



The Microcomputer Software Company

# **WordStar® Reference Manual**

**For Release 3.3**

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MicroPro International Corporation  
33 San Pablo Avenue  
San Rafael, California 94903 USA



## Welcome

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Unwrap the WordStar word processing package and meet your professional editor and layout artist. Put aside correction fluid, scissors, and paste. WordStar software does the work for you.

Once you typed and *retyped*; now you can process words. Your fingers still press those familiar keys, but other tasks that had to be done by hand—making corrections, moving text—can now be done by command.

As you enter your text, you'll find program features make editing on the electronic page easy. Each line you type wraps automatically around to the line below. Setting and resetting margins is accomplished by a few keystrokes. At a given signal, the WordStar program re-forms your paragraphs to new dimensions. If you change your mind and want to double-space your work, the program responds instantly. And if you decide you want to move, copy, or discard words, press a few keys and the job is done.

For all of these editing tasks, the WordStar program provides onscreen help. Menus list commands, and help screens explain the program to you as you work.

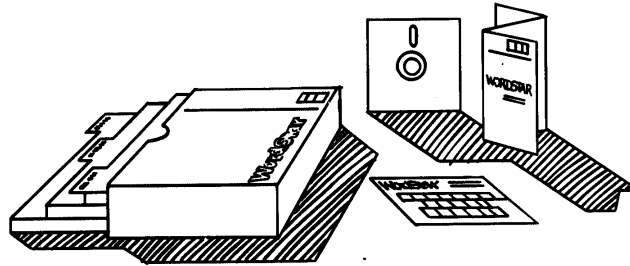
WordStar also makes it easy to design an attractive printed page. Print commands entered along with your text provide special effects and custom layout.

Everything you need to know about the program appears in the pages ahead. Whether you're a first timer or an old pro, you'll find WordStar easy to learn.

## WHAT YOU HAVE

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Your WordStar software package contains a disk, three manuals, a command card, and key-top labels. Here's what you have:

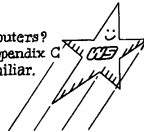


### YOUR DISK

The disk contains the following WordStar program files and auxiliary files:

- **WSU.COM** This file contains the WordStar program Uninstalled. You use **INSTALL.COM** to adapt it for your computer system. Installing WordStar produces **WS.COM**, the main program file.
- **WSMSG.S.OVR** This file contains all program messages and menus.
- **WSOVLY1.OVR** This file contains portions of the program that are auxiliary to the main program.

Hi, first time with computers?  
Check the Glossary in Appendix G  
if some words are unfamiliar.



*Welcome-ii*

- **WINSTALL.COM, WS.INS.** These files help you adapt WordStar to run on your particular computer system.
- **PRINT.TST** When printed, this sample file shows you the WordStar printing effects.

NOTE: IBM and other 16-bit computer systems use files with slightly different names and extensions. See the addendum for a list of files.

#### **YOUR MANUALS**

The following program manuals enable you to learn the practical uses of WordStar software at your own pace:

The *WordStar Installation Manual* tells you how to adapt the program for your particular computer system and how to customize certain features.

The *WordStar Training Guide* offers you a step-by-step approach to learning the WordStar program. If you're a first timer, this guide will soon have you up and running.

The *WordStar Reference Manual* is a comprehensive description of the program. If you're a first-time user, read it through after you've completed the training guide. You'll learn more about the program's features. An old pro now? Use this guide for reference and keep the menu map and command card handy.

At the back of the WordStar Reference Manual you'll find a fold-out menu map which shows you how to get from one menu to another and lists the commands as they appear on those menus. You'll also find a quick guide to the WordStar program.

The command card lists, by function, the most frequently used WordStar commands.

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Vertical line on the right side of the page.

Small black dot in the center of the page.

**WordStar®**  
**REFERENCE MANUAL**

For Release 3.3

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MicroPro International Corporation  
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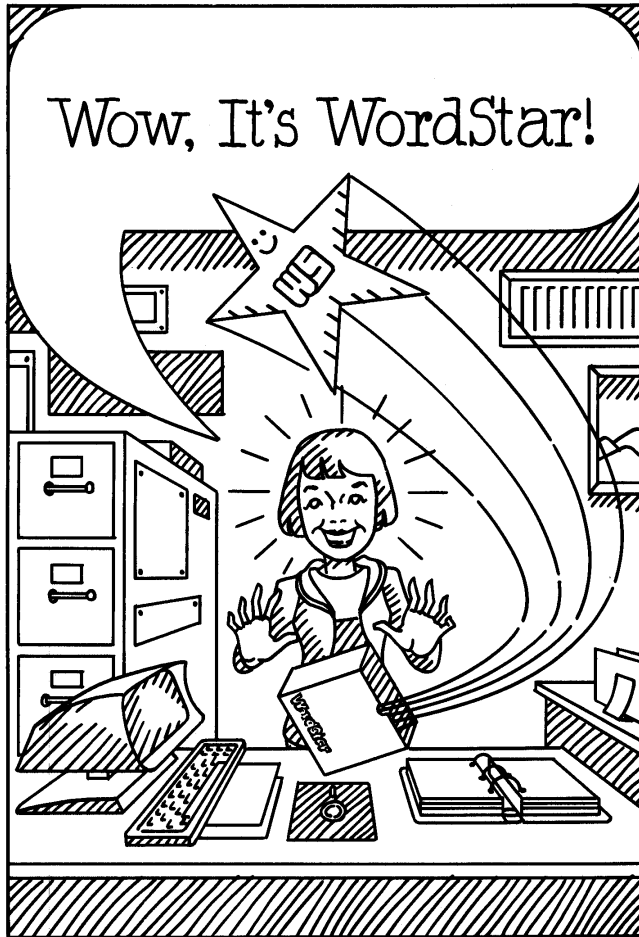
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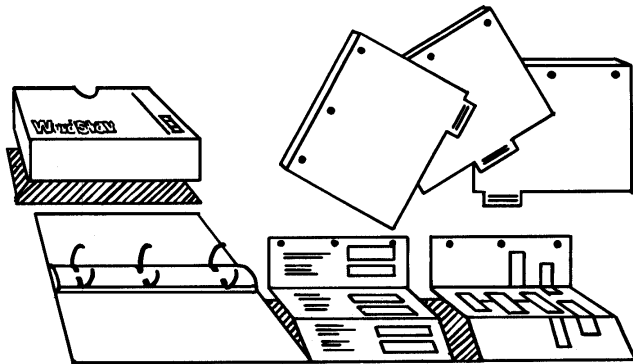
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## How to Use This Book

You are the most important character in this book. The Reference Manual describes every feature and command of the WordStar program with you in mind. After the opening chapters introduce the program, you will find the book organized by tasks that WordStar can do for you.

**REFERENCE AIDS** When you want access to information, use the following reference aids:



- |                                                    |   |                                                                       |
|----------------------------------------------------|---|-----------------------------------------------------------------------|
| Table of Contents at the beginning of the manual   | } | List of every subject covered in the ten chapters and four appendices |
| Table of Contents at the beginning of each chapter | } | Closer look at the subjects covered in the chapter                    |

Summary Table at the end of each chapter	}	Chart of commands covered in the chapter
Index		
	}	Quick pointer to a subject or command

When you want summaries, use the appendices:

Appendix A	Program Specifications
Appendix B	Error Messages
Appendix C	Quick guide to the program and the menu map
Appendix D	Glossary

As you read, cross-references tell you where to find more information. Cartoons and illustrations illuminate the way, and signposts give you easy access. Watch for these symbols:

*filename*  
*filename.EXT*

When you see one of these imitation file names in a procedure, use it as a reminder to insert an appropriate file name from your own directory.

*n*

“Any number”

↪ *n*

“Refer to this page (n) of the WordStar Reference Manual for more information.”



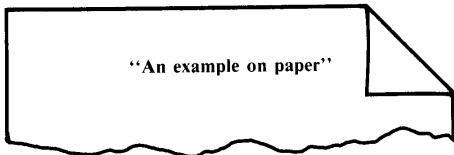
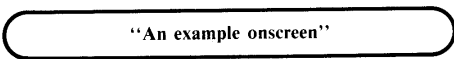
“CAUTION”



“REMEMBER”



“Keep this in mind”



“RETURN Key”



A single key command



A two-key command



A three-key command



A dot command



An option that only works with a previously entered command

You may find it easier to learn some commands by the mnemonic devices which appear in boldface when applicable. You can remember, for example, to open a file with **D** to edit in **D**ocument mode.

NOTE: ^ or CTRL represents the control key on your keyboard.

*WordStar*



# 1. INTRODUCING WORDSTAR

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## 1. Introducing WordStar

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You command the WordStar program from the keyboard of your computer terminal, using your regular keys and one special key marked CONTROL or CTRL. Onscreen messages and symbols show you how to use the program. Keep an eye on the screen and you won't get lost.

If you are new to computers and word processing, read this chapter carefully and refer frequently to your Training Guide and the glossary at the back of this manual. If you are experienced, you may want to read selectively.

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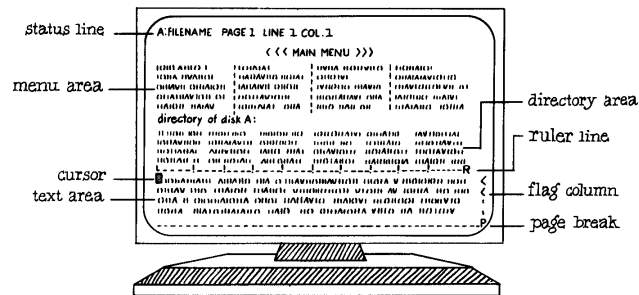
### THE BIG PICTURE

---

WordStar is highly flexible and very visible. Watch the screens as you give commands, and information in various parts of the screen will guide you. You won't see all the information all the time, but it will be there when you need it.

WordStar

WHAT YOU SEE Here are the parts of the screen:



The *status line* indicates whether or not you are editing or printing and whether certain editing features are in operation.

The *menu area* displays lists of commands (menus), help screens, messages, or questions (prompts).

The *cursor*, a small block of light, locates your place on the screen as you type.

The *text area*, which can be moved (scrolled) up or down, is where your work appears.

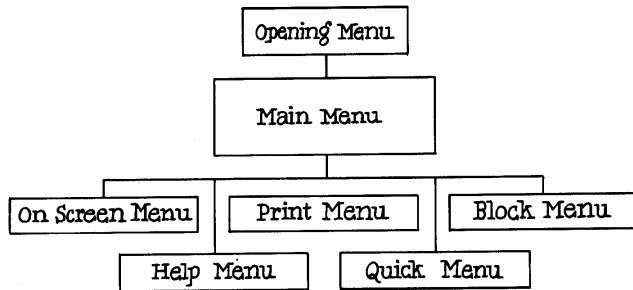
The *directory* lists all the files on your disk except those ending with the extensions .COM, .HEX, .SYS, .OVR, .REL, or .\$\$\$.

The *ruler line* indicates margins and tabs.

The *flag column* remains blank on lines ending with a soft carriage return; in all other lines, a symbol relating to text format or layout will appear.

The *page break display* indicates where the program will stop printing one page and begin another.

**WHERE YOU ARE** The seven WordStar menus are your greatest aids. They are like signposts at the top of your screen, showing you where you are. Your path through the program looks like this:



The most important part of the screen is the text area where your work appears. How does your work get there? When you're at the Opening Menu, you command WordStar to open a file for your work, and you give the file a name. Then the Main Menu appears. Here you enter your work and give commands from your keyboard. Until you command the program to save your file, however, the work on the screen is not stored on your disk and could be lost. Saving files is very important.

## WordStar

To avoid losing files during a power failure, use the save-and-resume command periodically as you work. Your file will be stored in its current form, and you can continue to work without having to re-open the file.  $\leftarrow \rightarrow$  9-3

There are two modes for working with files in WordStar, document and non-document. Document mode is tailor-made for word processing. Non-document mode, which eliminates many word processing features, is useful when you want to enter data or write computer programs. You choose the mode suited to your task as you open a file.

You are in command of WordStar. With WordStar commands you can work in your files, arranging and editing your work. You can also work with your files without opening them; for example, you can print a file or give it a new name.

When working with your files, you type commands or respond to questions (prompts) on the screen. Typing commands in WordStar is simple. Sometimes all that is required is a single keystroke. At other times, you press both the command key and the control key for the results you want. And sometimes you type a command right into a file.

Before you can begin typing WordStar commands, you must take these three steps:

- GETTING READY**
- STEP 1 Turn on the computer and bring up (boot) your operating system.
  - STEP 2 Make a backup copy of the WordStar disk. Use the copy to run WordStar. Refer to your system documentation for exact instructions on how to copy a disk.
  - STEP 3 Install WordStar.

---

## TYPES OF COMMANDS

---

There are four types of commands in WordStar: single key, control key with one other key, control key with two other keys, and dot commands (which are discussed in Chapter 7). When entering any WordStar command, you can use either upper or lowercase letters, and you never have to press RETURN or any other key after the command letter.

### Single-Key Commands

The Opening Menu offers a choice of single key commands, such as **D** (Document mode). To activate a command, press the single letter shown. Pressing the control key at the same time has no effect on a single-key command.

### Two-Key Commands

Some commands, such as those in the screen on page 1-11, require that you hold the control key down while you press a second key. An example is the cursor movement command **^D**.

### Three-Key Commands

You perform many operations in WordStar, such as saving files (**^KD**), by using three-key commands.

To enter a three-key command, hold down the control key (CTRL) while you press the first key; then release CTRL and press the second key.

WordStar does not typically use the special-purpose function keys found on some terminals. However, some personal computer systems have assigned WordStar commands to certain function keys. Consult the manuals supplied with your system.



**STEP 10** TYPE **A**

SEE **Is your terminal on this list?**

**STEP 11** TYPE **Y** (Yes) or **N** (No)

If you typed **Y** (Yes):

SEE **Terminal is currently : no terminal yet selected**

**EXTRA TERMINAL TYPES**

**STEP 12** TYPE the appropriate letter for your terminal

OR, if you typed **N** (No) at **STEP 11**:

SEE **Terminal is currently : no terminal yet selected**, followed by a list of terminal types

**STEP 12** TYPE the appropriate letter for your terminal

If your terminal isn't listed, go on to the next menu. If you are viewing menu #1, for example, type **2** to see menu #2.

**NOTE:** If the exact name of your terminal doesn't appear on any menu, talk to your dealer. One of the terminals listed may be so similar to yours that WordStar won't know the difference. Otherwise, you will need to select **B** on the Installation Menu and do a custom installation (see Chapter 2, "Custom Terminal Installation").

**STEP 13**  or TYPE **Y** if correct, **N** if you need to make a change

SEE **INSTALLATION MENU**



At this prompt you can enter WordStar. You have a choice of three methods. The first, the basic entry method, introduces you to WordStar's Opening Menu. The second and third methods, which involve some shortcuts, are discussed at the end of the chapter.

### Entering WordStar

#### BASIC METHOD

With this method you enter WordStar and then choose an activity from a list of commands. Begin at the system prompt:

TYPE WS 

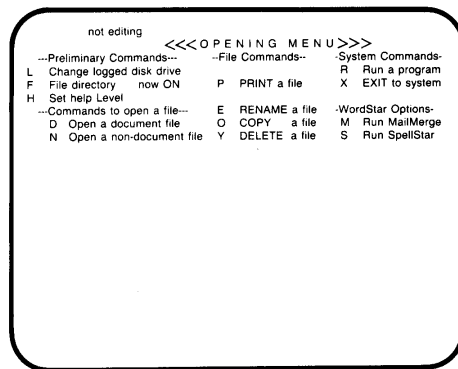
SEE copyright message

Included with the copyright message is the information about your system that was entered during the WordStar installation program.

#### THE OPENING MENU

The next display will appear automatically, but you can hurry it along by pressing the space bar after the copyright message appears.

SEE Opening Menu  $\leftarrow \rightarrow$  2-3

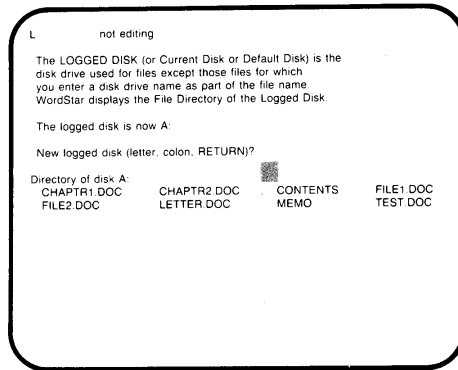


### Opening Menu Commands

You will need to change (Log) to another disk drive when WordStar is located on one disk and your files on another.  $\longleftrightarrow$  9-12

TYPE L

The following screen appears and explains the use of the L command:



Your first alternative is to log onto a different disk:

TYPE B (or any letter A-P)



Be sure to name a disk drive on your system; naming a non-existent drive will cause an error message to appear.

Your second alternative is to maintain the currently logged disk:

or PRESS ESC



### Opening a File

With the Opening Menu on your screen, you can open a new or existing file in document mode. (Non-document mode is explained in Chapter 10.)

#### TYPE D

A new screen appears and explains the use of the **D** (Document) command, gives you the file-naming requirements, and lists part of the current directory. You'll read more about each of these items later in this chapter. Here is the screen you'll see:

D not editing

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

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

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

Name of file to edit: **3**

partial directory of disk A      Z = scroll down

CHAPTR1.DOC	CHAPTR2.DOC	CONTENTS	FILE1.DOC
FILE2.DOC	LETTER.DOC	MEMO	TEST.DOC

## ① Naming Files

### CHOOSING A NAME

The most useful file name is one that helps you remember the file contents. In addition to the file-naming requirements listed on the screen, the following guidelines apply:

- Do not use names that are already in use on the current disk.
- Exclude question marks, asterisks, and other special characters which may affect your system.
- Use upper and lowercase letters interchangeably.

You may include a period followed by an extension of one to three characters to describe the type of file. For example, you might add .LET after each letter file name, .REP after each report or .912 to indicate that September 12 was the last editing session.

These are valid file names:

RESUME                      INDEX  
REPORT (JAN)              LETTER (521)

#### Extensions



Don't use the extension .BAK because it's used by the WordStar program to name backup copies. If other software on your system also creates files with extensions, avoid duplicating these as well. Check the product documentation.

#### Files on Other Disk Drives

To edit a file on another drive, you must include the name of the drive. If you want to edit file LETTER.DOC on disk B, enter three pieces of information (disk drive, file name, and extension):

TYPE B:LETTER.DOC

To economize on disk space, you may occasionally want to store the results of an editing session on another disk. To edit a file named RESUME.LJL on disk A and store the new version on disk B, enter these four pieces of information:

TYPE A:RESUME.LJL B:

When you save the file after editing, it will be on disk B, not A.

### Correcting Typing Errors

#### SPECIAL KEYS













The D Screen includes a list of editing keys. These keys, pressed while holding down the control key, allow you to correct typing errors as you enter a file name. You can use them whenever you respond to a prompt that ends with a question mark.

To give a two-key command, such as ^S, hold down CTRL while you type S.

Here is a table which describes the purpose of each key on the D Screen:


## ② SPECIAL EDITING CHARACTERS

Keys	Purpose
	Erases one character to the left. BACKSPACE, DELETE, or ^H may also be used.
	Restores one erased character at a time to the right. The restored characters are repeated from the last response given to the same prompt.
	Erases the entire response.
	Restores the entire last response to the same prompt. If you delete an entry with ^Y, ^R can recall it. Check carefully, however, to be sure that the recalled entry is the one you want.
	Displays the file directory for the currently logged disk drive until you enter a file name. ^F does nothing if the directory is already on the screen.
	Interrupts and terminates the current command, requests that you press the ESCape key, and clears any commands or text already typed.
	Moves (scrolls) your view of the file directory down when all the lines won't fit on your screen, adding new lines at the bottom of your screen.
	Moves (scrolls) your view of the file directory up, adding new lines at the top of your screen.
	Many of the keys described as special editing characters have a double identity. At any of the Opening Menu screens or in certain file operations, these keys serve the purposes indicated in the chart. Once you begin editing "inside" a file, however, you'll see the same characters on the Main Menu as cursor control commands.
	Use ^U to interrupt commands from almost anywhere in the WordStar program.

**3 Your Response****HOW TO ENTER  
YOUR FILE  
NAME**

The cursor awaits your response to the prompt on the screen.

SEE **Name of file to edit?**

TYPE *filename* 

If you have named a file not yet contained on the disk, the words NEW FILE will appear briefly just below the prompt.

If you see this message when you intend to edit an existing file, you probably mistyped the name or logged onto the wrong disk. Abandon editing by pressing **^KQ**, which returns you to the Opening Menu.  $\leftarrow$  9-5

**WHAT HAPPENS  
AFTER YOU  
PRESS RETURN**

The next screen you'll see is the Main Menu and, below it, either your existing file or a blank text area ready to be filled.

---

**STORING FILES**

---

**HOW TO USE  
SAVE COMMANDS**

Use save commands as you work on a file and when you finish. Save commands store your work on the disk and protect it against unnecessary loss.  $\leftarrow$  9-4

The save—Done command (**^KD**) stores your current file and returns you to the Opening Menu.

PRESS **^KD**

SEE **WAIT**  
**Saving file A:filename**

SEE Opening Menu

---

## PRINTING YOUR DOCUMENT

---

### ANOTHER OPTION MENU

At this point you can print your file. You give the basic print command at the Opening Menu.  $\leftarrow \rightarrow$  9-19

Here are the steps:

STEP 1 Prepare your printer. Refer to your printer manual and the WordStar Installation Manual for information.

STEP 2 At the Opening Menu

TYPE **P**

TYPE *filename*

PRESS **ESC**

NOTE: By pressing ESCape, rather than RETURN, you ignore a list of print options that would otherwise appear. Print options will be explained in Chapter 9.

Your document will be printed just as you designed it on the screen.

---

## LEAVING WORDSTAR

---

### HOW TO EXIT

When you finish working with a file, use this procedure to leave WordStar:

SEE Opening Menu

TYPE **X** (eXit)

SEE operating system prompt

NOTE: When you leave WordStar, you usually remain on the currently logged disk. Some operating systems, however, return you to the original disk.





If you plan to be away from the computer for a while, you may want to turn it off completely. *Always remove disks before turning off the power.*

## ALTERNATE METHODS OF ENTERING WORDSTAR

---


There will be times when you want to enter WordStar and go directly into a particular file to begin editing. You have two alternatives, both of which allow you to bypass the Opening Menu. The second also allows you to edit on one disk and store your file on another.

### Editing and Storing on One Disk

#### HOW TO BYPASS THE OPENING MENU

To enter a WordStar file directly, you include a file name, either new or existing, at your operating system prompt. This method works in document mode only and does not accommodate non-document files.

SEE your system prompt

TYPE **WS filename** 

SEE copyright message

Then you can begin editing:

SEE Main Menu and your file

If you enter a new name, first you'll see the following:

SEE **NEW FILE**

Then you'll go into the new file:

SEE Main Menu and blank text area

*WordStar*

If the file you want to edit is located on a different disk drive, include the disk drive name. If the file named RESPONSE is located on disk drive B, for example, the command looks like this:

TYPE WS B:RESPONSE 

SEE the file you named

**Editing on One Disk and Storing on Another**

**BYPASS AND CHANGE DISKS**

When space on your disk is limited, you can edit a file on one disk and place the result on another. To edit a file which occupies more than half of your disk, you *must* use this method:

TYPE file's present disk drive (and a colon)

*filename*

the second disk drive (and a colon)





Make sure you don't type anything but RETURN after the name of the second disk drive (including the colon), not even a space.

Note that you can omit the file's present disk drive if it's your currently logged drive.

Here's an example that tells WordStar you want to edit the file BOOK.DOC on disk C and save it on disk B:

TYPE WS C:BOOK.DOC B: 

*Introduction*

After you edit and save the file named BOOK.DOC on disk C, the new version is placed on disk B. The file on disk C will have been renamed BOOK.BAK and will serve as your backup file.

If you use a save-and-resume command (^KS), each successive save command will result in a location switch; you will edit on disk B and save on disk C, then edit on C and save on B, and so on. ⇐→ 9-3

*WordStar*

*1-20*

## 2. USING MENUS

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Hi, Choose from the menu,  
and I'll bring whatever  
you would like to order!



## 2. Using Menus

The WordStar program has seven major menus which provide an onscreen guide to WordStar commands. This chapter lists all of these menus, along with quick references to command explanations throughout this manual. The menus are charted on a fold-out map in Appendix C. Refer to it as you read this chapter.

### OPENING MENU

After you start the WordStar program, the Opening Menu appears. Here's what you see:

```
not editing
<<<OPENING MENU>>>
---Preliminary Commands---  --File Commands--  System Commands-
L Change logged disk drive   R Run a program
F File directory now ON     P PRINT a file      X EXIT to system
H Set help Level
---Commands to open a file---  E RENAME a file    WordStar Options-
D Open a document file        O COPY a file      M Run MailMerge
N Open a non-document file    Y DELETE a file    S Run SpellStar
```

*WordStar*

The Opening Menu is like a platform on which you begin and end your work. You normally pass the Opening Menu when you enter or exit from WordStar. From the Opening Menu, you cannot edit your work or give a control command leading to auxiliary menus. The commands on the Opening Menu are for tasks performed either before or after you begin work on a file, such as changing the logged disk drive or printing a file.

The following table lists the commands on the Opening Menu and indicates where to get more information about them:

OPENING MENU CHOICES					
Preliminary Commands			File Commands		
L	Change logged disk drive	p. 9-12	P	PRINT a file	p. 9-19
F	File directory	p. 9-7	E	RENAME a file	p. 9-9
H	Set help level	p. 2-25	O	COPY a file	p. 9-8
			Y	DELETE a file	p. 9-10
Commands to open a file			System Commands		
D	Open document file	p. 1-11	R	Run a program	p. 9-13
N	Open non-document file	p. 10-4	X	EXIT to system	p. 9-5
WordStar Options					
S	Run SpellStar	p. 9-12	M	Run MailMerge	p. 9-12



## MAIN MENU

When you open a document (D) or non-document (N) file, you'll see the Main Menu. Here it is:

```
A TEST DOC          PAGE 1 LINE 1 COL 01          INSERT ON
<<< M A I N   M E N U >>>
--Cursor Movement--  -Delete-          -Miscellaneous-    -Other Menus-
'S char left  'D char right    'G char            '(from Main only)
'A word left  'F word right    DELchr lf          'I Tab  'B Reform  'J Help  'K Block
'E line up    'X line down    'T word rt         'V INSERT ON/OFF  'O Quick 'P Print
--Scrolling--        'Y line          RETURN End paragraph
'W up line     'Z down line     'N Insert a RETURN
'R up screen   'C down screen   'U Stop a command
```

The following table tells you where to find more information about each of the Main Menu commands:

<b>CURSOR MOVEMENT</b>			
<b>^S</b>	char left	Moves cursor one character to the left	p. 3-7
<b>^D</b>	char right	Moves cursor one character to the right	p. 3-7
<b>^A</b>	word left	Moves cursor one word to the left	p. 3-8
<b>^F</b>	word right	Moves cursor one word to the right	p. 3-7
<b>^E</b>	line up	Moves cursor up one line	p. 3-8
<b>^X</b>	line down	Moves cursor down one line	p. 3-9
<b>SCROLLING</b>			
<b>^W</b>	up line	Moves screen view up one line	p. 3-8
<b>^Z</b>	down line	Moves screen view down one line	p. 3-9
<b>^R</b>	up screen	Moves up one whole screen	p. 3-8
<b>^C</b>	down screen	Moves down one whole screen	p. 3-9
<b>DELETE</b>			
<b>^G</b>	char	Deletes character	p. 3-15
<b>DELETE</b>	chr lf	DELETE Key deletes one character to the left	p. 3-16
<b>^T</b>	word rt	Deletes one word to the right	p. 3-17
<b>^Y</b>	line	Deletes one full line	p. 3-18
<b>MISCELLANEOUS</b>			
<b>^I</b>	Tab	Moves cursor to next tab mark	p. 6-11
<b>^B</b>	Re-form	Rearranges text to form paragraphs within margins	p. 3-19
<b>^V</b>	INSERT ON/OFF	Toggle switch for insertion feature	p. 3-12
<b>^L</b>	Find/Replce again	Continues the search of a ^QA or ^QF command	p. 5-6
<b>RETURN</b>	End paragraph	Inserts a "hard" carriage return into text	p. 3-23
<b>^N</b>	Insert a RETURN	Inserts a "hard" carriage return into text	p. 3-24
<b>^U</b>	Stop a command	Interrupts many commands before executed	p. 1-14
<b>OTHER MENUS</b>			
<b>^J</b>	Help	Displays the Help Menu	
<b>^K</b>	Block	Displays the Block Menu	
<b>^Q</b>	Quick	Displays the Quick Menu	
<b>^P</b>	Print	Displays the Print Menu	
<b>^O</b>	Onscreen	Displays the Onscreen Menu	

The last section of the Main Menu identifies five other menus. Take a look at them now, one at a time.

### QUICK MENU



When you press ^Q at the Main Menu, you'll see the Quick Menu:

```
Q      A TEST DOC      PAGE 1 LINE 1 COL 01      INSERT ON
      <<<< Q U I C K   M E N U >>>>
      -Cursor Movement-  -Delete-  -Miscellaneous-  -Other Menus-
S left side  D right side  Y line rt  F Find text in file  (from Main only)
E top scrn  X bottom scrn DEL line lf A Find & Replace    ^J Help    ^K Block
R top file  C end file    L Find Misspelling  ^Q Quick    ^P Print
B top block K end block  Q Repeat command or  ^O Onscreen
0-9 marker W up Z down    key until space    Space bar returns
P previous  V last Find or Block  bar or other key    you to Main Menu
```

The Quick Menu lists commands that activate other commands until specific conditions are reached. For example, **^S** moves the cursor one character to the left, and **^QS** moves the cursor all the way back to the left end of the line.

The **^Q** commands are explained in subsequent chapters.

- Cursor movement commands  $\longleftrightarrow$  3-7
- Delete commands  $\longleftrightarrow$  3-18
- Miscellaneous commands:

**^QA** and **^QF**  $\longleftrightarrow$  5-3

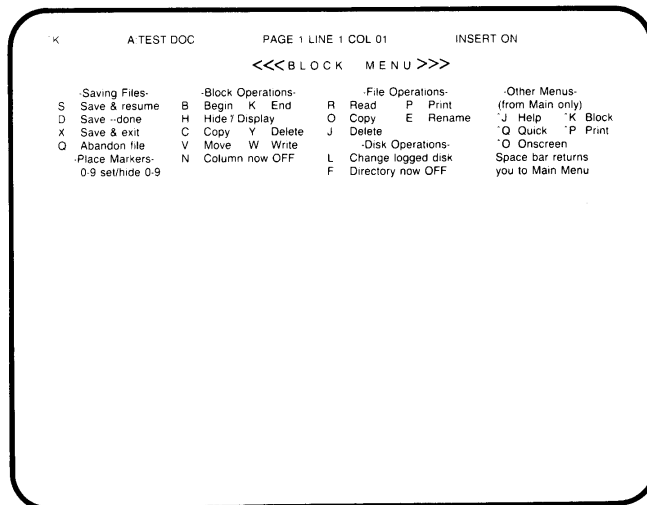
**^QL**  $\longleftrightarrow$  5-13

**^QQ**  $\longleftrightarrow$  3-9

## BLOCK MENU



When you press **^K** at the Main Menu, you'll see the Block Menu illustrated here:



The Block Menu lists commands for manipulating blocks of text, whether the block is a whole file or only a portion of text.

The ^K commands are described on these pages.

- Saving Files  $\longleftrightarrow$  9-3
- Block Operations  $\longleftrightarrow$  4-5
- File Operations  $\longleftrightarrow$  9-7
- Disk Operations  $\longleftrightarrow$  9-15

To save you the trouble of closing a file and returning to the Opening Menu, the Block Menu includes commands for file and disk operations which duplicate those on the Opening Menu.

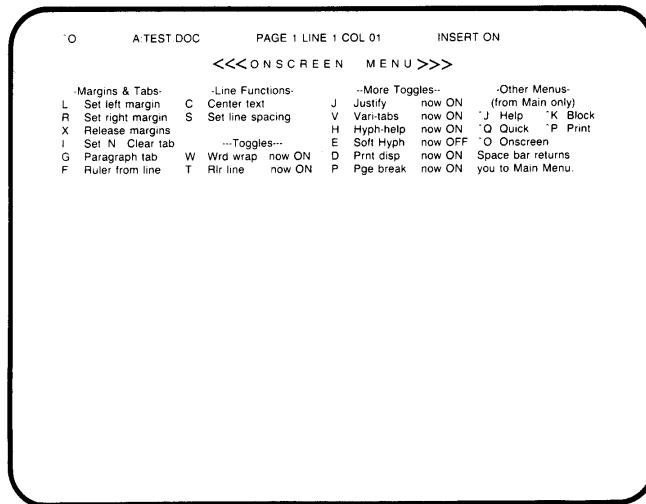
Refer to the following chart for a comparison of these commands:

OPENING MENU (outside file)	BLOCK MENU (inside file)	FILE AND DISK OPERATIONS
L F P E O Y	^KL ^KF ^KP ^KE ^KO ^KJ	Change logged drive Turn file directory on/off Print Rename Copy Delete

## ONSCREEN MENU



You reach the Onscreen Menu by pressing **^O** at the Main Menu.



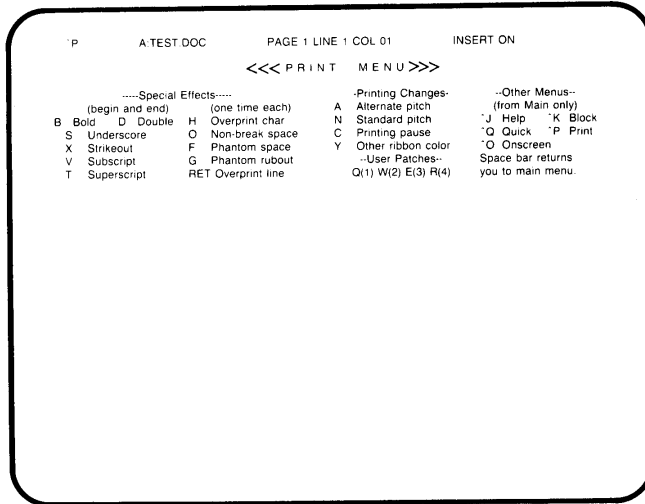
The Onscreen Menu lists commands for formatting text. The effects of these commands can be seen right on the screen. This menu also shows the status of most toggle switches. If you forget whether a toggle switch is on or off, you can press **^O** and look.

The **^O** commands for formatting text are explained in Chapter 6.

## PRINT MENU



When you press **^P** while editing a file at the Main Menu, you see the **Print Menu**.



2. Menus

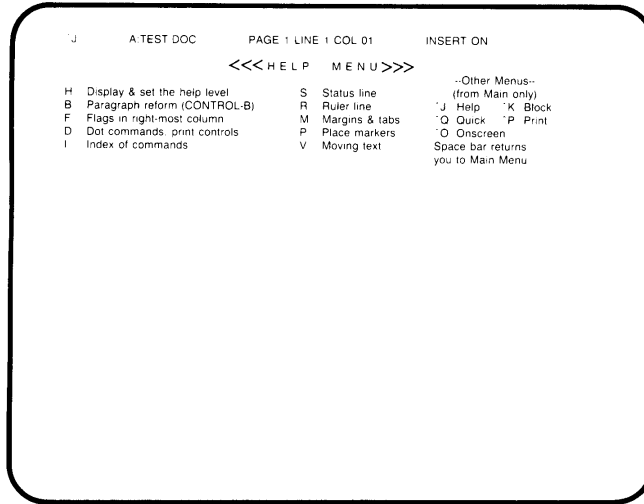
The Print Menu lists commands which affect design of the printed page. Unlike **^O** commands, their effects are not visible on the screen. When you press **^P** with one of the letters on the Print Menu, the letter will appear on the screen, preceded by the control symbol. **^PB** appears as **^B** on the screen, for example.

The **^P** commands are explained in Chapter 7.

## HELP MENU



The Help Menu appears when you press **^J** at the Main Menu:



The Help Menu is a condensed guide to WordStar. If you press a letter other than **H** after **^J**, you'll see a help screen that explains one general feature or function of the program. From the Help Menu, you can also set (**^JH**) the level of onscreen assistance (help level) which the program will give you.



## Help Screens

Some help screens consist of multiple frames. For instance, when you press **^JD**, you'll first read about dot commands, then press the space bar several times to see lists of all the dot commands. If you don't want to look at all of the multiple frames, press **^U** to return to editing.

All help screens which you can reach from the Help Menu are reproduced in this chapter. Each is on the page indicated in the following alphabetized table. Except for **^JH**, explained on page 2-25, the screens are self-explanatory.

The following chart shows how to use the help (^J) menus:

COMMAND	HELPS YOU TO
<b>^JB</b>	re-form a paragraph
<b>^JD</b>	use <b>Dot</b> commands for printing
<b>^JF</b>	interpret <b>Flags</b> in farthest right column
<b>^JH</b>	set the <b>Help</b> level
<b>^JI</b>	locate commands
<b>^JM</b>	set <b>Margins</b> , tabs, line spacing, justification
<b>^JP</b>	set and use <b>Place</b> markers
<b>^JR</b>	interpret the <b>Ruler</b> line
<b>^JS</b>	interpret the <b>Status</b> line
<b>^JV</b>	moVe blocks of text



\*\*\*\*\* PARAGRAPH REFORM (^B) \*\*\*\*\*  
To realign margins of a paragraph after corrections, place cursor at beginning of paragraph and type ^B.  
To change margins of paragraph already entered, set margins (^OL, ^OR), place cursor at paragraph beginning, type ^B.  
To change between justified and ragged right, or change line spacing, set desired justification (^OJ) & line spacing (^OS), place cursor at paragraph beginning, and type ^B.  
To obtain WordStar's help in hyphenating long words, place cursor at beginning of paragraph and type ^B.

**^JB SCREEN 1 PARAGRAPH REFORM**

^B reforms lines to end of paragraph as indicated by "HARD" carriage return (< in rightmost column). Thus, it is important not to use RETURN between lines within a paragraph when entering text.  
^B may be used to form hanging indents, change margins in mid-paragraph, etc. The exact rule is:  
^B STARTS ON THE CURSOR LINE, AT THE LEFT MARGIN column, or at the cursor position, whichever is farther left, and proceeds to the next 'hard' carriage return"

**^JB SCREEN 2 PARAGRAPH REFORM  
continued**

..... HYPHEN-HELP .....

