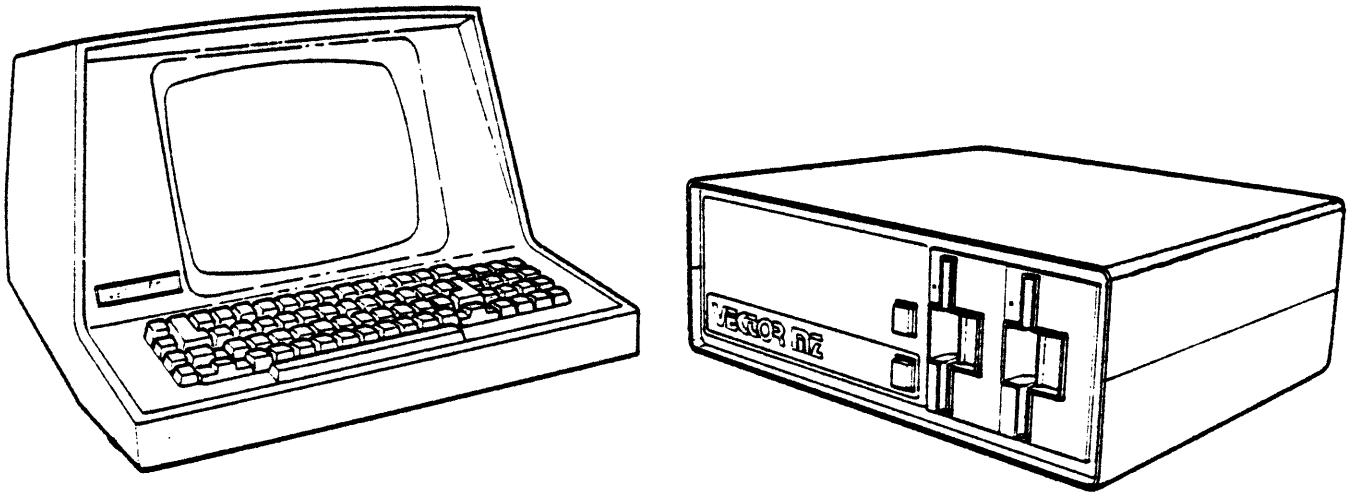
MEMORITE III
WORD PROCESSING SYSTEM

MEMORITE
REFERENCE MANUAL



VECTOR
VECTOR GRAPHIC, INC.

MEMORITE

VERSION 2.5

REFERENCE MANUAL
REVISION A
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Revision Numbers

The date of revision each page herein appears at the bottom of each page. The date of revision on the Title Page corresponds to that of the page most recently revised.

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CHAPTER 1

GENERAL INFORMATION

1 - WHAT IS WORD PROCESSING ON A VECTOR GRAPHIC SYSTEM?

You will be working with a program that converts your computer into a full fledge "word processor." To be more specific, the system becomes an automatic typing, editing, and printing system. Text is typed at the keyboard and is immediately displayed on a video screen. At the same time, the system memorizes everything you type, making it possible to modify the text without retyping it. Then, at any time, drafts of the text can be printed on a typewriter-quality automatic printer, by pulling the material out of memory. Further, the document can be modified and then reprinted as many times as desired. You can see that a good system such as this one should largely eliminate the use of pencil and paper, and standard typewriter, when it comes to creating written documents of all kinds.

Two types of information retention

There are actually two places where information is stored in the system. The first is called "working memory." This is the temporary memory which catches the information as it is typed on the keyboard. The system uses it like you would use a pad of paper. It is limited in capacity to about 24 pages of typed text. It is also limited by the fact that when you turn the power off, everything in it is forgotten.

Floppy diskettes

Information is also stored on "floppy diskettes." If working memory is like a pad of paper, then the floppy diskettes are like a file cabinet for permanent storage of information. When working memory is full, you simply give the document a name, and tell the system to store it on a diskette. You are then free to use working memory to work on a new document. A document stored on a floppy diskette can just as easily be called back into working memory. Once it is back in, it is the same as if you had just typed it. You can edit it, print it, and then put it back on the diskette to replace the earlier version.

The disk drives

The two disk drives whose doors are on the system's front panel are used to store information on floppy diskettes. You can have as many floppy diskettes as you need to store all the documents you have. Whenever you

want to save a document onto a diskette, or recall a document from a disk, you have to slip the diskette into one of the drives. Usually you use the right-hand drive (drive 1) for this purpose. The left-hand drive is primarily used to make a copy of a diskette onto a second diskette, as a back-up precaution. More information on diskettes and disk drives will be found in Chapter 8.

