in Section 2. Level 0 differs from the higher levels in that extra explanations associated with several commands are skipped. The explanations omitted at help level 0 include, for example, the explanation of the logged disk drive for the L command (Figure 1-2), the explanation of the help levels (Figure 1-3), and the explanations displayed by the D command (Figure 1-4).

The two lines which remind you of the control characters which may be used while answering any question whose prompt ends in a question mark,

    ^S=delete character   ^Y=delete entry   ^F=File directory
    ^D=restore character   ^R=Restore entry   ^U=cancel command

These prompts are displayed above such questions only at help level 2 or 3; but the keys work at all help levels, even if the prompts do not appear.

Messages like the two-line prompt above are displayed automatically—provided that a high enough help level has been set. But you may also call up other, longer messages to explain such things as setting the help level, entering text with WordStar, reforming a pargraph, reading the screen flags, using print control characters and dot commands, setting margins and tabs, setting place markers, and moving text. (See the "Help Menu" in Section 2 for more.)

THE COMMANDS USED TO OPEN A FILE

Table 1-2 gives brief descriptions of the commands used to open a file, followed by detailed descriptions in later paragraphs.

Table 1-2. Commands to Open a File

Command	Description
D	**Open a Document File.** Asks for a file name, then initiates editing of the specified file. The file specified may be an existing file or a new file.
N	**Open a Non-Document File.** Same as D except that the file is edited as a non-document, without dynamic pagination and with different defaults. Use D, not N, for normal WordStar word-processing (see Section 6).

Open a Document (the D Command)

With the no-file menu on the screen as shown in Figure 1-1, type D (or d or ^D) to begin editing a file. WordStar then displays an explanation and a request to enter the file name as follows:

```
 D          editing no file

    Use this command to create a new document file,
    or to initiate alteration of an existing document file.

       A file name is 1 to 8 letters/digits, a period,
       and an optional 1-3 character type.
       File name may be preceded by disk drive letter A-D
       and colon, otherwise current logged disk is used.

     ^S=delete character    ^Y=delete entry    ^F=File directory
     ^D=restore character   ^R=Restore entry   ^U=cancel command

       NAME OF FILE TO EDIT? ▌

  partial DIRECTORY of disk A:   ^Z=scroll up
    CHAPTR1.DOC   CHAPTR1.BAK   CHAPTR2.DOC   CHAPTR2.BAK
    CONTENTS      FILE1.DOC     FILE1.BAK     FILE2.DOC
```

Figure 1-4. D Command Display

You may then type the desired file name, followed by a carriage return (see the **General Information Manual**). The form of a file name is summarized on the screen as a reminder. For example, you might type

LETTER.DOC   RETURN

to edit file LETTER.DOC on the logged drive, or

B:LETTER.DOC   RETURN

to edit the file LETTER.DOC on the diskette in drive B.

To edit file BOOK.DOC on drive A and place the new version of BOOK.DOC on drive B, type:

A:BOOK.DOC B: RETURN

After the carriage return, WordStar proceeds to editing the file, as described in Section 2. You may then enter text into the document and use WordStar's editing commands. If the file does not exist, NEW FILE is displayed for several seconds. If the NEW FILE message appears when you intended to edit an existing file, you probably typed the name wrong or have the wrong diskette in the drive. Abandon the edit (^KQ) to get back to the no-file menu.

Note

> If the "help level" is zero, the explanatory material shown in Figure 1-4 is omitted from the screen display; only the question "NAME OF FILE TO EDIT" will appear. If you start typing the file name before display of the explanatory material, WordStar will omit some or all of the explanation.

Partial Directory Display

In an example above (Figure 1-3), the screen shows only part of the disk directory, as indicated by the word "partial". Partial directory display occurs whenever there are more file names than will fit on your screen. To view additional file names, use CTRL Z to move (scroll) the file directory display up a line, or CTRL W to move the file directory display down a line. Reminders about these control characters—"^Z=scroll up" and "^W=scroll down"—appear in the line above the directory whenever these characters can be entered and will bring more file names onto the screen.

QUESTION RESPONSES

Many WordStar commands ask the user questions for additional information. Some questions accept single-character answers; others accept a line of input terminated by carriage return. Each class has a number of common characteristics which we will describe here. In all cases, the "interrupt" character, ^U, may be typed to abort the command asking the question.

One-Character Answers

Questions that expect a one-character answer can be recognized by the fact that the prompt ends in a colon. These questions accept the next key pressed

as the response without waiting for RETURN to be typed. An example of such response is elicited by the "set help level" command question (see above).

Yes-No Questions

Some questions expect a yes-no answer; these have prompts of the form "... (Y/N): ." These questions accept Y, y, or ^Y (control-Y) as "yes" and any other key as "no". You are free to use the RETURN key, the space bar, or any handy key to indicate a "no" response. An example of such a question is the "REPLACE (Y/N):" question asked by the replace command (Section 5).

Line-Input Questions

These questions have prompts ending in "?". They include all file name questions (as from the D and P commands), the margin and tab stop column questions, and several others. When answering a line-input question, typing errors can be corrected; the previous response to the same question, or a portion thereof, can be restored without reentry. The file directory can be displayed and scrolled at will.

The answer to a line-input question can be terminated with the RETURN, LINE FEED, or ESCAPE keys. The ESCAPE key has a special meaning in the Print (P or ^KP), Find (^QF), and Replace (^QA) questions: it suppresses following options questions; for the margin and tab stop questions (^OL, ^OR, ^OI, and ^ON) ESCAPE means to use the cursor column (as shown in the status line), whereas RETURN means to abandon the command. In other cases ESCAPE is equivalent to RETURN. LINE FEED is always equivalent to RETURN.

When answering a line input question, you can correct typing errors (before the RETURN key is pressed), display the directory, and do other things with the special characters shown in Table 1-3. Note that ^X means control-X — hold the CTRL key down while typing x.

At help levels 2 and 3, the following reminder of the more common special characters appears above most line-input questions; the special characters are valid at all help levels and at all questions whose prompt ends in "?".

```
^S=delete character    ^Y=delete entry    ^F=File directory
^D=restore character   ^R=Restore entry   ^U=cancel
```

Table 1-3. Special Characters for Responses

Character	Function
^Y	**Erase Entire Answer.** (You may also use ^X.)
^S	**Erase One Character.** (You may also use ^H, BACKSPACE, or DELETE.)
^D	**Cursor Right.** Unerase one character: one character is restored from a previously erased answer or from the answer given the last time the specific question was asked.
^R	**Unerase.** Restore an entire erased answer or a previous answer. To use the same response as last time (e.g., if you want to print a second copy of the same file), just type ^R and press RETURN.

Table 1-3. Special Characters for Responses (Continued)

Character	Function
^F	**Display File Directory.** Display the file directory of the logged disk drive for the duration of the current command. ^F does nothing if the directory is already on the screen.
^Z	**Scroll Directory Up.** If only part of the file directory is displayed, scroll the file directory up to bring additional file names into view.
^W	**Scroll Directory Down.** If only part of the file directory is displayed, scroll the file directory up to bring additional file names into view.
^P	**Use Next Key.** Use the next key pressed literally as part of the answer, even if it is a control character that normally has a special function, or one of the terminating characters. USE ^P- to enter a "hard" hyphen (regular -) even if soft hyphen entry (^OE) is ON. (See Section 4 for definitions of hard and soft hyphens.)
-	**Enter Soft Hyphen.** Enters a "soft hyphen" if soft hyphen entry has been turned ON (^OE; Section 4). Permits using soft hyphens in the "Find" and "Replace" commands. Use ^P- to force entry of a hard hyphen.
^U	**Interrupt.** Interrupts and terminates the command in progress; clears any commands or text already typed.

THE FILE COMMANDS

Table 1-4 gives brief descriptions of the file commands, with detailed descriptions of some commands in later paragraphs.

Table 1-4. File Commands

Command	Description
P	**Print a File.** The P command is used initially to start printing a document. However, once printing has started, pressing P a second time **suspends printing;** and once printed has been suspended, pressing P a third time **continues printing.** The P line in the menu changes as appropriate. Detailed descriptions of the three uses of the P command are given in Sections 7 and 8.
E	**Rename a File.** The E command allows you to change the name of a file. (E functions like the CP/M rename command REN.)
O	**Copy a File.** The O command allows you to make a copy of a specified file without having to use the CP/M program PIP.COM. You may copy files from or to different disks as long as both disks are on-line at the same time.

Table 1-4. File Commands (Continued)

Command	Description
M	**Run MailMerge.** Before you can use the MailMerge feature of WordStar, the MAILMRGE.OVR file must be present on the disk in drive A. The M command allows merging data from a data file into text at print time for production of form letters, and performs other enhanced print functions. IF MAILMRGE.OVR is not present, an error message will be displayed. (The MAILMRGE.OVR file is provided separately.) See Sections 9-12 for details.
S	**Check Spelling.** In order to run this WordStar feature, you must have the SPELSTAR.OVR file on the disk that contains WS.COM, WSOVLY1.OVR, and WSMSGS.OVR. The SPELSTAR.DCT file may be on either of your disks. The S command allows you to run WordStar's spelling program (SpellStar) to check for spelling errors. If SPELSTAR.OVR is not present, an error message will be displayed. (The SPELSTAR.OVR file is provided separately.) See Section 13 for details.
Y	**Delete a File.** Asks for file name, then erases the file. Performs the same function as the CP/M erase command ERA.

Check Spelling (the S Command)

With the No-file menu (Figure 1-1) on the screen, type S to begin a spelling check on a file, or to perform dictionary maintenance operations. The screen display then changes to the display shown in Figure 1-5 (at help level 3):

```
S           editing no file

For spelling check, enter name of file to be checked.
(^R for last file edited)

For dictionary maintenance, enter name of file
containing words to add or to delete from dictionary.


 ^S=delete character    ^Y=delete entry    ^F=File directory
 ^D=restore character   ^R=Restore entry   ^U=cancel command

    NAME OF FILE TO CHECK / ADD TO DICTIONARY? ▌

DIRECTORY of disk A:
  CHAPTR1.DOC   CHAPTR1.BAK   CHAPTR2.DOC   CHAPTR2.BAK
  SPELSTAR.OVR  SPELSTAR.DCT  FILE1.DOC     FILE2.DOC
  LETTER.DOC    LETTER.BAK    MAILMRGE.OVR  TEST.DOC
  WS.COM        WSMSGS.OVR    WSOVLY1.OVR
```

Figure 1-5. S Command Display

The S command is used to check a file with WordStar's new spelling program, SpellStar. For a detailed description of SpellStar, see Section 13.

Rename a File (the E Command)

The E command allows you to rename files without having to exit from WordStar.
(same as the CP/M REN command). When you type E, the screen changes to the
display shown in Figure 1-6 (at help level 3):

```
 E          editing no file

   ^S=delete character    ^Y=delete entry     ^F=File directory
   ^D=restore character   ^R=Restore entry    ^U=cancel command

      NAME OF FILE TO RENAME? █

 DIRECTORY of disk A:
   CHAPTR1.DOC   CHAPTR1.BAK   CHAPTR2.DOC   CHAPTR2.BAK
   CONTENTS      FILE1.DOC     FILE1.BAK     FILE2.DOC
   LETTER.DOC    LETTER.BAK    MAILMRGE.OVR  TEST.DOC
   WS.COM        WSMSGS.OVR    WSOVLY1.OVR
```

Figure 1-6. E Command Display

You may rename a file on another drive by specifying the drive before the name
of the file to be renamed (e.g. B:FILENAME.TXT). The **NEW NAME?** prompt is
displayed after the name of the file to be renamed has been entered.

Copy a File (the O Command)

The O command allows you to copy files without exiting from WordStar. When
you type O, the screen display (at help level 3) changes to the display shown
in Figure 1-7. (The second prompt appears after user's response to first.)

```
 O          editing no file

   ^S=delete character    ^Y=delete entry     ^F=File directory
   ^D=restore character   ^R=Restore entry    ^U=cancel command

      NAME OF FILE TO COPY FROM? █
      NAME OF FILE TO COPY  TO ?

 DIRECTORY of disk A:
   CHAPTR1.DOC   CHAPTR1.BAK   CHAPTR2.DOC   CHAPTR2.BAK
   CONTENTS      FILE1.DOC     FILE1.BAK     FILE2.DOC
   LETTER.DOC    LETTER.BAK    MAILMRGE.OVR  TEST.DOC
   WS.COM        WSMSGS.OVR    WSOVLY1.OVR
```

Figure 1-7. O Command Display

If the name of an existing file is entered as the file to copy to, WordStar displays the prompt

           FILE d:name.typ EXISTS — OVERWRITE? (Y/N): ▊

Press Y (or y or ^Y) to proceed with the copy, destroying the present contents of file you are copying to. Pressing any other key will cause the NAME OF FILE TO COPY TO? question to be reasked; press RETURN or ^U to abort the copy command.

You may copy files from and/or to drives other than the logged drive by specifying a drive before the file name (e.g. B:FILENAME.TXT). The exact file name to be copied must be entered; you may not use asterisks (*) nor question marks (?). You may use hyphens in the file names (with this or any other WordStar command) if soft-hyphen entry (^OE; see section 4) is OFF (OFF is the default) or by entering the - as ^P-.

Delete a File (the Y Command)

With the no-file menu (Figure 1-1) on the screen, type Y to initiate deletion of a file. The screen display then changes to the display shown in Figure 1-8 (at help level 3):

```
   Y          editing no file

    ^S=delete character     ^Y=delete entry    ^F=File directory
    ^D=restore character    ^R=Restore entry   ^U=cancel command

       NAME OF FILE TO DELETE? ▊

  DIRECTORY of disk A:
    CHAPTR1.DOC   CHAPTR1.BAK   CHAPTR2.DOC   CHAPTR2.BAK
    CONTENTS      FILE1.DOC     FILE1.BAK     FILE2.DOC
    LETTER.DOC    LETTER.BAK    MAILMRGE.OVR  TEST.DOC
    WS.COM        WSMSGS.OVR    WSOVLY1.OVR
```
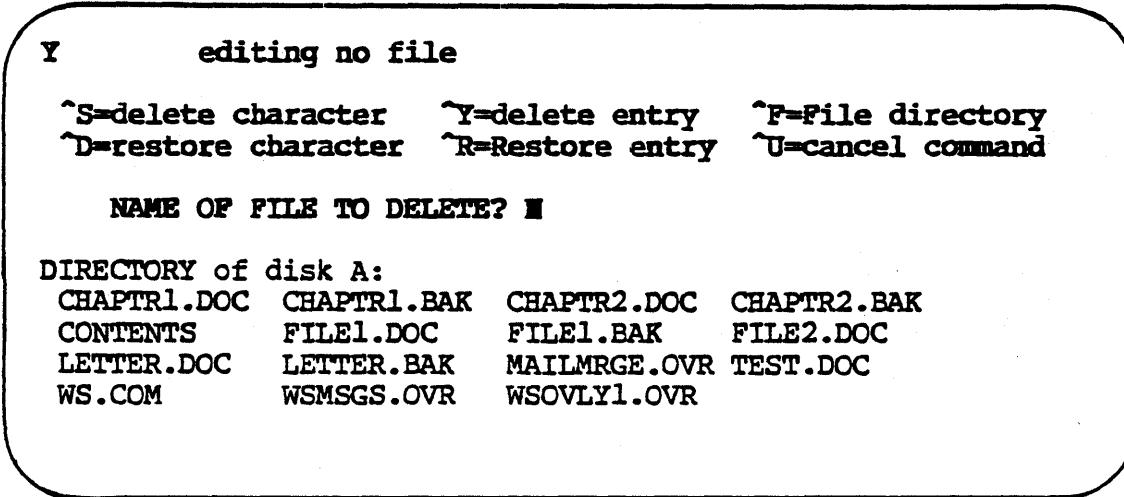
Figure 1-8. Y Command Display

Enter the name of the file to delete, followed by RETURN. The form of a file name and use of control characters to correct typing errors, is the same as for the D command (previous example).

After the file is erased, the no-file menu reappears on the screen and another command may be entered. If you enter a Y, then decide not to delete a file, you may cancel the command with ^U, or by pressing RETURN only.

THE SYSTEM COMMANDS

Table 1-5 gives brief descriptions of the system commands, followed by detailed descriptions in later paragraphs.

Table 1-5. System Commands

Command	Description
R	**Run a Program.** The R command allows you to run a program without exiting from WordStar. For example, the amount of disk space could be checked by using the CP/M program STAT.COM.
X	**Exit to System.** Exit to CP/M (or other operating system). Use X when you are through with WS and wish to use a system command.

Run a Program (the R Command)

The R command allows you to run a different program without exiting from WordStar. This command is especially useful for determining the amount of available disc space by running the CP/M program STAT. When R is entered at the no-file menu, the prompt shown in Figure 1-8 is displayed (at help level 3):

```
R           editing no file

 Enter name of program you wish to Run,
 optionally followed by appropriate arguments.
      Example (shows disk space):   STAT

 ^S=delete character    ^Y=delete entry    ^F=File directory
 ^D=restore character   ^R=Restore entry   ^U=cancel command

    COMMAND? █

DIRECTORY of disk A:
 CHAPTR1.DOC   CHAPTR1.BAK   CHAPTR2.DOC   CHAPTR2.BAK
 CONTENTS      FILE1.DOC     FILE1.BAK     FILE2.DOC
 LETTER.DOC    LETTER.BAK    MAILMRGE.OVR  TEST.DOC
 WS.COM        WSMSGS.OVR    WSOVLY1.OVR
```

Figure 1-9. R Command Display

Enter the name of the program to be run and press RETURN. Only executable programs (file type .COM) should be specified. An attempt to Run a non-executable file may result in an error message, or may lock up your system making it necessary to re-boot. When the program has completed, the following prompt is displayed:

Hit any key to return to WordStar:

This allows you to view any results displayed by the program before returning to the WordStar no-file menu.

The R command will handle any CP/M console command (CCP command) except the resident commands (TYPE, DIR, ERA, REN, and SAVE). File names or other arguments may follow the program name, as in CP/M commands. For example:

STAT LETTER.DOC

shows the size of file LETTER.DOC on the logged drive. Asterisks and question marks can be used to form "wild card" file names, as in CP/M console commands. For example:

STAT B:*.DOC

shows the size of all files of type .DOC on the diskette in drive B. (*'s and ?'s are not allowed in file names entered in other WordStar commands.)

In order to use the R command, you must have WS.COM (or other name as specified during INSTALLation) on the disk in drive A or the current logged drive.

Exit to the System (the X Command)

The X command is used to exit to the operating system (CP/M). When you type an X at the no-file menu, the CP/M prompt (A>) appears at the bottom of the screen.

Section 2
Getting Acquainted
with WordStar

WORKING WITH A DOCUMENT

This section provides an overview of document editing. Later sections focus on specific topics. Enough commands and general background are given in this section to allow you to enter and modify text.

For best results, turn on your computer, start WordStar and type D, followed by a filename to open a file. Then try each command as it is described here. A little experience will go a long way in familiarizing you with WordStar's power.

Opening a Document

To open a document, type D from the No-File Menu (Section 1). If this file is being opened for the first time, Wordstar will first display NEW FILE for a few seconds; if the file has been opened before, the NEW FILE message will be skipped.

WordStar then enters its file-editing state. For a new file and help level 3, the screen appears as follows:

```
        A:TEST.DOC   PAGE 1 LINE 1  COL 1              INSERT ON
                    < < <     M A I N   M E N U      > > >
  *  *  Cursor   Movement  *  *|* Delete *|  * Miscellaneous *  | * Other  Menus *
 ^S char left   ^D char right |^G  char  |^I Tab   ^B Reform  | (from Main only)
 ^A word left   ^F word right |DEL chr lf|^V Insert On or Off |^J Help  ^K Block
 ^E line  up    ^X line down  |^T word rt|^L Find/Replce again|^Q Quick ^P Print
  *  *    Scrolling    *   *|^Y  line   |RETURN End paragraph|^O Onscreen
 ^Z line up     ^W line down  |          |^N  Insert a RETURN |
 ^C screen up   ^R screen down|          |^U  Stop a command  |
 L——!——!——!——!——!——!——!——!——!——!——!————R
 █                                                                   .
                                                                     .
                                                                     .
                                                                     .
                                                                     .
                                                                     .
```

Figure 2-1. Screen Display for a New File

The top line is the **status line**. A:TEST.DOC is the name of the file being edited; the page, line, and column are those of the cursor position, and will change as you enter text or move the cursor.

The **main menu** occupies the next eight screen lines, assuming the help level is
still set to 3. (For the convenience of users with 40-column screens, the
display can be paged from left to right.) The menu provides a brief reminder
of the functions of the different command keys. We will describe some of the
functions in this section, with complete coverage in Sections 3-6. In the
menu, as in this manual, the ^ symbol means to hold down the CTRL key while
typing the key that follows.

The line below the menu is the **ruler line:**

L——!——!——!——!——!——!——!——!——!——!——!———R

The L indicates the current left margin setting; R indicates the right margin,
and !'s indicate where tab stops are set.

The menu and ruler line are "highlighted" on terminals with bright/dim or
inverse video (black on white) capability to distinguish them from the docu-
ment being edited.

The portion of the screen below the ruler line is the **text area,** where text
from the document being edited is displayed. For a new file, the text area is
initially blank; for an old file, the text area shows the first several lines
of text.

Entering Text

To enter text, just start typing. Each non-control character typed is entered
into the text of your document. If you type beyond the right margin, notice
that **WordStar** moves the word that wouldn't fit inside the margin to the next
line, positioning the cursor after the word to allow you to continue typing.
This is **word wrap.** You will also notice that **WordStar** adds spaces between
words to make the right margin line up. This is **justification.**

When entering text within a paragraph, don't use the **RETURN** key—let word wrap
do the work. Section 4 describes commands to set the margins, disable justi-
fication, specify double spacing, etc., to control the appearance of text
entered under word wrap.

To make a correction or addition, move the cursor to the desired position and
type the new text.

Moving the Cursor

To move the cursor, use the cursor up, down, left, and right commands as shown
on the menu. You will find the cursor left and right **word** commands faster
than the cursor left and right **character** commands when you wish to move
across a line. (Either ^H or the BACKSPACE key, if your terminal has one, may
be used for moving the cursor left by character.

When you type with the cursor on a character previously entered, you will
notice that Wordstar inserts the new characters and pushes the old characters
to the right. This is **insertion.** Insertion is initially ON. Insertion may
be turned OFF, and back ON, by typing ^V. Characters typed with insertion OFF
will **overtype** (replace) existing characters. The status line shows whether
insertion is on.

2-2

Deleting Characters

After making a correction by backing up the cursor and typing the desired text, unwanted characters may remain at, and to the right of, the cursor. To delete these, use the ^G (delete character right) command. Each press of the ^G key deletes the character at the cursor, moving the following part of the line left one character. (Use ^T to delete all or part of a word.)

If you notice a typing error immediately, you may use the DELETE (or RUBOUT on some keyboards) key, then type the corrected text. Each press of the DELETE key deletes one character to the left of the cursor, moving the cursor left. Other deletion commands are shown on the menus and described in Section 3.

After you have made changes in a paragraph, the right margin may no longer be lined up. Some lines may be too short, others may be too long. There may be document lines which are so long that they extend beyond the right-hand edge of the screen. (Wordstar no longer wraps long lines to a new line.)

Realigning the Right Margin

To realign the right margin of a paragraph entered under word wrap, use the reform command (^B), as follows: place the cursor in or above the first "messy" line and type ^B. WordStar will "reform" all the lines to the next place RETURN was pressed (as indicated by a < in the rightmost screen column).

While the paragraph reform command (^B) is working, it may encounter a long word that won't quite fit on a line and looks as though it can be hyphenated. When this occurs, WordStar will display an explanatory message and stop reforming to allow you to press the hyphen (-) key (if you wish to hyphenate the word at the cursor position), or to press ^B to continue reforming without hyphenating. This "Hyphen-Help" feature is described in detail in Section 4.

Reforming a long paragraph takes several seconds, during which "^B" appears in the upper left corner of the screen. The reformed text is displayed only after the reforming is complete or a word to hyphenate has been encountered.

Making Blank Lines

To insert a new paragraph, begin by pressing ^N to make one or more blank lines after the cursor. Then type the desired text. Wordstar will insert a new blank line automatically each time word wrap takes place.

Pausing for the System

When the screen is filled with text and the cursor is on the bottom line of the screen, the screen will start to scroll (roll) upward each time the cursor goes to a new line. If you type fast, the screen may not keep up, but when you pause, the display will be updated to reflect all characters typed.

Occasionally the word WAIT may appear in the status line, usually accompanied by an audible click from your disk drive. When this happens, stop typing or type slowly until WAIT disappears.

Page Breaks

When you have entered more text than will print on a page, a line of hyphens
appears across the screen, with a P in the rightmost column, to show you where
the page break will occur during printing:

——P

This is **dynamic page break display.** In section 7 we will discuss the use of
"dot commands" to specify places where you want a new page to begin even
though the current page isn't full, and to specify formatting items such as
the number of lines printed on a page.

Examining Text

To look at text which is currently not on the screen, use the "scroll up
line", "scroll down line", "scroll up screenful", and "scroll down screenful"
commands shown on the menu to bring the desired text into view. Also, "cursor
down" with the cursor already at the bottom of the screen scrolls the screen
up a line, and "cursor up" at the top scrolls it down.

Depending on the type of terminal you have, commands such as "scroll down
line" may immediately move the screen down, or may redisplay all the text on
the screen, taking a second or two. It is not necessary to wait for the
previous command to complete to enter the next one. If you know you want to
move the file display down five lines on the screen, type five ^W's rapidly.
Each one will interrupt the redisplay started by the previous one; when the
screen stops changing, text on the screen will have moved down five lines,
with five lines gone off the bottom and five previously not visible lines
displayed at the top.

You will notice that the behavior of the editing commands reflects the way
characters are stored in the file. For example, if you keep moving the cursor
"right", after getting to the end of the line it will move to the left end of
the next line down on the screen. This is because the file contains the
characters of a line, in left-to-right order, then a "carriage return" charac-
ter, then the characters of the next line; the carriage return is between the
rightmost character of one line and the leftmost character of the next.

If you move the cursor as far right as it will go without moving to the next
line, then give a "delete character right" (^G) command, the carriage return
will be deleted, joining the next screen line onto the end of the one the
cursor is on. Generally, carriage returns can be edited like other charac-
ters.

USING THE MENUS

WordStar has far more commands than there are control keys. Hence, many
commands require two-character sequences. The first character, referred to as
the **prefix** key, selects one of five additional menus. All two-character
commands begin with ^Q, ^J, ^K, ^O or ^P; these five prefix keys are listed
in the right-hand column of the main menu for ready reference.

If you type a prefix key then wait about a second, a new menu will appear, showing all the commands that begin with that prefix. The delay is so that if you know the command you want, you may type the two keys rapidly, in which case the menu display won't change.

If you type a prefix then don't want any of the commands on its menu, type a space, or some other key not defined on the menu. The main menu will reappear. You can look at a menu by typing the prefix, reading as desired and then pressing the space bar to "cancel" the prefix. You can search for a command by calling up all of the menus in succession in this manner.

The second character of the two-key command may be typed with or without the CTRL key, with the same effect; letters may also be typed in upper or lower case.

The Quick Menu

For example, ^Q brings up the **Quick Menu** (the exact appearance of the menus on your screen may be slightly different, because of revisions and because the menus display differently for 64-column wide screens than for 80 column or wider screens):

```
^Q          A:TEST.DOC  PAGE 1 LINE 1  COL 1                INSERT ON
                   < < <     Q U I C K   M E N U     > > >
 *  *    Cursor Movement  *  *I* Delete *I  * Miscellaneous *  I * Other  Menus *
S left side      D right side IY line   rtIF Find text in file I (from Main only)
E top of scrn    X bottom scrnIDEL lin lfIA Find and  Replace I^J Help  ^K Block
R top of file    C end of fileI*  *  *  *IL Find  misspelling I^Q Quick ^P Print
B top of block K end of block          IQ Repeat command or I   ^O Onscreen
0-9 marker     Z up    W down          I  key  until  space ISpace bar returns
V last Find or block                    I  bar  or other key Iyou to Main Menu.
L——!——!——!——!——!——!——!——!——!——!——!————R
■
```

Figure 2-2. The Quick Menu

You can see additional cursor motion commands, such as top of screen and end of file, commands for deleting the left and right portions of a line, commands for finding and substituting, and additional commands that are probably not self-explanatory. All of these will be detailed in later sections; you do not need to know all of them to begin using WordStar.

The Block Menu

The **Block Menu** includes some very important commands, those for working with blocks, for saving files, and for working with files (Figure 2-3):

```
^K        A:TEST.DOC  PAGE 1 LINE 1 COL 1              INSERT ON
                 < < <   B L O C K   M E N U    > > >
  * Saving Files * |* Block Operations *| * File Operations *| * Other  Menus *
  S Save and resume|B  Begin   K  End  |R  Read   P  Print  | (from Main only)
  D Save—done      |H  Hide / Display  |O  Copy   E  Rename |^J Help  ^K Block
  X Save and exit  |C  Copy   Y  Delete|J  Delete           |^Q Quick ^P Print
  Q Abandon file   |V  Move   W  Write |* Disk  Operations *|^O Onscreen
  * Place  Markers *|N  Column   off (ON)|L Change logged disk|Space bar returns
  0-9 Set/hide # 0-9|                    |F Directory on (OFF)|you to Main Menu.
  L——!——!——!——!——!——!——!——!——!——!——!————R
  ■                                                                     -
```

Figure 2-3. The Block Menu

Saving a File

As noted in the **General Information Manual**, text entered and altered during
editing is in a transitory "working document" only. You must issue a "save"
command if you want your document available for later use. The basic "save"
command is ^KD, which saves the working document under the file name chosen
when the edit was initiated, then returns to the no-file menu (Section 1).

Also on the Block Menu is the print command, ^KP, which is used when editing
is in process to initiate, stop, and continue printing. (When editing is not
in process, the P command on the no-file menu performs exactly the same
functions.)   Since only saved documents (as opposed to the working document
you are in the midst of editing) can be printed, you will normally print a
different file than the one being edited.

Printing a Document

Printing will be described in detail in Sections 7 and 8; basic printing can
be accomplished as follows: First, if you have just entered the material you
wish to print, save it (^KD). Make sure your printer is ready (turned on,
initialized,loaded with paper, etc.) and that the paper is positioned as
desired. Then type a P command at the no-file menu; type ^KP if you are
editing. WordStar will ask for

        NAME OF FILE TO PRINT? ■

Type the name of the file, and press ESCAPE. Printing will commence and the
no-file menu (or the file being edited) will return to the screen. Other
commands may be given while printing is in progress.

You can edit one document while another document is printing. However, key-
board response is slower, so we suggest editing while printing mainly for
reviewing text on the screen and making occasional slowly-typed corrections.