^B will occasionally stop before the end of the paragraph and ask you whether you wish a word hyphenated. Following the instructions that appear on the screen, move the cursor if desired to adjust the hyphen position, then press ^H to hyphenate, or ^B to not hyphenate. To turn off "HYPHEN-HELP", type ^OH.

^JB SCREEN 3 HYPHEN-HELP



..... PRINT DIRECTIVES .....

PRINT CONTROL CHARACTERS may be entered anywhere in a line to invoke underlining, boldface, subscripts, pauses, etc. They are entered by typing ^P and a letter. A directory of most print controls is given on the ^P PREFIX MENU; see manual for more.

DOT COMMANDS are special lines beginning with a period and a two-letter code. They control page breaks, headings, page numbering, page layout, etc. Dot commands are typed in like other text.

^JD SCREEN 1 PRINT DIRECTIVES

..... DOT COMMANDS .....

PUT EACH DOT COMMAND ON SEPARATE LINE. WITH IN COL 1

PA new Page

CP n new page if less than n lines left on this page

OP Omit Page numbers when printing, starting this page

PN print Page Numbers, starting this page (default)

PN n set Page Number to n, print page numbers

PC n Page number Column (default 33 (30 if 64-col screen))

PQ n Page Offset: extra indent when printed (default 8)

text comment, not printed

**\*JD SCREEN 2 DOT COMMANDS**

HE text HEading used until next HE (default blank)

FO text FOoting (replaces page number) (blank)

PL n Paper Length total number of lines (default 66)

MT n Margin at Top # lines top of paper to text (3)

MB n Margin at Bottom # lines end text to end paper (8)

# lines text on page is PL - MT - MB (defaults to 55)

HM n Heading Margin: blank lines between head and text (2)

FM n Footing Margin: blank lines, text to footing (2)

For page breaks to display as they will print, use  
PL, MT, MB AND LH (next frame) at file beginning only

**\*JD SCREEN 3 DOT COMMANDS continued**

THE FOLLOWING WORK ONLY WITH INCREMENTAL PRINTERS  
LH n Line Height in 48ths of an inch (default 8)  
CWn Character Width in 120ths of an inch, for standard or  
alternate pitch, whichever is in use (see "P" menu)  
(default 12 for standard, 10 for alternate)  
SR n Subscript / Superscript Roll in 48ths of an inch (3)  
UJ OFF/ON "MICROJUSTIFICATION" off/on (default ON)  
Use to insure that printed column alignment exactly  
matches screen, e.g. for tabular material.  
Put UJ OFF before table, put UJ ON after table.

**\*JD SCREEN 4 DOT COMMANDS FOR  
INCREMENTAL PRINTERS**

SPECIAL CHARACTERS in HEADINGS (HE) and FOOTINGS (FO):  
# prints as current page number  
\ do not interpret next character as a special character  
K do not print following spaces if on even-numbered page  
PAGE NUMBER POSITIONING: If a footing text is specified (FO  
dot command), the default bottom center page number is not  
printed. Use a # in heading or footing to position page  
number where desired. \*K followed by spaces followed by #  
may be used to produce alternating left/right page numbers

**\*JD SCREEN 5 SPECIAL CHARACTERS  
IN HEADINGS AND FOOTINGS**

```
..... MAILMERGE DOT COMMANDS .....  
DF filename          specify Data File for RV  
RV name.name name... Read Variable values from data file  
AV "PROMPT":name     Ask operator for Variable value  
&name&              anywhere in document prints as variable value  
                      variable names are letter, then 0-39 letters, digits, -'s  
FI filename          insert document File  
DM message           Display Message  
See manual for details and additional commands. MailMerge  
is an optional feature, operational only if MAILMRGE OVR is  
on your diskette.
```

**^JD SCREEN 6 MAILMERGE  
DOT COMMANDS**



```
..... FLAG CHARACTERS (rightmost column of screen) .....  
line ends in "HARD" carriage return, entered by user  
space this line break arose from word wrap or paragraph  
< reform, and may be moved on subsequent reform  
- this line of document continues to right of screen  
- next line will overprint this line  
? unrecognized or incomplete dot command  
M MailMerge (optional feature) dot command  
P page break  
: this screen line is before beginning of document  
. this screen line is after end of document
```

**^JF FLAG CHARACTERS**



COMMANDS TO --	ARE --
move cursor	on main and ^Q menus
scroll file up or down	on main menu; also find (^OF)
delete text	on main and ^O menus; also ^KY
move or copy text	on ^K menu
end edit/ save file	^KD; see ^K menu
print (while editing)	^KP
set tabs and margins	on ^O menu
reformat text	^B; ^JB gives info
find a string, replace	^OF; ^QA; ^L repeats last

**^JI SCREEN 1 COMMAND LOCATIONS**

\*\*\*\*\* ENTERING TEXT \*\*\*\*\*

To enter text at cursor position, just type the text.

Use RETURN key for paragraph end or other fixed line break:  
let word wrap form lines within paragraph

Type ^V to turn insertion off (to overtype) or back on.

^N may be used to create blank lines ahead of cursor,  
as before inserting a paragraph

Use ^B to realign margins after corrections.

^JM shows info on margins, tabs, table entry, outline entry.

**^JI SCREEN 2 ENTERING TEXT**



..... MARGINS .....

To set left margin: Type ^OL WordStar will ask for column.  
Type desired column number 1-240 and press RETURN  
Or, to use column of cursor in file, just press ESCAPE  
To set right margin: type ^OR, proceed as above.  
To set both margins to match text in a line already entered:  
place cursor in that line, type ^OF  
To temporarily set left margin to next tab stop: type ^OG  
Margins apply to text subsequently entered. To remarginate  
text already entered: set margins and use ^B.

**^JM SCREEN 1 MARGINS**

..... LINE SPACING AND JUSTIFICATION .....

To set line spacing: type ^OS WordStar will ask for line  
spacing. Enter a digit 1 thru 9.  
To turn justification off (for ragged right format),  
or to turn justification back on: type ^OJ  
Line spacing and justification settings apply to text  
subsequently entered; they may be applied to previously  
entered text with the paragraph reform command (^B).

**^JM SCREEN 2 LINE SPACING  
AND JUSTIFICATION**



..... TAB STOPS .....

To set a tab, type ^O. WordStar will ask for column number.  
Type column number and press RETURN. Or, to use cursor  
column, press the ESCAPE key. To set a decimal tab stop,  
type ^\* before typing column number or pressing ESCAPE.  
To clear a tab stop or all tab stops, type ^ON.  
To tab, type ^I, or press TAB key if present. Tabbing  
inserts spaces to next tab stop if insertion (^V) is on.  
Tabbing advances cursor over text if insertion is off.

^JM SCREEN 3 TAB STOPS

ENTERING A COLUMNAR TABLE — We Suggest  
Set a tab stop for each column of table.  
Clear all other tab stops.  
If not at end of file, turn on insertion (^V),  
or use ^N to make blank lines.  
Tab (^I) after entering each table item. After last column  
on a line, tabbing will move to first item on next line.

^JM SCREEN 4 ENTERING A  
COLUMNAR TABLE

OUTLINE FORMAT TEXT ENTRY — We Suggest:  
Set tab stops at desired indentations  
Set right margin as desired.  
For each item:  
Type ^OG's as required for item number indentation.  
Type item number.  
Type ^OG.  
Type text of item, without using RETURN.  
At end of item, press RETURN. Left margin resets.  
Press RETURN again if blank line desired.

**^JM SCREEN 5 OUTLINE FORMAT  
TEXT ENTRY**



..... PLACE MARKERS .....

Up to 10 place markers, identified by numbers (n) 0-9,  
may be set in a file while the file is being edited.  
To set place marker n at the cursor position: type ^Kn.  
<n> will display to indicate the marker position.  
To return the cursor to place marker n: type ^On any  
time during the same edit.  
To remove the <n> from the display: type ^Kn when the  
cursor is already at the marker position.

**^JP SCREEN 1 PLACE MARKERS**

..... OTHER MARKER & RELATED COMMANDS .....

The block beginning marker <B> and the block end marker <K> are set and moved in a similar manner. The text between these markers can be moved (\*KV), copied (\*KC), deleted (\*KY), or written to a file (\*KW).

\*QP moves cursor to its position before preceding command.

\*QV moves cursor to start of last find/replace, or to source of text for last block move or copy.

**\*JP SCREEN 2 OTHER MARKERS AND RELATED COMMANDS**



..... RULER LINE .....

L.....R

L Left margin (set with \*OL)

R Right margin (set with \*OR)

| regular tab stop (set with \*O|, clear with \*ON)

= decimal tab stop (set with \*O|, clear with \*ON)

- other positions between margins

**\*JR RULER LINE**



..... STATUS LINE (top line of screen) .....

^JS at left end of line is command now executing  
A.NAME TYP is name of file you are now editing  
PAGE n is page number of cursor (disregards PN's)  
LINE n is printout line on page of cursor position  
COL n is printout column on line of cursor position  
INSERT ON shows if character insertion is on (^V command)  
MAR REL shows if margins are released (^OX command)  
decimal shows during decimal tabbing  
LINE SPACING n shows if line spacing is not 1 (^OS command)  
PRINT PAUSED shows if printer is stopped (^KP to resume)  
when WAIT appears, stop typing

**^JS SCREEN 1 STATUS LINE**

If page break display is OFF (^OP command) or edit was started with N command, then Status Line shows FC = nnnn FL = nnnn in place of PAGE n LINE n.

FC = nnnn cursor position in characters (bytes) from beginning of file  
FL = nnnn cursor position in file lines from beginning of file, including dot command lines

**^JS SCREEN 2 STATUS LINE continued**



..... TO MOVE A BLOCK OF TEXT .....

- 1 Put cursor on first character, type ^KB to mark start.
- 2 Put cursor after last character, type ^KK to mark end (for end line, use start next line to include RETURN).
- 3 Put cursor at destination, type ^KV to move the text, or ^KC to make a duplicate copy.

To undisplay markers afterwards, use ^KH.  
^KB and ^KK may be entered in either order, with or without other intervening commands.  
All above commands are on ^K menu.

2. Menus

**^JV TO MOVE A BLOCK OF TEXT**

Whenever you need it, help is available. If you're careful to read what appears on your screen and use all the help offered, you have a dependable guide through WordStar. When you no longer need the screen messages to tell you how to get help, you can reduce the help level.

**Setting the Help Level**



You can set the help level after you enter WordStar and before you start your work by pressing **H** at the Opening Menu. The level you choose here will remain in effect until you change it with **^JH**.



You can also set the help level while you are working on a file by pressing **^JH** at the Main Menu. With **^JH** you can set the help level as often as you like.

## WordStar

The help-level screen tells you the current level of onscreen assistance and displays a prompt that lets you change that level. Here it is:

```
^J^H      A FILENAME XXX PAGE 1 LINE 1 COL 14  INSERT ON
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

The current help level is 3
Enter SPACE or new help level (0, 1, 2, OR 3)█
```

### LEVEL 3

The present (default) help level is 3. Until you're thoroughly familiar with WordStar, you'll probably want to maintain this maximum help level.

As you become more proficient, your need for help decreases, and you can reduce the help level accordingly. Reducing it provides more screen space for text and, on some terminals, allows you to move faster.

To reset your help level, press **^JH**, followed by the number of the help level you choose. If you want to avoid the help-level screen that appears with the change, don't pause between the command and the number.

Help levels range from 3 (the maximum) to 0 (the minimum). At every level below 3, the Main Menu disappears, leaving only the status and the ruler lines.

**LEVEL 2**

At level 2, you can no longer consult the Main Menu. Access to the other menus is still possible, as long as you remember the keys for access:

- ^Q** for the **Quick** Menu
- ^K** for the **Block** Menu
- ^O** for the **Onscreen** Menu
- ^P** for the **Print** Menu
- ^J** for the **Help** Menu

**LEVEL 1**

The auxiliary menus are not available at level 1. But the commands that they initiate—those preceded by **^Q**, **^K**, **^O**, **^P**, and **^J**—still function. Also unavailable at this level and below are the explanations of multiple choices that you're accustomed to seeing before prompts. However, all the help screens reached from the Help menu are displayed at level 1.

**LEVEL 0**

At level 0, all command explanations, except an abbreviated help-level message, are unavailable, but the help screens reached from the Help Menu are still available.



Pressing **^JH3** will offer you all the help that you need any time that you need it.

*WordStar*



### 3. ENTERING AND EDITING TEXT

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---

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### 3. Entering and Editing Text

---

Entering text in WordStar is much easier than using a typewriter. No more retyping a whole page to correct a single error. No need to watch the margins or respond to a ringing bell.

#### PROGRAM FEATURES

---

When you enter text, certain program features simplify your work. The terms defined and explained on the next few pages will help you understand these features.



Use **^KS** frequently to save your work. **^KS** allows you to save and then reSumE work without leaving your file or the WordStar program. Press **^QP** to return Quickly to your work Place prior to saving.

↔ 9-3

#### Word Wrap and Justification

Word wrap keeps track of the number of characters and spaces on each line. If you type beyond the right margin, words automatically move to the next line. The cursor appears at the end of the “wrapped” word so you can continue typing. You can enter an entire paragraph at high speed before pressing the RETURN key. Word wrap is a toggle switch (**^OW**).

↔ 6-3

As you type a paragraph, word wrap inserts spaces between words to align them at the right margin. This process, called justification, is activated by a toggle switch (**^OJ**). ↔ 6-4

*WordStar*

**WHAT IS  
INSERTION?**

Insertion is another feature that can be turned on or off with a toggle switch (^V). When on, insertion moves existing text or spaces to the right to make room for what you type at the cursor position. With insertion off, each character you type replaces whatever was in the same cursor position, whether a letter, number, blank, or space.

**Hard and Soft Spaces**

The WordStar program provides three types of spaces: hard, soft, and non-break. Non-break spaces are described in Chapter 7.

**WHAT IS A  
HARD SPACE?**

A *hard* space is created any time you press the space bar while entering text. It becomes a permanent part of the file but can be removed by deletion, just like any other character. If you enter two spaces after a period, for example, two spaces will always follow that period. If the period falls at the end of a line, you won't see the spaces. If, however, in re-forming the paragraph, the period moves to the middle of a line, the spaces will be inserted.  $\hookrightarrow$  3-19

To form indented paragraphs, type the desired number of spaces at the beginning of each paragraph, or use the tabulator key (TAB or ^I). You insert these spaces, too, as hard spaces.

$\hookrightarrow$  6-11

**WHAT IS A  
SOFT SPACE?**

*Soft* spaces look like hard spaces on the screen, but the WordStar program distinguishes between them. Soft spaces are not a permanent part of your file. They're inserted and removed selectively as the program forms and re-forms your text within the margins you set.

### Paragraphs and Carriage Returns

Paragraph re-forming, controlled by a Wordstar command (^B), reshapes your paragraphs within specified margins. With this command you can automatically re-form every paragraph in an entire file.  $\longleftrightarrow$  3-19

The WordStar program distinguishes between carriage returns that you purposely enter (hard) and automatic carriage returns at the end of a typed line (soft).

**WHAT IS A  
SOFT CARRIAGE  
RETURN?**

Soft carriage returns automatically appear at the end of each line as you enter text with word wrap on. They are indicated on the screen by a blank in the flag column. You can rearrange or delete these soft carriage returns when you re-form the text.

**WHAT IS A  
HARD CARRIAGE  
RETURN?**

You enter hard carriage returns purposely to end a paragraph or to add blank lines. These returns are not moved or removed unless you delete them, and the process of re-forming a paragraph always stops at the first hard carriage return. Hard carriage returns are indicated on the screen by the symbol  $\text{¶}$  in the flag column.

---

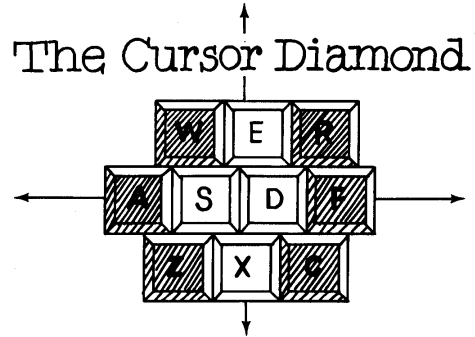
### MOVING AROUND IN YOUR TEXT

Once you've entered text, you can easily move the cursor around on your electronic page—by character, word, line, or page. You can even move to the beginning or end of a file with a few keystrokes.

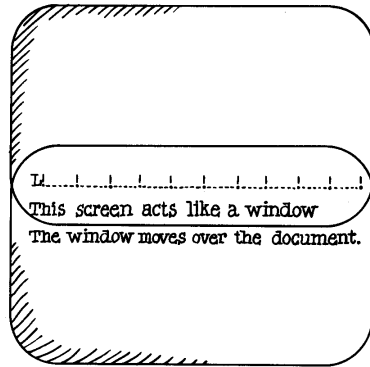
Moving with cursor control commands does not affect your text. The cursor simply moves through words without changing, adding or deleting any characters. You'll find a table of cursor commands at the end of this chapter.

**RIGHT AND LEFT** Moving to the right with basic cursor control commands means moving to the *next* character or space—even when it rests on the next line. Likewise, moving left means moving to the *preceding* character or space. Cursor control commands also offer you the choice of moving by whole words to the left or right or moving to the left or right end of the line in which the cursor is located.

In the following illustration, “The Cursor Diamond,” notice the relationship between control characters on the keyboard and the direction in which the cursor moves.



As you move around the screen with the cursor control commands, you will sometimes move to a portion of text not currently displayed on the screen. Imagine the screen as a “window” onto your text. Scrolling moves that window up, down, left, or right, allowing you to view various portions of your electronic page. Here’s an illustration.



### Moving Right and Left



Press **^D** to move to the right by one character. If you want to move to the right by several characters, press **^D** repeatedly.



Press **^F** to move the cursor to the first character in the next word.



Press **^QD** to move to the right end of the current line. The cursor will stop at the right of the last character entered on that line or column 80.



If the cursor jumps far to the right, scrolling to a blank screen, you must have moved text or inserted spaces far to the right at an earlier time. Check your status line for the current column, and move the cursor back to the appropriate location.



Press **^S** to move to the left by one character.



Press **^H** (backspace), too, to move to the left, character by character.



Press **^A** to proceed back through your text, word by word.



Press **^QS** to move quickly to the left edge of your screen. The cursor moves to column 1, regardless of the left margin setting.

### Moving Up and Down



Press **^E** to move the cursor up one line at a time. As you move the cursor up, it stays in the same column until it reaches a blank area; then it moves toward the left edge of the screen.



Press **^QE** to move the cursor to the top screen line in the same column.



Press **^W** to scroll the screen window up one line at a time. You'll see the added text at the top of your screen.



Press **^R** to move the cursor upward about three-quarters of a screen. You'll still see enough of the previous screen to keep your place.



Press **^QR** to move the cursor back to the beginning of your file in one step.



Use caution when moving the cursor backward through long files; doing so may involve heavy memory requirements.  $\leftarrow$  *B-6*





Press **^X** to move the cursor down one line at a time. As you move the cursor down, it stays in the same column until it reaches a blank line; then it moves to the left edge of the screen.



Press **^QX** to move the cursor to the bottom screen line in the same column.



Press **^Z** to scroll the screen window down one line at a time. You'll see the added text at the bottom of your screen.

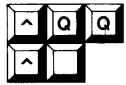


Press **^C** to move the cursor down about three-quarters of a screen. As with **^R**, you'll still see enough of the previous screen to keep your place.



Press **^QC** to reach the end of your file in one step. The cursor will come to rest just past the last typed character.

### Repeating Commands



**^QQ** can be combined with most commands to repeat the function until you press another key. For example, if you press **^QQC**, the cursor will move gradually toward the end of your file, about three-quarters of a screen at a time. You can combine **^QQ** with all cursor movement and deletion commands.



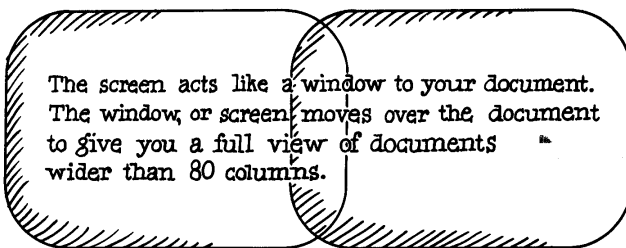
You can control the speed of all **^QQ** commands by following the command with a number. The range is 1-9 with 1 the fastest, 9 the slowest. Unless you specify otherwise, WordStar sets the speed at 3.

**USE SPACE BAR  
TO STOP  
REPETITION**

Typing any character other than a number halts the repetition. Using the SPACE bar is best because it's a safe target. If you hit an alphabetic character while your finger is still on the control key you may generate a new command. The space bar halts the process without generating a command, even when the control key is pressed.

**Horizontal Scrolling**

If you create files wider than the standard 80 columns on the screen, such as those for certain mathematical charts, you'll scroll the screen horizontally across your document. As you move the cursor to the right beyond column 80, the contents of the screen appear to shift to the left, 20 columns at a time.



WordStar scrolls automatically when necessary. You can also use `^Q` commands to begin horizontal scrolling on a line longer than 80 characters.

↪ 3-7

Although margin settings can't be wider than 240 characters, horizontal scrolling allows you to view up to 32,000 characters. The practical limits, of course, are often somewhat less.



When you scroll horizontally, watch the status line for the current cursor column. Also check the ruler line, which displays a plus sign (+) when your margin is set beyond the right side of the screen, and the flag column which also displays a plus sign when the text extends beyond the right side of the screen.

### Finding Your Place

If you find yourself facing a blank screen and you don't know where you are or where your text has gone, look for a signpost to guide you. The best guide may be the status line or the flag at the end of a line, which tell you where you are in relation to your text. Use `^QQ^R` or `^QQ^C` to run backward or forward through the file until you find your place.

### SLOWING DOWN

You may be surprised by how long the computer sometimes takes to execute a cursor movement command. The further you are from where you're going, the longer it takes. For example, when you're near the beginning of your text, the execution of `^QC` takes longer than when you're near the end.

Backward movement takes longer than forward movement. You'll be wise to avoid long, backward moves whenever possible.



Time differences are almost imperceptible in a short file, but in a long file, you may wonder if your command has registered. Look for the command in the upper left of the status line, sometimes with a WAIT message, before entering another command.



Interpret a computer slowdown as a warning. Your disk may be getting too full. You can find out with a system check. Refer to your system documentation for information.

You'll find suggestions for avoiding and solving the slowdown problem in Chapter 4.

---

## INSERTING TEXT

As you edit, you can easily add any amount of text by inserting it in the file.

### Insertion On and Off



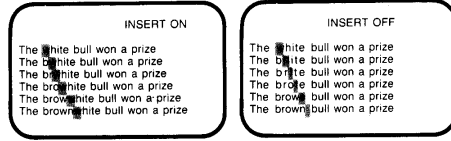
Use **^V** to turn the insertion toggle switch on or off. With insertion on, WordStar creates space for new text as necessary. With insertion off, WordStar simply types over existing text.

The insertion switch will be on each time you begin a new editing session. Type **^V** once to turn the switch off; type **^V** again to turn the switch back on. When insertion is on, WordStar displays **INSERT ON** in the status line.

### EFFECT OF ^V ON TEXT ENTRY

When you enter text, turning insertion on or off is a matter of personal preference. Either choice offers its own advantages for correcting certain typing errors. For example, you may want to change **the white bull** to **the brown bull**. With insertion off, you simply type the word **brown** over **white**. With insertion on, WordStar inserts the word, which gives you **the**

**brownwhite bull.** The following examples show what happens, character by character, as you type:

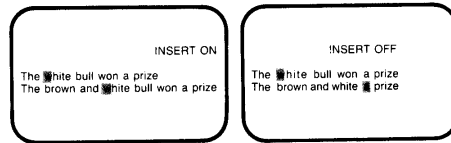


WordStar pushes text right of the cursor to make room for new text. You must delete **white** to correct the text.

Insert OFF uses a type-over mode. **Brown** and **white** are the same length so you can just type the correction.

**EFFECT OF ^V WHEN ENTERING NEW TEXT**

For contrast, suppose you want **the brown and white bull**. With insertion off, you type over any text that follows **the**. You may have to retype lost text. With insertion on, WordStar creates space for the additional words:



WordStar creates space . . . and saves this text.

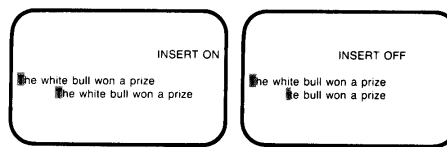
Some text is lost.

### Using the Space Bar

#### HOW DO SPACE CHARACTERS WORK?

When you use the space bar on your keyboard, you're actually entering space characters in your text. Spaces are treated like any other character, whether insertion is on or off. Each time you press the space bar, the cursor moves one position to the right. With insertion on, spacing inserts a new space character each time you press the bar, which pushes text to the right of the cursor further right. With insertion off, spacing replaces existing text with a space character.

In the following example, assume that the cursor is positioned on the letter **T** at the beginning of the sentence. Then the space bar is pressed six times:



Spaces inserted.

Spaces typed over this text.

### Tab Stops

Insertion affects what happens when you use the tabulator key or **^I** to skip the cursor to the next tab stop.  $\leftarrow \rightarrow$  6-11

#### TABBING MEANS SPACING

With insertion on, tabbing moves the cursor to the next tab stop, inserting a space at every character position the cursor passes. Text on the line is pushed one space to the right for each space inserted.

Normally, the cursor does not move outside the existing text. For example, you cannot move the cursor down a line (^X) if the new line is beyond the last character you typed in the document. However, you can use the tab key, even at the end of the document.

If you tab while the cursor is in the last line of text and the next tab stop is on a new line, the cursor will skip to the new line. Because the cursor cannot move outside the document, WordStar creates "text" by extending your document with spaces and carriage returns as long as you continue tabbing. These spaces become part of the document, just as they do when you enter them by pressing the space bar. Such invisible text can be confusing when you try to edit the document.

---

## DELETING TEXT

You can remove pieces of text of various sizes ranging from one character to an entire file.



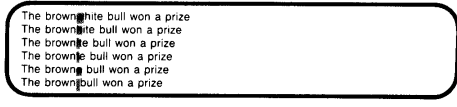
Be sure to position the cursor carefully before inserting or deleting text. All text corrections, insertions, and deletions depend on the current position of the cursor. For example, ^QY deletes characters from the cursor (including any character under the cursor) to the right end of the line.

### Deleting Characters



Use ^G to delete the character at the cursor's position. Characters to the right of the cursor shift one position to the left each time ^G is pressed. If you press the keys repeatedly, ^G continues to delete characters until the end of the line is reached. At the end of a line, ^G deletes the carriage return, if any, and then pulls up text from the following line and continues deleting characters.

As an example, take another look at the **brownwhite bull**. When you finish typing **brown**, the cursor stops over the second letter **w**. To change the animal into a **brown bull**, type **^G** five times:



If you accidentally hit **^G** a sixth time, the animal becomes a **brownbull**. If insertion is on, press the space bar to convert him back to a **brown bull**. If insertion is off, pressing the space bar will turn him into a **brown ull**, with the cursor on the letter **u**. To rescue the poor animal, either set insertion on (**^V**) and type the letter **b**, or leave insertion off and retype the rest of the sentence.



On some terminals a deletion key (DEL) removes the character to the left of the cursor, shifting the cursor left by one position. Any characters to the right of the cursor also shift left.

If you press the DELEte key repeatedly, you'll continue deleting characters and shifting the cursor to the left. When the beginning of the line is reached, the DELEte key jumps to the right end of the line above and continues deleting characters, including the carriage return, if any. When it jumps up a line, characters to the right of the cursor jump up with it.

Different manufacturers label this key DELETE, DEL, RUBOUT, or RUB.



At the Opening Menu, you can use DELEte, **^S**, **^H**, or BACKSPACE to delete the character to the left. When you're editing a file at the Main Menu, however, **^S**, **^H**, and BACKSPACE simply move the cursor to the left without deleting characters.



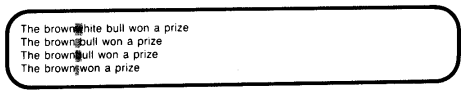


### Deleting Words

Use **^T** to delete the word that contains the cursor and any spaces that follow the word, thus closing up the line. If the cursor is within a word, use **^T** to delete the character at the cursor position and the portion of the word to the right of the cursor. When the cursor is between words, use **^T** to delete spaces up to the next word.

If you want to delete a carriage return and any spaces that follow the last word in a line, position the cursor just past the word, and press **^T**. Similarly, if you want to delete an overprint control (P RETURN) set for a line, position the cursor just past the last word in the line, and press **^T**.

Again, assume that you have just typed **brown**, resulting in the word **brownwhite**. With the cursor positioned on the second **w**, typing **^T** three times gives you the following result:



### HOW ^T LOCATES A WORD

What is a "word"? To the program, a word is a string of characters that starts after a space or punctuation mark and ends with a space or punctuation mark, or both. The following punctuation marks are recognized between words, even if there's no space:

. , : ; ! ?

In the following example, the initial letter of each new word is boldfaced:

When isa word **not a word**? Never, you say.

3. Enter Edit

Note that spaces and punctuation are included in the identification of each word, as is the typing error which omitted a space. To move one word at a time with **^A** or **^F**, means to move from one boldfaced letter to the next. To delete a word with **^T** means to delete all characters, starting with one in boldface and stopping at the next.

### Deleting Lines of Text and Files



Press **^Y** to delete the entire line that contains the cursor, including the carriage return, if any. If the line is too long to fit on the screen, **^Y** deletes the portion of the line that is not visible as well as the portion on the screen. Lines following the deleted line move up on the screen. The **^Y** command also deletes overprint lines.

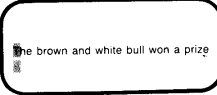
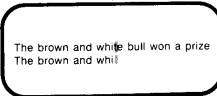
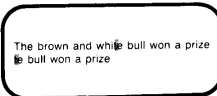


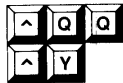
Press **^QY** to delete all characters from the cursor to the right end of the line. **^QY** does not delete a carriage return at the end of a line, nor does it delete an overprint line.



Press **^Q** and the **DELEte** key to delete all characters left of the cursor back to the beginning of the line. The remainder of the line then shifts to the left margin.

The following chart compares the effects of ^Y, ^QY, and ^Q DEL:

^Y	
^QY	
^Q DEL	



Enter ^QQ^Y to tell WordStar to delete the line containing the cursor, update the screen, then repeat the command until you stop it.

Use ^KY to delete a marked portion (block) of text.  $\longleftrightarrow$  4-9



When you are at the WordStar Opening Menu, type Y to delete a whole file. (WordStar will also accept ^Y at this point.) When you're editing a file, use ^KJ.  $\longleftrightarrow$  9-10

### RE-FORMING PARAGRAPHS



Press ^B to justify text within a paragraph to current right and left margins. While the paragraph is being re-formed, you'll have the chance to hyphenate at the ends of long lines. The program offers "hyphen help" by placing the cursor within a word at the end of each line that is too long.  $\longleftrightarrow$  6-4

You'll see the following message at the top of your screen:

To hyphenate: press -. Before pressing -, you may  
move the cursor: ^S = cursor left; ^D = cursor right

If you hyphenate the word, a soft hyphen will be added.  $\overline{\text{---}}$  6-4

If you choose not to hyphenate the word, press ^B again. The word will move to the next line, and the previous line will be realigned.

You can move the cursor within a word to be hyphenated before pressing the hyphen key.

Here is an example of a re-formed paragraph:

This sample paragraph was typed first with narrow margins, then re-formed with wide margins	This sample paragraph was typed first with narrow margins, then re-formed with wide margins
---------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------

Before

After

After re-forming a paragraph, you'll find the cursor at the end of the paragraph. The end is defined by a hard carriage return, the end of the file, or a line-feed character (^PJ).  $\overline{\text{---}}$  7-39

**USES FOR ^B**

Your use of ^B also involves current margin settings, line spacing (^OS), and WordStar toggle switches that control justification (^OJ) and hyphenation (^OH), all discussed in Chapter 6.

Thus, you use **^B** to perform the following:

- Correcting and changing margins
- Changing line spacing
- Eliminating or adding right justification within a paragraph
- Assisting in hyphenation

**CORRECTING MARGINS CHANGED BY EDITING**

A common use for **^B** is to re-form a paragraph that has become messy because of additions and deletions made in the course of editing. For example, inserting text near the beginning of a line pushes the remainder of the line to the right, often right off the screen. After editing the whole paragraph, move the cursor back to the beginning (or to the first messy line), and press **^B** to re-form the paragraph.

**EFFECTS OF CHANGING MARGINS**

Always remember that you'll use **current** margin settings when re-forming a paragraph. If you enter text that requires frequent margin changes and then continue editing that text, check margin settings on the ruler line before using **^B**. Use **^OF** to change margin settings quickly.  $\longleftrightarrow$  6-17



If you want text (or dot commands) to appear in the margins, exercise care when using **^B**. Avoid re-forming marginal text into the body of your document. Be especially careful if you speed up re-forming with **^QQ^B**. Also consider the capabilities of your printer; don't generate text lines wider than it can print.

**^B**, in conjunction with related commands and toggle switches, allows you to change margins, spacing, and justification at any time, even in the middle of a paragraph. The ability to make these changes simplifies layout problems such as making space to insert a picture or diagram.



You can alter the margins to insert a diagram as you enter text, or you can wait to edit the text until you know the size of the artwork to be inserted.

### CURSOR POSITIONING

In general, you can re-form an entire paragraph by positioning the cursor anywhere in the first line and entering **^B**. When the left margin is not in column 1, however, re-forming won't affect text to the left of the cursor on the first line of a paragraph; nor will it affect text left of the first line of a paragraph; nor will it affect text left of the left margin. Thus, paragraph numbers left of the margin are not always moved by **^B**. If you want to pull the numbers into the paragraph, you must position the cursor at the paragraph number.

The following examples show the effect of three different cursor positions with **^B**.

```
L-----!-----!-----!-----!-----!-----R
In general, you can re-form an entire paragraph by positioning the cursor anywhere
in the first line and entering ^B.
```

Before **^B**

```
L-----!-----!-----!-----!-----!-----R
In general, you can re-form an entire paragraph by positioning the
cursor anywhere in the first line and entering ^B.
```

After **^B** (1)

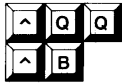
L-----R  
In general, you can re-form an entire paragraph by positioning the cursor anywhere in the first line and entering ^B.

After ^B (2)

L-----R  
In general, you can re-form an entire paragraph by positioning the cursor anywhere in the first line and entering ^BB.

After ^B (3)

When you move the left margin to the left and re-form indented text, WordStar will remove the soft spaces used to form the indentation. Otherwise, the re-formed paragraph would contain large gaps where the spaces fell between words.



Pressing ^QQ^B tells WordStar to re-form the current paragraph and to continue forward through the file, re-forming each paragraph to the current margin settings. With hyphen help off (^OH), the process will continue until you press a key or until the end of the file is reached → 6-4



You can control the speed of the ^QQ^B operation by following the command with a number, 1-9, with 1 the fastest and 9 the slowest.

### ENTERING HARD CARRIAGE RETURNS

There are two ways to insert a hard carriage return into your text: press RETURN or ^N.



Use RETURN whenever you want a fixed line break—for a new line at the end of a paragraph, a space between lines in a table, or the spaces after headings and titles. When you need a new line while entering text within a paragraph, don't use RETURN; let word wrap do the work.

When you press RETURN, the cursor moves to the beginning of the next line. The result of pressing RETURN, however, also depends on whether the insertion toggle switch (^V) is on or off.

**RETURN WITH  
INSERTION ON**

If you press RETURN with insertion on, you insert blank space—a whole line if the cursor is at the beginning of the line, a partial one if the cursor is mid-line. The hard carriage return appears on the line wherever the cursor is positioned before you press RETURN, and any text following the cursor moves along with it.

Here is an illustration:

When insertion is on, pressing RETURN here will move text, too

**Before**

When insertion is on, pressing RETURN here will move text, too. The cursor and the text on the balance of the line move to the next line

**After**

**RETURN WITH  
INSERTION OFF**

When you press RETURN with insertion off, you move the cursor to the beginning of the next line, without inserting a blank space, leaving text as-is and moving only the cursor to the next line.

If you set the line spacing greater than 1, pressing RETURN will insert multiple hard carriage returns. Line spacing is set with ^OS.  $\leftarrow \rightarrow$  6-6



When you use ^N, you always insert one carriage return, leaving the cursor on the same line as the inserted carriage return. Blank space is inserted the same way it is with RETURN, a whole line if the cursor is at the beginning of a line, a partial line if the cursor is mid-line.



### *Enter & Edit*

There is one major difference between the effect of RETURN and of ^N. ^N leaves the cursor where it is and moves text down, but RETURN moves the cursor as well as the text. ^N works the same way with insertion on or off.

Here is an illustration:

When you use ^N, the cursor remains █ the text moves

**Before**

When you use ^N, the cursor remains █  
the text moves

**After**

<b>SUMMARY TABLE: CURSOR MOVEMENT</b>	
<b>COMMAND</b>	<b>FUNCTION</b>
<b>^D</b>	Moves cursor right one character
<b>^F</b>	Moves cursor right one word
<b>^QD</b>	Moves cursor to right end of current line
<b>^S</b>	Moves cursor left one character
<b>^H</b>	Moves cursor left one character
<b>^A</b>	Moves cursor left one word
<b>^QS</b>	Moves cursor to beginning of current line
<b>^E</b>	Moves cursor up one line
<b>^QE</b>	Moves cursor up to top of screen
<b>^W</b>	Leaves cursor in same position; new line appears at top of screen, and window on text moves down one line
<b>^R</b>	Leaves cursor in same position; previous screen reappears
<b>^QR</b>	Moves cursor back to beginning of file
<b>^X</b>	Moves cursor down one line
<b>^QX</b>	Moves cursor down to bottom of screen
<b>^Z</b>	Leaves cursor in same position; new line appears at bottom of screen, and window on text moves up one line
<b>^C</b>	Leaves cursor in same position; next screen appears
<b>^QC</b>	Moves cursor forward to end of file
<b>^QQ^_</b>	Repeats any cursor movement or scrolling command continuously until stopped

**SUMMARY TABLE: ENTERING AND EDITING TEXT**

COMMAND	FUNCTION
<b>^V</b>	Turns insertion on/off
<b>^G</b>	Deletes character at cursor position
<b>DELETE</b>	Deletes character to left of cursor position
<b>^T</b>	Deletes word from cursor position to the right
<b>^Y</b>	Deletes entire line in which cursor is located
<b>^QY</b>	Deletes all characters from cursor position to the right end of the same line
<b>^QDEL</b>	Deletes all characters from cursor position to the beginning of the same line
<b>^B</b>	Re-forms paragraphs between current margins
<b>RETURN</b>	Inserts a hard carriage return, leaving cursor at beginning of previous line (insertion: on)
<b>^N</b>	Inserts a hard carriage return, leaving cursor at beginning of newly inserted blank line

*WordStar*

## 4. MARKING AND MOVING TEXT

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## 4. Marking and Moving Text

While editing a document, you can insert many characters that are not part of the text and won't appear in your printed results. Among these characters are place markers, which speed up cursor movement within your text, and block markers, which help you move marked text to a new place in your file or to another file.

