System 88

WordMaster

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For ease of preparation
. . . from first draft to final type.

PolyMorphic
Systems

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System 88
WordMaster

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PREFACE

The WordMaster printer driver is not the same printer driver as is on your System Disk. The WordMaster disk contains Printer 30 which is described in Appendix B of this manual. When using the WordMaster disk, you can not create sub-directories.

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Section 1

INTRODUCTION TO THE MANUAL

1.0

Until recently, word processing systems were generally computer-controlled machines that were large and very expensive. They were sophisticated and complicated, and large corporations (such as major newspapers or publishing houses) spent hundreds of thousands of dollars for such systems. Besides the obvious disadvantages of size and price, the main drawback to using these systems was the fact that they could only do word processing. Most businessmen, however, realized that it would not be cost-efficient for them to buy one computer system to do their accounts-receivable, one system to enter inventory changes, and another to handle their need for word processing. This is where the microcomputer revolution comes in. For the first time word processing is within the reach of a wide variety of people; owners of small businesses, researchers, writers, teachers, and so on. Because many of the people who use the System 88 will not necessarily have experience in the use of computers or in professional word processing, the System 88 programs (WordMaster and the Text Editor) that work with you to do word processing are simple to use and understand. Even if you've never seen a computer before, with a little practice you will soon feel comfortable and skillfull using these tools.

> NOTE: The different WordMaster System Disks are listed below, beneath the particular PolyMorphic System in which they are to be used. Please check the part number of the disk you received to make sure that it is compatable with your system.

Single-Density System 88
    5" WordMaster System Disk No. 820131
Double-Density System 88
    5" WordMaster System Disk No. 820162
Single-Sided System 88/MS
    8" WordMaster System Disk No. 820166
Double-Sided System 88/MS
    8" WordMaster System Disk No. 820166

1.1 THIS MANUAL

The major purpose of this manual is to tell you how to use the PolyMorphic Systems Text Formatter (WordMaster). More importantly, though, we want you to feel at ease with both of the major components of the System 88 word processing system, WordMaster and the Text Editor since you'll be using both of them often. We want to tell you not just how to work WordMaster and the Editor, but how to use them--an entirely different subject.

To that end we've divided up the manual into five parts, each of which builds logically upon the information in previous sections. There is very little theory in this manual; think of it as a how-to-do-it book. We will often ask you to work with us by trying some of the examples in this manual. You will get the maximum use out of this manual if you sit down with it in front of the machine and use it as a learning tool.

After you've become proficient using WordMaster, you will probably only need to refer occasionally to the reference sheets in the manual which summarize WordMaster and Editor commands.

It takes a little time to learn how to use something new, but please read this manual over carefully before you begin to use WordMaster. The small time that you invest now in learning how to use these tools will pay off quickly as you learn to your pleasure how much time you will save when you write and format documents. As you read the manual, remember that it was formatted using WordMaster.

1.2 THE CONTENTS OF THIS MANUAL

PART I: Introduction to Word Processing on the System 88

Section 2: What is Word Processing?
We talk briefly about what we mean when we say word processing. For the most part, this section serves as an introduction to the text Editor and to WordMaster.

Section 3: A Brief Introduction to the System 88
You will want to read the System 88 User's Manual for more information on this topic, but this section briefly discusses a few of the things that you will need to know if you are new to the System 88. We also go through a brief demonstration of the use of the Editor and of WordMaster.

PART II: Talking to the Text Editor

Section 4: Creating a Document
We provide step-by-step instructions on how to use the Text Editor to create a document. More information on the Editor is available in the System 88 User's Manual. We also tell you how to print a document without formatting it.

Section 5: Changing a Document
Now that you know how to create a document, we tell you how to change a document. We also talk more about some of the Editor commands. For the first time we briefly mention a couple of the system commands.

Section 6: Special Features of the Editor
We discuss some of the many special features of the Editor. We discuss the new Escape-character definition ability of the Editor.

Section 7: Functional Summary of Editor Commands
A quick summary of all of the Editor commands, grouped by function.

Section 8: Printing and Unformatted Document: The Printer Driver
We discuss the system Printer Driver, and talk about how to print a document without using WordMaster.

PART III: WordMaster

Section 9: A First Look at Formatting Commands
What's a formatting command, what do they look like? We discuss WordMaster's assumptions about what you want in a formatted document. We tell you how to use the Editor to insert formatting commands into your document to prepare it for WordMaster.

Section 10: Setting Up a Page
The fundamental formatting commands that you use to set up a page: lines per page, margin, page width, page numbering, and line spacing commands.

Section 11: Filled and Unfilled Text
Two of the more important concepts in formatting are fill and no fill. We talk about the two commands that perform these functions, and explain just what WordMaster does when it "fills" text.

Section 12: Breaking and Skipping
We describe the break and skip commands, and explain why they are the most useful of all formatting commands.

Section 13: Right Justifying Text
We discuss how WordMaster right justifies text, and how to switch back and forth between justified and unjustified text within the same document.

Section 14: How to Operate WordMaster
Now that you know the basic formatting commands, we talk about how to actually operate WordMaster.

Section 15: Functional Summary of Basic Formatting Commands
A list of the basic commands, grouped by function.

PART IV: Advanced Formatting

Section 16: WordMaster Special Symbols
We begin to get into the more advanced formatting commands and concepts. The WordMaster special symbols are the Non expandable blank and the Current page number symbol. We talk about how to use them in your documents.

Section 17: How to Center, Underline and Capitalize
We talk about the center and capitalize commands, and we discuss the two underlining commands; word only underline, and total line underline.

Section 18: Beginning a New Page
WordMaster has two commands that allow you to start a new page; a begin new page command, and a begin odd-numbered page command.

Section 19: Indenting: Permanent, Temporary and Double
We explain the three indenting commands, and mention the no indent command which turns them off.

Section 20: Header and Footer Titles
How to specify header and footer titles. We also talk about the commands that enable you to specify headers or footers for just the odd or the even numbered pages.

Section 21: The Paragraph and Need Command
This section discusses the paragraph command, and explains the need command (a command to get rid of floating titles at the bottom of pages).

Section 22: WordMaster Strategies
A brief discussion of some of the tricks involved in advanced formatting.

Section 23: Functional Summary of Advanced Formatting Commands
A list of the advanced formatting commands, grouped by function.

PART V: Trouble Shooting

Section 24: WordMaster Error Messages
A list of the WordMaster error messages, along with probable reasons for the errors.

Section 25: What Made it Do That?
We discuss some possible causes for hypothetical examples of suboptimum formatting.

Section 26: Formatting Samples
We give some unformatted samples of pages from this manual so that you can see how we used the WordMaster formatting commands.

PART I: INTRODUCTION TO SYSTEM 88 WORD PROCESSING

Before we begin to really talk about how to use the text Editor and WordMaster, we'd like to introduce you to them and to the System 88. If you are already quite familiar with the Editor and the System 88 you probably want to just skim these sections, and spend most of your time on Part III, WordMaster.

Section 2

INTRODUCTION TO WORD PROCESSING ON THE SYSTEM 88

2.0

Many people think of a computer as something that does mathematical operations. It is true that computers are very good at that. But the real strength of the computer lies in its ability to manipulate and store information extremely quickly and without error. It makes no difference at all to the computer if we call the symbols that make up this information numbers or words (text). In actual fact, a HUGE proportion of the money spent on renting and using computers in this country is spent on preparing documents, manuals, letters, and reports. It is this process of creating and printing text that we call word processing.

In this section we talk a little about what it means to do word processing, and what kinds of things you can expect to do on your System 88. We introduce two of the tools which will help you in your efforts to create polished and professional-looking documents: the text Editor and text Formatter (WordMaster).

You do word processing every time you put words on a piece of paper. First you choose the words you want to use (the contents of your document), and then you choose the arrangement of those words on the page (the format of your document). Usually you do these two actions simultaneously without thinking too much about it. For example, you don't usually notice at what point you break a sentence and start putting the next words on another line.

The tools that help you to perform these functions on the System 88 are the text Editor and the WordMaster. The Editor helps you to create an original document, and WordMaster helps you to format and print it. Both of these programs are on the disk labeled System Disk. In the next section of the manual we will take you through a brief demonstration of the Editor and WordMaster. Later sections will discuss the operation of these programs at some length. For now, we'll just introduce you to them.

2.1 INTRODUCTION TO THE TEXT EDITOR

The text Editor is a program that helps you to create text. Tell the system that you want to use the Editor to create a new document. After you've done that, you can just start typing. The Editor saves the document in the memory of the computer. When you leave the Editor it transfers that text onto the disk. (We'll discuss these storage devices in the next section.) You can then create another new document, or ask the Editor to re-edit your original document which is on the disk.

So, using the Editor you can both create a new document and change an old one. You can then print that document directly; it will appear on the page in exactly the same form as when you created it. If you decide that you want to change the number of characters per line you have to retype the document. If you want to bring all of the lines out flush to the right margin you have to go back and laboriously right justify your document manually by adding spaces between words until the last letter on the end of every line lines up. However, with the aid of a formatter, it becomes extremely easy to change a document's format.

2.2 INTRODUCTION TO WORDMASTER

Given the computer's incredible speed and resistance to boredom, why not make it retype documents for you, recenter lines, change margins, etc.? The purpose of a text formatter is to relieve you of the tedious details that are inevitable when you change the form of a document. In fact, it takes so little time to change the format of your text that you will find yourself making those small changes in your documents that you always knew you wanted to, but simply never before had the time to do. We have already roughly defined formatting as the arrangement of your words on paper. Besides the obvious things like the number of printed lines on each piece of paper, the width of the lines, the indentation values, etc., WordMaster pays attention to page numbering, centering and underlining groups of words, right justifying, and many other things. You've probably noticed that WordMaster formatted this manual.

Here is a partial list of the kinds of things that WordMaster can do for you:

-- Print pages of text of specific length and width, and with specific margins.

-- Print header and footer titles (on even and/or odd numbered pages). (Headers and footers are certain lines of text that WordMaster prints at the top and the bottom of every page.)

-- Number pages (with the page number either at the top of the page or inside header or footer titles.)

-- Start page numbering at any number, change the page number at any point in your document, or not number pages at all. The maximum page number is greater than 60,000.

-- Automatically right justify text (i.e., insert spaces so that the last words on a line all line up flush with the right margin.

-- Underline, capitalize or center up to 255 lines of text at one time.

-- Indent one line, indent permanently, indent from both left and right margins at the same time, change indent values, turn off indenting.

-- Set line spacing to single, double or triple.

-- Automatically fill text (i.e., put as many words as will fit on a line of specific width, regardless of the length of the original text lines.)

-- Begin a new paragraph, line or page.

WordMaster is a program that reads a document on the disk. When you use the Editor to create this document you place WordMaster commands in the document. You then leave the Editor, and ask for WordMaster. When WordMaster reads the document, the commands tell it how to format your document (e.g., print it double spaced, 65 lines to the page, not right justified, etc.). WordMaster then prints your document on your printer in that form. We'll discuss how to insert these commands in Section 9, A First Look at Formatting Commands. You can radically change the format of your document by using the Editor to change a single formatting command in your document.

Section 3

A FIRST LOOK AT THE SYSTEM 88

3.0

This section serves as an introduction to your computer. We'll talk about some of the physical components of the System 88, and then we'll go step-by-step through a brief demonstration of the software components of your word processing system. If you would like more information about the non-word processing capabilities of your machine refer to the System 88 User's Manual. Remember that this section is meant as a brief introduction to your computer; you will find a much fuller description in the System 88 User's Manual. If you are already a practiced user of the System 88 Editor and system software you probably will want to skip this section. On the other hand, you might enjoy the review.

To set up your machine see the System Set-Up and Unpacking Instructions. To hook your printer up to the computer see the Printer Interface Manual.

3.1 THE KEYBOARD

Take a look at the keyboard that comes with your machine. You will see that it looks a lot like a typewriter keyboard. In general you type on the keyboard in exactly the same way as if you were typing on a typewriter. The main difference is that the symbols you type are entered into the computer (and you see them on the video screen) instead of appearing on paper. There are some other differences which we'll talk about now.

3.1.1 The SHIFT and CAPS LOCK Keys

To type a lower case letter hit the appropriate key on the keyboard. To type an upper case letter hold down the key labeled SHIFT while you hit the letter key. Notice that the top row of keys (mostly number keys) have two symbols on each key. To type the upper symbol hold down the SHIFT key and then hit the correct key. There is no Shift-Lock key on the keyboard. Instead, there is a key labeled CAPS LOCK. Lock the CAPS LOCK key by pressing down on it. After that point any letters that you type will be upper case. The CAPS LOCK key affects only the letter keys on the keyboard. For example, even if the CAPS LOCK key is on you must hold down the SHIFT key to type an exclamation mark.

3.1.2 The DELETE Key

If you make a mistake and want to erase one symbol hit the DELETE key (located on the right hand side of the keyboard). You will see the cursor back up erasing as it goes from right to left. (The cursor is the white rectangle on the screen that marks your position.)

3.1.3 The RETURN key

To tell the computer that you want to end a line hit the RETURN key. This key is located at the far right of the keyboard. Hitting a RETURN is similar to hitting the carriage return key on an electric typewriter.

There is an important difference between an apparent line of text on the screen and a real line of text. Notice that if you keep typing when you reach the right edge of the screen the next symbols that you type will appear one line down on the left side of the screen. Although it may look like you have two lines of text, you don't. That is because you did not type a RETURN, and you in fact have only one line of text which wrapped-around the screen onto the next line. The System 88 defines a line of text as being the group of symbols (including spaces and tabs) between two carriage returns. This point will become important later when we talk about the Editor and WordMaster. For now, remember to avoid wrap-around when you type; use carriage returns at the end of every screen line.

3.1.4 The CONTROL Key

You already know that the SHIFT key enables you to type twice as many symbols as there are keys on the keyboard (upper or lower case). In the same way, the Control key allows you to type a whole new kind of symbol. The Control key (labeled CTRL) is on the left side of your keyboard. To type this new kind of symbol (a Control-character) hold down the Control key. While you are holding it down type the appropriate key. For example, to type a Control-G hold down the CTRL key and type a G. The System 88 uses some of the Control-characters to perform some functions; others are undefined.

Some of the System 88 Control-characters:

Control-W	Use to delete an entire word
Control-X	Use to delete an entire line (the symbols between two carriage returns)
Control-Y	Interrupt current action.
Control-I	Types a tab; that is, moves the cursor to the right across the screen to the next tab stop. (Tab stops are every eight spaces across the screen starting from the left edge.) Or use the TAB key.

Control-D	Deletes one symbol. Or use DELETE key.

The Text Editor recognizes other Control-characters as commands. We will talk about those characters when we discuss the Editor in Part II, Talking to the Text Editor.

3.1.5 The ESCAPE Key

Like the Control key the Escape key is a key which enables you to type a new kind of symbol. To type an Escape-character, hit the Escape key (on the left side of your keyboard, labeled ESC). Release the Escape key. Then type the appropriate symbol. For example, to type an Escape-E hit the ESC key. Release ESC and type an E. You will be using Escape-characters later when you use the Editor and WordMaster.

3.1.6 The Cursor Control Keys (Arrow Keys)

The Text Editor recognizes the cursor control keys (the four keys marked with arrows located on the right hand side of the keyboard). While you are using the Editor you can move the cursor around in your text (up, down or sideways) by hitting one of these cursor control keys.

3.2 OPERATING YOUR SYSTEM 88

Turn on the video monitor.

Turn on your machine:

If you have an 8810: flip the red rocker switch on the front panel to ON. The switch will light to tell you that the machine is on.

If you have an 8813: turn the key in the lock to the right. The red light above the lock will come on to tell you that the machine is on.

3.2.1 Placing Disks in the Disk Drives

Your computer stores data on a small, flexible device known as a minifloppy diskette. This type of disk holds over 89,000 symbols. This represents about 40 pages of single-spaced text. Take the disk out of the white paper envelope, but don't remove the black cardboard holder. The disk itself is the round magnetic recording device which revolves within the black cardboard holder. You can see it through the cutouts in the cardboard. Never touch the disk surface, and don't write on the disk label except very lightly with a felt pen.

The black slots in the front of your machine are the doors to the disk drives, the devices which read and write data on and to the disk. The slot on the far left (or the ONLY slot in the case of the 8810) is the System Drive. This is the drive in which you must place your disk labeled System Disk. Now we'll put the System Disk in the System Drive.

If you have an 8813: Take the disk and hold it so that the disk label is to the left and the cutout notch is facing down. Now open the System Drive door and insert the disk.

If you have an 8810: Take the disk and hold it so that the label faces up and the cutout notch is to the left. Insert it in the drive.

3.2.2 Loading the System Disk

When the disk is securely seated in the drive close the door. If the door doesn't close take the disk out and try re-inserting it. Now push the button on the front panel labeled LOAD. You will see an identifying message on the screen which tells you the version number of your system software, and the amount of memory that you have on your machine. The next thing that you will see will be a single dollar sign. This is a prompt, that is, a symbol which tells you that the system is ready for orders. If you don't see this on the screen you will see something like this:

```
(Error 0306)
```

The number may vary, but such a message means one of the following:

1) The disk in your System Drive is not a System Disk. Make sure that the disk is labeled <u>System Disk</u>.

2) The System Disk is not in the System Drive. Make sure that the drive is the drive farthest to the left. (Of course with a System 8810 you have only the one drive.)

3) You did not insert the disk correctly. Try to insert the disk again, following the instructions above. Make sure that the disk label (the white rectangle that says System Disk) is facing the correct way.

4) The System Disk is a bad disk. Try using another System Disk. Or, the System Drive may be bad. Check with your dealer.

When the red light next to the System Drive door comes on, the drive is reading from or writing to the disk. Never open the drive door, push the LOAD button, or turn off the machine when that light is on; you could scramble the information on the disk.

3.3 A QUICK DEMONSTRATION OF THE SYSTEM 88

Let's say that you have followed all of the instructions above, and have your machine up and running (that is, you see the $ prompt). You are talking to the System 88 system software. If you want to create a document or format a document you must tell the system what you want to do.

We'll be going into great detail later concerning these matters, but let's try a simple exercise in creating a document and formatting it. Don't worry about the details right now; we'll explain everything later. If you're new to the System 88 you'll probably get the most out of the following discussion if you sit down in front of the machine with this manual and try out our instructions..

3.3.1 Creating a Document (Using the Editor)

1) After the dollar sign prompt type:

```
EDIT DEMO
```

Now hit the RETURN key. We are telling the Text Editor that we want to create a document named DEMO. Until we hit the RETURN the request to the Editor does not get entered into the computer. After we hit RETURN the screen clears and we see the Editor's version number in the top left corner of the screen. Then the Editor tells us that it couldn't find a document on the disk named DEMO (Input file: not found), and so it is creating a new document named DEMO (Creating output file: opened). Then it says: Hit any key to continue...

2) Hit any key. Now we have an empty screen. To create your file just start typing. There are many Editor commands that you can use now, but we'll save those till Part II, <u>Talkingto the Text Editor</u>. For now, type the example below as if you were typing on a typewriter. Before you begin to type make sure that you have not typed any spaces. (Hit the DELETE key a few times until the cursor no longer moves to the left; this means that there are no spaces yet in your document). Now type the left curly bracket, and continue on with the sample exactly as shown. The symbol (CR) means hit the RETURN key. If you make a mistake hit the DELETE key and retype.