Data Processing Too
Your system can do standard business data processing. Your dealer should be able to help you find out how to make use of this capability, that is, if the system is not being used all the time for word-processing.

2 - CONTENTS OF THIS MANUAL

Each chapter of this manual is concerned with a different kind of procedure you will use. There are also a few chapters that describe how to use the hardware. The following is a brief description of each chapter. These descriptions will give you a good idea of the different techniques needed to operate your system.

Chapter	Description
1	**GENERAL INFORMATION** This chapter, which is what you are reading now, is concerned with introducing you to the system. It is not just a preface. It is essential in order to operate the system.
2	**TYPING THE TEXT** The keys on the keyboard are used as if it were a normal typewriter, with a few exceptions. This chapter reviews the similarities and the exceptions.
3	**MOVING THE CURSOR AND SCROLLING** The cursor is like a little bouncing ball that moves around the screen. It always tells you where the next character you type will appear on the screen. Therefore, you have to be able to deliberately move the cursor in order to edit your document. Also, the screen is like a window for viewing the text in working memory. At any one time, you only see a small portion of working memory. Hence, in order to edit the document in working memory, you have to be able to move the contents of working memory past the "window." This technique is called "scrolling." Chapter 3 is concerned with the various methods for moving the cursor and scrolling.

4 **EDITING**
This chapter deals with the many methods you can use to insert, delete, move, substitute, and generally modify the text in working memory.

5 **PRINTER HARDWARE**
Here you will learn how to use the printer physically, including how to change the ribbon and what the various lights and switches are for on the printer.

6 **PAGE FORMAT CONTROL, AND PRINTING**
This chapter is concerned with the basics of printing. The information contained in this chapter is sufficient to allow you to produce good looking, well-formatted documents. It is mostly concerned with how you tell the system what the margins are, where the page number is located, whether there is a "header" line printed on each page, and other such details of the layout of a printed page. How you actually get printing to happen is also covered.

7 **ADDITIONAL PRINTING TECHNIQUES**
Here you will find the rest of the techniques at your disposal for controlling the way your documents are printed. You will find techniques for creating bold-face print, for centering lines, for stopping the printer to change the print wheel, for creating multiple columns on one page, and so on.

8 **DISKETTES AND DISK DRIVES**
This chapter covers the "care and feeding" of diskettes and the disk drives as pieces of hardware: how to mount and dismount the diskettes, how to keep them safe from damage, how to make sure you never lose documents due to accidental damage to a diskette, and so on.

9 **THE DISK DRIVES - HANDLING WHOLE DISKETTES**
This is the first chapter concerned with getting information onto and off of diskettes. The procedures covered here are for manipulating the information on a diskette as a whole. For example, you can view a directory showing the names of all documents stored on a given diskette, copy a whole diskette onto a second diskette, or find out how much space is left on a given diskette for additonal text.

10 **THE DISK DRIVES - HANDLING INDIVIDUAL DOCUMENTS**
This chapter continues the topic of getting information to and from diskettes, but deals with accessing individual documents stored on diskettes. This includes such procedures as saving a document, recalling a document, or renaming a document.

11 **CREATING AND MAINTAINING LISTS**
This chapter is concerned with one special set of techniques,

namely those that are used to create and maintain "lists" of information. Such lists can then be selectively merged into documents. For example, a mass mailing involves inserting the names and addresses on a mailing list into a letter, automatically printing the letter over and over with a different name and address each time. This chapter is only concerned with creating and maintaining the lists. The process of merging them with documents is covered in Chapter 7.

3 - TYPOGRAPHICAL CONVENTIONS USED IN THIS MANUAL

To make this manual understandable, the following conventions have been adopted:

1) If a letter, symbol, word, or phrase is underlined, this means it is something you are to type on the keyboard.

2) The special keys on the keyboard are indicated by brackets. For example, [ESC] refers to the corresponding key, as do [CTRL] and [RETURN]. [space bar] refers to the space bar. If you see an expression such as UD [RETURN], this means type "UD" then depress the [RETURN] key. The square brackets tell you not to type the letters R-E-T-U-R-N.