### PLACE MARKERS

#### WHAT ARE PLACE MARKERS?

Place markers identify text at particular locations in your document. You can return to a marked place with a simple command. Although place markers stay in your file after a save-and-resume command (^KS), they disappear after any other save command.

There are up to ten place markers available, numbered 0-9, and you can use each number once in a file. You must set each marker in your file before you can use it. If you try to return to a marker that's not set, you'll see the following message:

...That place marker is not set...

Press ESCape to return to editing.

#### Setting the Marks

To set place marker number 1 at your current cursor position, enter the following command:

PRESS ^K1

SEE 1



through



If your terminal can display highlighted characters, the marker will be highlighted. It is not actually part of your file, and you cannot move the cursor into the columns where it appears. Text moves to the right of the marker.

To move the same marker to another portion of text, re-issue the command and the same number at the new location. The original location will cease to be marked.

#### HOW TO HIDE PLACE MARKERS

To remove a place marker from the screen, place the cursor in the first column to the right of the mark and press **^K**, followed by the number. The marker will disappear from the screen, but it will be assigned to the same portion of text until you reassign it. The marker will reappear when you move to it from elsewhere in the text.



through



#### Returning to a Place Marker

To return to the place previously marked **<1>**, enter the following command:

PRESS **^Q1**

The cursor will move to the first column to the right of the marker.

You can move either forward or backward through a document. If, for example, you are editing concurrently several places in a file, mark each location and move from one to another by pressing **^Q** and the respective place number.



Remember that moving backward through long documents is slow and may cause disk-full errors.



## BLOCK OPERATIONS

---

WordStar block commands enable you to perform various editing tasks automatically—moving a sentence, deleting a column, or copying a paragraph to another part of the document or to another file, for example.

### WHAT IS A BLOCK?

A block is a portion of text ranging in length from one word to several pages. You can mark the beginning and end of a WordStar block, then move, copy, or delete it, and read it from or write it to another file. You can mark only one block at a time, but you can change its size and content at any time before or after an operation upon it.

### IS BLOCK SIZE LIMITED?

Block size is the total number of characters from the beginning to the end of the block, including spaces and carriage returns. The amount of text that can be moved or copied at one time varies with the size of your system from about 500 characters in a small system to many thousands of characters in a 56K or 64K system. If your block is too large, an error message will appear.

### Marking a Block

### HOW TO MARK BLOCKS

Marking a block is similar to setting a place marker. Keep the following points in mind:

- Only one beginning mark (<B ) and one end mark (<K>) can exist at a time.
- The block markers may be moved by simply resetting them, which also deletes them at the original location.
- The beginning and end marks can be set in either order, and they remain in effect until reset, whether used or not.

- Block operations require that the beginning mark precede the end mark in the text.
- You may enter other commands during or after marking a block.



Mark the beginning of the **Block** with **^KB**. Move the cursor to the appropriate spot.

PRESS **^KB**

SEE **<B>**

The symbol will not print as part of your document.



To move the cursor quickly to the beginning mark, press **^QB**. The marker, if hidden by **^KH** (explained in this chapter), will reappear.



Mark the end of a block with **^KK**. Depending on your terminal, either the symbol **<K>** will appear on the screen to mark the spot, or the text between the beginning and end marks will appear highlighted when you set the end mark.



To move the cursor quickly to the end marker, press **^QK**. If the marker has been hidden by **^KH**, it will reappear.

**WHERE SHOULD  
BLOCK BE  
PLACED?**

If the last line of the block is a complete line ending with a carriage return, place the end marker at the beginning of the next line to include the carriage return. Beginning and end markers may also be set in the middle of a line to extract a sentence or other phrase from the middle of a paragraph.

**HOW IS THE  
BLOCK  
HIGHLIGHTED?**

On terminals with highlighting (inverse video or high and low intensity), the entire marked block appears highlighted, without the markers **<B>** and **<K>**. 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 set beyond the carriage return at the end of that line.

On terminals without highlighting, the beginning marker and the end marker will appear at the beginning and end of each line within the block, as shown here:

```
<B> xxxxxxxxxxxxxxxxxxxxxxxxx <K>
<B> xxxxxxxxxxxxxxxxxxxxxxxxx <K>
<B> xxxxxxxxxxxxxxxxxxxxxxxxx <K>
<B> xxxxxxxxxxxxxxxxxxxxxxxxx <K>
<B> xxxxxxxxxxxxxxxxxxxxxxxxx <K>
```

**Hiding a Block**



Use **^KH**, the block **Hiding** command, to remove block markers or remove highlighting from your display. If the block is already hidden, use **^KH** to restore markers or highlighting to the display.

You cannot perform a block operation while the marked block or one of the markers is hidden. You'll see the following message:

```
Block beginning not marked
(or marker is undisplayed).
```

This interruption gives you a chance to protect your document against accidental block operations. Press **ESCAPE**. Then use **^KH** or reset the beginning and end markers until both appear (or block text is highlighted). Repeat your previous command.

4. Mark Move

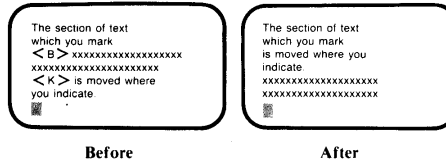


### Moving Blocks

Use **^KV** to **moVe** all text in a marked block to the current cursor position. The remaining text will move up to fill the space left by the moved block.

The destination of your block may be anywhere in the text area—between paragraphs or in the middle of a line. Place the cursor wherever you want to move the block, and press **^KV**.

Here is an example:



### HOW MANY CHARACTERS MOVE?

The beginning and end markers move with the block and remain in the display. After the move, use **^KH** to hide the markers, both to remove the distraction from the screen and to protect against block commands typed inadvertently. Place markers (0-9) in the marked block do not move with the block; they remain at the block's former place.



When WordStar print control or dot commands are within a marked block of text, they move to the block's new location, too. If any of these commands are toggle switches, check both the block and the block's previous location for matching pairs.

With **^KV**, characters move exactly as they are, without any reformatting. Use regular editing commands to make changes or corrections at the block's new location.

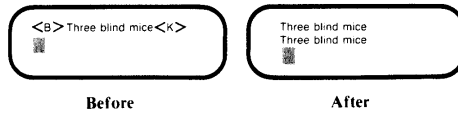


Use **^QV** to position the cursor back at the beginning marker's location previous to moving, copying, or deleting a block. Then check to verify that the move was what you intended, and use regular editing commands as necessary to reformat the original area.



### Copying Blocks

Use **^KC** to Copy a marked block at the cursor's location. The block will appear both at the cursor position and in its original position. You can copy the block successively by pressing **^KC** several times.

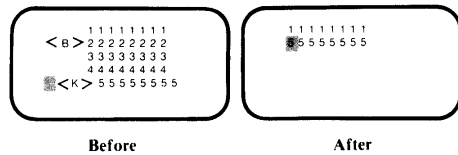


### Deleting Blocks



Use **^KY** to delete a marked block. The beginning and end markers will be hidden but set at the position where the deleted text was. The cursor rests in the first column to their right.

Look at this example:



To avoid accidental deletions, keep the markers hidden between block operations. You cannot stop **^KY** once it has been initiated. Save or copy your document before using deletion commands.

### Working with Column Blocks

You may sometimes need to move a column of numbers within a table. If so, column mode enables you to define column-shaped areas in your document.



Use **^KN**, a toggle switch, to turn column mode on and off when you're working with column-shaped blocks of text. Follow these steps to move a column of text:

STEP 1 Turn on column mode.

PRESS **^KN**

STEP 2 Insert the beginning marker at upper left corner of the column.

PRESS **^KB**

STEP 3 Place the end marker one position to the right of the bottom right corner of the column.

PRESS **^KK**

STEP 4 Move, copy, or delete the defined rectangle.

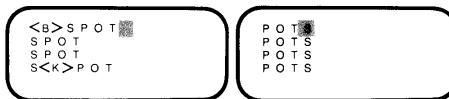
STEP 5 Turn off column mode.

PRESS **^KN**



Any time you need to check the status of the **^KN** toggle switch, press **^K** and pause. The Block Menu will appear, and you'll read either "now ON" or "now OFF" next to each command that's a toggle switch.

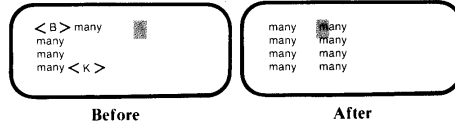
Here's an example of moving a column block:



Before

After

Here's an example of copying a column block:



When you are using column mode to move columns embedded in text, you may see this message:



The total number of characters in surrounding text is included in the program's calculation, even though it is not included in column-block operations. Keep in mind, too, that the maximum column width is 240 columns.

You can divide a block into two or more smaller portions. Then, after reducing the number of lines in each block, you can repeat the operation until the original block is moved.

In column mode, block operations ignore carriage returns within the block. When you move a column composed of lines that end in carriage returns, a block of blank lines will remain in its place.

Column mode has no impact on normal text entry or editing within a column. You still type from margin to margin, whether or not you are in column mode.

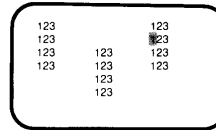
**HOW TO  
REALIGN  
COLUMNS**

During a column move, text to the right of the moved block moves left to fill the vacated area. Use spaces to realign the columns, as in the following example:



**Before Move**

**After Move**



**Then Add Spaces**

When you include print control characters within a column, be sure to begin and end each line in the column with the print control character. ⇐→ 7-3

---

**MOVING BLOCKS BETWEEN FILES**

You can copy marked blocks from one file to another when you use the block writing (^KW) and block reading (^KR) commands.






### Writing Blocks

Use **^KW** to **W**rite text from the file you're editing to another file. After marking the beginning and end of your block, follow this procedure:

PRESS **^KW**

SEE

Name of file to write marked text on?

TYPE *filename* 

When the cursor returns to your previous place in the file, a copy of the block will be in the named file. You can thus save a portion of text as though it were a separate document without moving the cursor or altering the text.



If you name a file that already exists, you'll see the following message:

File A:filename exists--overwrite (Y/N)?

Respond **Y** if you want to erase and replace (overwrite) text in the existing file with text in the marked block. Respond **N** to preserve the existing file; then enter a different file name.



To reduce chances of overwriting, use file extensions, such as .DOC for documents and .TMP for temporary files used only while moving text around within documents.




### Reading Blocks

Use **^KR** to Read a previously written block or whole file, pulling it out of storage and into the current document. Follow this procedure:

PRESS **^KR**

SEE

Name of file to read?

TYPE *filename* 

You'll see a copy of the named file appear at the cursor's present location. The original contents of the file you're editing will shift down to make room for the new text. The contents of the file you read are unchanged.

### COMMON USES OF **^KW** AND **^KR**

When there are standard paragraphs or sections of text that you use frequently, write each into a small, separate file with **^KW** or by normal text entry. Then, whenever necessary, use **^KR** to copy a small file to the cursor position in the document you're currently editing.



### Large-Scale Block Operations

Block operations require the computer to move an "internal cursor" to the location of the marked block, then back to the original position. In large files, the command may be executed very slowly. You run the risk of a disk-full error because so much file space is necessary to perform the operation. Do not create a file longer than 25 pages when you combine files.

For moving and copying text when the source and destination are in large or separate files, you may want to use the following combination of block writing and reading commands.

**HOW TO MAKE  
MOVES SAFELY**

- STEP 1 Edit the first document.
- STEP 2 Mark the desired block of text (^KB and ^KK).
- STEP 3 Write the block (^KW) into a temporary file.
- STEP 4 Exit from the first document.
- STEP 5 Open the second document and put the cursor where you want the text.
- STEP 6 PRESS ^KR

TYPE *filename* used in STEP 3.

You can also use this method for transferring a block within one large file.

**HOW TO MOVE  
COLUMNS  
BETWEEN FILES**

You cannot move marked columns between files, but you can reproduce the effect in either of two ways.

One way is to mark a larger block of text that contains the column. Then write the whole block to the second document, and edit out the unnecessary text. The other way is to copy the column from its surrounding text to a blank space at the end of the file, write it to another file, then read it into a second document.

Use ^KJ to conserve disk space by deleting any temporary file as soon as you finish using it.

⇐→ 9-10



<b>SUMMARY TABLE: BLOCK COMMANDS</b>	
<b>COMMAND</b>	<b>FUNCTION</b>
<b>^K 0-9</b>	Marks a place in the text with single digit
<b>^Q 0-9</b>	Returns cursor to previously marked place
<b>^KB</b>	Marks the beginning of a block of text <B>
<b>^QB</b>	Moves cursor to beginning block marker
<b>^KK</b>	Marks the end of a block of text <K>
<b>^QK</b>	Moves cursor to end block marker
<b>^KH</b>	Hides or displays a marked block
<b>^KV</b>	Moves a marked block (including block markers) to cursor position
<b>^QV</b>	Moves cursor back to previous position (Position of beginning marker in block operations, position at end of last command executed in find or find-and-replace commands)
<b>^KC</b>	Copies a marked block (including block markers) to cursor position with no change in original text
<b>^KY</b>	Deletes a marked block from document
<b>^KN</b>	Turns column mode on/off
<b>^KW</b>	Writes a marked block to another file with no change in original text
<b>^KR</b>	Inserts (reads) another file at cursor position in the file currently being edited

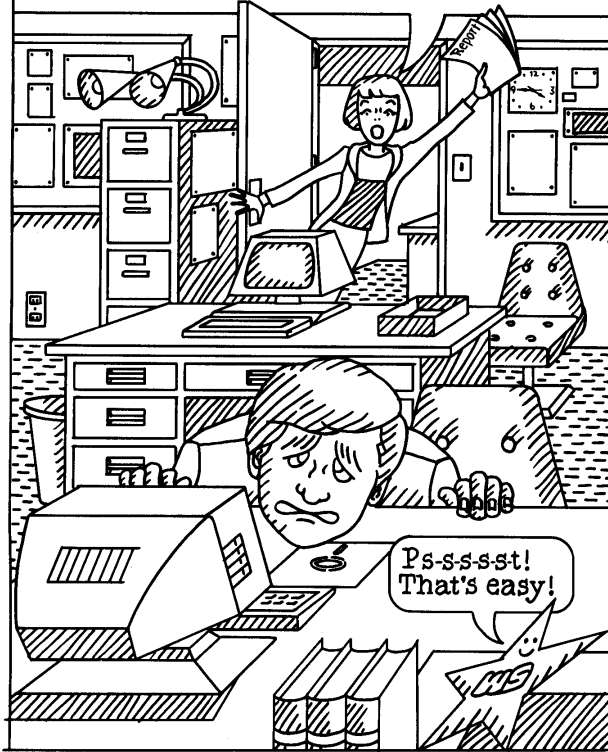
## 5. FINDING AND REPLACING TEXT

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The client is in Minneapolis  
not St. Paul! Please fix every  
reference in this report.  
Have it ready by four o'clock.



## 5. Finding and Replacing Text

---

You can locate, locate and change, or locate and delete any word or phrase (string of characters) in your text, using the find and find-and-replace commands. Your find string can be as long as 30 letters, numbers, or symbols. Use options to the find commands and variable (wild-card) characters to help track down similar words or phrases.

### FINDING WORDS AND PHRASES

---



Press **^QF** to Find any word or phrase. The cursor will appear at the first character of the first occurrence of your string. Nothing will have changed except the cursor location and the portion of text displayed on the screen.

#### HOW TO FIND A PHRASE

To issue a find command without options, follow this simple procedure:

STEP 1 PRESS **^QF**

SEE **FIND?**

STEP 2 TYPE your string (up to 30 characters)

STEP 3 PRESS **ESCape**

When the cursor appears at the first occurrence of your string, you have three choices:

- To continue work at the cursor's present location
- To repeat the find command with **^L** (explained in this chapter)
- To return to your previous location with **^QV** (also in this chapter)



If there is a lot of text between the cursor and the first occurrence of your find string, be patient. The operation may take a few moments to finish.

Your find operation ends when you see this message:



The message indicates one of two conditions:

- There are no occurrences of your find string in the file.
- There are no further occurrences between the cursor position (when you began the operation) and the end of the file.

When you press ESCape, the cursor will appear at the end of your file.

## FINDING AND REPLACING

---



Press **^QA** (Find-And) to locate *and change* a word or phrase in your text. You can order this find-and-replace operation from anywhere in your document, and a combination of options can help you to replace a word or phrase throughout your entire file.




**HOW TO  
REPLACE A  
PHRASE**

To issue a find-and-replace command without options, follow this simple procedure:

STEP 1 PRESS **^QA**

SEE **FIND?**

STEP 2 TYPE your present string (up to 30 characters) 

SEE **REPLACE WITH?**

STEP 3 TYPE your new string (up to 30 characters)

PRESS **ESCape**

The cursor will appear at the *next* occurrence of the find string, and a prompt will ask you to approve the replacement.

**NOTE:** You must position the cursor at the beginning of your file in order to find the first occurrence of your find string.

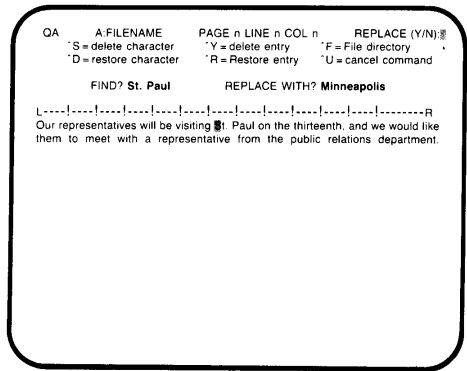
You'll see a flashing cursor at the first character in your find string and another after **REPLACE (Y/N)** in the upper right corner of your screen. WordStar will perform the replacement *only* if you type **Y**.

After your command is executed, you'll have three choices:

- To continue work at your present location
- To repeat the find-and-replace with **^L**
- To return to your previous location with **^QV**

Here's an example:

If you type **Y**, **St. Paul** will be deleted, and **Minneapolis** will be inserted in its place automatically. If you type **N**, the cursor will move to the end of the string, awaiting your next command.



#### HOW TO DELETE A PHRASE

If you simply want to delete your present string from the text, don't type the replacement string. If you type nothing, you'll produce a *null* string. Just press **ESCape**, and the operation will be underway.



#### Repeating the Last Command

Press **^L** to repeat your Last find or find-and-replace operation. When you use **^QF** or **^QA**, the operation is performed only once, and the cursor is left at the first occurrence in the text. When you enter **^L**, the cursor moves forward to the next occurrence of your string. You initiate the same search as before, with the same options.

You can use **^L** to move through your files quickly and examine or change specific sections of text. When no further occurrences of your string can be located, you'll see this prompt:

\*\*\* NOT FOUND: "your string" \*\*\* Press ESCape key

Press **ESCape**, and the cursor will appear at the end of your file.

### Returning to Your Work Point



Press **^QV** to return the cursor to your preVious place in the text. This spot is *not* the same as your cursor's *original* position except when only one occurrence of your string is found. If you're going to use **^L** many times, mark your original position in the text with a place marker so that you can return there quickly.  $\longleftrightarrow$  4-3

### OPTIONS IN FIND COMMANDS

---

Six options help you to define the scope of your find or find-and-replace operation, each in a specific way. When you answer the question **FIND?**, you tell WordStar to look for an *exact* string of characters. The search is normally conducted forward from the cursor position, once only, but the options give you considerably more flexibility.

You can choose none, one, several, or all of the options with most find or find-and-replace commands.

In the simple **^QF** and **^QA** procedures just covered, you avoided the options question before it was asked by pressing ESCape. If you use RETURN, rather than ESCape, you'll see the options prompt.

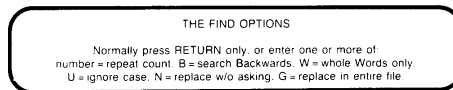
TYPE your string (up to 30 characters)



SEE **OPTIONS? (? FOR HELP)**

### VIEW YOUR OPTIONS

To view the options, respond with a question mark (?) and press RETURN. You'll see the following display:



If you now decide against using options, simply press either ESCape or RETURN. If you *do* want options, type the letter or number for each at this point. You can enter upper or lowercase letters with or without spaces between them; it doesn't matter. Then press RETURN, and the operation with options will begin.

Here are the specific descriptions of each option.

### Finding *n* Occurrences



The number option works differently with **^QF** and **^QA**.

### NUMBER OPTION WITH ^QA

With **^QA**, enter any whole number (*n*) as an option, and the find-and-replace operation will locate the next *n* occurrences of your string. This option is useful, whether you want to locate the next ten occurrences of a particular word or you want to search the rest of the file without having to press **^L** after each occurrence.

Use a number greater than the number of words in your file (99999, for instance) to insure that **QA** will find *all* occurrences of your string between the cursor location and the end of the file. When the not-found message tells you that you've reached the end, press ESCape.

**NUMBER OPTION WITH QF** With **QF**, enter any whole number (*n*) as an option, and the find-only operation will locate the *n*th occurrence of your string. For example, if the string is **St. Paul** and you enter **10** as an option, the cursor will appear at the tenth occurrence of **St. Paul**.

### Searching Backward



Use **B** (Backward) to reverse the usual order of the **QF** or **QA** operation. The search will start at any cursor location and proceed ("backward") toward the beginning of your file.

If the cursor is almost at the end of your file, for example, and you want to find or find-and-replace an item just a few paragraphs or pages back, you can save time by choosing option **B**.



Searching backward through a long file may produce disk-full problems if your file is very long. To search the whole file, first use **KS** to return the cursor to the beginning of your file.  $\leftarrow$  9-3

### Whole Words Only



Use **W** to look for **Whole** words only. Similar but different words or phrases are left alone. For example, **St. Paulette** contains the character string **St. Paul**, and a standard search will locate this phrase, unless you specify whole words only by choosing option **W**.



If **St. Paul** lies at the very beginning of your file, the string won't have a space in front of it; under option **W**, WordStar won't consider it the string you want to locate. Always check the first word of a file when you choose **W**.

### Upper or Lowercase



Use **U** to change your instructions to read, "The difference between Upper and lowercase doesn't matter this time." You'll see all occurrences of the string, regardless of which letters are capitalized.

### No Approval Needed



Use **N** (No approval) to replace occurrences of your string automatically. In a find-and-replace operation (^QA) without options, you must approve each replacement of your present string. If you know that you want to replace each and every occurrence of your string, choose option **N**. WordStar will perform the replacement automatically, no questions asked.

Option **N** has no effect on ^QF.

### Global Replacement



Use **G** (Global) to search your entire file, from beginning to end. The cursor doesn't have to be at the beginning of the file; it returns automatically to start the hunt. You will see the approval prompt before each replacement:

REPLACE (Y/N) █

Answer **Y** or **N**. After executing your instructions, the cursor moves to the next occurrence of your string automatically; you needn't use ^L.

As with all ongoing operations, you can halt a global find or find-and-replace operation with **^U** (interrupt). The cursor will stop wherever it is in your file when you interrupt.  $\leftarrow \rightarrow$  1-14

There are two variations on the global theme:

1. When you choose the global option (**G**) in conjunction with the backward option (**B**), a **^QA** command sends the cursor to the end of the file and searches from there to the beginning.
2. If you use the global option (**G**) in conjunction with the no-approval option (**N**), WordStar will go to the first character in your file and change each occurrence of the string, moving on to the next without seeking your approval.

#### **FAST GLOBAL OPERATIONS**

You can speed through global operations if you don't care to watch every replacement take place. During a global search and replacement, WordStar spends most of the time showing you the changes being made.

To suppress the ongoing display, press any non-printing key (like **^X** or **ESC**). The global operation will be completed at top speed. Why should you press a non-printing key? Because any printable character you type will be added to the end of your document.

#### **VARYING CHARACTERS IN FIND STRINGS**

---

You can introduce certain special cases for variations on your string by using "wild card" characters with **^QA** and **^QF**. Use them as substitute characters when you answer the prompt **FIND?**

### Any Character



Enter **^A** (Any) into your string by pressing **^P^A**. Your find operation will locate strings with any single character in place of the wild card. For example, the find string **R^AM** will locate **RAM, ROM, RUM, R.M, R2M, R@M**, etc.

### Any Symbol



Enter **^S** (Symbol) into your string by pressing **^P^S**. Your find operation will locate strings with any character not a letter or a digit in place of the wild card. **R^SM** will locate **R&M, R@M, R#M, RSM, R%M, R\*M**, etc.

### Other Than



Enter an exception into your find string by pressing **^O** and then the character you want ignored (x). You'll brand that character as **Off-limits**. For example, defining a string **R^O=M** will find every variation of **RM** except **R=M**.

### Carriage Return and Line Feed



Enter **^N** into your find string by pressing **^N**. You'll include a carriage return and line feed in your string. For example, you can answer **FIND?** with **St.(space)^NPaul** to locate these two words whenever the end of a line separates them.



The wild-card characters **^P^A**, **^P^S**, and **^N** should not be confused with the print control characters in Chapter 7. **^PA**, **^PS**, and **^PN** cannot be entered into a find string. The characters look similar on the screen but are *not* interchangeable in practice.



---

## SPACES AND RETURNS IN STRINGS

---

When you enter a character string in response to the question **FIND?**, you must be precise because WordStar will search for *exactly* what you type next. For instance, if you type **St. Paul** and then order a search without options, WordStar will examine each and every character—in order—from the cursor location toward the end of the file until it finds the first **St. Paul** with a single space between the two words.

If word wrap or justification have inserted soft spaces or soft carriage returns between the two words in order to make a line come out even, the phrase is no longer **St.**(single space and no carriage return or line feed)**Paul**, and will therefore be ignored. You didn't say you wanted to find **St.**(space space)**Paul** or **St.**(space and carriage return and line feed)**Paul**.



*Character strings are taken literally.*

How *do* you replace all instances of **St. Paul**, regardless of soft spaces or soft carriage returns? Search for **St.**(space) only, since this word isn't likely to show up elsewhere. Have WordStar replace **St.**(space) with **Minneapolis**. Search again (backward, if you like) for **Paul** and replace this word with a null string. When the correction is completed, use **^QQ^B** to tidy up the text.  $\longleftrightarrow$  3-19

---

## FINDING SPELLSTAR FLAGS

---



Use **^QL** after you have flagged text with the SpellStar option for the WordStar program. If you're in the SpellStar correction phase, you only need to press **^L** to move to the next flagged word. If you have left the correction phase, you can re-enter and go directly to a previously flagged word by pressing **^QL**.

Follow this procedure:

PRESS ^QL

SEE

To search for misspelled words, enter one of the following:  
RETURN = search forward, B = search backward

Press RETURN to re-enter the correction phase and move forward in the file to the next flagged word.

Press B to re-enter the correction phase and move backward in the file to the next flagged word.

^QL is especially useful when you have been interrupted before completing the correction phase or when you have completed the correction phase and want to double-check your work.

#### **APPLICATION: INSERTING AN UNCOMMON PHRASE**

---

If you intend to use a particular word or phrase often in a document—*bilateral conundrum*, for example—you can use ^QA to make your work easier. Move the cursor to the point in your text

## Find & Replace

where you want to insert your phrase, and follow this procedure:

STEP 1 SEE **FIND?**

**RETURN**

Pressing **RETURN** enters a null string, which effectively says, "Find the cursor's present location."

SEE **REPLACE WITH?**

STEP 2 TYPE *bilateral conundrum*

**RETURN**

SEE **OPTIONS? (? FOR HELP)**

STEP 3 TYPE **N** (No-approval)

**RETURN**

The phrase *bilateral conundrum* will appear in your text at the cursor location. Wherever and whenever in the text you want the phrase to appear again, press **^L**.

Each time, WordStar will insert the phrase at the cursor location. If you write highly technical or legal documents or science fiction, you'll find this trick a time-saver.

**SUMMARY TABLE: FIND, FIND-AND-REPLACE  
COMMANDS AND OPTIONS**

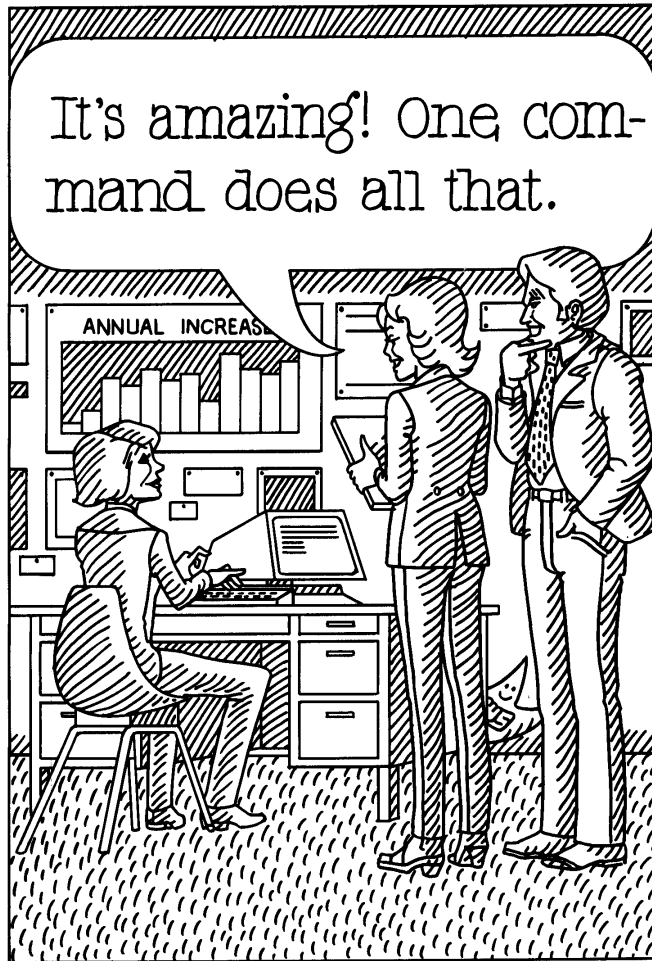
COMMAND	FUNCTION
^QF	Finds a string of specified characters
^QA	Finds one string and replaces it with another
^L	Repeats the last find or find-and-replace command
^QV	Returns cursor to position prior to execution of last command
	<b>Options:</b>
?	Lists options
n	Finds nth occurrence of string
B	Searches backward
W	Finds whole words only
U	Ignores difference between upper and lowercase
N	Replaces string with no approval
G	Searches entire file
	<b>Variable characters:</b>
^P^A	Substitutes any character
^P^S	Substitutes any symbol not a character or number
^Ox	Substitutes any character other than x
^N	Includes a carriage return and line feed
	<b>With SpellStar:</b>
^QL	Finds next flagged word

## 6. FORMATTING TEXT ON THE SCREEN

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## 6. Formatting Text on the Screen

---

You can arrange the text on your electronic page as easily as you enter and correct it. The **O**nscreen formatting commands (**^O\_**) presented in this chapter enable you to change margins or indentations, for example, even after typing your document. You can also modify displays on the screen, such as the ruler line, with onscreen toggle switches.

Each time you use **^O** to turn a toggle switch on or off, the **O**nscreen Menu reflects the change. You will see "now ON" or "now OFF" after the description of each command.

### TEXT ENTRY AND RE-FORMING

---

Various features that work as you enter lines of text include word wrap, justification, hyphen help, soft hyphenation, and line spacing.

#### Word Wrap



Use **^OW** to turn **W**ord wrap on or off. (Default: *on*.) Word wrap is an aid to normal text entry, but you may want to turn it off, for instance, when you type tables. When word wrap is off, you must enter a hard carriage return at the end of each line you type.

Turning word wrap off also activates tab stops set outside the current margins. This feature may be useful, for instance, when you number paragraphs.



### Justification

Use **^OJ** to turn **Justification** on or off. (Default: *on*.) This feature is frequently turned off to type letters. If you type a paragraph with justification on and then turn it off and re-form the paragraph (**^B**), you'll see the soft spaces eliminated and the right margin become uneven.



### Hyphen Help

Use **^OH** to turn **Hyphen help** on or off. (Default: *on*.) This feature works during paragraph re-forming (**^B**), causing the cursor to pause in long words that extend beyond the right margin. When it stops in or near a syllable where the word might be hyphenated, an onscreen message offers you these choices:

1. Press the hyphen key to hyphenate at the indicated syllable break.
2. Move the cursor left or right within the word before hyphenating.
3. Press **^B** again to move the whole word to the next line and continue re-forming the paragraph.

When you turn hyphen help off, you effectively select the third choice every time you re-form paragraphs.

### WHAT IS A SOFT HYPHEN?

Hyphens entered with hyphen help are always *soft* hyphens. They print only when they land at the end of a line. The distinction between soft and *hard* hyphens, which always print, is important to remember when you re-form paragraphs.





### Soft Hyphen Toggle Switch

Use **^OE** to turn soft hyphenation on or off. (Default: *off*.) When this switch is on, every hyphen you type is a soft hyphen which will print only if it happens to land at the right margin. Turning **^OE** on or off has no effect on the soft hyphens entered with hyphen help (**^OH**).

Soft hyphens do not occupy an actual column of space. Thus a line which contains a soft hyphen extends beyond the right margin on the screen but not on paper. Check the status line; you'll see that both the hyphen and the character following it have the same column number.

#### HOW TO USE SOFT HYPHENS

In most cases, WordStar discards soft hyphens and closes up the word when re-forming a paragraph. But if the word runs past the end of a line, soft hyphens enable you to break the word as you wish and print the hyphen. You may use **^OE** when typing names and foreign words with consecutive vowels or consonants, as in *de Mon-tes-quiou*.

If a long word appears frequently in your text, turn on the soft hyphen toggle, and use **^QA** with options **G** and **N** to substitute the soft-hyphenated word for the unhyphenated word.  $\longleftrightarrow$  5-4



If you enter text while **^OE** is on, you may produce unwanted results. For example, you might type a budget report that includes both positive and negative numbers. With soft hyphen entry on, the hyphens that represent minus signs won't print.

#### HOW TO ENTER A HARD HYPHEN

Some words or names require a hard hyphen, for example, *Boileau-Despreaux*. With **^OE** on, you must enter a required hyphen as a special print character.

Follow these steps to enter a hard hyphen in soft hyphen mode:



STEP 1 PRESS ^P

STEP 2 TYPE -

SEE -



If your terminal supports highlighting, soft hyphens are highlighted. With soft hyphen entry in effect, typing ^P- will produce a hard hyphen that may appear on screen as a soft hyphen. If your terminal does not provide highlighting, use the print display toggle switch (^OD) to determine whether hyphens are hard or soft.  $\longleftrightarrow$  6-18

^OD has no effect on the hyphens which you enter when you re-form a paragraph with hyphen help. However, if ^OD is off, all other soft hyphens will be hidden. If you type a hyphen with ^OE on and ^OD off, you'll see the cursor do a funny jump forward and back, and you won't see the hyphen entered. Since that hyphen does not occupy an actual column space, the cursor returns to the column of the invisible hyphen, and you enter the next character right 'on top of' the hidden hyphen.



Check the Onscreen Menu (^O) to see if a toggle switch is on or off.

### Line Spacing



Use ^OS to specify Spacing between lines. For normal text entry and re-forming, the default is single spacing. When you give the command, you'll see the following prompt:

ENTER space OR NEW LINE SPACING (1-9)

Type a number to change the spacing before or after you enter text. Press the SPACE bar to leave the spacing as previously specified. Word wrap and paragraph re-forming will conform to the line spacing you enter.

**^OS** also affects hard carriage returns. For example, when the command **^OS 5** is in effect, each RETURN you enter will result in five hard carriage returns.

NOTE: If your system includes a letter-quality printer, use the dot command **.LH 16** to double-space the printed page.  $\longleftrightarrow$  7-27

## MARGINS

---

The border you leave to the left and the right of your text can be changed at any time. You can reset the margins and then re-form paragraphs or center text between those margins. Word wrap will use the new margins to format text as you enter it. You can also release the margins and place text outside the current margins.

### Left Margin



Use **^OL** to set a new Left margin. You will see this prompt:

LEFT MARGIN COLUMN NUMBER (ESCAPE for cursor column)?

Enter a number, or press ESCape to set the margin to the current cursor position, shown in the **COL** entry of the status line. The left margin can be set at any column, 1-239. WordStar begins with the left margin set at column 1.

If you set the left margin to a column number higher than 1, you'll create a wide border to the left of the paragraph. As you edit on the screen, your cursor will still move to column 1 after a carriage return or when you use ^E or ^X to cross a line containing only a hard carriage return. As soon as you type any character other than a period, though, the cursor will jump to the specified left margin and resume normal text entry.

If the first character you type is a period, the cursor moves to the right one space at a time, so that you can enter a dot command. ⇐→ 7-7

### Right Margin



Use ^OR to set the Right margin. You will see this prompt:

RIGHT MARGIN COLUMN NUMBER (ESCAPE for cursor column)?

Enter a number, or press ESCape to set the margin at the current cursor column position. The right margin is initially set at column 65 (to produce printed text 6 1/2 inches wide), but you can set it at any number higher than the left margin, up to 32,000. In practice, the upper limit for the right margin is determined by available memory in your computer.

### LIMITS ON MARGIN SETTINGS

Since most printers cannot print a line with more than 160 characters, you should stay within this limit for printed results.

If you plan to type very long lines, try to limit text editing to columns 1-240. Some WordStar commands do not operate efficiently beyond column 240.