The Sample:

```
{wid 30,ce}Hello (CR)
This is a demonstration of creating and formatting (CR)
a document. (CR)
```

3) After you finish typing the sample type an Escape-Control-E. That is, hit the ESC key. Release it. Now hold down the Control key. While you are holding down the CTRL key, type an E. You are now leaving the Editor. (It says: Exiting...) The red light on the System Drive means that the Editor is writing your document onto the System Disk.

3.3.2 Printing a Document (Using the Printer Driver)

The Printer Driver is the program that sends symbols from your computer to your printer. Since every printer is different you need a program like the Printer Driver which knows which printer you are using so that it can send the symbols at the proper rate, and in the proper form. For information on how to tell the Printer Driver about <u>your</u> printer see the System 88 User's Manual. For now, let's tell the Printer Driver to send symbols to a special printer that it already knows about, Printer Screen.

1) After a $ type:

```
Printer Screen
```

Hit RETURN. Printer Screen is actually the video monitor.

From now on until we re-load the system software (by pushing the LOAD button or turning the machine off and on) any symbols that we send to a printer will be displayed on the screen instead.

2) After a $ type:

```
PRINT DEMO
```

Hit RETURN. We are now "printing" our document. It appears on the screen just as it would on a printer.

3.3.3 Formatting a Document (Using WordMaster)

Let's see what this document will look like when it is formatted. As you may have guessed, the curly brackets tell WordMaster that the symbols inside the brackets are commands and not text to format. WordMaster usually reads your document and sends the formatted text to a printer. In this case, because you've told the Printer Driver that the screen is your printer (See Section 3.3.2), WordMaster displays the formatted text on the screen.

1) After a $ type:

```
FORMAT DEMO
```

This tells WordMaster that you want to format a document named DEMO. The screen clears and a message tells you WordMaster's version number.

2) WordMaster asks you if your printer is set to the top of the page. Type a Y. Hit RETURN.

3) WordMaster asks if you want options. Type an N. Hit RETURN.

Then WordMaster tells you it has found your document and is working on it (it says: I'm formatting...). Now you will see DEMO in its formatted form on the screen. You can now see that the symbols {wid 30,ce} told WordMaster that you wanted a line of text 30 symbols wide, and that you wanted to center the next line.

4) WordMaster now tells you that your input file is empty. That means that it has reached the end of your document. You will notice that all of your document is not yet on the screen. That is because WordMaster is waiting to see if you want to format another document. Hit RETURN. Now WordMaster knows that you don't want to add on another document and that it can print that last line of your document. It does so. It now tells you that it is leaving. (It says: I'm done formatting. Goodbye...)

Of course there are a lot of details still to come, but you have just done your first word processing on the System 88. Everything else that you will learn will just be refinements of this process.

PART II: TALKING TO THE TEXT EDITOR

You already know that you use the Editor to create the document that WordMaster formats. Even so, it may surprise you to see that a manual for a text formatter has such a large section on the Editor. Well, beyond being merely a user's guide for WordMaster this manual has the broader aim of wanting to help you create documents. That means not only the finished, formatted document, but also the rough, "cut and paste" first draft of that document. You're going to learn how to create a document, and how to change it. We'll talk about the special features of the Editor that help you to merge documents, split them up into separate documents, move paragraphs around inside your document, erase whole blocks of text and whole documents, and all of the other Editor abilities that save you time. If you have any questions about using the Editor after reading this section see the System 88 User's Manual (Section 10, The Editor).

If you are already very familiar with the System 88 Editor, you will probably want to skip over the next sections, and go directly to Section 6.4, Using Escape-Characters to Save Yourself Work. The ability of the Editor to memorize Escape-character definitions is a new one belonging only to the latest versions of the Editor (versions 80 and later), and may be new to you.

Even before you begin to use WordMaster you will find that the Editor is very useful for creating the documents that you don't need to format. After we talk about how to create and change a document we will discuss how to print that document directly without having WordMaster read and format it. (See Section 8, Printing an Unformatted Document -- The Printer Driver.)

Section 4

Creating a Document

4.0

Most writers are accustomed to creating document rough drafts by sitting down with a pad of paper and a pen. After a little practice most people find that the Editor is a superb tool for this purpose. Not only can you create text quickly and easily, but you can move paragraphs around, merge documents, split them up, erase whole paragraphs at a time, copy whole paragraphs, and all of the other "cut and paste" functions that used to take so much time. (We will cover these advanced functions in Section 6, Special Features of the Editor.)

The function of a text Editor is to save the text that you type in from the keyboard. It stores everything that you type in a temporary storage place called memory. Everything that you type on the keyboard we call characters or symbols. When you turn off your machine or leave the Editor and start doing something else, everything that you typed in is gone. So, when you exit the Editor it makes a copy of your document that was in memory on a permanent storage device, the disk. At a later time you can have the Editor bring into memory a copy of the document that is on the disk so that you can re-edit it.

Throughout this manual we will be creating and erasing documents only on your System Disk. Of course there is a way to read documents from the disks in drives other than the System Drive, and to save a document on other disks. It is often necessary to do so if your documents will not fit on the System Disk. But to make our explanations simple we will pretend that you have only one disk drive. If you should want to use the other drives, please refer to the System 88 User's Manual (Section 3, Disk Specifiers and Section 10, The Editor).

We are now going to go through the process of creating a document step by step. Turn on the machine and load the System Disk. (See Section 3.2, Operating your System 88 for instructions.)

4.1 CHOOSING A DOCUMENT NAME

First, choose a name for your document. This name must be less than 31 symbols long and cannot contain any of the following symbols: comma, space, period, tab, plus sign, carriage return, or an escape. You should not use Control-characters in your name, and do not use the single-symbol name *. The document-name can have upper and lower case letters in it, as well as numbers.

You will tell the Editor to assign this name to your document. After the Editor saves the document on the disk, you can re-edit that document.

4.2 GETTING THE EDITOR TO TALK TO YOU

You need to tell the system that you want to use the Editor. After a $ prompt type:

```
EDIT document-name
```

Hit RETURN. The <u>document-name</u> is the name that you have chosen for your document.

Now the screen clears. You see a message in the upper left hand corner of the screen (Edit/#) which tells you the version number of your Editor. You see the message:

```
Input file: not found
Creating output file: opened

Hit any key to continue....
```

This means that the Editor did not find a document named <u>document-name</u> on the System Disk (Input file: not found), and so <u>is creating</u> a new document of that name (Creating output file: opened). Hit any key.

Now the screen clears and you have an empty screen. You are ready to start typing.

4.3 TYPING YOUR DOCUMENT

Start to type. The white rectangle on the screen (the cursor) always shows your position on the screen. Go ahead and type a few lines. Hit RETURN at the end of every screen line. If you make a mistake hit the DELETE key, and the cursor will back up from right to left erasing symbols as it goes. Type a Control-W (hold down the CTRL key and type a <u>W</u>) to erase one word to the left of the cursor. Type a Control-$\overline{X}$ to erase all of the characters from the left of the cursor back to the last RETURN.

What if you want to go back and change a word without erasing everything back to that point? Use the cursor control keys (the four keys at the right of the keyboard marked with arrows). To go to the left use the key marked with the left-arrow. To go to the right use the key marked with the right-arrow. Notice that as the cursor moves it creates a kind of space of its own; that is, it never covers up a symbol, but manages to fit in between symbols. Moving the cursor does not change the text in your document. Move the cursor to the point in your document where you want to make a change. For instance, if you want to insert words move the cursor to the point where you want the insertion to begin. Now, just start typing. If you want to change a word, move the cursor directly to the right of the word you want to change. Delete the word. Next, type the correct word. To move the cursor up in the document use the key marked with an up-arrow. To move the cursor down use the down-arrow key.

There are a few things that you should remember while you type:

> If you accidently type a Control-Y you will interrupt the Editor. You'll see the $ prompt. Before you do anything else type REENTER. Then hit RETURN. If you don't do this you will lose the document that you've been typing, since the Editor doesn't save the document on the disk until you leave the Editor in the normal way (using its exit command).
>
> When you type a space the Editor actually puts a space symbol into your document. A space is not the absence of a character, but is a character itself. In the same way when you hit RETURN, besides making the cursor go to the next line, the Editor actually puts an invisible carriage return symbol at the end of the line before it moves the cursor. You know from our previous discussions that if you don't hit RETURN at the end of a screen line, the text will wrap-around the screen and begin at the left side of the screen one line down. Although it may look like you have two lines, you actually only have one. So, you have two screen lines, but only one real line. This becomes important later because if you print the document you created using the Editor, the printer will not wrap-around the text. A printer prints one line of text (the group of symbols between two carriage returns) as one line of text, even if that line is one or two hundred characters long. Since your paper is only wide enough for 90 or so symbols, you could have problems. WordMaster reads your document a line at a time; the line must be less than 127 symbols in length. The point we are trying to get across is: always hit RETURN at the end of a screen line.

4.3.1 More About Moving the Cursor

Think of the screen as a "window" into your document. You can see fifteen lines at a time (a screen-full). As you move within your document the window moves too. If you are at the end of the screen and you move the cursor down, the lines on the screen will "scroll" up so you see new lines of text at the bottom of the screen, and old lines disappear from the top. We'll talk about how to move the cursor one line at a time, and one screen "page" at a time.

A summary of the use of the cursor control keys:

> To move to the right: use the key marked with the right-arrow. When the cursor reaches the end of the line it jumps down to the front of the next line.
>
> To move to the left: use the key marked with the

left-arrow. When the cursor reaches the front of the line it jumps up to the end of the previous line.

To move up: use the key marked with the up-arrow. When the cursor reaches the beginning of your document it stops moving.

To move down: use the key marked with the down-arrow. When the cursor reaches the end of your document it stops moving.

When you use the up-arrow key or the down-arrow key the cursor tries to move to the position exactly above or below its current line position. Sometimes this is not possible. For instance, the current line may be longer than the previous line. The position in the previous line corresponding to the current cursor position may be empty (that is, without even a space or a tab). In this case if you try to move up the cursor moves to the end of the previous line. This is now its new position. If you move the cursor up or down again, it will try to move to the position above or below its new position. If you try to move up or down, and the symbol in the corresponding cursor position is a tab the cursor moves up or down to the left of the tab.

Other ways to move the cursor:

To move to the front of the previous line: type an Escape-up-arrow. That is, hit the Escape key (marked ESC). Release the key. Now hit the up-arrow key. The cursor moves to the front of the previous line.

To move to the front of the next line down: type an Escape-down-arrow. Hit the Escape key. Release the key. Now hit the down-arrow key. The cursor moves to the front of the next line.

The two Escape-arrow key commands above will come in very handy. You use these commands primarily to move around in your document. When you use them you will find that they have a valuable side-effect. They decide where a front of a line is by looking at the carriage return symbols in your document. That means that they let you know if you have forgotten to hit RETURN at the end of a line. When you type an Escape-up-arrow the Editor moves the cursor up to the front of the previous line. If the cursor instead jumps up past the previous line to the front of the line before that, you know that you have forgotten to hit RETURN at the end of the screen line that was just above the original cursor position. If you type an Escape-down-arrow the Editor moves the cursor to the position just after the next carriage return (the front of the next line). If instead the cursor jumps past that line to the front of the next line beyond, you know that you have forgotten a RETURN at the end of the line where you did the Escape-down-arrow.

If a line without a carriage return wraps-around by only a couple of characters you're all right; hit RETURN at the end of the overlapping characters. If the overlap is more than a few characters, however, you'd better insert a RETURN at the end of the screen line that ends just above the overlapping characters. When you insert text be sure to check to see if you need to insert or delete carriage returns. For instance, if you have a full screen line and move your cursor to the middle of that line and start typing text, the carriage return symbol at the end of that screen line will be pushed farther and farther to the right until it wraps-around to the next line. You'll want to move the cursor back and hit RETURN at the end of the screen line. To delete a carriage return symbol from your text move the cursor to the front of a line, and hit the DELETE key. You have now deleted the carriage return at the end of the previous line.

Moving the cursor more than one line at a time:

> <u>To move to the front of your document</u>: type a Control-B (for Beginning).
>
> <u>To move to the end of your document</u>: type a Control-E (for End). You see a blank screen. Now use the up-arrow key once, and you will be on the last line of your document.
>
> <u>To move fifteen lines toward the end of your document</u>: type a Control-N (for Next). The cursor moves down fifteen screen lines.
>
> <u>To move fifteen lines toward the beginning of your document</u>: type a Control-P (for Previous). The cursor moves up fifteen lines.

4.4 LEAVING THE EDITOR

Now, to leave the Editor: after a $ prompt type an Escape-Control-E. (Hit the ESC key. Release it. Hold down the CTRL key while you type an <u>E</u>.) The screen clears and you see the words: Exiting...

As you exit, the Editor writes a copy of your document on the disk. You can re-edit that document later by asking for it by name. (See Section 5, <u>Changing a Document</u>)

As you exit, the red light on the System Drive comes on indicating that the Editor is saving your document on the disk. When you see the $ prompt you know that the Editor has finished and you are free to do something else. You can see the disk copy of your document. After a $ prompt type:

```
TYPE document-name
```

Hit RETURN. (<u>Document-name</u> is the name of the document you want to see.) Now you see your document on the screen. If the whole document won't fit on the screen at once you see a small dot at the left hand corner of the screen. Type any character except X to see the next screenful. Type an X to stop the display.

Section 5

CHANGING A DOCUMENT

5.0

Once you create a document you usually want to re-edit it at some point. When it comes time to use WordMaster you will find that you often use the Editor to re-edit documents so that you can change the formatting commands in the document which affect the way WordMaster formats the document.

5.1 GETTING THE EDITOR TO TALK TO YOU

Awaken the Editor in exactly the same way as when you first created a document. This time, however, give it the name of a document that already exists on the disk. After a $ prompt type:

```
EDIT document-name
```

You are telling the Editor that you don't want to create a new document, but to change an existing one. The Editor looks for your document and copies it into memory. When it finds your file the Editor says:

```
Input file: opened
(Old input file deleted)

Output file: opened

Hit any key to continue...
```

This means that you have a copy of your document in memory to work on. The Editor has deleted the copy that is on the disk so that when you exit it can write your changed document back onto the disk with the same name as your original document.

> Although it sometimes happens that you have more than one document on a disk of the same name (through a special sequence of events that we'll talk about later), in general you cannot create a document of the same name as another document already on the disk.

If you do not want the Editor to delete your old document you can ask it to save your changed document on the disk under a different name than that of the original document. To keep the Editor from deleting your original document, instead of typing EDIT document-name, type:

```
EDIT document-name new-document-name
```

You thus tell the Editor what document you want to edit, and what name you want to give the new version.

Now you are ready to start working on your old document. Hit any key. Move through the text using the cursor control keys and the Control-B, Control-E, Control-P, and Control-N commands. Insert and delete text as we did above. When you are ready to leave, type an Escape-Control-E. In Section 6, Special Features of the Editor, we will be discussing the special commands that will allow you to copy blocks of text, erase blocks of text, and find specific groups of words or letters. These will all come in very handy when you are re-editing documents.

5.2 FITTING YOUR DOCUMENT INTO MEMORY

When you create a document you begin to use memory as you type in more and more words. You probably won't fill memory (when your document fills memory the cursor refuses to move even though you are still typing), but what if you do? Or, suppose that you want to change a document. What happens if the Editor can't fit the whole document into memory at one time? Several Editor commands take care of situations such as these so that the size of your documents is not dependent upon the amount of memory on your machine.

> To make room for more text in memory: type a Control-O (for Output). This tells the Editor to go ahead and write the first half of your document out to the disk. If your document fills memory use Control-O to save the first half of it on the disk. Once that part of your document is written out to the disk it is gone from memory and you have more room. But, be warned: you cannot now go back and edit that text unless you leave the Editor (thus writing out the whole document to the disk) and then re-edit the whole document. You can use Control-O at any time, and every time you do so the Editor writes half of your remaining text to the disk.
>
> To bring more text into memory: type a Control-A (for Append). When you first ask the Editor to edit an existing document, the Editor copies enough of the document into memory so that your text fills half of memory. Every time you type a Control-A the Editor brings in enough text to fill half the remaining space. At last if nothing happens when you type a Control-A it means that memory if full, or that the last of your document is already in memory.

You can use Control-Os and Control-As at any time during your editing. Usually after doing a Control-O you will want to bring in more of your document by doing a Control-A. When you exit the Editor it automatically copies any of the document remaining in memory onto the disk. So you only need to do a Control-O when you want to make room for more text. You also do not need to bring into memory any more of your document than you actually have to change. Even if you do not bring all of your document into memory the Editor will transfer that part of the document over to your new document on the disk when you leave the Editor.

Remember that although we talk about the Editor as though it were actually moving your document from the disk to memory and back again, the Editor only copies your document; the original never disappears. When you do a series of Control-Os and Control-As, the Editor keeps track for you what portions of the document it has copied into memory and what portions it has written out to the disk. You never have to worry about it getting "mixed up" and bringing in text that it already copied into memory, or writing a portion of your document out to the disk twice.

5.3 GETTING RID OF A DOCUMENT ON THE DISK

Once you have left the Editor there are some System commands that you can use to get rid of documents on the disk, and to see the contents of the disk. For more information on these system commands (for instance, how to use them on disks in drives other than the System Drive) see the System 88 User's Manual. You may want to follow the instructions below and get rid of the document that you just created.

5.3.1 Finding Out What Documents Are on a Disk

First, to see what is on the disk type:

```
LIST
```

Hit RETURN. You will then see all of the different items on the disk. Some of them are documents (they have the symbols .TX at the end of their names.) The rest are parts of the System software. To find out more about what you're seeing, turn to the System 88 User's Manual.

5.3.2 Erasing a Document from the Disk

You often need to reclaim the space on a disk used by a document. How do you get rid of a document after you no longer need it? After a $ prompt type:

```
DELETE document-name
```

Hit RETURN. Document-name is the name of the document you wish to delete. The system will tell you if it found your document and deleted it. Once you delete a document you won't be able to edit or format it. If you use the LIST command to see what items are on the disk, it will look like your document is no longer on the disk. Well, it is still there, and the space it uses is not yet free for other use. At this point you can get the document back by using the UNDELETE command. After a $ prompt type:

```
UNDELETE
```

Hit RETURN. This will undelete all of the deleted items on the System Disk. (The system will tell you the names of all of the items on the disk that it undeleted.) Let's say that you have deleted all of the documents that you don't need any more. To remove them entirely from the disk (and reclaim the space they used on the disk), use the PACK command. After a $ prompt type:

```
PACK
```

Hit RETURN. After a few moments the system tells you it is done "packing" the disk; it displays the $ prompt.

5.4 WHAT TO DO IF THE DOCUMENT WON'T FIT ON THE DISK

Every once in a while if you haven't been careful about deleting and packing your disk, you will try to edit a document only to find that the new version of the document will not fit on the disk. How do you know this? The Editor is thoughtful enough to warn you when you ask it to edit a document larger than the remaining space on the disk. You will see:

```
Output file: Opened

WARNING: The entire output file will not fit on the
output disk
```

There are only two things that you can do to get out of this predicament: either make the document much smaller so that it will fit on the disk, or interrupt the Editor and make more room on the disk so that there is room for your whole document.