The Onscreen Menu

The **Onscreen Menu** contains commands that allow you to set double spacing, change margins and tab stops, disable word wrap, and perform other functions related to on-screen document formatting:

```
^O        A:TEST.DOC  PAGE 1 LINE 1  COL 1              INSERT ON
                  < < <  O N S C R E E N   M E N U  > > >
* Margins & Tabs *  |* Line  Functions *| *  More Toggles  * | * Other  Menus *
L Set left  margin IC Center text      |J Justify   off (ON)| (from Main only)
R Set right margin IS Set line spacing IV Vari-tabs off (ON)|^J Help  ^K Block
X Release  margins |                   |H Hyph-help off (ON)|^Q Quick ^P Print
I Set   N Clear tab|    * Toggles  *   |E Soft hyph on (OFF)|^O Onscreen
G Set paragraph tab|W Wrd wrap off (ON)|D Prnt disp off (ON)|Space bar returns
F Ruler from line  |T Rlr line off (ON)|P Pge break off (ON)|you to Main Menu.
L——!——!——!——!——!——!——!——!——!——!——R
■
```

Figure 2-4. The Onscreen Menu

In addition, the Onscreen Menu shows whether word wrap, justification, and other features are currently ON or OFF. In the above example, all toggles are ON.

The Print Menu

The **Print Menu** is used for entering print control characters (described in the **General Information Manual** and in Section 7 of this manual):

```
^P        A:TEST.DOC  PAGE 1 LINE 1  COL 1              INSERT ON
                  < < <     P R I N T   M E N U    > > >
*Special Effects*| * Special Effects * |* Printing Changes *| * Other  Menus *
 (begin and end) |   (one time each)   |A Alternate pitch   | (from Main only)
B Bold    D Double|H Overprint character|N Standard pitch    |^J Help  ^K Block
  S Underscore    |O Non-break space    |C Printing pause    |^Q Quick ^P Print
  X Strikeout     |F Phantom space      |Y Other ribbon color|^O Onscreen
  V Subscript     |G Phantom rubout     | *  User  Patches  *|Space bar returns
  T Superscript   |RETURN Overprint line|Q(1) W(2) E(3) R(4) |you to Main Menu.
L——!——!——!——!——!——!——!——!——!——!——R
■
```

Figure 2-5. The Print Menu

The Help Menu

To complete the menu presentations, the **Help Menu** shows commands for control-
ling help levels and displaying reference information and learning aids:

```
^J        A:TEST.DOC  PAGE 1 LINE 1 COL 1                INSERT ON
                    < < <      H E L P   M E N U      > > >
                                            |                | * Other  Menus *
     H Display and set the help level       | S Status line  | (from Main only)
     B Paragraph reform (CTRL B command)     | R Ruler line   |^J Help  ^K Block
     F Flags in rightmost column of screen   | M Margins and tabs |^Q Quick ^P Print
     D Dot commands, print ctrl(P command)   | P Place markers    |^O Onscreen
                                            | V Moving text   |Space bar returns
                                            |                 |you to Main Menu.
     L—!—!—!—!—!—!—!—!—!—!—!————R
     ▮
```
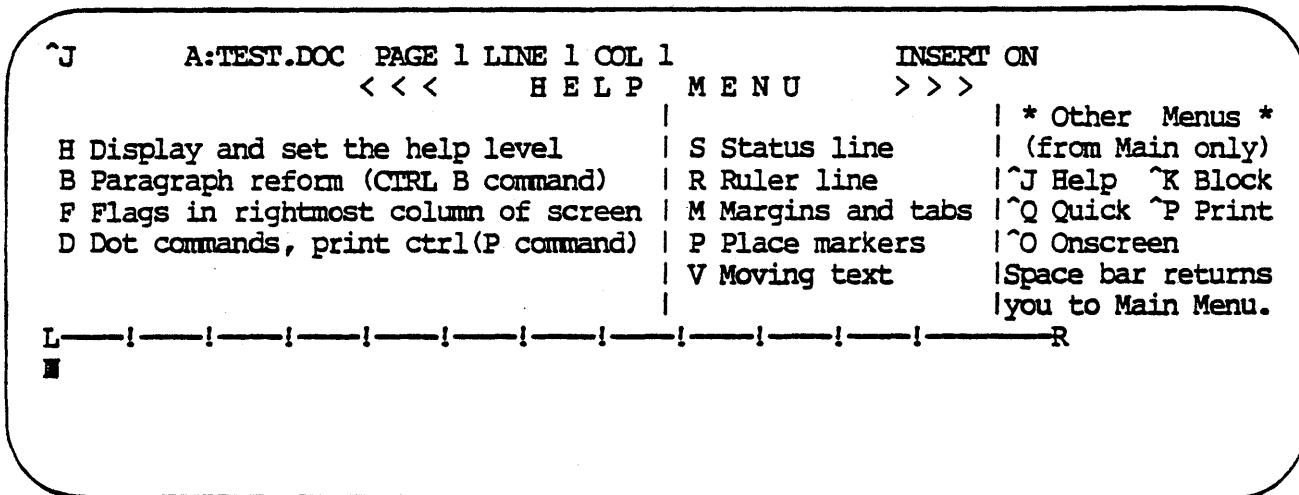
Figure 2-6. The Help Menu

^JH displays, explains, and sets the help level, in the same manner as the H
command on the no-file menu, Section 1. The rest of the commands display
explanations. For example, ^JV explains how to move a block of text, ^JX
helps find commands for various functions, and ^JD summarizes the ordinary
dots commands. Some of these help commands display several screens of infor-
mation; WordStar awaits a keystroke between screens.

Help Levels

As you gain experience using WordStar, you will learn the commands, and you
will want to see more of your document on the screen instead of the menus. If
you change the help level (discussed in Section 1) from 3 to 2 with the ^JH
command, the main menu will not display. The prefix menus will appear whenever
you type a prefix key if you pause before hitting another key. If you change
the help level to 1, the prefix menus will also be completely eliminated.
Further changing the help level to 0 eliminates explanations displayed by
various individual commands, such as the no-file D command or the help level
command (Section 1).

THE SCREEN DISPLAY

The screen display during editing consists of the status line, the menu, the
file directory (if enabled), the ruler line, and the file display area. The
file display area shows text from the file being edited plus "flag" characters
in the rightmost column. The file display is updated only when WordStar has
completed all commands which have been entered.

The Status Line

During editing, the status line on the top line of the screen usually shows
the following items:

- The command being entered or executed, if any

- The name of the file being edited

- PAGE number

- LINE number

- COLumn number

- INSERT ON   (if insertion is on)

- plus other phrases as applicable

The file name will disappear if necessary in order to allow all of the additional status line information to fit on the screen line.

The command in progress, if any, is shown in the upper left corner as the characters typed to invoke the function. If only the first (prefix) key of a two-key command has been entered, this character will display. If you type several commands ahead, they will display in sequence as executed. Exception: fast single-key commands, such as "cursor down line", do not display.

DOCUMENT DISPLAY

The next three status line items are normally these: .

        PAGE pp LINE ll COL cc

These are the print page number, print line number on the page, and print column number of the character at the cursor. They are continuously updated as the cursor is moved.

    The PAGE is the printout page number, assuming that the document is printed with page numbers running up from 1. If different printout page numbers are specified (by "dot commands" described later), these numbers will not be reflected in the status line.

    The LINE is the printout line; and does not count dot command lines (which control printout).

    The PAGE and LINE will not correspond exactly to the printout in certain cases of dot command use (e.g., if the paper length (.PL dot command) is changed in mid-document). See "Dynamic Page Break Display" in the General Information Manual.

    The COLUMN is the print column, not the screen column. The print column differs from the screen column when the line contains a non-printing character such as print control character (e.g., ^S to invoke underlining), or when a marker (described in Section 6) is shown in the display line.

NON-DOCUMENT DISPLAY

If you initiate editing with the non-document command N (Section 6) or if page
break display has been suppressed (^OP command, Section 4), then the page and
line are replaced with:

FC=ccccc   FL=llll

FC=ccccc gives the file character number, or the number of characters
between the cursor and the beginning of the file, plus 1. This counts
all characters (bytes) stored in the file, including carriage returns,
line feeds, etc.

FL=llll gives the file line number, or the number of file lines (inclu-
ding dot command lines) between the cursor and the beginning of the file,
plus 1.

Thus, when this type of status line is displayed, you can determine the size
of the file in characters by moving the cursor to the end of file (^QC) and
reading the FC=ccccc item.

OTHER ITEMS

The remaining items in the status line are phrases which display under the
conditions indicated:

WAIT
: Shows when WordStar is reading or writing to the diskette.
When this appears, stop typing, or type very slowly;
otherwise characters you type may be missed.

MAR REL
: Shows when margins are released (^OX command, Section 4).

decimal
: Shows after tabbing to a decimal tab stop, as long as the
decimal right-aligning action is in effect, as described
in Section 4.

INSERT ON
: Shows when insertion is on, that is, when typed char-
acters are inserted into the file rather than typed over
other characters in the file. Insertion is turned on and
off by typing ^V.

LINE SPACING n
: Shows except when single-spacing is in effect. The line
spacing can be set with the ^OS command, Section 4.

PRINT PAUSED
: Shows when printing of a file is suspended—after being
stopped by user command, when stopped at a "pause for
typewheel change" print control character (Section 7), or
when a page has been completed under the PAUSE BETWEEN
PAGES option (Section 8).

REPLACE (Y/N):
: This question is displayed in the status line by the
replace command (Section 5).

Note

When several of the above phrases appear at once, it is normal for
the LINE SPACING item to disappear off the right edge of the screen.

The Menu

A menu of editing commands may appear below the status line as described and
illustrated earlier in this section.

The main menu, showing single-control-character (non-prefix) editing commands,
displays at the default help level, level 3 (Section 1). When the help level
is 2 or 3 and a prefix key (as shown on the main menu) is pressed, after a
short pause, the command menu for that prefix is displayed. The menus, as
well as the status line and ruler line, are displayed highlighted (in inverse
video or dim display, when available) for differentiation from file text.
When no menu is on display, more of the screen is available for file text
display.

A number of explanatory and warning messages display above or below the menu
under certain conditions. For example:

TYPE ^KP TO CONTINUE PRINT

(explanation; appears during print pause)

*** WARNING: WORD TOO LONG TO FIT MARGINS

(warning; occurs when an overlong line with no spaces or
other possible word wrap points is entered or reformed)

Most such messages are cleared at the next keystroke. Messages and the condi-
tions which cause them are described in Appendix B.

The File Directory

Normally, the file directory is not displayed during editing. However, the
^KF command may be used to invoke directory display during editing if desired.
(Also, a temporary file directory display may be invoked by typing control-F
while entering a file name). When enabled during editing, the directory
appears between the menu and the ruler.

Usually while a file is being edited, WordStar will only display a partial
directory to leave more screen space for file display. The ^Z and ^W commands
on the main editing menu will scroll the directory up and down in order to
allow viewing of all file names. (When the directory is not displayed, or
when there are no more directory lines to scroll onto the screen, these
commands scroll the file display.)

The file directory is normally displayed in alphabetical order, with .BAK
files after the corresponding non-.BAK file, and with non-text files such as
.COM and .INT files at the end. Temporary files (.$$$) are also shown at the
end of the directory. However, if the directory is unusually long (more than
about 64 filenames of average length), it is normal for it to display
unsorted. Long directories also display and scroll more slowly than those of
moderate size.

The file directory (and occasionally also the ruler) will disappear temporarily when the menu, or questions evoked by various commands, or other messages use too many screen lines. Users with 16-line screens will observe this disappearance most often. The directory will reappear as soon as screen space permits.

The Ruler Line

Below the menu and file directory (when present), the highlighted ruler line

    L——!——!——!——!——!——!——!——!——!——!——!———R

shows the current left margin (L), right margin (R), and variable tab stops (!). Decimal tabs (Section 4) will show as #'s. Non-tab columns between the margins display as hyphens. If the L or R setting occurs at a tab column, the ! or # will be shown.

If the left margin is temporarily moved in with the paragraph tab command (^OG, Section 4), the L does not move, but the portion of the ruler outside the temporary margin is displayed without highlighting.

Tab stops set outside the margins are active, and show as !'s or #'s, only when the margins are released (^OX command, Section 4) or word wrap is off (^OW, Section 4). If the right margin is set wider than the screen, text beyond column 79 can be viewed by moving the cursor past the rightmost column. The ruler line display can be eliminated and restored with the ^OT command, Section 4. If the ruler display is turned off while the file directory display is turned on, WordStar uses a highlighted line of equal signs (=) to separate the directory display from the file display.

The Text Area

The rest of the screen displays lines of text from the document being edited. The portion of the document displayed always includes the cursor position in the file, so that the screen cursor can correspond to the the file cursor.

All columns of the screen except the rightmost are used to display text. For example, on an 80-column screen, at most 79 columns of text will appear on a line. The rightmost column of the screen is blank or displays a "flag" character to indicate a special type of line or a "hard" carriage return, as explained in the following paragraphs.

EXCEPTIONAL LINES

Each line in the file display area shows what will usually print on one line of the document; exceptions include the following:

Continuation Lines

If a line is too long to be displayed on one screen line (79 columns for an 80-column screen), WordStar will display as much of the line as the screen will allow. That portion of the line that is beyond column 80 may be brought into view by moving the cursor past column 79. When the cursor is past column 79 (and the continuation line is on-screen), the column number shown in the status line still reflects the print column, not the screen column now occupied by the cursor.

Overprint Lines

For special effects, it is possible to have two or more consecutive lines
which print over each other, so that two different characters can be printed
in the same position to form a special graphic. On the screen, a hyphen (-)
in the rightmost column (i.e., the "flag" column) indicates that the next
screen line will print over the line so flagged. To terminate a line to be
overprinted, type ^P and press RETURN to enter a carriage return without line
feed, as described in Section 4.

Page Break Lines

The dynamic page break display feature shows a line of -'s, with a P in the
rightmost column, at places where a page break will fall during printout:

——P

This line is **added** only for display purposes; there is no such line in the
document. (If the page break is caused by a "form feed" (^L) character in the
file, then the form feed (and the characters preceding it, if any) are shown
on the screen line, with hyphens to their right.) The display of page break
lines can be turned off, and back on, with the ^OP command.

End-of-File Lines

When the document ends before the bottom of the screen, the remainder of the
screen displays blank lines with periods in the rightmost (flag) column. For
a new file, the screen is initially filled with such lines.

Beginning-of-File Lines

If the file display is moved down on the screen until the beginning of the
file is below the top of the display area, the portion of the screen above the
beginning of the file is filled with blank lines with colons (:) in the
rightmost column.

Ordinary Lines

Ordinary lines in the file display area show lines of text from the file that
are **not** longer than the screen line and are **not** overprinted by the next line.
Such lines can end in a "hard" or a "soft" carriage return, as described in
the **General Information Manual**; the hard carriage return is indicated with a <
flag, and the soft carriage return with a blank flag.

The following example shows the screen's appearance after entering two
paragraphs and a list, illustrating the display of hard and soft carriage
returns. No menu is shown, indicating that the help level is set to 2 or
less. The symbol ■ represents the cursor.

```
                    A:FILE1.DOC    PAGE 1  LINE 13  COL 1
    L——!——!——!——!——!——!——!——!——!——!——!——R
    This is a paragraph of text entered without using the RETURN
    key;  word  wrap formed the lines.    The line breaks will be
    moved if the user invokes reformation.  Note that the flag
    character column is blank, except on the last line, where a
    < indicates that RETURN key was used to end the paragraph.      <

    The following list was entered using the RETURN key between
    lines,  because  the  line  breaks  were  desired  in  these
    positions.  Note the <'s in the rightmost column:               <
            Words                                                   <
            Sentences                                               <
            Paragraphs                                              <
            Documents                                               <
    ▮
```

Figure 2-7. Appearance of Text on the Screen

FILE CHARACTER DISPLAY

Files edited by WordStar may contain all ASCII characters (hexadecimal code
values 0 - 7F) except control-Z (1A hex). Most terminals display only the
printing characters (codes 20 - 7E hex). WordStar uses combinations of charac-
ters to display other codes:

Table 2-1. Non-displayable Characters

Character	How Displayed
CTRL I	**Tab (09 hex).** Enough spaces to move to next multiple of 8 columns. Note: this character is common in non-documents such as program source files, but it is not used for WordStar's variable stop tabs. See Section 6.
Other Control Characters	^ and letter or punctuation character (except 1E and 1F hex, which are used internally to represent soft hyphens and display as highlighted hyphens (-).
Delete	**Tilde (~, 7E hex).** Occurrence of this character in a file is unlikely.

Control letters are common in document files as they are used to control print
enhancements such as underlining. They display as ^ and a letter, just as they
are printed in this manual. Although two characters appear on the screen only
one character is in the file and is edited as a single character. For example,
a "delete character" command (^G) will result in the disappearance of both the
^ and the letter from the screen.

Flag Characters

Most of the "flag" characters which can appear in the rightmost column of the file display area were introduced earlier in this section; Table 2-2 summarizes all of them for reference.

Table 2-2. Flag Characters

Character	Meaning
	Blank. Line ends in "soft" (mid-paragraph) carriage return; this line break may be changed by subsequent word wrap or paragraph reform operations.
<	Line ends in "hard" carriage return; this line break will not change in subsequent word wrap or reform operations.
+	This line is continued beyond column 80; an attempt to move the cursor to the right of column 80 will bring more of the line into view.
-	Next line will overprint this line.
.	This screen line is after (below) the end of the document. Also appears on last line of document if there is no carriage return after the text.
:	This screen line is before (above or prior to) the beginning of the document.
P	New page begins with following screen line. Appears only when page break display is on (^OP).
?	Line contains an unrecognized, and possibly erroneous, "dot command" (Section 7). Also appears while a dot command line is being typed in; disregard until entry is complete. Does not appear when editing a "non-document" (Section 6).
J	Line ends in "line feed" character without "carriage return" character. This is a non-standard file format never created in normal WordStar use.
M	Line contains a MailMerge dot command. See MailMerge (Sections 9-12).

Note

The flag character is not displayed on the last line of most terminals. Because of normal hardware limitations, this position is left blank. Scroll the display up a line (^Z) to see the flag column character for the last line.

Screen Updating

The file display area of the screen is updated at the end of each command, or after each character of text entered, provided that no further keys have been struck. Only the changed portions of the screen are redisplayed.

The file display is not updated until the command has been executed completely. For example, the cursor to end of file command (^QC) can take several seconds or longer, during which the screen remains unchanged, except that ^QC displays in the upper left hand corner and DISK WAIT appears if necessary.

Screen update is further deferred until all characters typed have been processed, allowing WordStar to process commands and text entry typed at a much higher burst rate than the terminal display can keep up with. For example, if several "scroll up screenful" commands (^C) are typed quickly, the file display area remains unchanged until all of them have been processed. This allows rapid motion through the file.

If a character is typed while WordStar is in the midst of updating the screen, the update will be suspended until that character is processed, momentarily (or longer, if a slow command was entered) leaving the screen in a partially updated state.

EXCEPTION

The scroll up line (^Z) and scroll down line (^W) commands always display the new line scrolled onto the screen immediately. This makes possible rapid upward scrolling with all lines displayed, by holding down repeat CTRL Z. (On some keyboards, any key which is held down repeats; on others, there is a separate REPEAT key which should be held for repetitive transmission.) Similarly, repeat-control-W will scroll the text downward continuously on terminals capable of downward scrolling.

HINT

All terminals are capable of "scrolling" the text upward, but on those without the "line delete" code, WordStar will scroll instead of redisplay only if there is no menu above the file display area. Thus, users of "dumb" terminals will obtain faster upward scrolling (for example, with the ^Z command) if they suppress the menu by reducing the help level.

Section 3
Basic Editing

Sections 3-6 describe all of the commands that are available while editing a file. The descriptions are organized into categories to facilitate reference. The categories are organized in the approximate order a new user will need to learn commands. But this doesn't mean that all commands in a category should be learned before progressing to the next.

Each section includes concise tables of commands and most sections include additional descriptions. In particular, Section 4 contains extensive description of the use of WordStar's on-screen text formatting features.

The commands that are available when not editing a file (at the no-file menu) are described in Section 1.

CURSOR MOTION

Cursor motion commands are used to place the cursor at the desired point in the text before making a correction or addition. All scroll motion commands move the display of the document up or down on the screen, or display an entirely different screen of text as necessary to bring the cursor destination into view.

As noted at the end of this section, the cursor will not go to places on the screen that do not represent characters in the file.

Table 3-1 shows all of the commands relating to cursor motion. The second character of a two-key command is shown as an upper case letter, but it may also be entered as a lower case letter or a control character.

Note that the basic cursor motion keys (^S, ^E, ^D, and ^X) are arranged in a diamond on your keyboard. The position of the keys corresponds to the direction of cursor motion:

```
                        |    E    |
                        |    up   |
        _____|_____|_____
        |    A    |    S    |    D    |    F    |
        |   left  |   left  |  right  |  right  |
        |___word__|_____|_____|___word__|
                        |    X    |
                        |   down  |
                        |_____|
```
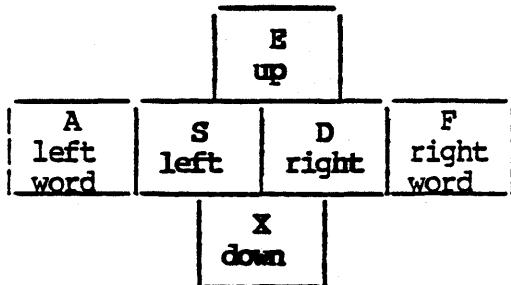
Figure 3-1. The Cursor Diamond

The adjacent keys to each side of the diamond, ^A and ^F, move the cursor farther in the same direction—to the next word instead of the next character. Furthermore, prefixing any of the four basic diamond keys with ^Q moves the cursor as far as it will go on the screen in that direction.

Table 3-1. Cursor Motion Commands

Command	Description
^S	**Cursor Left Character.** Moves the cursor to the previous character in the file, going to the end of the preceding line if at the beginning of the current line. One common use of this command is to back-space over characters just entered to make a correction. (^H and BACKSPACE are equivalent to ^S).
^D	**Cursor Right Character.** Moves the cursor to the next character in the file, going to the beginning of the next line if at the end of the current line.
^E	**Cursor Up Line.** Moves the cursor up to the preceding screen line. The cursor remains as nearly as possible in the same print column; moves left if needed to avoid landing beyond the end of a line.
^X	**Cursor Down Line.** Moves the cursor down to the next screen line. The cursor remains as nearly as possible in the same print column; moves left if necessary to avoid landing beyond the end of a file line.
^A	**Cursor Left Word.** Moves the cursor back to the beginning of a word. See exact definition of "word" after this table.
^F	**Cursor Right Word.** Moves the cursor forward to the beginning of the next word. This is a fast way to get the cursor to the desired position in a line.
^QS	**Cursor to Left Side.** Moves the cursor to the leftmost column of the current screen line.
^QD	**Cursor to Right Side.** Moves the cursor right to the position after the last character displayed on the current screen line; usually this is not the right edge of the screen.
^QE	**Cursor to Top.** Moves the cursor to the top line of the text area, remaining as nearly as possible in the same column.
^QX	**Cursor to Bottom.** Moves the cursor to the bottom line of the text area (similar to ^QE).
^QR	**Cursor to Beginning of File.** Moves the cursor to the beginning of the document. For a long document, doing a save (^KS) is faster and uses less diskette temporary file space if the cursor is currently near the end of the document.

Table 3-1. Cursor Motion Commands (Continued)

Command	Description
^QC	**Cursor to End of File.** Moves the cursor to the position after the last character of the document.
^Q0-9	**Cursor to Place Marker.** Moves the cursor to one of ten "place markers". Place markers are set by the operator with the commands ^K0 through ^K9 (see Section 5).
^QB	**Cursor to Beginning of Block.** Moves the cursor to the beginning of the marked block, and displays the marker if it is presently undisplayed. Blocks are described in Section 6.
^QK	**Cursor to End of Block.** Moves the cursor to the end of the currently marked block, similarly.
^QP	**Cursor to Position Before Previous Command.** Moves the cursor to its position before the preceding command. This command is particularly useful after saves, to get back to where you were editing, and after ^B (paragraph reform), to get back to the point where you were making changes.
^QV	**Cursor to Start of Last Find. Cursor to Source of Last Block.** Moves the cursor to its position before the last Find or Replace command (Section 5) or to the position of the source of the last block of text moved, copied, or deleted (Section 6), whichever has been used most recently.

Definition of a "Word"

For the purposes of the word left and word right commands (^A and ^F) and the delete word command (^T), a "word" is defined to include one punctuation character (. , : ; ! or ?) at the end, if present, and any number of following spaces and tabs. Words may be separated by commas (for example) without spaces, and the cursor will come to rest after each comma. A carriage return is also treated as though it were a word, that is, the cursor will stop at the end of each line as well as at the beginning of each word in each line.

Where the Cursor Won't Go

The cursor can be moved only onto characters present in the file, or to the position immediately after the last character of a file line. This latter position corresponds to being "on" the carriage return between lines. Recall that lines in the file are stored in variable length, with "carriage return" characters separating them. There is usually blank space on the screen to the right of each line for which the file contains no characters. The cursor cannot be moved into this space with the cursor motion commands.

To get the cursor to go beyond the actual characters at the right of the end of a line, the line must be extended. Put the cursor at the end of the line (^QD), then space or tab over to the desired column. If insertion is off, you can tab over without bothering with the ^QD. The tab key (^I) acts like a cursor motion command when the cursor is over existing characters, but extends the line with spaces upon reaching the end of the existing text.

Usually you will find that the cursor can be moved one or two more columns to the right of the last character visible on a line. This just means that there are one or two "space" characters in the file between the last visible character and the carriage return.

The cursor will not move beyond the position after the last character in the file, nor move to a position before the beginning of the file.

The cursor will not come to rest in "markers" (see Section 5), nor in page break display lines (————————P), as these are display items that do not represent file characters.

The cursor will come to rest only on the first display character of a file character displayed with multiple characters (see Section 2). This occurs with respect to print control characters entered into the file to control enhancements such as underline, and with the (non-document) fixed "tab" characters, if you use them (Section 6).

How the Cursor Moves

HORIZONTAL MOTION

"Horizontal" cursor motion follows the characters in the working document, wrapping to beginning (left) of the next line when moved to the right from the end of a line, or to the end (right) of the preceding line when moved to the left from the beginning of a line. For example, successive "cursor right" (^D) commands move the cursor to the right until the end of the line is reached, then the next ^D moves the cursor to the **beginning** of the next screen line, at the left edge of the screen.

Horizontal cursor motion moves extra positions as necessary to avoid landing in a place the cursor won't go, such as on the letter of a control character displayed as ^-letter, or on a display item that does not represent a file character, such as a marker or a page break line.

Starting with release 3.0, lines of a WordStar document wider than 80 columns will be displayed on a single line, rather than wrapped to a second or third line. When the document first appears, only characters in columns 1-79 will be shown on the screen. However, as you attempt to move the cursor beyond column 79, the line in which the cursor rests will shift left 20 columns. (This number can be changed from 20 to another value if desired.) After about one second, the rest of the line in view will also shift left. The lines on the screen shift similarly to the right any time you move the cursor back to a column beyond the left side of the screen.

Any time the margin is beyond the rightmost column that is visible on the screen, the ruler line will display a + at the right side of the screen. Flags displayed at the right side of the screen will have the same meanings as indicated in Table 2-2, even though the actual right margin is not in view.

For the purpose of scrolling horizontally, print control characters in the file are counted, even though they are not counted for the purpose of printing. With horizontal scrolling, it is possible to have a line more than 240 columns wide. (The limit is about 32,000 columns.)

VERTICAL MOTION

Vertical cursor motion keeps the cursor in the same **print** column, or as near to it as possible. When the destination line is long enough, the cursor will usually move straight up or down, but it may jog left or right according to the "same print column" rule if one of the lines contains one or more print control characters. The print control characters, described in Section 7, display as a caret (^) and a letter (two columns), but don't print (or print in one column only).

If the cursor is moved up (^E) or down (^X) and the destination line is shorter, the cursor will move left as necessary to avoid landing beyond the end of the line. The cursor also moves sidewise, if necessary, to avoid landing in any of the other forbidden places previously described. It will move vertically an additional line if necessary to skip over a page break line.

ATTEMPTING TO MOVE OFF THE SCREEN

When a command moves the cursor to a character not displayed on the screen, the screen display is scrolled to bring the cursor destination onto the screen. For example, if the cursor is already on the top display line, a "cursor up" (^E) will move the file display down a line in order to give the cursor a place to go.

Commands that scroll the file display up or down also move the cursor to a different line if necessary to keep it on the screen.

The cursor is also kept out of the bottom line of the screen by scrolling the file display or moving the cursor up when necessary. This makes the next line always visible when text is being altered, reducing the chance of inadvertently typing over it.

ATTEMPTING TO MOVE OUT OF THE FILE

Any attempt to move the cursor beyond the end of the file or before the beginning of the file leaves the cursor unmoved. Add lines to the file if you wish to move above the beginning or below the end.

SCROLLING

The scrolling commands change the text displayed on the screen, without necessarily moving the cursor; these commands are commonly used to bring the desired text into view.

The cursor motion commands (previous section) also move the document on the screen, but only when necessary to keep the cursor destination in the display area.

Table 3-2. Scrolling Commands

Command	Description
^Z	**Scroll Up One Line.** Scrolls the file display (or directory) up one line: a line disappears off the top of the screen and a line is added at the bottom.
^W	**Scroll Down One Line.** Scrolls the file display (or directory) down one line.
^C	**Scroll Up One "Screenful".** Moves the display up by a "screenful", showing additional lines toward end of file. Cursor remains in same screen line, as nearly as possible to the same column. Actual motion is about 3/4 the number of displayed lines, so that there is some overlap between successive "screenfuls".
^R	**Scroll Down One "Screenful".** Moves the display down a "screenful."
^QZ	**Continuous Scroll Up.** Starts moving the screen display up continuously, a line at a time.
^QW	**Continuous Scroll Down.** Starts moving the screen display down continuously, a line at a time.

Scrolling (^Z and ^W)

For upward scrolling (downward file motion), the cursor line is moved down only if it is already in the top line of the text area; otherwise the cursor remains on the same character. However, if the file directory (see ^KF, Section 6) is displayed and there are additional lines of file names below the partial directory shown on the screen, ^Z will scroll the directory up one line and leave the file display unchanged.

Continuous Scrolling (^QZ and ^QW)

Whenever you initiate continuous scrolling, WordStar displays

> TYPE 1-9 TO VARY SPEED, SPACE TO STOP

Press 1 for fastest scrolling, 9 for slowest. The default speed is initially 3. Press any other key to stop the screen motion.

TEXT ENTRY

Generally, text entry is accomplished simply by typing the text. However, related commands are used to control whether the text inserts or overtypes existing text, to control the forming of text into lines by word wrap, to indicate paragraph endings, or to "tab" to preset tab stops, etc.

The basic commands for entering text are shown in Table 3-3, with more detailed explanations of some commands in the paragraphs that follow. Additional commands and extensive discussion of on-screen text formatting for word

processing purposes are given in Section 4, after presentation of deletion and saving commands.