### Margin Release

Use **^OX** to release current margins. You'll reset the left margin at column 1, remove any right margin, and turn word wrap off. Margin release remains in effect until you turn it off by entering a hard carriage return or another **^OX**. When margin release is in effect, you'll see **MAR REL** in the status line.

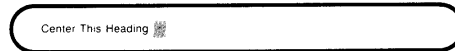
**^OX** activates any tab stops that lie outside the currently set margins. The ruler line displays **!** and **#** characters without hyphens to indicate tab stops outside the margins, as in the following illustration:



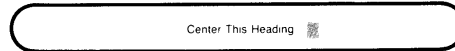
### Centering Text

Use **^OC** to Center text between currently set margins on the line containing the cursor. After you type the text to be centered, position the cursor anywhere in the same line, and enter **^OC**. You'll see the words move to the center of the line. Spaces entered before or after the text will be ignored.

Type this:



Press **^OC** and see this:



## TABS AND INDENTATION

---

You may want to indent paragraphs or align columns within the borders of your text. You can use various tabbing commands to arrange your text on the screen.

### Variable Tabbing



Use **^OV** if you want to turn off Variable tabbing. (Default: *on*.) Variable tabbing is standard for most text entry and formatting; the alternative is fixed tabbing, which is the default in non-document mode.  
⇐→ 10-5

Variable tabbing means that you can set regular and decimal tab stops any place you want. These tab stops always appear in the ruler line. Even if you turn variable tabbing off, the ruler line continues to show variable tab settings, *not* fixed tabs.

### Regular Tab Stops



Use **^OI** to set a tab, just as you would to Indent a line on a typewriter. You'll see the following prompt:

For decimal tab stop enter "." and decimal point column  
SET TAB AT COLUMN (ESCAPE for cursor column)?

Enter a number, 1-240, to indicate the column where a tab is to be set. Otherwise, press ESCape to set a tab at the cursor's current column, as indicated by the **COL** display of the status line.

You'll see an exclamation point (!) appear in the ruler line at the column you specify.



Use **^ON** to clear a tab stop. You'll see the following prompt:

CLEAR TAB AT COL (ESCAPE for cursor col. A for all)?

Enter a number, 1-240, to indicate the column where a tab is to be cleared. Otherwise, press ESCape to clear a tab at the cursor's current column, as indicated by the **COL** display in the status line.

The characters **#** and **!** in the ruler line show where tabs have been set. If you want to clear a tab but aren't certain what column it's in, move the cursor to the column—using the tab key, if you like—and then press **^ON** and press ESCape.

Enter the letter **A**, rather than a column number, to clear **All** tabs with one command.

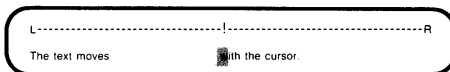


Use **^I** to skip the cursor to the next tab stop. You can use tab stops only by pressing **^I** or the tabulator key; you don't stop at them as you type or space past them with other keys.

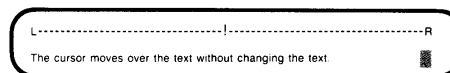
With insertion on, tabbing adds a space character in every column the cursor passes over, pushing remaining text on the line to the right. With insertion off, tabbing moves the cursor to the next tab stop without affecting existing text.

Here is an example:

**INSERTION ON:**



**INSERTION OFF:**



With **^I**, you skip only to tab stops within current margins, except when word wrap is off (**^OW**) or the margins are released (**^OX**). With margins released, you can use **^I** to skip to every tab stop that is set.

If skipping to the next tab stop takes the cursor past the last character of the document, pressing **^I** will extend the document with enough spaces to allow it to reach the next stop. If the next tab stop is not on the current line, pressing **^I** will generate a carriage return. As long as you press **^I**, you'll continue to extend the document with spaces and carriage returns, even with insertion off.

**Decimal Tab Stops**

Decimal tab stops provide decimal point alignment for columns of numbers. Here is an example:

<b>Regular Tab</b>	<b>Decimal Tab</b>
.05	.05
760.00	760.00
11.95	11.95
1243966.41	1243966.41
3.14159265	3.14159265



Use the character # to set a decimal tab stop. Follow this procedure:

PRESS ^OI

SEE

For decimal tab stop enter "#" and decimal point column.  
SET TAB AT COLUMN (ESCAPE for cursor column)?

ENTER # and the column number

You'll see the symbol # appear in the ruler line at the column you specify.

When you use ^I to skip to a decimal tab stop, the cursor stops in the column where the decimal point is to appear. The word "decimal" appears in the status line to indicate that right alignment is in effect.

**WHAT IS RIGHT ALIGNMENT?**

Right alignment means that the characters you type appear to the left of the cursor. Right alignment continues until you enter a decimal point, press the SPACE bar or RETURN key, or enter another tab (^I) command. When you end right alignment with a decimal point or a space, the decimal or space will appear in the tab stop column, and you'll resume normal text entry.

If you try to enter too many characters at a decimal tab stop, WordStar will turn off right alignment. Instead of running into a previously entered column of characters on the left, your new entry will continue in the tab stop column and then as normal text from left to right.



Avoid setting a decimal tab in column 1. If you enter a fractional number, you'll end up with a period which will be interpreted as a dot command beginning in the first column. ←→ 7-7

*WordStar*

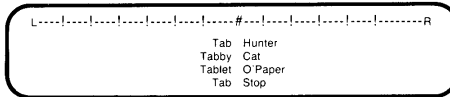
When you set a decimal tab near the right margin, be sure there is enough space for the longest possible entry between the decimal position and the margin. Otherwise, word wrap will carry part of a number to the next line.

**USING DECIMAL  
TABS OUTSIDE  
MARGINS**

You can set decimal tabs outside current margins, but you must release the margins (^OX) before tabbing. Setting a decimal tab stop left of the left margin can be handy when, for example, your text uses paragraph numbers.

**ALIGNING  
ALPHABETIC  
ENTRIES**

Since right alignment at a decimal tab stop can be terminated by either a period or a space, you can enter alphabetic characters at a decimal tab. For example, you might align a column of names by the first name:



**EUROPEAN  
DECIMAL  
OPTION**

Many countries follow the convention of representing the decimal point with a comma rather than a period. If you change the period to a comma (or some other character) in your WordStar installation, the comma will terminate right alignment at decimal tab stops.

**Indenting Paragraphs**



Use ^OG to reset the left margin to a tab stop; the effect is temporary indentation. As you enter text, word wrap will automatically return the cursor to the temporary left margin. This margin remains in effect until you press RETURN.

Each time you enter **^OG**, the left margin moves to the next tab stop. For example, the standard ruler line has tab stops set at columns 6, 11, 16, 21, and so on. Pressing **^OG^OG** sets the temporary left margin at column 11. **^OG** is also useful when entering or reformatting text to the left of the margin.

The following paragraph illustrates the use of **^OG**:

- The carriage return that ended the previous sentence moved the cursor to column 1 (at the edge of the wide left margin). Typing the bullet (•) skipped the cursor to the left margin, where WordStar started positioning text. Then **^OG** moved the left margin to the next tab stop. There was no need to move the cursor; typing the first word of this paragraph skipped the cursor to the new left margin. WordStar will continue to use the new margin until a carriage return terminates this paragraph.

Terminating the paragraph restores the left margin shown in the ruler line.

#### RE-FORMING WITH **^OG**

If you re-form a paragraph while a temporary margin is in effect, **^B** uses the temporary margin. If the paragraph ends with a hard carriage return, **^B** releases the temporary margin after re-forming the paragraph.

Because **^OG** uses tab stops only to establish a new left margin, the command treats regular and decimal tab stops the same. Right alignment is not activated when the left margin happens to fall at a decimal tab stop. However, if you intentionally move the cursor left of the margin and tab back to the decimal stop, right alignment is activated.

Temporary margins are particularly useful for entering text, such as outlines, in which the first line of each paragraph requires only a small amount of text to the left of the margin.

## CHANGING THE SCREEN DISPLAY

Some WordStar features help you to gauge how your work will fit on the printed page. These options, the ruler line and the page break display, can be turned on or off.

### Ruler Lines

You can use a line from the text area as the model for a new ruler line. The following text lines are all valid for setting a new ruler line:

```
Mary had a little 1 its 2 was 3 as snow  
XXXXXXXXXXXXXXXXX 4XX 5XXXXX  
.....R
```

The first two lines are equivalent; they set the margins and three tab stops. The last line sets the same margins and tab stops, but the hyphens also clear any other tab stops that may be set. When you need specific tab stops as you enter text, you'll avoid confusion by using a format similar to the third line for your ruler line.

The standard ruler line (default) sets the left margin at column 1, the right margin at column 65, and tab stops at every fifth column (columns 6, 11, 16, 21, and so on through column 56). While editing, you can alter the ruler line by changing margins (^OL and ^OR) and tabs (^OI and ^ON).



Use **^OF** to change ruler lines quickly by setting the ruler line equal to another line in your text file. Follow this procedure:

**STEP 1** Position the cursor anywhere in the desired text line.

**STEP 2** PRESS **^OF**

**STEP 3** SEE the ruler line change to the same margins as in the text line.


If the line happens to contain the characters ! and #, **^OF** will set tabs at the corresponding columns.

In a text line, a hard hyphen is the only other character that is significant in the **^OF** command. Each hyphen represents a text column without a tab stop. Thus a hyphen in the text line clears a tab stop in the corresponding column of the ruler line.


#### HOW TO PREVENT RULER LINES FROM PRINTING

One way to prevent the printing of a ruler line typed into your text is to connect it to a non-printing comment line. Before typing your ruler line, position the cursor in column 1 of a blank line; then follow this procedure:

TYPE ..

PRESS **^P** 

SEE hyphen (-) in the flag column and cursor in the second blank line

TYPE your ruler line 

Another way to store a ruler line is to keep it in a separate file. When you want to change margins and tabs, use **^KR** to read in the file containing the ruler. Then use **^OF** to change the ruler line, and delete the line in your text.  $\leftarrow \rightarrow$  4-14

*WordStar*



Use **^OT** to turn the ruler line display on and off. (Default: *on.*)



**Page Breaks**

Use **^OP** to turn the display of **P**age breaks on and off. (Default: *on.*) When on, this toggle switch inserts a line of hyphens, followed by the letter **P** in the flag column, to indicate when page breaks will occur in the printed text. Here is an illustration:



This toggle switch also changes the status line display. When it's on, the status line shows **PAGE** and **LINE** numbers. When it's off, the status line shows the total number of **F**ile **C**haracters (**FC = nnnn**) and **F**ile **L**ines (**FL = nnnn**) up to the current cursor position.



Use **^OD** to turn the **D**isplay of print controls on and off. By suppressing the controls, you can see how columns and margins will line up when printed.



Be sure to turn print control display on when editing text that contains print controls. If you edit without displaying the controls, you can easily delete an important command.

**SUMMARY TABLE: FORMATTING COMMANDS**

COMMAND	FUNCTION
<b>^OW</b>	Turns word wrap on/off (default: on)
<b>^OJ</b>	Turns justification on/off (default: on)
<b>^OH</b>	Turns hyphen help on/off (default: on)
<b>^OE</b>	Turns soft hyphenation on/off (default: off)
<b>^P-</b>	Enters a hard hyphen while soft hyphenation is on
<b>^OS</b>	Sets spacing between lines
<b>^OL</b>	Sets left margin
<b>^OR</b>	Sets right margin
<b>^OX</b>	Releases margins
<b>^OC</b>	Centers text on line in which cursor is located
<b>^OV</b>	Turns variable tabbing on/off (default: on)
<b>^OI</b>	Sets tab stops
<b>^ON</b>	Clears tab stops
<b>^I</b>	Skips cursor to next tab stop
<b>^OG</b>	Sets temporary margin at tab stop indicated
<b>^OF</b>	Copies format of a text line into ruler line
<b>^OT</b>	Turns display of ruler line on/off (default: on)
<b>^OP</b>	Turns display of page breaks on/off (default: on)
<b>^OD</b>	Turns display of print controls on/off (default: on)

*WordStar*

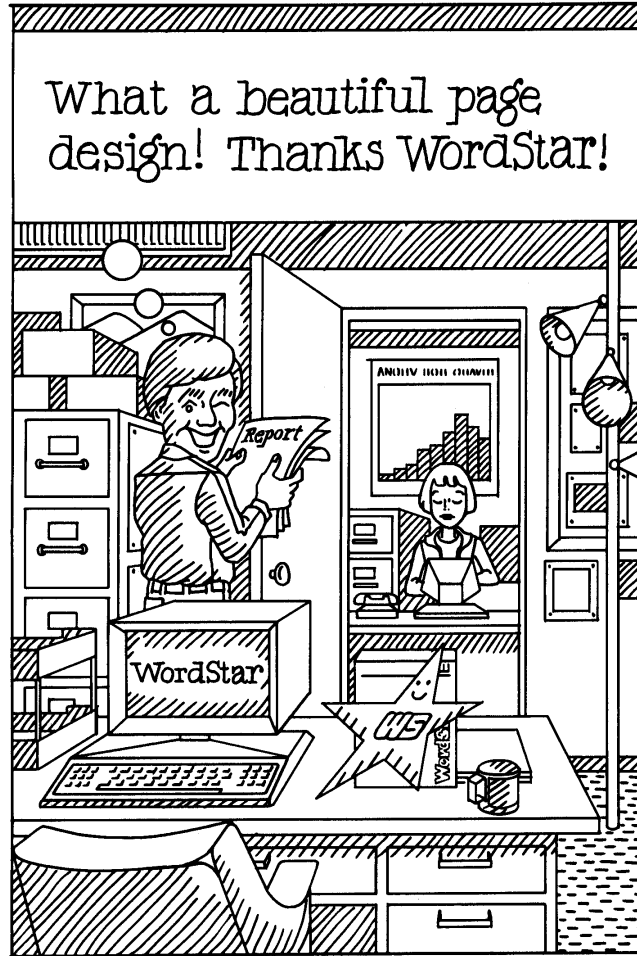
6-20



## 7. DESIGNING THE PRINTED PAGE

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## 7. Designing the Printed Page

---

As you work inside a WordStar file, you prepare text for the printed result. With print controls and dot commands, you give instructions about the appearance of your document.



Results will vary, depending upon your printer's capabilities. If you print the sample file, PRINT.TST, which is on your distribution disk, you'll see how WordStar's printing effects work. Whether you have a draft-quality or letter-quality printer, the commands described in this chapter should help you produce the kind of copy you want.

### PRINT CONTROLS AND DOT COMMANDS

---

#### WHAT IS A PRINT CONTROL?

A print control is a command entered into a WordStar file by holding down the control key as you type **P** and then another letter. You won't see the **P** on the screen, but you will see the control symbol (^) and the letter. On the printed page, you'll see only the results of the executed command, such as boldfacing or underlining.



**HOW TO ENTER  
PRINT CONTROL  
COMMANDS**

Follow these steps to enter a print control into a file. (^PB is the boldfacing command described later in the chapter.)

STEP 1 PRESS ^P

STEP 2 TYPE B

SEE ^B

In the previous example, ^B does not print but tells the printer to begin boldfacing at that location and continue until another ^B is encountered.



Consider the following points when using print controls:

- Many print controls are toggle switches. When you enter the print control for underlining (^PS), for example, you turn that switch on. You must enter ^PS again to turn the switch off at the appropriate place, or WordStar will underline every character you enter.  $\longleftrightarrow$  7-8
- A print control forces lines of text to extend past the margin. This extension is only a temporary onscreen distortion; print controls occupy space on the screen but not on paper. Use ^OD to turn off the display of print controls and see the actual alignment of your text.  $\longleftrightarrow$  6-18
- If you re-form a paragraph which contains print control characters, the characters will stay with the words they precede and follow.
- You can use print controls anywhere in a file, line, or word.
- You can delete print control characters just as you delete ordinary characters.

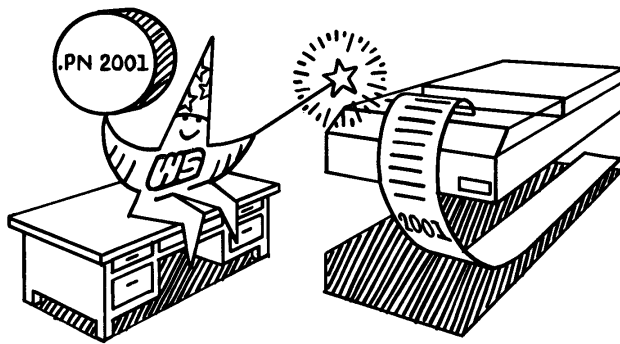
- You can combine several print control characters to create several special effects. If you enter both boldface *and* underline commands, for example, the results will look like this:

S`BMeaning of Relativity`B`S

Meaning of Relativity

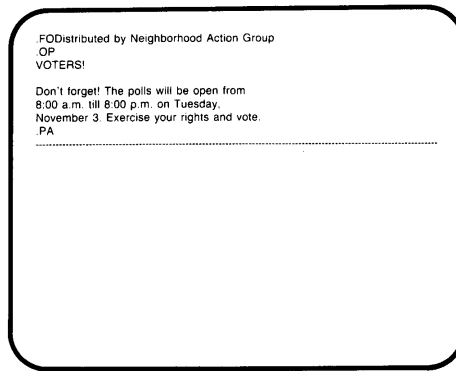
**WHAT IS A DOT COMMAND?**

A dot command is a print command which is entered into a WordStar file by typing a period ("dot") in the first column, followed by two characters in upper or lowercase. This two-letter code, which the program recognizes, can be followed by more characters—often whole numbers or words.

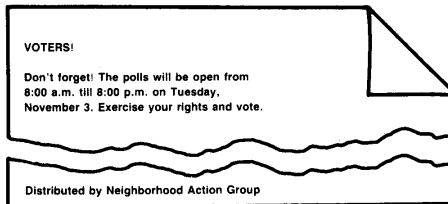


Sometimes, as in the dot command for a page break, there is no text after the command. When there is text, it varies from command to command. Words could indicate whether a toggle switch is on or off or could provide text for headings and footings. A number (*n*) might specify the length of your page or the column in which you want a page number to appear, for example.

The following example shows the placement of dot commands in a document.



Here's what the document would look like when printed:





Follow these guidelines when using dot commands:

- Always begin a dot command in the first column. Then type the required two-letter code followed by an optional space.
- End the line which *precedes* a dot command with a hard carriage return.
- Always follow a dot command with a hard carriage return.
- Use dot commands as needed in a document. Once entered, a dot command stays in effect on every page you print unless you turn it off or return to the default.

**HOW TO ENTER  
DOT COMMANDS**

To enter a dot command, keep in mind the following points:

- Even if the left margin is set at a column other than the first, when the first character typed in a line is a dot, it will appear in the first column, allowing you to enter your dot command. (If you later re-form the document with `^QQ^B`, however, the dot commands will move to the new margin.)

For example, if your left margin is set at 5 and you begin a new line by typing a period, the period will appear in column 1.

- You see a dot command on the screen, but it does not print. In fact, no line (except dot commands for headings and footings) that begins with a period in column 1 ever prints, unless you suppress page formatting when you print.

←→ 9-22

- Most dot commands are entered at the beginning of a file. If you enter some dot commands at other places in the file, you may see a warning message on the dot command line and a question mark in the flag column.  $\leftarrow \rightarrow$  B-2
- The placement of some dot commands is both logical and strategic. For example, the command for a new page is placed in the exact spot in the text where you want one page to end and another to begin.
- Dot commands take up space on the screen but not on your printed page. Notice that the status line displays the same number for a dot command line as the line below. The column number, however, is accurate.

NOTE: Don't be alarmed to see "a" instead of "an" in front of dot commands beginning with vowels—**OP**, for example. Simply read such a command as "a dot OP command."

---

## SPECIAL EFFECTS

The special effects that enhance your printed page are often created by print controls which are toggle switches and must be used in pairs. If you use a single print control to turn on a special effect and fail to use another to turn it off, you'll accidentally "enhance" the rest of your document.

You can use any number of special effects in sequence.

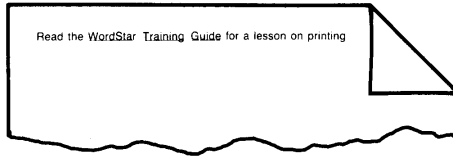
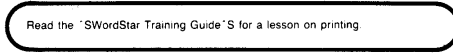
### Underscoring



Use **^PS** before and after any letters, words, or phrases that you want underlined (underScored). **^PS** does not underline blank spaces.



Here is an example:




To produce continuous underlining of both characters and spaces, use one of the following methods:

First method:

- STEP 1 PRESS ^PS (at beginning and end of section to be underlined)
- STEP 2 TYPE underline (in spaces between words)

Although on the screen you see only the underlining you entered, the entire section will be underlined when you print.

Second method:

- STEP 1 PRESS ^P  (at end of line to be underlined)
- STEP 2 TYPE underline (continuously across the entire line)

WordStar will print this line under the previous line when you print your document. (Other uses of ^P RETURN are described later in this chapter.)

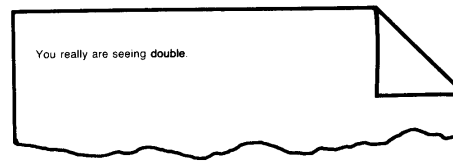
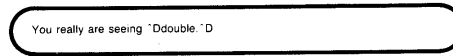
↔ 7-13



### Double Striking

Use **^PD** to produce **Double striking**, a light boldface for emphasizing words or phrases. If your printer has a carbon ribbon and you want sharp dark print, you can use double striking on an entire document. Enter **^PD** before and after the words you want to emphasize.

Here is an example:



### Boldfacing

Enter **^PB** before and after the words you want to emphasize with **Boldfaced** print. On letter-quality printers, **^PB** offsets the print head and strikes over characters. On draft-quality printers, **^PB** causes multi-striking.



Here is an example:

How can you be so **B**bold? B?

How can you be so **bold**?



**^PB** is a toggle switch. Don't forget to turn boldfacing off, or your whole document will be outrageously bold.

### Striking Out

Use **^PX** before and after characters to be crossed out with hyphens but still readable. **^PX** is useful for making corrections visible. Revisions of legal documents, for example, often include deleted text with a line through it.

Here is an example:

He was ~~X~~striking out~~X~~ struck out in the third inning.

He was ~~striking out~~ struck out in the third inning.

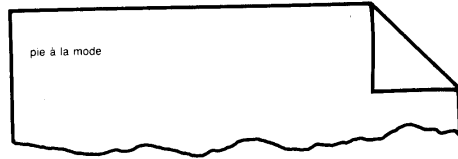
NOTE: **^PX** prints hyphens over characters but not blank spaces.

### Printing Over a Character



Use **^PH** to instruct the printer to backspace and print a character where one already exists. Insert the command immediately after the character to be printed over. You can use this feature to put an accent mark over a letter or to create a special symbol that does not exist on your keyboard.

See this example:




If you enter a series of **^PH** commands several characters will land on top of an existing character.

Look at this example:

TYPE **H**  
PRESS **^PH**  
SEE H<sup>^</sup>H  
TYPE **I**  
PRESS **^PH**

SEE H^HI^H  
 TYPE N  
 PRESS ^PH  
 SEE H^HI^HN^H  
 TYPE Z  
 SEE H^HI^HN^HZ

In the previous example, the letters H, I, N, and Z produce this symbol on paper: 

**Printing Over a Line**

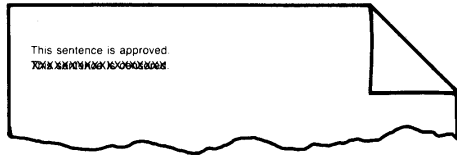


Use ^P RETURN to make a line of text print on top of the preceding line. This command forces the printer to print one line over the preceding line. Use ^P RETURN at the end of the line you want to print over and repeat the command to overprint more than one line.

When you use ^P RETURN you will see a hyphen (-) in the flag column on the right side of your screen.

Here is an example:

This sentence is approved < This sentence is censored - XXXXXXXXXXXXXXXXXXXX <	(RETURN) (^P RETURN) (RETURN)
--------------------------------------------------------------------------------------	-------------------------------------



Use **^P RETURN** with MailMerge when creating three-column mailing labels. See the Appendix to the MailMerge manual for instructions.

When you assign one line to overprint another, the two lines are, in a sense, connected. To delete one line without deleting the other requires that you delete the **^P RETURN** (a hyphen in the flag column). Position the cursor in the last column of the first line; then press **^T**. You'll see the hyphen disappear and the second line move up. Use **^Q DEL** to delete the "first" line (on the left) or **^QY** to delete the "second" line (on the right).

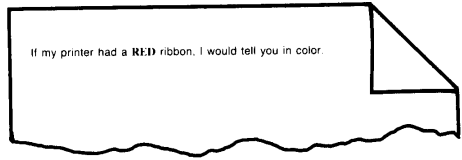
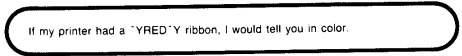
### Selecting Ribbon Color



Use **^PY** to select an alternate ribbon color if you have a letter-quality printer with a two-color ribbon.

Use **^PY** in pairs to turn the feature on and off, or you're in for some colorful surprises.

Here is an example:





### Using Subscripts

Use **^PV** to print subscripts for scientific notation and mathematical equations. Characters between **^PV** commands will be printed below the given line of text.

Here is an example:



If you have a letter-quality printer capable of incremental spacing, subscripts print  $3/48$  inch below the given line. Most draft-quality printers will roll up one full line. Some, however, have half-line feed capability, which WordStar can use for subscript.

If you have a draft-quality printer that rolls up one full line, you must double space your text. Then WordStar can print subscripts in the intervening blank lines. If you don't double space, **^PV** will have no effect.



If you have a letter-quality printer, use **.SR**, followed by a number, to adjust the distance the printer **Rolls** for subscripts and superscripts. The number (*n*) tells the printer to roll  $n/48$  inch. The default is  $3/48$  inch or **.SR 3**.

Put **.SR** in the first column above any text that contains **^PV** or **^PT**. To return to the default, use **.SR 3** after the same text.

### Using Superscripts



Use **^PT** before and after the characters which you want printed above a given line of text. Superscripts are useful for footnotes and mathematical equations.

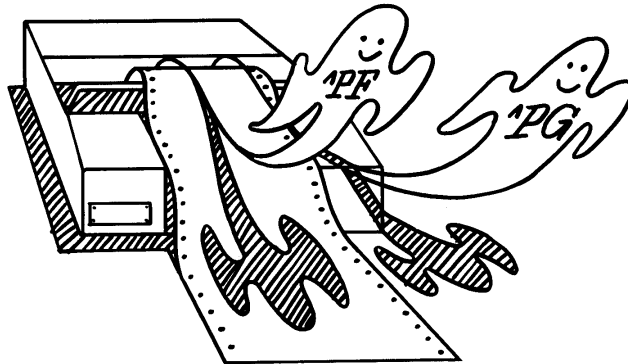
Here is an example:

Use a superscript in your text to call attention to a footnote. <sup>T3</sup>T

Use a superscript in your text to call attention to a footnote <sup>3</sup>

Read the preceding section for instructions on using **.SR** with superscript commands.

### Using Phantom Characters





Use **^PF** or **^PG** in a document to print a phantom character.

These characters are not as ghostly as they sound but they *are* invisible, in a sense. If you have a letter-quality printer you probably have two phantom characters, neither of which appear on your keyboard. When you enter these print controls with print display on (^OD) you see ^G or ^F. But if print display is off, you see a symbol which varies from system to system. Also, the character that prints in place of a phantom character depends upon your print wheel.



Draft-quality printers are not equipped to respond to **^PF** and **^PG**.

NOTE: Unlike most print controls (except ^PO), phantom characters do occupy space. Each takes up one character position, on both the screen and on paper, whether print display is on or off.



**^PF**, which is called "phantom space," prints the character for code 20 hex. On some print wheels, this character is the cent sign (¢). Read your printer manual or try **^PF** to find out what phantom lurks inside your computer.



**^PG**, which is called "phantom rubout," prints the character for code 7F hex. Try it to see what character your printer will show you. **^PG** may be a double underline, or, if your print wheel is bilingual, the German umlaut.

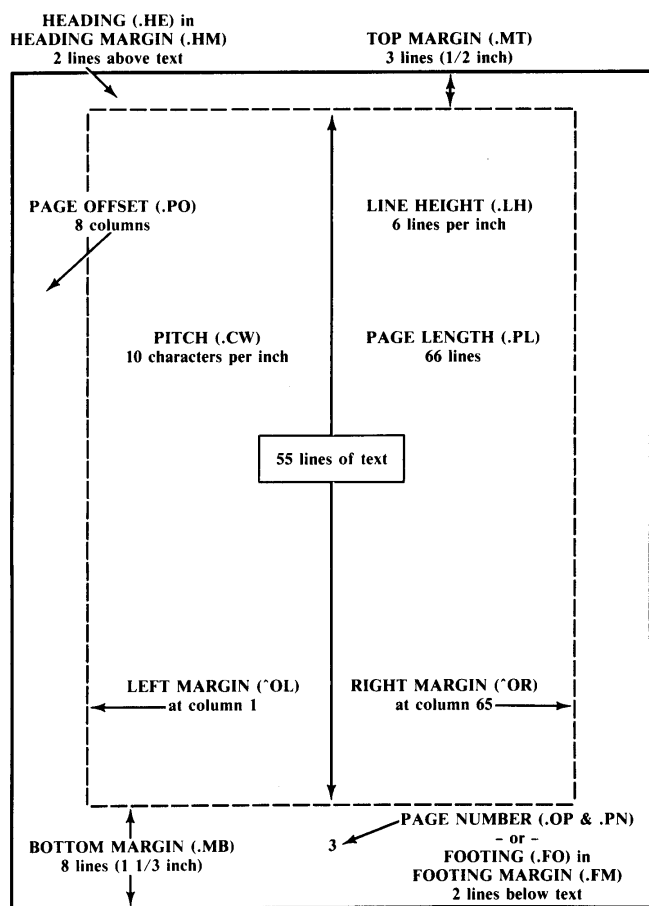
## LAYOUT

---

In addition to special printing effects, WordStar provides many other features to help you produce an attractive printed page. The program will automatically arrange text and space on paper for you. But you can also design your own layout by issuing commands to change certain layout features. For example, when you give a command to alter the standard setting of the width of printed characters or the distance between lines of text, you can change the page design dramatically.

### **WHAT IS A STANDARD PAGE?**

The following are the program defaults for an 8 1/2 x 11 inch page, as shown in the illustration of the standard page.



7. Page Design

**STANDARD PAGE**  
(With Commands for Changing Layout)

If you want to change this layout, use the commands described in the sections which follow. Often you'll see only the command and not the change on screen, but when you begin to print, presto! Everything will fall into place.

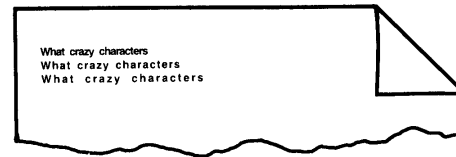
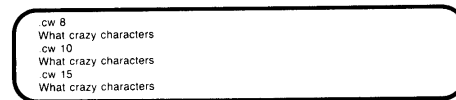
Most layout commands are dot commands.

### Character Pitch



Use **.CW**, followed by a number, to change type size (Character **W**idth or pitch). If your printer is capable of microspacing, this command will increase or decrease the number of characters printed per inch. The number (*n*) sets the width of the space in which a character is typed to *n*/120 inch.

See the following example:



The standard character pitch in WordStar is 12/120 inch or **.CW 12**. This measurement corresponds to 10 characters per inch, which is normal pitch or pica type. After a change, enter **.CW 12** to return to the default.



Large numbers spread characters out, and small numbers squeeze characters together.

Since spaces are inserted in your text as space characters, they are also affected by changes in character pitch with .CW. If your left margin is indented following a .CW, for example, the layout will be distorted when you print the page.

Although you can use any number up to 255 after a .CW command, a practical range is shown in the following table. Refer to the right margin, as indicated in the table, to stay within the boundaries of a piece of paper which is 8 1/2 x 11 inches.

Dot Command	Characters Per Inch	Right Margin
.CW 4	30	195
.CW 5	24	156
.CW 6	20	130
.CW 8	15	98
.CW 10	12	78
.CW 12	10	65*
.CW 15	8	52
.CW 17	7	46
.CW 20	6	39
.CW 24	5	32

\* WordStar standard

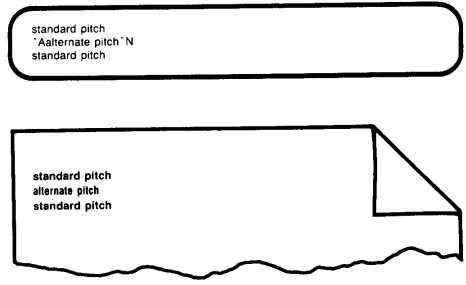
NOTE: This table offers only a sampling and doesn't include all the possible choices between 4 and 24.



The larger the number, the farther apart the characters will be.

On letter-quality printers, you can use the print controls ^PA and ^PN to alternate between pitches. You will alternate between pica type (10 characters per inch) and elite type (12 characters per inch), unless you have specified a different pitch with a .CW command.

In the following example, **^PA** and **^PN** are used to alternate between pica and elite type. Notice that space characters and margins following these commands would also expand or shrink with the indicated pitch. To change pitch within one line of text, without affecting the margin, the commands must appear on the same line:



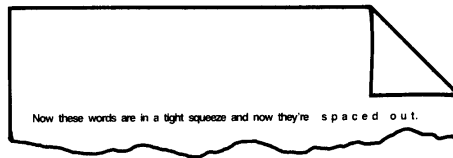
Use **^PA** to tell WordStar to select an Alternate character pitch. WordStar requires a corresponding command, **^PN**, to return to the standard pitch. If you use **.CW** immediately after **^PA**, the pitch set by the dot command will be the alternate pitch. If you do not use **.CW**, the alternate pitch will be elite type (12 characters per inch).



Use **^PN** at the place in your text where you want to return to Normal character pitch. If you use **.CW** immediately after **^PN**, the pitch set by the dot command will be the standard pitch. If you do not use **.CW**, the standard pitch will be pica type (10 characters per inch).

In the following example, pitch alternates between 6 characters per inch (.CW 20) and 15 characters per inch (.CW 8). Notice that **^PA** and **^PN** are used in two places: at the top of the file to set the pitch at the values specified by **.CW** and in the text to alternate the pitch of the last two words in the sentence.

```
^A  
.CW 20  
^N  
.CW 8  
Now these words are in a tight squeeze and now they're ^Aspaced out^N.
```



Now these words are in a tight squeeze and now they're spaced out.

### Spaces

When you design your page, the spaces are as important as the text. Examples include the spacing of certain words in a paragraph and columns when you re-form a paragraph or a table. Spacing can make the difference between a clear or confusing presentation, and certain WordStar commands help you to control where blank space falls on the page.



Use **^PO** for a non-break space when you want to keep two words together as you re-form a paragraph. **^PO** keeps two words together with justification on or off during paragraph re-form.

Look at this example:

Without ^PO the king might fall off the edge of a line when you re-form the paragraph he sits in. Suppose old Henry VIII had landed at line's end in re-forming.

If you enter ^PO to keep **Henry** and **VIII** together, the screen will look like the following:

Without ^PO the king might fall off the edge of a line when you re-form the paragraph he sits in. Suppose old Henry VIII had landed at line's end in re-forming.

The paper results of ^PO would be the following:

Without ^PO the king might fall off the edge of a line when you re-form the paragraph he sits in. Suppose old Henry VIII had landed at line's end in re-forming.



If you have a letter-quality printer, use **.UJ OFF** to turn off microJustification when you begin typing a table. **.UJ OFF** insures that soft spaces do not push columns out of alignment when the page is printed. Remember to use **.UJ ON** when the table is complete.



Columns that appear perfectly straight on the screen become ragged on paper because of a letter-quality printer's capability of microspacing. Some of these printers take instruction from WordStar to distribute space in 1/120-inch increments between words and letters.

Lines formed with word wrap or re-formed with ^B (with justification on) have soft spaces automatically inserted between words. When these lines are printed, the microspacing feature of some printers causes further justification (microjustification). In most cases, this process improves the appearance of your text, but it often pushes tabular material out of alignment.

The WordStar default for letter-quality printers is justification on, unless you use this dot command to turn it off.

### Vertical Page

You can adjust the number of lines per page, the number of lines per inch, and the size of the top and bottom margins on your page. The flexibility of the program thus enables you to design pages other than the standard 8 1/2 x 11 inches and to build intricate forms.



Align your paper properly in the printer to get the vertical page layout you want.

### DOT COMMANDS FOR VERTICAL PAGE

The following dot commands, described fully in this section, control vertical page layout:

<b>.PL</b>	<b>Page Length</b>
<b>.LH</b>	<b>Line Height</b>
<b>.MT &amp; .MB</b>	<b>Top and Bottom Margins</b>
<b>.HM</b>	<b>Heading Margin</b>
<b>.FM</b>	<b>Footing Margin</b>

You can put these commands anywhere in your file between lines of text. However, because **.LH**, **.PL**, **.MB**, **.MT** affect the page break display on your screen, putting them at the beginning of your document lets you see the page breaks as they will occur in your printed document.

If you put the commands elsewhere in your text, you'll see a warning message on the line and a question mark in the flag column, but you can leave the command where it is—if that's where you want it.



Use **.PL n** to specify **Page Length** by number of lines. If your page has more or less than 66 lines (11 inches), indicate its length with **.PL**, followed by the total number of lines on the page. Remember, six lines to the inch is the default. If your paper is legal size (14 inches), for example, your dot command would be **.PL 84**.

Out of the total lines for a specified paper length, the number that will actually print depends on the other commands you give WordStar. If no others are given, WordStar tells the printer to leave the standard margins. If you use **.MT**, **.MB**, **.HM**, or **.FM**, WordStar will subtract the number of lines specified in each command from the total length in the **.PL** command; be sure to enter **.MT** and **.MB** commands before entering **.PL**.



If your draft-quality printer prints more or less than six lines to the inch, you must use **.PL** every time you print. Multiply the number of lines to the inch by the number of inches on the paper and use this number with **.PL**.

The paper length specified must be equivalent to actual paper length, unless your printer allows you to print with the "Use Form Feeds" option.  $\leftarrow$  9-22



Use **.LH n** to specify line height by  $n/48$  inch. Thus, to change the default, which is six lines per inch or  $8/48$  inch, type the appropriate number after **.LH**. **.LH 8** would be  $8/48$  or  $1/6$  inch, for example. **.LH** works only on letter-quality printers.