> To make the copy of your document that is in memory small enough to fit on the disk, you must erase a large portion of it. You can use Control-Xs to erase entire lines, or you can mark a block of text and delete it as a whole (see Section 6.1 <u>Deleting a Block of Text</u>). This is usually not a very satisfactory solution to the problem because at this point you don't have any way of knowing how much room there is on the disk, so you don't know how much to reduce your document. (The System 88 User's Manual will explain the information that you see when you LIST a disk, so that you will know exactly how much room you have left on a disk.)
>
> To interrupt the Editor so that it doesn't try to copy the document onto the disk type a Control-Y. Now you see a $ prompt. If you were editing a document under its original name, the Editor deleted your original document before it gave you the warning message. So, you have to get back your original document. Use the UNDELETE command. We might have a problem here. You remember that the Editor deletes documents when you re-edit them so that your new document can have the same name as your original document. If you haven't packed the disk recently you may find when you undelete the disk that you have more than one document with the same

name suddenly restored to undeleted status. You've got to get rid of the old documents, while still leaving the one that you want to edit.

As it turns out, when you delete documents, the DELETE command deletes the oldest document of that name on the disk. So, let's say that the UNDELETE command undeletes three documents with the same name. You want to keep the latest copy. After a $ prompt type:

```
DELETE document-name, document-name
```

Hit RETURN. (Document-name is the same for all three of the documents.) The DELETE command will delete the two oldest documents of that name on the disk. Delete any other documents that you don't want. Then pack the disk using PACK, and again try to re-edit your document.

If you've tried the above suggestions and your document still won't fit, see the System 88 User's Manual for information on using drives other than the System Drive. (A disk that isn't a System Disk will have more room on it.) Try to avoid this whole mess by being very careful to delete documents that you don't need anymore, and to pack the disk regularly.

Section 6

SPECIAL FEATURES OF THE EDITOR

6.0

Now that you know how to use the Editor you know all of the basics of creating documents. The Editor has special abilities at its command that we really haven't discussed before that help make creating a document a much more enjoyable and efficient process.

In this section you are going to learn how to: move blocks of text, erase blocks of text, split documents up into more than one document, merge several documents into one, and find a specific group of words. At the end of the section we'll explain how to use Escape-Characters to save yourself tedious typing.

6.1 COPYING, ERASING AND MOVING BLOCKS OF TEXT

Whenever you tell the Editor to copy or erase a block of text the Editor has to have some way of knowing which section of your document you are talking about. A block of text can be a letter, a word, a paragraph, or even larger groups of text. Before you tell the Editor to act on a section of your document you "mark" that block.

> To mark a block of text: Move the cursor to the left of the first symbol of the block of text. Now type an Escape-right-arrow. Hit the ESCAPE key. Release it. Hit the right-arrow key. A small right-pointing arrow appears on the screen to the left of your cursor. Now move the cursor to the end of your block so that it is to the right of the last symbol in the block. Type an Escape-left-arrow. You will see a left-pointing arrow on the screen. Your block of text is now enclosed by two arrows which point inward toward the block.
>
> To delete the arrows that mark the block: Type an Escape-DELETE. The cursor will blink while the Editor is finding the first marked block in your document. Then the arrows surrounding that block will disappear.

You can always mark more than one block of text. When you ask the Editor to do something to a block of text it will perform the action on the first marked block of text that it finds in your document. Be careful that your blocks are marked correctly. If you have several blocks in the document marked incorrectly (that is, the arrows do not point inward toward the block) there is no telling what section of text the Editor may decide is a block. When you exit the Editor you don't have to remember to remove any arrows left in your document; the Editor will get rid of them before it writes the copy of your document on the disk.

6.1.1 Copying a Block of Text

Mark a block of text by typing Escape-left-arrow and Escape-right-arrow. (See above.) Now, move the cursor to the point in your document where you want to insert the marked block. Type an Escape-Control-C. (Hit the ESCAPE key. Release it. Hold down the CTRL key while you type a C.) A copy of your marked block appears at the cursor position (without the arrow-markers). Your marked block remains in its original position still marked with arrows.

You can use this procedure to copy paragraphs, sentences, symbols, equations, anything that you can imagine of any size. You can copy a block of text again and again throughout your document. If there is not enough room in memory for the Editor to copy the marked block (a very rare occurrence) the copy simply will not appear. At that point you know that you have to do a Control-O command to make more room.

6.1.2 Erasing a Block of Text

Mark a block of text as you did above. Now, just type an Escape-SHIFT-DELETE. That is, hit the ESCAPE key. Release it. Now hold down the SHIFT key while you hit the DELETE key. The cursor is blinking while the Editor finds the first marked block of text in your document. Now the cursor stops blinking. Your block of text (along with the arrows) is gone. Be careful; once you erase a block of text it's gone for good.

6.1.3 Moving a Block of Text

Use the procedures above to mark a block of text. Now copy it by moving your cursor to the appropriate place in your document, and typing an Escape-Control-C. Erase the original block of text by typing an Escape-SHIFT-DELETE.

6.1.4 Printing a Block of Text

You sometimes want to print just part of a document. Make sure that your printer is hooked up, on, and that the Printer Driver knows that you want to use that particular printer. (See Section 8, Printing an Unformatted Document -- The Printer Driver.)

Mark the block of text that you want to print. Now type an Escape-Control-P. The Editor will print only that block of text.

6.2 MERGING AND SPLITTING DOCUMENTS

Usually you ask the Editor to read one document into memory, you make your changes, and the Editor takes the edited copy of the whole document and saves it on the disk. There are times, however, when you don't want to do this. Perhaps you want to divide up a long report into several smaller documents. Perhaps you want to combine several memos into one larger document. Using the Editor you can easily combine and divide documents.

6.2.1 Merging Documents

Let's say that you have two small documents that you want to combine into one.

1) Tell the editor that you want to edit the first document. After a $ prompt type:

```
EDIT First-document-name
```

Now hit RETURN. By the time you leave the Editor, it will merge your separate documents into one. This document will bear the name you've just given to the Editor. If you want your ultimate document to have a different name than the first document, after $ prompt type:

```
EDIT First-document-name Ultimate-document-name
```

When you start to edit your document make sure that the end of the document is in memory. If the document is too big to fit into memory all at once make sure that the end of your document is in memory. To do this type a series of Control-Os and Control-As. (See Section 5.2 Fitting Your Document into Memory.) You remember that a Control-E takes you to the end of the text in memory. When that text is the actual end of your document you know that you don't have to bring any more of your document into memory.

2) Now, you want to add the second document onto the end of your first. While you are still using the Editor type an Escape-Control-I. The screen will clear and the Editor will say:

```
New input file name:
```

Type the name of your second document and hit RETURN. Now the Editor either says:

```
Input file: I can't find that file
New input file name:
```

(which means that your document name isn't correct; try again), or it says:

```
Input file: opened
Hit any key to continue...
```

3) Type any key. Now do a Control-A to bring the text from your second document into memory. Your two documents are now merged into one. If you leave the Editor now, even if the rest of your second document is not all in memory, the Editor will transfer all of the second document over to the end of the first document, and save both on the disk under the name of

the first document. You can add any number of documents together by doing Escape-Control-Is. By the way, if you type an Escape-Control-I by accident simply hit RETURN when the Editor asks for a new input file. You will see the message: New input file name: no input file selected. Then hit any key to continue, and you will be back where you were before making the mistake.

6.2.2 Splitting Documents

Suppose that you have a long document on the disk that you want to divide up into two shorter ones.

1) Tell the Editor that you want to edit your original document. After a $ prompt type:

```
EDIT document-name
```

Now hit RETURN.

2) After you start editing, decide at what point in the text you want to divide the document. Now, mark the block of text that you want as your first document by typing an Escape-right-arrow and an Escape-left-arrow as we did in Section 6.1, <u>Copying, Erasing and Moving Blocks of Text</u>.

3) Type an Escape-Control-D. This tells the Editor that you want it to write the block of marked text onto the disk. It does so, and saves this part of the document under the document name that you gave the Editor when you asked it to edit a document. The marked block is still in memory, even though a copy of it is now on the disk. You can erase the block of text in memory by typing an Escape-SHIFT-DELETE, or you can just remove the arrow markers by typing an Escape-DELETE. Since you are splitting up the document, you probably want to erase that block of text.

4) Now, type an Escape-Control-O. This tells the Editor that from now on any text in memory is going to be saved on the disk under a new document name. After you type the Escape-Control-O, the screen clears and the Editor says:

```
New output file name:
```

Give it a <u>new</u> document name. Be sure that this name is not that of an existing document.

5) Now the Editor says:

```
Output file: closed
Output file: opened

Hit any key to continue....
```

This means that the Editor now will write no more text out to the disk under the first document name (Output file: closed). From now on (or until you type another Escape-Control-O) the Editor will save any of your text under the new document name

(Output file: opened). You can split up your document even further by following the procedure above again.

6.3 FINDING A SPECIFIC GROUP OF SYMBOLS

Suppose you realize that you've misspelled "separate" throughout your document. It would be tedious to move the cursor a line at a time searching for an occurence of the word so that you could fix it. Make the Editor search for you.

Type a Control-B to move to the front of your document. Now type a Control-F. In the place of the one cursor you will now see two. This is your signal that the Editor is waiting for you to type in a group of letters or symbols. Type in the word or group of symbols that you want the Editor to find for you. You can type about 30 characters. Now hit the ESCAPE key to tell the Editor that you are done entering the search item. The second cursor now disappears. Now, one of two things will happen:

> 1) The single cursor remains where it is, and doesn't blink. This means that the Editor cannot find the symbols that you entered. Make sure that you have typed the symbols exactly as they appear in the document. For example, if you misspelled the word "separate" make sure that you typed the word in its misspelled form, and not as you want it to look after you correct it. If you type a group of words, make sure that you also type in the spaces and tabs that may appear in that group. Make sure that the part of you document that contains that item is actually in memory. Another thing to watch out for is the fact that the Editor can only look for symbols that appear in the document after your current cursor position. That's why we advise typing a Control-B to get to the front of your document before you start looking for things.
>
> 2) The cursor stays where it is for a time, but blinks. This means that the Editor has found your group of symbols, and is in the process of arranging things so that it can move your cursor to that spot. After a brief moment the screen display changes and the cursor appears exactly to the right of the group of symbols you were looking for. Now go ahead and erase those symbols and type in the correct ones.

After you've found the item you were looking for you can always use the Control-F command to find the item's next occurrence. You don't need to do that if you are just going to look for the same symbols (and not a new group). After you've used the Control-F command once, just type a Control-C. This tells the Editor to continue the search. When the cursor remains where it is and doesn't blink, you'll know that the Editor has found all occurences of your search item.

6.4 USING ESCAPE-CHARACTERS TO SAVE YOURSELF WORK

First, a word on what an Escape-character is. We've been using Escape-characters throughout this section. An Escape-character is just another kind of character like a Control-character or an upper case character. As we've mentioned, to type an Escape-character hit the ESCAPE key. Release it. Now type a key on the keyboard. So, to type an Escape-A, hit the ESCAPE key. Release it. Then type an A.

It often happens that a particular phrase or name occurs frequently within a document. Naturally you get tired of typing "McPherson's & Sons, Ltd." every few lines. You can teach the Editor to type such phrases for itself. Follow the instructions below. (If you are not already using the Editor as you read this section, please do so now. The explanation that follows will be easier to understand if you are actually using the Editor. Refer back to Section 4 Creating a Document, if you need a reminder on how to run the Editor.)

Let's say that you are actually in the process of using the Editor to create or change a document. Now, you are going to teach the Editor about the phrases you want it to type for you. You do this by telling the Editor to associate a specific Escape-character with a specific phrase.

1) Pick a key on the keyboard. Hit the ESCAPE key. Release it. Now hold down the SHIFT key and type an =. Next type the key that you've picked. Now you see two cursors next to each other. This is your signal that the Editor is ready to memorize the phrase it is to associate with the character that you've just typed. Type in your phrase. Now hit the ESCAPE key.

2) You have just defined an Escape-character. Whenever you type that Escape-character the Editor will type the phrase associated with it.

Let's go through an example. Say that you want to teach the Editor to type the phrase:

To Whom it May Concern

whenever you type the Escape-character Escape-A. Hit an ESCAPE. Release it. Type an equals sign. Type the letter A. You see two cursors. Now type: To Whom it May Concern. Hit an ESCAPE.

From now on until you leave the Editor, every time you type an Escape-A, the Editor will type out the phrase: To Whom it May Concern. So, move the cursor to wherever in your document you want that phrase to appear. Then type an Escape-A.

To see the Escape-character definitions that you've made type an Escape-question mark. The screen will clear and you will see the Escape-characters that you have defined listed on the left side of the screen followed by a colon and their associated phrases. The screen also says: Hit any key to continue. Do so.

If you try to define Escape-characters that the Editor uses (like an Escape-Up-arrow), the screen will clear and a message will say:

```
You cannot define control keys!
Hit any key to continue...
```

After you hit a key you again see the screen display of your document. No harm done.

Any Escape-characters that you define are good only for the time that you are in the Editor. That means that next time you use the Editor those definitions are gone, and you must define those Escape-characters anew.

Section 7

FUNCTIONAL SUMMARY OF EDITOR COMMANDS

7.0

Below is a quick summary of all of the Editor commands and features that we've discussed in this manual. If you would like more information about the Editor see the System 88 User's Manual, Section 10, The Editor.

Waking the Editor

After a $ prompt type:

```
EDIT document-name
```

or:

```
EDIT document-name1 document-name2
```

Erasing Text in Your Document

To delete one character: DELETE key.

To delete one word: Control-W.

To delete one line of text: Control-X

To delete first marked block of text: Escape-SHIFT-DELETE.

Moving the Cursor Throughout Your Document

One character to the right: Right-arrow key. (Cursor jumps to the front of the next line after you reach end of current line.)

One character to the left: Left-arrow key. (Cursor jumps to the end of the previous line after you reach the front of current line.)

One line up: Up-arrow key. (Cursor moves to position directly above current cursor position.)

One line down: Down-arrow key. (Cursor moves to position directly below current cursor position.)

Beginning of previous line: Escape-up-arrow key.

Beginning of next line: Escape-down-arrow key.

Beginning of Previous fifteen lines: Control-P.

End of Next fifteen lines: Control-N.

Beginning of document: Control-B.

End of document: Control-E.

Fitting a Large Document into Memory

To transfer half of your document from memory to the disk: Control-O.

To transfer enough of your document from the disk to fill half of memory: Control-A.

Marking a block of text

Mark front of block: Escape-right-arrow.

Mark end of block: Escape-left-arrow.

Erase markers: Escape-DELETE.

Copying a Block of Text

Mark block of text. Then move cursor to where you want to insert the block. Type an Escape-Control-C. To delete marked block of text, type Escape-SHIFT-DELETE.

Splitting a Document

Mark a block of text. Copy it to the disk (Escape-Control-D). Erase the block from memory (Escape-SHIFT-DELETE). Create a new document (Escape-Control-O). Now, when you leave the Editor it will write out the rest of the document remaining in memory to the disk under the new document name.

Merging Documents

Bring the end of your first document into memory. (Use Control-Os and Control-As if you have to, if the document is too large to fit into memory at one time.) Bring another document into memory (Escape-Control-I). Now when you leave the Editor it will write a copy of the second document to the disk as part of the first document.

Printing Part of a Document

Make sure that the Printer Driver knows what printer you are going to use, and that the printer is hooked up. Mark the block of text. Type an Escape-Control-P to print the block.

Finding a Group of Characters

Type a Control-F. Now type the group of symbols you want to find. When you are done, hit the ESCAPE key. To continue the search, type a Control-C.

Defining Escape-characters

Hit the ESCAPE key. Type an =. Type a character. Now type a group of symbols. Hit the ESCAPE key. To see what Escape-characters you've defined, type an Escape-question mark.

Exiting the Editor

To leave the Editor: Escape-Control-E.

Section 8

PRINTING AN UNFORMATTED DOCUMENT: THE PRINTER DRIVER

8.0

We've mentioned the Printer Driver before. It acts as an intermediary between the computer and your printer. All of the parts of the system use the Printer Driver. This includes the Editor (when you send a block of text to the printer using the Escape-Control-P command), WordMaster and the system itself (the PRINT command). The Printer Driver makes sure that the characters the computer sends to the printer are at the proper speed and in the form that your printer can understand. The System software automatically starts up the Printer Driver every time you turn on the machine, or reset the machine (hit the LOAD button).

When you get your System Disk your Printer Driver already knows about these printers: Diablo, Qume, and Terminet. The Printer Driver also knows about two other devices that it thinks are printers: Null and Screen.

8.1 SETTING UP THE PRINTER DRIVER FOR YOUR PRINTER

If you have a printer hook it up to the machine, and turn it on. (See the <u>Printer Interface Manual</u> for information on connecting printers to the computer.) Make sure that the printing mechanism is set to the top of the page. To tell the Printer Driver which printer you are going to use, after a $ prompt type:

```
Printer Printer-name
```

Hit RETURN. (<u>Printer-name</u> is the name of the printer you want to use.) The Printer Driver and the printer cooperate together to set up tab stops every eight spaces across the printer carriage. The Printer Driver then tells the printer to advance to the next page (do a form feed). If the description that the Printer Driver has of your printer says to do a top page margin, the Printer Driver does so. (This description can also specify a left margin for the Printer Driver to use.) When the system responds with another $, the Printer Driver is ready to send symbols to that printer. Now you can go ahead and do other things on the system. Until you turn off the machine or push the LOAD button, the Printer Driver will remember which printer you want to use. If your printer is <u>not</u> a Qume, Diablo or Terminet, you must teach the Printer Driver about the characteristics of your printer. To do that, refer to Appendix B of this manual.

8.2 PRINTER NULL AND PRINTER SCREEN

Now, for those printers that aren't really printers. Unless you instruct it otherwise, every time you push the LOAD button or turn on the machine the Printer Driver decides that you want to use Printer Null. This is because Null is the default printer. (To change the default printer to another printer, refer to System 88 User's Manual, Section 12, The System 88 Printer Driver.) Well, Null isn't really a printer. When you tell the Printer Driver to use Null what you are really telling the Printer Driver is that you don't want to use a printer. Everything that the Printer Driver sends to printer Null is simply thrown away. This allows you to use programs that send data to a printer even if you don't have a printer. Remember that you won't get any printout.

Printer Screen isn't really a printer either; it's the video screen. When you tell the Printer Driver that you want to use the Screen as a printer the Printer Driver "prints" your document to the screen.

Once the Printer Driver knows what printer you want to use (or that you want to use Null or Screen), whenever a program sends symbols to a printer the Printer Driver makes sure that they are sent in the proper way.

8.3 PRINTING A DOCUMENT

To print a document that you have created using the Editor make sure that your printer is connected and that the Printer Driver knows which printer you want to use. Make sure that the printer knows where the top of the page is. (Most printers have a Top-of-Form button to push after you've set the printer to the top of the page. This tells your printer that this is the top of the page.) Then after a $ prompt type:

```
PRINT document-name
```

Hit RETURN. The Printer Driver will print your document. To tell the printer to go to the top of the next page, after a $ prompt type:

```
PAGE
```

Hit RETURN.

You will see your document in exactly the same form that you typed it in. If you seem to be missing a line of text, or a line didn't stop printing at the right edge of the paper but continued onto the printer carriage, you left out a RETURN at the end of a screen line when you created the document. Re-edit the document and insert the carriage return symbols by hitting RETURN at the proper places in your document.

Part III

Beginning to Format

By this time you are an expert at using the Editor. You can create documents and print them. Now it's time to start getting into formatting those documents. The rest of the manual is devoted completely to the use of WordMaster. Before you can begin to format a document, however, you have to understand the relationship between the Editor and WordMaster.

You know by now that the use of the Editor and of WordMaster are strongly interrelated. You will usually go back and forth between the Editor and WordMaster adjusting and finetuning the formatting of your document by changing the formatting commands in your document and then re-formatting it. And so, before we describe the specific formatting commands and how to use WordMaster itself we'll talk about how to use the Editor to insert the commands in your document.