3) If a letter or symbol is preceded by a small "c" with a circle around it (©), this means you are to hold the [CTRL] key down while AT THE SAME TIME you depress the letter or symbol key. You will find the [CTRL] key on the lower left corner of the keyboard. For example, ©F means hold down the [CTRL] key while you depress F. (Pronounce ©F as "control-F.") When you do this procedure, the [SHIFT] or [LOCK] key does not have to be depressed; in other words, the letter does not have to be capitalized. However, for ease of reading, it will always be shown that way in the manual.

4) If a word or phrase is surrounded by angle brackets (< and >), this means that it DESCRIBES what you have to type. As with regular brackets ([and]), do not type the actual letters between the brackets. For example, CR <name of document> means type CR followed by typing the desired document's name.

4 - HOW TO TURN THE SYSTEM ON AND OFF

In order to set up and connect your system, refer to the System B and B+S3

Installation, Use and Maintenance Manual (available with systems shipped since January 25, 1980.)

To turn the system on, insert the power key into the lock on the system front panel, next to the disk drives. Turn the lock to the horizontal position. You will hear a small click. If you have a 56K system, you will notice in a few seconds "Vector Graphic Monitor" and "MON>" appear on the screen. If you have a 48K systm, just "*" will appear on the on the screen. This is how you tell the difference between a 48K and a 56K system. Make sure you know which kind of system you have.

If you are using a Vector Sprint 3 printer that does not have its own power supply, the printer will go on automatically when you turn the system on. If you are not sure what you have, simply try it. If you are using any other kind of printer, refer to the printer manual for how to turn it on. With a Sprint 3 or a Qume Sprint 5, the power button is on the right side near the back. Push it in to turn it on, and push it again to turn it off.

After you turn the equipment on, mount your Memorite (sometimes called Word Management System) diskette in drive 1, the right-hand drive. Then press B on the keyboard. This will load the program. A title will then appear on the screen. Then, remove this diskette from the drive. You cannot use the system diskette to store documents or lists. Do not remove the protect tab from the disk at all.

As soon as the word processing title appears, the system is ready to go. You can begin typing. As soon as you do, the title will disappear and the screen will begin filling up with your text. In addition to typing, you can immediately enter any of the "key commands," which are described later in this chapter. This state of affairs, when the system can accept typing and key commands, is known as the Typing Mode.

To turn the system off, turn the power key back to vertical. If you have a printer that does not go on and off automatically along with the system, then turn it off also. Never leave the printer on over night unless absolutely necessary because of the long-term wear to moving parts.

NEVER TURN THE SYSTEM ON OR OFF WHEN THERE IS A DISKETTE MOUNTED IN ONE OF THE DRIVES. This can damage the information stored on the diskette. (It will not hurt the system.) How to mount and dismount disks, and other information on using diskettes is given in Chapter 8. Also explained in this chapter is what you should do if you accidently do turn the system on or off while a diskette is mounted in one of the drives.

5 - RESET KEY

You will note that there is a RESET key on the system front panel, next to the disk drives. If something should go wrong while you are operating the system, and you do not know how to get it back to a familiar state, then and only then, depress the RESET key.

After you depress the RESET key, the screen will return to the way it normally is just after it is turned on (showing a MON> or a * on the left side). If not, try depressing the key again. Then enter one of the following lines on the keyboard: G A000 (a G followed by an A followed by 3 zeroes) if the symbol on the left is an *, or G B400 if the symbol is MON>. In either case, the system will automatically insert the space after the G. The system will immediately go back into the normal Typing Mode. The text you were working on will almost always still be in working memory.

If the above procedure should fail, then dismount any diskettes in the drives, and then turn the system off then on again. Any text that was in working memory will be gone, but the system will be back to normal. If you had previously saved on diskette any part of the document you were working on, then that part of the document is not lost. You can recall it from the disk back into working memory (see Chapter 10.)

NEVER use the RESET key while the system is in the process of accessing a disk (i.e. saving, recalling, updating, or in any way manipulating information on a disk) because this can damage information on the disk.

6 - SUMMARY OF MODES

The following sections of this chapter will refer to several so called "modes" that the system can be in while you are doing word processing. A mode is the state that the system is in at any particular time. In each mode, the system can only handle a certain type of interaction with the operator, and cannot handle any others.

The main modes are listed below, along with a note as to how you get the system into each mode and how you get it out of it. What the system can do in each of these modes is discussed in Section 7 which follows immediately.