Table 3-3. Basic Commands for Entering Text

Command	Description
^V	**Insertion ON/OFF.** Determines whether characters typed are inserted into current line, or replace (overtype) characters already in line. Press once to turn insertion OFF, and again to turn insertion back ON. When on, INSERT ON shows in status line.
RETURN	**End Paragraph.** With insertion ON, RETURN inserts a hard carriage return in the file; with insertion OFF, RETURN makes the carriage return at the end of the line "hard" if it is "soft", then moves the cursor to the beginning of the next file line.
^N	**Insert "Hard" Carriage Return.** A "hard" carriage return is inserted at the cursor position and the cursor is left in front of it; that is, the cursor is not moved. Text to the right of or below the cursor moves down.
^I	**Tab.** Advance to the next tab stop. If there are no more tab stops on the current line, go to next line. Only tab stops set within the margins are used unless word wrap is off or margins are released.
^OI	**Set Variable Tab.** Sets either an ordinary or a decimal tab stop (see Section 4).
^ON	**Clear Variable Tab.** Clears a tab stop (see Section 4).
^OF	**Set Tabs and Margins from "Ruler" Line in File.** Allows you to type a line of symbols in your file to be used to set tabs and margins (see Section 4).
^Px	**Enter Control Character.** ^P followed by a letter (x) enters the corresponding control character into the file; any other character except space is entered exactly as typed. This permits entering control characters that normally have command functions. For example, ^P^S or ^PS will enter a CTRL S (^S) into the document.

End Paragraph (RETURN)

If the line spacing is set to 2 when you press RETURN, two returns are inserted or two lines moved down over, etc. RETURN should not normally be used between the lines of a paragraph; let word wrap form the lines instead.

RETURN with insertion ON will split a line into two if the cursor is in mid-line, or produce a blank line if the cursor is at the beginning or the end of a line.

RETURN with insertion OFF may be used to change a soft carriage return to hard; for example after deleting the last line or lines of a paragraph.

Insert "Hard" Carriage Return (^N)

Depending on the cursor position, ^N will create a blank line (cursor at beginning or end of line) or split a line into two lines (cursor in mid-line).

Comparison of RETURN and ^N

Note the following differences between inserting a carriage return with RETURN and inserting a carriage return with ^N:

- ^N makes an insertion whether insertion is ON or OFF; RETURN makes an insertion only when insertion is ON.

- ^N leaves the cursor **before** the inserted carriage return; RETURN leaves the cursor **after** the carriage return.

- ^N always single spaces; RETURN inserts multiple returns (or moves multiple lines) if the line spacing (^OS) is set greater than 1.

Generally, RETURN is the more convenient key to use when paragraph ends or blank lines are needed in the course of continuous text entry. ^N is a convenient way to make a blank line or lines into which to type a paragraph to be inserted. Using ^N first makes sure the new line or paragraph ends in a "hard" carriage return even if you forget to type RETURN at the end; only a single ^N is necessary before entering a paragraph of any length under word wrap. Experienced users find ^N extremely useful in correcting text already entered.

Tab (^I)

The tab function works one way when insertion is ON and another way when it is OFF:

Insertion ON: Tab inserts spaces, and possibly a "hard" carriage return, to reach next tab stop. Text after the cursor moves ahead.

Insertion OFF: Tab moves the cursor over existing text; if there is no more existing text and the next tab stop is on the current line, the line is extended with spaces; if there are no more tab stops on the current line, WordStar inserts a "hard carriage return" and moves the cursor to a new line.

Note that the tab key (with insertion ON, or cursor beyond end of line; and variable tabbing on) enters regular space characters into the file. These will be subsequently edited just as if they had been entered with the space bar.

Each tab stop may be regular or "decimal". After you tab to a "decimal" stop, text moves left as entered until "." is pressed, aligning the data so the point is at the tab stop. See Section 4.

For tab operation with variable tabbing turned off (^OT command), see "Fixed Tabbing Mode," Section 6.

.Enter Control Character (^Px)

^P is used to enter "print control characters" for underlining, boldface, subscripting, etc. into the document. These characters are fully described in Section 7 and summarized in the Print Menu. ^P- may also be used to enter a "hard" (regular) hyphen when "soft hyphen entry" is on (see ^OE, Section 4). In addition, ^P may be used to key in any code (1-7F hex) that your keyboard can generate, for special (non-document) purposes. The character entered with ^P will insert or overtype, depending on whether insertion is ON or OFF. Table 3-4 summarizes some of the uses of ^P.

<p align="center">Table 3-4. Some Uses for ^P</p>

Command	Description
^P-	**Enter Hard Hyphen.**Always enters a "hard" (regular) - even if soft hyphen entry (^OE) is on or ^B (with hyphen-help, ^OH, on) is pausing to allow hyphenation.
^PO	**Enter Non-Break Space.** Enter a control-O into the file at points where you want a space to print but you do not want the line wrapped or spaces inserted for justification.
^PH	**Strikeover.** Causes the next character to overprint the preceding character, i.e. to print in the same position. Strikeover displays as ^H.
^P RETURN or ^PM	**Enter Overprint Line.** Enters "carriage return" code without "line feed" overprint code into file, causing the LINE entered immediately after "^P RETURN" to OVERPRINT the preceding line. A hyphen (-) appears in rightmost column of screen to indicate that next line overprints line with hyphen (-).

Overprint Lines (^P RETURN or ^PM)

Overprint lines may be used to produce special effects, by printing multiple characters in the same column position. The ^P command is fully described in Section 7.

Other Commands

Many other commands influence the on-screen formatting of text. Read Section 4 for full descriptions; refer to the Onscreen Menu for a brief summary.

Hints for Entering Tables

Set the margins wider than the table and clear all tab stops. Set a tab stop for each desired column. Press the TAB key after entering each field. Tabbing after the last item on each line will automatically take you to the first field on the next line. Setting the margins and tab stops is discussed in Section 4 under the subheading "Setting Tab Stops and Margins".

If the table is not at the end of the file, check that.insert is ON before
entering the table, or use ^N to make a number of blank lines for the table.

To ensure that the table prints with the columns aligned as they appear on the
screen (even if ^B or word wrap is used accidentally), place a .UJ OFF dot
command just before the table to turn microjustification OFF. If .UJ OFF is
not used, and a line in the table is word-wrapped or reformed with ^B (Section
4), the line may not print exactly as it appears on the screen. Remember to
use .UJ ON at the end of the table to turn microjustification back on.

TEXT DELETION

The commands shown in Table 3-5 are used to remove text from the document.

Table 3-5. Deletion Commands

Command	Description
^G	**Delete Character.** Deletes the character at the cursor position. If the cursor is at the end of a line, deletes the carriage return, joining two lines.
DELETE	**Delete Character Left.** Deletes the character immediately left of the cursor. If the cursor is at the beginning of a line, deletes carriage return, joining the current line onto the preceding line. DELETE, DEL, RUB and RUBOUT are alternate labelings of the same key. The code "^_" (1F hex) is generated by some keyboards if the CTRL key is held while DELETE is pressed. The latter code is accepted to make it unnecessary to release the CTRL key or (on some keyboards) move to the SHIFT key before rubbing out characters.
^T	**Delete Word Right.** Deletes the word containing the cursor, and following spaces. If the cursor is in mid-word, ^T deletes only that portion of the word at and to the right of the cursor. If the cursor is between words, ^T deletes only the spaces up to the next word. If the cursor is at the end of a line, ^T deletes the carriage return and any spaces following. See "Definition of a Word" earlier in this section.
^Y	**Delete Line.** Deletes the entire line on and off the screen in which the cursor is resting. with any associated overprint lines. The lines that follow move up on the screen.
^QY	**Delete to End of Line.** Deletes from the cursor position rightward in the line in which the cursor is resting. Does not delete carriage return at end line, nor overprint lines.
^Q DEL	**Delete to Beginning of Line.** Deletes leftward to the beginning of the line (like ^QY). (See DELETE in this table for other key names.)
^KY	**Delete Block.** Deletes the currently marked block of text. See "Block Operations", Section 6.

SAVING AND ABANDONING

A document that you are entering or changing is not permanently stored until "saved" on diskette. Furthermore, only a disk-saved document can be printed. The commands for saving (and abandoning) files are shown in Table 3-6.

Table 3-6. Saving and Abandoning Commands

Command	Description
^KS	**Save File and Resume.** Saves the document and initiates re-edit: short for ^KD followed by another D (or N) command for same file. Cursor is left at beginning of file; to restore cursor to previous position, enter ^QP as the next command. Use ^KS frequently to save your work so far, then continue editing the same document. Also, this command is the fastest way to get the cursor from the end to the beginning of extremely long files.
^KD	**Save File—Done.** Saves the document and goes to the no-file menu.
^KX	**Save File and Exit.** Saves the document and exits from WordStar to the operating system.
^KQ	**Abandon File.** Terminates editing of this file without saving the new version. Asks for yes-no confirmation if changes have been made; goes to the no-file menu after termination. Use ^KQ when you do not want the changes saved; also useful when no changes have been made, as after "editing" a file to inspect the document on the screen.

Every editing session whose results you want to keep must be ended with one of the "save" commands; a save must be issued during editing if you want to print what you have done so far; saving frequently during long sessions is advisable to guard against power failures, computer breakdown, or catastrophic command errors.

WordStar provides a "save and resume" (^KS) command to save your work so far, then continue editing. This eliminates the need to enter a "D" command after saving, and is a convenience for saving periodically during long sessions or saving to permit printing the text entered so far. After this save, if the help level is not 0, WordStar displays a message reminding you that the ^QP command may be used to return the cursor to its position before the save.

Note

Until saved, all changes made are temporary, and will be lost in the event of a power failure, computer crash, full diskette, etc. The ^KS command provides a convenient way to file and continue editing. Save early and save often!

After saving is completed, the original file (the one named in the "D" command or after "WS" in the system command that calls up WordStar) will contain the updated document, and a file with the same primary name but type BAK will contain the previous version of the document. Note that only ONE .BAK file is kept. Multiple saves, including ^KS's, will lose the original input file. The **General Information Manual** describes file changes because of a "save."

After saving with the ^KD command, the no-file menu is displayed. You may then edit another file, print a file, or perform other commands. It is thus possible to edit several files in succession without re-invoking WS for each one.

The commands in this section relate to saving (filing) the document being edited under the file name it came from. The ADDITIONAL FILE COMMANDS, described in Section 6, permit other file-related operations such as writing part or all of the document on a file with a different name, merging files, and splitting a file into several files.

Section 4
On-Screen Text Formatting

FORMATTING COMMANDS

The commands for formatting text on the screen are shown in Table 4-1, followed by detailed descriptions of some of the commands.

Table 4-1. On-Screen Text Formatting Commands

Command	Description
^OC	**Center Line.** Document line containing cursor is centered between current margins. Blanks at beginning and end of line are ignored.
^OL	**Set Left Margin.** Asks for left margin. Either enter a number 1-240 and press RETURN or press ESCAPE to use cursor column margin number (as shown in COL item in status line).
^OR	**Set Right Margin.** Asks for right margin; enter column number of rightmost column to use for text, or press ESCAPE key to use cursor column.
^OF	**Set Margins and Tabs from Ruler Line in File.** Sets left margin to position of leftmost non-blank character in line containing the cursor, and right margin to rightmost non-blank character. This is a convenient way to reset the margins to match those used in a particular paragraph (or in a specially typed line).
^OG	**Paragraph Tab.** Temporarily sets the left margin in one tab stop from its present setting. For example, if the left margin is set at 1 and there is a tab stop at column 6, typing ^OG once will temporarily move the left margin to column 6. Successive ^OG's will set the left margin to successive tab stops.
^OS	**Set Line Spacing.** Asks for a number and sets line spacing. Enter 2 for double spacing, 3 for triple spacing, etc. This spacing is used whenever word wrap wraps a line, by ^B, and when the RETURN key is pressed.
^B	**Reform Paragraph.** "Forms" existing text as it was formed during entry by word wrap (except with optional hyphen-help) to end of paragraph. Starting point is left margin of line containing cursor, or cursor position if to left of left margin. Ending point is next hard carriage return encountered, or form feed or end of file.
^OI	**Set Tab Stop.** Asks for column number at which to set a (variable) tab stop. An ! will appear in the ruler line to show the new tab stop. Enter an # to set a decimal tab stop. An # will appear in the ruler line. (^O TAB can also be used.)
^ON	**Clear Tab Stop(s).** Asks for column at which to clear tab stop; type "A" and RETURN to clear all tab stops.

Table 4-1. On-Screen Text Formatting Commands (Continued)

Command	Description
^I	**Tab.** Moves cursor or inserts spaces to next tab stop on line; if none, goes to first tab stop on next line. Unless word wrap is off or margins are released, only tab stops between the margins are used. Fully described in Section 3 for the variable (normal) mode. (TAB may also be used.) For Decimal Tabs, see explanation later in this section.
^OX	**Margin Release.** Margins are released until the cursor has gone outside of margins then returned to between margins. MAR REL appears in status line while in effect. If margin release is already in effect, another ^OX unreleases. Margin release has the same effect as turning word wrap off except that margin release terminates automatically.

Onscreen Menu Display (^O)

The Onscreen Menu shows whether the following features are currently ON or OFF:

        Hyphen-help   Justification
        Variable tabbing   Print control display
        Page break display   Soft hyphen entry
        Word Wrap   Ruler display

Setting the Margins (^OL and ^OR)

The left and right margins should be set to the desired values whenever text is being entered (unless word wrap is turned OFF), and whenever the reform paragraph command (^B) is used.

Setting Ruler Lines (^OF)

The ^OF command also sets tab stops at any columns containing an !, or decimal tab stops at any columns containing an #, and clears tab stops at columns containing a hyphen (-). Thus a "ruler" for tab stops and margins may be entered into the file, as discussed later in this section.

Setting Paragraph Tabs (^OG)

The margin set with ^OG is temporary; it will remain in effect only until RETURN is pressed, another margin command is entered, or the cursor is moved to a location in front of the place where ^OG was typed. On terminals with highlighting, the ruler at the top of the screen will display un-highlighted to the left of the temporary left margin set with ^OG.

Reforming a Paragraph (^B)

The ^B command may be used to reform text after making insertions or deletions. The ^B command may also be used to change margins, to change line spacing, to justify or unjustify the text, and/or to assist in hyphenation.

Set the desired parameters, position the cursor in the first line to be altered, and type ^B. Upon completion, ^B leaves the cursor after the hard carriage return (paragraph end) that terminated the reform operation.

If Hyphen-Help (^OH) is ON, the ^B command may pause to allow a hyphen to be entered to split a word between lines. To hyphenate, move the cursor if desired, then press the hyphen (-) key. To continue reforming without hyphenating, type ^B.

Additional description of the ^B command follows later in this section.

TOGGLE KEYS

The toggle keys for formatting are shown in Table 4-2, followed by detailed descriptions of some of the toggles.

Table 4-2. Formatting Toggle Keys

Command	Description
^OW	**Word Wrap ON/OFF.** Turns word wrap off if currently on; turns word wrap on if currently off. Turning word wrap off also activates any tab stops outside the current margins. Word wrap is described in detail after this table.
^OJ	**Justification ON/OFF.** When ON, "soft" spaces are inserted in each line formed by word wrap or ^B to bring the right end of each line out to the exact margin; when off, no "soft" spaces are inserted (and any already present are removed), leaving text "ragged right".
^OV	**Variable Tabbing ON/OFF.** When ON, WordStar's variable tab stops are in effect, and spaces are entered into file for tabs. When OFF, the description under "Fixed Tabbing Mode" in Section 6 applies. Should normally be left on for word processing use. Note: when turned OFF, the ruler line continues to show the variable tab stops.
^OT	**Ruler Line ON/OFF.** Turns display of the "ruler" line showing margins and tab stops off and on.
^OP	**Page Break Display ON/OFF.** Controls display of page break lines ————————P in file display area of screen and PAGE and LINE items in status line.
^OD	**Print Control Display ON/OFF.** Controls display of control characters which do not print. Turn OFF to make the screen look more like printout when checking text; keep on while editing. Turning ^OD off greatly improves visualization of text containing many print controls. Always turn ^OD back ON before editing. If textual changes are made with print control display off, the print controls will usually remain in their old places, which will usually yield undesired results.

Table 4-2. Formatting Toggle Keys (Continued)

Command	Description
^OH	**Hyphen-Help ON/OFF.** When Hyphen-Help is ON, the ^B command (reform paragraph) will pause upon encountering a long word that does not quite fit on the line. The operator may then position the cursor (which indicates where the hyphen will be placed) and press the hyphen (-) key to insert a (soft) hyphen and continue reforming, or press ^B to continue reforming without hyphenating.
^OE	**Soft Hyphen Entry ON/OFF.** When soft hyphen entry is ON, the "-" key always enters a "soft" hyphen, rather than a regular (hard) hyphen or dash. A soft hyphen is a hyphen that will print ONLY if word wrap or paragraph reform (^B) leaves it at the end of a line.

Page Break Display Toggle (^OP)

When page break display is off, FC=ccccc and FL=lll display in status line as described in Section 2. By moving the cursor to the end of file and reading the FC= item, you can determine file size.

Print Control Display Toggle (^OD)

Note the following points when ^OD is OFF,

- those soft hyphens (see ^OE in this table) which will not print do not display;

- the "non-break-space" character (control-O) displays as a space, rather than "^O";

- other print controls do not display (see Section 7).

Soft Hyphen Entry Toggle (^OE)

Turning soft hyphen entry ON allows hyphenating words with the - key as text is entered; only the hyphens which fall at the end of line will print. Turning ^OE ON is not necessary to hyphenate when ^B pauses for hyphenation under hyphen-help. Soft hyphens display highlighted; the ^OD command (above) can be used to suppress display of soft hyphens which will not print. To enter a hard hyphen—even if ^OE is ON—type ^P -. When ^OE is ON, the hyphen (-) key also enters a soft hyphen into a file name, or a text to search for or substitute, or answering other questions asked by various WordStar commands. To enter a hyphen in a file name when ^OE is ON, type ^P -. See the additional description of soft hyphens in the text later in this section.

Note

Files containing soft hyphens will not print correctly with releases of WordStar earlier than 2.0.

Table 4-3. Defaults for Parameters

Item	Document Mode	Non-Document Mode
Left Margin	Column 1	Column 1
Right Margin	Column 65 (80-column screen) Column 60 (64-column screen)	Column 65 (80-column screen) Column 60 (64-column screen)
Variable Tab Stops	Cols. 6, 11, 16,..., 56	Cols. 9, 17, 25,..., 73
Variable Tabbing	ON	OFF
Word Wrap	ON	OFF
Justification	ON	OFF
Ruler Display	ON	OFF
Page Break Display	ON	Inoperative
Print Control Display	ON	ON
Soft Hyphen Entry	OFF	OFF
Hyphen-Help	ON	OFF

Any changes made in the items shown in Table 4-3 remain in effect as successive files are edited, except that all of the ON/OFF items are re-defaulted if an N edit follows a D edit, or vice versa.

ENTERING TEXT WITH WORD WRAP ON

Set the margins (^OL and ^OR, or ^OF) if you don't want to use the defaults. Turn justification off (^OJ) if you want ragged right, set the line spacing (^OS) for double or triple spacing if desired. On the first keystroke, indentation to the left margin (if not at column 1) will occur.

Each time you type beyond the right margin, the partial word that didn't fit on the line is moved down to the left margin on the next line, and the preceding line is justified (unless you selected ragged right). Within a paragraph, type without using the RETURN key, letting WordStar form the text into lines. Avoiding use of the return key in mid-paragraph is important: if you do use the RETURN key, the resulting "hard" carriage return will interfere with later paragraph reforming after corrections.

At the end of a paragraph, press the RETURN key. This will record a "hard" carriage return (fixed line break) in the file, indicated on the screen by a < in the rightmost column. If you want a blank line between paragraphs, press RETURN twice. Two RETURNS are all you need between block paragraphs. Anywhere else you want a fixed line break, as between lines of a list or a table, press the RETURN key.

Spaces in the Text

Any spaces you type are permanently kept in the file; they are termed "hard" spaces. To form indented paragraphs, type the desired number of spaces at the beginning of each paragraph. The first time you press the space bar, WordStar will indent to the left margin before entering your space, so that your space is in addition to those supplied by WordStar to get to the margin. The TAB (^I) key may also be used to begin indented paragraphs (with a stop set at the desired column (^OI)).

If you like two spaces after all periods, type that way. Your spaces will be kept. When a period falls at the end of a line, your spaces won't show on the screen but they will come back if later reforming makes the period fall in the middle of a line.

The spaces added to your text by indentation to the left margin, along with any added to the line during justification, are termed "soft" spaces. Soft spaces appear the same on the screen as hard spaces, but they are distinct to WordStar. If the line is later rejustified, or reformed to a new left margin, "soft" spaces will be selectively removed, but all spaces you entered (including with the TAB key) will be kept.

Releasing the Margins

Any time you want to enter something outside the margins, you may release the margin (^OX), move the cursor to the desired position, and enter the desired text. You don't need to release the margins in order to get the dot of a dot command line in column 1. Word wrap automatically disables whenever you are entering a period in column 1, or whenever the current line already contains a period in that column.

Print Control Characters

A formed line containing print control characters will appear to extend beyond the right margin on the screen. This is because the print controls occupy no character positions on the printed page; when printed, the line will be the correct length. (The print control characters, such as CTRL S to turn underlining on and off, are described in Section 7.) To view the text on the screen as it will print, you may turn off the display of print control characters with ^OD. Only the characters to be printed will then appear on the screen; a line containing print controls will appear the correct length. Be sure to turn print control display on again before continuing to edit.

HINTS FOR EDITING FORMATTED TEXT

Centering Lines

To center a line of text between the current margins, place the cursor anywhere in the line and type ^OC. This command deletes spaces and tabs at the beginning of the line and enters the appropriate number of hard spaces to center the line. In determining centering, spaces at the beginning and end of the text on the line are ignored.

Correcting Text within a Paragraph

First set the margins, line spacing, and justification to match the paragraph
to be altered—if they are not already so set. The most convenient way to set
the margins is to place the cursor in any full-length line in the paragraph,
then type ^OF.

Then, change the text without worrying about the format. Position the cursor,
delete text, insert new text, and turn insertion off (^V) to permit over-
typing, as appropriate.

After you have the desired words in the paragraph, position the cursor in the
first changed line (or the first line that looks messy), and type the para-
graph reform command, ^B. The paragraph will be fixed up to look the same as
if it had just been typed in with word wrap on, and the cursor will be left on
the line immediately following the paragraph. You may notice that ^B stops
part way through the paragraph and displays a message about hyphenation. This
is hyphen-help, discussed further below. To continue without hyphenating,
just type another ^B. To prevent such stops, turn hyphen-help off (^OH).

If you insert near the beginning of a line, the end of the line will move
right, possibly even overflowing to the next screen line. This is OK. ^B
will fix the overlong line. * When a line gets long enough to overflow onto
the next screen line, a + appears in the rightmost column to indicate that the
next screen line is part of the same document line. * (true for 3.0?) *

Of course, text correction can be intermixed with text entry as desired. For
example, if you notice a misspelled word two lines back, cursor up to it,
correct it, and type ^B to make sure that line and the following lines are
correctly formed. A backspace (^S) after the ^B will usually replace the
cursor at the end of the paragraph, where you were entering text.

Whenever you are altering a paragraph, make sure it ends up with a hard
carriage return at the end. Sometimes deleting text at the end of a paragraph
will leave it without one (no < in the rightmost column of the screen). To
correct this, "harden" the carriage return by placing the cursor at the end of
the line (^QD) and, with insertion off (^V), press RETURN. Alternate methods
of inserting hard returns include RETURN with insertion on and ^N. After one
of these, you will probably find there is an excess soft return (evidenced by
a blank line on the screen) which you must delete (^G).

Inserting a Paragraph

To insert a new paragraph between two existing paragraphs, position cursor on
the first line of the second paragraph at the left margin and type ^N. ^N
inserts a "hard" carriage return and leaves the cursor in front of it. Thus,
the return needed to terminate the paragraph is now in the file and follows
the cursor, which is on a blank line. Type the body of the paragraph. As
word wrap forms lines, the paragraph below is pushed down. Type additional
^N's (or RETURNs with insertion on) if necessary to get the desired number of
blank lines between paragraphs.

Splitting a Paragraph

To split a paragraph into two, position cursor at desired division point. Type ^N. This splits the line and supplies a hard carriage return to terminate the first paragraph, leaving the cursor in the last line of the first paragraph. Now type ^B, to remove any justification spaces from the last line of the first paragraph (the last line of a paragraph is never justified). Type additional ^N's (or RETURNs with insertion on) if blank line(s) are desired between paragraphs. The second paragraph now begins with a partial line that is probably not indented correctly. Place the cursor at the beginning of this line, correct the number of spaces present (add spaces if you are using indented paragraphs; delete any leftover spaces for block paragraphs), then type ^B to reform the second paragraph.

Joining Two Paragraphs

To join two paragraphs into one, place the cursor at the end of the last line of the first paragraph. Type ^G's to eliminate all carriage returns between the paragraphs, joining the first line of the next paragraph onto the current line. The cursor will now be in the middle of a long line. Establish the correct number of spaces as desired at this point (presumably one or two after a period). To avoid confusion over soft and hard spaces, the surest procedure is to delete all spaces adjacent to the cursor, then insert the one or two desired. Now type ^B, to fix the long line and reform to the end of the paragraph.

Note

> As noted earlier, the forming operation removes all "soft" spaces from the text at the start. There is an exception to this: whenever removing a soft space or soft carriage return would result in running two words together with no space or "-" between them, the forming operation inserts a hard space in order to avoid running words together. This simplifies editing by making it unnecessary to type a space after words added to the end of a line.

Changing Margins, Justification, or Line Spacing

Paragraph re-form (^B) works just as well for applying new settings to existing text as it does for applying the settings to modified text. Of course, it will also apply new settings to modified text. Set the desired margins, justification, and line spacing. You may wish to turn hyphen-help off (^OH) if you do not wish ^B to stop to hyphenate words. Put the cursor at the beginning of the paragraph and type ^B. The text will be reformed as specified, even unjustified if previously justified, without the need to reenter a single character.

For example, if you were to change the left margin to column 5, turn justification off, set the line spacing to 2, place the cursor at the beginning of the preceding paragraph, and type ^B, you would end up with the following example of ragged right text:

Paragraph re-form (^B) works just as well for applying new settings to

existing text as it does for applying the settings to modified text. Of

course, it will also apply new settings to modified text. Set the desired

margins, justification, and line spacing. You may wish to turn hyphen-

help off (^OH) if you do not wish ^B to stop to hyphenate words. Put the

cursor at the beginning of the paragraph and type ^B. The text will be

reformed as specified, even unjustified if previously justified, without

the need to reenter a single character.

Since paragraph re-form ^B starts with the line containing the cursor, it may
be used to change margins (or justification or line spacing), in mid-para-
graph. For example, you might want the text to get narrower in mid-paragraph
to leave a space for a diagram on one
side of the page. To produce such a
space, first form the entire paragraph to
the margins you desire for the first
portion. Then set the new margins, posi-
tion the cursor in the first line to have
the new margins, and type ^B again. That
line and succeeding lines will be re-
formed while the part above the cursor will remain unchanged. Additional
margin changes may be made by applying ^B as many times as desired, each time
starting farther down in the paragraph.

^B will help you hyphenate existing text if hyphen-help (^OH) is ON. As
explained under "Hyphen-Help" below, ^B with hyphen-help ON will stop whenever
a long word that appears to be a good candidate for hyphenation is encoun-
tered. You may press the hyphen (-) key to hyphenate and continue reforming,
or press ^B to continue without hyphenating (thus placing the word on the next
line). You may move the cursor (^S or ^D) before pressing the hyphen key (-).
Hyphens entered through hyphen-help are "soft", that is, they will not print
if later reforming places them in mid-line.

Cursor Position Before Reform

Paragraph re-form (^B) never shifts any text on the first line that is either
to the left of the cursor position or to the left of the left margin currently
set. This allows section numbers and outline numbers to remain left of the
margin when the paragraph is reformed, as discussed below.

When you wish to move a paragraph's left margin to the right, the cursor must
be placed to the left of all text on the first line before you type ^B;
otherwise, the text to the left of the cursor will not be moved rightward. In
other words, if the left margin of the paragraph as displayed on the screen is
to the left of the current left margin setting, be sure to place the cursor to
the left of all text on the first line (including any hard spaces used for
paragraph indentation) before typing ^B.

When the new left margin is set the same as, or to the left of, the left
margin of the paragraph to be re-formed, the cursor need not be positioned to
the left of the text on the first line.

Unless there is a section number or word outside the left margin, placing the cursor at the beginning of the first line to be reformed before typing ^B always works, and placing the cursor anywhere in the first line works unless the new left margin is set to the right of the left margin of the text as displayed.

Text to the Left of the Left Margin

The ^OG (paragraph tab) command is particularly useful when entering or reforming text where there is a section number, word, or other text left of the margin. This command temporily resets the left margin to the next tab stop.

1.   This paragraph was entered by typing the 1, a period, ^OG, then the text of the paragraph. The next tab stop was located in column 6, so ^OG temporarily set the left margin to column 6. The temporary margin remains in effect until the RETURN key is pressed, or until a cursor motion command is used to move the cursor out of the paragraph or before the position within the paragraph where ^OG was typed.

     a.   Each successive ^OG moves the left margin over one more tab stop. To enter a paragraph like this, type ^OG, then "a" and a period, followed by a second ^OG, then the text of the paragraph.

     b.   A convenient way to enter an outline is to set tab stops at all desired indentations, clear any other tab stops, and use multiple ^OG's to establish each indentation.

2.   You may also use ^OG to reset the left margin temporarily when reformatting a paragraph with ^B. Be sure to place the cursor to the right of any section number (or other text left of the left margin) before pressing ^B. The temporary margin will be released when the ^B is complete.

^OG is useful when the only text outside the margin is to the left of the first line of a paragraph. If you wish to enter text left of lines after the first line, or to the right of any line, of a formed paragraph, enter the paragraph first, then enter the text outside the margins with the margins released. For example, Table 4-2 has two columns, with formed text in the "Description" column. This table could be entered by setting the margins for the "Description" column, entering the command descriptions, then releasing the margins, turning insertion off, and typing the "Command" items.

Preventing Unwanted Micro-Justification

When printing text that has been "formed" with word wrap or paragraph reform (^B), WordStar will distribute the justification space evenly between the words on a line. This produces good appearance for paragraphs, but it can produce undesired results for tables or other text where the column alignment in the printout should be exactly as on the screen. Normally, such tabular text should not be reformed; word wrap should be prevented during entry of tabular text by setting the margins wider than the table and using the RETURN (or TAB) key between lines.

To ensure correct printing of columns of text, even if (inadvertently) word-wrapped or reformed, place the dot command .UJ OFF (Section 8) before the table. Type .UJ ON after the table to return to normal micro-justified printing. Further hints on entering tables are given in Section 3.

Hyphen-Help

Hyphen-help assists in improving the appearance of text by hyphenating long words that fall at the end of lines. With hyphen-help on, the paragraph reform command (^B) will identify long words that won't quite fit on a line, check that the word contains two syllables, roughly establish the proper place to hyphenate, then stop to allow the operator to indicate whether to hyphenate or not. Since the cursor may not be in exactly the right place for a hyphen, you can move the cursor one or more characters in either direction before pressing the hyphen key (-).

Hyphens entered via hyphen-help are "soft" hyphens; that is, they will not be printed if later reforming places them in the middle of a line, but they will remain in the file and be reactivated if further re-forming places them at the end of a line again.