Next we'll introduce you to the basic formatting commands that you'll need to know. In the process you'll learn how WordMaster "thinks" and what it expects from you. The last section of Part III consists of, at last, the actual operating instructions for WordMaster.

Section 9

A FIRST LOOK AT FORMATTING COMMANDS

9.0

We'll talk about specific formatting commands in later sections. The purpose of this section is to introduce you to the idea of a formatting command, and to give you advice on using the Editor to insert those commmands into your document.

9.1 WHAT'S A FORMATTING COMMAND?

WordMaster has some idea of what it means to format a document. Even if your document contains no formatting commands at all, WordMaster makes some assumptions about what you probably want. (See Section 9.3, WordMaster Assumptions, for a discussion of those assumptions.) Although WordMaster tries to be reasonable, you may not agree with its ideas about how to format your document. Therefore we have formatting commands. These are symbols that WordMaster sees while it is reading your document. The commands tell WordMaster how to format according to your desires.

9.2 WHAT DO FORMATTING COMMANDS LOOK LIKE?

How does WordMaster know that a group of symbols is a command rather than just more text to format? WordMaster reads any symbols surrounded by curly brackets {} as formatting commands. So, if WordMaster sees a line which says:

```
As per your letter of the tenth {skp}
```

it immediately knows that "skp" is not something to format, but is instead a formatting command. Formatting commands are groups of letters from two to four characters (e.g., skp, ce, pgn). They are always lower case. You can have more than one command within a set of curly brackets, as long as you separate them with commas:

```
{ce,skp,pgn,cap}
```

A set of curly brackets that contains one or more commands is called a command group. The order of the commands within a command group makes no difference. {ce,skp} is the same thing as saying {skp,ce}.

WordMaster reads and understands your command groups, but never prints them in your document. Some commands have values that accompany them. For example, the lines per page command {lpp n} tells WordMaster how many printed lines fit on the paper you are using in your printer.

> From now on when we mention a command, look to see if the command symbols are followed by a space and a small n. For example: {lpp n}. If so, you know that we are talking about a command that WordMaster expects to be accompanied by a command value.

Always put one space between a command and its command value. You must never interrupt a set of brackets with a carriage return. That is, each command group must be all on one line in your document.

If you should have two of the same commands in a group (which you would only do by mistake), the command farthest to the right takes precedence. For example, if you say {skp 2,ce,skp 3}, WordMaster will assign the value of 3 to the {skp} command. You can have more than one command group on a line of text

```
Your report is{ul} a week{cap} overdue
```

or just one command group on a line:

```
{ce,ul}
```

If you should have two command groups separated only by a carriage return:

```
{skp 5}
{skp 2,ce}
```

WordMaster sees these as one command group. In the case above, then, WordMaster reads:

```
{skp 5,skp 2,ce}
```

and so assigns the value 2 to the skip command.

The maximum value for all command values except the reset page number command is 255. If you use a number greater than that, WordMaster prints the line of your document that contains the illegal value, points to the illegal command value, and displays the message: *Illegal command value--I'll use default.* WordMaster then uses the command's default value. We'll talk about default values below.

9.3 WORDMASTER ASSUMPTIONS

We might want to call this section: "What WordMaster Does When it Tries to Read Your Mind." There will be times when WordMaster must make a formatting decision. If you have not told WordMaster what you want it to do in a particular situation, or it doesn't understand your instructions, WordMaster relies on its large backlog of default formatting instructions and default command values. When we talk about a default we mean something that WordMaster uses if it doesn't get a legal, understandable instruction or command value from you. Every command has a default value. Every formatting decision has a default instruction. So, if instead of specifying a left margin of 5 spaces {lm 5} you say: {lm -sx3k}, WordMaster will decide to use the default left margin value of zero. If it comes time to print a line, and you have not told WordMaster whether or not you want to right justify the line WordMaster will use its default instruction for that situation: right justify all lines. These are the situations in which WordMaster uses default values and instructions:

1) WordMaster doesn't understand a command value.

2) You didn't supply any commands to cover the present formatting situation.

3) A command value that you supplied is illegal, or impossible to use.

Whenever WordMaster uses a default command value it tells you that it is doing so by displaying an error message on the screen and showing the line in the document that confused it. There is one case when this is not so, and that is:

> Whenever you use the type of command that is accompanied by a command value WordMaster expects to see a number follow the command. For some commands, if you don't supply a command value WordMaster assumes that you want to use the command's default value. This does not cause an error; it's a perfectly legal way to tell WordMaster that you want it to supply the command value. For example, if you use the center command {ce n}, and do not supply a number with the command {ce}, WordMaster knows that you want to center 1 unit of text. (1 is the default value for the center command.) When we talk about each command specifically we'll tell you if it is one for which WordMaster will supply the command value.

The result of this default-system is that WordMaster never stops formatting just because it doesn't understand something. No matter what, it tries its best to keep going.

9.3.1 The Assumptions

If you don't give WordMaster the commands that would instruct it otherwise, it assumes:

You want your pages numbered.

You want your page numbers centered at the top of every page with a hypen on either side (e.g., -34-).

You want no top, bottom, left, or right margins.

Your paper is 80 characters wide, and as many lines long as the value used by the Printer Driver for your printer.

You want your document single spaced, right justified, and "filled." (We talk about filling text in a later section.)

You want two spaces at the end of every sentence.

You want errors reported in your printed document as well as on the screen.

Remember that you can change any of these assumptions just by using the proper commands.

9.4 USING THE EDITOR TO PREPARE A DOCUMENT FOR WORDMASTER

The first step in preparing a document for WordMaster is to tell the Editor to edit that document. When you are actually editing the document you can begin to insert formatting commands. When you become more familiar with WordMaster, you will find that you usually include WordMaster commands in your document as you create that document. For example, it soon becomes second nature to type a center command before any section of text that you want to center.

There are two special symbols that WordMaster recognizes: a double-# symbol and @. We'll talk about what they are used for in a later section (Section 16, WordMaster Special Symbols). For now, just remember that if WordMaster sees these symbols in your document it's going to think they mean something special. Therefore you cannot use them as regular characters in your document. If you want a single @ symbol in your document type two of them. WordMaster then knows that you aren't using the special symbol @ that it knows about, but that you want one @ in your text as a regular character. As for putting a double-# symbol in your document (two #s one after the other) the answer is simple: you can't. It's easy to find any occurences of the special symbols in your document. Use the Editor's Control-F (Find) command to find a single @ or a double-#. Then change them.

We've already mentioned that you should always hit RETURN at the end of every screen line. This is because both the Printer Driver and WordMaster define a line of text as being the symbols between two carriage return symbols. Even if it looks like two separate lines, if there is no RETURN at the end of the first screen line you really only have one line. When you print that line, or when WordMaster reads that line, you will have trouble. So:

Always make sure that you have hit a RETURN at the end of every screen line, or at least that the screen line only overlaps onto the next line by a few characters. Go back and insert RETURNS if you need to. Remember that generally the width of the line that WordMaster prints has no relationship to the width of the line in your original document, so don't think that your document is limited to the 64-character screen width.

When you are ready to insert formatting commands move the cursor to the place in the document where you want your first set of commands. Type a left curly bracket {, and then type the command or commands you need to insert. Remember to place commas between the commands, and a space between a command and its value. Now type a curly right bracket }.

One of the reasons we mentioned using Escape-characters in the last section (Section 6, Special Features of the Editor) was because they are so handy when you prepare a document for WordMaster. Very often you will find that you use the same formatting command groups over and over throughout your document. For example, a very common command group might be:

```
{skp 2,ce,wul}
```

This tells WordMaster that at this point in your text you want to skip two lines (that is, print two blank lines), and then center and underline the next unit of text. Rather than type this one command group many times, you can define an Escape-character so that whenever you type that one character the Editor will type the entire command group above. This will save you a lot of time.

The question will arise, what if I need to have a curly bracket as part of my document? How will WordMaster know that I don't mean it as the start of a command? Whenever you want a left curly bracket { in your document, type two of them. The Formatter will realize that you want one left curly bracket in your text. You only need to type one right curly bracket, however, and WordMaster will put it into your document. (The Formatter ignores right curly brackets when it is not reading a command group.)

After you insert your first set of brackets (remembering not to split a command group with a carriage return), just keep moving your cursor to the places you need commands, and go ahead and type them in. Take care that your insertions do not push the screen line so far to the right that the line wraps around by more than a few words on the next line. If the line does get that long, insert a RETURN before or after the command group.

When you've finished inserting commands, exit the Editor. Now your document contains formatting commands, and is ready to be read by WordMaster.

Section 10

SETTING UP A PAGE

10.0

A formatter's most basic function is to set up the page format so that it prints each page of your document with the proper margins, and the proper number of lines per page.

The first thing that WordMaster has to know is the size of your paper. You specify the size of your paper by using the lines per page command {lpp n}, and the page width command {wid n}. With the margin commands you also tell WordMaster what size margins you want it to use: {lm n,rm n,tm n,bm n}. If you don't provide this information, WordMaster has some default instructions that it uses to determine page size and margin values. We'll mention those default values below when we talk about the specific commands that you use to set up a page.

Remember that we're talking about the total size of your paper. When we talk about page width we're not talking about how wide you want your printed line to be. We're talking about the total number of characters that you could print on a page if you started at the left edge of the page and continued on over to the right edge. Perhaps it will help you visualize how WordMaster sees your page if you remember that WordMaster decides how many lines to actually print on a page by subtracting your top and bottom margins from the lines per page value.

Other things that WordMaster takes care of include setting line spacing, page numbering, and printing of header and footer titles. (We'll tell you how to use headers and footers in Section 20,Header and Footer Titles.)

There's one term that we should define before we start talking about specific commands. That term is "break." We often say that WordMaster does a break. What that means is this:

> WordMaster does a break in response to a formatting command. When WordMaster breaks a line it starts a new formatted line with the text after that command. Before it can do this it must print the old, partial line it had been working on. This may sound complicated, but we do breaks all of the time. Every time you start a new paragraph you break off the old line you were working on (and usually that text doesn't fill an entire line), skip a line, and then start a new line with new text.

Many of the commands that we'll be talking about cause WordMaster to do a break. For instance, when you change the left margin value, WordMaster does a break. This is so that you will know exactly what text is affected by the new value. WordMaster prints the old, partial line using the old margin value. The new line that starts with the text just after the margin command will be printed using the new margin value.

10.1 LINES PER PAGE COMMAND {lpp n}

> Default value: The Printer Driver lines per page value that is in its description of your printer.

The lines per page command tells WordMaster the length of the paper that you are using in your printer. The value that follows the command gives the total, possible printed lines on the page. This is NOT the number of lines of text that you want printed on the page, but is the potential number of lines that could be printed on the page if you were to print a line of text at every possible position on the page from the very top to the very bottom of the paper.

This number will vary depending on your printer. For a Diablo or Qume printer the lines per page value is about 65 or 64. Experiment with your particular printer to find the lines per page value that works for you. The default lines per page value (the value that WordMaster uses if you do not use the lines per page command) is the value that the Printer Driver is using for your printer.

How to Use the Command

WordMaster must know your page size before it begins to format any of your document. Therefore if you are going to use a lines per page command make sure that the command is in the first command group of your document, and that no text precedes the group. In other words, make sure that no spaces, tabs, or other characters are before this command group. (To make sure that there are no spaces in front of the first command group position the cursor to the left of the command group's left curly bracket, and hit the DELETE key until the cursor no longer moves to the left.)

An example of a command group containing the lines per page command:

```
{lpp 57,wid 70,skp}
```

The order of the commands within a command group makes no difference.

If WordMaster needs more lines per page than you have specified (to print page numbers, report an error, etc.) you will see:

```
*Lines per page value too small--I will use the default values.*
```

In this case WordMaster uses its default lines per page value. It also resets the top and bottom margins to zero. This makes sure that WordMaster has enough room on the page to print a line of your document.

10.2 PAGE WIDTH COMMAND {wid n}

Default value: 80 characters

The page width command tells WordMaster the width of the paper that you are using. The page width value is the total number of characters that WordMaster could possibly print from the left to the right edge of the paper. This number is NOT the number of characters that you want to print on each line; WordMaster determines that value by subtracting any left and right margins from the page width.

Experiment with your printer to see how many characters it can print on a line. If you use standard 8 1/2 by 10 inch paper, most printers print 80-95 characters per line.

How to Use the Command

You must tell WordMaster the width of your page before it does any formatting. Otherwise WordMaster uses the default value of 80 characters. Like the {lpp n} command, you must put the {wid n} command in the first command group of your document, and make sure that the group precedes any text. An example:

```
{lpp 61,wid 95,rm 5}
```

If WordMaster sees that your margins are larger than the total page width, it will tell you so:

```
*The page width is too small--I'll use default value.*
```

From that point on WordMaster will use the default values for the page width and reset left and right margins to zero to make sure that there is room enough on the line to print something.

10.3 RIGHT AND LEFT MARGIN COMMANDS {rm n} AND {lm n}

Default values: 0 characters

Now that WordMaster has a mental picture of our page (so many lines long, and so many character-positions wide), we need to be able to specify our margins. Since WordMaster already knows exactly how wide your paper is, it becomes easy to specify margins. The left margin value is the number of character-positions from the left edge of the paper that you want WordMaster to space over before it begins to print your formatted line. The right margin is the number of character-positions from the right edge of the paper that you want WordMaster to leave blank at the end of the printed line.

How to Use the Commands

You usually want WordMaster to start using your margins with the very first line, so make sure that you put these commands in the first command group of your document that precedes any text. You can also change left and right margins at any time in your document. When you do so WordMaster goes ahead and prints whatever formatted line it was working on; it uses the old margin values. The next time it prints a line it uses your new margin values. It is very awkward, however, to change your margins in mid-stream. In Part IV, Advanced Formatting, we'll tell you about indents, temporary indents, and double indents. Almost always you will want to use those commands to indent your formatted line instead of actually changing the margins.

You can specify just a right margin, just a left margin, or you can specify both margins. Remember that the right and left margin default value is zero character-positions.

If your margin values are larger than your page width, WordMaster will display the message:

```
*Page width is too small--I'll use default values.*
```

WordMaster then resets the page width to its default value and resets the left and right margins to zero.

10.4 TOP AND BOTTOM MARGIN COMMANDS {tm n} AND {bm n}

Default value: 0 lines.

The top and bottom margins are the blank lines at the top and the bottom of the page. A top margin of 3 tells WordMaster to print three blank lines before it prints the page number line. A bottom margin of 4 tells WordMaster to leave four blank lines at the bottom of the page.

How to Use the Commands

You will want to specify your top and bottom margins first thing in your document. Make sure that no text precedes the command group. Example:

```
{lpp 51,wid 72,rm 5,lm 5}
```

If your margin values are too large, you will see the error message:

```
*Lines per page value too small--I'll use default
values.*
```

10.5 PAGE NUMBERING COMMANDS {npgn}, {pgn}, AND {rpgn n}

The next few paragraphs summarize the WordMaster page numbering commands. WordMaster's default page numbering instructions are: print the current page number centered on the top line of the page after the top margin, and surround the page number with two hyphens (e.g., -135-).

> If you don't want WordMaster to number your pages at all, use the no page number command, {npgn}. Now WordMaster will not print a page number at the top of the page. It will, however, keep track of the page number, so that at some future point in the document you can start page numbering again.
>
> To start page numbering after having used the {npgn} command, use the page number command {pgn}. The next time that WordMaster reaches the top of the page, it will start printing page numbers again.
>
> To reset the page number at any point in your document, use the reset page number command, {rpgn n}. The reset page number value may be any number from 1 to 65535.

Up till now your only option when it came to printing a page number was to either not print it, print it, or reset it. In Part IV, <u>Advanced Formatting</u>, we will discuss how you can make WordMaster print the current page number at any position on the page. (Hint for now: notice the tops lines of these pages.)

<u>How to Use the Commands</u>

If you don't want <u>any</u> page numbering in your document, you must use the no page number command {npgn} first thing in the document, making sure that the command group has no text in front of it. If you want to turn off page numbering later in the document use the no page numbering command at any place in the document. The next time WordMaster goes to print a page number, it won't do it.

You may reset the page number at any time in your document. If you don't use the {rpgn n} command first thing in your document, however, the first page of your document will be page #1.

You may restart page numbering at any time in your document using the page numbering command {pgn}.

None of the commands above can cause an error. However, if you try to use a page number greater than 65535, you will find that page number that WordMaster prints is nowhere near to being right.

An example of a command group containing page numbering commands:

```
{pgn,rpgn 300}
```

10.6 SETTING LINE SPACING {lsp n}

Default value: single spacing

WordMaster usually single spaces your documents. If you want it to double or triple space them, use the {lsp n} command.

How to Use the Command

Use the line spacing command in the first command group of your document. Make sure that there are no characters in front of that command group. Example:

```
{lpp 57,wid 80,lsp 2,pgn}
```

You may specify single, double or triple line spacing by supplying a command value of 1, 2 or 3. If you try to use a number larger than 3, you will see the error message:

```
*Illegal line spacing value--I'll reset line spacing to 1.*
```

You can change the line spacing at any point in your document. When you do change the line spacing, WordMaster does a break. (See Section 10.0 for a discussion of the word "break.")

Section 11

FILLED AND UNFILLED TEXT

11.0

A major advantage of a formatter is that it can impose a format on your text which may look very different from the form in which you originally typed the document. This is an advantage because it allows you to create your text without really worrying about what it is going to look like when it's printed. The way your document looks when you edit it really has very little relationship to how it will look when it is formatted. It's important to remember that your original document line (input line) is different than the final formatted line.

On the other hand, you sometimes want a formatter to print a portion of your document exactly as you have typed it in, ending lines where you have ended them, printing tabs and blank lines where you have placed them, etc. You might, for example, want to print a chart or a series of columns of numbers.

These two different modes of formatting are called "fill" and "no fill." Let's take a look at a small piece of a document both in its original and formatted forms.

Original, unformatted text:

```
{skp,nfil}
{skp}We've    mentioned    "filling" text
several times.
Understanding what   is meant by filled text
 is crucial to
understanding how WordMaster operates on your document.
```

Formatted text:

```
We've mentioned "filling" text several times. Understanding
what is meant by filled text is crucial to understanding how
WordMaster operates on your document.
```

You can see the difference between the two samples of text above. The top sample is what the formatted paragraph looks like in its original form as we edited it. The bottom sample is what that same text looks like filled.

11.1 FILLING TEXT {fill}

How did the sample above get transformed into the sample below it? WordMaster knows how many characters you want it to print on a formatted line of text (page width minus right and left margins). Its default formatting instructions say to fill lines of that width with characters from your document. What does that mean? When WordMaster fills a line it does the following:

> WordMaster reads a line of text from your document. (A line is the group of symbols between two carriage returns.) It replaces any tabs in that line with single spaces. If there is more than one space between words WordMaster removes the extra spaces. WordMaster then starts building a formatted line by placing one word after another from your input line onto a line of the proper width until it cannot fit another word. If it runs out of words before it finishes the formatted line WordMaster reads another input line from your document and continues putting words on the formatted line. WordMaster ignores the blank lines in your document when it is working in fill mode. To print blank lines you must use the skip command. (See Section 12, Breaking and Skipping.)
>
> In summary, when WordMaster fills a line it writes as many whole words from your input line onto a final formatted line as can fit regardless of the length of the line in the original document. When it comes time to decide what words should go on each formatted line WordMaster ignores the carriage returns in your original document. That is, it doesn't end a formatted line just because it found a carriage return in the input line at that point in the text. Instead it converts carriage return symbols into spaces.