The following table offers a sample of line heights. Note that using a number smaller than five causes overprinting. Notice, too, that **.LH 16** is twice the WordStar standard, that is, half as many lines per inch. **.LH 16** provides an easy way to produce a double-spaced document when it's printed. If you want to have double-spaced text on the screen as well as on paper, use **^OS**.

Dot Command	Lines Per Inch
<b>.LH 5</b>	9.6
<b>.LH 6</b>	8
<b>.LH 8</b>	6*
<b>.LH 10</b>	4.8
<b>.LH 16</b>	3
<b>.LH 24</b>	2

\* WordStar standard



If you change line height, be sure to enter **.LH 8** to return to the default.

Line height affects page length and top and bottom margins. If you enter a command to change line height *before* you enter the other commands, **.PL**, **.MT**, and **.MB** will be interpreted according to the new line height. If you change line height *after* giving one of these commands, however, the margins and paper length won't be affected by the new setting and will be interpreted according to the default line height.

Here is an example: If you enter **.LH 6** *before* **.MT 4**, your top margin will measure  $1/2$  inch (4 lines of  $6/48$  inch each). But if you enter **.LH 6** *after* **.MT 4**, your top margin will measure  $4/6$  inch (4 lines of  $8/48$  inch).



Use **.MT n** to specify the number of blank lines at the **Top** of the page. The default is three blank lines and includes the page heading and the heading margin. To increase the amount of text on the page, decrease the top margin; to decrease the amount of text, increase the top margin.



A dot command stays in effect until you turn it off or change its value. If you have changed the top margin for some of your pages, be sure to use **.MT 3** to return to the default.



Use **.MB n** to specify the number of blank lines below your text at the **Bottom** of the page. The default is eight blank lines and includes the page number or footing and the footing margin.



Use **.HM n** to specify the **Heading Margin**, i.e., the number of blank lines from the page heading to the body of the text. The default is two blank lines. If you use **.HE** to specify a single-line heading, there will be two blank lines below the heading, making a total of three blank lines at the top of the page—the default for the top margin.



Heading lines are counted as part of your top margin. If you add a heading without adjusting the default margin (three lines), two blank lines will appear between the header and your text.



Use **.FM n** to specify the number of blank lines between the body of your text and the **Footing** or page number. This command positions the footing within the bottom margin. The default of two blank lines is unaffected even when you change the bottom margin.

## Headings and Footings

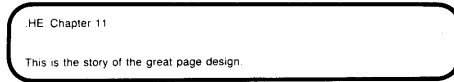
Headings and footings are single lines of text which are included in the top and bottom margins with the heading and footing margins. You only need to enter these dot commands once, at the start of the file, and your headings and footings will be repeated on every page of a document. The default is no heading and automatic page numbering as footing.



Use **.HE** to insert a single line of **H**eading within the top margin of the page. After typing **.HE**, beginning in the first column, type a space (optional), then text or spaces. You can also use special print controls for custom page numbering.  $\leftarrow \rightarrow$  7-31

When you want to return to the default of no heading, use **.HE** alone. If you want the heading to appear flush with the left margin, do not type more than one space between **.HE** and the text.

Here is an example:





Notice that the printed text appears in a position four spaces to the left of its screen position. On the screen the heading is pushed over four spaces by the dot command, which does not print, and by the space (optional) following it.

A dot command occupies space on the screen but not on paper.

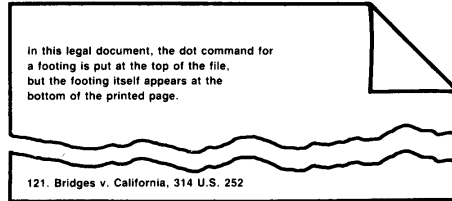
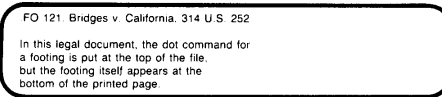
You can move the heading closer to or farther from the body of the text by changing the heading margin.



Use **.FO** to put a single line of Footing within the bottom margin below the text. After typing **.FO**, beginning in the first column, enter a space (optional), then text or spaces. You can also use special print controls.  $\leftarrow \rightarrow$  7-31

The footing appears on every page until you enter **.FO** alone to return to the default, a centered page number. If you want the footing to appear flush with the left margin, do not type more than one space between **.FO** and the text.

Here is an example:



If you change the footing margin, the footing moves up or down on the page, but the number of lines of text on the page remains the same.

No footing will be printed if the bottom margin is set to zero.

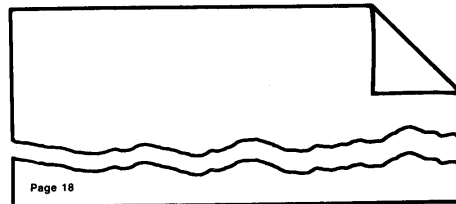
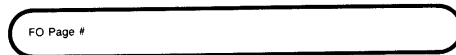
When a command for a heading or footing is given, the character pitch currently in effect stays in effect. If you later change the pitch in the text with `.CW`, neither heading nor footing will be affected. However, if you use `^PA` or `^PN` within the heading or footing, the pitch in effect at the time the heading or footing is printed will affect the command lines as well as the text.

The print control commands for special effects like boldfacing can be used in headings and footings without affecting the body of the text. Conversely, special effects in the text do not affect headings or footings.

There are three special print controls which work only in headings and footings.



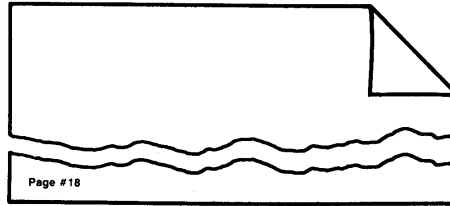
Use `^P#` to print the current page number in a heading or footing. Here is an example:



*WordStar*

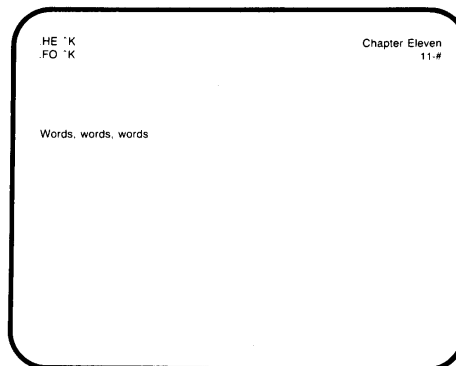


Use `^P\ to specify that the next character entered is to be printed exactly as it appears on the screen. Here is an example with the back slash:`



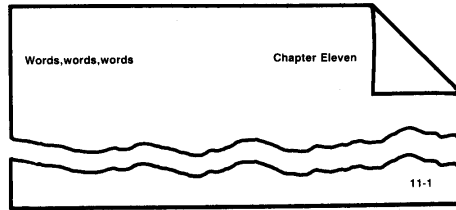
Use `^PK` to print headings and footings for even-numbered pages on the left and for odd-numbered pages on the right.

The following example illustrates how `^PK` works on odd and even numbered pages.

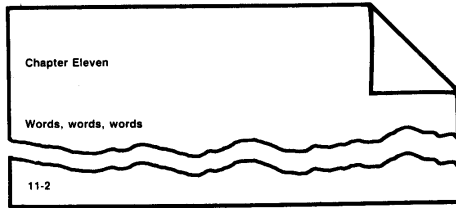




Odd numbered pages will look like the following illustration:



Even numbered pages will look like the following illustration:



**WHAT IS A PAGE BREAK?**

**Pages**

WordStar lets you decide where one page ends and the next begins. With no commands from you and with 8 1/2 x 11 inch paper in the printer, WordStar will begin a new page every 66 lines. Because vertical margins account for eleven of these lines, the page break display on your screen shows up at line 55.

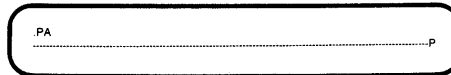
Two WordStar commands, **.PA** and **.CP n**, can help you to avoid page breaks that would produce the following awkward results:

- The first line of a paragraph stranded at the bottom of the page
- The last line of a paragraph sitting alone at the top of the following page
- A chart or a table cut in two



Use **.PA** to insert a **PA**ge break wherever you want it.

When it encounters **.PA**, WordStar directs the printer to roll a new page. Type **.PA**, beginning in the first column on any line in a document file, and then press RETURN. The dotted line of the page break display immediately appears on the next line.



You can turn off the display of page breaks with **^OP**, but the breaks will still occur.



The status line at the top of your screen always reports the cursor position. When you type **.PA**, the status line reports the line number at which you are commanding a page break. If you move the cursor just below the page break display, the status line reports the new page number and starts again at line 1.



Use **.CP n** to insert a **Conditional Page** break. **.CP n** tells WordStar: "Unless there are *n* lines remaining for text on this page, print the next *n* lines of text on the next page."

If less than *n* lines remain on the page, a page break display appears below the **.CP** command to indicate where the new page begins.

Here is an example in which **.CP** prints all the lines of a chart on one page:

.CP6

CALIFORNIA NATIVE PLANTS

COMMON NAME	BOTANICAL NAME
Larkspur	Delphinium patens
Fire-Cracker Flower	Dichrolostermia ida-maia
Footsteps-of-Spring	Sanicula arctopoides

In this example, the six lines of the table will always print on the same page.

When you do a lot of editing, **.CP n** is a safeguard. No matter how much you change your document, the lines you want kept together stay with the **.CP** command.

**PAGE  
NUMBERING**

Three dot commands, **.OP**, **.PN**, **.PC**, offer you page numbering options. The default is sequential numbers printed in column 33 (30 if your screen is 64 columns wide).



Use **.OP** to **Omit Page** numbers. When WordStar prints your letters and memos, put **.OP**, beginning in the first column, at the top of your file. Even if your document has several pages, none will be numbered. This command is unnecessary if you use a footing. Your footing can specify numbered or unnumbered pages.  $\hookrightarrow$  7-31



Use **.PN** to restore **Page Numbers** after you have used **.OP** to omit them. Don't worry about setting the number; WordStar automatically picks up sequential numbering. Suppose, for example, that you have a ten-page document file; use **.OP** at the beginning of the file and insert **.PN** on page 6. When you print, you'll see five pages unnumbered and five pages numbered consecutively, 6, 7, 8, 9, 10.

Use **.PN n** to set the page number at *n*. WordStar automatically puts sequential numbers on subsequent pages. For example, if you put **.PN 217** at the top of a page, **218** will automatically be printed on the next page.

**NOTE:** When you choose the option that allows you to begin printing at a specified page number, use the number from the sequence specified by the **.PN** command. For example, if you put **.PN 25** at the top of a file and want to print the third page of that file, type **27** in response to the page number prompt.  
 $\hookrightarrow$  9-22



Use **.PC n** to specify the **Column** number in which the **Page** number appears at the bottom of the page. **.PC n** will only work when you are not using a footing and have not omitted page numbers. The character pitch used is that of the character pitch in effect when the command is given.

---

## PRINTER PERFORMANCE

Much of your printer's performance depends upon the printer itself. However, WordStar can control mechanical aspects of printing, such as pauses and movement of the print head.

### Bidirectional Printing



Use the toggle switch **.BP** to turn **Bidirectional Printing** on and off. Bidirectional printing proceeds in two directions. Letter-quality printers save time by printing left to right and then back again, right to left. **.BP OFF** or **.BP 0** turns bidirectional printing off, and **.BP ON** or **.BP 1** turns it on again. **.BP OFF** (or 0) is helpful if you're printing tables or if the character registration or paper feed mechanisms on your printer are not operating well.

### Page Offset



Use **.PO n** to specify **Page Offset**, the column in which the print head actually begins to print. This command offsets the entire document to the specified column (*n*). The default is eight columns from the left edge of the paper. To move the text to the left edge of the printer carriage, use **.PO 0** at the start of the document.

### Starting and Stopping

#### HOW TO MAKE THE PRINTER PAUSE



You can start and stop your printer with its own toggle switches, or you can control it from the Opening Menu with **P** or the Main Menu with **^KP**.

Use **^PC** to pause anywhere in the printing of a document file—in the middle of a line or several times in the same line. At lines containing **^PC**, WordStar automatically suspends bidirectional printing so that printing will pause in the correct place. Imagine what would happen if you placed **^PC** before a phrase to be printed in red and print head approached from right to left. The print head would reach the command and pause—too late for a ribbon change.

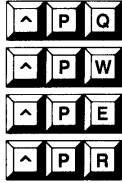
When you print the document which contains **^PC**, you will see this message above the Opening Menu:

Print paused printing A:FILENAME not editing

On the Opening Menu you will see:

P Continue PRINT

To resume printing, type **P**.



### Special Features (User Patches)

Your printer may have special features, such as mechanisms for feeding individual sheets of paper or changing type fonts. Once installed, these features will be activated as the program encounters one of the corresponding print controls, **^PQ**, **^PW**, **^PE**, or **^PR**. Until then, however, the four commands will not function. If your system can support these modifications, read the WordStar Installation Manual.

### COMPATIBILITY WITH OTHER PROGRAMS

---

Three rarely used commands **^PI**, **^PJ**, and **^PL**, make WordStar compatible with other word-processing software. Since other programs cannot recognize WordStar code, these commands use characters from the ASCII, which are rarely used for normal word processing; you won't see them on the Print Menu.

#### Fixed Tab



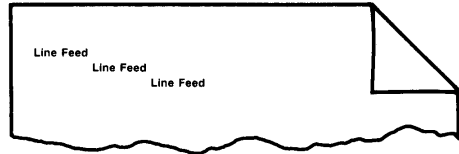
Use **^PI**, the ASCII fixed-tab character, to shift to fixed tabbing. **^PI** enters **^I** as one unit, eight characters long, into a file. The effect is the same as pressing **^I** in non-document mode.  $\longleftrightarrow$  10-11

#### Line Feed



Use **^PJ**, the command for the ASCII line-feed character, to direct the printer to move to the line below without returning to column 1. You'll see **J** in

the flag column at each line feed, as in the following example:

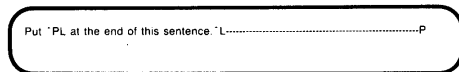


A line feed advances the paper in your printer one line. Unlike the carriage return on a typewriter, which causes a RETURN *and* a line feed, a carriage return on a computer can be distinct from a line feed. To make WordStar compatible with other text programs, you may want to give a separate command for a line feed.

### Form Feed



Use **^PL**, the command for the ASCII form-feed character, to direct the printer to roll up the distance of the form being printed, usually a standard 8 1/2 x 11 inch page. **^PL** causes a page break to occur on the screen, beginning at the column where **^PL** is entered. Look at the following example:





## COMMENT LINES

---



Use two dots, beginning in column 1, to add lines of text which will not print. You can also use multiple comment lines in succession and type up to a practical limit of 240 characters after the two dots.

Here's an example:

.. Edited by J.R. 12/9/82



Use **.IG** to add a line of text which WordStar will **IG**nore at print time. Like the two dots, **.IG** can be used as often as you like in a file and has a limit of 240 characters.

Here's an example:

.IG Print two double-spaced copies.

SUMMARY TABLE: PRINT CONTROL COMMANDS	
COMMAND	FUNCTION
	<b>Special Effects:</b>
<b>^PS</b>	Underlines all characters (not spaces) between first and second occurrence
<b>^PD</b>	Double strikes all characters between first and second occurrence, producing a light boldface
<b>^PB</b>	Boldfaces all characters between first and second occurrence
<b>^PX</b>	Prints hyphens (--) over all characters (not spaces) between first and second occurrence
<b>^PH</b>	Causes next character to print over character in same column
<b>^P RETURN</b>	Causes next line to print over present line
<b>^PY</b>	If printer allows, prints characters between first and second occurrence in alternate ribbon color
<b>^PV</b>	If printer allows, prints characters between first and second occurrence a fractional line below other text, producing subscript
<b>^PT</b>	If printer allows, prints characters between first and second occurrence a fractional line above other text, producing superscript
<b>^PF</b>	For letter-quality printers, prints a character not seen on keyboard (phantom character)
<b>^PG</b>	For letter-quality printers, prints a character not seen on keyboard (phantom rubout)
	<b>Layout:</b>
<b>^PA</b>	For letter-quality printers, sets pitch at 12 characters per inch (elite)
<b>^PN</b>	For letter-quality printers, sets pitch at 10 characters per inch (pica) or—with ^PA—at pitch set by .CW
<b>^PO</b>	Inserts a non-break space between two characters, preventing word wrap or paragraph re-forming from separating two words
	-continued-

**SUMMARY TABLE: PRINT CONTROL COMMANDS  
(continued)**

COMMAND	FUNCTION
^P#	<b>Layout, (continued):</b> In heading (.HE) and footing (.FO) lines only, prints the current page number
^P\ ^PK	In headings and footings only, prints the symbol immediately following the slash, rather than interpreting it as a program function
^PK	In headings and footings only, causes text or page numbers to alternate position on left-and-right or odd-and-even pages
^PC	<b>Others:</b> Stops printing until you press P again at Opening Menu
^PI	Inserts a fixed-tab space, eight characters wide
^PJ	Inserts a line feed while printing the present line
^PL	Inserts a page break while printing the present line
^PQ	Special feature (User patch 1)
^PW	Special feature (User patch 2)
^PE	Special feature (User patch 3)
^PR	Special feature (User patch 4)

7. Page Design

<b>SUMMARY TABLE: DOT COMMANDS</b>	
<b>COMMAND</b>	<b>FUNCTION</b>
	<b>Layout:</b>
<b>.CW <i>n</i></b>	For letter-quality printers, sets character width to <i>n</i> /120 inch (default: 12/120 inch, 10 characters per inch)
<b>.UJ OFF</b>	Turns microjustification off to print all spaces exactly as they appear on screen (default: on)
<b>.UJ ON</b>	Turns microjustification on, distributing spaces in a line by 1/120 inch increments
<b>.PL <i>n</i></b>	Identifies number of lines on entire page (default: 66 lines, 6 lines per inch on an 11-inch page)
<b>.LH <i>n</i></b>	For letter-quality printers, sets line height to <i>n</i> /48 inch (default: 8/48 inch, 6 lines per inch)
<b>.MT <i>n</i></b>	Sets number of lines from top of page to beginning of text (default: 3)
<b>.MB <i>n</i></b>	Sets number of lines from end of text to bottom of page (default: 8)
<b>.HM <i>n</i></b>	Sets number of blank lines between heading (.HE) line and first line of text (default: 2)
<b>.FM <i>n</i></b>	Sets number of blank lines between last line of text and footing (.FO) line (default: 2)
<b>.HE <i>text</i></b>	Prints one given line of text as heading on every page until .HE is used again without text or with a new line of text (default: no heading)
<b>.FO <i>text</i></b>	Prints one line of text as footing on every page until .FO is used again without text or with a new line of text (default: page number, centered)
<b>.PA</b>	Starts new page at indicated line (default: 55 lines of text before a page break)
<b>.CP <i>n</i></b>	Specifies number of lines in which no page break is to occur; <i>n</i> lines will stay together on subsequent page
<b>.OP</b>	Omits page numbers (default: consecutive page numbers)

-continued-

SUMMARY TABLE: DOT COMMANDS (continued)	
COMMAND	FUNCTION
	<b>Layout, (continued):</b>
<b>.PN</b>	Returns to accurate page numbers after .OP
<b>.PN <i>n</i></b>	Sets page number at <i>n</i> and numbers subsequent pages consecutively
<b>.PC <i>n</i></b>	Sets column at which page number prints when no footing (.FO) is specified (default: center column)
	<b>Others:</b>
<b>.SR <i>n</i></b>	For letter-quality printers, rolls the printer carriage <i>n</i> /48 inch before printing a sub or superscript
<b>.BP OFF</b>	For letter-quality printers, prints every line from left to right (default: on)
<b>.BP ON</b>	For letter-quality printers, permits alternate lines to print right to left
<b>.PO <i>n</i></b>	Sets number of columns to indent all lines of document from printer's left margin — in addition to all other indentation in the file (default: 8)
<b>.. or .IG</b>	Identifies line of text immediately following as .IG onscreen comment line only, not to be printed

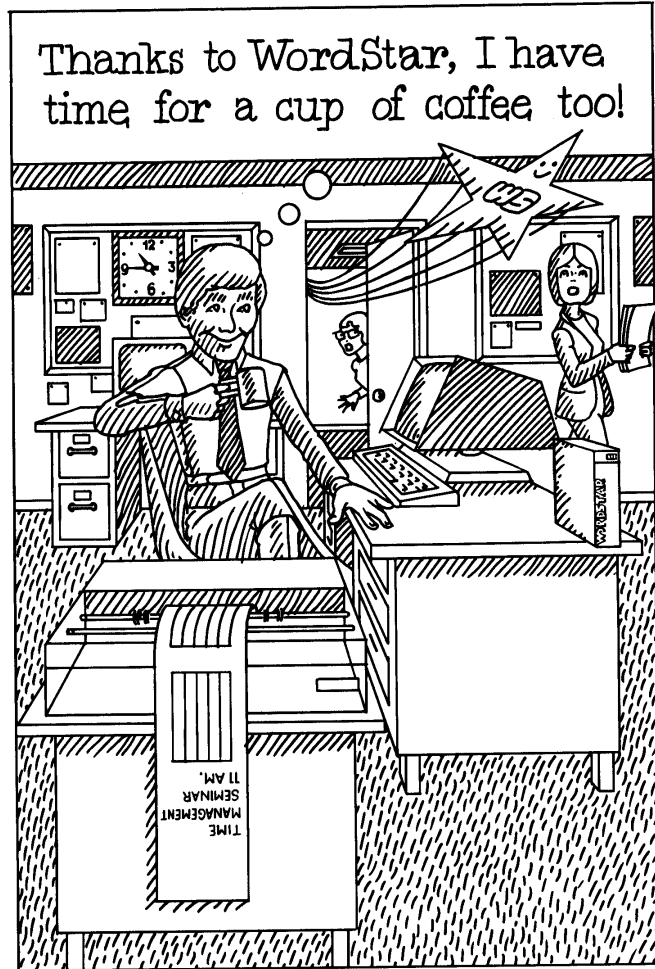
*WordStar*

## 8. WORKING WITH TABLES

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## 8. Working with Tables

---

During normal text entry, you use various WordStar features, such as tabs, decimal tabs, and margin settings. When you enter tabular material, however, your editing will be more precise if you turn off or adapt many features, such as insertion and word wrap.

### GENERAL GUIDELINES

Follow these general guidelines:

- Turn insertion off (^V). When this toggle switch is off, a change in one column will not affect other columns on the same line.  $\hookrightarrow$  3-12
- Turn word wrap off (^OW). When this toggle switch is off, your format will not be ruined by words “wrapping” into the wrong column.  $\hookrightarrow$  6-3
- Release the margins when necessary (^OX). With insertion off and the margins released, corrections or additions to one column will not affect another.  $\hookrightarrow$  6-9
- Define a ruler line for the table. If you are editing an existing table, be sure the ruler line matches the data. Reset the margins, if necessary, (^OL and ^OR). Clear all tab stops (^ONA), then set the tab stops needed for this table (^OI).  $\hookrightarrow$  6-7
- If you need to redefine this ruler line several times, type a copy of it into the text. Then you can reset the ruler line with ^OF rather than change tabs and margins each time.  $\hookrightarrow$  6-17
- If you are editing a table that requires decimal tab stops, use ^I or the tab key to get to the stop. You'll activate the right alignment feature as you move the cursor. Be sure to turn insertion off before tabbing.  $\hookrightarrow$  6-11
- Use ^KN, column mode, to simplify moving, copying, and deleting information.  $\hookrightarrow$  4-10

## USING PRINT CONTROLS

---

### HEADINGS

Table headings frequently require special printing effects such as underscoring (^PS) or boldfacing (^PB). The commands for these effects push text to the right on the screen, making it difficult to align column headings properly. To avoid confusion, simply type the headings and enter print control commands *after* aligning headings. ⇐→ 7-29

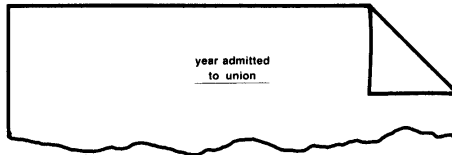
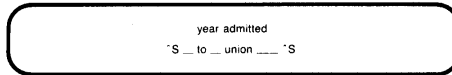
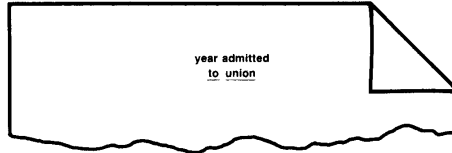
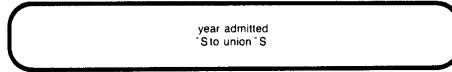
You can also use ^OD to turn print controls off and double-check the alignment. ⇐→ 6-18



NOTE: Turn the print controls back on (^OD) to make sure that you entered balanced pairs of print commands.

When underscoring a heading, especially one with multiple lines, remember that WordStar underscores only characters, not blanks. You must type underscores in the spaces between words.

Look at the following examples on screen and on paper:



If you use the same or similar headings for several different tables, you can save copies of the headings in a separate file and avoid retyping.

COLUMNS

To make sure that the print control commands for a single column affect only that column you must enter a pair of commands on *each line* of the column that requires special printing, as in these examples:

```
'Bboldface Column' B      No Boldface
'Bboldface Column' B      No Boldface
'Bboldface Column' B      No Boldface
'Bboldface Column' B      No Boldface
```

```
boldface Column          No Boldface
boldface Column          No Boldface
boldface Column          No Boldface
boldface Column          No Boldface
```

If you place the beginning command on one line and the end command several lines below, you may accidentally boldface or underline information in other columns. Look at these examples:

```
'Bboldface Column          No Boldface
boldface Column           No Boldface
boldface Column           No Boldface
boldface Column' B       No Boldface
```

```
boldface Column          No Boldface
boldface Column          No Boldface
boldface Column          No Boldface
boldface Column          No Boldface
```

## AVOIDING MICROJUSTIFICATION AND WORD WRAP PROBLEMS

---

When you use a letter-quality printer to produce a table, you may find that your carefully entered columns are out of alignment on the page, even though they are letter-perfect on the screen. Word wrap and microjustification, which usually work together to produce attractive final copy, have had the reverse effect in this case. (Microjustification is inactive on draft-quality printers.)

Here are several ways to prevent microjustification from affecting your tables:

- Use `.UJ` to turn off justification temporarily. Insert `.UJ OFF` before you type your table and `.UJ ON` when you finish.  $\longleftrightarrow$  7-24
- Use `^OW` or `^OX` to turn off word wrap temporarily.  $\longleftrightarrow$  6-3
- Set the margins much wider than the table to avoid activating word wrap. Since no item can reach the margin, you will also have to end each line with a hard carriage return. If a line should accidentally word wrap, do not correct it. Turn word wrap off, delete the line (`^Y`), and then re-enter it. Attempting to correct the line may leave a soft carriage return embedded in the text, and this carriage return could activate microjustification.

### RESCUING TABLES

To rescue a table that you have accidentally re-formed with a `^B` command, follow these steps:

STEP 1 Set the margins much wider than the original table.

STEP 2 Re-form the table with `^B`.

You'll have to re-enter the table if the columns are still completely out of alignment after this step.

STEP 3 If re-forming brings the table close to alignment, correct any minor problems by adding or deleting spaces.

STEP 4 Surround the table with .UJ commands to eliminate any soft carriage returns inserted when you press ^B.

### ENTERING TABLES WITH MULTI-LINE ITEMS

---

Frequently columns in a table contain items that require more than one line, as you see in the following example:

!	#	L.....R
225-01	124.50	Linear motor assembly with 3/8" mounting holes on base flange. Chromed bezel.
225-02	139.50	Same as above but with quick-release latch and matched mounting board.
225-03	92.50	Same as above but without base. Requires P/N 256 base or equivalent.

To align unequal columns, use slightly different procedures, depending upon where the multi-line items appear—in the last column, in the first column, or in several different columns.

### Multi-line Items in the Last Column

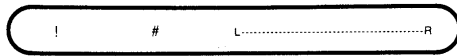
The previous example shows a table with multi-line entries in the last column. Either of two methods will work for this type of table.

The first method requires that you set temporary margins (^OG) as you build tables. Then you can allow word wrap to align column boundaries.

The second method requires more preparation but speeds up entering long tables. Follow these steps:

STEP 1 Press ^OX to release margins and to display tab stops to the left of left margin.

STEP 2 Define the WordStar ruler by clearing all tab stops and then setting just those you need, as you see here:



(This ruler was set for the table in the previous example.)

STEP 3 Tab to the first stop and type the first item. Tab to the second tab stop and type the second item.

STEP 4 PRESS ^OX to restore margins.

STEP 5 Tab to the third stop, and type the third item. RETURN

STEP 6 Repeat steps 2-5 until you complete the table.

### Multi-line Items in the First Column

When you are typing a table with multi-line items in the first column, follow these steps:

**STEP 1** Define the WordStar ruler by clearing all the tab stops and then setting the ones you need, as you see here:

-----R		#
Linear motor with 3/8" mounting holes on base flange. Chromed bezel.	225-01	124.50

**NOTE:** Make sure to set the right margin a few columns short of the first tab stop.

**STEP 2** Type the first item of the first entry, allowing word wrap to position the text within the margins.

**STEP 3** Move the cursor to the end of the first line, release the margin (^OX), tab to the second tab stop, and type the second item. Continue tabbing and entering until you have completed the entry for each column. *Don't press RETURN.*

**STEP 4** Move the cursor past the right margin in the last line of the first column, then press RETURN twice. Repeat steps 2-4 until you have completed the table.



Be sure the cursor is past the right margin before you press RETURN. Otherwise, margin release won't be cancelled.



### Several Multi-line Items

You can create a table with several multi-line items by avoiding word wrap after the first multi-line item has been typed.

One way to avoid word wrap is to type the first line in each item of the entry, then the second line, and so on. End each entry line with a hard carriage return before the line overflows into the next column.

Also, you can type multi-line items one below the other and then move them into place with column mode (^KN and ^KV). In this case, word wrap will not push your other entries out of alignment.

*WordStar*

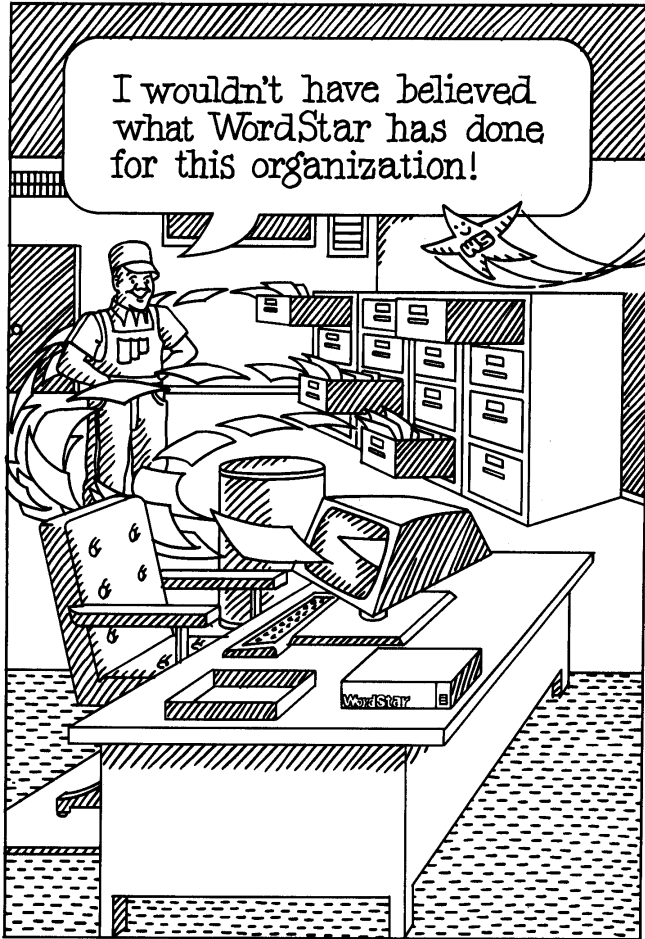
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## 9. FILES, DISKS, PRINTOUTS

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## 9. Files, Disks, Printouts

---

In addition to editing your work inside WordStar document files, you use many program features which work on whole files as units. You can save, copy, rename, and delete files; you can work on alternate disk drives or run other programs; and you can print the contents of one file while editing another.



When you're working with whole files at the Opening Menu, it's best to think through what you want to do before issuing commands. An accidental "Delete File" operation, for instance, could create a lot of extra work for you.

---

### SAVING FILES

#### WHY SAVE YOUR FILES?

The ability to save your files is one of the advantages of a word-processing system over a typewriter. You never have to type anything twice—provided you save your work.

Your computer is reliable, but if normal power is interrupted, any work you have not stored will normally be lost. Saving your work periodically allows you to retrieve a recent copy, should the latest version suddenly become garbled or non-existent.



#### Save-and-Resume Command

Press **^KS** to save and reSum work on the same file. The current version of your file will be written onto the disk, and the cursor will go back to the beginning

of your file. Enter this save command at any point while working in your file.

PRESS **^KS**

SEE

WAIT  
Saving file: filename.EXT

When your file has been saved, you'll see the following prompt:

To return cursor to position before save,  
type ^QP before typing anything else.



Press **^QP** if you want to return to your **Place** in the file before you used **^KS**. Otherwise, resume work at the beginning of your file; the prompt will disappear from your screen.

You can speed through the save-and-resume operation by holding down the control key and pressing the keys **KSQP** in quick succession. After the **WAIT-Saving** message has appeared on your screen, your work is protected, and you're still at the same place in your file.

#### Returning to Opening Menu



Press **^KD** if your work in the current file is **Done** and you're ready to move on to another task. You save your current file and return to the **Opening Menu**.

**Leaving the Program**

Press **^KX** if your work is complete, and you want to eXit to your operating system. You save the current file, and the cursor appears at your operating system prompt. (A portion of the text you save with **^KX** may remain on the screen, but you can't edit it.)

**Abandoning the Current File**

Press **^KQ** to Quit editing the current version of a file without saving your changes. The current copy disappears, but the original file—without your latest changes—remains on your disk.

Suppose a misdirected command produces confusion in the working copy of your file. Abandoning the current version in favor of the original is probably easier than trying to undo a major mistake. Press **^KQ**. If no changes were made to the file, you'll see this prompt:

Abandoning unchanged file A:filename.EXT

The cursor will return to the Opening Menu. If changes were made, you'll see this prompt:

Abandon edited version of file A:filename.EXT? (Y/N):

Answer **Y** if you're sure you want to quit. You have a chance to think about it first, though.



**^KQ** throws out *all* of the current version, not just the ruined portions. If you have entered other new text that you do want to save, use **^KW** to copy it as a block to a separate file. Then quit the current editing session.  $\hookrightarrow$  4-13

If you answer **N**, the cursor will return to where it was in the file when you pressed **^KQ**; nothing is changed. If you answer **Y** and abandon the current edited version of your file, the cursor will return to the Opening Menu.

### Backup (.BAK) Files

#### HOW TO CREATE A .BAK FILE

When you open an existing file from the Opening Menu, a *working copy* is written into your computer's working memory. The permanent file remains on your disk, unaltered.

After editing, when you press **^KS**, **^KD**, or **^KX**, the working copy is written onto the disk and assumes the name of the previous permanent file. The old file becomes a WordStar backup file with the extension **.BAK** (*filename.BAK*). Here's what happens to your disk:

1. *Filename.BAK* (if any) is erased.
2. Your permanent *filename.EXT* (without current changes) is renamed *filename.BAK*.
3. Your working copy of *filename.EXT* (including current changes) is written from RAM; it becomes the "permanent" file for your next editing session.

The first time you save a new file, you'll have only one permanent file. After subsequent save commands, however, each subsequent permanent file becomes the next backup file.

NOTE: You can't edit **.BAK** files; they're saved in compressed form to conserve memory space. You can rename them, though, before editing. In this chapter you'll learn how to use **.BAK** files to recover files.

↔ 9-11



WordStar helps protect your work by creating a .BAK file at every opportunity. If, however, power irregularities interrupt your work or a magnet affects the disk, your file could still be lost. Avoid these mishaps by making additional copies on separate disks. See your operating system manual for procedures.



Pressing **^KS^QP** takes only moments of your time and protects the work you're editing. You should also consider copying your work file to a separate disk every so often. Add **^KO** to the end of the **^KS^QP** procedure. Hold down the control key and press **KSQPKO** in quick succession.

## OTHER FILE FUNCTIONS

---

You can copy, rename, or delete a file from the Opening Menu or from the Main Menu while you're editing a file. Your operating system probably has commands to perform all these functions, too, but you must exit from WordStar to use them. In most cases, the WordStar commands are more convenient.

### Reading the Directory



Use **F** at the Opening Menu to switch the File directory for your currently logged disk drive on or off.



Use **^KF** to read the directory while editing a file. Whenever you need to review file names while editing a file, you can press **^KF**. You'll see part of the text area on your screen replaced by the directory. When you find the file name you need, use **^KF**, a toggle switch, to remove the directory from your display.

### Copying Files



At the Opening Menu, type **O** to **cOpy** a file.



Use **^KO** to copy one file while you're editing another. You can't copy the current version of the file you're editing, but you can copy the version without your most recent changes on the disk.

You *can* copy the current version of the file you're still editing, using **^KW**. Insert block markers at either end of the text you want copied, and **Write** the block to another file.  $\leftarrow$  4-13

#### HOW TO COPY

When you enter either **O** or **^KO**, you'll see the following prompt:

Name of file to copy from?

TYPE *filename.EXT* (a valid file currently on your system)

SEE

Name of file to copy to?

TYPE *filename.EXT*

If you tell WordStar to copy into an existing file, you'll see this prompt:

file A:filename.EXT exists — overwrite (Y/N):

If you type **Y**, the current file *A:filename.EXT* is erased and replaced by the file you're copying. Be sure you want the current file to be deleted before you answer **Y**.

Press **N**, **ESCape**, or **RETURN** to answer **No**; you'll return to the "copy to?" prompt. Use **^U** to cancel the operation entirely.

You may copy files to and from disks other than the logged disk by entering the full name of the file, e.g., *B:filename.EXT*.

You can copy only one file at a time.

### Renaming Files



At the Opening Menu, type **E** to **rEname** a file.



Use **^KE** to rename one file while editing another. You can't rename the file you're currently editing.