To use hyphen-help, make sure that ^OH is on (press ^O and look at the menu to check), make sure the margins, line spacing, and justification are set as desired, place the cursor at the beginning of the paragraph, and press ^B. When ^B finds a likely place to hyphenate, reforming stops and the following message is displayed at the top of the screen (except at help level 0):

> TO HYPHENATE, PRESS -. Before pressing -, you may
>   move cursor: ^S=cursor left, ^D=cursor right.
> If hyphenation not desired, type ^B.

The cursor will be on the character before which WordStar suggests inserting a hyphen. To hyphenate where the cursor is, press the - key. A "soft" hyphen will be inserted—regardless whether soft hyphen entry (^OE) and insertion (^V) are ON or OFF—and reforming will continue. If you wish to adjust the hyphen position, move the cursor left or right, then press -. If you do not wish to hyphenate the word, just press ^B, and reforming will continue, placing at the beginning of the next line the un-hyphenated word.

While the above message is on the screen, other commands may be used, such as ^Z to bring additional text into view. However, if the cursor is moved out of the word or right of the margin, or if a character other than the hyphen (-) key is entered, the message will clear and the hyphen (-) key will lose its special meaning. (If for some reason you wish to enter a regular (hard) hyphen while the above hyphen-pause message is on the screen, be sure to type ^P-, not just -.)

^B may stop for hyphenation and display the message shown above several times while one paragraph is being reformed — one such pause occurs for each word which WordStar considers a good candidate for hyphenation. If you do not wish to hyphenate, you may turn hyphen-help off (^OH) to prevent such pauses.

Even with hyphen-help ON, ^B may complete with no hyphenation pauses. This is normal; it indicates the paragraph contains no words which WordStar considers good candidates for hyphenation. ^B will not concern itself (or you) with words that fall in mid-line, with words with too few characters for the line being formed, with words that appear to have only one syllable, or with words whose entire first syllable does not appear to fit on the line. If you wish to hyphenate even in cases where ^B does not stop, it is possible to enter soft hyphens explicitly, as described in the next subsection.

Hard and Soft Hyphens

WordStar supports two kinds of hyphen characters: regular (hard) hyphens which always print, and "soft" hyphens which indicate syllable breaks where a word may be divided between lines (and a - printed), but where no hyphen should print if the entire word is placed on the same line.

SOFT HYPHENS

Soft hyphens display as a -; on terminals with highlighting the - will be dim or in inverse video. Once a soft hyphen is entered into the file, it always remains (unless explicitly deleted), but it may be activated (printed) or deactivated any time the line containing it is formed. Whenever word wrap or paragraph reform (^B) encounters a soft hyphen, the soft hyphen is set to print if it falls at the end of a line (if the soft hyphen is used as a place to divide the word between lines); otherwise, it is set not to print.

Soft hyphens are set to print or not print **only during line-forming**. Thus, if you make changes in the file (particularly the insertion or deletion of carriage returns after soft hyphens), and neglect to type ^B, you may get a hyphen that prints when it shouldn't or vice versa.

You can verify which soft hyphens will print by turning off display of print controls (^OD). Those soft hyphens which will not print will disappear from the screen. Be sure to turn ^OD back on before attempting to edit.

Soft hyphens are commonly entered using ^B with hyphen-help on, as described under the preceding subheading.

Soft hyphens may also be entered explicitly, by turning on soft hyphen entry (^OE), then pressing the hyphen (-) key whenever a soft hyphen is desired. For convenience, soft hyphens entered with the hyphen (-) key are always inserted even if insertion (^V) is off. Each soft hyphen entered with the hyphen (-) key is initially a non-printing soft hyphen; the soft hyphen will be set to print if word wrap or ^B subsequently breaks the word at the soft hyphen. After adding a soft hyphen to existing text, be sure to reform (^B) if you want the soft hyphen to print.

When soft hyphen entry is ON, you must either type ^P- or turn ^OE off to enter a regular - (hard hyphen) into the file. One of these methods may also be used for the answer to a question asked by a WordStar command, such as a text to search for or a file name. Ordinarily, you should leave ^OE OFF.

Soft hyphens may also be entered with the replace command (Section 5). For example, you may selectively change hard -'s (type ^P-) to soft hyphens (press - with ^OE on), or substitute soft hyphens into all occurrences of a long word. Be sure to reform (^B) after each such replacement.

Caution

Do not use a release of WordStar earlier than 2.0 to print text containing soft hyphens. A pre-2.0 WordStar will print ^^ or ^- for every soft hyphen encountered in the text.

HARD HYPHENS

Hard hyphens (regular -'s) are used whenever a - that always prints is de-
sired, as in a word like hyphen-help or where a dash (--) is desired. A hard
hyphen can be entered by pressing the hyphen key (-), unless ^OE is on or ^B
is pausing for hyphenation (i.e., the prompt shown above under "Hyphen-Help"
is displayed). A hard hyphen can **always** be entered by pressing ^P, then -.

Line-forming (^B or word wrap) will break a word at a hard hyphen if the
hyphen happens to fall at the end of the line. However, unlike a soft hyphen,
the hard hyphen will still be printed even if later reforming places the
hyphen in the middle of a line.

Setting Tab Stops and Margins

The commands for setting the margins (^OL and ^OR) and for setting and
clearing tab stops (^OI and ^ON) all ask for a column number.

For example, ^OL asks:

LEFT MARGIN COLUMN NUMBER (ESCAPE for cursor column)? ▮

To set the left margin (in our example) by column number, type the desired
column number and RETURN. To use the cursor column (as shown in the status
line), just press the ESCAPE key. To keep the same margin (i.e., to cancel an
unintended command), press RETURN, or press ^U, the WordStar "interrupt" key.

To set the margins to match an existing line of text, position the cursor
anywhere in this line and type ^OF. This is the most convenient method of
setting the margins to match an existing (justified) paragraph, before making
changes in the paragraph; this procedure may also alter the tab stops if there
happen to be any !'s, #'s, or -'s in the line.

To set and clear individual tab stops, ^OI and ^ON are convenient.

Using "Rulers" in Your Document

To set the desired tab stops and clear all others, and set the margins at the
same time, you may prefer to use a "ruler" line. Type a line into the document
with

   !   at each column where a regular tab is to be set

   #   at each column where a decimal tab is to be set (next subsection)

   -    in all other columns between the left and right margins

        These must be hard hyphens; be sure soft hyphen entry (^OE) is OFF
        before entering them; check the ^O menu if not sure.)

Leaving the cursor anywhere in this line, type ^OF. The desired tabs and
margins will be set, and all other tab stops cleared. To keep the ruler line
from appearing in the printed document, turn it into a "comment" dot command
(a line beginning with two periods).

For example, to set tabs at columns 10, 20, and 30, set the left margin to 5, the right margin to 50, and clear any other tabs between columns 5 and 50,. enter the following into the file, then use ^OF:

```
——!————!————!————————————
```

To keep the ruler in usable but non-printing form in the file, so that the tabs can be reset to these values whenever you wish to edit the table to which they apply, make the ruler an OVERPRINT line in a comment dot command line: position the cursor at the beginning of the line, turn insertion on, insert two periods, then type ^P and RETURN (^PM also works).

For the above example, such a ruler should appear on the screen as follows. Note the "-" in the rightmost column of the "comment" line. (This is an overprint flag, not a hyphen.)

```
|..                                              -|
|      ——!————!————!————————             <|
```

This gets the .. out of the ruler while still suppressing printout of the ruler. To use the ruler, position the cursor in the ruler (not in the blank comment line), and type ^OF.

Ruler lines are usually unnecessary for text other than tables, since the ^OF command responds to any non-blank characters and the tab stops often don't matter.

In summary, to enter a non-printing, reusable ruler line, position the cursor at the beginning of a line. Type ^N if necessary, to make a blank line ending in a RETURN. Type two periods, ^P, RETURN, space over to the desired left margin, then type hyphens to the desired right margin, except !'s at columns where tab stops are desired (or #'s for decimal tab stops, described in the next subsection). Type ^OF to make the tabs and margins specified by the ruler take effect.

Decimal Tabs

Decimal tabbing provides a quick and easy way to enter columns of numbers with the decimal points aligned, and to enter other text requiring right-alignment rather then the left-alignment produced by regular tabs. After you tab to a decimal tab stop, characters entered will move to the left, pushing the entire field over to maintain right-alignment to the tab stop column. The cursor remains at the tab stop. When a period is typed, this right-aligning action terminates; the cursor will move right if additional characters are entered.

Right-alignment also terminates when the RETURN key or the space bar is pressed, when the TAB key is pressed again and the next tab stop is not decimal, or if the cursor is moved out of the field. It is possible to move the cursor around within the "field" (the non-blank characters left of the tab stop) and make corrections; right-alignment will not terminate and WordStar will keep the field properly aligned as characters are inserted and deleted, provided that the cursor is kept within the field. Whenever right-alignment is in effect, the word decimal appears in the status line.

Decimal numbers entered under decimal tab will be aligned with the decimal point in the column at which the tab stop was set. Texts not containing decimal points or periods (or spaces), if entered under decimal tab, will be aligned with the last character one column to the left of the tab stop.

Decimal tab stops can be set by using either of the methods for setting tab stops. With the ^OI command, type a # before typing the column number or pressing the ESCAPE key. When using a ruler, type a # instead of an ! at the tab stop column. The specified column should be the column in which you wish the decimal points to appear, or the column after the column in which you wish text not containing periods to end.

To edit text previously entered in a decimal tab field, make sure a decimal tab stop is still set at the proper column, turn insertion off (^V), and bring the cursor to the tab stop with the tab key. This will restore right-alignment and make the word decimal appear in the status line. You may then move the cursor around as desired within the field and delete, replace, or insert characters as desired. (Once you have tabbed to the field, you may then turn insertion back ON again.) WordStar will maintain the alignment by moving the characters in the field to the left of the cursor—left or right as required.

If you fill up a decimal field by entering enough characters to fill all the blank space to the left of the cursor, right-alignment will cease until you delete the excess characters.

Decimal tabbing is only active when variable tabbing is ON (the default). To verify, press ^O and check the menu; ^OV turns variable tabbing ON.

As with regular tabs, no permanent record of the decimal tab columns is made in the file. You must reset the tab stops before entering additional information or editing text previously entered (with automatic right-alignment).

Note

    You may wish to use a comma or some other character in place of a period to terminate "decimal" tabbing. WordStar has a provision for changing the "decimal point" character; see the list of patch items in the **Installation Manual.** If you have a European version of WordStar, the "decimal point" may already have been changed to a comma.

Text Wider Than the Screen

WordStar is not limited to the screen width in forming text. Users with wide printers, narrow screens, or who are preparing copy for photo-reduction can format text to widths up to 32,000 columns. There is no length limit for a manually formed line. However, if you are planning to type very long lines, remember that you should try to confine text manipulation to columns 1-240. Some WordStar functions do not work effectively beyond column 240.

Overprinting Characters

The strikeover character, entered by typing ^PH and displayed as ^H, provides a way to print two (or more) characters in the same position. For example, to print "à" as required in French, it is necessary (on a printer with regular

ASCII characters only) to print an "a" and a "`" in the same position. This
is accomplished by entering "`", backspace, "a" into the file. Type

    `^PHa                ( ` CTRL-P H a)

    Screen display: `^Ha   On paper: à

As another example, typing

    H^PHI^PHN^PHZ   (H   CTRL-P H   I   CTRL-P H   N CTRL-P H   Z)

will display

       H^HI^HN^HZ

and will print an H, an I, an N, and a Z in the same position

        █

producing the symbol used in this manual to represent the cursor.

Overprint Lines

One or more document lines which print on the same line can be used for
special effects. For example, another way to make the cursor symbols █ used
in this manual is to overprint an H, an I, an N, and a Z in the same position,
using three overprint lines to print the I, N, and Z over the H.

When an overprint line follows a dot command, it is considered part of the dot
command and is not printed. You can take advantage of this feature to keep
"rulers" for setting tabs and margins with the ^OF command in the file in a
form that will not print, but may be used with ^OF.

Overprint lines are entered by typing the first line, then typing a ^P before
the RETURN at the end of the line, then typing the line that is to print over.
To overprint a third line, type ^P RETURN again and type another line. The ^P
RETURN sequence enters a carriage return without line feed into the file.
Each screen line that will be overprinted by the following screen line will
show a "-" flag in its rightmost column.

Section 5
Finding Text

PLACE MARKERS

Place markers provide a convenient means of remembering one or more positions
in the document and for moving the cursor back to any one of these positions
later. Place markers are not stored in the file and are remembered only for
the duration of an edit. Previously entered place markers are not known if
the file is edited again later, although they do last through a "save and
resume" command (^KS). The commands for handling place markers are shown in
Table 5-1.

Table 5-1. Place Marker Commands

Command	Description
^K0-9	**Set Place Marker.** The marker indicated (0-9) is set to the cursor position. If the marker has already been set to this position and displayed, it will be undisplayed (but still set); otherwise it will be displayed as <n>.
^Q0-9	**Move to Place Marker.** The cursor is moved to the specified place marker (0-9). If the marker is hidden, it will be displayed; if the marker has not been set, an error message will be displayed.

There are ten place markers, numbered 0 through 9. Initially, all are
"unset." Any attempt to move the cursor to an unset place marker will produce
an error message.

A place marker can be **set** to the current cursor position by typing ^K followed
by one of the digits 0 through 9. The marker will then be displayed as <n>
highlighted, at the set position, where n is the number. The marker display
<n> is not actually in the file; cursor motion commands will skip over it.

The cursor can be **moved** to any place marker already set by typing ^Q followed
by the number. The usual caution about long backward moves in extremely long
documents applies (Section 6).

If the cursor is already at a place marker, a place marker can be **hidden**
(removed from the screen display) by typing ^K followed by the number. The
position of the marker will still be remembered; if it is subsequently ac-
cessed (^Qn), it will reappear.

The beginning of block marker, <B> and the end-of-block marker, <K> can also
be set, hidden, and moved to in a similar manner (typing B or K instead of a
digit); these markers will be discussed further in Section 6.

FIND AND REPLACE

The commands used for Find and Replace are shown in Table 5-2, followed by detailed directions on how to use these commands.

Table 5-2. Find and Replace Commands

Command	Description
^QF	**Find a String.** Asks for a string to find. If you press ESC after typing the string, moves cursor beyond the next occurrence of string; if you press RETURN after typing the string, ^QF allows for options.
^QA	**Find and Replace.** Asks for a string to find, a string to replace it with, and options. If no options are given, the next occurrence of the find string after present cursor position is displayed and you are asked REPLACE (Y/N); if you type Y, replacement is performed.
^L	**Find or Replace Again.** The last Find or Replace command (whichever was more recently used) is repeated as though entered again with the identical response to all questions.
^QV	**Restore Cursor.** After a Find, Replace, or ^L command, moves cursor to its position before this command, or to the starting point of the last iteration if a repeat count or the G option was included in the command. Particularly useful after NOT FOUND errors.

Note

If certain other commands have been entered, ^QV has a different meaning (see description above in Section 3).

Introduction

The Find command (^QF) provides a convenient way to move the cursor to a desired place in the file, without inspecting the entire file on the screen. Used in conjunction with the "Find/Replace again" command (^L), it also provides a convenient way to find all occurrences of a given word, phrase, or other string of characters. Use "Find" to find the first occurrence; observe it on the screen, and make changes if desired; then press ^L to advance the cursor to the next occurrence.

The Replace command (^QA) provides a convenient way to replace one word, phrase, or other string of characters with another word, phrase, or string, without explicitly positioning the cursor, deleting the old text, and typing in the new. By specifying the "global" option, you can replace all occurrences in the entire file with a single "Replace" command. Before actually making the substitution, Replace displays the text found and asks whether to replace it in this instance. This permits selective replacement. The asking can be suppressed for rapid substitution if desired.

The "Find/Replace Again" command (^L) may also be .used to repeat a "Replace" command, allowing other editing commands to be used between replace's without re-entering the entire Replace command each time.

Replace has a number of convenient additional uses, such as inserting a commonly used string with a keystroke; several of these are described under the heading "Hints for Using Find and Replace" later in this section.

Basic Use of Find

Find is initiated by typing ^QF. WordStar then asks:

>   FIND? ▮

This question appears below the menu, moving the top of the file display area down one line. Respond by entering any sequence of characters you wish to locate (the **find string**). then press RETURN. The find string may be a word, a phrase, a partial word, or any other string up to 30 characters. WordStar then asks:

>   OPTIONS? (? FOR INFO) ▮

For now, just press RETURN; we will discuss this question shortly.

WordStar then searches forward through the file from the location of the cursor to the next occurrence of your find string. When a find occurs, the cursor is left after the last character of the string, the screen is redisplayed, and the command is complete. If the find string is not found, the cursor is left at the end of the document and an error message appears:

>   *** NOT FOUND *** "<your find string>" *** Press ESC Key *** ▮

For example, suppose you have just started editing a document (cursor is at beginning of file) and you wish to move the cursor to the first place where the words "Section II" appear. Enter ^QF, then answer the questions thus (you type underlined text):

>   FIND? <u>Section II</u>   RETURN   OPTIONS? (? FOR INFO)   RETURN

The basic Find command looks only for an **exact match** for the characters you enter as the find string: the above example would not find "Section II" (two spaces between words) or "section II" (lower case S).

The basic Find command will also locate the search string even if it is imbedded in other words. The above example would also find "Section III" if it occurred before "Section II"; an attempt to find "age" would also find the "age" in "page" or "agent" if one of these occurred first. Handling such an unwanted match is simple: just type ^L, and WordStar will repeat the Find, starting from the current cursor position and thus finding the next match.

Options described later in this section can modify the exact match rule.

Find ignores the distinction between hard and soft spaces and carriage returns.

If the find string is null (RETURN only entered), the cursor will not be moved. This lets you cancel an unwanted Find command by pressing RETURN in response to each question.

Basic Use of Replace

"Replace" does a "Find", then substitutes another string of characters for the find string, as specified.

Replace is initiated by typing ^QA. WordStar asks "FIND?" as for the Find command; after you have entered the find string, it asks:

    REPLACE WITH? ▮

Type whatever you want substituted for the find string. WordStar then asks "OPTIONS? " as described above; respond by pressing RETURN only for now.

WordStar then searches for the find string, as described above. If it is not found, a NOT FOUND error occurs and the cursor will be at the end of the document. If found, text in the vicinity of the find is displayed on the screen and

    REPLACE (Y/N):

appears in the status line. The cursor flashes back and forth between the string found and the question in the status line. If you want the substitution performed, type Y (y and ^Y also work). If not, press any other key.

To repeat the Replace command from the new cursor position with the same answers to all three questions, type ^L.

For example, to replace the next occurrence (after the cursor) of "Jones" with "Smith", you would type ^QA and answer the questions as follows:

    FIND? Jones RETURN   REPLACE WITH? Smith RETURN   OPTIONS? RETURN

Find and Replace Options

The "OPTIONS?" question asked by Find and by Replace can be answered with one or more of the letters G, N, W, U, or B (in upper or lower case) a number between 1 and 65535, or a combination of these. Also, ? can be entered to request a menu summarizing the options, followed by reasking OPTIONS?. Terminate your answer by pressing the RETURN key.

The effect of each of these options is shown in Table 5-3

Table 5-3. Find and Replace Options

Option	Description
n	Number (n). Do the Find or Replace n times. For example, when used with Find, it means find the nth (say fourth) occurrence of the string. When used with Replace it means replace the next four occurrences. The number may be more than one digit. NOT FOUND error occurs if command cannot be performed that many times; as many Finds or Replaces as possible will have been done.

Table 5-3. Find and Replace Options (Continued)

Option	Description
G	**Global Search.** Do Replace on the entire file: move cursor to the beginning of the file, then replace repeatedly (asking each time) until no more occurrences are found. NOT FOUND error occurs only if no occurrences at all found. Cursor is left at the end of the file. If used with Find, finds the **last** occurrence in the file.
N	**Automatic Replace.** Replace without asking—convenient with G if you are sure there will be no undesired matches.
B	**Backward Search.** Search backward instead of forward from current cursor position. If NOT FOUND error occurs, cursor will be at beginning of file. If used with G, Finding or Replacing starts at end of file and proceeds to beginning.
U	**Ignore Upper/Lower Case.** Ignore the distinction between upper and lower case in the Find string; makes "age" also match "Age" or "AGE", etc. May be used with either Find or Replace.
W	**Whole Word Search.** Match on whole words only. Find or Replace only those occurrences of the find string that have a non-letter, non-digit character before and after them. Makes "age" NOT match "page" or "agent".

Note

W will not find occurrences of the Find string at the very beginning and end of the file; there must be at least one character (any character, including space, carriage return, etc) before and after the string.

One more point about the OPTIONS? question: if you end your entry to the preceding question (FIND? for the Find command, REPLACE WITH? for the Replace command) by pressing the ESCAPE key instead of the RETURN key, the options question will not be asked.

In the following examples of Find and Replace options, typed entries are underlined:

- FIND? Jones   RETURN   OPTIONS? (? FOR INFO) 13   RETURN

  Finds the 13th occurrence of "Jones" after the present cursor position.

- FIND? section   RETURN   OPTIONS? (? FOR INFO) wub   RETURN

  Finds previous (b) occurrence of "section" as a separate word (w), in either upper or lower case (u). Will find "section" or "Section" or "SECTION", but not "dissection" or "sectional" or "sub-section".

● FIND? <u>John Jones</u>   RETURN   REPLACE WITH? <u>James D. Smith</u>   RETURN

   OPTIONS? (? FOR INFO) <u>gn</u>   RETURN

Changes all (g) "John Jones"'s in the document to "James D. Smith",
without asking the operator whether to perform each substitution (n).

● FIND? <u>carraige</u>   RETURN   REPLACE WITH? <u>carriage</u>   RETURN

   OPTIONS? (? FOR INFO) <u>gn</u>   RETURN

Similarly correct the misspelled word "carriage" throughout the document.

Special Characters in the Find String

The control characters shown in Table 5-4 may be used in your response to the
FIND? question (in either the Find or the Replace command) to match various
classes of characters:

<p align="center">Table 5-4. Special Find Characters</p>

Character	Description
^A	Matches any single character. (To enter ^A into the find string, type ^P^A.)
^S	Matches any character not a letter or digit. (Since ^S alone is used to delete a character from the string being entered, you must type ^P^S to enter a ^S in the find string.)
^Ox	Matches any character other than x, where x is any character entered immediately after the ^O.
^N	Matches the sequence "carriage return, line feed" (which is what is normally stored in the file between lines). The distinction between hard and soft carriage returns is ignored. ^N also works in the answer to the REPLACE WITH? question. When used in the latter case, it produces a "hard" carriage return.

In addition, the question-response special characters described in Section 5
may be used: ^S, ^D, and ^Y to correct typing errors, ^P to put any control
character into the string, ^R to restore the previous answer, etc.

Examples showing use of the special characters in Table 5-3:

● FIND? <u>^NSection II</u>   RETURN   OPTIONS? (? FOR INFO)   RETURN

Finds "Section II" at the beginning of a line only.

● FIND? <u>^N</u>   RETURN   OPTIONS? (? FOR INFO) <u>50</u>   RETURN

Finds the 50th carriage return after the cursor line, that is, moves
forward 50 lines in the file. If cursor is at beginning of file when
this command is given, then it finds the 51st line.

● FIND? ^N^N   RETURN   OPTIONS? (? FOR INFO)   RETURN

Finds the next blank line (two adjacent carriage returns) and leaves cursor on following line.

● FIND? X^A^AX   RETURN   OPTIONS? (? FOR INFO)   RETURN

Finds the next occurrence of two X's with any two characters between them, for example "XABX", "X1,X", "X +X", etc.

● FIND? ^N   RETURN   REPLACE WITH? |^N| RETURN
  OPTIONS? (? FOR INFO) 13n   RETURN

Without asking, change the next 13 carriage returns to "|, carriage return, |"; that is, add a | to the end of the current line and the next 12 lines, and insert a | at the beginning of the next 13 lines. This form of command is useful in forming boxes around tables.

Note

In using the special find string characters, you must be aware of the fact that what is normally thought of as a "carriage return" between lines is actually two characters, a "carriage return" and a line feed; this fact impacts the use of ^A and ^S in the middle of a find string.

Finding and Replacing Soft Hyphens

As noted in Section 4, a "soft hyphen" is a special character at which a word may be split between lines. Soft hyphens are not printed unless left at the end of a line by word wrap or paragraph reform (^B).

If you turn soft hyphen entry ON (^OE), then you can press the "-" key while answering the FIND? or the REPLACE WITH? question will enter a soft hyphen into the answer. This permits searching for soft hyphens and adding soft hyphens to text using the Replace command. The Find command treats all soft hyphens the same, whether or not they are active (set to print). Soft hyphens added to text with the Replace command are initially inactive; they will not print unless subsequent line forming places them at the end of·a line.

For example, the Replace command could be used to change all occurrences of the word "microcomputer" to "micro-com-puter". The -'s will be soft hyphens (and display highlighted) if soft hyphen entry (^OE) is on when ^QA is typed to initiate the Replace command. The soft hyphens thus added to the file will initially be non-printing; they will serve to tell ^B and word wrap where the word may be hyphenated in later line-forming. Usually, after adding soft hyphens, you will want to re-form the affected text with ^B to activate the soft hyphens.

When soft hyphen entry is on, you may press ^P then - to enter a hard hyphen (one that always prints).

Hints for Using Find and Replace

FINDING A LONG STRING

Usually it is handiest to type only part of the string (maybe 5 or 10 characters) in response to the FIND? question; if this results in finding the wrong thing, press ^L to proceed to the next occurrence.

RESTORING THE CURSOR

To restore the cursor to the starting point after a NOT FOUND error, type ^QV.

GLOBAL REPLACE

Here are two approaches to making a global replace:

- Use the G option, with N if selective replace not desired.

- Move the cursor to the beginning of the document (^QR) and execute a Replace command for a single replacement only. This will take care of the first occurrence; then type ^L to proceed to the next occurrence.

The second method lets you use other editing commands as desired between replaces, yet initiate the next Replace with a single keystroke.

ACCELERATING GLOBAL REPLACE

Normally, Replace displays each substitution, even if the N option in conjunction with the G option or a number (n) is in use. This screen updating accounts for most of the Replace command's execution time. If you press any key while such a command is executing (choose a harmless key, such as "cursor up"), WordStar's normal suppression of screen updating when another key has been entered will take effect, and the Replace will complete much faster.

STOPPING GLOBAL REPLACE

As just noted, a key pressed during a global Replace or a Replace with a number (n) will suppress display of the ongoing changes while accelerating execution. Thus, if you have such a command in progress and you notice it is having an undesired effect on your document, use only the interrupt key (^U) to stop it.

CAUTION WITH LARGE FILES

As detailed in Section 6, commands that move the cursor a long way backwards should be used with caution in large files because of long processing time, and since they can lead to a DISK FULL error because of the temporary file space used. Instead, saving with ^KS is recommended to move the cursor to the beginning of the file. This applies to the G option; in a large file, if the cursor is not near the beginning of the file, execute a ^KS before starting a global replace. Similarly, type ^KS before using the ^QV command in a large file if the cursor is currently far beyond the starting point.

REPLACING TO END OF FILE

To replace all occurrences of a string from the present cursor position to the
end of the file, respond to the OPTIONS question with a large number (n), such
as 9999. All occurrences forward from the cursor will be changed, then a NOT
FOUND error will occur. Using a large number (n) differs from using the G
option in that the cursor is not moved to the beginning of the file first (as
it is with the G option).

CANCELLING A COMMAND

To cancel an unwanted Find or Replace command, do one of the following:

- enter RETURN only for each question

- type ^U, the interrupt command

STOPPING A FIND OR REPLACE

To stop a Find or Replace in progress, type ^U, the interrupt character. An
INTERRUPTED error will occur; the cursor will have been advanced to a random
position. This is most useful after a typing error in the find string preven-
ted finding something you thought was nearby, e.g., on the screen. With a
long file, such an error will be indicated by the fact that instead of comple-
ting in a second or two, the command continues processing and DISK WAIT
appears in the status line. Stopping the command before it searches to the
end of the file reduces the time to get the cursor back to the starting point.

USING A SINGLE KEYSTROKE

To use a single keystroke for a commonly-used insertion, use the Replace
command with a null (RETURN only) find string, then the desired string as the
replace string, and the N option. This will insert the Replace string at the
cursor position. Each time you press ^L, the string will be inserted again at
the current cursor position.

FINDING AND DELETING A STRING

To find and **delete** a string, use the Replace command with a null replace
string (RETURN only). This will advance the cursor to the next occurrence of
the find string, and replace it with nothing (i.e., delete it). Press ^L to
repeat.

CONVERTING A NON-DOCUMENT

To convert a file from a non-WordStar source so that its paragraphs can be
reformed, you must change all carriage returns within each paragraph to
spaces, then reform (they will all be "hard"). Position the cursor at the
beginning of the first paragraph to be converted. Enter ^QA and (user entries
are underlined):

     FIND? ^N   RETURN   REPLACE WITH RETURN   OPTIONS? N   RETURN

Note that a space was entered for REPLACE WITH?. The above will change the
first carriage return to a space, joining the first and second lines, and

leave the cursor at the beginning of what was the second line. Type ^L's
until all carriage returns in the paragraph except the last one are removed.
At this point, the paragraph is all one document line. Move the cursor to the
beginning of the paragraph (no cursor motion is necessary if right margin is
set to 1, since paragraph is now all one line), type ^B and then stand back!
A marginated and justified paragraph, with the cursor at the end!

ursor down to the next paragraph (the cursor will already be in the correct
place if there are no intervening blank lines) and repeat the process, using
the single keystroke ^L to remove each undesired carriage return, ^B to form
each paragraph and cursor down to pass those carriage returns you want to
keep.

REPEATING A FIND OR REPLACE

To repeat a Find or Replace already typed, just press ^L.

USING THE PREVIOUS RESPONSE

Suppose you want to repeat the previous Find command, but with different
options. Suppose the find string was long and tedious to type. Type ^QF, then
respond to FIND? with a ^R. The previous find string will be displayed.
Press RETURN to keep the old answer; OPTIONS? will then be asked as usual.
Minor changes may be made in the answer by backspacing (with ^D, ^H, or
BACKSPACE), retyping the desired characters, then using forward cursor (^D) or
^R to restore the rest of the string before pressing RETURN.

This method of resurrecting the old answer to the same question also works
with the REPLACE? question, the OPTIONS? question, and other WordStar ques-
tions whose prompt ends in ?. Section 1 gives more description of question-
response control characters.

Section 6
Other Editing Features

BLOCK OPERATIONS

The block move, block copy, and block delete commands give WordStar a powerful and easy-to-use "electronic cut and paste" ability. The commands used to carry out block operations are shown in Table 6-1.