Now you can see what WordMaster did with the sample above. It got rid of the extra spaces, and placed one word after another from the input lines onto final formatted lines.

How to Use the Commands

WordMaster's default formatting instructions tell it to always fill text unless you order otherwise by using the no fill command {nfil}. Once you have used the {nfil} command you can tell WordMaster to start filling again by using the fill command {fill} at any place in your document.

11.2 UNFILLED TEXT {nfil}

When you want WordMaster not to fill text use the no fill command {nfil}.

Suppose you have a table in the middle of your text that you want to print literally. However, you want WordMaster to fill the text surrounding the table. WordMaster fills the text automatically, so at the point in your text where you want it to stop filling, insert the no fill command {nfil}. Then insert a fill command {fill} where you want to resume filling text.

Unformatted Example:

```
     Dear Sir:{skp}

     As you may be aware, your account is considerably in arrears.
     We hope that legal action will not be necessary. As you
     can see from the figures below, we certainly have grounds
     for complaint.{nfil}

             Cumulative Record of Indebtedness

              1975          1976          1978

              $225          $3605         $5678

     {fill}Please let us know as soon as possible what your plans
     are concerning a solution to this problem.  If you have
     already sent a payment please disregard this notice.
     {skp}
```

Formatted Example:

```
     Dear Sir:

     As you may be aware, your account is considerably in arrears.
     We  hope that legal action will not be necessary.  As you can
     see from the figures below, we  certainly  have  grounds  for
     complaint.


             Cumulative Record of Indebtedness

             1975          1976          1978

             $225          $3605         $5678

     Please  let  us  know as soon as possible what your plans are
     concerning a solution to this problem.  If you  have  already
     sent a payment please disregard this notice.
```

You see the difference the no fill command makes. You will want to experiment; sometimes using the no fill command takes a little practice. Most of the commands that you use for filled text also affect unfilled text. You can center, indent, underline and capitalize unfilled text.

Using Tabs in No fill Mode

When WordMaster sees a tab in unfilled text, it sends a tab character to your printer. When the printer receives a tab character it advances the printing mechanism to the next tab stop. The tab stops on the printer were set up by the printer and the Printer Driver. These stops are set up with relation to the entire printer carriage, and not with relation to your left margin. Therefore text with tabs in it may be spaced a little differently than it was on the screen when you typed it in. Experiment with different combinations of spaces and tabs until you are pleased with how it looks when it is formatted.

Section 12

BREAKING AND SKIPPING

12.0

This might seem an odd title for a section, but as a matter of fact breaking and skipping are two of the most important things that a formatter does. You have probably noticed the skip command {skp} and the break command {br} in our examples throughout the manual. Now it's time to finally explain what they mean.

When WordMaster is filling text it builds formatted lines by fitting as many whole words from your document as it can on each line. It also ignores blank lines in your document. That's fine for most purposes. Still, what if you don't want a full line? What if you want blank lines? It would be very awkward if you couldn't set titles apart from the rest of the document, for example.

12.1 THE BREAK COMMAND {br}

When WordMaster sees a break command in your document it stops building the formatted line (even if it isn't full yet), and prints that partial line. Now it begins building a new formatted line with the text directly after the break command. This act of "breaking" off the old formatted line and starting a new one we call doing a break.

You will use this command a great deal. An important thing to remember is that many formatting commands also do a break. For instance, when you change some margin values or indentation values, WordMaster does a break. This is so that it is completely clear to you which text is affected by the new values. WordMaster prints the text behind the command using the old values. The text directly in front of the command starts a new line which will be printed using the new values.

How to Use the Command

You may place a break command anyplace in your document. You cannot cause any errors using the break command; just remember that it is the text after the command which begins the new formatted line.

12.3.1 Sample Use

Take a look at the samples below. Some of them are unformatted (that is, in the same form as when we typed them in the original document). After the unformatted samples you see the formatted version of that text.

Sample #1A (Original unformatted text):

```
How would you keep WordMaster from putting all of
these words on full formatted lines if we didn't have a
break command?
```

Sample #1B (Usual formatting):

```
How would you keep WordMaster from putting all of  these
words  on full formatted lines if we didn't have a break
command?
```

Sample #2A (Unformatted text with break commands):

```
We can allow WordMaster to fill most of our text while
still ordering it to break off a formatted line where
we want it to. Then it starts a new line with the exact text
that we want at the front of the new line:{br}
like this, and{br}
like this.
```

Sample #2B (Formatted text with break commands):

```
We can allow WordMaster to fill most of our  text  while
still ordering it to break off a formatted line where we
want it to.  Then it starts a new line  with  the  exact
text that we want at the front of the new line:
like this, and
like this.
```

12.2 THE SKIP COMMAND {skp n}

Default value: 1 line

It's probable that the skip command is the command that you will use the most. You know that when WordMaster fills text it ignores any blank lines in your document. This is so you can separate blocks of text in your original document with blank lines without worrying about how those blank lines will affect the ultimate format of the document.

The skip command allows you to explicitly demand blank lines in the formatted document. You may specify from 1 to 255 blank lines.

If all you want is one blank line, you do not have to type {skp 1}; a {skp} is sufficient since 1 is the skip command default value. This will not cause an error.

How to Use the Command

You may use a skip command at any point in your document that you want a blank line. The skip command {skp n} also does a break (see Section 12.1 above). WordMaster breaks off its current formatted line and prints the line. WordMaster then prints the correct number of blank lines, and starts a new formatted line with the text after the skip command.

WordMaster will not print more blank lines than you have room for on the current page. Let's say that you have the command {skp 5} in your document. If WordMaster has room left for only three lines on the current page when it reaches your skip command, WordMaster will only print three blank lines. It will NOT print two blank lines at the top of the next page to make a total of five.

12.2.2 Sample Use

Any time we want a blank line we use a skip command. For example:

Unformatted sample:

```
Dear Sir:{skp}
We are very interested in any information that you may have
concerning your new product, the Infinite Storage Device.
{skp}Please let us know what the availability is of this
product and what delivery times we are talking about.
We are interested in the price of this product in quantities
of twenty-five per shipment.{skp}
Thank you for your help. Please address your reply: Attention
J. Milne.{skp 3}
James. N. Milne{br}
Materials and Control
```

Formatted sample:

```
Dear Sir:

We are very interested in any information that you may have
concerning your new product, the Infinite Storage Device.

Please let us know what the availability is of this product
and what delivery times we are talking about. We are
interested in the price of this product in quantities of
twenty-five per shipment.

Thank you for your help. Please address your reply:
Attention J. Milne.



James. N. Milne
Materials and Control
```

Section 13

RIGHT JUSTIFYING TEXT {rj}

13.0

Almost always we left justify our documents. That is, we start all of our lines of text at the same position on the left side of the paper. As you scan down the page you see that the first characters at the front of every line are lined up directly beneath one another. This is so easy to do that we do it without a moment's conscious thought.

Somewhat more difficult is the process of right justifying text. As you look at this page you see that the last characters of every line are lined up directly beneath one another on the right. We say that the lines are right justified.

WordMaster only right justifies filled text. You remember from our discussion of filling text that WordMaster puts as many whole words on a formatted line as it can fit. This usually leaves a few spaces left over on the line. To right justify the line WordMaster inserts extra spaces between the words on the line until the last word on the line is pushed over flush to the right margin.

13.1 RIGHT JUSTIFY COMMAND {rj}

WordMaster always right justifies your text unless you tell it not to (the no right justify command {nrj}). So, don't bother to tell WordMaster to right justify unless you have used the no right justify command and want WordMaster to start right justifying again.

How to Use the Command

You can put the right justify command any place in your document. You can right justify a section of your document, tell WordMaster not to right justify another section, and then go back to right justifying again.

Whenever WordMaster sees a right justify command it does a break so that you know at exactly what point in your document WordMaster will begin right justifying.

13.2 NO RIGHT JUSTIFY COMMAND {nrj}

To turn off right justification use the no right justify command {nrj}. This command only affects filled text. Now when WordMaster finishes putting text from your document onto the formatted line, it won't insert spaces to bring the right most word out flush to the right margin. Instead the end of the lines in your document will vary somewhat in length.

How to Use the Command

Insert a no right justify command at any place in your document that you want to stop right justification. WordMaster does a break when it sees an {nrj} command so that you know exactly what text begins the next formatted un-right justified line.

If don't want WordMaster to right justify any of your document, make sure that the {nrj} command is in the first command group of the document. Make sure that no text precedes that command. If you want to turn right justification back on, use the {rj} command.

13.2.1 Sample Use

You will sometimes want to right justify some parts of your document, but not others. Take a look at the sample below:

Unformatted Sample:

```
Some types of documents look very  nice
with the words flush to the right margin. However, if you
are using very long words, or hyphenated groups of
words, sometimes you will be more pleased with the look of
the text if it is not right justified. This is because
WordMaster only puts whole words on a formatted line.  If
the words are very long it can only fit a certain number
on the line, and must insert a lot of spaces to right justify
the line. Now we'll look at the same text as above but not
right justified:


{nrj,skp}Some types of documents look very  nice
with the words flush to the right margin. However, if you
are using very long words, or hyphenated groups of
words, sometimes you will be more pleased with the look of
the text if it is not right justified. This is because
WordMaster only puts whole words on a formatted line.  If
the words are very long it can only fit a certain number
on the line, and must insert a lot of spaces to right justify
the line.
```

Formatted sample:

```
Some types of documents look very nice with the  words  flush
to  the  right  margin.   However, if you are using very long
words, or hyphenated groups of words, sometimes you  will  be
more  pleased  with  the  look of the text if it is not right
justified.  This is because WordMaster only puts whole  words
on  a formatted line.  If the words are very long it can only
fit a certain number on the line, and must insert  a  lot  of
spaces to right justify the line.  Now we'll look at the same
text as above but not right justified:
```

Some types of documents look very nice with the words flush to the right margin. However, if you are using very long words, or hyphenated groups of words, sometimes you will be more pleased with the look of the text if it is not right justified. This is because WordMaster only puts whole words on a formatted line. If the words are very long it can only fit a certain number on the line, and must insert a lot of spaces to right justify the line.

Section 14

HOW TO OPERATE WORDMASTER

14.0

You're now familiar with the basic formatting commands. It's time to start using WordMaster. We're going to go through the operation of WordMaster step-by-step.

14.1 SETTING UP THE PRINTER

Be sure that your printer is physically hooked up to the system, and that it is turned on. Be sure that the Printer Driver knows what printer you are going to use. (You may want to refresh your memory on using the Printer Driver by turning back to Section 8, Printing an Unformatted Document--The Printer Driver.) If you are now informing the Printer Driver which printer you are going to use, make sure that before you do so the paper in the printer is positioned so that the printer printing mechanism is at the top of the page. If you've used the printer since the last time you loaded the system software (pushing the LOAD button, or turning on the machine), then you should use a PAGE command to advance the paper to the top of the next page. (After a $ prompt type: PAGE and hit RETURN.)

The Printer Driver's description of your printer may tell the Printer Driver to do a top margin after it advances the paper to the top of the next page. WordMaster, however, assumes that the printer is set to the very top of the page.

> Caution: Before you use WordMaster, make sure that the printer is at what the Printer Driver thinks is the top of the page (either by calling up the Printer Driver, or by using the PAGE command). Then you MUST re-adjust the printer carriage by hand if necessary so that the printing mechanism is at the very top of the page directly below the tear-off line that separates the current page from the previous one. If you don't do this, the Formatter's lines per page count will be off by whatever top margin the Printer Driver used. Now hit the Set Top of Form button on your printer to tell the printer that this is the new top of page. (If your printer doesn't have some way to set top of form, you may have to define up a special version of your Printer Driver's description of your printer which has a top margin value of zero.)

14.2 GETTING WORDMASTER TO TALK TO YOU

After a $ prompt type:

```
FORMAT document-name
```

Hit RETURN. (The document-name is the name of the document on the disk that you want to format.) Now the screen clears and you see the Formatter version number. You may also see a WARNING message at this time:

> WARNING: I cannot print your formatted text because your Printer Driver is set to 'NULL'. Do you want to continue?
> [Y or N]:

The other warning message that you might see is:

> WARNING: I canot print your formatted text because there is no Printer Driver on your System Disk. Do you want to continue?
> [Y or N]:

If you see either one of these messages it means that you didn't set up the printer properly. Either the Printer Driver thinks that you want to use Printer Null, or the system was not able to find your Printer Driver on the System Disk. In either case, WordMaster will not be able to print anything. The reason why WordMaster gives you the option of continuing with the formatting, is that on occasion it is very useful to format a document without sending any symbols to a printer just so you can see if WordMaster was able to format the document without error. (WordMaster reports all errors on the screen as they occur.) Once you know that there are no errors in the document, you can set the Printer Driver to a real printer and reformat the document. This time WordMaster will send the document to the printer.

If you do not see either warning, you know that WordMaster believes you to be using a printer. WordMaster now asks:

> Is the printer set to the top of the page? (If not I will do a form feed for you.)
> [Y or N]:

If you say Y, make sure that the printer is set to the very top of the page. If you say N, check the printer after WordMaster advances to the top of the next page, and re-adjust the paper if necessary so that the printing mechanism is at the very top of the page. Then hit the Set Top of Form button.

14.3 FORMATTING OPTIONS

For your convenience WordMaster offers you a set of options which affect its operation. The next question WordMaster asks concerns these options. We'll discuss them in detail below. WordMaster asks:

> Do you want Formatter options?
> [Y or N]:

If you say Y, WordMaster has a series of questions that it will ask you. If you say N, WordMaster will ask no more questions and will begin to format your document. When WordMaster actually begins to format your document you see the message:

```
I'm formatting...
```

If you tell WordMaster that you don't want WordMaster options, that's the same as an answer of N to all of the questions below.

Below are the four Formatter option questions:

14.3.1 Wait at End of Every Page Option

```
Do you want me to wait at the end of every page?
     [Y or N]:
```

WordMaster usually does not wait at the end of every page, but continues directly on to the top of the next one.

We assume that your printer feeds your paper through in a continuous sheet with pages separated by a tear-off line. It may be that you wish to use separate sheets of paper (for example, letter head stationery). If you answer the above question with a Y, WordMaster will stop at the end of every page, and display the message: I'm at the end of a page; hit the RETURN key when you are ready to continue.

Take out the piece of paper. Then insert a new page and adjust it so that the printer mechanism is at the top of the page. Now hit a RETURN, and WordMaster will continue formatting until it reaches the end of the page. Continue this procedure until your document is finished.

14.3.2 Exit on Error Option

```
Do you want to exit when I find an error?
     [Y or N]:
```

WordMaster usually continues formatting when it finds an error; answer Y if you want it to stop formatting when it finds its first error.

14.3.3 Error Reporting Option

```
Do you want error reporting only on the screen?  (Otherwise I will
also report errors in your printout.)
     [Y or N]:
```

WordMaster always reports errors on the screen. It also usually prints an appropriate error message directly in your printed document so that you can see where it found the error. For example, if WordMaster couldn't center a line of text because the line was too long, it will tell you so in your document directly below the line that was too long.

Since WordMaster always has default instructions and default command values to fall back on in case of an error, often an error doesn't really affect the formatting of your document all that much. Therefore you may want to answer Y to the question above. In that case you will still see error reports on the screen (an error message and a line of the document from approximately where the error occurred), but no error report will appear in your document.

14.3.4 Sentence Format Option

```
Do you want only one space at the end of every sentence?
(Otherwise I will put two spaces.)
     [Y or N]:
```

Whenever you type a document you usually put two spaces at the end of every sentence. WordMaster does this automatically for you. Now, WordMaster is pretty smart about deciding what constitutes an end-of-sentence, but it doesn't have your human ability to reason. This is what WordMaster thinks is an end of sentence: 1) a terminal punctuation mark followed by a space. (A terminal punctuation mark is a period, exclamation mark, question mark, or an ellipsis); 2) a terminal punctuation mark followed by a quotation mark and a space; and, 3) a terminal punctuation mark followed by a right-parenthesis and a space. WordMaster will not catch any other sentence ends.

If you don't want WordMaster to put two spaces at the end of every sentence, answer the above question Y.

14.4 WHAT HAPPENS WHEN WORDMASTER IS DONE?

When WordMaster finishes reading your document, it displays this message on the screen:

```
          The input file is empty.  Hit the RETURN key if you are
          through.  Otherwise, please give the name of a new
          text file to format:
```

You often want to print a document that is made up of several smaller ones. WordMaster allows you to keep adding documents onto your formatted printout. You can imagine that in the case of formatting this manual, for example, this ability is very useful.

When you see the message above, WordMaster has not yet printed the last formatted line of your document. It is waiting to see if you want to continue with another document.

If you are not through formatting, type the name of the document you want to format next. Hit RETURN. You will again see the message: I'm formatting... If WordMaster cannot find your document it will repeat the message above. Try again, making sure that your spelling is correct.

When WordMaster finds your new document it will start to read text from it and add formatted text right onto the last unprinted line of the old document. WordMaster continues using the formatting instructions and values you gave it in the first document, so that when you format several documents at the same time they all look like part of one document. This means that WordMaster does not reset page numbers at the start of each new document. If you want to format each document separately you must exit WordMaster when it finishes each document, and summon it anew for each one. If you want to format them together, but want to have each document start with a page number of 1, you can use the reset page number command {rpgn n} to reset the page number at the front of each document. For advice on adding documents together using WordMaster, see Part V, <u>Trouble shooting</u>. After WordMaster is done with a new document, WordMaster will again ask you for another document. Hit RETURN if you are through; otherwise give it another document name.

14.5 EXITING WORDMASTER

When you see the input file empty message, and you are through formatting, hit RETURN. WordMaster says:

```
I've finished formatting. Goodbye....
```

WordMaster now goes ahead and prints the last line of your document. Next you'll see the $ prompt. You've left WordMaster, and you can now use the Editor or WordMaster again.

> REMEMBER: WordMaster will not print the last line of your document until you hit RETURN.

If you accidently exit WordMaster by typing a Control-Y, immediately type REENTER. Hit RETURN. You may be able to continue. If you intentionally interrupt WordMaster there is one thing that you must remember: you cannot use the printer until you call in the Printer Driver again by typing:

```
Printer printer-name
```

If you exit WordMaster in the normal way (hitting RETURN in response to its input file empty message), you do not have to use the Printer command again.

14.6 USING THE KEYBOARD TO TALK TO WORDMASTER

The usual way to use WordMaster is to have it read a document from the disk. There are times, though, when you might want to experiment a bit without going to all of the trouble of creating a document on the disk. For instance, you might just want to see what it would look like if you double indented a short passage of text. Or, you might want to see what a line of text would look like centered and underlined.

You can talk to WordMaster directly from the keyboard. Instead of waking WordMaster with the FORMAT document-name command, just type FORMAT. Then hit RETURN. (We assume that you've already set up the printer.) After WordMaster asks you if you want its options, it then asks you:

```
     Is the input from a file? (If not, I'll assume that
     you'll type in your text from the keyboard.) [Y or N]:
```

If you say N, you next see the message:

```
     End each line with a carriage return. (Type a Control-E
     and a RETURN to exit.)
```

Now you see a small arrow at the left hand of the screen. This is your prompt, the signal that WordMaster is waiting to hear from you. Start typing your document. Remember that WordMaster is reading in your document from the keyboard in exactly the same way that it reads your documents from the disk. Use the same techniques for using formatting commands that you learned in earlier sections of the manual. Type a Control-E, and hit RETURN to leave WordMaster.