When you enter either of these commands, you'll see the following prompt:

Name of file to rename?

You can rename a file on another disk by entering the full name of the file, e.g., *B:filename.EXT*. You cannot, however, change disk assignments while renaming a file; use the file-copying command instead.

If you enter an invalid file name or the name of a file not on your disk, this message will appear:

File A:filename not found

If you enter a valid file name at the first prompt, a second prompt appears:

New name?

When you rename a file, you may also want to rename the corresponding .BAK file.

You can cancel the renaming command by pressing ESCape or RETURN as your only response to one of these prompts, or you can use ^U to interrupt.

Renaming a file does not affect disk storage requirements.

### Deleting Files



At the Opening Menu, type Y to delete a file.



Use ^KJ to delete one file while you're editing another. You can't delete the file you're currently editing.

When you enter either of these commands, you'll see the following prompt:

Name of file to delete?

TYPE *filename.EXT* A small rectangular icon containing the word 'RETURN', representing the key used to confirm the deletion.



Be very careful with this command. You can easily delete the wrong file by mistake, especially when several files have similar names. If you change your mind, cancel the deletion command by pressing ESCape or RETURN as your only response to the prompt, or use ^U to interrupt.

Using **Y** and **^KJ** commands, you can only delete one file at a time. Deleting *filename.EXT* leaves *filename.BAK* on your disk. When you intentionally delete a document, you should also delete the backup file to conserve disk space. On the other hand, if you accidentally delete a file, the *.BAK* file allows you to recover the deleted text.

### Recovering a Deleted File

Use *.BAK* files to recover files you accidentally delete. The process is simple. To recover the erased file *filename.EXT*, press **^KO** (while editing a file) or type **O** (at the Opening Menu). You'll see the following prompt:

Name of file to copy from?

TYPE *filename.BAK*

**RETURN**

SEE

Name of file to copy to?

TYPE *filename.EXT*

**RETURN**



You can use almost any extension (*.EXT*), or none at all, in the second file name, but avoid **.BAK**. You can't edit a *.BAK* file. You should also avoid extensions like *.COM* or *.OVR* which appear in program names; check your operating system manual for others.

---

## CHANGING THE LOGGED DISK DRIVE



At the Opening Menu, type **L** to change the Logged disk drive, the disk drive where the computer's work is currently being done. You'll want to work on a second drive whenever your currently logged disk is getting too full.



Use **^KL** to change the logged disk drive while you're editing a file.

When you enter either of these commands, you'll see the following prompt:

The Logged disk drive is now A:  
New Logged disk drive (letter, colon, RETURN)?



Enter the letter of another disk drive in your system and press RETURN. If you enter the letter of a drive not on your system after you type **L** or **^KL**, you'll cause an error which requires you to restart your system.

---

## RUNNING WORDSTAR OPTIONS

At the Opening Menu, you can use any optional WordStar programs you may own. Simply enter the appropriate command:

**M** = MailMerge  
**S** = SpellStar

Here are brief descriptions of each:



- MailMerge helps you merge files, print any number of files in a chain, bring datafile information into form letters for personalized mailings, and more.



- SpellStar enables you to proofread a document automatically and find typing errors or misspelled words.

For detailed information, see the appropriate reference manual.

If you accidentally start to run a program you don't own or one that's on another disk, you'll see an error message. Press ESCape, and change disks.

↩ B-9

If you change your mind about running the program, use ^U before completing your response to the first prompt in the program option. Otherwise, use appropriate menu choices within the program to return to the WordStar Opening Menu.

---

### RUNNING OTHER PROGRAMS



Type **R** at the WordStar Opening Menu to **Run** another program, such as a utility supplied with your operating system.

You cannot leave WordStar while a file operation, such as copying or printing, is in progress. The **R** command will take effect after the operation is completed.

To run a program while the cursor is at the Opening Menu, follow this procedure:

TYPE **R**


SEE **COMMAND?**

TYPE the program name



## WordStar

When you're finished with the other program, you'll see the following message:



Hit any key to return to WordStar

Press any key to return to the WordStar Opening Menu.

A typical use for the **R** command is to run the system utility that checks the amount of space available on the disks you are using.



Type **X** at the Opening Menu to eXit from WordStar. You'll return to your operating system and see the cursor at the operating system prompt.

You cannot leave WordStar while a file operation, such as copying or printing, is in progress. The **X** command will take effect after the operation is completed.

### STOPPING WORK

After you exit to the operating system and are ready to quit work for the time being, remove all floppy disks and turn the system off. Be sure that disks are labeled properly and stored safely. Don't leave them in disk drives when the system is turned off; your files may become unreadable.

Although you don't have to exit to the operating system (**X** or **^KX**) before turning off your computer, it's a good habit to develop. You can use your power switch any time, but you may lose files or data. When you leave WordStar first, you know that all file operations are completed before you shut down.

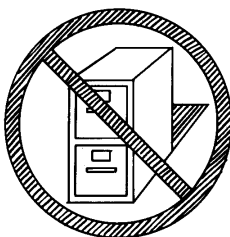


## DISK MAINTENANCE

---

If your computer is equipped with a hard disk, you may want to skip the following discussion. Chances are, though, that you'll use floppy disks sooner or later.

Disk files in a personal computer system serve the same purpose as filing cabinets in the traditional office; they store information so you can retrieve it easily. Unlike paper files, however, disk files require special care in labeling and storage.



### Storage

#### COMFORTABLE CONDITIONS

Store your disks under conditions that *you* would find comfortable. Protect them from extreme heat or cold, dryness or dampness, and dust. Be especially careful to avoid strong magnetic fields. In a home environment, magnetic fields may be generated by TV sets, appliances, motors, magnets, hi-fi speakers, etc. Don't leave your disks on top of a speaker. Store them upright—vertically—in a box or container that keeps excess dust away.

WordStar

Never lay a sleeveless disk on any surface, and keep the "underside" of a disk (the side your disk drive uses to write and read data) clean.

### Security

#### PROTECTION FROM ACCIDENTS

A single-user system, such as a personal computer, does not pose many of the security problems of a multi-user system. Still, the information in your files is valuable and needs protection from accidents.

Place strips of thin tape (write-protect tabs) over the notch in a disk's side to allow reading from *but not writing to* a disk. Also, check your operating system for a command that will change a file from **R/W** (Read or Write) to **R/O** (Read Only) and back again. Use this function to protect individual files against accidental changes.

Finally, if several people use your computer and you want to protect the contents of your personal disks, don't let others use them. Disks themselves are inexpensive; keep enough on hand for everyone.

### Labels

#### THE FIRST USE AND UPDATES

Label a floppy disk the first time you use it, and keep updating the label as files grow. Don't write directly on a disk's protective cover; write on a separate label and transfer it to the disk. You can change the label—gently—as the disk files change. If you group related files on the same disk, you'll be able to find a particular file more easily.

### Capacity

#### HOW TO AVOID A "FULL" DISK

Unlike a filing cabinet, which almost always seems to have a little more room, a disk which is full is really *full*. Either you'll be unable to add more data, or worse, you'll inadvertently erase other files when you try.



Whenever a file has outlived its usefulness on one disk, delete it or copy it to another disk. Remember the following guidelines for the best use of disk space:

- To avoid exceeding disk capacity, use the operating system command that measures either space in use or remaining space on any disk in the disk drive.
- Check to see how much disk space you have before creating or editing any large file. If you need to change disks to gain space, do so *before* you enter a new file. Changing disks at other times can lead to garbled or lost data.
- Leave yourself and your system room to work. Keep in mind that WordStar may use several temporary files during an editing session.

**FILE SIZE AND DISK CAPACITY**

If your computer system limits the number of files on a disk, use a system utility rather than WordStar to check the number of files. Your WordStar directory does not list some program and system files which *do* take up space on your disk.

You can use WordStar to check the size of your current file. Use **^QC** to go to the end of the file and **^OP** to turn off the page break display; then read the status line:

- **FC** = the number of characters from the beginning of the file to the current cursor location.
- **FL** = the number of lines from the beginning of the file to the cursor line.



Remember the following rules regarding file size:

- Try always to have enough disk space to store three copies of the file you're editing. Remember that you actually create two copies of the file (the permanent file and the .BAK file) if you save your text as frequently as you should. The additional space provides a safety margin for WordStar temporary files while you're editing.
- Whenever possible, break up a very large document into several smaller files.
- Avoid files that are near the maximum size for a single file—8,192,000 characters. Many computer systems can't handle them.

#### TEMPORARY FILES

Very large files don't fit in the memory of a typical personal computer. For portions of your file, WordStar creates temporary files, usually with the extension .\$\$\$ (*filename.\$\$\$*). You don't usually need to be concerned with temporary files. If you're working with a very large file, however, the temporary files can exhaust all remaining disk space.



WordStar never alters your permanent file (the one on the disk) until you save your work. If you want to return to the beginning from the end of a long file (^QR), WordStar is forced to write most of the document to a temporary file. ←→ 3-8



When you use ^QR, a sluggish response time probably means that it's time to break up your large file. If you cannot divide file contents despite limited disk space, simply avoid ^QR. Return to the beginning of the file by saving it with ^KS. Saving the file is safer and faster since most of the text may already be in a temporary file that can be renamed as the newly saved file.

**OTHER  
SHORTCUTS**

Try the following commands to move quickly through large files:

- Before a global find-and-replace command (^QA) in a long file, save it with ^KS.
- Perform block movement and copying commands in large files with the block writing (^KW) and reading (^KR) commands.
- Always save the file (^KS) rather than moving backward through a long file.

**WHEN TO  
CHANGE DISKS**

You can change disks safely at the following times:

- when the screen tells you to do so
- if you're at the Opening Menu and not printing
- at your operating system prompt

You may need to reset your system if you open the door to your disk drive at any other time.

**PRINTING FILES**



At the Opening Menu, type **P** to Print a file.



Use ^**KP** to print one file while you're editing another. Momentary interruptions caused by WordStar doing two jobs at once do not affect your editing. Although simultaneous printing and editing functions each take a little longer, the net effect can still save time.



Your computer may not have enough memory to edit and print at the same time. If not, you'll see an error message before your second command is cancelled.

↪ B-4

### Turn Printing On

#### HOW TO START PRINTING

Type **P** at the Opening Menu, or press **^KP** while editing a file; you'll see the following prompt:

Name of file to print?

TYPE *filename*

SEE list of print options, one at a time

Here's the whole list:

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:

When each option appears, you can respond as indicated or press RETURN for the default. If you want defaults in response to every option on the list, press ESCape instead of RETURN after typing your file name. Printing will begin without the appearance of the options list.

If you name a file that is not on your logged disk drive, you'll see an error message:

file A:filename.EXT not found.

Enter a file name that WordStar can locate. If the file *filename.EXT* exists only on another disk drive, for instance, you can enter *B:filename.EXT*.

### Turn Printing Off

#### HOW TO STOP PRINTING

**P** and **^KP** are toggle switches that initiate or halt printing. If you try to print the same file you're editing, you'll see an error message.  $\leftarrow$  *B-18*

If you press **P** or **^KP** during printing, you'll interrupt the operation. Although WordStar stops sending text to the printer immediately, printing may continue briefly; many printers have a buffer memory to empty. When you stop printing, you'll see the following prompt:

"Y" to abandon print, "N" to resume, "U" to hold:

Type **Y** if you don't want to continue printing the current file.

Type **N** to resume printing immediately.

Press **^U** to suspend printing. The current position in the file is marked so that printing can resume at the same place later. You might want to hold printing, for example, if your system runs too slowly when you print and edit at the same time. You can enter any number of other commands before you resume printing. When you're ready, enter **P** or **^KP**.

When the printout is complete, you'll probably have to issue a form-feed command to your operating system or to your printer.

### Print Options

The six print options offer you special functions such as pausing between pages, beginning or ending at a page number of your choice, and others.

After you respond to each option prompt, the next appears. If you're concerned with only the first few, press ESCape instead of RETURN to skip the remaining prompts.

#### OUTPUT TO DISK

Disk file output (Y/N):

Type **Y** to direct output to a disk file rather than a printer. You'll see the following prompt:

Output file name?

TYPE *filename.EXT*

The resulting file will be a modified image of the printed text file; many formatting commands will not take effect. (^KO is usually a quicker way to copy the file.) Default: No.  $\leftarrow$  9-8

Enter any response other than **Y** for normal output to the printer.

#### PAGE NUMBERS

Start at page number (RETURN for beginning)?

Type a particular page number, followed by RETURN or ESCape.

Type 0 or 1 or press RETURN alone to start printing at the beginning of the document.

If you enter anything but a number, the prompt will stay on your screen. Default: 1.



When you tell WordStar to start printing near the end of a long document, say on page 30 of 35 pages, there will be a significant pause before printing starts. WordStar formats, but does not print, the entire document up to page 30 before printing.

NOTE: If you use **.PN** to renumber the pages in your document, the printed pages will be numbered according to your command.  $\longleftrightarrow$  7-36

Stop after page number (RETURN for end)?

Type a particular page number, followed by RETURN or ESCape. Use this option in conjunction with the start-page option to print selected pages of a document. Default: **end**.

**FORM VS. LINE  
FEED**

Use form feeds (Y/N):

Type **Y** if the length of your page varies; the printer will advance to the top of each page before printing it.

This form-feed option sends a single machine-language character (OC hex) to the printer, rather than the usual series of line-feed characters. Some printers ignore form-feed signals; check your manual.

Enter any response other than **Y** for normal instructions. WordStar will send to the printer the correct number of line-feed characters to advance the paper to the top of the next page. Default: **No**.

**CHECKING DOT  
COMMANDS**

Suppress page formatting (Y/N):

Type **Y** to see dot commands printed, as if they were text, instead of performing their page formatting function. This option can be useful for proofreading. Default: No.

Your text and dot commands will print out, line after line, right across folds in the paper unless you force page breaks with **^PL**; print control characters *do* work.  $\longleftrightarrow$  7-40

**ONE PAGE AT  
A TIME**

Pause for paper change between pages (Y/N):

Type **Y** if you need to use single sheets—letterhead, for example—instead of continuous paper. At the end of each printed page, you'll see the message **PRINT PAUSED** in the status line on your terminal. After you change paper, resume printing by pressing **P** (if at the opening menu) or **^KP** (if editing a file).



Enter any response other than **Y** to print continuously. Default: No.

Inserting **^PC** into your file will cause the printer to pause at that point.  $\longleftrightarrow$  7-38

**GO!**

Ready printer, press RETURN:

Check the printer to be certain that it's plugged in, turned on, and ready to print. Be sure the paper is correctly positioned. When everything is ready, press RETURN (or any key) to begin printing.

Printing usually begins at once, but it may be delayed if you choose a starting point other than page 1. During printing, you'll see the Opening Menu or the file you're editing, depending on where you started.

SUMMARY TABLE: FILE OPERATIONS COMMANDS	
COMMAND	FUNCTION
	<b>While editing a file:</b>
KS	Saves work and returns to present file
QP	Returns cursor to position before last command
KD	Saves work and exits to Opening Menu
KX	Saves work and exits to operating system
KQ	Abandons without saving work in present file
KF	Turns disk file directory on/off (default: off)
KO	Copies a file
KE	Renames a file
KJ	Deletes any file except the present file
KL	Changes logged disk drive
KP	Starts or stops printing
	<b>At the Opening Menu:</b>
F	Turns disk file directory on/off (default: on)
O	Copies a file
E	Renames a file
Y	Deletes a file
L	Changes logged disk drive
M	Runs MailMerge
S	Runs SpellStar
R	Runs another program and returns to WordStar
X	Exits to operating system
P	Starts or stops printing

*WordStar*

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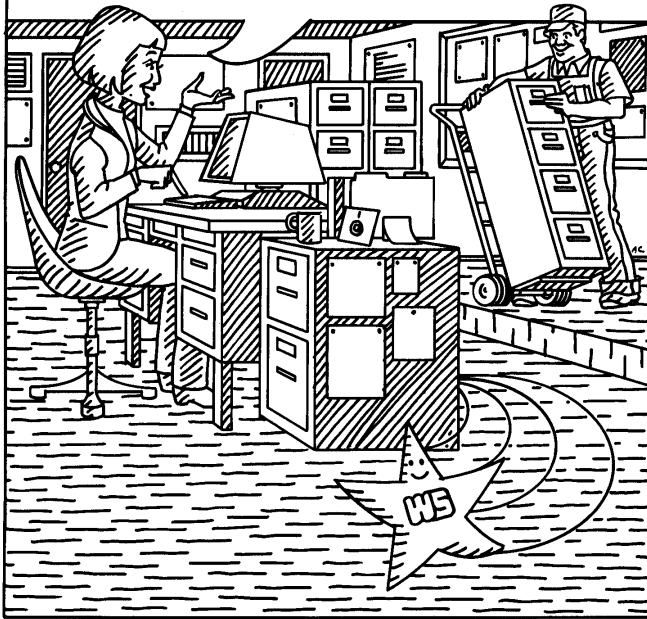
## 10. NON-DOCUMENT FILES

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You can take those  
filing cabinets away.  
Now we have our cust-  
omer list in a datafile  
thanks to non-docu-  
ment mode!



## 10. Non-Document Files

---

The WordStar non-document mode enables you to create files, such as datafiles or computer programs, for use outside WordStar. In document mode, many special features assist you in your word processing; in non-document mode, the same features are switched off or altered to simplify your work with data.

### DEFINING NON-DOCUMENTS

---

Non-document files are simply lists of data. They can be mailing lists, accounting entries in an electronic ledger, or the ordered instructions that make up a computer program.

Document files are different; WordStar adds computer-language bits of information to your document text to operate special functions, such as word wrap and hyphen help. If these bits of information were inserted in non-document mode, the resulting files would be misread by some software. You don't need to exit from WordStar to create non-document files, but you should keep the changed functions in mind.

Non-document datafiles serve as common reservoirs of data that link various kinds of software together.

*In WordStar, any file not created in document mode is a non-document.*



Computer programs written in hexadecimal code are neither document nor non-document, but a third category, non-text. Do not attempt to edit them with WordStar. Read the appropriate assembler or compiler manual for instructions on editing such files.

---

## USING NON-DOCUMENTS

---



To edit in Non-document mode, press **N** instead of **D** at the Opening Menu. You can still open any file on your disk, even a file written in document mode. But because WordStar handles non-document files differently, you should avoid editing document files in this mode.

You can take advantage of non-document features to write and edit files to use with many programs. Here are some examples of non-document files:

### EXAMPLES OF NON-DOCUMENT FILES

- Datafiles created for use with MailMerge, DataStar, ReportStar, and CalcStar. (Follow the directions in your MicroPro manuals to write files for these programs.)
- Computer programs in text form
- Any file not created with WordStar
- Any file created in WordStar non-document mode

WordStar can manipulate all text files once they're converted to WordStar's language. Converting non-documents to document mode will be covered later in this chapter.



## **CHARACTERISTICS OF NON-DOCUMENT MODE**

---

### **ALTERED FEATURES**

In non-document mode, many word processing features are turned off. You can turn some of them back on, but if you do, you defeat the purpose of the mode. Here are the changes in standard features of document mode:

- No right margin
- Word wrap off
- Hyphen help off
- Justification off
- Ruler line display off
- Pagination not working
- Page break display not working
- Paragraph re-forming (^B) not working
- Dot command errors not checked or flagged
- Variable tabbing replaced by fixed tabbing

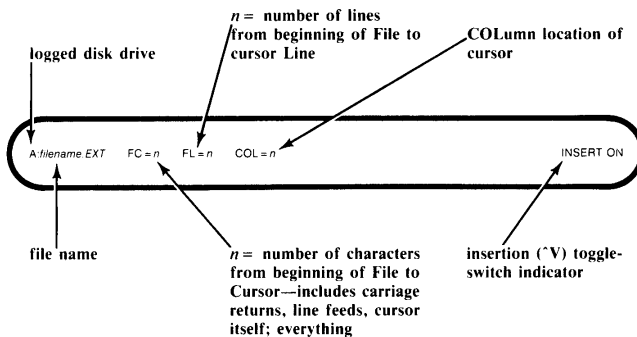
### **UNCHANGED FEATURES**

Here are some standard features that do not change:

- Left margin at column 1
- Print control display on
- Soft hyphen entry off
- Insertion unchanged from last editing session

### The Non-Document Screen

The top of your screen looks different in non-document mode. The status line is altered, as this illustration shows:



A handy way to find the length of your file is to press **^QC**, which moves the cursor to the end of the file. Then read **FC=n** and **FL=n** in the status line.

---

### ENTERING NON-DOCUMENT DATA

You'll use non-document mode mainly to create data storage files for use with other software. Non-document mode follows industry conventions of language, and your non-document datafile must follow a few conventions of form if it's to be read correctly by WordStar.

Data-handling programs, like DataStar, observe the convention of commas (which determine where one item of information ends and a new item begins) and hard carriage returns (which determine where one grouping of items ends and a new one begins). You should be careful to build datafiles in a form that is both clear to you and consistent with the software you're using. The following discussion illustrates these conventions.

**NON-DOCUMENT DATAFILES**

One example of a non-document file is a datafile that can be used by MailMerge to personalize each form letter that you write with WordStar. The non-document file provides variable data—names and addresses, for example—which MailMerge inserts in appropriate places in the letter.

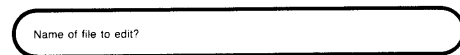
The items that make up a datafile are distinguished from each other and organized in specific ways. An individual item of data—a name or an address, for example—occupies a data *field*. A grouping of related data items (such as name, address, city, state, and zip code) is called a data *record*. Fields are separated by commas and records by carriage returns.


**HOW TO CREATE A DATAFILE**

To create a datafile for use by MailMerge, open a non-document file at the WordStar Opening Menu:

STEP 1 TYPE N

SEE



STEP 2 TYPE *filename* 

SEE blank "text" area below status line

STEP 3 TYPE first item of data,comma,next item,comma,etc.

NOTE: See your MailMerge manual for further information.



If you lack data for any particular field, don't skip the field. Type two commas in a row (,,) to indicate that the data field between them is intentionally empty.

Continue to enter items separated by commas until you have entered all related data and thus completed one data record. Press RETURN to separate this record from the next.

Repeat this procedure until you have typed all your data. The result should look like the following example:

```
A:filename.EXT  FC=n  FL=n  COL=n  INSERT ON
Able Baker,12 Third Street,Boise,ID,80452
Charlie Delta,45 Sixty-seventh Avenue,New York,NY,10016
E.Z. Fox,89 Tenth Street,Seattle,WA,99756
```

### Commas in Data Fields

Surround any item of data which *contains* one or more commas with quotation marks. The data will be read as a single item and not as two. For example, the following phrase contains two items of data:

```
Kellogg, Idaho
```

Add quotation marks to indicate that there is only one item of data:

```
"Kellogg, Idaho"
```

The program reads the comma in this case, not as a separator, but as part of the data.

NOTE: Datafiles created with DataStar are compatible with WordStar and MailMerge. DataStar automatically supplies the appropriate commas and hard carriage returns.

### **The Screen as a Window on Your Work Page**

When you want to type lines of text or data that extend past the right edge of your screen, simply continue typing; word wrap is normally off in non-document mode. Unless you end a line with a hard carriage return, your view will scroll past the last column on screen. When you want to read a datafile, a plus mark (+) in the flag column reminds you that a line extends out of sight. Use your normal cursor commands to begin scrolling.

How long a line can you type? Theoretically, you can use several thousand columns, but for your own convenience in editing, you'll probably use far fewer. Extremely long lines also slow down the program's speed in reading.

### **CONVERTING NON-DOCUMENTS TO DOCUMENT MODE**

---

When you want to edit a non-document file in document mode, you must reformat it. If you have a file created with another program, for instance, you may need to convert carriage returns *within* a paragraph from hard to soft. In document mode, hard returns always indicate the end of a paragraph.

You can use either document or non-document mode to convert hard carriage returns. The capability of paragraph re-forming—not available in non-document mode—makes document mode a better choice.

Simply position the cursor at the beginning of the first paragraph you're converting, and then follow these steps:

**HOW TO  
CONVERT FILES**

STEP 1 PRESS ^QA

SEE

FIND?

STEP 2 PRESS ^N



SEE

REPLACE WITH?

STEP 3 TYPE a single space



SEE

OPTIONS? (? FOR INFO)

STEP 4 TYPE N



(Your N entry tells WordStar to replace without asking for your approval.)

WordStar finds the first carriage return and changes it to a single space, joining the first and second lines. Then press ^L to find and change the next carriage return. Continue pressing ^L until you reach the end of the paragraph.



*Don't convert the final return.*

You've created a single, very long line with a hard carriage return at the end. To WordStar, the line is a paragraph. If you've been working in document mode, press **^B**.

As you watch, WordStar will rework the paragraph, justifying text between the margins and then positioning the cursor at the end.

Press **^L** to reach the first carriage return in the next paragraph. Repeat the procedure for every paragraph you want to convert.

---

### **FIXED TABBING**

#### **WHAT IS FIXED TABBING?**

Fixed tabbing is a standard feature in non-document mode. Because it is a feature designed mainly for programmers, it should be used with caution by others. Most operating system editors and MicroPro's WordMaster program operate with fixed tabs.

Fixed tabbing and variable tabbing (the default for document mode) differ in the following ways:

VARIABLE TABS	FIXED TABS
<b>Defaults</b>	
Tab stops every 5 columns (1, 6, 11, 16, 21, etc.)	Tab stops every 8 columns (1, 9, 17, 25, 33, etc.)
Tab stops can be reset	Tab stops cannot be reset
<b>Insertion On</b>	
TAB inserts 5 individual spaces	TAB inserts 8 "connected" spaces
Spaces inserted by TAB are deleted 1 at a time	Spaces inserted by TAB are deleted 8 at a time
New text entered to the left of a stop pushes old text to the right 1 space at a time	New text entered to the left of a stop pushes old text to the right 8 spaces at a time
<b>Insertion Off</b>	
TAB moves cursor 5 spaces to the right	TAB moves cursor 8 spaces to the right
New text overprints old text and tab stops	New text overprints old text and tab stops

Any text that follows a *variable* tab stop lies at the right edge of five individual spaces. Any text that follows a *fixed* tab stop lies at the right edge of a "single character" eight columns wide.

When you delete a fixed tab stop, the cursor jumps to the left across this single character of eight spaces. When you press TAB while the cursor is to the left of a fixed stop, any text following that stop jumps one eight-space character to the right.



*Non-Document*

Text entered with insertion on also pushes text that follows fixed tab stops to the right. With insertion off, new text overprints tab stops and spaces alike, as always.

Use **^OV**, a toggle switch, to turn fixed tabbing on and off in document or non-document mode.  
⇐→ 6-10

Use **^PI** to enter an Individual fixed tab into your file when you're otherwise using variable tabs.  
⇐→ 7-39

*WordStar*

*10-14*

## APPENDICES

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*WordStar*

## Appendix A

### Program Specifications

---

WordStar and its options, MailMerge, and SpellStar operate only if the following specifications are met. Most WordStar specifications apply also to the options. Any special requirements are noted below. For information regarding specific versions of WordStar and its options, see your dealer.

#### WordStar

<b>OPERATING SYSTEM</b>	CP/M (version 2.0 or higher) CP/M-86 MP/M MS-DOS PC-DOS
<b>CPU MEMORY</b>	For 8-bit microcomputers: 56K of memory (RAM) or 50K of program memory  For 16-bit microcomputers: 64K of memory (RAM) except CP/M-86: 80K (RAM)
<b>VIDEO TERMINAL</b>	WordStar requires an addressable cursor or byte-addressable, memory-mapped video. Minimum screen size is 16 lines by 64 characters. Maximum screen size is 57 lines by 120 characters.
<b>PRINTER</b>	WordStar can take advantage of most of your printer's capabilities, whether letter or draft quality.
<b>DISK STORAGE</b>	WordStar can operate with one drive containing at least 120K. Use 5 1/4" or 8" disks, depending on your hardware. For convenience, two floppy disk drives are recommended.

*WordStar*

**MAXIMUM  
FILE SIZE** 8 megabytes on CP/M, CP/M-86, and MP/M.  
Unlimited on MS-DOS and PC-DOS.

**SpellStar**

**DISK STORAGE** MicroPro recommends that you run SpellStar with two floppy disks of at least 128K each, although you can check a very small document with a small dictionary on one disk of at least 128K.

## Appendix B

### ERROR MESSAGES

---

The following list shows error, warning, and informational messages that may appear on your terminal screen as you work in WordStar. The messages, listed alphabetically here, include explanations and recommendations for appropriate action.

Occasionally you'll see the description "Fatal Error" in a message—a colorful way of saying that you're going to lose the work done in your current editing session. Simply reset your system before continuing. The loss will be minimal if you're in the habit of saving your work often.

Some messages require that you press the ESCape key before continuing. Doing so ensures that WordStar does not proceed to the next command, even if you have typed ahead. Pressing the ESCape key does not affect your document.

 or NOISE from terminal

**Situation.** You are typing too fast, and there is no more space to store characters for later processing. Keystrokes are being lost.

**Action.** Stop typing or release the key you're repeating. When the computer has stopped making entries, continue editing.

@@@

**Situation.** WordStar has tried to display a message from the file WSMGS.OVR, which isn't available. All or part of many error messages will appear, including the error number, if any, followed by @@@. Menus, however, will be completely unavailable.

**Action.** Copy the WSMGS.OVR file off your distribution disk onto disk drive A or the drive you are currently using.

?

**Situation.** A question mark appears in the flag column, highlighted, opposite incomplete or apparently invalid dot commands.

**Action.** Check for correct letters, missing numeric arguments, or numbers greater than 255, except with the .PN command. The question mark appears as you enter a command; disregard it until your command is complete.

Allow print to finish before editing a file.  
Your system does not have enough memory to permit simultaneous editing and printing.

**Situation.** You can't select **D** or **N** from the Opening Menu while printing because there is not enough memory available to perform both functions at once.

**Action.** See the WordStar Installation Manual for memory requirements.

BDOS ERR R/O

**Situation.** This operating system message or something similar may appear when you change disks at an inappropriate time or neglect to type ^C after changing disks.



## *Error Messages*

**Action.** Refer to the section on changing disks in your operating system manual.

Can't display page breaks in a non-document file

**Situation.** The command to display page breaks (^OP) has no effect in non-document editing.

**Action.** Proceed with your editing.

Can't edit a file of type .BAK or .\$\$\$  
-->Rename or cOpy before editing

**Situation.** When the **D** or **N** command is selected from the Opening Menu, you cannot enter a file name that ends in **.BAK** or **.\$\$\$**. The Opening Menu remains on the screen.

**Action.** Rename the file or, for a file of moderate size, open a new file, and then read the **.BAK** or **.\$\$\$** file into it with the additional file reading command (^KR). (Copying too large a file may give you a disk-full error.)

Disk d: not ready

**Situation.** This operating system message or something similar may appear when the disk drive contains no disk or the drive door has not been closed. WordStar requires that a disk be in every drive you address.

**Action.** After inserting a disk and closing the drive door, wait a few seconds before giving a command.

End edit (^KD) before starting print.  
Your system does not have enough memory to  
permit simultaneous editing and printing.

**Situation.** You can't give the print command (^KP) during an edit, or your operating system's available memory isn't enough for WordStar.

**Action.** Run the operations at different times.

... ERROR E5: That place marker is not set  
... Press ESCAPE Key

**Situation.** The marker indicated wasn't set during current editing.

**Action.** Press the ESCape key to continue. Set the mark using ^K 0-9.

... ERROR E6: Block beginning is not marked  
(or marker is undisplayed)  
... Press ESCAPE Key

**Situation.** The beginning mark has not been set on the block of text you're attempting to move (^KV), copy (^KC), delete (^KY), or write (^KW). This message will also appear if the beginning mark is hidden by either ^KB or ^KH.

**Action.** Set the beginning mark using ^KB, or redisplay the marker with ^KH.

## Error Messages

\*\*\* ERROR E7: Block end is not marked  
(or marker is undisplayed)  
\*\*\* Press ESCAPE Key

**Situation.** The end mark has not been set on the block of text you're attempting to move (^KV), copy (^KC), delete (^KY), or write (^KW), or the mark is hidden with ^KH.

**Action.** Set the end mark using ^KK, or redisplay the marker with ^KH.

\*\*\* ERROR E8: Block end marker is before block beginning marker  
\*\*\* Press ESCAPE Key

**Situation.** When the end marker is placed earlier in the document than the beginning marker, WordStar can't find the block to move, copy, delete, or write.

**Action.** Correct the markers and then reissue the command.

\*\*\* ERROR E9: Block too long -  
Move or delete in two smaller blocks  
\*\*\* Press ESCAPE Key

**Situation.** The amount of text between markers is more than WordStar can move or delete. The larger the memory on your system, the larger the block WordStar will move or delete. (The block-write command isn't subject to any size limitation.)

**Action.** Divide the large block into smaller pieces, and move or delete them one at a time.

\*\*\* ERROR E10: Cursor is not in range for column move/copy.  
\*\*\* Press ESCAPE Key

**Situation.** If you have given a number of special control commands, the cursor could possibly be located in a position to the left of the left margin. The cursor must lie between the left margin and column 240.

**Action.** Move the cursor within the range and reissue the column-move or copy command.

\*\*\* ERROR E11: That file exists on destination disk.  
Delete existing file first,  
or use a different disk.  
\*\*\* Press ESCAPE Key

**Situation.** You cannot copy the file you're editing on the specified disk because that disk contains a file with the same name.

**Action.** Use the rename command to change one of the file names, or insert a different disk to accept the destination file.

\*\*\* ERROR E12: Disk is full \*\*\* Press ESCAPE Key

**Situation.** You have run out of space on your current disk.

**Action.** The following suggestions permit you to save your work when you receive this message:

1. If the cursor position is near the beginning of a large file when you receive this message and you haven't already tried to save the file, you may be able to move the cursor nearer the end. Then try to save the file with **^KS**.

## *Error Messages*

2. If this message appears when the cursor is toward the end of the file or while saving the file, delete (^KJ) any unnecessary files or any files that you can replace later from another disk. Then continue editing.
3. If deleting files doesn't allow you to finish the editing and you don't have much work to lose, stop editing, make more disk space available by moving some files, and repeat your editing.
4. If you have made substantial changes and don't want to lose your editing but can't get enough disk space to finish, take one of the following actions:
  - a. Use the block-write command (^KW) to put changed portions of the file on any extra space on your other disk drive. Recombine the document in later editing.
  - b. Delete unchanged portions of the document, then recover them from the .BAK file or from a previous backup copy.
5. If the disk-full message results from a block-write command (^KW), the above suggestions won't work. Delete (^KJ) the incomplete file. Then arrange additional disk space, repeat the block-write command, and continue editing.

If the message reappears when you press ESCape, your editing is lost. To avoid running out of space, use the system's file status utility frequently to check your file sizes and disk space.

... ERROR E13: Column read/write is not allowed.  
... Press ESCAPE Key

**Situation.** Column read/write commands are not a feature of the WordStar program.

**Action.** You can duplicate the effects of column-read or write commands by using column mode (^KN), block writing (^KW), and block reading (^KR).

\*\*\* ERROR E38(-42): Bad overlay file, or  
wrong version overlay file \*\*\* Press ESCAPE Key

\*\*\* ERROR E43(44): Wrong version overlay file  
\*\*\* Press ESCAPE Key

**Situation.** You cannot use an incorrect or damaged version of the WSOVLY1.OVR file.

**Action.** Make a new copy of WSOVLY1.OVR from your distribution disk. If the problem persists, call your dealer.

\*\*\* ERROR E46: Overlay file WSOVLY1.OVR not found  
\*\*\* Press ESCAPE Key

**Situation.** The WSOVLY1.OVR file is not on your current disk.

**Action.** Check your directory, and if necessary, make a new copy from your distribution disk.

\*\*\* ERROR E47: File (MAILMRGE.OVR or SPELSTAR.OVR) not found  
(The separately supplied file MAILMRGE.OVR or  
SPELSTAR.OVR) is required for use of chosen function.)  
\*\*\* Press ESCAPE Key

**Situation.** You can only choose **M** or **S** at the Opening Menu when the corresponding file is available on disk drive A or on your currently logged disk drive.

**Action.** Check your directory. Make a new copy from your distribution disk if necessary.

## *Error Messages*

ERROR E52: Program is an empty file! \*\*\* Press ESCAPE Key

**Situation.** You have entered an invalid program name while using **R** at the Opening Menu. You may have a bad copy of the program, or a system error may have occurred, leaving only your program name.

**Action.** Copy the program from the original disk and run it again.

\*\*\* ERROR E53: Program too big for  
memory available under WordStar  
\*\*\* Press ESCAPE Key

**Situation.** Your system does not have enough memory to run the specified program while in WordStar.

**Action.** Exit from WordStar to run the program.

\*\*\* FATAL ERROR F23: Invalid screen height or width

**Situation.** An error made in installation has set the screen to an unacceptable height or width.

**Action.** See the WordStar Installation Manual for instructions on custom installations.

\*\*\* FATAL ERROR F25: Insufficient memory or your operating system is not relocated to make all RAM available

**Situation.** Not enough memory is available to operate WordStar. 56K is the minimum memory requirement.

**Action.** See your dealer.

\*\*\* FATAL ERROR F27: Diskette directory is full

**Situation.** You have exceeded the number of file directory entries a disk can hold. This number depends on your system, but it's often 64 on single-density disks.

**Action.** Keep track of the number of files per disk, especially if you have many small files. Large files (over 16K) require an additional entry for each 16K. When counting files, remember that WordStar generates two working files each time you save a file.

\*\*\* FATAL ERROR F28: Close failure  
System failure, or you changed disks

\*\*\* FATAL ERROR F29: Rename failure  
System failure, or you changed disks

**Situation.** If either of these messages appears, WordStar has encountered one of three problems:

1. An operating system error has occurred.
2. You have changed the disk in a drive while editing.
3. You have deleted either the input file or the work file with **^KJ**.

**Action.** Exit from WordStar, turn the computer off, then on, and reboot. If this doesn't work, call your dealer.



*Error Messages*

File A:filename in use by WordStar.

**Situation.** You cannot rename, copy to, or delete a file currently being edited.

**Action.** Complete your current operation and then proceed to rename, copy, or delete the file.

File A:filename not found.

**Situation.** The file named in response to the copy, delete, rename, write, or print command does not exist.

**Action.** Enter the corrected name, including the disk drive, if necessary, or press RETURN to discontinue the command.