1) **TYPING MODE**
After the system is turned on, it is automatically in the Typing Mode. At any time, if the system is in a different mode, hold the [ESC] key down for several seconds in order to return the system to Typing Mode.

2) **AUXILIARY COMMAND MODE**
Depress ©A while in Typing Mode, in order to go to Auxiliary Command Mode. Depress [ESC] to return the system to Typing Mode.

3) **DISK DIRECTORY COMMAND MODE**
When the system is in Auxiliary Command Mode, enter the View Directory command, VD [RETURN], in order to go to Disk Directory Command Mode. Depress [ESC] to return the system to Auxiliary Command Mode.

4) **PRINT MODE**
When the system is in Auxiliary Command Mode, enter the Print command, PR [RETURN], or the Merge List command, ML <name of list> [RETURN], or the Print Directory command, PD [RETURN], in order to go to Print Mode. Depress [ESC] to return the system to Auxiliary Command Mode.

5) **SPECIAL MODULE MODES**
With the "Demonstration Diskette" mounted in drive 1 (the right-hand drive), and when the system is in Auxiliary Command Mode, enter the Enter Module command, EN <name of desired module> [RETURN], in order to activate one of the modules and go into the mode peculiar to that module. For most modules, depress [ESC] to return the system to Auxiliary Command Mode.

7 - HOW TO ORDER THE SYSTEM AROUND

There are several different kinds of orders you can give to the system. All of them involve using the keys on the keyboard. Following is a list of the various types of orders and an explanation of each.

1) **KEY COMMANDS - abbreviated "key comm."**

These are orders which can be entered from the keyboard while the system is in the state of accepting typing, in other words, when the system is in the normal Typing Mode. Key commands always take effect the moment you enter them, immediately. This is why they are called "commands." You will see that there are other types of

commands besides "key commands." What all commands have in common is that they take effect immediately. This is in contrast with "print directives," which do not take effect until some time after they are entered, as explained below.

There are two types of key commands. The first consists of special keys on the keyboards, such as [ESC], and [DEL]. The second type involves holding down the [CTRL] key at the same time you depress a letter or symbol key, as described above under "Conventions used in this Manual." An example is ©V.

2) AUXILIARY COMMANDS - abbreviated "aux. comm."

As do key commands, auxiliary commands take effect immediately. The difference is that the system has to be first placed into a special mode of operation called "Auxiliary Command Mode." This mode exists solely to allow you to use auxiliary commands. The Auxiliary Command Mode is the ONLY time you may enter auxiliary commands. To get the system into the Auxiliary Command Mode, enter ©A.

In this mode, an additional cursor will appear on the bottom line. (The text which had been on the bottom line is not lost, only displaced temporarily.) You can then type "auxiliary commands" on the bottom line.

All auxiliary commands consist of two letters. An example is UD. Although they are shown in this manual in capital letters, you do not have to enter them as capitals (i.e. SHIFTed.) In addition to the two letters, many can be followed by a number or by the name of a document. If an error is made while typing a command, use the [BACKSPACE] key to delete the error, and then type it over. After the command is typed, and any errors are corrected, depress [RETURN] key in order to execute it.

After the command has been executed, the system will usually return to the Auxiliary Command Mode and wait for another command. Depress the [ESC] key in order to return to Typing Mode. In order to prematurely exit the Auxiliary Command Mode, the [ESC] key may be used before any command is entered, or in the middle of typing a command.

3) DISK DIRECTORY COMMANDS - abbreviated "disk dir. comm."

In order to use a disk directory command, the system has to be in a special mode of operation called "Disk Directory Command Mode." To get into this mode, you must have a diskette mounted in the "main" drive. (This is normally drive 1, but can be changed to drive 2 by command; see Chapter 9 for the Define Main Drive command.) First you go into the Auxiliary Command Mode by depressing ©A, then you use the auxiliary command View Directory, VD. You will then be in the Disk Directory Command Mode. How commands are entered in this mode is explained in detail at the beginning of Chapter 10.

All disk directory commands are single letters, such as A or R. Although they are written in the manual as capital letters, you do not have to enter them as capital letters. Like the other types of commands, the system reacts to disk directory commands immediately. Be aware that disk directory commands are not the only commands that affect the disk drives. There are also auxiliary commands that are used to control the drives.

4) PRINT MODE COMMANDS - abbreviated "prnt. comm.