Section 15

FUNCTIONAL SUMMARY OF BASIC FORMATTING COMMANDS

15.0

Below we list all of the basic formatting commands that we have talked about in Part III. For a functional summary of the advanced formatting commands, see Section 23. We also have an alphabetical list of all of the formatting commands in Appendix A.

Type	Command	Description	Default Val
MARGIN			
	{lm n}	Left Margin	0 characters
	{rm n}	Right Margin	0 characters
	{tm n}	Top Margin	0 lines
	{bm n}	Bottom Margin	0 lines
PAGE PARAMETER			
	{lpp n}	Total lines/pge	Printer Driver value
	{wid n}	Total pge width	80 characters
	{lsp n}	Set Line-spacing	single spacing
PAGE NUMBERING			
	{npgn}	No page numbers	
	{pgn}	Start pge numbering	
	{rpgn n}	Reset page number	Page #1
JUSTIFICATION			
	{rj}	Right justify	
	{nrj}	No right justify	
FILLING			
	{fill}	Fill text	
	{nfil}	No fill	
BREAKING TEXT LINE			
	{br}	Break text line	
	{skp n}	Break line and print n blank lines	1 blank line

PART IV: ADVANCED FORMATTING

You've now learned all of the basic things you need to know to use WordMaster. If you feel comfortable with the information we've presented in the earlier sections, you're ready for the more advanced features of WordMaster.

We'll be talking about some interesting things that you can have WordMaster do with your text. For instance, you'll notice that this manual has three part page titles (headers) that contain the current page number. You'll also notice that every section of the manual begins on an odd-numbered page. We have formatting commands that arrange these things for us.

Besides learning about header titles you'll learn how to begin a new page, do indents, special double indents. We'll also talk about centering, underlining and capitalizing lines of text. There are also one or two special commands and special symbols that you'll want to know about.

Section 16

WORDMASTER SPECIAL SYMBOLS

16.0

Besides the formatting commands there are two special symbols that WordMaster recognizes when it reads your documents. These symbols are: the Non expandable blank (a @) and the Current page number symbol (a double-#). You will find both of them to be very useful. Because WordMaster recognizes these characters as special symbols, it cannot reproduce them literally in your document. That means that if you type a single @ symbol in your document, you will not see the @ in your printed document. If you type a double-# symbol you will not see that symbol in your printed document. There are ways to get around this. If you want a @ symbol in your printed text, type two @s in your document. WordMaster will realize that you don't really want a Non expandable blank symbol there, and will put one @ symbol in your document instead. As for the double-# symbol (two #s in a row); there is no way to put one in your printed document. From now on when we talk about the double-# symbol we'll use this symbol: #|#. You'll remember, though, that we mean two #s in a row, without the | symbol.

16.1 THE NON EXPANDABLE BLANK, @

You probably remember that one of the option questions WordMaster asks you is whether or not you want two spaces at the end of every sentence. Usually you do. But, what about those special cases where you know that you have something in your document that WordMaster is going to think is the end of a sentence, but isn't. And, what if it's important that WordMaster NOT put two spaces there? For example, suppose WordMaster sees the following:

> We use the symbol "?" a lot.

It is going to think that you want two spaces after the second quotation mark. But, that isn't really the end of the sentence. Or, what if WordMaster is right justifying a line. You know that it inserts spaces wherever there is already a space to stretch the line out flush to the right margin. What if WordMaster sees:

> The interest rate is 6 %.

How do you keep it from putting another space between 6 and %?

The purpose of the Non expandable blank (NEB) is to fool WordMaster into thinking that there is no space where the NEB is. Since there is no space, the NEB is just part of the word surrounding it, and WordMaster can't insert an extra space at that point in your text. In the examples above we simply substitute an NEB for the space that was likely to cause a problem. For example: in our original document we typed the characters 6 % as 6@%, and the characters "?" a lot. as "?"@a lot. Naturally WordMaster could not insert a space between the second quotation mark and the letter a, because it thought that the symbols were all part of the same word. When it came time to print the examples above, WordMaster substituted a space for every Non expandable blank that it found.

WordMaster doesn't know that an NEB is a space until it comes time to print the formatted line. At that time WordMaster converts any NEBs into spaces.

You use NEBs when you want to make sure that WordMaster prints only one space, and you can also use it when you want to make sure that WordMaster is going to print at least two spaces. How? Just follow an NEB with a space.

If I type:

```
I demand the return of @TWO-THIRDS@ of my cleaning deposit.
```

I know that there will be at least two spaces before and after the words TWO-THIRDS. (There may be more after WordMaster finishes right justifying the line, but there will be at least two.)

Formatted, we see:

```
I demand the return of  TWO-THIRDS  of my cleaning deposit.
```

You cannot use more than one NEB in a row. They must be separated by spaces or other symbols. (Remember, WordMaster sees two @s as a request for one @ in your printed document.)

16.2 CURRENT PAGE NUMBER SYMBOL

Whenever WordMaster reads a double-# symbol in your document, it substitutes the current page number for that symbol. (A double-# symbol is two #s in a row, which we represent in this manual as: #|#.)

The reason why we have a current page number symbol is to allow you to decide for yourself where you want the page number on each page of your document. Usually WordMaster centers and prints the current page number at the top of every page. You can use the no page number command {npgn} to prevent WordMaster from typing the page number. Then you can put the current page number symbol in the document where you want the page number.

Notice the top line of each page in the manual. What you see is:

```
     Section 16     WordMaster Special Symbols     Page 84
```

What is actually in the document is:

Section@16 WordMaster@Special@Symbols Page@#|#

When it comes time to print this line (which is called a title header, by the way), WordMaster substitutes the current page number for the current page number symbol. (As for why we used the NEBs in the header title, well we'll talk about that in Section 20, Header and Footer Titles.)

Of course you can have WordMaster print the current page number at any point on the page -- in titles at the bottom of the page as well as at the top (a footer), or on any line of text on the page.

16.2.1 Sample Use

Just to prove that we can print the current page number at any point on the page, let's give WordMaster the following:

Unformatted: This is page #:#|#.

Formatted: This is page #:85

Look at the top of this page. Yes, 85 is the current page number.

Section 17

HOW TO CENTER, UNDERLINE AND CAPITALIZE

17.0

Most of the commands we've talked about so far have had a rather wide reaching effect on your text. For example, when you use the right justify command {rj}, you turn on right justification for the entire document until you turn it off using {nrj}. When you change the left margin with a {lm n} command, that left margins stays at the new value until you change it again.

For the first time we're going to talk about some commands that affect only a certain section of text at a time. These are the center {ce n}, capitalize {cap n} and underline {wul n,ul n} commands. These four commands (there are two different kinds of underlining commands) affect a piece of your text, and not the entire document.

So the important question for now is how can you tell what portions of text are affected by these commands when you use them in your document? You remember that when WordMaster fills text it doesn't pay any attention to the carriage return symbols in your document when it decides at what word to start a new formatted line. However WordMaster does remember where the carriage return symbols were so that it can make the following judgements:

> Whenever you use a center, capitalize, or underline command WordMaster has to decide which text you want to affect. It acts upon the text that lies between that command group and a carriage return or another command group. We'll call this one unit of text.

Unformatted example: Chapter 25 contains {ul}numerous
typographical errors:

Formatted example: Chapter 25 contains numerous typographical errors.

Unformatted example:
Speaking {wul}statistically
and {wul}traditionally, {cap}both
concepts are valid.

Formatted example:
Speaking statistically and traditionally, BOTH concepts are valid.

You notice that in the examples above we did not supply a command value with the commands. If you do not supply a command value with the center, capitalize and underline commands, WordMaster assumes that you want to use their default values (1 unit of text). So, {ce} is the same as {ce 1}.

17.1 CENTER COMMAND {ce n}

Default value: 1 unit of text

Use the center command to center units of text. Remember that a unit is the section of text following the center command up to another command group or a carriage return. The center command does a break before it centers your unit of text.

Unformatted example:

```
{ce 3}THIRD ANNUAL
Company Picnic{skp 2}Transportation:
```

The sample above tells WordMaster to center the next three units of text (THIRD ANNUAL, Company Picnic, and Transportation). Notice that we use a skip command somewhere in there {skp 2}. The center command pays no attention to other commands except for the fact that they mark the end of a unit of text.

Formatted example:

```
                                THIRD ANNUAL
                               Company Picnic


                              Transportation:
```

You can center up to 255 units of text at a time with one center command.

How to Use the Command

Place the {ce n} command in front of the units of text that you want to center. Be careful that the unit of text is not longer than a formatted line. For example, if WordMaster is printing formatted lines that are 55 characters long, and you ask it to center a unit of text 60 characters long, it will not be able to do it. You'll see the error message: *This line is too long to center.*

You can use the center command in combination with other commands. For example:

```
{ce,wul}Memo #1
```

WordMaster centers and underlines the words Memo #1:

Memo #1

17.2 CAPITALIZE COMMAND {cap n}

Default value: 1 unit of text

The capitalize command converts to upper case all of the letter symbols in a unit of text.

How to Use the Command

Use the {cap n} command in front of the units of text that you want to capitalize:

```
{cap}mail room procedures
```

You can use the capitalize command in combination with other commands:

Unformatted example:

```
{cap 2,ce 2}Stock Holders' Meeting{skp}april 21, 1979
```

Formatted example:

STOCK HOLDERS' MEETING

APRIL 21, 1979

You can capitalize up to 255 units of text at a time.

17.3 WORD ONLY UNDERLINE COMMAND {wul n}

Default value: 1 unit of text

The word only underline command allows you to underline only the words in a unit of text. It doesn't underline spaces, tabs or punctuation. Most underlining in documents is of this type.

How to Use the Command

Place the {wul n} command before the units of text that you want to underline:

Unformatted example:

```
{wul 2,ce}Order Desk Procedure {skp}Item #1:
```

Formatted example:

Order Desk Procedure

Item #1:

17.4 UNDERLINE COMMAND {ul n}

Default value: 1 unit of text

The {ul n} command underlines an entire unit of text. That means everything in the section; spaces, tabs and punctuation. You usually will want to use the word only underline command {wul n} (see above).

How to Use the Command

Place the {ul n} command before any units of text that you want to underline. There are two important things to remember:

> Because the {ul n}command underlines spaces, WordMaster cannot break that unit of text between words. (WordMaster splits text between words when it sees a space.) So, never use the {ul n} command on a unit of text that is longer than the current formatted line! WordMaster will not be able to split the unit to form two lines out of it. You will see the error message: *I can't break this line between words--there are no spaces.*
>
> The {ul n} command underlines spaces. So, if you say:
>
> {ul,ce} Weekly Report
>
> WordMaster is going to underline all of the spaces in the unit of text:

Weekly Report

As you saw in the example above, you can use the {ul n} command in combination with other commands: {ce,ul,skp 2}Accounts Payable

Section 18

BEGINNING A NEW PAGE

18.0

An important aspect of formatting is the way you divide up large groups of text. For example, you wouldn't want a new chapter to begin on the same page as the end of a previous chapter. You have to be able to begin sections of your document at the top of a new page.

Sometimes it's not enough to have a new section start on a new page; occasionally it's necessary that a section of your document only start at the top of an odd numbered page. For example, chapters traditionally start on an odd numbered page so that they will lie on the right side of the book when the reader opens it.

WordMaster has commands that enable you to start a new page and start text on an odd numbered page.

18.1 THE BEGIN PAGE COMMAND {bpg}

When WordMaster sees the {bpg} command it knows that you want the text directly after the command to start on the top of a new page. WordMaster does a break in the text. It then advances to the bottom of the current page, and prints the footer title (if there is one). Next WordMaster advances the paper to the top of the next page and does any required page set up (page numbering, header printing, etc.). Now it's ready to start formatting the text after the {bpg} command.

How to Use the Command

Use the begin page command at any point in your document where you want WordMaster to end the page and start a new one. Example:

```
{he}Investment Analysis
{bpg,ce}Chapter 1: Your Stockbroker
```

Look at the example above. When WordMaster reaches the header command, it files the header away for future reference. (We'l talk about header and footer titles in Section 20.) Then it sees the begin page command. It advances to the bottom of the current page (printing a footer if necessary), and then goes to the top of the next page. It prints the current page number, and then prints the header, Investment Analysis. Now it centers and prints the next line of text, Chapter 1: Your Stockbroker.

By the way, if you are going to specify a new header for the new page, make sure that you use the header command before the command group containing the {bpg} command. (See the example above.) This makes sure that WordMaster learns about the new header before it goes to the next page.

18.2 THE BEGIN ODD PAGE COMMAND {bop}

You can also tell WordMaster that you want to start the next section of text on an odd numbered page. This command operates in the same way as the {bpg} command except that it checks the page number of the new page. If the new page is an even number, WordMaster prints any necessary page numbers, headers and footers, but then advances on to the top of the next page. This page is an odd numbered one, and WordMaster knows that it is OK to resume printing your document now. Example:

```
{ohe}Depreciation Schedule
{bop,ce,wul}HOUSEHOLD FURNISHINGS
```

Again, if you are going to specify a new header, make sure that the {he} or {ohe} command is before the {bop} command.

Section 19

INDENTS: PERMANENT, TEMPORARY AND DOUBLE

19.0

WordMaster provides several commands to allow you to do indenting of one kind and another. You'll notice that within this manual we often indent one line only, or an entire block of text. We even indent a block of text on both sides, from both the left and the right margins. We do all this without changing the margins values.

When you use one of the indent commands give a command value. This value is the number of spaces from the left margin that you want WordMaster to indent. So that you don't have to think back and try to remember the last indent value that you used, any new indent value cancels out existing indent values. So, if you say:{ind 5} (permanent indent of 5), and then later say: {ind 10} (permanent indent of 10), WordMaster will not add the two indent values together. Instead it uses the latest indent value. If it sees another indent value later in the document, it will begin to use that value at that point.

Any time you switch between the permanent indent command {ind n} and the double indent command {dind n}, you cancel the effect of the other command. That is, both the {ind n} and the {dind n} command cannot be in effect at the same time.

If you should specify indent values so large that WordMaster can't print a formatted line, you will see the error message: *Your indents are too large.* WordMaster then cancels all indent commands.

19.1 PERMANENT INDENT COMMAND {ind n}

Default value: 0 characters.

When WordMaster sees a permanent indent command {ind n} it knows that you want to start indenting your text. The first thing WordMaster does is to do a break in your text so that the characters after the indent command begin a new, indented formatted line. This allows you to know exactly what text WordMaster is going to indent.

WordMaster remembers the command value you specified in the {ind n} command. It indents your text lines that many character-positions from the left margin. (It also remembers to shorten the formatted lines it builds by that amount.)

How to Use the Command

Use the {ind n} command anywhere in your document that you want to start a new line and start indenting. Remember that WordMaster will keep indenting that amount until you exit WordMaster, you use the no indent command {nind}, you use the double indent command {dind n}, or you change the {ind n} indent value (in which case it will begin to indent with the new value).

> When you change the {ind n} value WordMaster does not add the new value onto the old indent value. Instead WordMaster begins indenting with the new indent value. For example:
>
> > {ind 5}We will indent this line 5 spaces from the left margin.
> >
> > {ind 10}We will indent this line 10 spaces from the left margin, not 15.
>
> Anytime you change the indent value you reset it to the new value. An indent of 10 shortens the affected formatted line by ten characters.

19.2 DOUBLE INDENT COMMAND {dind n}

Default value: 0 characters

The double indent command {dind n} works in the same way as the permanent indent command {ind n}, except that WordMaster indents from both right and left margins. When WordMaster sees a double indent command it does a break.

You've noticed blocks of text in the manual that are indented from both margins. A double indent command remains in effect until you use a permanent indent command {ind n}, you leave WordMaster, or you use the no indent command {nind}. When you change a double indent command value WordMaster begins to double indent using the new value.

How to Use the Command

Use the double indent command anywhere in your document you want to start a new line and begin double indenting. Remember that if you specify a command value of say 5, WordMaster will indent from the left margin five spaces and from the right margin 5 spaces. So a {dind 5} shortens the formatted line by ten characters.

19.3 TEMPORARY INDENT COMMAND {tin n}

Default value: 0 characters

To indent one line, use the temporary indent command. Whenever you use the {tin n} command WordMaster does a break. This allows you to be exactly sure which text is going to start the new, indented line.

How to Use the Command

Use the {tin n} command at any point in your document. Unlike the other two indent commands {dind n,ind n}, the {tin n} command does not cancel out any other indent command. This means that if you are double indenting a paragraph, you may also use the {tin n} command to indent a line in that block, not from the left margin but from the temporary margin being used by the double indent command. You can also use the {tin n} command in combination with the permanent indent command {ind n}. An example:

Unformatted sample:

```
{dind 5,tin 5}We've asked WordMaster to double
indent this block of text five spaces from the
left margin and five spaces from the right margin. We also
want to indent the first line of the block 5 spaces
{wul}in addition to
the amount we've already indented.{nind}
```

Formatted sample:

```
          We've asked WordMaster to double indent this
     block of text five spaces from the left margin and
     five spaces from the right margin.  We also want to
     indent the first line of the block 5 spaces in addition
     to the amount we've already indented.
```

19.4 THE NO INDENT COMMAND {nind}

Use the no indent command at any point in your document where you want WordMaster to stop indenting. WordMaster does a break when it sees a {nind} command. You can use the no indent command to cancel both permanent and double indenting.

For example, let's say that you've been double indenting a block of text. Use the no indent command at the end of that block to tell WordMaster that you're done indenting for now. (See the example above.) When you want to begin to indent again just use an appropriate indent command at the new spot in your document.

Section 20

HEADER AND FOOTER TITLES

20.0

In the normal course of events when you print an unformatted document it's difficult to set up a header for each page. (A header title is a line of text that is printed at the top of every page, such as a report title or a book title.) You never know exactly what text will appear on what page, so you never know exactly where to put a header.

WordMaster lets you specify a header title. WordMaster remembers that header, and every time it starts a new page it remembers to print that header at the top of the page. You can also specify a footer title (a line of text that appears at the bottom of every page). You can even specify footer and headers to appear only on odd or even numbered pages.

Besides discussing the commands that allow you to specify titles, we'll also talk about how to set up your headers and footers so that you can center them, right justify them, or break them into two or three-part titles.

20.1 HEADER COMMAND {he}

First we'll talk about the basic header command {he}. When you want WordMaster to use a particular section of text as a header for all the pages in your document, use the header command at the very top of the document.

> WordMaster uses the unit of text just after the header command as the header title. (Remember from our discussion of the center and underline commands that one unit of text is the text after the command up to a carriage return or another command group.)

WordMaster sees and remembers the unit of text that you want to use as a header, but does not print it in your document at that time. Example:

```
        {nrj,he}THIS IS A HEADER {skp 2}
```

WordMaster remembers the words THIS IS A HEADER but does not print them in the document until it needs to print a header title. WordMaster prints THIS IS A HEADER at the top of every page, just below the page number (if you have a page number). WordMaster then prints a blank line and begins to print the rest of the page.

You'll notice that we used the no right justify command {nrj} along with the header command. This is because WordMaster would otherwise right justify the header. (You'll have the word THIS at the left margin, the word HEADER at the right margin, and the words IS A distributed evenly somewhere in between.) Why, you may ask, would we want to right justify a header or a footer title?