File A:filename opened by another user.

**Situation.** You cannot access a file in use by another operator on your system.

**Action.** Proceed with another file or wait until the file is available.

File A.filename already exists.

**Situation.** The new file name in your rename command exists on the currently logged disk.

**Action.** Choose a different name, or rename the existing file.

File A.filename exists — overwrite? (Y/N):

**Situation.** You cannot copy one document into another, already existing document.

**Action.** Type **Y** to erase the contents of the existing document and proceed with the copy. Type **N** to leave the existing contents undisturbed; then specify a new name.

File A.filename not on same drive.

**Situation.** When using the renaming command, you have referred to a file located on another disk. Renaming will not transfer a document from one disk to another.

**Action.** Use the copy command to move a copy of the file to the correct disk drive.

## *Error Messages*

File WS.COM not found.  
Cannot RUN a program unless WS.COM is available.

**Situation.** WS.COM is unavailable. It was not found on either disk drive A or on your currently logged disk drive.

**Action.** If WS.COM has been renamed since installation, you must re-install or rename the file WS.COM. Refer to the WordStar Installation Manual for instructions.

File WSMGS.OVR not found. Menus & messages will display as @@@@ only.

**Situation.** If the WSMGS.OVR file, which contains message text, is not found on disk drive A or your currently logged disk drive, the characters in many messages and menus will be replaced with @@@@. The help level is reset to zero to minimize the display of messages and menus.

**Action.** Copy the WSMGS.OVR file from your distribution disk onto disk drive A or your currently logged disk drive.

Finishing print before exit  
(type ^U to cancel exit command)...

**Situation.** You entered X from the Opening Menu, or ^KX while editing, at the same time you were printing.

**Action.** Printing continues, and the exit to the operating system occurs when printing is complete.

Finishing print of .BAK file before saving  
(Type ^U to cancel Save command)...

**Situation.** You gave a save command while printing the .BAK file of the file currently being edited.

**Action.** The WordStar program waits for printing to finish, then saves the file.

Finishing print of same file before saving  
(Type ^U to cancel Save command)...

**Situation.** You cannot give a save command (^KD, ^KS, ^KX) while printing the same file concurrently.

**Action.** The WordStar program waits for printing to finish, then saves the file. If printing is paused, type ^U to cancel the save command, then enter commands to continue or abandon printing.

\*\*\* INTERNAL ERROR 115: Invalid copy length \*\*\* Press ESCAPE Key

\*\*\* INTERNAL ERROR 116: Invalid address \*\*\* Press ESCAPE Key

\*\*\* INTERNAL ERROR 117: Memory full \*\*\* Press ESCAPE Key

\*\*\* INTERNAL ERROR 118: Memory shortage \*\*\* Press ESCAPE Key

## Error Messages

\*\*\* INTERNAL ERROR 119: Pointer 64K from cursor  
\*\*\* Press ESCAPE Key

\*\*\* INTERNAL ERROR 136: Bad ovly # \*\*\* Press ESCAPE Key

**Situation.** These are internal errors, which rarely occur during normal operations.

**Action.** Save your work immediately, and exit to the operating system. To further protect your file, make a copy of the backup file. Then re-enter WordStar and check your file. Please report these errors to your dealer.

\*\*\* INTERRUPTED \*\*\* Press ESCAPE Key

**Situation.** You pressed ^U to interrupt the command in progress or to discard additional characters typed ahead.

**Action.** Press the ESCape key and continue editing.

Invalid file name: A.filename

**Situation.** The name you entered cannot be accepted by WordStar. Some character in the name may not be acceptable to your system.

**Action.** Enter a new file name. You'll find file-naming guidelines in the reference manual and in your system documentation. The **D** command on the Opening Menu produces a summary of the information on screen.

LOAD ERROR or TOO BIG

**Situation.** This operating system message or something similar may appear when you try to enter WordStar. The WordStar program will not fit in the space available.

**Action.** You need at least 56K of memory to run WordStar.

\*\*\* NOT FOUND: " " \*\*\* Press ESCAPE Key

**Situation.** The find (^QF), replace (^QA) or find/replace again (^L) command can't locate the specified string between the cursor position and the end of the document.

**Action.** If you haven't located all occurrences of the specified string, reposition the cursor and repeat the search.

\*\*\* Print output disk is full. Print paused. \*\*\*

**Situation.** The disk containing the print output file is full and printing is automatically halted.

**Action.** Use either or both of the following solutions:

1. To continue printing, make additional disk space available, then press ^KP.
2. To abandon printing, type PPY at the Opening Menu, or, while editing, type ^KP^KPY. You can then delete the disk output file which is currently incomplete.

## *Error Messages*

Put at file beginning for correct page break display.

**Situation.** If the page break display is on, this message will appear in the text when you enter **.PL**, **.MT**, **.MB**, or **.LH** after the beginning of a file. The command entered into the file may be misinterpreted by the print function. The message is on the screen only and is not printed.

**Action.** To avoid the problem, move the dot command to the beginning of your file.

\*\*\* WARNING: Disk full.  
Deleting old .BAK file to make space  
(Normally, the previous backup is deleted  
only after edit is successfully completed.)

**Situation.** Your disk may be filling up, or the files are so large that two to three files fill one disk.

**Action.** Save the document you're working on, and make more space available by deleting unwanted files or by moving some files to new disks.

\*\*\* WARNING: Word too long to fit margins

**Situation.** There are too many characters to fit between the currently set left and right margins with no word break. The message also appears during paragraph re-forming (^B) when a word is too long. The WordStar program looks about 10 characters beyond the margin for a break and allows the word to project into the right margin if it finds the break. If no break is found, the word is split at the margin.

**Action.** You can leave the line wide, or delete the excess characters.

\*\*\* WARNING:  
Wrong version of WSMGS.OVR —  
Some messages may be incorrect \*\*\*

**Situation.** The current file WSMGS.OVR is from a version of WordStar other than the one you are running.

**Action.** WordStar continues to run, but any attempt to display a message not in the text file will yield:

If this displays you are using wrong version of WSMGS.OVR.

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.

**Situation.** You cannot save a file that is being printed.

**Action.** Save the edited version when printing is complete.

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 file being edited while the print is in progress.

**Situation.** You cannot print (^KP) your current file until you finish editing.

**Action.** Finish printing before you save your current editing.



*Error Messages*

You are trying to run an uninstalled WordStar.  
Please run WINSTALL first.

**Situation.** The WINSTALL program has not been run correctly on your terminal and printer.

**Action.** See the WordStar Installation Manual for details.

*WordStar*

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## Appendix C

### Glossary of Terms and Concepts

---

<b>APPLICATIONS</b>	Specific uses for a program. With WordStar, for example, you can create letters, mailing lists, proposals, resumes, reports, timetables, etc.
<b>ASCII</b>	American Standard Code for Information Interchange. This character coding technique enables computers made by different manufacturers to interpret patterns of bits in the same way.
<b>BACKUP FILE</b>	A duplicate of another file, which you create for safekeeping. A special kind of backup file, <i>.BAK</i> , is automatically created by WordStar when you save the file you've been editing. You can't edit a <i>.BAK</i> file.
<b>BAUD</b>	A measurement (in bits per second) of the speed with which information is transmitted between two computer devices, a computer and a printer, for example. If the transfer rate of a computer is 9,600 baud, 9,600 bits of information can be transmitted between the computer and the printer each second.
<b>BINARY</b>	Belonging to a system of numbers having 2 as its base. A bit, which is a binary digit, has a value of 0 or 1.
<b>BIT</b>	A short form of "binary digit." A bit is the smallest unit of data and has a value of 0 or 1.
<b>BLOCK</b>	A portion of text ranging in length from one word to several pages. During editing, you mark blocks in order to move, copy, or delete text.
<b>BOARD</b>	A short form of "circuit board," the flat piece of plastic on which electronic circuits in a computer are printed.
<b>BOOT</b>	Bring the operating system into your computer's memory to begin processing. To <i>reboot</i> is to rerun the program that starts your operating system. A <i>boot</i> program is a short set of instructions used to load a larger program.
<b>BUFFER</b>	An area for temporary storage of data. Information coming into a printer, for example, is often placed in a buffer to await processing.

*WordStar*

<b>BYTE</b>	A sequence (or group) of binary bits used to represent one character of information. On some microcomputers a byte consists of 8 bits; on others, 16 or 32 bits. Most microcomputers process information one byte at a time. (Note: A 16-bit machine processes two 8-bit bytes at a time.)
<b>CARRIAGE RETURN</b>	<p>In word processing, the return of the cursor to the beginning of the next line. When you press the RETURN key, you enter a <i>hard carriage return</i>, which remains in place even when WordStar re-forms text.</p> <p>Word wrap adds <i>soft carriage returns</i> and deletes them automatically when text is re-formed.</p>
<b>CHARACTER</b>	A single digit, letter, punctuation mark, space, or other symbol which the computer can read or write.
<b>COMMAND</b>	An instruction transmitted to your computer when you press specified keys. See <b>Control commands</b> and <b>Dot commands</b> .
<b>CONTROL COMMANDS</b>	Commands issued to the computer when you press a key (or keys) while holding down the control key.
<b>CONTROL KEY (CTRL)</b>	A key, often represented by the caret symbol (^), used with other keys to command the computer to perform specific functions.
<b>CRT</b>	<b>Cathode Ray Tube.</b> CRT's are like TV sets. They are used to display images, letters, digits, symbols, punctuation marks, and other data. Sometimes you will hear your terminal referred to as a CRT.
<b>CURSOR</b>	Usually a small rectangle or line of light on the screen, marking your place in the text. Cursor shapes differ with different operating systems.
<b>DAISY WHEEL PRINTER</b>	A specialty printer with a circular element resembling a daisy which rotates characters into place for printing. See <b>Specialty printer</b> .
<b>DATA</b>	Information stored or processed by the computer.
<b>DATAFILE</b>	A group of related pieces of information, called <i>records</i> , stored together on a disk. A record consists of <i>fields</i> , single items of information. If a datafile consisted of a mailing list, for example, a record might contain all the information about a single addressee. One field within that record might contain the name, another the street address, another the city, etc.

## Glossary

<b>DEFAULT</b>	A pre-set value or condition in a program, which you can change or allow to stand.
<b>DIRECTORY</b>	An onscreen list of the file names on your disk. See <b>Disk drive</b> .
<b>DISK</b>	A round magnetic plate, resembling a phonograph record, for storing information processed by your computer. Disks are either hard or floppy.
<b>DISK DRIVE</b>	<p>A part of your computer system usually built into the computer. A disk is placed inside the disk drive where information can be read from it or written onto it by the computer. Most computers have more than one disk drive, each identified by a letter or number (drive A, B, C, or 1, 2, 3, etc.).</p> <p>The <i>logged disk drive</i> is the disk drive currently in operation.</p>
<b>DOT COMMANDS</b>	Print commands which begin with a period ("dot") typed in the first column (at left margin) of a WordStar file.
<b>ERROR MESSAGE</b>	A statement that appears on your screen when your computer is unable to continue processing. The message tells you what the problem is and how to solve it.
<b>FIELD</b>	See <b>Datafile</b> .
<b>FILE</b>	<p>A storage unit for information that has been entered into your computer in the form of text, data, or programs. A file is usually stored on disk and identified by a unique name.</p> <p>A <i>document file</i> contains text or other information entered in document mode. A <i>non-document file</i> contains information entered in non-document mode.</p> <p>See <b>Datafile</b>.</p>
<b>FLAG</b>	A symbol relating to text format which appears in the last column to the right on your screen, the "flag column." The symbol for hard carriage return (<) appears there, for example.
<b>FORM FEED</b>	The movement of one page through the platen on your printer.
<b>FORMAT</b>	The way you arrange text on your screen, using commands for setting margins, centering text, etc.

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<b>FUNCTION CODES</b>	Coded directions to the terminal or printer to perform specific actions such as setting tabs, backspacing, or positioning the cursor on the terminal screen.
<b>HARD COPY</b>	Your printed copy as opposed to your disk copy.
<b>HARDWARE</b>	The mechanical and electronic components of a computer system.
<b>HELP SCREENS</b>	<p>Onscreen messages that explain how to use WordStar's features. The <i>help menu</i> directs you to various help screens.</p> <p>By choosing a <i>help level</i>, you can regulate how many messages and menus will appear on the screen.</p>
<b>HEXADECIMAL (hex)</b>	A numbering system with a base of 16 (as opposed to the decimal system, with a base of 10). Your WordStar Installation Manual contains a chart for converting decimal numbers either to hexadecimal or to ASCII.
<b>HIGHLIGHT</b>	Emphasize a character, word, or block of text by making it either brighter or dimmer than the surrounding text.
<b>HYPHEN HELP</b>	A WordStar feature that finds places where hyphenation would improve the appearance of your text. You decide whether to hyphenate that word.
<b>INPUT/OUTPUT</b>	Input refers to any information coming into the computer. Output refers to processed information going out of a computer.
<b>INSERT</b>	Add characters or spaces to your text.
<b>INSTALLATION</b>	Running the WINSTALL program which is provided on your distribution disk. This program, presented in a simple question and answer format, helps you give WordStar the information it needs about your particular terminal and printer.
<b>JUSTIFICATION</b>	The alignment of text within given margins. The left margin is justified as you enter your text. Word wrap justifies the right margin by adding small spaces between words.
<b>K (SPACE ON DISK)</b>	The abbreviation for kilobyte (1,000 bytes). 1K is equal to 1,024 bytes (or 1,024 characters) of memory. The more bytes of memory a computer has, the more information it can store.

<b>LOAD</b>	Transfer data or programs into a computer's memory.
<b>MEMORY</b>	See <b>RAM</b> , <b>ROM</b> , and <b>Buffer</b> .
<b>MENU</b>	A screen display that lists options or commands from which you can choose, just as you would select courses from a restaurant menu.
<b>MICRO-JUSTIFICATION</b>	A WordStar feature which distributes spaces (1/120 inch) between words in order to justify text to the right margin.
<b>MODE</b>	The set of features operating while you work on a file. In WordStar's <i>document mode</i> , for example, various program features (such as fixed tabbing and word wrap) speed up the job of word processing. In <i>non-document mode</i> , on the other hand, the same features are turned off.
<b>OPERATING SYSTEM</b>	A collection of programs that "runs" the computer. Using your operating system, you can tell your computer the name of the program you want to run—in this case, WordStar. The system finds WordStar and begins its operation. Your operating system also determines when and how information is sent to your terminal, printer, disk drives, and other components. The terms <i>Operating System</i> and <i>Control Program</i> are often used interchangeably.
<b>PAGE BREAK</b>	<p>A place in text where one page ends and another begins. You can direct WordStar to place a page break between two blocks of text so that they will print on separate pages.</p> <p>A <i>conditional page break</i> occurs only after a prescribed number of text lines. For example, the dot command <code>.cp4</code> directs WordStar to start a new page <i>if</i> there are more than four lines before the next carriage return.</p>
<b>PAGE OFFSET</b>	A page format command which sets the number of columns that the text will be indented from the left margin when printed.
<b>PARALLEL INTERFACE</b>	Also called <i>parallel transmission</i> . The mode in which information is transmitted between locations one byte at a time. Parallel transmission is usually faster but more complicated than serial transmission. See <b>Serial interface</b> .
<b>PLATEN</b>	The roller that moves paper through the printer—like the platen on a typewriter.
<b>PORT</b>	A connection between the computer and another component. For example, your computer sends information to the printer through one of its ports.

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<b>PROGRAM</b>	<p>A coded set of instructions which tells a computer what to do and how to do it. By changing the code, you can alter the functioning of a program.</p> <p>To program a computer means to write the coded instructions for its operation.</p>
<b>PROMPT</b>	<p>A question or statement that appears on your screen, indicating that the computer is ready to process your instructions.</p>
<b>RAM</b>	<p><b>Random Access Memory.</b> An area of computer memory where information can be read or written before it is saved on a disk. Data in RAM are lost when electrical power to the computer is interrupted. RAM is measured in K bytes; e.g., a computer with 32K RAM has 32,768 bytes of random access memory.</p>
<b>READ</b>	<p>Copy information from a disk or other component into RAM.</p>
<b>RE-FORM</b>	<p>Align text between right and left margins.</p>
<b>ROM</b>	<p><b>Read Only Memory.</b> You cannot write in the ROM portion of your computer, only read from it. Information is stored once in ROM (usually by the manufacturer) and cannot be changed.</p>
<b>SAVE</b>	<p>Command the program to write information from RAM onto a disk.</p>
<b>SCROLL</b>	<p>Move the screen view (or "window") up, down, to the right or to the left. You can scroll one line, one column, or one whole screen at a time.</p>
<b>SERIAL INTERFACE</b>	<p>Also called <i>serial transmission</i>. The mode in which information is transmitted one bit at a time between the computer and another component (terminal or printer).</p>
<b>SOFTWARE</b>	<p>Programs written to be used on a computer.</p>
<b>SPECIALTY PRINTER</b>	<p>A letter-quality printer, often equipped with a "daisy wheel," that has capacities for backspacing and microjustification as well as interchangeable printing elements.</p>
<b>STANDARD PRINTER</b>	<p>A draft-quality printer with fixed spacing incapable of microjustification. See <b>Specialty printer</b>.</p>
<b>STRING</b>	<p>A sequence of letters, numbers, or other characters.</p>



<b>TOGGLE SWITCH</b>	A command key that, when pressed once, turns a feature on and, pressed again, turns it off.
<b>UTILITY PROGRAM</b>	A program designed to do a routine task. Utility programs help you move or examine files and check that the components of your computer system (computer, terminal, printer, disk drives, etc.) are set up properly. Utility programs are usually supplied to you with your operating system.
<b>VARIABLE</b>	A symbol representing a value that changes. In a computer program, space is set aside in memory for the symbol (X) and a value which X represents (X=1). As you run the program, the value of the variable may change (X=2). The new value will replace the old value in RAM.
<b>WORD WRAP</b>	A WordStar feature that automatically moves words to the beginning of the next line when you type beyond the right margin.
<b>WRITE</b>	Copy information from RAM onto a disk.

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## Appendix D

### Quick Guide

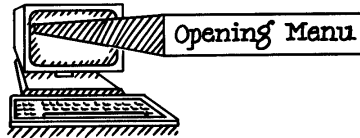
---

The steps below will guide you through a simple path to creating a document in WordStar, saving it, and printing it.

**1. Entering WordStar**  
At the system prompt  
TYPE:

WS RETURN

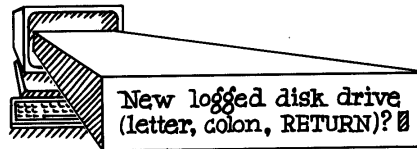
SEE



**2. Changing Disk Drives**  
At the Opening Menu  
TYPE:

- L RETURN
- (drive name): RETURN

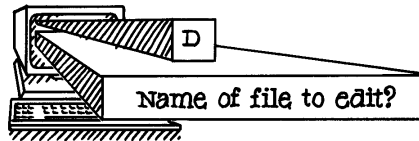
SEE



**3. Opening a Document**  
At the Opening Menu  
TYPE:

- D
- (filename) RETURN

SEE



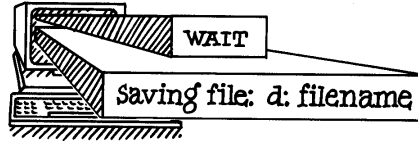
D 1

4. Entering Text and Saving Your Work  
At the Main Menu

TYPE:

^KD

SEE

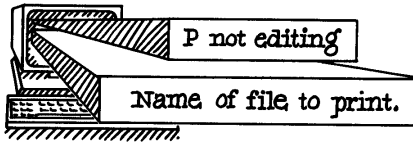


5. Printing Your Document  
At the Opening Menu

TYPE:

- P
- (filename) ESCape

SEE

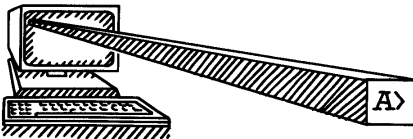


6. Leaving WordStar  
At the Opening Menu

TYPE:

X

SEE



## Menu Map

```

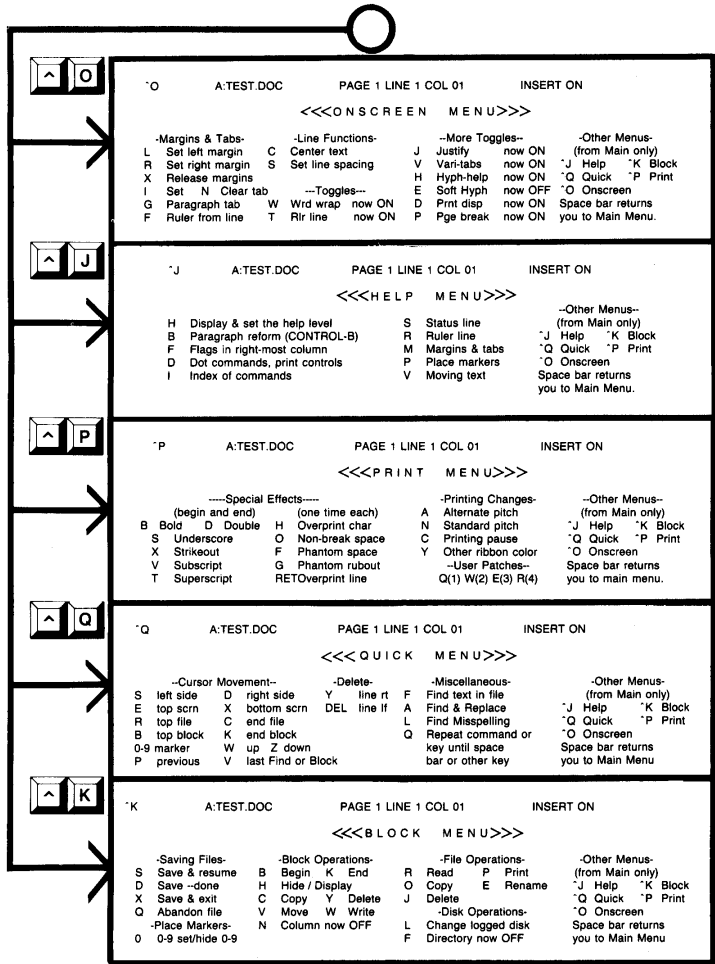
not editing <<<OPENING MENU>>>
---Preliminary Commands---  -File Commands--  -System Commands-
L Change logged disk drive   P PRINT a file     R Run a program
F File directory now ON      O COPY a file     X EXIT to system
H Set help Level             E RENAME a file   -WordStar Options-
---Commands to open a file---  M Run MailMerge
D Open a document file       Y DELETE a file   S Run SpellStar
N Open a non-document file
  
```

D or N

```

A:TEST.DOC      PAGE 1 LINE 1 COL 01      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  DELchr lf    'V INSERT ON/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
'W up line    'Z down line  'N insert a RETURN
'R up screen  'C down screen  'U Stop a command
  
```





\*O A:TEST.DOC PAGE 1 LINE 1 COL 01 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	C	Center text	J	Justify now ON	(from Main only)	
R	Set right margin	S	Set line spacing	V	Vari-tabs now ON	J	Help K Block
X	Release margins			H	Hyph-help now ON	Q	Quick P Print
I	Set N Clear tab	--Toggles--		E	Soft Hyph now OFF	O	Onscreen
G	Paragraph tab	W	Wid wrap now ON	D	Print disp now ON	Space bar returns	
F	Ruler from line	T	Rlr line now ON	P	Pge break now ON	you to Main Menu.	

\*J A:TEST.DOC PAGE 1 LINE 1 COL 01 INSERT ON

<<<H E L P M E N U>>>

H Display & set the help level		S Status line		-Other Menus-	
B Paragraph reform (CONTROL-B)		R Ruler line		(from Main only)	
F Flags in right-most column		M Margins & tabs		J	Help K Block
D Dot commands, print controls		P Place markers		Q	Quick P Print
I Index of commands		V Moving text		O	Onscreen
				Space bar returns	
				you to Main Menu.	

\*P A:TEST.DOC PAGE 1 LINE 1 COL 01 INSERT ON

<<<P R I N T M E N U>>>

----Special Effects----		-Printing Changes-		-Other Menus-					
(begin and end)		(one time each)		(from Main only)					
B	Bold	D	Double	H	Overprint char	N	Standard pitch	J	Help K Block
S	Underscore	O	Non-break space	C	Printing pause	Q	Quick P Print	O	Onscreen
X	Strikout	F	Phantom space	Y	Other ribbon color	O	Onscreen	Space bar returns	
V	Subscript	G	Phantom rubout	-User Patches-		Space bar returns		you to main menu.	
T	Superscript	RETOverprint line		Q(1) W(2) E(3) R(4)					

\*Q A:TEST.DOC PAGE 1 LINE 1 COL 01 INSERT ON

<<<Q U I C K M E N U>>>

--Cursor Movement--		-Delete-		-Miscellaneous-		-Other Menus-			
S	left side	D	right side	Y	line rt	F	Find text in file	(from Main only)	
E	top scrn	X	bottom scrn	DEL	line lf	A	Find & Replace	J	Help K Block
R	top file	C	end file	L	Find Misspelling	Q	Quick P Print	O	Onscreen
B	top block	K	end block	Q	Repeat command or	O	Onscreen	Space bar returns	
0-9	marker	W	up Z down	key until space		Space bar returns		you to Main Menu	
P	previous	V	last Find or Block	bar or other key					

\*K A:TEST.DOC PAGE 1 LINE 1 COL 01 INSERT ON

<<<B L O C K M E N U>>>

-Saving Files-		-Block Operations-		-File Operations-		-Other Menus-	
S	Save & 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 & 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 now OFF	L	Change logged disk	Space bar returns	
0	0-9 sethide 0-9			F	Directory now OFF	you to Main Menu	

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The Microcomputer Software Company

# **WordStar®** **Installation Manual**

**For Release 3.3**

Copyright 1983  
MicroPro International Corporation  
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## Introduction

---

Installing WordStar is easy. With this manual and the installation program, which you received on your distribution disk, you can install WordStar on almost any terminal and printer in minutes. Also, experienced WordStar users have the additional option of customizing WordStar by using the installation program's advanced features.

To install WordStar, you simply reply to a series of questions presented on your screen. Onscreen directions guide you to each next step, and this manual, organized to correspond with the progression of the program, provides additional information. The installation program helps you to create a WordStar program file tailored to your equipment (your computer, terminal, and printer) and your needs. Proper installation ensures top performance from WordStar.

### MANUAL ORGANIZATION

This manual is divided into six chapters with two appendices:

- **Chapter 1, Basic Installation**, contains a brief description of the installation program's structure and basic installation instructions. The simple procedures outlined here are sufficient for most terminals and printers.
- **Chapter 2, Custom Terminal Installation, and Chapter 3, Custom Printer Installation**, explain the installation of terminals or printers not included on the menus. You'll find descriptions of each terminal and printer feature used by WordStar. If your equipment is not listed, you'll have to provide the WordStar program with additional information.

- **Chapter 4, Protocols and Drivers**, discusses WordStar's requirements for communicating with your printer. This information should be particularly helpful for beginners.
- **Chapter 5, WordStar Features**, explains how you can tailor the WordStar program to your particular requirements. Once you are familiar with WordStar, you may want to change normal operations. For example, using the custom installation procedures described in this chapter, you can instruct WordStar to number pages only at your request.
- **Chapter 6, Testing Installation**, explains how to make sure you've installed WordStar properly.
- **Appendix A, ASCII Conversion Chart**, shows the conversion of ASCII codes to decimal and hexadecimal values.
- **Appendix B, Installation Quick Guide**, summarizes the WordStar installation procedure.



*Everyone* should begin with basic installation procedures in Chapter 1. If your system requires custom installation, you'll be instructed to proceed to the more advanced steps.

#### **RE-RUNNING INSTALLATION LATER**

You may want to run the installation program again later. If you were to acquire a new printer or terminal, for example, or if you simply wanted to change a few standard features, you would use this manual to re-install the WordStar program.

#### **ADDITIONAL INFORMATION**

Use the following resources to answer some of your questions:

- Appendix A in this manual will help you convert values into three formats: ASCII, decimal, and hexadecimal.

*Installation*

- The glossary at the back of the WordStar Reference Manual will help you understand unfamiliar terms.
- Appendix A, "Program Specifications," in the reference manual will answer your questions about hardware and software requirements.
- Your terminal, printer, and computer manuals and your dealer will supply the specific information about your hardware requested by the installation program.

The following symbols are used in this manual:



RETURN KEY



REMEMBER



KEEP IN MIND



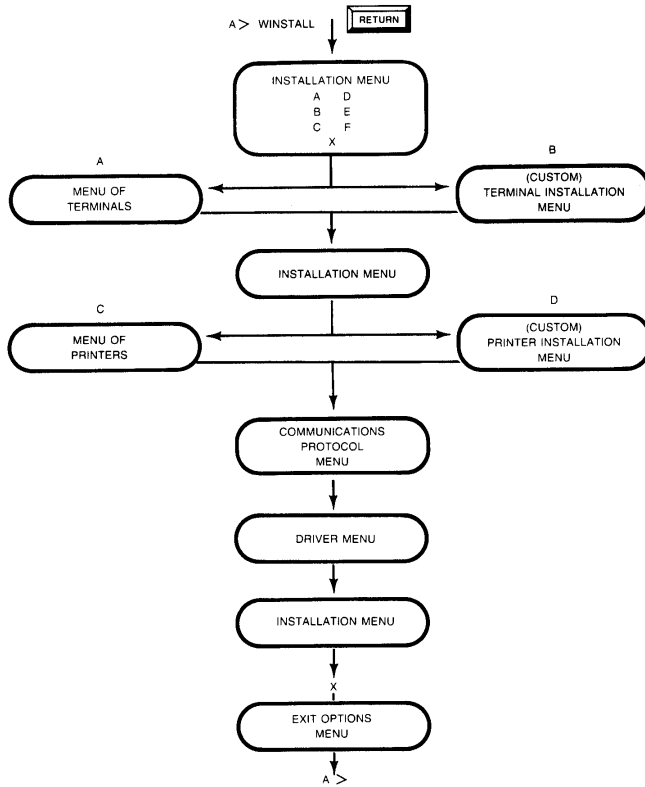
CAUTION

*WordStar*

# 1. Basic Installation

## STRUCTURE OF THE PROGRAM

You'll work from a series of menus making selections and responding to prompts. Your path through the program will depend on the type of hardware you are using. The following is a map of the menus you'll see as you install WordStar for the first time:



*WordStar*

**WHAT YOU'LL  
NEED TO KNOW**

Before you begin your WordStar installation, it's a good idea to gather the information you'll need. Ask your dealer or consult your terminal, printer, and computer manuals for the following information. Write it down for reference.

Terminal name: \_\_\_\_\_

Printer name: \_\_\_\_\_

Communications Protocol (if necessary):  
\_\_\_\_\_

Printer Driver: \_\_\_\_\_

**COPYING  
WORDSTAR**

Before you run the installation program for the first time, you'll need to copy your WordStar Distribution disk. Your distribution disk contains the following WordStar program files and auxiliary files:

- WSU.COM
- WINSTALL.COM
- WS.INS
- PRINT.TST
- WSOVLY1.OVR
- WSMMSG.OVR

**NOTE:** IBM and other 16-bit computer systems use files with slightly different names. See the addendum to the reference manual for a list of files.

The instructions included here are general; refer to your system documentation for specific commands. If you have already copied the disk, go on to the next section, "Installation Procedures."

**STEP 1** Turn on your computer.

**STEP 2** Boot your system.



## Installation

**STEP 3** Place your WordStar Distribution disk in drive A.

**STEP 4** Place a formatted disk in drive B.

**STEP 5** At your system prompt, type instructions to copy the files from the distribution disk in drive A to the disk in drive B.

You now have a copy of the WordStar Distribution Disk in drive B. If you purchased other MicroPro software for use with WordStar—SpellStar or MailMerge—follow the same steps to copy them as well. Once you have placed the original program disks in a safe place, you're ready to run the installation program.

**NOTE:** You can create a WordStar system disk, that is, a disk that includes the WordStar program *and* your operating system. This disk will enable you to boot the system and enter WordStar directly. Refer to your system documentation for specific instructions.

## INSTALLATION PROCEDURES

---

Place the copy of the WordStar distribution disk in the logged disk drive and make sure the operating system prompt is on the screen.

**STEP 1** TYPE **WINSTALL**

SEE copyright information

**STEP 2** PRESS any key

SEE **Would you like to continue?**


**STEP 3**  or TYPE Y or N

*WordStar*

If you choose to leave the installation program at this point, no changes will be made to the file.

**NOTE:** If at some point an error message appears, follow the instructions on your screen to correct the problem.

SEE **Which MicroPro product would you like to install?**

**STEP 4** TYPE WS 



Be sure to enter the correct code for WordStar. Typing the wrong code will produce an error message.

**NOTE:** You can bypass steps 2-4 by typing WINSTALL and the product code on the same line. At the operating system prompt,

TYPE WINSTALL WS 

TYPE any key

SEE an information screen



Be sure to read all onscreen information and instructions as you proceed through the installation program.

**STEP 5** PRESS any key

**PROGRAM EXIT**

You can leave the installation program at any point by pressing ^C.

SEE disk drive name request

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If some of your WordStar installation files (WSU.COM, for example) are located on another disk drive, enter the disk drive name here. If all files are located on the logged disk drive, press RETURN.

SEE **Name of file to install or RETURN or WSU.COM**

At this screen, you first provide the name of the file to be installed or modified and then the name for the newly installed file. WSU.COM is the Uninstalled version of WordStar. WS.COM is the installed version you'll use to run WordStar.

**STEP 6**

SEE **File to install is : WSU.COM**

**NOTE:** If you are re-installing WordStar you'll find slight differences between the onscreen text and descriptions in the manual. From this point on in the program, simply follow the instructions on the screen, using the manual as a reference; the steps will be the same.

SEE **Enter name of file for installed WordStar, or RETURN for WS.COM.**

**STEP 7**

SEE **doublecheck message**

**STEP 8**  or **TYPE Y** if all information is accurate; otherwise **TYPE N**. If you type **N**, you'll return to the information screen.

SEE **INSTALL is copying the file filename. PLEASE WAIT.**

WordStar



Throughout the program, you'll be asked to confirm your responses. This safeguard lets you check your work and correct errors. If you type N (No), you will return to an earlier prompt where you can make necessary changes.

**SEE INSTALLATION MENU**

**INSTALLATION MENU**

From this main menu, you will make the necessary selections to install WordStar for your computer system. You'll return to the main menu each time you complete a selection. Each menu item is briefly described here:

- **A, Menu of Terminals.** From this menu, which lists most terminals, you will select the terminal you are using.
- **B, Custom Installation of Terminals.** If your terminal isn't listed on the Menu of Terminals, you'll choose this option to provide WordStar with the information it needs.
- **C, Menu of Printers.** From this menu, you'll select the printer you are using.
- **D, Custom Installation of Printers.** If your printer isn't listed on the Menu of Printers, you'll choose this option to provide WordStar with the information it needs.
- **E, Menu of WordStar Features.** By making selections from this menu, you can modify certain WordStar features. Wait until you have completed the training guide and have become familiar with the way WordStar works before you make changes.
- **F, Operating System Considerations.** If you have a multi-user operating system, MP/M, you'll select this option along with the others needed for installation.



*Installation*

- **X, Exit from INSTALL.** This option lets you review your selections, make more changes if you like, and then return to the operating system. Only when you choose **X** are changes made to the installed WordStar file.

**MULTI-USER SYSTEMS**

If your operating system is MP/M, take step 9; if not, bypass this step:

**STEP 9 TYPE F**

SEE **Is this to be installed on an MP/M system?**  
Currently . . .NO (it is not).

TYPE C

SEE **NOW . . .YES (it is).**



Choose this option only if your system is multi-user. The default setting is single-user.

**SELECTING A TERMINAL**


Your CRT must have a display area of at least 16 lines by 64 columns. The maximum display area depends on the amount of RAM available in your computer. The upper limit is about 57 lines by 120 columns.

WordStar can use the following features to enhance the performance of your terminal:

- Erase to end of line
- Line insert
- Line delete
- Either inverse video or bright/dim highlighting

### Responding to Prompts

Some commands cause a prompt to appear on the screen. You may, for example, be asked to name a file, to answer yes or no to a question, or to enter a number. The following guidelines apply when you respond to a prompt:

- Use either upper or lowercase letters.
- Type simply the first letter of yes or no; type **Y** or **N**.
- After your response (except Y or N), press the carriage return key 
- If you have made an error, press **^U** immediately to interrupt the current command.  $\hookrightarrow$  1-14
- Use special editing characters to simplify entering a file name.  $\hookrightarrow$  1-14

### Toggle Switches

Some commands turn a feature off or on. These features are called toggle switches. Margin release, for example, is a WordStar toggle switch.

$\hookrightarrow$  6-9

---

## STARTING WORK IN WORDSTAR

### HOW TO ENTER WORDSTAR

Once you've installed WordStar, you're ready to go to work. After booting the system, you'll see your system prompt on the screen, usually a symbol, such as this one:

A >

**STEP 14 TYPE C**

SEE **Printer is currently : no printer yet selected**

SEE **STANDARD PRINTER TYPES**

**SELECTING A PRINTER**

WordStar works with most printers on the market and can be installed to use most printer features, though some require special procedures (see Chapter 4 of this manual).

If your printer is capable of backspacing or carriage returns without line feed, you can use the following WordStar printing features:

- underlining
- boldface (multi-strike method)
- doublestriking
- overstriking

If you have a specialty printer, that is, a printer capable of incremental motion, you can use these WordStar printing features:

- microspace justification
- variable line height
- variable character pitch
- subscripts
- superscripts
- boldface (offset and restrike method)

The Standard Printer Types menus list several printers. Almost any printer can be installed by selecting **Standard printer**. If your printer can also backspace, select **Backspacing standard printer**. However, if you have a daisy-wheel or other specialty printer and you want to use all the print features available with WordStar, you must select your exact printer name from this menu.



Check the glossary in the WordStar Reference Manual to better understand unfamiliar terms.

**SPECIALTY  
PRINTER  
CAPABILITIES**

Specialty printers (and those which are mechanically and functionally similar) are capable of backspacing, bidirectional printing, and spacing vertically and horizontally in increments smaller than one line or one character width. Specialty printers are sometimes called letter-quality printers.