These are commands you enter from the keyboard while the system is in the Print Mode. If the system is in the Print Mode, this usually means that the printer is printing. The system is also in the Print Mode if the printer began printing and is then temporarily stopped (there are a variety of ways to do this, as explained in Chapters 6 and 7.) There are only a few print mode commands - Stop Printing, Stop Printing Temporarily, and the various keys which are used to start printing up again after it is stopped temporarily.

5) PRINT DIRECTIVES - abbreviated "prnt. dir."

A print directive differs from a command in the following way: A print directive is an order you give to the system by typing it as PART OF THE TEXT. Once it is typed, it remains with the text, and is stored on the disk with the text. The system will not react UNTIL it runs across the directive in the process of printing the text.

The main purpose of print directives is to affect the appearance of printing. By being embedded directly in the text, directives allow

you to change the appearance at any place within the text. Further, once you enter a directive, you do not have to re-enter it each time you want to print the document.

Directives all begin with a special character or consist totally of some special character, so that both you and the system can tell them apart from ordinary text. When the system runs across a directive while it is printing, it executes it and does NOT print it. Thus directives are often referred to as "non-printing." Because they are included in the text, they can also be called "embedded."

There are several kinds of Print Directives. Most significant are "Format Directives." Each Format Directive begins with ©F and consists of a string of "Format Codes." Each Format Code controls one aspect of the format of the printed page. For example, "M10" makes the left margin 10 spaces wide. Format Directives are discussed fully in Chapter 6.

Other kinds of Print Directives are the symbol which causes bold-faced print, the symbol which causes underlining, the directive which centers a line on the page, the symbol which causes the printer to stop in order to change print wheels, and the symbols which indicate a non-printing comment line.

6) MODULES

Modules are procedures in the system which have been added onto the basic system as enhancements. They are programs stored on a diskette, but this diskette is not the main Memorite (or Word Management System) diskette. Rather, they are stored on the "Word Processing Demonstration Diskette" which also came with the word processing package.

To use a module, first mount the Word Processing Demonstration Diskette in drive 1, the right-hand drive. (See Chapter 8 for how to mount and dismount diskettes.) Then, when the system is in Auxiliary Command Mode, enter the Enter Module command, in other words, type EN <name of desired module> [RETURN]. The module will then be activated. The system will now be in a special mode in which only commands pertaining to this module can be entered. Depress [ESC] to return the system to Auxiliary Command Mode.

7) MZOS

MZOS is the name of a feature in the system which enables the system to do data-processing applications. The most important use of MZOS is creating and maintaining mailing lists, discussed thoroughly in Chapter 11.

MZOS and the BASIC language associated with it can be used for other data-processing problems. However, if you want to use your system for data-processing outside of creating and maintaining mailing lists, discuss it with your dealer, because MZOS may not be the best way to do it. For use by data processing professionals, the MZOS Operating System manual has been included along with the word processing package. However, it should not be used by most users, because everything necessary for word processing and mailing lists is explained in the manual you are reading now. Please see your dealer if you want to implement full data processing on your system.

MZOS is in fact a large "program," stored on disk until it is needed. Technically speaking, it is referred to as an "operating system." To access MZOS, mount the "Demonstration Diskette" in drive 1, the right-hand drive. Then, when the system is in Auxiliary Command Mode, type the command OS [RETURN]. "OS" stands for "Operating System.

When MZOS is activated, your system is strictly speaking no longer a "word processor." It now acts like a data processing computer. Only MZOS commands can be entered. These commands are discussed in Chapter 11, and one additional command will be found in Chapter 9.

To return to Typing Mode from MZOS, type JP B400 [RETURN] if the system is a 56K system (indicated by the presence of MON> on the screen when you first turned the system on), or type JP A000 if the system is a 48K system (indicated by an * on the screen when you first turned it on.)

When MZOS is running, you can call up a version of BASIC, a computer language. Once BASIC is activated, you can then call up the Mail List Program ("MLPROG"). Both BASIC and MLPROG are discussed in Chapter 11 of this manual.

8 - LEVELS IN THE COMPUTER SYSTEM

In this manual, you are exposed to five major levels in the computer system: (1) the Monitor, (2) word processing, (3) MZOS, (4) BASIC, and (5) MLPROG.

(1) You know you are in the Monitor level when you see either a * or MON> on the left side of the screen. This symbol is called the "prompt". The * indicates you have a "48K" system and the MON> indicates you have a "56K" system.