As it turns out right justifying a header is often very useful. The fact that you can right justify a header allows you to set up multi-part headers, as we've done in this manual. To set up multi-part headers:

> Use the header command and type your header title:
>
> {he}Report A607 Chapter 12 Page #|#
>
> If you do nothing else WordMaster will stretch the line out so that every word is evenly distributed across the line. Suppose that you want to divide it up into three groups: Report A607, Chapter 12, and Page #|#. To ensure that WordMaster keeps the words in those groupings, use the Non expandable blank symbol to keep WordMaster from inserting spaces between certain words when it right justifies.
>
> {he}Report@A607 Chapter@12 Page@#|#
>
> Now when it prints the header it will come out something like this:
>
> Report A607   Chapter 12   Page 98
>
> Using this same technique you can specify four-part headers, two-part headers, etc. You'll notice that we used the Current page number symbol in the example above: remember that although we represent it as a #|#, in your document you will type two #s in a row.

If you don't want WordMaster to right justify your headers you can always use the {nrj} command. (Just remember to turn right justification back on afterwards with an {rj} command if you want the rest of your document right justified.) If you don't want WordMaster to right justify your headers you can center them using the {ce} command:

{ce,he}Monthly Accounts Receivable Report

20.1.1 Other Page Header Commands {ohe} and {ehe}.

Instead of printing one header title on every page WordMaster allows you to specify a separate header for odd and even numbered pages. To do this use the odd numbered page header command {ohe} and the even numbered page header command {ehe} in the same way that you use the regular header command {he}. (See above.) The text that follows the {ohe} command is the header for odd numbered pages, and the text that follows the {ehe} command is the header for even numbered pages. You can use one or the other of the commands. (That is, you can have a header on just the odd numbered pages, or a header on just the even numbered pages.)

20.1.2 More about Headers

To change headers, just use the appropriate header command at another place in your document. However be careful to position the header command in your document so that WordMaster will have a chance to remember that header before it has to use it. For example, it does no good to tell WordMaster to go to a new page (begin page command {bpg}) and <u>then</u> specify the header it is to use on that page. Instead, remember to specify headers before you start the page you want to use them on:

```
{he,ce}Chapter 1: Business Systems
{bpg,skp 2,ce}CHAPTER 1
```

When you change headers WordMaster immediately "forgets" about any previous headers. If you specify an odd numbered page header {ohe}, WordMaster no longer uses or remembers the header you specified earlier with the {he} command. If you ask for only an odd numbered page header WordMaster prints a blank line as a header on even numbered pages, and vice versa.

There is one thing that you must be wary of when you specify headers and footers. If you try to specify a title which is longer than the formatted line width, you will get an error: *I can't right justify this line--it's too big.* The formatted line width is the total page width (the {wid n} value) minus the left and right margin values. That is, it is the number of characters that WordMaster expects to actually print on each line. If you have told WordMaster that you don't want error reporting in your document (via the option questions), you'll be fine. All that will happen is that you will see the above error message on the screen, and inside your document WordMaster will print your too-long title as it is without trying to right justify it. (If you permit error reporting in your document, WordMaster will also print the above error message in your document.)

20.2 FOOTER COMMANDS {fo}, {efo}, AND {ofo}

Just as you can specify a line of text to be printed at the top of every page, WordMaster also allows you to specify a line of text to be printed at the bottom of every page. This is called a footer title.

Set up a footer title in the same way that you set up headers. (See above.) As is the case with header titles, you can specify odd numbered page footers {ofo} and even numbered page footers {efo}, as well as regular footers {fo}. You can also use Non expandable blanks and current page number symbols in footers.

As you did with headers, be careful to specify new footers <u>before</u> the place in your document where WordMaster will actually have to print that footer. We usually specify footers at the same time as we specify headers, at the very top of the document:

```
{npgn,lpp 61,wid 75,ohe,ce}Financial Report: 1976-1978
{ehe}Chapter@1 Dividends Page@#|# {fo,cap,ce,wul}Manassa
corporation
```

You'll notice, by the way, that we included the {ce} and {wul} commands in the same command group as the footer command. WordMaster will center, capitalize and underline the footer:

```
                    MANASSA CORPORATION
```

Section 21

THE PARAGRAPH AND NEED COMMANDS

21.0

There are two advanced formatting commands that don't seem to fit into any of the categories we've discussed up until now. So, here they are in the last chapter of Part IV: the paragraph command {par} and the need command {ne n}.

21.1 THE PARAGRAPH COMMAND {par}

The reason for a paragraph command is simply to save you time when you type. When WordMaster sees {par} it does a skip and a temporary indent of 5 spaces. In other words {par} tells WordMaster to do a paragraph break.

Typing {par} is exactly the same as typing {skp,tin 5}. There is one thing that you should keep in mind when you use the {par} command. Suppose that you have something like this in your document:

```
We hope that this plan meets with your approval.{skp}
{par}Now, for the next item.
```

When WordMaster sees the {par} it really sees a {skp,tin 5}, right? So you might expect that WordMaster would do <u>two</u> skips after the word approval. It doesn't. You may remember from our discussion in Section 9, <u>A First Look at Formatting Commands</u>, that if you have two command groups separated by only a carriage return, and each group has a command in common, the latest occurrence of that command takes precedence. The example above is equivalent to:

```
We hope that this plan meets with your approval.  {skp}
{skp,tin 5}Now, for the next item.
```

So, in the case above WordMaster does only one skip. If you want more than one blank line between paragraphs, do not use the {par} command; instead use something like this: {skp 2,tin 5}.

21.2 THE NEED COMMAND {ne n}

<u>Default value</u>: 1 line

When you produce reports and other documents you've probably had the frustrating experience of finding a section title at the bottom of the page, while its accompanying section appeared on the next page. This kind of thing is hard to deal with, because no sooner do you add a blank line in front of the offending title (to move it to the next page), than you find that you have now shifted another title to the bottom of another page.

The need command was designed to combat this problem. When you think that there is a possibility that a certain section may not fit on a page, use the need command. The need command tells WordMaster "I need at least n lines on the page to print this section of text. If you don't have that many lines left on the page start formatting this text on the next page." So, suppose you have a paragraph title. You want the title and at least two lines of the text below it to appear on a page together. Let's say that you want a blank line between the title and the text. That means that you want to reserve four lines on the page. Put the {ne n} command in front of the title:

```
{ne 4}PAYROLL SCHEDULES
```

When WordMaster reaches the point in your document where this title occurs it checks to see if it has four lines left on the current page. If it does, it simply formats and prints the next four lines of text. If it does not have room, it advances to the bottom of the page and prints the footer (if needed). Then it goes to the top of the next page and continues on with your four lines of text.

If you say that you need more lines on the page than there are on the page, WordMaster displays this error message: *You asked to reserve more lines than the total lines per page.* Then it ignores your {ne n} command.

Section 22

WORDMASTER STRATEGIES

22.0

There are a couple of formatting tricks and strategies we'd like to talk about before we end the manual. You might call this the philosophy section. As you become expert, you'll think of a lot of shortcuts and efficient ways to do things; you'll come up with your own favorite combinations of commands for all situations. We've come up with a few observations, and we'd like to pass these odds and ends onto you.

We've mentioned in passing the idea of adding documents together. As a matter of fact, we'd like to urge you to split your documents up into manageable chunks. It's much easier to edit a small file than a big one. If you are writing large documents, it's often a help to your organization process to force yourself to break them up into smaller sections. We try not to have any one document more than 50-60 sectors in length. This manual was written with each section as a separate document. Then we created a "command file" to help us format them as one document. You might want to read up on command files in the System 88 User's Manual if you are going to be creating documents of any length. Briefly, a command file is a document itself that we create using the Editor. However this document contains directions to the system. Instead of sitting at the machine and typing a new document name every time WordMaster is ready for a new document, the command file supplies the names of the documents to WordMaster for us. If you have 27 documents, as we did, that's a blessing.

Remember to be careful when you add documents. Any formatting conditions prevailing during the previous formatting remain in force for the next document. If you were double indenting, that double indent remains effective unless you turn it off with the no indent command {nind}.

You may remember that we've emphasized the fact that you can center up to 255 units of text at a time with the center, capitalize and underline commands. You might wonder why we think that might be useful. Well, you might not want to center 255 units, but you might want to center about 25. This is how you do it without having to count:

> You have a lot of lines to center. (Let's say for some flashy add copy.) You don't want to count how many units of text there are. Fine. Put a center command right before the first unit of text you want to center. Give the center command a ridiculously large command value (say, 100). You know you don't want to center 100 lines. Move the cursor down the document till you reach

the end of the text you want centered. At the end of that section, use another center command. But, this time use a command value of zero. {ce 0}. That cancels the current center command. When WordMaster reaches the {ce 0}, it stops centering.

One last thought. Experiment with the page width command and the margin commands to vary the formatted line width. Sometimes right justifying a line causes awkward spacings on the line. You may be surprised at how much difference it can make just increasing or decreasing the line width by one character. Sometimes a page width of 83 looks just right, even though 82 looked terrible.

Section 23

FUNCTIONAL SUMMARY OF ADVANCED FORMATTING COMMANDS

23.0

Below we list all of the commands that we've talked about in Part IV. For a complete alphabetical list of all of the formatting commands see Appendix A.

SPECIAL SYMBOLS: @ = Non-expandable blank. Type two of them to get one @ in text.

double-# = Current page number symbol.

Type	Command	Description	Default value
HEADER	{he}	Header title	
	{ohe}	Odd-# pg Header	
	{ehe}	Even-# pg Header	
FOOTER	{fo}	Footer title	
	{ofo}	Odd-# pg Footer	
	{efo}	Even-# pg Footer	
INDENT	{ind n}	Permanent indent	0 characters
	{dind n}	Double indent	0 characters
	{tin n}	Temporary indent (Indent one line)	0 characters
BEGIN PAGE	{bpg}	Begin new page	
	{bop}	Begin odd-# page (start text only on odd-# page)	
LOCAL COMMANDS	{ce n}	Center unit of text	1 unit
	{cap n}	Capitalize unit	1 unit
	{ul n}	Underline unit	1 unit
	{wul n}	Underline words only	1 unit
SPECIAL COMMANDS	{ne n}	Need n lines on page	1 line
	{par}	Do paragraph break (same as {skp,tin 5})	

PART V: TROUBLE SHOOTING

Well, now you are an experienced WordMaster user. Still, once in a while you wind up with something that doesn't look quite right. What now?

Part V is where you turn to when you're not exactly sure what is going on. We list all of the WordMaster error messages (and tell you the errors that can cause them). Section 25 consists of some helpful hints on what the problem might be if your formatted text isn't exactly as you would have it. Finally, we give you long examples of unformatted text that contain formatting commands: some original pages from this manual.

By all means experiment. You'd be surprised at how a very small change in your formatting commands can drastically change the look of your formatted document. If you don't like the way something looks, edit that document again, and try changing things a bit. That's the fun of a formatter; making little changes result in big ones.

Section 24

WORDMASTER ERROR MESSAGES

24.0

There are two types of WordMaster errors: Input line errors and Formatting errors.

Input line errors are those which occur while WordMaster is trying to read your document. For example, if you mean to use the center command {ce n}, but instead say: {cx}, WordMaster will be confused. You'll see this error message on the screen:

```
**** Input Line Error ****

{cx}
 ↑
*I don't recognize this command.*
```

Other kinds of errors that can cause an Input line error might be a confusing command value (e.g., {skp X}), or an illegal command value. WordMaster prints an arrow that points to the particular trouble spot (the unrecognizable command, the illegal command value, whatever.)

Formatting errors are errors which occur while WordMaster is trying to format your text. In other words they are the kinds of errors that WordMaster can't spot right off while it is reading your document. Only when it starts to format does it realize that your instructions just won't work. For example, you've told it to center a line of text, but that line is longer than the current formatted line width (total page width minus left and right margins). You'll see:

```
**** Formatting Error ****

the line of text that is too long to center.

*This line is too long to center.*
```

You'll notice that WordMaster doesn't put out an arrow for Formatting errors. That is because it's the whole line that is causing problems, not a particular part of it.

The purpose behind printing the line of your document is so that you can get some idea of where the problem is. The Input line errors always point to the exact line that is giving problems. This is because WordMaster finds these errors right at the moment that it is reading from your document. Formatting error messages point to a line from your document that is very close to where the problem is, but not necessarily the problem spot. This is because WordMaster may run into a formatting error at any time while it is formatting your document, and may actually be working on the line before or after the error. It can only give you an approximate idea (plus or minus a document line) of where the problem is, because it may no longer be sure itself exactly where it ran into the problem.

24.1 ERROR REPORTING

Usually WordMaster reports your errors in your printed document as well as on the screen. You may (via one of the option questions) ask for screen reporting only. If WordMaster does report errors in your formatted document, you will have a written record of where the errors occurred. When WordMaster reports input line error messages in your printed document it uses a question mark to point to the problem instead of an arrow symbol.

Because of the comprehensive default formatting instructions and command values belonging to WordMaster, often an error causes very little damage to your printed document. (For example, in response to {ce xkkd}, WordMaster centers one unit of text.) So, once you get familiar with WordMaster you may want to prevent it from reporting errors in your printed document, and rely on its error messages on the screen to warn you about problems.

24.2 THE ERROR MESSAGES

Every error report consists of the error warning message (**** Input Line Error ****, or **** Formatting Error ****), the line from your document causing the problem, and the appropriate error message. Input line errors also point to the problem in your line with an arrow. If there are several input line errors in one document line (e.g., {ce ds} text {cap 1000}), WordMaster will display a separate error message for each error, pointing to the appropriate error in each message.

Input Line Errors

I don't understand this value--I'll use the default.

WordMaster tried to read a command value but wasn't able to understand it. (e.g., {skp ++}). WordMaster will use whatever the default command value is for that command. (For a list of the commands and their defaults, see Appendix A.) WordMaster doesn't understand + or - in front of numbers.

Illegal command value--I'll use the default.

You tried to use a command value that was greater than 255. (e.g., {lpp 1000}. The only command which will accept a command value of greater than 255 is the reset page command, which will take a command value of from 1 to 65535. WordMaster will use the default value for that particular command.

I don't recognize this command.

You gave WordMaster something that confused it very much. (e.g., {dkdk dkkdkd lldls}). Check you spelling. Did you say {nofil} instead of {nfil}? Did you say {SKP} instead of {skp}?

Illegal line spacing value--I'll reset line spacing to 1.

You may only set line spacing (the {lsp n} command) to 1, 2 or 3 for single, double, or triple spacing.

You asked to reserve more lines than the total lines per page.

You used the need command {ne n}, but the value you supplied is too big--WordMaster thinks that it is bigger than the total lines per page {lpp n} value. Is your lines per page big enough?

Your input line was too long--I had to split it.

You forgot a RETURN at the end of a screen line! WordMaster tried to go ahead and split your one line into two lines of more manageable length. Still, you could have trouble if WordMaster had to split the line in the middle of a command group. You'd better re-edit your document and check your RETURNs.

Formatting Errors

I can't right justify this line--it's too big.

You somehow got WordMaster to try to keep a document line unbroken that is too long for the formatted line. This could happen if you specified a header or footer containing a lot of non expandable blanks (@), or simply a header or footer that is too long. WordMaster will try to fit it on a line the width of the current formatted line. It won't work. Except for header and footer titles, this error is rare because WordMaster can usually break a line between words so that it will fit on a line and can be right justified. Make the line smaller; make sure it has spaces in it.

I can't right justify this line--there are no spaces.

You tried to present WordMaster with a document line that it wants to right justify, but can't because there are no spaces on the line. You might get this if you specified a large indent, and then had a portion of a document line with no spaces that is larger than the indented formatted line. It won't fit! Or, you might have used the {ul n} command on a unit of text. This unit might be so long that another word from your document cannot fit on the formatted line with it. When WordMaster tries to right justify it, it can't find any spaces (since they're all underlined) so it thinks the line is all one long word.

This line is too long to center.

You gave WordMaster a unit of text to center that is longer than the legal formatted line width. You must make the line shorter.

Your indents are too large.

You tried to specify indent values so large that WordMaster cannot print a line of text. For example, if you say that page width is 50 {wid 50}, but set a permanent indent of 60 {ind 60}, WordMaster knows that a line of negative width isn't possible. It ignores your indent values when this error occurs.

Lines per page value too small--I'll use the default values.

WordMaster keeps track of how many lines per page it needs to take care of page set up. For instance, it needs a certain amount of lines on a page to print a page number line, to print a header, to print a footer, etc. If it decides that you have not allowed it enough lines per page, it will issue this error. Then it uses the default lines per page value and resets the bottom and top margins to zero. The default lines per page value is whatever value the Printer Driver is currently using for your printer.

Page width too small--I'll use default values.

WordMaster tried to print a formatted line, but decided that it didn't have enough room. This could happen because your combined left and right margins were larger than the total page width. WordMaster uses the default width value {wid n} of 80 characters, and resets left and right margins to zero.

I can't break this line between words--there are no spaces.

WordMaster is trying to fit a line from your document onto more than one formatted lines, but it can't find anyplace to split the line between words. If you have no spaces on a line, and that line is longer than the formatted line, WordMaster will be confused. It will go ahead and print the line as it is, but will complain with this error message while it does so. You might see this error message if you had a line of 100 asterisks, for example. Go back to your document and take a look. Make the line shorter or add spaces to it.

I have no message for this error

You should never see this message: if you do, it means that WordMaster is extremely confused, probably fatally. Your best bet is to reload the System Disk and start over.

Section 25

WHAT MADE IT DO THAT?

25.0

When you get an error message that you don't understand, your first move should be to look at Section 24, WordMaster Error Messages. But, sometimes even if you haven't caused an error you may just be displeased with a particular part of your document, or you may not quite understand why WordMaster did something the way that it did. This section presents some common problems and gives you some advice and sympathy.

Remember, if you don't like the look of something, experiment! You may be surprised at how big a change just inserting an extra carriage return, or changing a lines per page value can make. If something doesn't seem to be working right, do a little fine tuning, by just moving things around a bit in your document.

25.1 SOME PROBLEMS AND SOLUTIONS

I wanted WordMaster to right justify my header (or footer), but it came out too small; the right-most word isn't at the right margin!

> You had some indentation values in effect when you specified your header. If you are formatting more than one document at a time to make one big document, make sure that you use a {nind} command at the front of each document. Otherwise, if you had an indent command in effect at the end of the last document, those indent values are still being used, even while WordMaster is right justifying your new header!

My footer (or header) title is spread all over the formatted line. I didn't want all those spaces in there.

> If you don't want your headers evenly distributed across the formatted line, be sure and use the no right justify command when you specify the header. (Remember to turn justification back on with the {rj} command.)

My header didn't print on the first page. Or, the page number printed on the first page even though I used the {npgn} command.

> You didn't have the header command (or the no page number command) at the very top of your document. There was some text in front of the command group (even if just a lot of spaces). Remember that if you use a {bpg} or {bop} command, you must use the header command

specifying the header for that page before the command group containing the begin new page commands.

I have a blank page after the first page of my document. The page after the blank page is numbered correctly as page #2.

Somehow WordMaster is getting confused about the number of lines on your page. It is likely that your Printer Driver did a top margin, and although you may have reset the paper so that the printer was set at the top of the page, the printer didn't figure out that that was the top of the page. Then when WordMaster did a form feed to advance you to the next page, it did so after the end of the paper, and so took us to the next page. Make sure that your printer knows about the top of the page. You may have to redo your printer description so that the Printer Driver does not do a top margin.

An alternative explanation of what is going on is that your lines per page value is too large. Try running your document again with two or three less lines per page.

I got some very odd looking lines in my formatted document.

Check your original document to make sure that you have hit RETURN at the end of every screen line. WordMaster does its best when it gets an input line from your document that is too long, but the place that it might split that line could result in a very odd formatting. (Suppose, for instance, that it split a document line in the middle of a command group.)