If your printer name isn't listed, you can select **D** on the Installation Menu and perform a custom printer installation. Instructions are given in Chapter 3, "Custom Printer Installation."




Some printers have switches which must be properly set for WordStar operation. In Chapter 3, "Custom Printer Installation," you'll find information about setting these switches.

**STEP 15** TYPE the appropriate letter

If your printer isn't listed, go on to the next menu. If you are viewing menu #1, for example, type 2 to see menu #2.

SEE **You have chosen** : your selection

SEE further information (with some selections)

**STEP 16**  or TYPE **Y**, if correct, **N** if you want to change your selection

SEE **Communications protocol is currently: No protocol**

SEE **COMMUNICATIONS PROTOCOL MENU**



**SETTING THE  
PROTOCOL**

At the Communications Protocol Menu, you'll tell WordStar how to communicate with your printer. If you are unfamiliar with protocols, turn to Chapter 4, "Protocols and Drivers." You'll find an easy-to-understand explanation and more detailed instructions about how to set the communication protocol if one is required for your printer. Also, consult your printer manual to establish what protocol, if any, you need.

**STEP 17** TYPE **A, B, C,** or

SEE **Communications protocol is now :**  
your selection

**STEP 18**  or TYPE **Y** or **N**

Depending on your protocol choice, you will or will not be required to give more information. If further information *is* required, see Chapter 4.

SEE **Driver is currently : No driver  
yet selected**

SEE **DRIVER MENU**

**SETTING THE  
DRIVER**

At the Driver Menu, you'll tell WordStar how to handle the communication between your computer and your printer. Again, refer to Chapter 4 of this manual and to your printer and computer manuals for the necessary information.

**STEP 19** TYPE **A, B, C,** or **RETURN**

SEE **Driver is now :** your selection

SEE further information

**STEP 20**  or TYPE Y or N

SEE further information

If further information is required at this point, see Chapter 4.

SEE **INSTALLATION MENU**

**LEAVING THE  
INSTALLATION  
PROGRAM**

The last steps give you the opportunity to recheck your work and to reenter the installation program if you want to make a change.

**STEP 21** TYPE **X**

SEE **These are your current values.  
Exit options menu**

**STEP 22** TYPE **A, B,** or **C**

Choose **A** to save your modifications and return to the operating system. Choose **B** to leave the installation program without saving the changes you've made. Choose **C** to remain in the installation program and return to the **INSTALLATION MENU**.

**TESTING YOUR  
INSTALLATION**

Your installation is complete. You may want to run a test to verify that WordStar is properly installed. In Chapter 6, "Testing Installation," you'll find instructions for checking all aspects of the installation.

**SAVING DISK  
SPACE**

You may want to remove the installation program files from your disk to save space. To re-install any features later, you'll need to restore the files from your distribution disk copy.

## 2. Custom Terminal Installation

---

**Custom Installation of Terminals** is selection **B** on the Installation Menu. If you have already checked selection **A, Menu of Terminals**, and have not found the name of your terminal listed, you'll need to do a custom installation to give WordStar information about the codes your terminal sends and receives. This information should be available in your terminal manual.

Check with your dealer before you begin a custom installation. If your terminal is similar to one listed on the Menu, you may be able to select that terminal for your installation.

### **WHAT YOU'LL NEED TO KNOW**

Before you begin your terminal installation, it's a good idea to gather the information you'll need. Each item is listed in the "Features" section of this chapter. Using your terminal and computer manuals, locate the necessary information and write it down for reference in the space provided.

If this is the first installation of your terminal,

SEE **INSTALLATION MENU**

TYPE **B**

SEE **TERMINAL INSTALLATION  
MENU**

TYPE **A**

SEE **Automatic installation of all  
features**

If you have already installed WordStar and you are returning to the program to modify a particular feature, select only that feature from the menu.

*WordStar*

**THE PROMPTS**

As you respond to the prompts, you'll see each feature's current (default) values displayed. To change a value, type C. If the value is correct, continue to the next feature by pressing RETURN. To complete the installation of some features, you'll have to enter more than two values. If you have chosen **A, Automatic installation**, not all the current values will be displayed at once. You must type C to view or change each value. After each response, you'll have the opportunity to confirm your answer before you go on to the next prompt.

The first time you install your terminal you should respond to every prompt because WordStar needs this information.

**CHANGING A VALUE**

To change some values, you must enter information in one of three formats — decimal, hexadecimal, or ASCII. (See the ASCII Conversion Chart in Appendix A.) When you type C, to change a value, you'll see a screen describing these formats and explaining how to change from one to another. You'll also see instructions about how to leave a value as is and how to end the sequence. Just above the values at the bottom of the screen is a statement telling you the maximum number of entries stored by that feature. Here is the screen:

You can enter a value in ASCII, decimal, or hexadecimal codes.  
Precede each entry with these prefixes:

ASCII	:	(:A enters ASCII 'A, a single value)
Hexadecimal	,	(,41 enters hexadecimal 41)
Decimal	#	(#61 enters decimal 61)

To enter a sequence of characters, enter each one separately, followed by <RETURN>.

Press <RETURN> to leave a value unchanged.  
Enter a period (.) and press <RETURN> to terminate a sequence and to eliminate all subsequent values.

These special characters require hexadecimal input:

<RETURN>	(^M)	,OD
Period	(.)	,2E
^H (backspace)	(^H)	,08

Maximum entries for this function is 6.

Current Value	New Value
---------------	-----------

A value typed in ASCII may include the control key. For example, if you press the control key and A together, ^A will be entered as a single value. To enter a series of characters, such as ^Q^Q^C, type ^Q RETURN ^Q RETURN ^C RETURN.

---

## FEATURES

---



Name: \_\_\_\_\_

### TERMINAL NAME

Select **B** to give WordStar a name for your terminal. Although your response doesn't affect the program, it does affect all messages that give the name of the terminal for which WordStar is installed.



Lines: \_\_\_\_\_  
Columns: \_\_\_\_\_

### SCREEN SIZE

Select **C** to provide the number of horizontal lines and vertical columns available on your terminal screen. (Defaults: 24 lines, 80 columns)



Code: \_\_\_\_\_

### CURSOR POSITIONING

To enable WordStar to position the cursor accurately on the screen, you must supply the following (if required by your terminal):

- Code: \_\_\_\_\_ • The character, or characters, that indicate the cursor is about to be moved
- Code: \_\_\_\_\_ • The characters sent between the coordinates of the move
- Code: \_\_\_\_\_ • The characters sent following a move
- Code: \_\_\_\_\_ • The characters representing line 1 and column 1
- Code: \_\_\_\_\_ • The code type representing line and column numbers: ASCII or BINARY
- Code: \_\_\_\_\_ • The order in which the column number and line number are sent

*WordStar*



Code: \_\_\_\_\_

**TERMINAL START-UP**

Select **E** if your terminal requires that a sequence of codes be sent in preparation for WordStar. Examples are given on the screen.



Code: \_\_\_\_\_

**TERMINAL EXIT**

Select **F** if your terminal also requires that a sequence of codes be sent to leave the terminal set as it was before you started WordStar.



Code: \_\_\_\_\_

**HIGHLIGHTING**

Select **G** if your terminal has highlighting capabilities and requires a code sequence to turn highlighting on and off. (You will need to supply the codes for both on and off.)



Code: \_\_\_\_\_

**ERASE TO END OF LINE**

Select **H** to provide the code for the feature that erases all characters from the cursor position to the end of the line. If this feature is not available on your terminal, WordStar will use another method to perform the same function.



Code: \_\_\_\_\_

**DELETE LINE**

Select **I** to provide the code sequence for the delete line feature, which erases the line containing the cursor and moves the lines below up one line. If this feature is not available on your terminal, WordStar will use another method to perform the same function.



Code: \_\_\_\_\_

#### INSERT LINE

Select **J** to provide the code sequence for the insert line feature. This feature places a blank line at the cursor line and pushes the text down one line on the screen. Check your terminal manual; if your terminal inserts the blank line *below* the cursor, you'll have to precede the insertion code with a code sequence to move the cursor up a line. If the insert line feature is not available on your terminal, WordStar will use another method to perform the function.



Code: \_\_\_\_\_

#### HANDLING OF LAST CHARACTER ON SCREEN

Select **K** and type **Y** at the prompt if your terminal scrolls up a line when it encounters a character at the bottom right of the screen. If your terminal doesn't use this convention, type **N**, and WordStar will use another method to cause the scrolling.

*WordStar*



### 3. Custom Printer Installation

---

**Custom Installation of Printers** is selection **D** on the Installation Menu. If you have already checked selection **C**, **Menu of Printers**, and have not found your printer on the list, you'll need to perform a custom installation to take advantage of all the capabilities of your printer. WordStar needs specific information, which you'll find in your printer manual. If you need more help, ask your dealer.

You'll be installing either a standard or specialty printer. Be sure your printer has all the capabilities outlined in Chapter 1 before you install it as a specialty printer.

**WHAT YOU'LL  
NEED TO KNOW**

Before you begin your printer installation, it's a good idea to gather the information you'll need. Each item is listed in the "Features" section of this chapter. Using your printer and computer manuals, locate the necessary information and write it down for reference in the space provided.

**PRINTER  
SWITCHES**

Some printers have switches that must be properly set for WordStar to control printing operations. The switches may be located on an external control panel, on a control panel under the printer cover, or on internal circuit boards. If your printer has any of the following options switches, they should be set as recommended:

- **AUTO CR** (CR = carriage return)  
Turn this switch off.
- **AUTO LF** (LF = line feed)  
Turn this switch off.
- **FORM LENGTH**  
If you are using WordStar's **Use form feeds** print option, set this switch to match the length of the paper you are using.

- **LOCAL LF**  
Same as AUTO LF above. Turn off.
- **PARITY**  
Check your printer manual or check with your dealer for the correct setting for this switch.
- **SET TOF**  
If you're using WordStar's **Use form feeds** print option, press this switch after positioning your paper at the top of the form or at the perforation.
- **SPEED OR BAUD**  
Set this switch to match the speed at which your computer transmits characters.

In addition, some printers have a switch that must be set to activate a communication protocol when required. (See Chapter 4 for more information.) Check your printer manual to see if your printer has such a switch.

#### **THE PROMPTS**

As you respond to the prompts, you'll see each feature's current (default) values displayed. To change a value, type **C**. If the value is correct, continue to the next feature by pressing RETURN. To complete the installation of some features, you'll have to enter more than two values. If you have chosen **A** or **B, Automatic installation**, these features will not display all the current values at once. You must type **C** to view or change each value. After each response, you'll have the opportunity to confirm your answer before you go on to the next prompt.

The first time you install your printer you should respond to every prompt. WordStar needs all the information requested.

## CHANGING A VALUE

To change some values, you must enter information in one of three formats — decimal, hexadecimal, or ASCII. (See the ASCII Conversion Chart in Appendix A.) When you type **C** to change a value, you'll see a screen describing how to enter a value. You'll also see instructions about how to leave a value as is and how to end the sequence. At the bottom of the screen is a statement telling you the maximum number of entries that can be stored at that feature. Here is the screen:

```
You can enter a value in ASCII, decimal, or hexadecimal codes.
Precede each entry with these prefixes:
ASCII      .      (^A enters ASCII ^A, a single value)
Hexadecimal #      (#41 enters hexadecimal 41)
Decimal    #      (#61 enters decimal 61)
```

```
To enter a sequence of characters, enter each one separately,
followed by <RETURN>.
```

```
Press <RETURN> to leave a value unchanged.
Enter a period (.) and press <RETURN> to terminate a sequence
and to eliminate all subsequent values.
```

```
These special characters require hexadecimal input:
```

```
<RETURN> (^M)      .OD
Period (.)          .2E
^H (backspace: ^H) .08
```

```
Maximum entries for this function is 6.
```

```
Current Value New Value
```

A value typed in ASCII may include the control key. For example, if you press the control key and **A** together, **^A** will be entered as a single value. To enter a series of characters, such as **^Q^Q^C**, type **^Q RETURN ^Q RETURN ^C RETURN**.

## INSTALLATION

---

Begin at the Installation Menu:

TYPE **D**  
SEE **PRINTER INSTALLATION**  
**MENU**

If you are installing your printer for the first time, choose **A**, Automatic installation for specialty printer (features C through M), or **B**, Automatic installation for standard printer (features C through H and N). Later, if you want to modify a particular feature, select the appropriate letter from the Printer Installation menu and respond to the prompts.

## FEATURES

---

### All Printers

WordStar must have information about all of the following features for all printers:



Name: \_\_\_\_\_

### PRINTER NAME

Select **C** to give WordStar a name for your printer. This name, which doesn't affect the program, is used in all messages that specify the printer for which WordStar is installed.



Code: \_\_\_\_\_

Code: \_\_\_\_\_

### INITIALIZATION

Select **D** to provide the code sequences that tell your printer to begin and end printing.



Code: \_\_\_\_\_

**OVERPRINTING**

Select **E** to tell WordStar how your printer backspaces. If you are installing a backspacing printer, you'll also have to know the code that tells the printer to backspace.



Code: \_\_\_\_\_

**BOLDFACING**

Select **F** to specify how dark your boldfaced print will be. The default value is 2, the recommended value for specialty printers.



Protocol: \_\_\_\_\_

**PROTOCOL MENU**

Select **G** to set any required protocol. Refer to Chapter 4 in this manual for detailed information about communications protocols.



Driver: \_\_\_\_\_

**DRIVER MENU**

Select **H** to specify a printer driver. Refer to Chapter 4 in this manual for detailed information about printer drivers.

**Specialty Printers Only**

Install all of the following features on specialty printers to take advantage of WordStar's print features:



Code: \_\_\_\_\_

**RIBBON SELECTION**

Select **I** to supply alternate and standard ribbon-selection code sequences if your printer is capable of two-color printing.



### VERTICAL MOTION

Select **J** if your printer is capable of the vertical movement necessary to produce sub- and superscript. You must supply the following values regarding the vertical motion index (VMI):

- Code sequences that tell the printer to prepare to move the platen up and down.
  - Code sequences (called VMI trailer strings) that tell the printer the movement in vertical increments is complete. Very few printers require this information.
  - The minimum value for VMI.
  - The range of valid VMI values. If you don't know the range, subtract the minimum value from the maximum value.
  - The code sequence for line feed.
  - The code sequence for reverse line feed.
- Code: \_\_\_\_\_
- Code: \_\_\_\_\_
- Value: \_\_\_\_\_
- Range: \_\_\_\_\_
- Code: \_\_\_\_\_
- Code: \_\_\_\_\_



### HORIZONTAL MOVEMENT

Select **K** if your printer is capable of incremental horizontal movement. You must supply the following values regarding horizontal motion index (HMI):

- Code sequences that tell the printer to prepare to move the print head left or right.
  - The fraction (increment) in inches your printer moves the print head for HMI, either 1/60 or 1/120 inch.
  - The minimum value for HMI.
  - The range of valid HMI values. If you don't know the range, subtract the minimum value from the maximum value.
- Code: \_\_\_\_\_
- Increment: \_\_\_\_\_
- Value: \_\_\_\_\_
- Range: \_\_\_\_\_

Code: \_\_\_\_\_

- The code sequence for a space forward.

Code: \_\_\_\_\_

- The code sequence for a backspace.



Forward

Code: \_\_\_\_\_

Backward

Code: \_\_\_\_\_

#### PRINT MODES

Select **L** to enter the codes for both forward and backward printing.



Code: \_\_\_\_\_

Code: \_\_\_\_\_

#### PHANTOM CHARACTERS

Select **M** if your print head contains two characters, nicknamed phantom space and phantom rubout, that are not represented on your keyboard. You can set two WordStar commands to represent these characters in your printed text. Check your print head for the characters and your printer manual for the code sequence representing each.

#### Standard Printers Only



LF Code: \_\_\_\_\_

1/2 LF Code: \_\_\_\_\_

No LF Code: \_\_\_\_\_

#### RETURN/LINE FEED

Select **N** to tell WordStar whether your printer is capable of carriage returns with line feeds, with half-line feeds, or without line feeds. If your printer is capable of one or more of these returns, most WordStar features such as overstriking, overprinting, and underscoring will function. You'll need to supply the function code sequences for each of your printer's carriage returns.

### Optional

These features are optional on all printers and depend on the special capabilities of your printer:



**^PQ** Code: \_\_\_\_\_  
**^PW** Code: \_\_\_\_\_  
**^PE** Code: \_\_\_\_\_  
**^PR** Code: \_\_\_\_\_

#### USER-DEFINED FUNCTIONS

Select **O** to set four WordStar commands to perform actions of your choice. If your printer supplies another font, for example, you can set one of the commands to toggle the font on and off. The four commands you set are **^PQ**, **^PW**, **^PE**, and **^PR**. You'll need to provide the code sequence for each command you define.



Selections **I**, **Q**, and **P** are not strictly limited to ribbon selections and character pitch. Like the user-defined functions (selection **O**), these selections let you set the WordStar **^P** commands to the code sequences of your choice. You could, for example, select **I** to enter a code for double-width characters and select **Q** to enter a code for reduced-sized characters. You could also use these selections to assign the special print features of a dot matrix printer to WordStar commands.



**Roll up**  
Code: \_\_\_\_\_  
**Roll down**  
Code: \_\_\_\_\_

#### CARRIAGE ROLL

Select **P** if your printer is capable of rolling the platen up and down a partial line. You'll need to enter the function code sequences for both up and down partial rolls.





Standard

Code: \_\_\_\_\_

Alternate

Code: \_\_\_\_\_

**CHARACTER PITCH**

Select **Q** if your printer is capable of altering the pitch (width between characters) of your printed text. You'll need to enter the function code sequences for standard character width and alternate character width.



**EXIT**

Type **X** to return to the Installation Menu.

*WordStar*

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## 4. Protocols And Drivers

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This chapter presents general information about protocols and drivers and then explains the options on both menus.

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### COMMUNICATIONS PROTOCOLS

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A communications protocol is a system of codes that enables your printer and computer to talk to one another. If WordStar were to send 200 words per second from computer to printer, your printer, like a person taking dictation, would need a way of saying "Hold it! I can't transfer characters to paper that fast."

**PRINTER BUFFER** Most printers have a good memory called the printer buffer. When receiving new information, your printer can use this buffer as storage space while printing information received earlier.



The size of this buffer is important. A buffer that holds only 500 words can become filled in seconds if WordStar is dictating 200 words per second. Any characters sent after the buffer is full will be lost.

Communications protocols require that the computer and printer *exchange* information or signals. The computer must be able to send information to the printer for printing, and the printer must be able to send signals back when it's ready to receive more information.

*WordStar*

**DO YOU NEED A  
PROTOCOL?**

You probably won't need a communications protocol if you have a specialty printer (or one with similar capabilities) that can receive information from the computer at 300 bits per second or less (that is, with a serial interface set at 300 baud or less) or a standard printer with a serial interface at 600 baud or less. However, your printer may operate so slowly that you will want to increase the baud rate. At a higher baud rate, you will need a communications protocol unless your printer is equipped with special hardware or cabling options. (See the next section on hardware protocol.) Without a communications protocol, you run the risk of losing characters before they can be printed.

**HARDWARE  
PROTOCOL**

Use a hardware protocol if one is available. A hardware protocol is a special cabling device that regulates the exchange of information between your computer and your printer. Many computer and printer manufacturers routinely supply hardware protocols with their products. Your dealer will help you select the proper protocol for your system.

To achieve a hardware protocol with certain machines (computers or printers), some rewiring may be necessary. Such hardware protocol is *still* preferred over any software protocol (see the following section). Your hardware manuals should supply the information you need. If you cannot find this information, contact your hardware dealer or manufacturer.

**SOFTWARE  
PROTOCOL**

If a hardware protocol is unavailable, a software protocol—sometimes called “handshaking”—can be installed. Most printers are capable of using either the ETX/ACK protocol or the X-ON/X-OFF protocol. Many printers allow you to choose between the two.



Although the X-ON/X/OFF variety is generally preferred, consult your dealer or hardware manual to determine which software protocol is best to use with your printer. The WordStar program itself will handle either kind of software protocol.

**Communications Protocol Menu**

The Communications Protocol Menu appears after you choose **C** at the Installation Menu and then select the letter corresponding to the name of your printer (**A - L**) from the list of Standard Printer Types. If you are performing a custom printer installation, however, the Protocol Menu appears after you choose **D** at the Installation Menu and then **G** at the Printer Installation Menu.



**NONE REQUIRED**

Select **A** if your printer does not need a protocol or if the protocol is handled by the hardware. (See the previous section on hardware protocol.)



**ETX/ACK PROTOCOL**

Select **B** if your printer uses ETX/ACK protocol. WordStar will place a special character at the end of each information “message” it sends to the printer. This special character is known as an ETX (an acronym for End of TeXt) code and is represented by a value of 03. Once the printer has printed everything in the message up to the ETX code (a line, for example), it sends an ACK code (ACKnowledge) back to the computer. The ACK code (represented by a value of 06) tells the computer that the printer is ready to receive the next information message.



*Do not* attempt to install or use code in the operating system to implement ETX/ACK protocol. If WordStar is to operate under this protocol, the protocol must be executed by WordStar.



Some specialty printers (or printers with similar capabilities) permit the use of this protocol as an alternative to X-ON/X-OFF. You should use ETX/ACK protocol when other considerations require its use—for example, when other software on your computer requires it.

When you use this protocol, WordStar must know how many characters can be “dictated” before the printer buffer becomes full. In addition, some printers may require specific procedures (such as setting a switch inside the printer) to activate ETX/ACK protocol. Check your printer manual.

After you type **B** and confirm your choice, the ETX/ACK message length prompt will appear on your screen. The number you enter must be equal to or less than half the size of the printer buffer. WordStar will keep two messages in the buffer at any given time. The default is 127 characters; this number indicates that the printer buffer can hold at least 254 characters. The maximum ETX/ACK message length is 254 characters.



Be sure to decrease this value if your printer has a smaller buffer. Otherwise, the messages will overlap in the buffer, and you will lose characters or print unwanted data.



Some printers have switches that make it possible to select two or more different buffer sizes. If your printer has such switches, check to make sure the switches are set to the correct buffer sizes.



#### X-ON/X-OFF PROTOCOL

Select **C** for the X-ON/X-OFF protocol. When the printer is ready to receive an information message, it sends an X-ON code (transmit ON) to the computer. The X-ON code is represented by the ASCII code DC1 (which translates to a hexadecimal value 11). When it receives an information message, the printer sends an X-OFF (transmit OFF, ASCII code DC3, hexadecimal value 13) to the computer, telling it not to send any more messages before receiving the next X-ON code. This protocol is sometimes known as DC1/DC3.



X-ON/X-OFF protocol is the usual selection if you have a serial specialty printer interfaced at any rate over 300 baud. Most, but not all printers support this kind of protocol.



The ETX/ACK and X-ON/X-OFF protocols require that the computer and printer be able to *exchange* (i.e., transmit and receive) information. You must, therefore, select a printer driver which allows information to be *received from* as well as *transmitted to* the printer.

---

#### PRINTER DRIVERS

The printer driver is a program that works with the protocol to make sure that the printer and computer communicate properly. The driver tells them where to do the talking and where to do the listening. Without this information, your computer and printer couldn't "converse." They would be like people trying to carry on a phone conversation with one party speaking into the earpiece and the other listening at the mouthpiece—information could not pass between them.

Protocols require that the computer and the printer be able to exchange (that is, transmit and receive) information. Some printer drivers make this exchange possible, whereas others permit information to be sent only from the computer to the printer. Be sure to select a driver that is compatible with the type of protocol you have installed.

Your WordStar program contains several different printer drivers. The following section, which presents descriptions of each option on the driver menu, will help you make the appropriate selection for your situation.

### Driver Menu

The Driver Menu appears after you have selected your communications protocol during a standard installation. If you are performing a custom printer installation, however, the Driver Menu appears after you choose **H** at the Printer Installation Menu.



#### OPERATING SYSTEM PRIMARY LIST DEVICE

Select **A** to send characters to your printer through the printer driver in your operating system. If your selection of a protocol was **A** (No protocol required), the Operating System List Device is the usual selection.



If you select **A**, make sure that you have set up your operating system correctly, that is, that you have assigned the correct physical device (a printer) to this logical device (the list device). See your operating system manual for the appropriate commands.





**OPERATING SYSTEM SECONDARY LIST DEVICE**

Select **B** if the primary list device in your operating system is assigned to a task other than printing your WordStar files. In some operating systems, a secondary list device is available.



The list device is usually not capable of exchanging information with the printer. That is, the list device will send information to the printer but will not listen for signals coming back. If you are using a software protocol (either ETX/ACK or X-ON/X-OFF), some adjustment will have to be made to your operating system. Ask your dealer for help with your particular system.



**WORDSTAR'S PORT DRIVER**

Select **C** to use WordStar's built-in Port Driver. This driver bypasses the operating system and exchanges information with the printer directly. If you use this driver, you will not have to adjust your operating system for two-way communication between computer and printer.

WordStar's port driver is recommended for use with a software protocol because the driver contains a test to check when the printer is busy. But to use this driver, you will need information about your computer's printer ports and the status bits at those ports.

**Ports** are logical places where your operating system can "plug in" to other devices. A port is not the actual plug or connector itself but has a very definite location and assigned number. Information (bits or bytes) is sent through a port on its way to another device (in this case, your printer). At the **status port** WordStar monitors the condition of the printer, that is, checks to see whether it's ready for more information.



**Status bits** are special bits at the status port of your computer that change when the condition of the printer has changed.

If your printer interface involves more than one output data port, one output status port, one input data port, and one input status port, WordStar's Port Driver will not work.

After you have selected and confirmed option **C**, you will be asked a series of questions—first about the numbers of the output port and output status port, and then (unless you have chosen **no protocol**) about the numbers of the input ports and input status ports. You should be able to find in your computer manual the information necessary to answer these questions.



When you enter port numbers, use hexadecimal values. See Appendix A of this manual for a decimal/hexadecimal conversion table.

After you have entered port numbers, you will be asked which bits change at the status port. You should find this information in the section of your computer manual that provides port number information. The combination of all the bits that change must be represented as a single hexadecimal value. (If you are unfamiliar with converting binary values to hexadecimal values, ask your dealer for assistance.)

First, type the hexadecimal value that corresponds to the bits that change when the port can accept a character. For example, if the one and five bits change, enter the hexadecimal value 22 (which corresponds to the decimal value 34 or the binary value 00100010).

## Installation

After you have entered this hexadecimal value, you'll be asked for the hexadecimal value of the bits that change from off to on (from 0 to 1) when the printer is ready to accept more characters for printing. For example, if only the one bit changes, enter 2. If only the number 5 bit changes, enter 20. If both bits change, enter 22, just as you did before.



If you have chosen **no protocol**, the questions stop here. But if you are using a communications protocol, you'll be asked another series of questions similar to those just described—this time, about *input* ports and *input* status ports.

The input status port and status bits are used by WordStar to determine whether or not a character has been received by the printer. The number of the input data port is frequently, though not always, the same as that of the output data port. You will specify the input data port, input status port, and status bits in the same manner as you specified the output ports and bits.

*WordStar*

*4-10*

## 5. Wordstar Features

---

Once you're familiar with WordStar, you may want to change the way some features operate. With the installation program, you can customize the initial setting of 19 WordStar features. Your new settings become WordStar defaults. These defaults, in turn, can be altered during an editing session with a WordStar command. For example, the preset help level is 3. If you use Option A to change the level to 0, menus will not appear when you begin writing or editing, and you'll have a larger work area. Later, if you need to see a menu, you can temporarily reset the help level.

You may want to keep more than one version of WordStar (each with a different filename) on your disks. For example, a file called WS1.COM could begin WordStar in document mode and another called WS2.COM could begin the program in non-document mode. Different versions would be tailored to different tasks.



Be sure to complete the WordStar Training Guide before you change any feature settings. The guide was designed for use with standard settings, and you could easily become confused if you tried to complete exercises using a customized version of WordStar.

From the Installation Menu,

TYPE E

SEE **MENU OF WORDSTAR  
FEATURES**

To modify a feature, type the appropriate letter and respond to the prompts on the screen. After each response, you'll have the opportunity to confirm your answer. You'll find information about each feature both on the screen and in the following discussion of menu choices. For additional information about all the features, see the WordStar Reference Manual.

---

## FEATURES



### INITIAL HELP LEVEL

Select **A** to set the level of onscreen help. To decide on the appropriate level of help, start WordStar and examine the screen under each level. As you become more familiar with the program, you'll find you need less and less help. You can later reset the level as needed. (Default: 3)



### DECIMAL POINT CHARACTER

Select **B** to set the decimal point character. This character is used for aligning columns of numbers according to the position of the decimal tab settings. (Default: *period* [.])



### NON-DOCUMENT MODE

Select **C** to set the mode for editing a file you name on the command line as you start WordStar (e.g., *WS filename*). You may find it useful to set this feature to non-document mode when you are editing primarily data files. (Default: *document mode*)



### INITIAL DIRECTORY DISPLAY

Select **D** to display or suppress the file directory at the Opening Menu. (Default: *on*)



**INITIAL INSERTION TOGGLE**

Select **E** to specify the initial setting for the insertion toggle switch. With insertion off, characters will type over previously typed text, rather than move text right. (Default: *on*)



**JUSTIFICATION TOGGLE**

Select **F** to specify the initial setting for the justification toggle switch. With justification off, your text will have an uneven right margin. (Default: *on*)



**HYPHEN HELP TOGGLE**

Select **G** to specify the initial setting for the hyphen help toggle switch. With hyphen help off, WordStar will not hyphenate words during paragraph re-forming but will simply move words extending beyond the margin to the next line. (Default: *on*)



**OMIT-PAGE-NUMBERING**

Select **H** to specify the initial setting of the omit-page-numbering toggle switch. If the toggle switch is off, the pages will be numbered during printing. (Default: *off*)



**TOP MARGIN**

Select **I** to specify the number of lines to be left blank at the top of the printed page. (Default: *3*)



**BOTTOM MARGIN**

Select **J** to specify the number of lines to be left blank at the bottom of the page. (Default: *3*)



**LEFT MARGIN**

Select **K** to adjust the left margin on the screen and on the printed page. The left margin must not exceed the right margin and should be set at a number less than 240. (Default: 1)

With the left margin set at 1, your text appears at the extreme left on your screen. When printed, however, your text will appear to the right of the space allocated for page offset (see selection **N**).



**RIGHT MARGIN**

Select **L** to adjust the right margin on the screen and on the printed page. The right margin has no theoretical limit but does have practical limits — page width and printer capacity. (Default: 65)



**NUMBER OF LINES PER PAGE**

Select **M** to adjust the number of lines available on a page for printing WordStar documents. (Default: 66 lines, the setting for 11 inch paper)



**PAGE OFFSET**

Select **N** to adjust the number of columns left blank at the left side of the printed page. The left margin will begin to the right of this setting. For example, a page offset of 8 and a left margin of 10 will cause printing to begin in column 18 on your paper. (Default: 8)



**FORM FEEDS TOGGLE**

Select **O** to set the form feed toggle switch. The value you set becomes the default answer to the question, "Use form feeds?" This question appears prior to printing files with WordStar or MailMerge. When this toggle switch is on, form feeds are used; when off, line feeds are used. (Default: *form feeds off*)





**DATA FIELD SEPARATOR**

Select **P** to specify the character to be used to separate fields in a datafile. You can choose any character. This feature applies only to the MailMerge option of WordStar. (Default: *comma [,]*)



**VARIABLE NAME SYMBOL**

Select **Q** to specify the characters to be used before and after variable names inserted into a file being merged. You can choose any character. This feature applies only to the MailMerge option of WordStar. (Default: *ampersand [&]*)



**SYSTEM DISK DRIVE**

Select **R** to specify the disk drive where your .OVR files are stored. WordStar looks first for the files on your currently logged drive, which is the drive indicated by your operating system when you start a program. If your files are not found there, WordStar looks for them on the system drive.



**EXIT**

Type **X** to return to the Installation Menu.

*WordStar*

## 6. Testing Installation

---

This chapter contains a few, simple tests that will help you determine if your terminal and printer are correctly installed to work with WordStar.

### **CHECK WORDSTAR'S OPENING SCREEN**

To test your installation, start WordStar running on your computer. At the system prompt,

TYPE **WS** 

SEE Program version and serial number, copyright information, and the terminal, printer, communications protocol, and printer driver selections you made during installation

The display will remain on your screen for a few seconds (or until you press any key). Then you will see the WordStar Opening Menu.

### **CHECK CURSOR POSITIONING**

The cursor should be positioned at the lower right of the Opening Menu. If lines run together on your screen and punctuation appears at random, the cursor positioning function codes are incorrect for your terminal. Check your terminal manual and the settings of all option switches on the terminal. Reinstall WordStar or correct your terminal settings.

### **TEST THE ERASE FUNCTION**

With the Opening Menu on the screen, open a document file:

TYPE **D**

SEE **Name of file to edit?**

### *Installation*

If information from the Opening Menu remains on your screen, the erase to end-of-line function is not working correctly. Re-install your WordStar program with the correct function codes.

PRESS ESCape

#### **CHECK HIGHLIGHTING**

To check the highlighting feature, look at the Opening Menu. If highlighting is installed, the list of commands and the title <<<OPENING MENU>>> will appear brighter (or dimmer) than other characters on the screen or in inverse video. The type of highlighting depends on your installation.

First, check the contrast or brightness control on your terminal to be sure the screen is properly illuminated. If highlighting is not installed correctly, you'll see no contrast in brightness on the Opening Menu. Re-install the function codes correctly.

#### **PRINT TEST**

From the Opening Menu, you should be able to print a file. Make sure your printer is on and ready to print.

TYPE P

SEE Name of file to print?

TYPE PRINT.TST

PRESS ESCape

The PRINT.TST file should print, exhibiting many of the print features available in WordStar. If printing doesn't begin or if the features you've installed don't operate correctly, you'll need to re-install your printer.

**END THE  
TESTS**

After the file finishes printing, the Opening Menu will return to the screen. Return to your operating system:

**TYPE X**

**SEE** your operating system prompt

You can now be assured that WordStar is ready to go to work. If you are new to word processing, you should go on to the WordStar Training Guide now. Otherwise, use the WordStar Reference Manual to learn the fine points of the WordStar program. Enjoy!

*WordStar*

## Appendix A ASCII Conversion Chart

ASCII	DECIMAL	HEXA DECIMAL	ASCII	DECIMAL	HEXA DECIMAL
!	33	21H	G	71	47H
"	34	22H	H	72	48H
#	35	23H	I	73	49H
\$	36	24H	J	74	4AH
%	37	25H	K	75	4BH
&	38	26H	L	76	4CH
'	39	27H	M	77	4DH
(	40	28H	N	78	4EH
)	41	29H	O	79	4FH
*	42	2AH	P	80	50H
+	43	2BH	Q	81	51H
,	44	2CH	R	82	52H
-	45	2DH	S	83	53H
.	46	2EH	T	84	54H
/	47	2FH	U	85	55H
			V	86	56H
0	48	30H	W	87	57H
1	49	31H	X	88	58H
2	50	32H	Y	89	59H
3	51	33H	Z	90	5AH
4	52	34H	[	91	5BH
5	53	35H	/	92	5CH
6	54	36H	]	92	5CH
7	55	37H	^	94	5EH
8	56	38H	_	95	5FH
9	57	39H	`	96	60H
:	58	3AH	a	97	61H
;	59	3BH	b	98	62H
	60	3CH	c	99	63H
=	61	3DH	d	100	64H
	62	3EH	e	101	65H
?	63	3FH	f	102	66H
	64	40H	g	103	67H
A	65	41H	h	104	68H
B	66	42H	i	105	69H
C	67	43H	j	106	6AH
D	68	44H	k	107	6BH
E	69	45H	l	108	6CH
F	70	46H	m	109	6DH
			n	110	6EH

- continued -

*WordStar*

ASCII	DECIMAL	HEXA DECIMAL	ASCII	DECIMAL	HEXA DECIMAL
o	111	6FH	w	119	77H
p	112	70H	x	120	78H
q	113	71H	y	121	79H
r	114	72H	z	122	7AH
s	115	73H		123	7BH
t	116	74H		124	7CH
u	117	75H		125	7DH
v	118	76H		126	7EH
			DEL	127	7FH



*Installation*

Vertical line on the left side of the page.

Vertical line on the right side of the page.

## Appendix B Quick Guide


The steps below summarize the WordStar installation procedure. If you are installing WordStar for the first time, use the manual to help you with each step.

**STEP 1 COPY YOUR DISK**

Copy your distribution disk and store the original in a safe place.

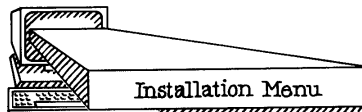
**STEP 2 BEGIN INSTALLATION PROGRAM**

To enter the installation program:

TYPE WINSTALL  and respond to the prompts.

INSTALLATION FOR MULTI-USER

SEE:



If you are installing under an MP/M operating system: TYPE F and respond to the prompts.

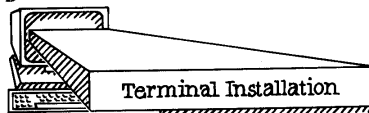
**STEP 3 INSTALL YOUR TERMINAL**

TYPE A  
SEE:

OR, if your terminal isn't on the list,



TYPE B  
SEE:



TYPE the letter representing your terminal

TYPE A or B and respond to the prompts.

**STEP 4**    **INSTALL YOUR PRINTER**                    **SEE: INSTALLATION MENU**

**TYPE C**  
**SEE:**



**TYPE** the letter representing your printer

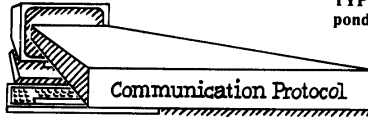
**OR**, if your printer isn't on the list,

**TYPE D**  
**SEE:**



**TYPE A or B** and respond to the prompts

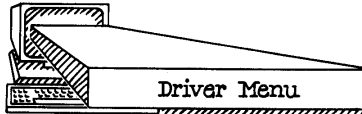
**SEE:**




**TYPE A, B, C, or**



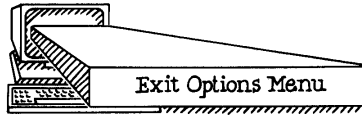
**SEE:**



**TYPE A, B, C, OR** 

**STEP 5**    **COMPLETE THE INSTALLATION**  
**TYPE X**

**SEE INSTALLATION MENU**  
**SEE:**



**TYPE A, B, or C**

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