(2) You know you are in the word processing level when you can get into any of the "modes" listed in Section 6 of this chapter, such as the normal typing mode when you can type large amounts of text directly onto the screen.

(3) You know you are in the MZOS mode when you see a # prompt on the left side of the screen.

(4) You know you are in the BASIC level when you see an OK prompt on the left side of the screen.

(5) You know you are in the MLPROG level when you see the MLPROG menu or one of the MLPROG questions, as described in Chapter 11.

Of course, most of your time will be spent working in the word processing level. However, it will be useful to know how to get from any one level to any other level. This will be especially important when you are working with mail lists (see Chapter 11) which require MZOS, BASIC, and MLPROG.

The following charts tells you what to do to get to any given level from any other level. Note that there are certain differences depending on whether you have a 56K or 48K system. Thus, use the first chart if you have a 56K system and use the second chart for a 48K system. You do not have to learn the chart now. It is for reference purposes. Note: in the charts, "Word process." means "word processing level."

Except for the Monitor, each of the levels is actually a computer program that is stored on diskette. Each of these diskette-resident programs has to be loaded into the system from a diskette before it can be used. Thus, the procedure for getting to each of these levels is different depending on whether or not the desired program had <u>previously</u> been loaded. That is why the charts show two different procedures for movement from one level to another - one procedure is if the destination level is "not loaded" and one if it is "loaded." In the cases where the charts do not distinguish between loaded and not loaded, this means that they assume the desired program is loaded, because you could not have gotten to where you are without loading it.

Level from	Level to		What to do and what to type
Word process.	MZOS (whether or not loaded)		Mount demo disk in drive 1 and type ©A then OS [RETURN].
Word process.	VBASIC		Go to MZOS first.
Word process.	MLPROG		Go to MZOS, then to VBASIC.
Word process.	Monitor		Depress the [RESET] button next to the disk drives.
Monitor	Word process.	(not loaded)	Mount Memorite disk in drive 1, then type B.
Monitor	Word process.	(loaded)	Type G, followed by B400.
Monitor	MZOS	(not loaded)	Go to word processing first.
Monitor	MZOS	(loaded)	Type G, followed by 2028.
Monitor	VBASIC	(not loaded)	Go to MZOS first.
Monitor	VBASIC	(loaded)	Type B, followed by 2A00.
MZOS	Word process.	(not loaded)	Go to Monitor first.
MZOS	Word process.	(loaded)	Type JP B400 [RETURN].
MZOS	Monitor		Depress the [RESET] button next to the disk drives.
MZOS	VBASIC	(not loaded)	Type VBASIC [RETURN].
MZOS	VBASIC	(loaded)	Type JP 2A00 [RETURN].
VBASIC	MLPROG	(not loaded)	Type PGMLD "MLPROG" [RETURN], then type RUN [RETURN].
VBASIC	MLPROG	(loaded)	Type RUN [RETURN].
VBASIC	MZOS		Depress ©V.
VBASIC	Monitor		Depress the [RESET] button next to the disk drives.
VBASIC	Word process.		Go to MZOS first.
MLPROG	VBASIC		Depress ©C.
MLPROG	MZOS		Depress ©V.
MLPROG	Monitor		Depress the [RESET] button next to the disk drives.
MLPROG	Word process.		Go to MZOS first.

56K system from-to chart

Level from	Level to		What to do and what to type
Word process.	MZOS (whether or not loaded)		Mount demo disk in drive 1 and type ©A then OS [RETURN].
Word process.	VBASIC		Go to MZOS first.
Word process.	MLPROG		Go to MZOS, then to VBASIC.
Word process.	Monitor		Depress the [RESET] button next to the disk drives.
Monitor	Word process.	(not loaded)	Mount Memorite disk in drive 1, then type B.
Monitor	Word process.	(loaded)	Type G, followed by A000.
Monitor	MZOS	(not loaded)	Mount demo disk in drive 1 and type E.
Monitor	MZOS	(loaded)	Type J.
Monitor	VBASIC	(not loaded)	Go to MZOS first.
Monitor	VBASIC	(loaded)	Type U.
MZOS	Word process.	(not loaded)	Go to Monitor first.
MZOS	Word process.	(loaded)	Type JP A000 [RETURN].
MZOS	Monitor		Depress the [ESC] key.
MZOS	VBASIC	(not loaded)	Type VBASIC [RETURN].
MZOS	VBASIC	(loaded)	Type JP 2A00 [RETURN].
VBASIC	MLPROG	(not loaded)	Type PGMLD "MLPROG" [RETURN], then type RUN [RETURN].
VBASIC	MLPROG	(loaded)	Type RUN [RETURN].
VBASIC	MZOS		Depress ©V.
VBASIC	Monitor		Depress the [ESC] key.
VBASIC	Word process.		Go to MZOS first.
MLPROG	VBASIC		Depress ©C.
MLPROG	MZOS		Depress ©V.
MLPROG	Monitor		Depress the [ESC] key.
MLPROG	Word process.		Go to MZOS first.