Table 6-1. Block Commands

Command	Description
^KN	**Column Mode ON/OFF.** The setting for this toggle determines whether any blocks you mark are to be interpreted by WordStar as column blocks or ordinary margin-to-margin blocks.
^KB	**Mark Block Beginning.** Set block beginning marker <B> to cursor location, or hide marker if already set and displayed at cursor position.
^KK	**Mark Block End.** Set or hide block end marker <K>.
^KV	**Move Block.** Currently marked block of text is moved to the cursor position. Block markers move with text.
^KC	**Copy Block.** Currently marked block of text is copied at cursor position. Original text not changed; block markers move with copy.
^KY	**Delete Block.** Entire currently marked block of text is deleted from document.
^KW	**Write Block.** Asks for a file name, and writes currently marked block of text to that file. Text in document being edited is not changed.
^KH	**Hide Block.** Block marking is undisplayed if currently displayed, or displayed if currently hidden.
^QB	**Move to Block Beginning.** Cursor moves to block beginning marker; this marker is displayed if hidden.
^QK	**Move to Block End.** Cursor moves to block end (similar to ^QB).
^QV	**Move to Block Source.** Cursor moves to position of beginning marker before last block move, block copy, block delete, or block write. Use to inspect place text moved from. (The ^QV command has a different meaning if a Find or Replace has been executed since the last block operation (see Section 5).)

Note

Currently, you cannot use micro-justification with columnar-formatted material. For correct printing of text columns, enter .UJ OFF before the columns and .UJ ON following the columns. (See page 4-10, Section 8, and Section 3 for more information.)

Examples of Block Operations

Suppose you wish to move a paragraph of text to a different position in the document being edited. Proceed as follows: Place the cursor at the beginning of the paragraph to be moved. Type ^KB. This "marks" the beginning of the "block" to be moved; <B> will appear on the screen to indicate the position of the beginning marker. Move the cursor to the beginning of the **line after** the paragraph, and type ^KK to "mark" the end. On a terminal with highlighting, the marked block will now show dim or in inverse video; on other terminals, <K> will be displayed at the end marker position. Now move the cursor to the desired destination, and type ^KV. The marked paragraph, including the markers, will move to this position and appear on the screen.

As a second example, suppose you wish to move a sentence from within a paragraph to a different position. Proceed in a similar manner, marking the beginning (^KB) and end (^KK) at any desired positions, whether or not in the middle of lines. Then position the cursor at the desired destination, which may also be in the middle of a line (as between two sentences), and type ^KV to invoke the move. After moving the sentence, you will usually need to "reform" the source and destination paragraphs with the ^B command for margin realignment. Also, depending where you set the begin/end markers, there may be too many or too few spaces before or after the moved sentence, or where the sentence came from. This can easily be corrected with a few editing commands.

The block copy command, ^KC, is similar except the marked text is not deleted at the source; the block delete command, ^KY, deletes the entire marked block; and the block write command, ^KW, copies the marked text onto a **separate file** (more about this later in this section under "Additional File Commands"). Related commands include block hide/redisplay, which eliminates and restores the display of the block markers (or the highlighting of the entire block) from the screen, and ^QV, which, if issued after a block move or copy, moves the cursor to the place where the block came from.

For a quick summary of the basic block commands while editing, type ^K and wait for the menu to come up; type the help command ^JV to display a summary of the process of moving a block.

We will now describe the block commands in more detail. If this is your first reading of this manual, you may wish to skip to the next section, and come back here when you need a better understanding of the block commands. Since the block move, copy, delete, and write commands all operate on the current marked block of text, we will detail block marking first.

Marking a Block

A block is marked by placing the cursor at the desired beginning point and typing ^KB, and placing the cursor at the desired end point and typing ^KK. These commands work like the place marker commands (previous section): if the cursor is already at the indicated marker and the marker is displayed, it will be hidden (removed from the screen display).

The beginning and the end can be marked in either order, with any other intervening commands, and will remain in effect until reset whether used or not. For example, you can mark a block, then edit the text within the block. If the block is later block-copied, the copy will reflect all the changes.

The beginning and the end can be marked in either order, with any other intervening commands, and will remain in effect until reset whether used or not. For example, you can mark a block, then edit the text within the block. If the block is later block-copied, the copy will reflect all the changes.

The markers may be moved as desired. For example, if you execute another "mark end" (^KK) to correct the position of the end marker, it is not necessary to mark the beginning again.

To remember the block beginning and end commands, note that the word BlocK begins with a B and ends with a K.

ORDINARY TEXT BLOCKS

If the last line in the block you intend to mark is a complete line, we recommend placing the end marker at the beginning of the next line to include the carriage return at the end of the last line. The beginning and end markers may be set in mid-line to extract a sentence from the middle of a paragraph. All lines between the lines containing the markers are always included in their entirety.

COLUMN BLOCKS

If you are preparing for a column move, type ^KN before setting markers to set the system for column mode. Then type ^KB and ^KK as described above, except that you must place ^KK one space to the right of the end-point. The only difference will be how WordStar interprets these markers: they will define on the screen a rectangle whose upper left-hand corner is <B> and whose lower right-hand corner is <K>. On subsequent block operations, this rectangle will be what WordStar moves, copies, or deletes.

How the Marked Block Is Displayed

On terminals with highlighting (inverse video or high and low intensity) for which WordStar has been installed, the entire marked block is displayed highlighted, with no <B> or <K> shown. This makes it easy to see what text is marked. The spaces on the screen after the end of the last line in the block, and the flag character (< for hard carriage return) in the last line, are included in the highlighted area only if the end marker is after the carriage return at the end of that line.

A marked block will not appear highlighted in the following instances:

- the beginning marker is after the end marker, or at the same place

- only one of the markers is set and displayed

- the terminal has no highlighting capability,

On terminals without highlighting, for ordinary margin-to-margin blocks, the beginning marker will display as <B> and the end marker will display as <K>; for column blocks, the beginning marker will display as a column of <B>s and the end marker will display as a column of <K>s.

Unlike the place marker commands (which will operate on and display a hidden marker), block operations cause an error if the marked block is currently hidden. This protects your document against accidental block commands. If such an error occurs when you wanted the block operation to be performed, type ^KH and repeat the command.

Moving a Block

The block move command (^KV) **moves** all the text in the marked block to the **cursor position**, deleting the original at its old position. If no block is marked when the command is given, or if either marker is hidden, an error message occurs (Appendix B).

The destination may be in the middle of a line, if desired — for example when rearranging sentences in a paragraph. Just put the cursor where you want the block moved to. The cursor is left at the beginning of the moved text.

The beginning and end markers move **with the block** and remain displayed. After inspecting the result, type ^KH to hide the block markers -- both to remove the distraction from the screen, and to protect against block commands typed by accident. If you wish to use the same block markers later, just type ^KH again.

The block move command moves **exactly** the characters you have marked, and does no automatic reformatting. Thus, text reformatting is often required after a move. After rearranging sentences, for example, use paragraph reform (^B, Section 4) to re-establish the margins. You may also notice that you included too many or too few spaces or carriage returns at the beginning or end of the block. These errors are easily corrected with a few regular editing commands.

After a block move, the command ^QV will move the cursor to the place the block came from. It's a good idea to inspect here after moving, as you may have left too many spaces or carriage returns behind, or you may need to reform the paragraph. Note that any place markers 0-9 in the marked block do **not** move with it—they remain at the place the block came from.

For an example of moving a column block, see Figure 6-1.

```
  A    |BB   |CCCC   ▓DDDDDDDD          A    CCCC  |BB    |DDDDDDDD
  A    |BB   |CCCC   DDDDDDDD           A    CCCC  |BB    |DDDDDDDD
  A    |BB   |CCCC   DDDDDDDD           A    CCCC  |BB    |DDDDDDDD
  A    |BB   |CCCC   DDDDDDDD           A    CCCC  |BB    |DDDDDDDD
  A    |BB___|CCCC   DDDDDDDD           A    CCCC  |BB____|DDDDDDDD
```

Figure 6-1. Moving a Column Block

Copying a Block

The block copy command (^KC) is identical to the block move command except the text is **not** deleted at the source; a copy of it is made at the cursor position. The cursor is left at the beginning of the new copy of the text. Again, the block markers move with the text.

Several copies of a block of text may be made, one after the other, by typing
^KC several times in succession. Copies may be made in different places by
moving the cursor between copy commands. Each copy is made from the previous
one if you don't alter the markers; so make any desired copies of the text in
its current form before altering it.

For an example of copying a column block, see Figure 6-2.

```
A      |BB    |CCCC    █DDDDDDDD     A    BB    CCCC    |BB    |DDDDDDD
A      |BB    |CCCC    DDDDDDD       A    BB    CCCC    |BB    |DDDDDDD
A      |BB    |CCCC    DDDDDDD       A    BB    CCCC    |BB    |DDDDDDD
A      |BB    |CCCC    DDDDDDD       A    BB    CCCC    |BB    |DDDDDDD
A      |BB    |CCCC    DDDDDDD       A    BB    CCCC    |BB    |DDDDDDD
A      |BB   |CCCC    DDDDDDD       A    BB    CCCC    |BB   |DDDDDDD
```

Figure 6-2. Copying a Column Block

Deleting a Block

The block delete command (^KY) is a convenient way to remove a large quantity
of text from a file. It is also dangerous; the existence of this command is
one of the reasons why you should hide a marked block (^KH) when done with it.

Block delete leaves the beginning and end markers both hidden and set to the
position the text was deleted from. The cursor is not moved; however, the ^QV
command may be used after ^KY to move the cursor to the position of the
deletion.

For an example of deleting a column block, see Figure 6-3.

```
A      |BB    |CCCC    DDDDDDDD      A    CCCC    DDDDDDD
A      |BB    |CCCC    DDDDDDD       A    CCCC    DDDDDDDD
A      |BB    |CCCC    DDDDDDD       A    CCCC    DDDDDDDD
A      |BB    |CCCC    DDDDDDD       A    CCCC    DDDDDDDD
A      |BB    |CCCC    DDDDDDD       A    CCCC    DDDDDDDD
A      |BB   |CCCC    DDDDDDD       A    CCCC    DDDDDDDD
```

Figure 6-3. Deleting a Column Block

Writing a Block to a File

The block write command asks for a file name and writes the text in the marked
block to that file. This permits extracting a segment of text from one
document and saving it as though it were a different document. Uses of this
command include moving sections from file to file and moving blocks within
large files; block write and related commands are further discussed in the
"Additional Files Commands" later in this section.

Block write does not move the cursor, and does not alter the text in the
document currently being edited. If a file with the specified name already
exists, WordStar will ask

        FILE d:name.typ EXISTS — OVERWRITE? (Y/N): ▮

If, in response to the above prompt, you type Y, WordStar will proceed with
the block write, destroying any previous contents of the specified file. If
you type N, WordStar will ask you again for the file name.

The Limit on Block Length

There is limit to the amount of text that can be block-moved, or block-copied
at a time. The limit varies from about 500 characters if your computer has the
minimum amount of RAM WordStar can run in, to many thousands of characters in
a 56K or 64K system. If the block is too long, the command will result in a
BLOCK TOO LONG error message. When this message occurs, repeat the operation
with two or more commands each operating on half (or less) of the text.

Caution with Long Documents

Block move, block copy, block delete, and block write all involve moving the
file cursor (internally—not visible on screen) to the location of the marked
block, then back to the original position. If the cursor is a long way from
the marked block, the command will execute very slowly and run the risk of a
DISK FULL because of the work file space used (as discussed in "Long
Documents" later in this section). For moving and copying text when the
source and destination are far apart, it may be easier to use the block write
command and the additional file read command (Section 6).

ADDITIONAL FILE COMMANDS

The commands described in this subsection relate to use of files other than
the file being edited. Common applications of these commands include merging
documents, extracting a section to form a separate document, assembling a
document from previously prepared sections, and "cut and paste" within a
document.

The files operated on by these commands and the files operated on by editing
are interchangeable. You can extract a portion of one document with the block
write command, then later edit the resulting file or you can merge a document
previously entered by editing operations into another with the read additional
file command, and so on. The commands are shown in Table 6-2, with discus-
sions following.

Table 6-2. Additional File Commands

Command	Description
^KW	**Write Block.** Asks for the file name, and writes the marked block of text into that file (as described in the previous subsection). Document currently being edited is not altered.

Table 6-2. Additional File Commands (Continued)

Command	Description
^KR	**Read File.** Asks for file name, and inserts the entire contents of the indicated file into the current document **at the cursor position.** The file read may have been created with the block write command, or through the normal editing process—such files are interchangeable.
^KJ	**Delete File.** Asks for file name, then erases the file. Space occupied by file is made available for reuse. Equivalent to the operating system (CP/M) ERA command. Similar to the no-file menu Y command, Section 1.
^KL	**Change Logged Disk.** Changes disk drive for filenames entered without a drive name, and disk drive whose directory is displayed. Similar to the no-file menu L command.
^KF	**Directory ON/OFF.** Turns on and off display of the file directory during editing. Similar to the no-file menu F command.
^KP	**Print File.** Invokes printing of a document (See Section 8). Similar to the no-file menu P command.
^KO	**Copy File.** Makes a copy of a file in another file. Similar to the no-file menu O command.
^KE	**Rename File.** Changes the name of a specified file. Similar to the no-file menu E command.

Entering the File Name

Several of the commands in Table 6-2 ask for the name of the file to which the command is to be applied. Type in the desired file name and press RETURN. Control characters are available to correct typing errors in the answer or recall the previous answer to eliminate the need to retype; at help levels 2 and 3 the following reminder of the more commonly used control characters appears above the NAME OF FILE? question (see Section 1):

     ^S=delete character   ^Y=delete entry   ^F=File directory
     ^D=restore character   ^R=Restore entry   ^U=cancel command

DIRECTORY DISPLAY (^F)

To view the file directory temporarily while entering a file name for an additional file command, type ^F at the NAME OF FILE? question. The names of the files on the logged disk drive will be displayed until RETURN is pressed; ^Z and ^W may be used as necessary to scroll the directory display up or down to permit viewing all file names. (To request a directory display that remains on the screen, rather than disappearing upon completion of the command, use the ^KF command).

REPEATING FILE NAME (^R)

To enter the same file name as used in the last additional file command given, just type ^R to the NAME OF FILE? question. The previous name will appear on the screen; press RETURN to use it. This saves keystrokes and eliminates the need to remember the exact file name used, as from a block write command to subsequent read and delete commands for the same file. The NAME OF FILE? question of the block write, read additional file, and delete file commands differ from most questions in WordStar in that a single previous answer is stored for all three of them.

Common Uses of Additional File Commands

STANDARD TEXT (BOILER PLATE)

When you have standard paragraphs or sections that you frequently use, enter each into a separate file. Then use the ^KR command whenever desired to copy one of these paragraphs or sections from the separate file to the cursor position in a document you are editing. (Alternately, the MailMerge .FI dot command may be used to insert the boiler plate files while printing is being performed. The optional MailMerge command is described in Sections 9-12.)

·After copying a "boiler plate" file into the document being edited, the Replace command (Section 5 above) may be used to assist in inserting names, addresses, or other information that changes with each use of the boiler plate. More flexible and powerful insertion facilities are provided by the optional MailMerge command, described in Sections 9-12.

MOVING TEXT FROM ONE DOCUMENT TO ANOTHER

Edit the first document, mark the desired text (put cursor at beginning of the text, type ^KB, put cursor at end, type ^KK), and execute a block write (^KW). Terminate editing of this document (abandoning with ^KQ is fastest if you have made no changes or deletions), open the second document, put the cursor where you want the text, and do a ^KR, specifying the file name used in the preceding ^KW.

ALTERNATE METHOD OF MOVING TEXT WITHIN A DOCUMENT

The block move and block copy commands were described earlier in this section; an alternate method of moving or copying text is to write the desired text onto an additional file (^KW command), move the cursor to the destination, and read the file (^KR command). This method is for moving text a great distance within a very long document, as it is faster and requires less temporary disk storage.

DELETING FILES

To conserve diskette space, delete any file you make temporary use of (as to hold text being moved between documents) as soon as you are done with it and have checked the results. This can be done with the .^KJ command.

If you do get a DISK FULL error (Appendix B), the ^KJ command may be used to delete any unnecessary files.

CHOICE OF FILE NAMES

When using the ^KW command, be sure not to choose an existing file name containing information you want to keep. To reduce the chance of overwriting existing text, some users like to use distinct file types. For example, DOC for documents, LIB for boiler plate files, and TMP for temporary files used only for moving text around within documents.

HELP COMMANDS

The following commands control the "help level" and display learning aids and reference information on the screen.

The "help level" (0 to 3) determines the degree of prompting and menu display used by WordStar. The various help levels were described in Sections 1 and 2 and are summarized on the screen when a "set help level" command (^JH) is entered.

Table 6-3. Help Commands

Command	Description
^JH	**Set Help Level.** Displays current "help level" and asks for new, as detailed in Section 1.
^JB	**Paragraph Re-Form.** Explains use of the ^B command.
^JF	**Flags.** Explains the meaning of flags in the rightmost column.
^JD	**Dot Commands.** Explains the ordinary dot commands (P command).
^JS	**Status Line.** Explains items on the status line.
^JR	**Ruler Line.** Explains the ruler line.
^JM	**Margins and Tabs.** Explains how to set margins and tabs.
^JP	**Place Markers.** Shows how to use place markers.
^JV	**Moving Text.** Shows how to move a block of text.
^P	**Print Control Characters.** Explains use of print control characters.
^O	Shows whether options such as word wrap and justification are on or off.

The ^J commands display information on the indicated subjects; many of these commands display more than one screenful, awaiting a keystroke between screens. To return to editing without proceeding through all the screens, type ^U.

The command prefix menus also show useful information in addition to commands that may be entered. The menus are described in Section 2.

MISCELLANEOUS COMMANDS

Table 6-4 describes commands not covered yet, and mentions a number of others for reference.

Table 6-4. Miscellaneous Commands

Command	Description
^QQ	**Repeat.** The **next command entered** is repeatedly executed at a user-controllable rate. The screen is updated after each execution. While ^QQ is in effect, the digits 0-9 may be typed to vary the speed. 1 is fastest, 9 is slowest; 0 is even slower. The default speed is 3. Any other key terminates the repetition. For example, ^QQC displays successive screenfuls of text until stopped.
^U	**Interrupt.** Stops command(s) in progress. The slower commands interrupt in the middle of execution, leaving the cursor in an unspecified place.
^Px	**Enter Control Character.** Enters any next character x, except space, into the document, even if it is a control character normally interpreted as a command; if the next keystroke is a letter, the corresponding control character is entered. See Section 3.
^KL	**Change Logged Disk Drive.** Displays name of current logged disk drive, and asks for new logged disk drive. (To leave logged disk unchanged, press RETURN). Same function as no-file menu L command (Section 1).
^KF	**File Directory ON/OFF.** Enables/Disables ongoing display, during editing, of the file directory (names of all files) of the logged disk drive.
^KP	**Print a File.** The ^KP command first initiates printing. After printing has begun, a second ^KP **stops printing**; after a printing job has been stopped, a third ^KP **continues printing** again. The P entry in the ^K menu changes as appropriate. See Section 8 for details.

The Interrupt Command (^U)

If you have typed several commands, the interrupt command (^U) will clear those whose execution has not yet started. Also, ^U may be entered in response to questions such as FILE NAME? or FIND? to abort the command asking the question. Unless nothing is interrupted, ^U displays

    *** INTERRUPTED ***

and requires the operator to press the ESCAPE key.

Changing the Logged Disk Drive (^KL)

Changing the logged disk drive does not effect which drive is used by edits and prints already initiated. It does change the default drive for all file names subsequently entered, as well as the drive whose directory is displayed.

The File Directory Toggle (^KF)

WordStar will usually display part of the directory only; ^Z and ^W may be used to scroll the directory display in order to view all file names.

Note that ^KF causes the directory to become part of the screen display until another ^KF is given. In contrast, ^F typed while entering a file name will invoke a temporary directory display.

LONG DOCUMENTS

While WordStar can edit as large a file as can be held on a diskette, the WordStar edit function works most quickly, easily, and flexibly on files of moderate size. For best results, break up large documents into multiple files whenever practical. However, there are several reasons why you may not wish to divide your document into multiple files:

- A page break is mandatory between files.

- Automatic page-numbering works only within a file (though you can specify the starting page number of each file with a dot command).

- Multiple print commands must be given to print multiple files.

Determining File Size

The size of a file in bytes (characters) can be determined with the CP/M operating system STAT command by entering the R command from the no-file menu. You may also check file size, while editing, as follows: move the cursor to the end of the file (^QC command) and enter ^OP to turn off page display. When page display is off, the number of bytes (characters) in the file displays in the status line, in the form FC=ccccc.

How Large Is Large?

This varies over a wide range depending on the amount of RAM in your system. When a file can be held entirely in RAM, as indicated by the fact that the cursor will move from the end of the file to the beginning (^QR command) in a couple of seconds, the file is still small. When this operation starts taking minutes instead of seconds, the file is large. At this point you should either read the rest of this section carefully, or divide the file in two (see the block write command, ^KW, described earlier in this section, "Additional File Commands").

Space for Large Files   .

When editing a file, WordStar always uses disk space to make the new copy, and also uses additional space for a temporary file whenever the cursor is moved **backwards** in the file from a point at which a change was made over more characters than can be held in RAM.

The first limit you will reach is having insufficient disk space for the **temporary** file used during cursor backup. When this limit is reached, a DISK FULL error (Appendix B) may occur on backwards cursor motion, but it will still be possible to move the cursor forward and to save. The impact of this limitation can be minimized by moving only forward when editing (below).

The second limit is that reached when there is insufficient diskette space for the **new copy of the file**. Don't let this occur! Watch your file size and diskette space available (with the operating system STAT command), and move files to separate diskettes as necessary to assure plenty of working space.

Eventually a file may get so large that it is not possible to fit two copies on a diskette. In this case, the file must be edited to a different diskette each time. As noted in Section 1, this is done by entering a space and a second drive name **after** the file name. You can do this with D or N in WordStar or in the system command that calls up WordStar. When you do this, each "save" will alternate between drives. Divide such large files into smaller files whenever you can. The absolute limit on file size is the capacity of a diskette.

Editing Technique for Large Files

Avoid moving the cursor a great distance backwards when you are editing a large file for two reasons:

●   To minimize temporary work file disk space requirements and thereby avoiding DISK FULL errors;

●   Moving the cursor a long way backwards is very slow.

To avoid moving the cursor a long way backwards, organize your changes to pro-ceed forward through the file making all changes in approximate sequential order. To get back to the beginning from a place near the end, save (^KS) instead of using ^QR. Not only is saving faster for large files; saving also protects you against disasters by saving all changes made so far.

Similarly, if you want to do a global replace, save first to get to the begin-ning of the file. Also avoid using the block move and block copy commands if the source and destination locations are distant from each other. Instead, use block write (^KW) to a file, move the cursor (saving if cursor destination is before source), then use additional file read (^KR).

MORE ABOUT CHANGING DISKETTES

This section repeats the rules given in the **General Information Manual** about changing diskettes, and adds some exceptional conditions for changing diskettes safely.

1. You may safely change the diskette in a drive when, at the system prompt (A>), you type ^C (control-C) <u>immediately</u> after the change.

2. You may change diskettes when WordStar is at the no-file menu (not editing) and not printing to a disk file.

3. If there has been no diskette in a drive since it was last safe to change diskettes, you may insert one in that drive.

4. You may change the diskette in a drive if it is only to be read, as with the file read command ^KR (earlier in this section) or print (Section 8) commands. But be sure you issue no command that could write on the newly inserted diskette.

DOCUMENT FILES AND
FILE COMPATIBILITY

A WordStar document file (one edited with the D command, or in which word wrap or ^B was used) may be incompatible with some other programs or languages. This has no impact on word-processing applications in which all editing and printing is done with WordStar, but if you wish to use WordStar as a general purpose editor—to prepare input for other text formatters, to enter data for application programs, or to edit program source files—read on.

The difference between a WordStar document file and a completely standard CP/M file is that in the WordStar document file, the high order bit of a byte is set in certain cases, whereas in the standard CP/M file, this bit is always clear. Many programs and languages ignore this bit; in others, it causes errors.

To generate a file that is sure to be compatible with other programs, invoke edits with the "edit a non-document" (N) command (further described in the next section), and don't use word wrap or the "reform paragraph" (^B) command. Enter all carriage returns and format all lines as desired manually.

Alternately, use WordStar in any manner, then mask off high order bits by copying the file using the [Z] option available in some versions of PIP, or by editing the file with the CP/M EDitor or with MicroPro's WordMaster. This will of course have the effects noted in the next paragraph; you may want to keep an unmasked copy for later re-edit with WordStar.

WordStar document files should not be edited with other editors if you expect to use the file later with WordStar. Doing so may change all soft spaces and soft carriage returns into hard spaces and hard carriage returns, which will frustrate any later attempts at reforming existing text with WordStar. Also, if a file is thus edited, then printed with WordStar on a daisy-wheel printer, micro-justification may not occur.

NON-DOCUMENT FILES

The word-processing user need not be concerned with this subsection.

Editing a Non-Document

The "Open a Non-Document" command (N on the no-file menu) has a dual purpose:
(1) to disable dynamic pagination for file compatibility, (2) to supply a different set of defaults for convenience.

We have occasionally noted differences between a regular file edit, initiated with the D command from the no-file menu or with a system command of the form "WS filename", and a "Non-document" edit initiated with the N command. Here is a complete list:

1. Dynamic pagination, which makes use of the high order bit, is suppressed. Page break display (^OP) cannot be turned on.

2. Status line shows file character and file line instead of page and line on page (Section 2).

3. Dot commands are not checked during editing:

   a. No "?" flag for invalid dot command.

   b. The message PUT AT FILE BEGINNING FOR CORRECT PAGE BREAK DISPLAY does not appear.

4. Word wrap, justification, variable tabbing, and ruler display default OFF rather than ON. These features may be turned on with the usual commands (Section 4) if desired.

Note that use of word wrap or paragraph reform (^B) can put "high order bit" flags in the file, causing possible incompatibility with some external programs.

Fixed Tabbing Mode

For normal word processing uses, leave variable tabbing mode on. If you have occasion to work with existing files containing tab characters, or wish to use fixed tabs (for example, in computer program preparation), read this section.

When variable tabbing is off, "tab" characters (^I, 09 hex) are used in the file, displayed with fixed stops every 8 columns, as opposed to the multiple spaces entered into the file by variable tabbing mode. This type of tabbing is compatible with that used by the CP/M editor and by MicroPro's WordMaster; such tabs are customarily used in program development under CP/M.

Since each "tab" is a single character, fixed tabs edit differently from variable tabs:

- The cursor cannot be placed within the white space on the screen representing the tab, but "pops" across it

- A tab deletes as a single character

- A single character will overtype a tab

When inserting before a tab, the text after the tab remains in the same screen position until sufficient text is inserted to push the tab to the next stop, at which point it "pops" right to the next multiple of 8 columns.

The tabbing mode relates to the **entry** of tabs (insertion (^V) on, or the line must be extended to reach the next tab stop). Tab characters already in the file will display the same (looking like spaces) and edit in the normal fixed-tab manner (not at all like spaces—previous paragraph) when variable tab mode is on. When variable tab mode is on and the tab key is used to move the cursor over existing text (insertion off), and the text contains tab characters, the cursor may come to rest beyond the next tab stop column since it can't stop in the middle of a tab character.

There is no need to set fixed tabbing to edit a file already containing fixed tabs unless you need to use the ^I (tab) key and have it enter fixed tab characters into the file. (Note that the version of PIP supplied with some systems has an option for expanding tab characters into multiple spaces with tab stops every n columns; you might wish to use this to convert a file from fixed to variable tabs.)

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Section 7
Printing Features: Part 1

Two types of print directives, print controls and dot commands, were intro-
duced in the General Information Manual. This section provides specific
details on print controls and some dot commands. Section 8 continues with
details on the rest of the dot commands and procedures for printing a docu-
ment.

PRINT CONTROL CHARACTERS

The print controls are single control characters entered into the file during
editing to produce such special effects as underline, boldface, and sub-
scripts during printing.

Print controls are entered by typing ^P followed by the desired letter. The
letter may be typed in upper or lower case, or with the CTRL key pressed.
Features such as underlining and boldface, produced by print controls, may be
used freely in mid-paragraph (or even within a word); the control characters
fall through the word wrap and paragraph re-form operations with no special
consideration.

Formed lines containing print controls will appear to be too long on the
screen, but will be printed the correct length on paper. This is because
WordStar puts extra characters in the line to compensate for the fact that the
print controls use no columns during printing.

The print controls are shown in Tables 7-1 and 7-2, followed by detailed
discussions of certain topics. (When two characters are given under "Charac-
ter," the one on the left is the one you type after ^P; the one on the right
is the one displayed on the screen.) The Print Menu gives a quick summary of
these print controls.

Table 7-1. Print Control Toggles

Character	Function
^S ^S	**Underscore Toggle.** Enter before and after phrase to be underlined. Only non-blank characters are underlined; spaces and tabs between the two toggles are not underlined. Example: Screen: Just ^Sone^S word. Paper: Just <u>one</u> word.
^B ^B	**Boldface Toggle.** Offsets slightly and overstrikes on Daisy Wheel and other printers capable of incremental motion; multi-strikes each character on "Teletype-like" (i.e., regular) printers. Screen: Just ^Bone^B word. Paper: Just **one** word.
^D ^D	**Double-strike Toggle.** Strikes each character twice with no offset. Produces a lighter boldface than ^B; may also be used with carbon ribbon to produce extremely sharp impression of entire document. Screen: Just ^Done^D word. Paper: Just one word.

Table 7-1. Print Control Toggles (Continued)

Character	Function
^X ^X	**Strikeout Toggle.** Prints -'s over characters; may be used to indicate deleted text in a revised version of a document. Screen: Just ^Xone^X word. Paper: Just ~~one~~ word.
^V ^V	**Subscript Toggle.** Enclosed characters printed as a subscript, (i.e., printed a fractional line below the rest of the text). Screen: H^V2^VO Paper: H_2O
^T ^T	**Superscript Toggle.** Enclosed text is printed fractional line above rest of text. Screen: (ab)^T2^T Paper: $(ab)^2$
^Y ^Y	**Ribbon Color Toggle.** For daisy wheel printers and other printers with ribbon color selection, causes enclosed text to be printed in alternate color, usually red. Screen: Just ^Yone^Y word. Paper: Just one word. [red]

Subscript Toggle (^V)

The amount of roll-down defaults to 3/48ths of an inch and may be altered with the subscript roll (.SR) command (later in this section). On printers without fractional line roll, a subscript is printed in the next line if it is blank (e.g., if double spacing); otherwise, it is printed in the same line.

Ribbon Color Toggle (^Y)

Of course, a two-color ribbon must be installed in the printer for ^Y to be effective. Special installation is required to activate this character on non-daisy printers (see the **Installation Manual**).