I have many, many underlined (or centered, or capitalized) lines!

Perhaps you said {wul 50} when you meant {wul 5}. Accidents will happen. Check your original document and see.

All of a sudden my whole document is much narrower.

Somewhere you forgot a no indent command {nind}. Remember that if you are formatting more than one document at a time, the formatting values used from the previous document carry over to the next one. If you were indenting in an earlier document and didn't say {nind} at the end of it, your next document will also be indented.

WordMaster didn't center the whole piece of text I wanted to center. (or underline, or capitalize).

Did you remember that these commands only affect <u>one</u> unit of text at a time, not one line? If you say:

```
{ce}good morning{skp 2}
```

The center command will center only the first unit of text; the words up to the skip command.

Section 26

FORMATTING SAMPLES

26.0

We've shown you lots of small examples throughout this manual, but if you have any questions it may help you to see what larger documents look like in unformatted form. So, we're going to show you actual pages from this manual. You can turn back to the appropriate page in the manual and see what the formatted text looks like. You see these samples exactly as they were in their unformatted form. The only difference is that we've substituted two @s for the Non expandable blanks, and #|# symbols for the Current page number symbols so that you can see them.

** SAMPLE #1 -- The first part of Section 17. **

```
{ohe}Section 17 WordMaster@Special@Symbols Page@#|#
{bop,skp 2,ce}Section 17
{skp,ce}WORDMASTER SPECIAL SYMBOLS
{skp 2}
17.0
{par}Besides the formatting commands there are two
special symbols that WordMaster recognizes when it reads
your documents. These symbols are: the Non expandable blank
(a @) and the Current page number symbol (a double-#).
You will find both of them to be very useful. Because
WordMaster recognizes these characters
as special symbols, it cannot reproduce them literally in
your document. That means that if you type a single @
symbol in your document, you will not see the @ in your
printed document. If you type a double-# symbol you
will not see that symbol in your printed document. There
are ways to get around this. If you want a @ symbol in
your printed text, type {wul}two
@s in your document. WordMaster will realize that you
don't really want a Non expandable blank symbol there,
and will put {wul}one
@ symbol in your document instead. As for the double-#
symbol (two #s in a row); there is no way to put one
in your printed document. From now on when we talk about
the double-# symbol we'll use this symbol: #|#. You'll
remember, though, that we mean two #s in a row, without
the | symbol.
{skp}
17.1  THE NON EXPANDABLE BLANK, @
{par}You probably remember that one of the option questions
WordMaster asks you is whether or not you want two
```

spaces at the end of every sentence. Usually you do. But,
what about
those special cases where you know that you have something
in your document that WordMaster is going to think is the
end of a sentence, but isn't. And, what if it's important
that WordMaster NOT put two spaces there? For example,
suppose WordMaster sees the following:
{skp,tin 10} We use the symbol "?" a lot.
{skp}It is going to think that you want two spaces after the second
quotation mark. But, that isn't really the end of the sentence.
Or, what if WordMaster is right justifying a line. You know
that it inserts spaces wherever there is already a space
to stretch the line out flush to the right margin.
What if WordMaster sees:{skp,tin 10} The interest rate is 6@%.
{skp}
How do you keep it from putting another space between 6 and
%?
{par}The purpose of the Non expandable blank (NEB) is to fool
WordMaster into thinking that there is no space where the
NEB is. Since there is no space, the NEB is just part of
the word surrounding it, and WordMaster can't insert an
extra space at that point in your text. In the examples above
we simply
substitute an NEB for the space that was likely
to cause a problem. For example: in our original document
we typed the characters {wul}6@%
as {wul}6@%,
and the
characters {wul}"?"@a lot.
as {wul}"?"@a lot.
Naturally WordMaster could not insert a space between the
second quotation mark and the letter {wul}a,
because it thought that the symbols were all part of the
same word. When it came time to print
the examples above, WordMaster substituted a space for
every Non expandable blank that it found.
{par}WordMaster doesn't know that an NEB is a space until
it comes time to print the formatted line. At that time
WordMaster converts any NEBs into spaces.
{par}You use NEBs when you want to make sure that WordMaster
prints only {wul}one
space, and you can also use it when you want to make sure
that WordMaster is going to print {wul}at least two
spaces. How? Just follow an NEB with a space.
{skp}
If I type:{skp}
I demand the return of @TWO-THIRDS@ of my cleaning deposit.
{skp}
I know that there will be {wul}at least
two spaces before and after the words TWO-THIRDS. (There may
be more after WordMaster finishes right justifying the
line, but there will be at least two.){skp}

** SAMPLE #2 -- The first part of Section 7. **

```
{ohe}Section@7 Functional@Summary@of@Editor@Commands Page@#|#
{bop,skp 2,ce}Section 7
{skp,ce}FUNCTIONAL SUMMARY OF EDITOR COMMANDS{skp}
7.0
{par}Below is a quick summary of all of the Editor commands
and features that we've discussed in this manual. If you
would like more information about the Editor see the System
88 User's Manual, Section 10, {wul}The Editor.{skp 2,wul}
Waking the Editor{skp,dind 3}
After a $ prompt type:{skp,tin 5}
 EDIT document-name{br}
or:{br,tin 5}
 EDIT@document-name1 document-name2{skp,nind,wul}
Erasing Text in Your Document{skp,dind 3}
To delete one character: DELETE key.{skp}
To delete one word: Control-W.{skp}
To delete one line of text: Control-X{skp}
To delete first marked block of text: Escape-SHIFT-DELETE.
{skp,nind,wul}
Moving the Cursor Throughout Your Document
{skp,dind 3}
One character to the right: Right-arrow key. (Cursor jumps
to the front of the next line after you reach end of current
line.){skp}
One character to the left: Left-arrow key. (Cursor jumps
to the end of the previous line after you reach the front
of current line.){skp}
One line up: Up-arrow key. (Cursor moves to position directly
above current cursor position.){skp}
One line down: Down-arrow key. (Cursor moves to position
directly below current cursor position.){skp}
Beginning of previous line: Escape-up-arrow key.{skp}
Beginning of next line: Escape-down-arrow key.{skp}
Beginning of Previous fifteen lines: Control-P.{skp}
End of Next fifteen lines: Control-N.{skp}
Beginning of document: Control-B.{skp}
End of document: Control-E.
{skp,wul,nind}Fitting a Large Document into Memory
{skp,dind 3}
To transfer half of your document from memory to the disk: Control-O.{skp}
To transfer enough of your document from the disk to fill
half of memory: Control-A.
{skp,wul,nind}Marking a block of text
{skp,dind 3}
Mark front of block: Escape-right-arrow.{skp}
Mark end of block: Escape-left-arrow.{skp}
Erase markers: Escape-DELETE.
```

** SAMPLE #3 -- The first part of Section 11. **

```
{nind,ohe}Section@11 Filled@and@Unfilled@Text Page@#|#
{bop,skp 2,ce}Section 11
{skp,ce}FILLED AND UNFILLED TEXT

{skp 2}
11.0

{par}A major advantage of a formatter is that it can impose a
format on your text which may look very different from the
form in which you originally typed the document. This is an
advantage
because it allows you to create your text without really
worrying about what it is going to look like when it's
printed. The way your document looks when you edit it
really has very little relationship to how it will look
when it is formatted. It's important to remember that your
original document line (input line) is different than
the final formatted line.

{par}On the other hand, you sometimes
want a formatter to print a portion of your document
exactly as you have typed it in, ending lines where you
have ended them, printing tabs and blank lines where you
have placed them, etc. You might, for example, want to
print a chart or a series of columns of numbers.
{par}These two different modes of formatting are called
"fill" and "no fill."
Let's take a look at a small piece
of a document both in its original and formatted forms.

{skp}Original, unformatted text: {skp,nfil,ind 5}{skp,nfil}
{skp}We've    mentioned    "filling" text
several times.
Understanding what   is meant by filled text
 is crucial to
understanding how WordMaster operates on your document.
{skp,fill,nind}

Formatted text: {skp,ind 5}

{skp}We've   mentioned   "filling" text
several times.
Understanding what   is meant by filled text
 is crucial to
understanding how WordMaster operates on your document.

{par}You can see the difference between the two samples of
text above. The top sample is
what the formatted paragraph looks like in its original
form as we edited it. The bottom sample is
what that same text looks like filled.{skp,nind}

11.1  FILLING TEXT {fill}
```

{par}How did the sample above get transformed into the sample below it? WordMaster knows how many characters you want it to print on a formatted line of text (page width minus right and left margins). Its default formatting instructions say to fill lines of that width with characters from your document. What does that mean? When WordMaster fills a line it does the following:
{skp,dind 5}

WordMaster reads a line of text from your document. (A line is the group of symbols between two carriage returns.) It replaces any tabs in that line with single spaces. If there is more than one space between words WordMaster removes the extra spaces. WordMaster then starts building a formatted line by placing one word after another from your input line onto a line of the proper width until it cannot fit another word.
If it runs out of words before it finishes the formatted line WordMaster reads another input line from your document and continues putting words on the formatted line. WordMaster ignores the blank lines in your document when it is working in fill mode.
To print blank lines you must use the skip command.
(See Section 12,{wul} Breaking and Skipping.)

{skp}In summary, when WordMaster fills a line it writes as many whole words from your input line onto a final formatted line as can fit regardless of the length of the line in the original document. When it comes time to decide what words should go on each formatted line WordMaster ignores the carriage returns in your original document. That is, it doesn't end a formatted line just because it found a carriage return in the input line at that point in the text. Instead it converts carriage return symbols into spaces.

{skp,nind}Now you can see what WordMaster did with the sample above. It got rid of the extra spaces, and placed one word after another from the input lines onto final formatted lines.{skp}

APPENDIX A: WORDMASTER COMMAND SUMMARY

This is an alphabetical list of all of the WordMaster commands, both basic and advanced. If you are interested in a functional listing, see Section 15, Functional Summary of Basic Formatting Commands, and Section 23, Functional Summary of Advanced Formatting Commands.

Command	Description	Default value
{bm n}	bottom margin	0 lines
{bpg}	begin new page	
{bop}	begin odd-# page	
{br}	do a break	
{cap n}	capitalize	1 unit of text
{ce n}	center	1 unit of text
{dind n}	double indent	0 characters
{efo}	even-# page footer	
{ehe}	even-# page header	
{fill}	fill text	
{fo}	footer title	
{he}	header title	
{ind n}	permanent indent	0 characters
{lm n}	left margin	0 characters
{lpp n}	lines per page	Printer Driver
{lsp n}	line spacing	single space
{ne n}	need	1 line
{nfil}	no fill	
{nind}	no indent	
{npgn}	no page number	
{nrj}	no right justify	
{ofo}	odd-# page footer	
{ohe}	odd-# page header	
{par}	paragraph break	
{pgn}	number pages	
{rj}	right justify	
{rpgn n}	reset page number	page #1
{rm n}	right margin	0 characters
{skp n}	skip	1 blank line
{tin n}	temporary indent	5 characters
{tm n}	top margin	0 lines
{ul n}	underline (total)	1 text unit
{wid n}	page width	80 characters
{wul n}	underline (word only)	1 text unit

Special Symbols: @ = Non expandable blank
double-# = Current page number

APPENDIX B

SYSTEM 88 PRINTER DRIVER

The System 88 operating software includes a printer driver-- a program that allows you to print a disk file on a printer. It will run many different kinds of printers, and you use the same driver to run a printer from Exec, BASIC, and the Assembler. This program is automatically entered into memory when you start up the system or hit the Load button, and so is always available.

The printer driver has these characteristics:

1. It supports most RS-232 printers.

2. It interprets form feed and tab characters into simulations for printers that do not understand these characters.

3. You can add new printers to the list of those the printer driver can run by describing the characteristics of the printer to the system. 4. Many types of printers can be defined on the same system disk. One of these may be specified as the default printer, which the system always uses unless you tell it to use some other printer.

5. The video display can serve as the "printer." This is handy for testing BASIC programs on a system without a hard copy printer.

The printer driver is automatically loaded into memory when you start the system up or hit the Load button.

12.1 PRINTING FROM EXEC

When printing from Exec, use Printer, PRINT, DIRECTORY, and PAGE. For information regarding these Exec commands, see Section 5, The Executive. Briefly:

You usually don't have to use the Printer command to print. Assuming you've designated a printer as your default printer, the system will assume that you want to print on the default printer whenever you use PRINT or DIRECTORY. If you want to use some printer other than the default printer, you must first give the Printer command, followed by the name of the desired printer:

```
     $Printer Diablo
     $PRINT filename
```

Of course, the printer driver can only run printers it's been taught to run (see below).

PRINT filename prints out the requested file.

DIRECTORY n prints out the directory of the disk in drive n.

PAGE causes the printer to execute a form feed.

12.2 PRINTING FROM BASIC

To use the printer driver from BASIC, you must use two types of statements in BASIC.

1. The printer must be "attached" to BASIC. This is done with the following statement:

```
10 FILE:c,LIST
```

where c is the channel to which the printer is attached.

2. The user must provide BASIC PRINT statements in the following format:

```
20 PRINT:c,'print list'
```

EXAMPLE:

```
10 FILE:2,LIST 20 FOR I=1 TO 10 30
PRINT:2,TAB(I),"Test the Printer Driver" 40 NEXT
```

You can also use

```
LIST:2 XREF:2 DUMP:2
```

For more information, see the System Library volume <u>BASIC: A Manual.</u>

12.2.1 Testing a BASIC Program on a System Without a Printer

Often it is desirable to test a BASIC program with PRINT: statements when no printer is available. You can do this with the Printer Driver by simply declaring "Screen" to be the desired printer. Thereafter, output to the "printer" will appear on the video screen.

12.3 ADAPTING THE PRINTER DRIVER: THE PRINTER EDITOR

As said above, the printer driver always assumes that you want to print on the printer you have designated as the default printer unless you tell it to use some other printer. You can invoke another printer that the printer driver "knows about" by typing Printer, followed by the name of the printer. How does the printer driver learn how to run various printers? You teach it. You add, delete, and change printer definitions by using the Printer command. Type Printer, then hit the carriage return. This invokes a "printer editor." Using this editor, you can:

1. Tell the printer driver the characteristics of an additional printer.

2. View the characteristics of a previously defined printer.

3. Choose a previously defined printer as the printer to be initialized at system startup (the default printer).

4. Delete the characteristics of a previously defined printer.

5. Rename a previously defined printer.

6. Return to Exec.

After you type Printer, the following will appear on the screen:

```
Commands:  NEW  VIEW  DEFAULT  DELETE  RENAME  EXIT  Known
printers: Null Screen Terminet Qume Diablo ##
```

The sign ## is the prompt for the printer editor. The "Known printers" are all the different kinds of printers the printer driver already knows how to run. The ones you see above are the ones that are pre-defined and included on the system disk shipped by PolyMorphic Systems. As shipped, the printer driver defaults to "Null," which means that no data will be output to a printer. You can select one of the pre-defined printers to be your default device by typing DEFAULT and the name in the list that matches your printer, then hitting carriage return. Or you can tell the printer driver about some new printer as described below, and then use the DEFAULT command to make it the default printer.

We'll go through the printer editor commands one by one.

PRINTER EDITOR COMMANDS

After you enter the printer editor by typing Printer and a carriage return, and you have the ## prompt, enter the appropriate command and printer name. The "printer name" need not be the actual name of a printer; it can be a mnemonic of your own devising.

12.3.1 NEW printername

You teach the printer driver about a new printer by using the NEW command, followed by the name of the printer (and a carriage return), then answering a series of questions. The printer editor asks you the following questions, one at a time; as you type in the answer to one, it displays the next.

Printer Setup Dialogue

```
Form size (in lines)?
Printer lines per form?
Lines for TOP margin?
Spaces for LEFT margin?
Speed of printer (in Baud)?
Driver type (STD,AUTOTAB,ETX/ACK)?
```

If you answer ETX/ACK to this last question, you will be presented with the following question:

```
Buffer limit (0-255)?
```

When you have provided the buffer limit, you will see the following message:

```
Printer defined.
```

If you answer STD or AUTOTAB to the Driver type question you will see the following possible questions:

```
Understand form feeds?
Understand TAB character?
Need Special Timing?
```

If you answer "yes" to the last question above, you will be asked the following:

```
Padding character?
Pads after CR?
After LF?
After TAB?
```

Once you have responded to these last four questions or have answered "no" to the special timing question, you will see the following message:

```
     Printer defined
```

The last four questions appear only if the user responds yes to the previous question regarding special timing.

Let's look at these questions one at a time.

What is the form size (in lines)?

Most printers print six lines per inch, and most pages are eleven inches long, so usually you will respond to this question with: 66. If your printer or form differs, do some calculation to determine how many lines your printer will print on your form.

All responses are terminated with a carriage return.

How many printed lines on each form?

Give the number of lines that you want to constitute a full page or form. The printer will automatically execute a form feed after printing that number of lines.

How many blank lines at the top?

Define how much of a margin you want left blank at the top of each page by stating a number of lines. The remaining blank lines will be left at the bottom. For instance, if your form is 66 lines long and you ask the printer to print 57 lines per page, nine lines in all will be left blank on the page. If you then specify that four lines will be left blank at the top, the remaining five will be left blank at the bottom.

How many spaces for the LEFT Margin?

Define how wide the left margin should be by stating a number of blank spaces. (Many printers can be set to print ten or twelve characters per inch.) Depending on how your paper is located on the platen, you may not need any blank spaces on the left margin at all.

What is the speed of the printer (in Baud)?

Reply by stating the baud rate of the printer in decimal. (All numeric responses are in decimal.) Then type a carriage return.

Does the printer understand Form Feeds?

Some printers automatically respond to form feed characters by moving on to the top of the next page. Answer this question yes or no. If it does not-- if you answer no-- then the printer driver will interpret form feed characters and output enough blank lines to move the printer on to the next page.

Does it understand TAB characters?

Some printers will respond to tab characters by tabbing over to pre-set tab stops. Answer this question yes or no. If you answer no, the printer driver will interpret a tab character and output enough spaces to carry the printer head to the next tab stop.

Does the printer have special timing?

Some printers have to be sent "pad characters" or non-printing characters that will allow time for operations like form feeds and carriage returns. If the printer you are defining requires pad characters, answer this question yes. You will then be asked the remainder of the Printer questions, defining what character will be sent as a pad character and how many will be sent for which operations.

What ASCII code (in Decimal) for a pad character?

The pad character is usually a null or a rub-out, both non-printing characters. The ASCII code for a null is 0, for a rub-out 255.

How many pads after a Carriage Return?

If your printer manual is not helpful in setting this number and the ones following, try a little experimentation. You can time printer operations like how long it takes to execute a "carriage return" with a stop watch. Then compute the number of character generations (and therefore the number of pad characters) based on the baud rate.

12.3.2 VIEW printername

VIEW causes the parameters of a previously defined printer to be displayed on the video screen.

12.3.3 DEFAULT printername

This command causes the named printer to be initialized when the system is started or reloaded. In other words, the system always assumes the characteristics of this printer unless some other printer is specified using the Printer command.

12.3.4 DELETE printername

This command deletes the specified printer from the list of Known Devices.

12.3.5 RENAME printername

When you use this command, the system responds with a prompt asking you to state a new name for the specified printer. This new name will appear in place of the old one in future displays of Known Devices.

12.3.6 EXIT

EXIT returns control of the system to Exec. You must always end the printer editing process by using the EXIT command; otherwise, your changes will not take effect.