48K system from-to chart

9 - A CAUTION ABOUT PRINT DIRECTIVES

Print directives do show up on the screen, but do not show up when the text is printed. This can change the placement of some lines on the printed page so that they do not look the way you thought they would relative to other lines. For example, if you underline the heading of a table, the underline directive at the beginning of the heading will not be printed. This will move the heading over one space relative to the BODY of the table. You will have to keep this fact in mind when laying out the design for a page on the system screen.

10- REPEATING CHARACTERS AND COMMANDS

There is a way you can enter a character or key command repeatedly without repeatedly depressing the key. Simply hold the key down. All keys on the system are repeating keys, not just the X and the period. Therefore, when this manual describes how to use a certain key command by depressing the key, remember that you can convert it to a continuous opertion by holding the key down. For example, holding the period key down can be used for rapidly creating a line of periods.

11- ERROR MESSAGES

An error message will appear on the screen whenever you enter a command which the system cannot understand or cannot carry out. Error messages that appear on the screen will be for the most part self-explanatory. First, read the message and try to diagnose the problem. If the error requires that you re-mount or change diskettes, then do so. Then, depress [ESC]. This clears the error message off the screen and gets you back to where you were. Then try again to enter the command that caused the problem.

If you do not understand a particular error message, refer to the following list, which gives the mistakes you can make to produce each message. When the message appears on the screen, it will be accompanied by a number. This number corresponds to the number in the list below, to help you find the message in the list. (Numbers 2 and 5 do not exist; do not be concerned.) If you are just learning the system, this list will probably not make sense yet, so skip over this section until you need it.

(Note: As used in this table, to "access" a disk or a document on a disk means to try to initialize, save, recall, update, or in any other way

manipulate information on a disk.)

01 DISK SYSTEM IN ERROR

You entered a command to access a disk, but a) the disk is not initialized (See Chapter 9), b) the disk is not a word processing or MZOS diskette, or c) the disk is not properly mounted. If the latter, simply re-mount the disk and try again.

03 DISK IS PROTECTED AGAINST WRITE

You attempted to store information on a disk which has a protect tab on it. (See Chapter 8.)

04 DRIVE IS OFFLINE

You attempted to access a disk, but the disk was not fully mounted and spinning in the drive. Sometimes you will get this message if you attempt to access a disk very quickly after you mount it, before it is up to speed.

06 TEXT AREA IS FULL

You will get this message when you have filled the entire working memory with text. The last line you typed will be lost. If you want to continue writing, you must save (or update) the document onto a disk, then begin a new document. Unless you want to recall some text from the disk, to be part of the new document, use the Clear command (see Chapter 4) to clear working memory in order to begin the new text.

07 DOCUMENT IS NOT FOUND ON DISK

You tried to access a particular document on a disk, but the document is not on the disk which is mounted in the main drive.

08 INVALID DOCUMENT FILE

You tried to access a document, but you used the name of an MZOS data or program file on the disk instead. This can happen if you mounted a different disk in the main drive AFTER you used the View Directory command to display the disk directory of the first disk on the screen, AND the second disk happens to have an MZOS file with the same name as a document on the first disk. Obviously this is a rare event.

09 DISK IS FILLED TO CAPACITY

You tried to save or update a document onto a disk and there is insufficient room to hold it. You will have to create the name of the document on a different disk (using the Create Name of Document command; see Chapter 10) and then save the document onto the second disk using the Save Document command (see Chapter 10). If you were updating a document on the first disk, you can then erase the original document from the first disk.

Alternately, you can erase one or more documents from the first disk (see Chapter 10 for the Erase Document command.) If there are MZOS files on the disk, then you can also delete one or more of them, using the MZOS Delete command, DE <name of list or file>. (See the MZOS Operating System Manual.)