Table 7-2. Other Print Controls

Character	Function
^C	**Stop Print.** Stops printing until restarted by operator. May be used to permit typewheel or ribbon change, so that multiple typefaces or printing of different colors may be intermixed within document. Screen: Stop here.^C Paper: Stop here. [printer stops]

Table 7-2. Other Print Controls (Continued)

Character	Function
^A	**Select Alternate Character Pitch.** For daisy wheel printers, this goes to 12 characters per inch (elite), or as modified by the character width (.CW) dot command (later in this section). Normally ^A has no effect on non-daisy printers.
^N	**Return to Standard Character Pitch.** For daisy wheel printers, selects 10 characters per inch (pica), or as altered with .CW command (later in this section). Normally has no effect when printing on a non-daisy printer.
^K	**Left-Right Heading/Footing Control.** This character is used in heading and footing dot commands to produce headings, page numbers, etc. which print on the left side of even-numbered pages and on the right side of odd-numbered pages.
^F £	**"Phantom Space."** On a daisy wheel, print the character for code 20 hex. This code, normally a space for non-daisy printers, prints a "cent sign" or other special character on many 88- and 96-character daisy wheels—the exact graphic depends on the print wheel in use. Screen: This symbol (^F). Paper: This symbol (£). [example]
^G ¬	**"Phantom Rubout."** On a daisy wheel, print the character for code 7F hex. This code prints a NOT sign, double underline, or other graphic on many 96-character daisy print wheels. Screen: This symbol (^G). Paper: This symbol (¬). [example]
^O ^O	**Non-Break Space.** Prints as a space, but not treated as a space for line break or justification purposes during line forming. Screen: FORTRAN^OIV Paper: FORTRAN IV
^H ^H	**Strikeover.** Causes the next character to overprint the preceding character on the line. Screen: a^H` la mode Paper: à la mode
^Q ^W ^E ^R	**User Printer Functions.** These control characters are intended for accessing special printer functions that WordStar does not otherwise support, such as changing type fonts or activating a sheet feeder.

Stop Print (^C)

A stop print may be used in mid-line, or several times in the same line if desired. When the pause occurs, PRINT PAUSED will appear in the status line; the P command (no-file menu) or the ^KP command (while editing a file) may be used by the operator to restart the printer. Note that printers which normally print bidirectionally under WordStar will always print a line containing a ^C left to right.

Return to Standard Character Pitch (^N)

When installing WordStar for a "Teletype-like" (non-Daisy) printer, the user may set up ^A and ^N to select between two character widths if the printer is capable of changing character widths upon being sent a control sequence of four or fewer characters. See the **Installation Manual.**

Left-Right Heading/Footing Control (^K)

When used on the same line as a heading or footing (.HE or .FO) dot command, the effect of ^K is to suppress printing of following spaces up to the next non-space if the page number is even. Outside of .HE and .FO commands, ^K is ignored. See discussion of left-right page numbers in Section 8.

Non-Break Space (^O)

Use ^O where you want a single space to appear without allowing expansion during justification or wrap to the next line.

Strikeover (^H)

Strikeovers are useful for putting accent marks over letters and for creating special symbols by overprinting multiple characters. May be used in "formed" text — word wrap and paragraph reform make proper allowances for backspaces. Registration is not exactly precise in justified text. On a non-backspacing (Teletype-like) printer, do not backspace through the same column more than 8 times.

User Printer Functions
(^Q, ^W, ^E, ^R)

When installing WordStar, each of these four controls may be set up to send any desired sequence of one to four characters. Any line containing a user printer function control is always printed forward even if bidirectional print is in use.

Until a definition is installed, the four functions do nothing. Check Appendix C of the **Installation Manual** to see if the standard WordStar installation for your printer activates any of these characters. For information on installing your own definitions, see the **Installation Manual.**

Other Control Characters

Control characters not defined in Table 7-1 or Table 7-2 will print as a ^ and a letter, just as they display, with the exception of the characters shown in Table 7-3.

Table 7-3. Non-Printing Control Characters

Character	Function
^L	**Form Feed** causes a page break.
^I	The **tab** character displays and prints enough spaces to advance to the next tab stop. This character is not normally entered into a file by WordStar except in fixed tabbing mode (Section 6).
^M	**Carriage Return.** Entering a carriage return without a line feed (by pressing ^PM or ^P RETURN) will create an overprint line as described in Section 4.
^J	**Line Feed.** This character is not explicitly used in normal applications.

DOT COMMANDS

Dot commands are special non-text lines entered into the file for purposes such as setting the paper length or specifying a page heading. All dot commands have defaults suitable for normal use; you can begin using WordStar without using dot commands at all. Dot commands themselves do not print, but control the printing of actual text. Dynamic page break display also responds to certain of the dot commands.

The general form of dot commands was described in the **General Information Manual.** Briefly, a dot command consists of a period in column 1, a two-letter code, and, (for certain commands), a number, line of text, or other argument. Dot commands are entered into the file during editing in the same manner as other text, and display on the screen during editing. For convenience, automatic indentation to the left margin is disabled when a period is entered into or already present in column 1.

A dot command line placed anywhere in the file will be interpreted by the print function. Variables such as top and bottom margin and line height may be varied at will as far as printout is concerned. However, dynamic page break display will respond to the commands that specify line height, paper length, and top and bottom margins only when they are placed at the beginning of the file, before all text.

Tables 7-4 through 7-9, along with Tables 8-1 through 8-3, describe the regular print dot commands. These commands are summarized in Appendix A. For quick reference while editing, the ^JD command displays a brief summary of the dot commands.

The optional MailMerge command provides additional dot commands to control input of variable information from a data file or from the operator, insertion of other files into the printout, repeated printing of a file, etc. These additional dot commands are described in Sections 9-12. MailMerge also interprets all of the dot commands described here.

VERTICAL·PAGE LAYOUT

The dot commands used for vertical page layout are shown in Table 7-4.

Table 7-4. Dot Commands for Vertical Page Layout

Command	Description
.LH n	**Line Height.** Sets line height to n/48ths of an inch on daisy wheel printers. Default: 8/48" = 1/6" (six lines per inch). (Lines in subsequent dot commands are assumed to have the height specified by .LH—either explicitly or by default.)
.PL l	**Paper Length.** The number of lines, including top and bottom margins on an entire page. Default: 66 lines.
.MT l	**Top Margin.** The number of lines from the top of the paper to the beginning of the body of the text on the page. Default: 3 lines.
.MB l	**Bottom Margin.** The number of lines at bottom of page not used for text. Default: 8 lines.
.HM l	**Heading Margin.** The number of blank lines from the page heading to the body of the text. (See also .HE command.) Default: 2 lines.
.FM l	**Footing Margin.** The number of lines between the end of the text and the page number or footing (see .FO). Default: 2 lines.

Discussion of Vertical Page Layout

The maximum number of lines on the page used for the body of the text is the paper length, minus the top and bottom margins. If the line height (.LH, above) is changed after these commands are given, the same number of inches, not lines, of text continues to be printed. Fewer lines are of course used for particular pages where .PA or .CP commands (below) cause page breaks. The top and bottom margin values may be adjusted to give the desired number of text lines on a page, and to center the text vertically on the page for your positioning of the paper in the printer.

During editing, the commands for line height, paper length, and top and bottom margin (.LH, .PL, .MT, and .MB) will be interpreted correctly by the page break display only if they appear at the beginning of the file. However, as far as printing is concerned, they may be used anywhere in the file to vary the vertical page format.

Note that the settings used for vertical page layout must be used in conjunction with the adjustment of page perforations in your printer. This adjustment can make a difference of two or three lines in how far up or down on the page the body of text appears (see Figure 7-1).

Line Height (.LH n)

As noted in Table 7-4, if no line height is explicitly specified in a file, the default is n=8, meaning a line height of 8/48" (1/6"), or 6 lines per inch. Table 7-5 shows how other specifications translate into lines per inch.
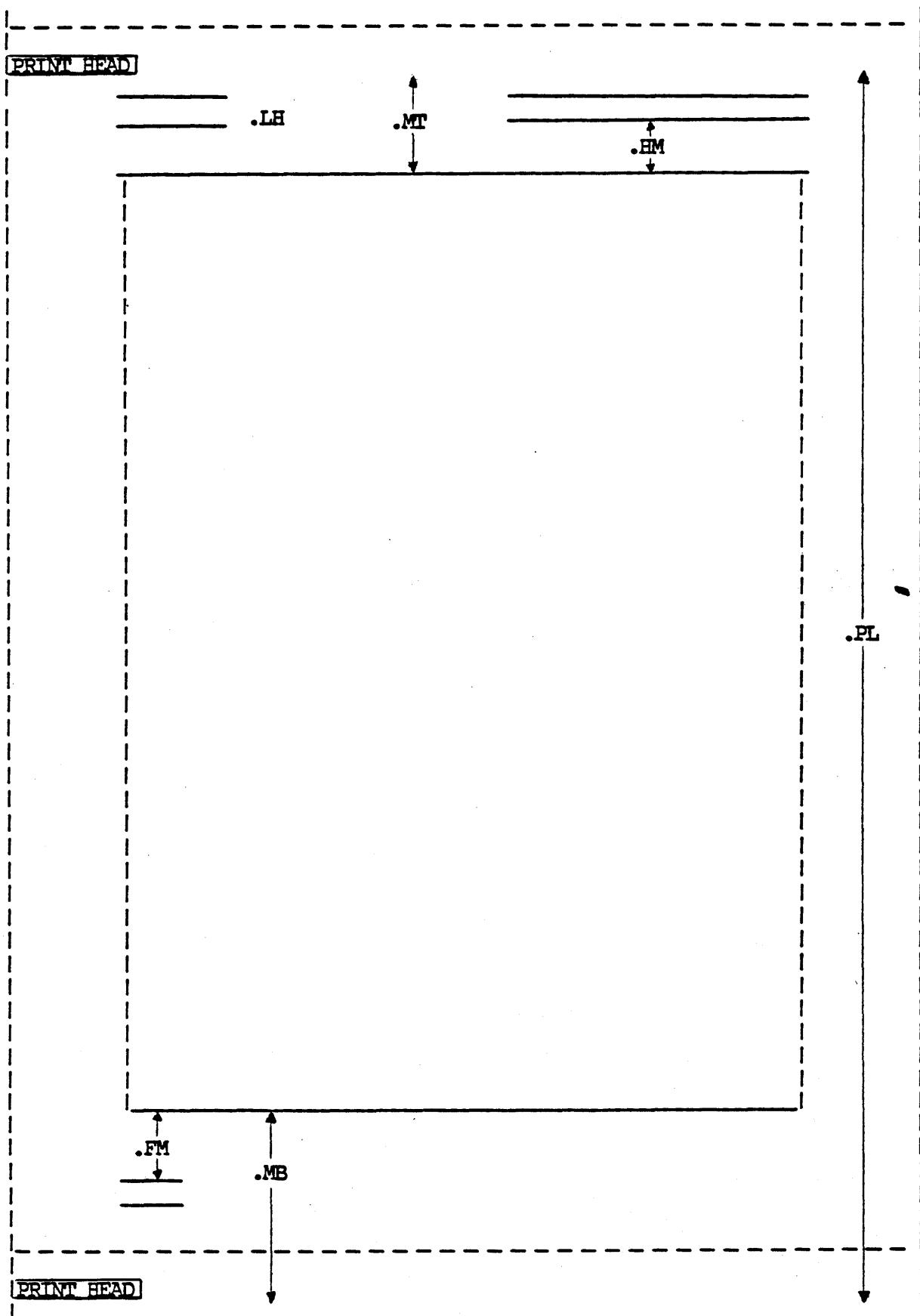
Figure 7-1. Vertical Layout of a Typical Page

Table 7-5. Line Heights

Dot Command	Lines per Inch	Dot Command	Lines per Inch	Dot Command	Lines per Inch
.LH 1	48.0	.LH 6	8.0	.LH 12	4.0
.LH 2	24.0	.LH 7	6.8	.LH 16	3.0
.LH 3	16.0	.LH 8	6.0	.LH 18	2.6
.LH 4	12.0	.LH 9	5.3	.LH 20	2.4
.LH 5	9.6	.LH 10	4.8	.LH 24	2.0

The .LH command provides an alternative or supplement to the single, double, triple spacing that can be applied via the ^OS command (Section 4) to text as lines are formed. If .LH is used when printing on a printer incapable of incremental spacing, page breaks are nevertheless determined as though the command took effect.

Note that all subsequent commands taking a number of lines as an argument will be interpreted in terms of the new line height. Previously set values (top margin, paper length, etc.) will remain the same in inches.

CHANGING LINE HEIGHT
ON A DAISY WHEEL PRINTER

On Daisy wheel printers, the line height may be specified in 48ths of an inch with the .LH command. For example, to print 8 lines per inch instead of the usual 6, use the command:

.LH 6

When the line height is changed on a daisy wheel printer, **previously specified** margins and paper length are not effected. They remain the same in inches, regardless of the line size. However, subsequent .PL, .MT, .MB, .HM, and .FM commands are interpreted (converted to inches) in terms of the new line height.

Thus, if you use the .LH command, carefully consider the order in which .LH and other vertical format commands are given. For example, .LH 6 followed by .MT 4 yields a 1/2 inch top margin (4 lines of 6/48 each), whereas .MT 4 followed by .LH 6 yields a top margin of 2/3 inch, because the .MT command, appearing first, is interpreted using the default line height of 8/48 of an inch.

The print function will handle as many changes of line height as you wish, but for dynamic page break display to work, you must set the line height only at the beginning of the file.

Hint: To achieve varying line heights without interfering with dynamic pagination, set the line height to 4 (one-half of normal) at the beginning of the file, then use double-spaced text for close-spaced printout, and triple or quadruple spaced text for wider line spacing. The ^OS command, (Section 4), can be used to cause automatic double, triple, etc. spacing as text is entered or reformed.

CHANGING LINE HEIGHT
ON A NON-DAISY PRINTER

The line spacing on a non-daisy printer is unaffected, but the page breaks and page length are determined **as though on a daisy wheel printer.** Thus, drafts of text to be final-printed on a daisy wheel may be printed on a line printer with page breaks occurring as they will in the final, but with the amount of text being printed on a page frequently too little or too much for the forms in use. Use the USE FORM FEEDS option (described in Section 8).

If you have a document containing .LH commands and you wish to to print it neatly on a non-daisy printer, remove the .LH commands. Since ".." indicates a comment, you can change them to ..LH with the Replace command. Then they can easily be changed back to .LH later.

Paper Length (.PL 1)

The paper length must match the forms in use (except that smaller values will also work if the USE FORM FEEDS option is selected when printing). The default is 66 default-height lines, or 11 inches.

WordStar assumes 66 lines to the page, corresponding to 11-inch (letter size) paper at 6 lines per inch. If you wish to use a different size of form (such as legal size), specify the number of lines on each **complete piece of paper** with the .PL command. This is not the number of lines of text printed, but the form length. The paper length may be set shorter than the actual form length only if your printer has hardware form feed capability and the USE FORM FEEDS option is elected every time print is initiated (see Section 8).

A .PL command should also be used as appropriate if your non-daisy printer prints lines spaced other than 6 to the inch. For example, if your printer prints 8 lines to the inch and you want to use 11 inch paper, put .PL 88 at the beginning of your file.

Top Margin (.MT 1)

Note that the page heading, if in use, and the heading margin, are printed in this space. See also the commands for heading margin and heading text (.HM and .HE). Default: 3 lines. The "top of the page" for the first page printed is wherever you position the paper before starting print if the USE FORM FEEDS option is not specified when print is initiated (see Section 8).

Bottom Margin (.MB 1)

The page number or footing, if in use, is printed within the bottom margin. See the command for footing margin (.FM) below. Default: 8 lines.

TOP AND BOTTOM MARGINS

WordStar leaves a number of blank lines set by the top margin command (.MT) at the top of each page (with the heading positioned in this space, if a heading is in use), and a blank area (containing the page number, or the footing if one has been specified) set by the bottom margin (.MB) command at the bottom of each page. The number of lines of text printed on each page, if no page break is caused by a .PA or .CP command, is equal to the paper length (.PL),

less the top and bottom margins. To increase the amount of text on a page,
decrease the top or bottom margin; to decrease the amount, increase margins.

POSITION OF TEXT ON THE PAGE

The text can be moved up or down on the page either by changing the top (.MT)
and bottom (.MB) margins by the same amount, or by moving the paper in the
printer, as preferred. The default top and bottom margins approximately
center the text vertically on the page if the paper is positioned with the
print head two or three lines down from the top of the page when printing is
initiated.

If you are loading single sheets, such as letterheads, you may want to move
the text up (smaller top margin) so that you can roll each sheet under the
bail.

Information on moving the text on the page horizontally is given in the next
subsection ("Horizontal Page Layout").

Heading Margin (.HM 1)

Note that the heading and the heading margin fall within the top margin space.
If a value greater than top margin less 1 is specified, top margin less 1 is
used. Default: 2 lines.

Footing Margin (.FM 1)

Note that the footing margin and the page number or footing appear within the
bottom margin space. Default: 2 lines.

HORIZONTAL PAGE LAYOUT

Most horizontal formatting, such as the margination and justification of text,
is done during editing, and does not involve dot commands. The dot commands
shown in Table 7-6 are provided to control those aspects of horizontal format-
ting that are done by the print function.

Table 7-6. Dot Commands for Horizontal Page Layout

Command	Description
.PC c	**Page Number Column.** Column at which the page number is printed when footing is not in use and page-numbering is in effect. Default: center column. (See Table 8-1 for the commands relating to footings and page-numbering.)
.PO c	**Page Offset.** Number of (current width) columns the entire document is indented (moved right) from the printer's left margin, in addition to all indentation in the file. Default: 8 columns.

Page Number Column (.PC c)

The page number column may be set to print page numbers at left, right, or
center, etc., at the bottom of the page. (Additional page number positioning
options are provided through the use of # in .HE and .FO commands, as

described in Tables 8-1 and 8-2.) The column width used is that of the
character width in effect when the .PC command is given, as determined by ^A,
^N, or .CW commands.   Default is 1/2 the edit function's default right
margin, to center numbers under text of default width.

Page Offset (.PO c)

The page offset command allows offsetting the text from the tractor-feed holes
at the left of the paper, and allows putting narrow paper near the center of
wide printer carriages. Default: 8 columns.

The text can be moved horizontally on the page by changing the page offset.
By default, WordStar prints 8 spaces (in addition to any in the file) at the
beginning of each line; to move the text to the left edge of your printer
carriage, put the following at the beginning of the document:

    .PO 0

PAGINATION

The dot commands used for pagination are shown in Table 7-7.

Table 7-7. Dot Commands for Pagination

Command	Description
.PA	Unconditional Page. Start new page unconditionally.
.CP 1	Conditional Page. Start new page if there are fewer than 1 lines (of the current height) left on the current page.

Page break control is used for two purposes:

    o   to force the following text to begin at the top of a page, as at the
         beginning of a chapter;

    o   to prevent going to a new page in an inappropriate place (such as in
         the middle of a table or after a section title but before the
         beginning of the text after the title). Many users also wish to
         prevent page breaks one or two lines into a paragraph, preferring
         that the entire paragraph be on the next page.

Unconditional Page (.PA)

For the first case, where a new page is always desired, use the unconditional
page command:

    .PA

Conditional Page (.CP l)

For the second case, it is usually desired to have a page break occur only
when less than a certain number of lines remain on the current page. For
these cases, use the conditional page (.CP) command. This command tests the
number of lines remaining on the current page, and causes a page break only if
too few remain. For example, if you have a table 10 lines long, put

.CP 10

above it. This will cause a page break during printout (and also display the
page break line on the screen unless the page break display is OFF) only if
less than 10 lines remain on the current page. That is, the following 10
lines, containing your table, will print on the current page if they will fit,
otherwise a new page will be begun, with your table at the top.

Using .CP instead of .PA reduces the need to check pagination and move dot
commands as the document is updated. For example, if a page break fell in the
middle of the table of the previous example and you corrected this by inser-
ting a .PA above it, you would need to find and remove the .PA later if you
made an insertion above the table as .PA always causes a page break even if it
falls at the top of a page. On the other hand, a .CP 10 that falls more than
10 lines above the bottom of a page has no effect and may be left in the
document, to become active whenever revisions preceding it make it fall near
the bottom of the page.

As another example, we suggest always putting .CP 5 (or so) above each section
title. This forces a new page if less than 5 (or whatever number you specify)
lines remain on the page, so that a section title will not appear as the last
line on a page or with only two or three lines of text after it. If you enter
these as a matter of habit when initially entering documents, then as the
document is revised it will always print well-paginated even if you do not
review the pagination after each edit.

One more example: look at this manual. It rarely pages in mid-paragraph.
This was accomplished via generous use of .CP commands.

Use .CP to keep blocks of text together, to prevent paging just after a title,
in the middle of a table, etc. Using lots of .CP commands can make the doc-
ument always print well paginated regardless of insertions or deletions as
these commands have no effect when not needed.

Section 8
Printing Features: Part 2

**HEADINGS, FOOTINGS,
AND PAGE NUMBERS**

The dot commands for headings, footings, and page numbers are shown in Table 8-1.

**Table 8-1. Dot Commands for
Headings, Footings, and Page Numbers**

Command	Description
.HE text	**Heading.** All text on the rest of the line beginning with .HE is used as a page heading for FOLLOWING pages until another .HE is given. Default: no heading. (See Table 8-2.)
.FO text	**Footing.** The rest of the line beginning with .FO is used as a page footing for the current and following pages. Default: page number. (See Table 8-2.)
.OP	**Omit Page Numbers.** This command suppresses the printing of page numbers in the footing line if no footing has been given.
.PN	**Page Number.** .PN without a number turns page numbering back on after a .OP command without setting page number.
.PN p	**Page Number.** .PN with a number turns page numbering on (if it has been turned off with .OP) and sets the page number.

The special characters shown in Table 8-2 are interpreted in headings (.HE) and footings (.FO) only.

**Table 8-2. Special Characters
Used in Headings and Footings**

Character	Description
#	Prints as current page number. May be used to position page number wherever desired at top or bottom of page.
\	Print next character literally; do not interpret it as a contol symbol-- use \# to print # in a heading or footing, \\ to print \.
^K	If the page number is **even,** ignore spaces up to the next character ^K may be used to cause page number or other heading or footing text to appear on the corner of the page away from the binding.

Note that a control-K is entered into the file by typing control-PK, as with all print controls ("Print Control Characters" in the preceding section).

Heading (.HE text)

The heading may be changed as often as desired. The initial (default) heading is blank; the heading may be changed back to blank with .HE with no text. To print a heading on the first page, a .HE command must precede all text in the file.

When composing a heading (or footing) on the screen, bear in mind that the characters ".HE " are never printed. Thus, the heading will appear in the printed document four columns to the left of where it appears on the screen.

Underline, boldface, and other enhancements invoked by print control characters may be used freely in headings (and footings) without affecting the body of the text; conversely, enhancements in use in the body of the text do not affect headings and footings.

Use the .HE command to specify the text of a one-line heading to be printed at the top of each page. Examples:

.HE Part II

.HE Section 3   Basic Editing

When composing a .HE command on the screen, bear in mind that the ".HE " takes four columns that don't print, so it will display four characters to the left of where it will print. Spaces in addition to one after ".HE" are printed, so a right-adjusted heading may be produced, for example, as follows:

.HE   Section 5

PAGE NUMBER IN THE HEADING

If you wish the page number to be printed at the top of the page, give a .HE command with a "#" in the position where you wish the page number printed. For example, if you want the word "page" followed by the page number at the top left of each page, use the following dot command:

.HE page #

When composing a heading containing a #, bear in mind that the number of columns occupied by the page number will depend on the number of digits in the page number. When printing the page number at the top of the page but not using a footing (no .FO command), it is necessary to give a .OP command to prevent WordStar from printing the page number again at the bottom of the page.

CHANGING THE HEADING

The heading may be changed as often as desired; to revert to no heading, give a blank heading:

.HE

Each .HE takes effect at the **next** page top encountered; if it occurs before any text has been printed on the current page (for example, immediately after a .PA command), it will be used on the current page.

The number of lines between the heading and text can be changed with the .HM (heading margin) command. This command moves the heading, without altering the page length or the position of the text on the page; the heading margin falls within the top margin. No heading will be printed if the top margin (.MT) is set to zero.

SPECIAL EFFECTS IN THE HEADING

Underline, Boldface, and other enhancements invoked by print control characters may be used freely in headings (and footings). Print controls in .HE (and .FO) commands do not affect the body of the text, nor do those in the body of the text effect the heading (or footing). If you vary the character width (as discussed below), the heading (or footing) will be printed in the character width that was in effect when the .HE (.FO) command was given. However, if ^A or ^N is used within the heading (or footing), the pitch in effect at each time the heading is printed will be used.

Footing (.FO text)

As many .FO's as desired may be given; the footing most recently specified will be used when the bottom of each page is encountered. The characters #, \, and ^K are interpreted in the footing text as described for the .HE command above.

When no .FO command, or .FO with no text after it, has been given, WordStar will print the page number in the footing line at the column specified with the .PC command (default center unless suppressed with the .OP command). When a user-specified footing is in effect, page numbers are **not** automatically printed. If you wish the pages to be numbered, include a # at the desired position in the heading or footing.

The .FO command may be used to specify a line of text to be printed at the bottom of each page. Use of this command is similar to use of the .HE command (preceding). The most recently specified footing is used when the bottom of each page is encountered. If the footing contains a #, the page number will be printed in place of the #.

The .FM (footing margin) command may be used to specify the number of blank lines between the bottom of the text area and the footing line. The footing margin lies within the bottom margin; varying the footing margin moves the footing up and down without changing the number of lines of text on the page. No footing will be printed if the bottom margin (.MB) is set to zero.

THE DEFAULT FOOTING
IS THE PAGE NUMBER

If no footing is in effect (no .FO comand given, or most recent .FO command had no text after ".FO"), WordStar will print the page number in the footing line unless suppressed with a .OP command. The page number is centered at the column specified with the .PC command; the default is column 33 (or column 30 if a 64-column wide screen is used, reflecting the narrower default margins used in the edit function), so as to be centered under text formed using the default margins.

PAGE-NUMBERING

By default, WordStar numbers the pages in each file from 1 up as the file is printed. The page number may be changed as desired with the .PN command. For example, if a file represented the second chapter of a large document, and there were 23 pages in the first chapter, you might want to put

.PN 24

at the beginning of the chapter 2 file, so that its pages would be numbered from 24 up as it was printed. Note that .PN effects the page numbering at printout only; the page numbers displayed in the status line during editing always start with 1 and increase by 1 each page.

The maximum page number WordStar will accept is 65533. (For the other dot commands, the maximum argument is 255.)

The page number may be positioned wherever desired in the heading or footing line by using a # in the .HE or .FO command, as discussed above. If no footing is specified, the page number is printed by default in the footing line. This default page number printout may be disabled with .OP, and re-enabled with .PN (no number need be given after .PN unless it is also desired to set the page number). The column at which the page number prints in the default footing may be changed with .PC n. For example, if you wanted to center the page number under text 80 columns wide (as formatted during editing) you could use

.PC 40

The following footing command would have the same effect:

.FO   #

ALTERNATING PAGE NUMBERS

By using the special character ^K in a .HE or .FO command, you can make WordStar print page numbers (or other heading and/or footing texts) at the right hand side of odd numbered pages but at the left hand side of even numbered pages, so as to be on the side of the page farthest from the binding. The effect of ^K is to suppress printing of following spaces (up to the next non-space character) if the page number is even. For example, the following footing is used in this section of this manual:

.FO ^K   8-#

The above footing prints on even-numbered pages as

8-#

putting "8-" and the page number on the lower left corner of the page. On odd numbered pages, it prints as

8-#

Omit Page Numbers (.OP)

If a footing has been specified, .OP has no effect; .OP also does not affect printing of page numbers where a # appears in the heading or footing. Page numbering defaults on.

Page Number (.PN or .PN p)

A page number command without a page number (.PN) has no effect if the footing line has been preempted with a .FO command.

A page number command with a page number (.PN p) sets the page number to appear at the bottom of the current page and/or at a # encountered as the page heading or footing is printed. The default starting page number is 1; the page number increases by 1 each page whether or not printed. .PN effects the printout page number only; those displayed at the top of the screen during editing always run up from 1.

OTHER FEATURES

Dot commands for other printing features are shown in Table 8-3.

Table 8-3. Dot Commands for Other Features

Command	Description
.CW w	**Character Width.** On daisy wheel printers, sets character width to w/120ths of an inch, for either the standard or alternate character pitch, whichever is in effect. Default: 12/120" = 1/10" (10 characters per inch).
.SR n	**Sub/Super-Script Roll.** On daisy wheel printers, rolls the carriage n/48ths of an inch before printing a subscript or superscript. Default: 3/48".
.UJ ON .UJ OFF	**Microjustification ON/OFF.** When Microjustification is OFF, all spaces, including soft spaces, are printed exactly as they appear in the file. Spaces added to justify lines on the screen print as they appear on the screen, rather than being evenly distributed between words in 1/120ths of an inch on daisy printers. Default: ON.
.BP ON .BP OFF	**Bidirectional Print ON/OFF.** Bidirectional print (printing alternate lines right to left) is normally ON for daisy printers.
.. text	**Ignore.** This command specifies that the rest of the line is commentary material not to be printed.

Character Width (.CW w)

Standard and alternate pitch are selected by the ^N and ^A print controls. Has no effect on non-daisy printers. Allows unusual character spacings—for example, spacing characters farther apart than normal for emphasis in a title. The default standard pitch is 10 to the inch (equivalent to .CW 12); the default alternate pitch is 12 to the inch (.CW 10). Table 8-4 shows the .CW

command to use for various pitches (characters per inch). It also shows where
to set the right margin when printing at a given pitch on standard paper (8-
1/2" x 11").

Table 8-4. Character Pitch

Dot Command	Pitch (Ch/Inch)	Right Margin	Dot Command	Pitch (Ch/Inch)	Right Margin
.CW 4	30	198	.CW 12	10	66
.CW 5	24	158	.CW 15	8	53
.CW 6	20	132	.CW 17	7	47
.CW 8	15	99	.CW 20	6	40
.CW 10	12	79	.CW 24	5	33

Changing the character width or pitch (with .CW, ^A, or ^N) does not affect
previously specified page offset (.PO) or page number column (.PC) values, nor
previously specified heading (.HE) or footing (.FO) texts (except when ^A or
^N are used within the actual heading or footing texts). Subsequent page
offset, page number column, heading, and footing commands (.PO, .PC, .HE,
and .FO) will be interpreted in terms of the character width and pitch in
effect when the .PO, .PC, .HE, or .FO is encountered.

CHANGING THE CHARACTER PITCH

The width of each character printed (how far the print head moves between
characters) can be varied in two ways: with the ^A and ^N print control
characters (earlier in this section), which may be imbedded mid-line to allow
switching between two character widths, and (on a Daisy wheel printer) with
the .CW command, which allows setting any character width, but only between
lines. These can interact, as will be described shortly.

When a page offset (.PO), page number column (.PC), heading (.HE), or footing
(.FO) is specified, it is interpreted in the current character pitch; subse-
quent pitch changes do not alter the page offset, page number position, or the
character spacing in previously specified page headings or footings.

CHANGING PITCH ON A NON-DAISY PRINTER

To change pitch on a non-daisy printer, use the Alternate pitch (^A) and stan-
dard pitch (^N) print control characters. Their effect depends on your prin-
ter's capabilities and on what control sequences are installed in WordStar for
these characters. There will be no effect if no control sequences are in-
stalled or your printer has one pitch only.

CHANGING PITCH ON A DAISY WHEEL PRINTER

To change pitch on a daisy wheel printer, use the ^A and ^N print controls
or the .CW command or a combination of all three:

   ^A   Selects alternate pitch, which defaults to 12 characters per inch
        and may be changed by giving a .CW when alternate pitch is in
        effect;

   ^N   Selects standard pitch, which defaults to 10 characters per inch and
        may be changed by giving a .CW when standard pitch is in effect;

.CW n   Sets the character width to n/120ths of an inch for standard or
         alternate pitch, whichever is in effect, without affecting the other
         pitch. Table 8-4 gives the .CW command to use for various numbers
         of characters per inch.

EXAMPLES OF DAISY WHEEL PITCH CHANGES

     ^NThe word "^Acrammed"^N is printed in alternate pitch

will print with the word "crammed" in 12 pitch and the rest in 10 pitch if no
preceding .CW commands have altered the pitches.

     ^A
     .CW 20
     ^N .
     .CW 8
     narrow.^C^A w i d e ^C^Nnarrow

will print "narrow" in characters 8/120 inch wide (15 characters per
inch),then "wide" in characters 20/120 inch wide (6 characters per inch), then
"narrow" in 8/120 wide characters again. The ^C's (Section 7) cause the
printer to pause so that the operator may install a different typewheel for
wide characters. The carriage returns after the ^A and the ^N will cause two
blank lines to be printed first.

Microjustification (.UJ ON/OFF)

Microjustification is normally on. Turning microjustification off might be
useful, for example, to make a columnar table print with the columns aligned
as they appear on the screen even if soft spaces were inadvertently allowed to
get into the table lines by re-forming (^B) or word wrap. You may also
use .uj 1 (for ON) and .uj 0 (for OFF).

Bidirectional Print (.BP ON/OFF)

Turning bidirectional print off might in some cases produce better quality
output when the printer's character registration or paper feed is a little
sloppy. You may also use .bp 1 (ON) and .bp 0 (OFF).

Comment (.. text)

Any undefined dot command is also treated as a comment by the print function;
however, the edit function displays a ? flag in the rightmost screen column
for undefined dot commands. (You may also use .ig text)

PROCEDURES FOR PRINTING

The print function prints a document or other file from a diskette. Unless
suppressed by an option described below, the top margin, bottom margin, page
heading, and page footing are added to the text in the file, and dot commands
are interpreted. The print control characters are always interpreted during
printout to control underline, boldface, pauses for typewheel changes, charac-
ter pitch, etc.

Microspace Justification

If the printer in use is a daisy wheel printer (Diablo or Qume), thimble
printer (NEC) or other printer capable of incremental spacing, and WordStar is
properly installed to use this printer (**Installation Manual**), the printed copy
will be microspace justified: WordStar will remove the "soft" spaces used to
justify formed lines on the screen, and add space in units of 1/120th inch
between words, and possibly between characters, to produce an evenly spaced
line without large gaps between words. To further enhance the appearance of
printed text, punctuation characters such as periods and commas are printed in
a space narrower than other characters, and M's and W's are widened slightly.

Microspace justification is applied only to the area between the left and
right margin of lines "formed" with word wrap or paragraph reform, so that
margin alignment and position of any text outside the margins is maintained.
Lines not "formed" with word wrap or paragraph reform are not microspace-
justified, so that the alignment of columns in tables is precisely reproduced
(the last line of a newly-entered paragraph must be "formed" with paragraph
reform in order to be microspace-justified on printout).

Only a disk-stored document can be printed by WordStar; refer to the **General
Information Manual** for document saving commands.

Simultaneous Editing

Since the print function can operate at the same time as the edit function, it
does not have its own menus, but is invoked, stopped, and resumed with the P
command of the no-file menu, or the ^KP command while editing. When the print
function is inactive, these commands will invoke initiation of printing. When
printing is in progress, the same commands will stop printing. If printing is
suspended ("paused"), the P or ^KP command will cause printing to resume. The
menus change appropriately to indicate the current meaning of the command.

When printing is in progress, the no-file menu or the file being edited shows
on the screen in the normal manner.

Editing can be initiated or continued, and most other no-file commands can be
executed, while the (regular) print function is active, except on computers
with minimal RAM memory. Keyboard response is somewhat slowed during prin-
ting; concurrent editing and printing are suggested for review and minor
correction, but not for high-speed initial entry of text. When editing while
the print function is active, watch for DISK WAIT in the status line, or
listen for clicks from your disk drive, and stop entering text until the disk
activity completes. You may suspend printing (as described later in this
section) temporarily when faster keyboard response is desired.

Error Handling

There are no error messages during regular print execution. Contradictory
page formats, such as the heading margin greater than the top margin minus 1,
force WordStar to make arbitrary decisions to allow printing to continue.
Control characters with no special definition are printed as ^ and a letter.
Unrecognized dot commands are ignored (not printed). The additional dot
commands interpreted by the optional MailMerge command (Sections 9-12) are
also ignored by the regular print command. (The MailMerge command displays a
message upon encountering an unrecognized dot command; MailMerge may thus be

used for checking the dot commands in a document even when its other facilities are not needed.)

Printing Other Files

While the print function is intended primarily for printing documents prepared with WordStar, you may print any ASCII disk file. Form feeds work as page indicators, and tab (^I) characters expand to 8-column stops, ensuring compatibility with languages and other programs that output print files to diskette. An option is available for suppressing page formatting to permit printing a direct image of an (already-paginated) file.

Printing to Disk

Print function output can be directed to disk as well as to the printer, so that a print image can be saved for later output or for examination on the screen with the edit function. In a disk output file thus produced, all dot commands present have been interpreted (unless suppression of page formatting was specified) but most print control characters remain. If no WordStar print control characters were used, the disk print output file may be printed without using WordStar.

Printer Setup

You will want to position the paper in your printer so that the text comes out in the desired vertical and horizontal position. A few trials may be needed to establish the desired paper position. The position of the text on the page can also be manipulated via the .PO, .MT, and .MB dot commands (section 7) as well as by moving the paper in the printer. The print function assumes the paper to be at the "top of form" position when printing is initiated, unless the USE FORM FEEDS option (below) is specified.

The Optional MailMerge Feature

MailMerge provides additional print-time facilities for insertion of variable information from a data file or operator entry into form letters, insertion of other document files into the printout, print-time line-forming, etc. This section describes the regular print command; the MailMerge command differs in that one additional question (NUMBER OF COPIES?) is asked during the initiation dialog, and in that editing cannot be performed at the same time as printing. MailMerge operation is detailed in Sections 9-12.

Initiating Printing

When a print command (P or M from the no-file menu, or ^KP while editing) is given with no print in progress and no print suspended, the command means "Initiate print". WordStar will ask:

> NAME OF FILE TO PRINT? █

Enter the file name. (File names are discussed in the **General Information Manual**. They are also summarized in a prompt that appears on the screen whenever you use the "open a document" command, D from the no-file menu.) The usual control characters (Section 6) may be used to correct typing errors and invoke file directory display. For details on initiating MailMerge, see Section 12.

To start printing immediately with all options defaulted; make sure the printer is ready and the paper properly positioned, and press the ESCAPE key after typing the file name. To cause WordStar to ask the print options questions before beginning to print, press the RETURN key after typing the file name. If the file is not found, a message will be displayed and the question re-asked.

When the name of the file to print is terminated with the RETURN key, WordStar will ask the following **Print Options Questions** before starting to print:

        DISK FILE OUTPUT (Y/N):
        START AT PAGE NUMBER (RETURN for beginning)?
        STOP AFTER PAGE NUMBER (RETURN for end)?
        USE FORM FEEDS (Y/N):
        SUPPRESS PAGE FORMATTING (Y/N):
        PAUSE FOR PAPER CHANGE BETWEEN PAGES (Y/N):
    Ready printer, press RETURN:

All of the Y/N questions are answered with a single character: Y or y or ^Y for "yes", any other character for "no"; either the RETURN or ESCAPE keys can be used to give a "no" or other default response to any of the options questions. Seven RETURNs thus produces the same effect as hitting the escape key after the name of the file to print. Initially, you will probably want to default most or all of the questions. The print command can be aborted by typing ^U at any of the print options questions.

Explanations of each of the print options questions follow.

DISK FILE OUTPUT (Y/N): ▌

    A "no" response (any single character except Y or y or ^Y) will cause the print output to go to the printer, as normally desired.

    A response of Y or y or ^Y causes WordStar to ask "OUTPUT FILE NAME?". The "printed" output will then be placed on this file; this file will differ from the input in that it will be a print image, with all dot commands expanded (unless a "yes" answer is given to SUPPRESS PAGE FOR-MATTING) suitable for later copying to the printer or for examination on the screen with the edit function.

START AT PAGE NUMBER (RETURN for beginning)? ▌

    Type a number followed by a carriage return or escape in order to start the print at that page number. This allows restarting after printer paper jams, or printing only some latter part of a document.

    A null, 0, or 1 response causes printing to begin at the beginning of the file. A non-numeric, non-null response will cause the question to be reasked until an acceptable answer is given.

STOP AFTER PAGE NUMBER (RETURN for end)? ▌

    Type a number and press either RETURN or ESCAPE to stop the print operation after completion of the given page number. This step provides you with a way to print only the desired pages of a document without having to manually interrupt the print operation. A null response will cause the printing to continue until the end of the file is encountered.

USE FORM FEEDS (Y/N): ▮

Normally, WordStar sends the correct number of line feeds to the printer
to advance to the top of the next page. Answering Y to this question
causes WordStar to send a "form feed" character (0C hex) instead of
multiple line feeds between pages, and also before the first page (most
printers ignore form feeds when already at top of form.) Of course, the
printer must be equipped to respond to form feeds, and the paper must be
loaded into the printer with the top of form in the desired position.

Using form feeds is faster with some non-daisy printers, and eliminates
the need for the paper length set with the .PL command to exactly match
the forms and the need to vertically position the paper manually before
initiating print.

SUPPRESS PAGE FORMATTING (Y/N): ▮

A "Y" response to this question causes WordStar to print the dot commands
in the file, rather than interpreting them. The page formatting normally
done under control of the explicit or default dot commands is not done —
no top margins, bottom margins, page offsets, headings, footings, or page
numbers are added to the text in the file. The output will print across
the folds in the paper if not already paginated. Most print control
characters in the file are interpreted regardless of the answer to this
question.

Use of the SUPPRESS PAGE FORMATTING option yields a printout of the exact
contents of the file, rather than a formatted document, allowing you to
proofread the dot commands. This option is also appropriate for printing
already-paginated files not created by WordStar, and for printing disk
files created with the print function DISK FILE OUTPUT option.

PAUSE FOR PAPER CHANGE BETWEEN PAGES (Y/N): ▮

To print on single sheets individually loaded into the printer, such as
letterheads, give a "yes" response (Y or y or ^Y) to this question.
WordStar then pauses after printing each page. When such a pause occurs,
PRINT PAUSED appears in the status line. After changing the paper, type
a P (no file) or ^KP (while editing a file) to continue printing.

A "no" response (any character but Y, y, or ^Y) causes WordStar to print
continuously. This assumes you are printing on continuous forms.

Ready printer, press RETURN: ▮

Make sure your printer is ready — turned on, set "on-line", whatever your
equipment requires. Unless the USE FORM FEEDS option was specified, make
sure the paper is positioned where you wish the top of the first page to
print. If the paper is positioned part way down a page, each successive
printed page will begin at this position.

Then press any key. Printout will begin, and control will return to the
no-file menu or to the edit function.

Suspending and Aborting Printing

A print command (P if no file, ^KP while editing) given while printing is in progress will cause WordStar to stop printing, display a message showing the name of the file being printed, and ask the following question:

TYPE "Y" to ABANDON PRINT, "N" TO RESUME, ^U TO HOLD: ▌

- "Y" causes the print in progress to be aborted.

- "N" causes printing to continue. You may resume printout after stopping to adjust the paper in the printer, etc.

- An interrupt character (^U) causes control to return to the no-file menu or to the edit function with the print suspended ("paused") but not aborted. The next print command typed will cause print to continue. Any number of other commands may intervene before printing is continued.

To abort when print is already "paused" (next subsection), resume, then stop by typing two print commands in succession. This will get you the ABANDON question; answer Y.

Continuing Print

Whenever printing is "paused" (suspended), printing can be resumed by entering a print command—P if no file being edited, ^KP if editing. Print can become "paused" for any of the following reasons:

1. PAUSE BETWEEN PAGES option in use and page completed (earlier in this section);

2. ^C print control character (pause until resumed by operator, as for typewheel change, Section 7) encountered in file;

3. Print stopped by operator with print command, then ^U entered at RESUME question (earlier in this section);

4. Disk full when DISK FILE OUTPUT is in use (an explanatory message is also displayed; see discussion in Appendix B).

When printing is "paused", PRINT PAUSE appears in the status line. When editing, an additional message, TYPE ^KP TO CONTINUE PRINT, is displayed above the main command menu.

Appendix A
Summary of WordStar Commands

SUMMARY OF EDITING COMMANDS

Commands for Cursor Motion, Scrolling, and Searching

Commands on this page are displayed as they appear on the keyboard.

```
    Scroll Down              Up              Up
        ^W                   ^E              ^R
     One Line            One Line        One Screen


  Left            Left             Right           Right
   ^A              ^S               ^D              ^F
One Word      One Character     One Character    One Word


    Scroll Up                Down            Down
        ^Z                   ^X              ^C
     One Line            One Line        One Screen
```

```
    Scroll Down          Top of          Beginning
       ^Q^W               ^Q^E             ^Q^R
    Continuously       Text Area         of File


  Replace        Left Side         Right Side       Find
   ^Q^A            ^Q^S               ^Q^D          ^Q^F
   Text          of Screen          of Screen      Text


    Scroll Up          Bottom of           End
       ^Q^Z              ^Q^X             ^Q^C
    Continuously       Text Area         of File
```

```
Cursor to                             Cursor to Position
  ^Q0-9                                     ^Q^P
Place Marker                          Before Last Command

                    Cursor to
                      ^Q^K
                    End of Block

    Cursor to       Cursor to
      ^Q^V            ^Q^B
    Start of        Beginning
    Last Find       of Block
    or Source
 of Last Block
```

Basic Commands for Entering Text

^V	Insertion ON/OFF	^I	Tab
RETURN	End Paragraph	^O^I	Set Variable Tab
^N	Insert Hard RETURN	^O^N	Clear Variable Tab
^Px	Enter Control Character	^O^F	Set Margins and Tabs from any line in the file

Deletion Commands

DEL	Delete Character Left	^G	Delete Character Right
		^T	Delete Word Right
^Q DEL	Delete to Beginning of Line	^Q^Y	Delete to End of Line

^Y   Delete the Entire Line

^K^Y   Delete a Block

Commands for Saving and Abandoning

^K^S	Save File and Resume	^K^D	Save File—Done
^K^X	Save File and Exit	^K^Q	Abandon File

Onscreen Commands

^O^C   Center a Line

^O^L	Set Left Margin	^O^R	Set Right Margin

^O^X   Release Margins

^O^G	Paragraph Tab	^O^S	Set Line Spacing

^B   Re-Form Paragraph

Formatting Toggles

^O^W	WordWrap ON/OFF	^O^H	Hyphen-Help ON/OFF
^O^T	Ruler Line ON/OFF	^O^E	Soft Hyphen ON/OFF
^O^J	Justification ON/OFF	^O^D	Print Display ON/OFF
^O^V	Variable Tabs ON/OFF	^O^P	Page Break Display ON/OFF

Place Marker Commands

^K0-9	Set/hide a Place Marker	^Q0-9	Move to a Place Marker

Find and Replace Commands

^Q^F	Find Text	^Q^A	Find and Replace
^L	Find or Replace again	^Q^V	Restore Cursor to last Find/Replace

Parameters:

n	Find n times	B	Backward Search
U	Ignore Upper/Lower Case	G	Global Search (Replace)
W	Whole Word Search	N	Automatic Replace

Special Find Characters:

^A	Match any character	^Ox	Match any other than x
^S	Match any special character	^N	Match "RETURN, line feed"

Block Commands

^K^B	Mark Beginning of Block	^K^K	Mark End of Block
^K^V	Move a Block	^K^C	Copy a Block
^K^Y	Delete a Block	^K^H	Hide a Block
^Q^B	Move to Block Beginning	^Q^K	Move to End of Block

^Q^V	Move to Block Source

Additional File Commands

^K^W	Write Block to File	^K^R	Read a File into Text
^K^O	Copy a File	^K^E	Rename a File
^K^J	Delete a File	^K^L	Change Logged Disk
^K^F	Directory ON/OFF	^K^P	Print a File

The Help Commands

^J^H	Display and Set the Help Level	^J^S	Status Line
^J^B	Paragraph Re-Form (CTRL B)	^J^R	Ruler Line
^J^P	Place Markers	^J^F	Explanations of Flags
^J^D	Ordinary Dot Commands	^J^V	Moving Text
^J^M	Margins and Tabs		

Miscellaneous Commands

^QQ	Repeat a Function	^U	Interrupt

SUMMARY OF PRINTING COMMANDS

Press ^P before typing one of these print control keys.

Print Control Toggles

^S	Underscore	^X	Strikeout	^H	Strikeover
^B	Boldface	^V	Subscript	^O	Non-Break Space
^D	Double-Strike	^T	Superscript	^Y	Ribbon Color

Other Print Controls

^C	Stop Print	^A	Alternate Pitch	^F	Phantom Space
^K	Right-Left	^N	Standard Pitch	^G	Phantom Rubout
^L	Form Feed	^J	Line Feed	^M	Overprint Next Line

Ordinary Dot Commands

Table A-1. Summary of Dot Commands

Command	Function	Units	Default
.LH	Line Height	1/48 inch	8 = 6 lines to the inch
.PL	Paper Length	lines	66 default lines = 11 inches
.MT	Margin at Top	lines	3 default lines = 1/2 inch
.MB	Margin at Bottom	lines	8 default lines = 1 1/3 inch
.HM	Heading Margin	lines	2 default lines = 1/3 inch
.FM	Footing Margin (page # margin)	lines	2 default lines = 1/3 inch
.PC	Page # Column	columns	1/2 default right margin
.PO	Page Offset	columns	8 default columns = 4/5 inch
.PA	new Page		
.CP	Conditional Page	lines	
.HE	Heading		blank
.FO	Footing		page number at .PC column
.OP	Omit Page #'s		
.PN	Page Number		1
.CW	Character Width	1/120 inch	12 for standard pitch, 10 for alternate pitch
.SR	Subscript Roll	1/48 inch	3
.UJ	Microjustify	OFF(0)ON(1)	ON (1)
.BP	Bidirect. Print	OFF(0)ON(1)	ON (1)
.IG	Comment (also ..)		

Table A-2
Character Pitch

	Pitch (characters per inch)	Dot Command
	5	.CW 24
	6	.CW 20
	7	.CW 17
	8	.CW 15
Default	10	.CW 12
	12	.CW 10
	15	.CW 8
	20	.CW 6
	24	.CW 5
	30	.CW 4

Table A-3
Line Heights

Lines per inch	Dot Command	
2.0	.LH 24	
2.4	.LH 20	
2.6	.LH 18	
3.0	.LH 16	
4.0	.LH 12	
4.8	.LH 10	
5.3	.LH 9	
6.0	.LH 8	Default
6.8	.LH 7	
8.0	.LH 6	
9.6	.LH 5	

SUMMARY OF MAILMERGE COMMANDS

This section briefly summarizes variables, data files, and the MailMerge dot commands. Refer to the text (Sections 9-12) for introductory explanations and additional detail.

Variables

A MailMerge variable is a symbolic name for a data item (text) which may be different in each of several letters or other documents printed by MailMerge from the same document file.

A <u>Variable name</u> consists of a letter followed by 0 to 39 additional letters, digits, and/or (hard) -'s. The variable name (without &'s) is used in dot commands that establish the variable's value.

Examples: NAME
              ADDRESS1
              DATE-TODAY

A <u>Variable reference</u>, or place where the variable's current value is to be inserted, consists of an &, the variable's name, and another &. Spaces are allowed between the &'s and the variable name, but (hard) spaces are not allowed within the name. Soft spaces and soft carriage returns are ignored between the &'s and the variable name, and after a soft hyphen (which is also ignored) within the variable name.

Examples: &NAME&
              &ADDRESS1&
              & DATE-TODAY &
              &ADDRESS5/O&

/O in a variable reference causes that LINE to be omitted from the printout if the variable is null and the rest of the line is blank.

Variable <u>values</u> (the data to be inserted at references to the variable) may be 0 to 200 characters long. A variable may be given a value in three ways:

    From a data file (via .DF and .RV)

    Keyed in by the operator during MailMerge (via .AV)

    Set within the document or an invoking document (with .SV)

A variable must be given a value before it is used. References to undefined (no value yet given) variables are printed. &'s not enclosing valid, defined variable names are printed, permitting normal use of & in text.

Data Files

A data file used with MailMerge to supply names and addresses when printing form letters or other documents consists of data items (variable values; fields) separated by commas, with a carriage return after the last item of the group of items to be used in one letter (or other document).

There must always be the same number of items on a line (record), with commas present to "hold places" for any items which are omitted.

To include a comma, or leading or trailing blanks, in an item, enclose the item, or at least the comma or blanks, in quotes(").

Data files may be prepared with WordStar (use the N command) or DataStar.

For DataStar compatibility, any data file line containing FF hex or 7F hex in the first byte is ignored.

Example: three valid lines (records) of a data file:

    NORCAL Computers,1500 Highland Avenue, "Alameda, California", 94501, Mr. Smith
    TRIAD, 1829 Santa Clara Road, "Malad City, Idaho", 83251, John
    Wolcott Associates, 16 Rue Diesal, "Casteau, Belgium", APO 09055, Mr. Baudoin

(Carriage returns may be used as an alternative to commas between items. Such use improves screen readability when the data file is created with WordStar, but use of carriage returns is discouraged because it reduces MailMerge's tendency to get "back in sync" after an omitted data item or comma, and because it prevents processing the data file with SuperSort to select records or place them in alphabetical or Zip Code order.)

Form Letter Using Data File

        .OP   omit page numbers
        .DF datafilename
        .RV variable1, variable2, variable3, . . . (must match data file)

            text of letter, using &variable&'s as desired

        .PA   start next letter on new page

Form Letter Using Operator Data Entry

        .OP   omit page numbers
        .CS   clear screen (optional)
        .AV "prompt", variable1
        .AV "prompt", variable2
        . . .   (one .AV for each variable)

            text of letter, using &variable&'s as desired

        .PA   start next letter on new page
        .FI nameofthisfile   (if automatic repeat desired)

"Document" to Print/Check Data File

```
        .DF datafilename
        .RV variablel, variable2, variable3, . . .

        .CP n                        n=# variables
        &variablel&
        &variable2&
        &variable3&
         . . .
```

Two Useful Command Files

Operator Entry of Data Once at Beginning of Form Letter Run

```
        .AV "Today's date", date
        .FI letterfile                letterfile is a document in one of the
        ..                            forms shown above, using &date& where
                                      today's date should print.
```

Operator Entry of Data File Name

```
        .AV LETTERFILENAME
        .AV DATAFILENAME
        .FI &LETTERFILENAME&          letter file whose name operator enters
        ..                            is a document in data file form shown
                                      above, but containing
                                      .DF &DATAFILENAME&
```

MailMerge Dot Commands

MailMerge also does the regular print dot commands (Section 7). In the
following tables (A-4 and A-5), brackets enclose optional parameters.

Table A-4. MailMerge Dot Commands

Command	Function
.DF filename [CHANGE]	**Data File:** Specifies data file to be used. CHANGE, if given, requests diskette change.
.RV variablel, variable2,...	**Read Variables:** Gives names and order of variables to be read from data file. List of one or more variable names must correspond in number and order to data items in data file.
.RP [n]	**Repeat:** If n given, document is processed n times. If n omitted, document is processed until data file exhausted. The function of .RP with no n is included in .DF; command is needed only if a different (inserted) document is to be repeated.
.SV variable, value	**Set Variable** within document: named variable is set to value on rest of line.

Table A-4. MailMerge Dot Commands (Continued)

Command	Function
.AV ["prompt"], variable, [length]	**Ask Operator for Variable Value:** Prompts on screen and allows operator to enter data. "prompt" optional prompt text, in quotes. If omitted, variable name used. variable identifies variable for which operator will enter data. length optional maximum length
.DM [message]	**Display Message:** Displays message (rest of line) on screen. Leaves blank line if message omitted.
.CS [message]	**Clear Screen** and display optional message.
.FI filename [CHANGE]	**File Insert:** Specified file is inserted in printout at position of .FI command. File will be inserted multiple times (processed repeatedly) if it contains .DF/.RV or .RP.

The commands after .PF in Table A-5 are effective only if .PF ON has been given, or if a variable reference has already been seen in the current paragraph. For each, DIS is the default and means "match the input".

**Table A-5. MailMerge Dot Commands
for Print-Time Line-Forming**

Command	Function
.PF ON/OFF/DIS	**Print-Time Line-Forming** ON or OFF or DIScretionary. DIScretionary (default) means form lines from variable reference to end of paragraph only.
.RM n/DIS	**Right Margin** 1 to 240 or DIScretionary.
.LM n/DIS	**Left Margin** 1 to 240 or DIScretionary.
.LS n/DIS	**Line Spacing** 1 to 9 or DIScretionary.
.OJ ON/OFF/DIS	**Output Justification** ON or OFF or DIScretionary.
.IJ ON/OFF/DIS	**Interpret Input as Justified** ON or OFF or DIScretionary: affects method of determining right margin if .RM DIS is in effect, and determines output justification if .OJ DIS is in effect.

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Appendix B
WordStar Error Messages

This appendix contains explanations of WordStar's error and warning messages. Additional error messages that can occur while INSTALLing WordStar are described in the **Installation Manual.**

THE DISK TEXT FILE

Many of WordStar's messages are read in from a disk file WSMSGS.OVR as they are needed for display. This includes most error messages, the menus, and many explanatory messages. The messages are stored in a disk file in order to reduce WordStar's RAM requirements while allowing full, understandable message and explanation texts and multiple menus.

When WordStar is in use, the file WSMSGS.OVR should always be on the diskette in drive A. If diskettes are changed during WordStar use, be sure to keep a diskette containing WSMSGS.OVR in drive A at all times. Operation of WordStar without WSMSGS.OVR present is normally an error, but experienced users may operate WordStar thus if desired.

If the message text file is not present, the following message appears:

        @@@@
        File WSMSGS.OVR not found. Menus &
        messages will display as @@@@ only.

WordStar will continue running, but many messages will be replaced with "@@@@"; in particular, the menus will appear as @@@@ only. Hence WordStar sets the "Help Level" to 0 if WSMSGS.OVR is not present to minimize the display of messages and menus.

THE ERROR RELEASE KEY

A number of the edit function errors require the user to hit the ESCAPE key after the error message is displayed. This is to make sure the message stays on the screen until read, and to insure that WordStar does not proceed to the next command even if the user has typed ahead. The messages for most of these errors have the form:

        *** ERROR n: (specific message) *** Press ESCAPE Key ▮

When such a message is displayed, WordStar forgets any typed ahead characters and ignores further input until an ESCAPE is typed. Editing then continues; the command that caused the error usually will have made no change in the file and not moved the cursor.

If such an error occurs when the disk message text file (previous subsection) is not available, the message will appear as:

        *** ERROR n: @@@@ *** Press ESCAPE Key ▮

The @@@@ is printed in place of text that would have been obtained from
WSMSGS.OVR had that file been present. The number (n) remains the same, so the
message may be found in the following section.

EDIT FUNCTION ERROR MESSAGES

*** INTERRUPTED *** Press ESCAPE Key ▮

Occurs when the "interrupt" key, ^U, is pressed. This isn't actually an
error, but the error message mechanism is used to call attention to the
fact that the command in progress has been aborted and/or additional
typed-ahead characters have been discarded. Hit the ESCAPE key and
continue editing. Does not occur if ^U is typed when there is nothing to
interrupt.

*** NOT FOUND: string *** Press ESCAPE Key ▮

Occurs when the Find (^QF), Replace (^QA) or Find/Replace Again (^L)
command cannot find the specified string between the cursor position and
the end of the document (beginning if B option used). The user's answer
to the FIND? question is included in the message. The cursor is left at
the end (beginning) of the document.

The ^QV command may be entered after a NOT FOUND message to return the
cursor to the starting point. If a repeat count or the G option was
given, this will be the position of the last occurrence found. Also, ^QP
may be entered immediately after hitting ESCAPE to return the cursor to
the position where the command was given, even if a count or the G option
was used.

When a repeat count is specified, this message will occur if fewer occur-
rences are found. With the G (global) option, the message will occur only
if no occurrences are found.

*** ERROR E5: THAT PLACE MARKER NOT SET *** Press ESCAPE Key ▮

You gave a "move cursor to place marker" command for a place marker that
you have not set since you began editing the file you are now editing.
As described above, press the ESCAPE key to release the error message and
continue.

*** ERROR E6: BLOCK BEGINNING NOT MARKED
            (OR MARKER IS UNDISPLAYED) *** Press ESCAPE Key ▮

You gave a block move (^KV), block copy (^KC), block delete (^KY), or
block write (^KW) command without first marking the beginning of the text
to be operated on with the mark block beginning command (^KB). As with
all error messages containing "Press ESCAPE Key", press the ESCAPE key to
release the error.

To tell WordStar where the beginning of the block of text to move,
delete, etc. is, position the cursor on the first character in the block,
and type ^KB. After marking both the beginning and the end, repeat the
command that yielded the error.

ERROR E6 also occurs after "hiding" (undisplaying) the block beginning
marker with ^KB (cursor already at marker) or with block hide/display
(^KH). In these cases the existing marker can be redisplayed with
another block hide/display command (^KH).

*** ERROR E7: BLOCK END NOT MARKED
             (OR MARKER IS UNDISPLAYED) *** Press ESCAPE Key ▌

Similar to error E6 except end is not marked. To tell WordStar where the
end of the text to operate on is, place the cursor on the CHARACTER AFTER
the last character to move, delete, etc, and type ^KK. After marking the
end of the block (or causing the marker already set to display), repeat
the command that gave the error.

*** ERROR E8: BLOCK END MARKER BEFORE BLOCK BEGINNING MARKER
*** Press ESCAPE Key ▌

You have put the end marker earlier in the file than the beginning
marker, and it is not clear to WordStar what text to block move, copy,
delete, or write. Correct the markers, then reissue the command that
gave the error.

*** ERROR E9: BLOCK TOO LONG -
             MOVE OR COPY IN TWO SMALLER BLOCKS *** Press ESCAPE Key ▌

The amount of text between the beginning and end markers is more than
WordStar can block move or copy. Operate on it in two or more smaller
pieces.

Users with minimal RAM will see this message a lot; with more RAM, it
will occur less often. The number of characters that may be in a block
is about 500 in the smallest RAM that WordStar will operate in and every
added K of RAM adds 1024 characters to the maximum block size. Adding 8K
of RAM memory to your system adds about 8000 characters to the block
size, making it possible to move seventeen times as much text.

The block write command is not subject to any block size limitation.

*** ERROR E10: CURSOR NOT IN RANGE FOR COLUMN MOVE / COPY
*** Press ESCAPE Key ▌

In the 3.0 version of WordStar, neither column move nor column copy is
possible when the cursor lies in a negative print position or past column
240.

*** ERROR E11: THAT FILE EXISTS ON DESTINATION DISK.
              DELETE EXISTING FILE FIRST,
              OR USE A DIFFERENT DISKETTE.   *** Press ESCAPE Key ▌

This message only occurs when you have specified that a file on one
diskette be edited and the new version be placed on a different diskette.
See "Starting WordStar", Section 1 and the D command in Section 1. This
message indicates that a file with the same name and type already exists
on the destination drive (the second drive name given). If WordStar
proceeded in this situation, the existing file on the destination
diskette would be lost. This error prevents inadvertent file destruction.

After the ESCAPE key is pressed, WordStar goes to the no-file menu; the requested edit is not initiated. From the no-file menu you can delete the existing file if desired, then re-invoke the edit with the D command. Alternatives include inserting a different diskette to accept the destination file, and exiting to the operating system and using the REName command to change the name or type of one of the files.

Can't edit a file of type .BAK or .$$$
— rEname or cOpy the file before editing

Occurs at D or N command from no-file menu if the file name entered ends in .BAK or .$$$. The edit is not initiated and the no-file menu remains on the screen. If you really wish to edit the file, rename (with the E command) the file to a different type. Alternately, for a file of moderate size, you could edit a new file name and then read the .BAK or .$$$ file into it with the additional file read (^KR) command.

ALLOW PRINT TO FINISH BEFORE EDITING A FILE.
YOUR SYSTEM DOES NOT HAVE ENOUGH MEMORY TO
PERMIT SIMULTANEOUS EDITING AND PRINTING.

Occurs at D or N command from no-file menu if the print function is in use and your system has relatively little memory, or the operating system is not relocated to make all memory present available to WordStar (see description of error F25 in this appendix). The edit is not initiated; the no-file menu remains on the screen. See the **Installation Manual** with regard to memory requirements.

*** ERROR E12: DISK FULL *** Press ESCAPE Key ▌

The diskette is full. May occur when moving cursor towards beginning of a large file (see "Long Documents," Section 6), in which case it will still be possible to move the cursor toward the end of the file and to save your work. If it occurs while moving cursor forward or while saving, you are probably out of luck. **DON'T LET YOUR DISKETTE GET FULL!**

To prevent full diskettes, check your file sizes and disk space frequently with the system STAT command, and keep lots of extra space on each of your diskettes. See the **General Information Manual** for further discussion of diskette space.

Suggestions for recovering from a DISK FULL error:

1. If cursor was being moved toward the beginning of a large file (see Section 6), it may still be possible to move it toward the end. In that case, get back to the beginning by SAVING with ^KS, then move FORWARD to the desired position.

2. If cursor was being moved toward end of the file, or the DISK FULL error occurred while saving, first delete (^KJ command) any unneeded files. You could also delete any file that you know you could replace later from another diskette, including WS.COM or even WSMSGS.OVR. Proceed with your edit, and remember to arrange more diskette space (e.g. by moving some documents to a different diskette) after saving.

3. If deleting files doesn't allow you to complete your edit, and you don't have much work to lose, abort the edit, make more diskette space available (erase unwanted files or move some files to another diskette), then repeat the edit.

4. If you have made substantial changes or additions, and thus don't want to abort the edit, yet can't get enough space to complete the edit by deleting files, one of the following drastic measures may work:

   a. If there is extra space on a diskette in the other drive, try putting the changed portions of the file on it with block write. Then recombine in a subsequent edit after arranging more diskette space.

   b. Delete unchanged portions of the file until saving does not yield a DISK FULL error. Then recover these portions from the BAK file or from a previous backup copy you (hopefully) kept.

   c. Desperate measure; use only with extreme caution and only if you have a lot of work at stake: if the entire original file has been read, that is, if you can do a ^QC command and see the end of the file on the screen, delete the input file with the ^KJ command. Then save. WordStar may bomb out with a fatal error F29, in which case your file will have type $$$. Use the rEname command to reestablish the type. There will be no BAK file. Arrange for more diskette space and make a backup copy.

5. If the DISK FULL arises out of a block write (^KW) command, the above recoveries are not relevant. Delete (^KJ) the file written, as it is incomplete and not "closed". If you can arrange additional disk space by deleting other files or using a different drive, repeat the block write. Then proceed with your edit.

Sometimes as soon as you hit the ESCAPE key, another DISK FULL error will occur. In this case your diskette is really full and you are out of luck. Don't let this happen — watch your disk space!

   THE BEST CURE FOR DISK FULL ERRORS IS PREVENTION!

*** ERROR E13: COLUMN READ / WRITE NOT ALLOWED *** Press ESCAPE Key ▮

The 3.0 version of WordStar does not allow column read/write. You can, however, duplicate the effects.

To read a column into one file from another, first change column mode to block mode with ^KN; then read a block containing the column to the end of the destination file. Turn column mode on again (^KN), mark the column desired, and move the column to the desired location with ^KV. Finally, delete the remainder of the text block from the end of the file.

To write a column from one file to another, copy the column, with column mode ON, from its original spot to the end of that file; then change to block mode (^KN) and write the column to the second file. Delete the column from the end of the original file.

FILE name.typ NOT FOUND

>   The file named in response to the FILE NAME? question asked by the addi-
>   ional file read command (^KR) or the print command (Section 8) does not
>   exist. The actual name you typed appears in the message; the message
>   appears on the screen below the FILE NAME? question, and the cursor is
>   replaced after the question. Enter the corrected name -- be sure you
>   include the drive if needed -- or just enter RETURN if you don't want to
>   complete the command. Forward cursor (^D) and ^R can be used to bring
>   back characters from the previous answer without retyping them (Section
>   1).

INVALID FILE NAME: xxxxxx

>   Similar to the previously described error; whatever you typed in response
>   to the question (echoed back in the message where xxxxxx is shown above)
>   was not a correctly formed file name. File naming is described in the
>   **General Information Manual** and is detailed in your system documentation;
>   the D command summarizes the form of file names on the screen.

Note

>   WordStar will not accept "wild card" file names containing * or
>   ?; those characters get the above error.

*** INTERNAL ERROR I15: INVALID COPY LENGTH *** Press ESCAPE Key ▉

*** INTERNAL ERROR I16: INVALID ADDRESS *** Press ESCAPE Key ▉

*** INTERNAL ERROR I17: MEMORY FULL *** Press ESCAPE Key ▉

*** INTERNAL ERROR I18: MEMORY SHORTAGE *** Press ESCAPE Key ▉

*** INTERNAL ERROR I19: POINTER > 64K FROM CURSOR *** Press ESCAPE Key ▉

*** INTERNAL ERROR I36: BAD OVLY # *** Press ESCAPE Key ▉

>   The above are internal errors which should not occur. If one does occur,
>   saving immediately and exiting to the operating system is recommended.
>   Make a copy of the .BAK file, as the internal error may have garbled your
>   document.   Then reinvoke WordStar and check your file. If one of these
>   errors is reproducible (i.e. if you can find a reliable way to make it
>   happen again), please report it to MicroPro International Corporation.

WARNINGS

The following are warnings, for your information. See also Print Function
Warnings.

*** WARNING: WORD TOO LONG TO FIT MARGINS

When forming a line, WordStar found more characters than would fit be-
tween the currently set left and right margins with no word break (space
or hyphen). For example, if you type a line of *'s accross the screen,
(e.g. as part of a table heading), with word wrap on and the margins not
released, this message will appear when it gets wider than the margins.
You can leave it too wide, or delete the excess *'s, depending how you
want the page to appear. The message will also appear on a "word" too
long during paragraph reform (^B).

When a "word" is too long, WordStar looks about 10 characters beyond the
margin for a break. If found, it is used, and the "word" is allowed to
pro-ject into the right margin. If not found, the word is split AT the
margin.

CAN'T DISPLAY PAGE BREAKS IN A NON-DOCUMENT FILE

An ^OP command was given during a "non-document" edit invoked with the N
command (Sections 1 and 6). The command was disregarded.

PUT AT FILE BEGINNING FOR CORRECT PAGE BREAK DISPLAY

This appears, highlighted, ON THE SCREEN LINE with a .PL, .MT, .MB, or
.LH dot command that is preceded by document text (anything, including
blank lines, other than dot commands) when page break display is on. The
intent of this message is to remind you that dynamic page break display
will not pick up and respond to this dot command, and thus may show
different page breaks during editing than will occur on printout. The
command is nevertheless entered into the file, and will be interpreted by
the print function. The message is on the screen only; it is not entered
into your document. This message does not appear if page break display
is off (^OD command) or during non-document edits (N command, Section 6).

?

A question mark appears in the rightmost screen column, highlighted,
opposite incomplete or apparently erroneous dot commands. An unrecog-
nized two-letter code, a missing numeric argument where required, or a
number greater than 255 (except with the .PN command) will cause a ? to
display. Also appears as a command is being entered; disregard until
command is fully typed. Does not appear during non-document edits (N
command, Section 6).

File WSMSGS.OVR not found. Menus &
messages will display as @@@@ only.

Occurs when WordStar is started, when at the no-file menu, and/or when
editing of a file is initiated if the message text (WSMSGS.OVR) is not
found on the diskette in drive A: nor on the diskette in the current
logged drive. See "The Disk Text File" in this appendix.

@@@@

      The disk text file WSMSGS.OVR is not present, and WordStar tried to
display some message or menu (including the no-file menu) from that file.
See "The Disk Text File" at the beginning of this section.

Note

      The most common and important error messages will display even
if WSMSGS.OVR is not on line, or will display part of their
text (including the error number, if any), followed by @@@@.
However, the menus will be completely unavailable and only @@@@
will appear at the top of the screen.

*** WARNING:
WRONG VERSION OF WSMSGS.OVR —
SOME MESSAGES MAY BE INCORRECT ***

      Occurs if the disk text file WSMSGS.OVR in use is that from a different
release than the WordStar (WS.COM) being run. The message file may not
contain all of the correct messages; some messages may be absent.
WordStar execution continues; an attempt to display a message not in the
text file will yield: IF THIS DISPLAYS YOU ARE USING WRONG VERSION OF
WSMSGS.OVR.

      Exception: the first release of WSMSGS.OVR did not contain the WRONG
VERSION OF WSMSGS.OVR warning; use of a later WS.COM with the earliest
WSMSGS.OVR will cause IF THIS DISPLAYS THERE IS A BUG to display.

!'s and beeps

      !'s appear on the screen, wherever the cursor happens to be, usually
accompanied by beeps from the terminal, when WordStar is receiving
keyboard input at a faster rate than it can process and has exhausted its
capacity to store characters for later processing. This normally occurs
only when using the REPEAT key on the terminal, or holding down an auto-
repeat key. The !'s and beeps are to warn you that WordStar is losing
keystrokes; stop typing or release the key you are REPEATing when they
occur. After processing all characters not missed, WordStar will re-
display the screen, removing the !'s. You may then continue editing.

*** WARNING: DISK FULL,
      DELETING OLD .BAK FILE TO MAKE SPACE
      (NORMALLY, THE PREVIOUS BACKUP FILE IS DELETED
      ONLY AFTER EDIT IS SUCCESSFULLY COMPLETED).

If you are working with files of moderate size, take this as a warning
that your diskette is filling up. Save the document you are working on,
and make more diskette space available (by deleting unwanted files, or
moving some files to new diskettes) before proceeding. See the General
Information Manual about diskette space and file sizes and about .BAK
files.

When working with files so large that three copies of the file cannot fit
on a diskette (two copies if you have specified a different destination
diskette), this message will always occur in the course of an edit.
Disregard it. See Section 6, "Long Documents."

WARNING: You are editing the same file as you are printing.
WordStar will not allow you to save the edited version
until the print has completed or has been abandoned.

WordStar permits editing and printing the same file at the same time, but
the edited version cannot be saved while the print is in progress. When
you initiate editing of the file that is being printed, the above warning
message is displayed.

INFORMATIONAL MESSAGES

FINISHING PRINT BEFORE EXIT
(type ^U to cancel exit command) ...

Occurs if an X command from the no-file menu, or a ^KX command while
editing, is given while the print function is active. Printing will con-
tinue; the exit to the operating system occurs when printing completes.

FINISHING PRINT OF SAME FILE BEFORE SAVING
(Type ^U to cancel Save command) ...

Occurs when any Save command (^KD, ^KS, ^KX) is given while the file that
is being edited is also being printed. WordStar will wait for the print
to complete, then save. If you wish to use other commands before the
print and save are complete, interrupt the save command by typing ^U.
Note that if printing is paused, WordStar will wait forever if left to
itself. In this case, type ^U to cancel the save command, then issue the
appropriate commands to continue or abandon printing.

FINISHING PRINT OF .BAK FILE BEFORE SAVING
(Type ^U to cancel Save command) ...

Occurs if any Save command is given while printing the .BAK file of the
file being edited; similar to preceding message.

FATAL ERRORS

The following errors terminate WordStar execution and return control to the
operating system.

You are attempting to run an uninstalled WordStar.
Please run INSTALL first.

Occurs upon invoking the uninstalled WordStar (file WSU.COM) supplied on
the distribution diskette. Before attempting to run WordStar, "Install"
WordStar for your particular terminal and printer by invoking the INSTALL
program, also supplied on the distribution diskette, and answering the
questions it asks. See the WordStar Installation Manual for details on
installation.

*** FATAL ERROR F23: INVALID SCREEN HEIGHT OR WIDTH

This can occur only after an error has been made in custom installation
by "patching" as described in the **Installation Manual.** The screen height
is set less than 16 or greater than 120 lines, or the screen width is set
less than 64 or greater than 250 columns.

*** FATAL ERROR F25: NOT ENOUGH MEMORY
                        OR YOUR OPERATING SYSTEM IS NOT
                        RELOCATED TO MAKE ALL RAM AVAILABLE

Occurs when WordStar is started. Not enough memory is available for
WordStar to operate in. See the **Installation Manual** for memory require-
ments. Note that your operating system (CP/M or equivalent) must be
"relocated" to operate at the top of memory; this is accomplished with a
system command, sometimes called "CPM", "MOVCPM", or "RELOC". See your
system documentation. Whenever more memory is added to your system, such
relocation must be repeated before the memory will be used.

*** FATAL ERROR F27: DISKETTE DIRECTORY FULL

The number of file directory entries a diskette can hold has been ex-
ceeded. This happens rarely, as the byte capacity is usually the ruling
factor, but if you use many small files, such as 1-page letters or
paragraphs of boiler plate, you may find it necessary to watch your file
count.

The maximum number of file directory entries on a diskette is system-
dependent but is often 64 entries on single density diskettes. Each file
requires one entry, and any file over 16K (about 16000) characters long
requires an additional entry for each additional 16K or fraction thereof.
When counting files remember that WordStar can generate two working
files, each possibly as long as the file being edited.

*** FATAL ERROR F28: CLOSE FAILURE
                        SYSTEM FAILURE, OR YOU CHANGED DISKETTES

*** FATAL ERROR F29: RENAME FAILURE
                        SYSTEM FAILURE, OR YOU CHANGED DISKETTES

These messages should not occur; they indicate some sort of operating
system error has occurred, or you changed the diskette in a drive during
an edit, or you deleted the input file or the work file with the ^KJ
command.

*** FATAL ERROR F46: Overlay file WSOVLY1.OVR Not found

The file WSOVLY1.OVR must be on the disk in drive A (or the current
logged drive) when WordStar is invoked. Copy the file from the distribu-
tion diskette (or log the drive containing the file), then re-invoke
WordStar.

PRINT FUNCTION MESSAGES

The following messages can occur during the dialog to initiate printing:

FILE name.typ NOT FOUND

INVALID FILE NAME: xxxxxx

> Name of a non-existent file, or an invalidly formed file name, entered.
> Descriptions earlier in this appendix apply.

WARNING: You are printing the same file as you are editing.
The last saved version will be printed, not reflecting un-
saved changes. Furthermore, WordStar will not allow you to
save the edited version while the print is in progress.

> This warning occurs when the .^KP command is used to initiate print and
> the file name entered is that of the file being edited. The warning
> reminds you that WordStar does not permit saving (^KD, .^KS, ^KX) while
> the same file is being printed, and that WordStar prints only disk-saved
> files — edits you have not yet saved will not be printed.

END EDIT (^KD) BEFORE STARTING PRINT.
YOUR SYSTEM DOES NOT HAVE ENOUGH MEMORY TO
PERMIT SIMULTANEOUS EDITING AND PRINTING.

> Occurs when the .^KP command is given if your system has insufficient RAM
> to support concurrent printing and editing. (May also occur if your
> operating system isn't relocated to make all RAM available; see the
> description of error F25 in this appendix.)

When DISK FILE OUTPUT is in use, the following can occur:

*** FATAL ERROR F27: DISKETTE DIRECTORY FULL

> As described in this appendix.

***   PRINT OUTPUT DISK FULL. PRINT PAUSED.   ***

> Occurs when the diskette on which the print output file is being written
> becomes full. A print pause is automatically invoked; PRINT PAUSED
> appears in the status line as usual. After this message, you may make
> additional diskette space available (for example, by deleting files; see
> discussion of ERROR E12 earlier in this section), then continue the print
> with the usual command (P on no-file menu, or ^KP while editing). If you
> continue the print without making more diskette space, the PRINT OUTPUT
> DISK FULL message will recur after about a second.

> If you wish to abandon the (paused) print after the output diskette has
> filled up, type two print commands in rapid succession, then answer Y to
> the question evoked by the second print command — that is, at the no-
> file menu, type PPY; while editing, type .^KP^KPY. After abandoning, you
> will probably want to delete the disk output file, since it will be
> incomplete and not "closed". Be sure to abandon the print before dele-
> ting the file.

Other than the above, the regular print function has no error messages – other conditions, such as invalid dot commands, are handled by ignoring the command or making an assumption. See Section 7.

SOME OPERATING SYSTEM MESSAGES

These are some of the messages from the operating system that may arise in conjunction with WordStar use. Texts vary from system to system; those shown here are typical only. Refer to your system documentation.

LOAD ERROR or TOO BIG

> Occurs at attempt to invoke WordStar if you have far too little memory, or your operating system is relocated for far too little memory. This message means that the WordStar program (WS.COM) won't fit in the memory available.

DISK d: NOT READY

> Means that WordStar accessed a diskette drive that contained no diskette, or the diskette was present but the drive door was not closed. WordStar always requires a diskette in drive A, and in the current logged drive if other than A, as well as in any drive addressed by a WordStar command. Most systems will proceed when the diskette is inserted. The message may appear if a diskette is inserted and a command is then given without waiting a few seconds; in this case, disregard it.

BDOS ERR R/O

> Occurs on some systems if you change diskettes when you shouldn't, or changed diskettes when at the system prompt (A>) and neglected to type ^C. If you get this message, reread the section in the General Informa- tion Manual about diskette changing.

MISCELLANEOUS ERROR MESSAGES

*** ERROR E38(-42): BAD OVERLAY FILE, OR
WRONG VERSION OVERLAY FILE *** Press ESCAPE Key ∎

*** ERROR E43(44): WRONG VERSION OVERLAY FILE *** Press ESCAPE Key ∎

> The above errors are usually caused by using an incorrect version of WSOVLY1.OVR (from a different release of WordStar), or by the WSOVLY1.OVR file having been damaged through a system failure or an error in copying. Make a new copy of WSOVLY1.OVR from your distribution diskette. If the problem persists, see your dealer for assistance.

*** ERROR E46: Overlay file WSOVLY1.OVR Not Found *** Press ESCAPE Key ∎

> The WSOVLY1.OVR file (supplied on the distribution diskette) must be on a disk in either drive A or the current logged drive.

*** ERROR E47: FILE MAILMRGE.OVR NOT FOUND
(The separately supplied file MAILMRGE.OVR
is required for use of MailMerge.) *** Press ESCAPE Key ▮

This message will be displayed if M is entered at the no-file menu and
the file MAILMRGE.OVR is not on the disk in drive A or on the disk in the
current logged drive.

*** ERROR E52: PROGRAM IS AN EMPTY FILE!? *** Press ESCAPE Key ▮

This message may be displayed when the name of a file which is not a
valid program is entered during use of the R command of the no-file menu.

*** ERROR E53: PROGRAM TOO BIG FOR
MEMORY AVAILABLE UNDER WordStar *** Press ESCAPE Key ▮

There is not enough memory on your system to run the specified program
under WordStar. To run the specified program, you must exit from Word-
Star.

File WS.COM Not Found —
Can't Run a program unless WS.COM is available.

WS.COM (or other filename assigned when INSTALLed) was not found on
either the disk on drive A or on the current logged drive. WS.COM must
be available in order to return to WordStar after completing the speci-
fied other program.

Note

> This error will occur if WS.COM has been renamed since
> INSTALLation. If you wish to change the name of your WS.COM
> file, you must re-INSTALL. To re-INSTALL without remaking all
> the installation selections, use installation option B or C
> (**Installation Manual**), enter the existing file name and the
> desired new file name at the appropriate prompts, then use the
> RETURN key at each menu to keep the present selection.

FILE d:filename.typ ALREADY EXISTS

The new file name specified in the rEname command already exists. Choose
a different name or rEname the existing file.

FILE d:filename.typ NOT ON SAME DRIVE

Both filenames specified for the rEname command must be on the same disk
drive; you can not move a file from one drive to another by rEnaming.

TOO LITTLE MEMORY TO COPY WHILE EDITING

Your system does not have enough memory available to copy files while
editing. If you want to copy a file, you must first end or abandon the
current edit.

FILE d:filename.typ EXISTS -- OVERWRITE? (Y/N): ▮

> This message will be displayed if the file specified to be cOpied to
> already exists. Press Y to erase the existing contents of the file and
> proceed with the copy. Press N to leave the existing file undisturbed;
> the NAME OF FILE TO COPY TO? question is reasked if N is pressed.

MAILMERGE ERROR AND WARNING MESSAGES

MailMerge has a number of error and warning messages, including those de-
scribed here. Unlike the regular print command, MailMerge always displays an
error message for an invalid dot command. Other conditions also produce
messages, such as a file not found, or the data file ending in the middle of
the values required to print another letter. In all cases, printing proceeds
after the error or warning (permitting detection of as many errors as possible
in a single print run), though of course the printout may be incomplete or
incorrect.

*** Invalid Dot Command Ignored:

> The erroneous dot command is displayed on the next line. In some cases,
> a specific error message accompanies this message.

*** Insert diskette with file d:filename.typ then press RETURN

> This is not an error message, but a request to insert the diskette
> containing the indicated file into the drive indicated before the file-
> name. This request results from processing of a .DF or .FI dot command
> containing the word "CHANGE" (or anything beginning with "CH") after the
> file name.

*** Cannot change disk in drive d:, request ignored

> This error message occurs when a .DF or .FI dot command containing the
> word "CHANGE" after the file name is processed, and the diskette drive
> specified in the file name (or the logged drive if no specific drive was
> specified) contains a file which is in use by MailMerge, preventing
> removal of the present diskette.

> To avoid this error, we recommend keeping WSMSGS.OVR, WSOVLY1.OVR, the
> main document being printed, the disk output file if in use, and all data
> files and inserted document files used by the main document but not on
> diskettes to be changed, on drive A, and use drive B (in a two-drive
> system) for CHANGE files, using only one CHANGE file at a time.

> After the above message is displayed, MailMerge will attempt to find the
> file anyway, in case the correct diskette is already inserted. If the
> file is not found, the message described next occurs.

*** File d:filename.typ Not Found

The file specified in a .FI or .DF dot command was not found on the specified drive, or on the logged drive if no drive was specified in the command. MailMerge will look further (see next message), then, if the file is not found, proceed without it: for a .FI command, printing will continue with the line after the .FI command; for a .DF command, printing will continue with no data file, in which case a further message will appear when a .RV command is encountered.

*** But found, and will use, d:filename.typ

After a file was not found (see preceding message), MailMerge looked on the logged drive and on drive A for a file with the same name, and found one. This message advises you of this fact. If the file was merely on the wrong drive (or you had the wrong drive logged), this may be the correct file. However, if you had a file with the same name but different contents on another diskette, this may be the wrong file and the resulting printout may be wrong. Check carefully.

*** No .DF before .RV

A .RV command was encountered with no preceding .DF, or the data file specified in the .DF was not found (as indicated by a preceding message). If no File Not Found message appears above on the screen, check your document to make sure the .DF is present and before the .RV. Printing proceeds with no data supplied for the variables; the variable names and &'s will print and only one copy will be printed.

*** WARNING: Overlong data value truncated

One or more data items longer than the maximum allowed variable value length, 200 characters, was read from the data file by a .RV command. Only the first 200 characters will be used; the excess may be skipped over or may be used (incorrectly) as the value for the next variable to be read. May indicate an error in data file format, such as an omitted second quote (").

*** Invalid variable name in .RV command ignored

One or more of the variable names in a .RV command was not of valid form, i.e. a letter followed by 0 to 39 additional letters, digits, or -'s. May indicate that &'s were used around the variable names in the .RV command; &'s should NOT be used in the .RV command (except in the case of inserting one previously defined variable value into the .RV command to determine the name to be applied to another data item read from the data file).

*** WARNING: Data exhausted, null value(s) used

The end of the data file was reached in the middle of execution of a .RV
command — the last record of the data file did not contain the number of
items required to print another letter (or other document). The variable
names for which no data is present are given "null" values (values consi-
ting of zero characters) and printing proceeds. Printing will normally
stop after the letter on which this message occurred is complete.

This message commonly indicates an error in the last record of the data
file only, but may indicate use of the wrong data file (one with an
inappropriate number of data items per record), or indicate that an
omitted item or comma earlier in the file caused the data file to get
"out of synch" with the letters. (The latter case of getting and staying
"out of synch" can only occur if carriage returns are used in the data
file between items for the same letter as well as between records; use of
commas only is encouraged to facilitate "re-synching" after an omitted
item.)

Note

This message will occur only when the end of the data file is
reached, even if earlier errors or the presence of fewer vari-
ables in the data file record (line) than in the .RV command
has caused incorrect matching of data throughout the print run,
because if .RV finds insufficient values on a data file line,
it proceeds automatically to following lines until enough data
has been found.

Note

Each time the end of a document being repeatedly processed
under .DF/.RP is reached, MailMerge looks ahead in the data
file, passing up all carriage returns and blanks present, to
see if more data is present. If the end of the file is reached
before any non-blank, non-carriage return character is found
(as it will be after the last letter if the data file matches
the document correctly and has a correct last record), then the
document is not processed again, and printing terminates
without the above message occurring.

If you are printing a document which reads multiple "records" for each
printout (on each repetition of processing), the above message may nor-
mally occur. For instance, a document that prints 3-up address labels
would read three name and address records (typically with three .RV's) on
each repetition, then print the three labels. This document would get
the above warning at the end unless the number of records in the data
file happened to be a multiple of three; the warning may be disregarded
in this case. The one or two labels for which no data was present would
print blank, since .RV automatically supplies null values for the absent
data.

SPELLSTAR ERROR AND WARNING MESSAGES

E101: File not found on disk: d:filename.ext

The file shown in the message was specified as one of the following
SpellStar files:

a.   the main or supplemental dictionary for the check operation,
b.   the document file to be checked, or
c.   the file containing words to be added to or deleted from a
      dictionary.

This file was not located on the drive specified or, in the case of a
file with extension name "DCT" or "SUP", was also not located on the
currently logged drive.

If the file name or drive was entered incorrectly, restart SpellStar by
responding "R" to prompt, then enter the correct file name or extension.
If the file name and drive were correct, respond "R" to prompt, then exit
to WordStar to find or create the desired file.

E102: Error during sort.

This message occurs whenever the internal SpellStar sort program
(MicroPro's SuperSort) encounters any problem executing the requested
sort operation. The specific failure will have been explained in a
preceding message. See SuperSort reference manual for a detailed
explanation of the problem. In most cases, the failure will have been
insufficient sort work space.

To recover from the insufficient space condition, respond to the prompt
with "R" to restart SpellStar and then either select a different drive
for the "work drive" control or change the diskette to one with more
available space. If neither of these actions can be taken, exit to
WordStar and delete unneeded files from the disk to make available at
least as much space as is currently used by the file being checked or the
file containing the words to update a dictionary, depending on the opera-
tion being performed.

E103: Invalid word format in "add" file.

When executing the Dictionary Maintenance operation, an input word file
was specified with the file name extension of "ADD", but the internal
contents did not contain the word format expected by SpellStar. The
"add" format is unique to files created by WordStar in the spelling
correction phase when a word is selected for adding to the main or
supplemental dictionaries.

Respond "R" to the prompt to restart SpellStar, exit to WordStar to
rename your word file to any name having an extension other than "ADD",
then start SpellStar again.

E104: Disk full while writing file d:filename.ext.
    Enter any key to restart.

While writing any of SpellStar's work or output files, the destination
disk became full. SpellStar is unable to proceed.

After hitting any key to restart SpellStar, follow the action described
for error E102.

W110: Invalid character in dictionary. Word Dropped: xxxxx

When adding words to a dictionary, SpellStar encountered a word con-
taining a character other than a letter or the apostrophe character. The
word is shown in the message (replaces the xxxxx). This condition should
not occur and may signal a program failure or some unexpected condition
on disk.

SpellStar will continue after dropping this word from its operation. The
proper word can be added in a later run. If this condition persists
without a reasonable explanation, please notify MicroPro's customer
service department for assistance.

W180: Memory exceeded. Partial words flagged.

In the final phase of SpellStar, there was not sufficient memory in the
computer to hold all of the misspelled words. SpellStar was forced to
flag only the words which would fit and ignore the rest.

After the flagged words are corrected with SpellStar, rerun the correc-
tion operation to examine and correct the remaining words.

W181: Word exceeds max length. Words bypassed.

In the final phase of SpellStar, words of length greater than thirty-five
letters were misspelled. SpellStar can not process these words and
therefore must bypass them.

Words longer than thirty-five letters must be checked for correct
spelling by user examination only.

E190: Insufficient memory for file areas.

There was not enough computer memory to correctly process opening any of
SpellStar's files.

SpellStar requires a minimum of forty-eight K (blocks of 1024 bytes) of
memory. If your system has less memory than this minimum, please contact
MicroPro's customer service department for assistance.

E191: Invalid record format in intermediate file.

This condition occurs when SpellStar encounters an unexpected record format within one of its internal work files.

During the operation a bad sector may have been used by SpellStar. Respond with "R" to the prompt to restart SpellStar, replace the work disk or change the work drive control in the menu, then restart the operation. If the condition persists without a reasonable explanation, please contact MicroPro's customer service department for assistance.

E192: Insufficient memory for table area.

In the final phase of SpellStar, not enough computer memory was available to store the misspelled words found in the text.

SpellStar requires a minimum of forty-eight K (blocks of 1024 bytes) of memory. If your system has less memory than this minimum, please contact MicroPro's customer service department for assistance.

E193: Invalid character format in dictionary.

During the dictionary checking operation, SpellStar encountered an unrecognized characater format in the main or supplemental dictionary. This could be caused by using a non-SpellStar dictionary (that is, one that has not gone through SpellStar's maintenance operation), or could be caused by a disk sector read error.

To restart SpellStar, enter any key. If you were using a SpellStar dictionary, the file may need to be restored from a backup disk to eliminate any sector errors if they occurred. If you were using a dictionary not created by SpellStar, use the dictionary maintenance operation to create a SpellStar dictionary from the file of words. If this error persists without a reasonable explanation, please contact MicroPro's customer service department for assistance.

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