As another possibility, check the status of the disk using the Status of Disk command (see Chapter 9). If there is enough room on it, then use the Compact Disk command (also Chapter 9.)

10 DOCUMENT IS PROTECTED AGAINST WRITE

You tried to save or update a document, but the document on the disk was previously protected using the Protect Document command. You must use the Unprotect Document command before you can save or update that document. (See Chapter 10.)

11 DUPLICATE NAME FOUND

You tried to create a new document name using the Create Document Name command or the Rename a Document command, (see Chapter 10), but the disk in the main drive already has a document by the same name. Try using a different name.

12 BLOCK MARKER ERROR

You tried to use the Clear Portion command or Insert Portion command (see Chapter 4) but there are either less than 2 or more than 2 portion delimiters (also called "block markers") in the text in working memory. This error will also occur if you try to use one of these commands when the cursor is BETWEEN two delimiters in the text.

13 MERGE FILE IS INVALID

You tried to use the Merge List command (see Chapter 7) but the name of the list you entered does not represent a list on the disk in the main drive, although it does exist on the disk for some other purpose. Most often this occurs when you accidently use the name of a DOCUMENT on the disk instead of using the name of a LIST.

14 FILE NOT FOUND IN DIRECTORY

You tried to use the Merge List command (see Chapter 7) or Enter Module command (see "How to Order The System Around", in Chapter 1) but the name you entered is not on the disk in the main drive at all.

15 NAME FORMAT IS INVALID

You tried to use the Create a Document Name command or Rename a Document command (see Chapter 10), the Merge List command (see Chapter 7) or the Enter Module command (see "How to Order The System Around", in Chapter 1) but the name of the document or list you entered does not have the proper format for the name of a document or list. The proper format of a document name is explained under the Create a Document Name command in Chapter 10. The proper format for a list is the same, but it is also explained in Chapter 11.

16 INVALID FORMAT OF MEMBER

You have executed the Merge List command (see Chapter 7), and the system has run across a member of the list which it cannot process because the data has an error in it. You will have to correct the data for this member using the Mailing List Program (see Chapter 11.)

17 DIRECTORY AREA IS FULL

You tried to create the name of a new document using the Create a Document Name command (see Chapter 10) but there is no room in the directory on the disk in the main drive to hold any more names. This can happen even if there is space on the disk for more information if the disk has a large number of very small documents. When this happens, you must use a different disk, unless you erase one or more documents from the first disk (see Chapter 10 for the Erase Document command.) If there are MZOS files, such as mailing lists, on the disk, then you can also delete one or more of them, using the Delete command, DE <name of list or file>, explained in Chapter 11 and in the MZOS Operating System Manual.

18 COMMAND IS UNRECOGNIZED

You tried to enter an auxiliary command that does not exist or which you typed incorrectly, so that the system does not recognize it. Try again.

19 PARAMETER EXCEEDS LIMITS

You tried to enter an auxiliary command which has a number attached to it, for example the Define Current Line Number command (see Chapter 6), and the number is larger or smaller than the system can accept for that command.

20 TEXT HAS NOT BEEN SAVED

This is the most important error message. It occurs whenever you attempt to recall a document from a disk, or attempt to clear working memory with the Clear command (see Chapter 4), or whenever you use the Enter Module (EN) or Operating System (OS) commands but you have not saved or updated the document you had been working on. This message saves you from accidentally erasing all your work before you save it. When it occurs depress [ESC] then a) save or update the document you were working on, or b) if you do not want to save it, then re-enter the Recall Document command or Clear command. The second time you enter the command, the system will accept it.

21 UNRECOGNIZED PARAMETER

You tried to enter an auxiliary command which has a number attached to it, such as the Insert Portion command (see Chapter 4), but you typed something instead of a normal number.

22 UPDATE DOCUMENT IS NOT FOUND

You tried to update a document on disk, but the system does not know what document you are working on. This will happen if you have not yet used the Recall Document command or the Save Document command for the document you are writing; in other words, the document is newly typed and has not been saved or recalled from disk.

23 TEXT AREA IS EMPTY

You tried to save or update a document on disk, but there is no text in working memory to save.

CHAPTER 2

TYPING THE TEXT

1 - SIMILARITIES TO AND DIFFERENCES WITH A NORMAL TYPEWRITER

1) Typing

As soon as you turn the system on, you may begin typing. The letter and number keys, space bar, number and symbol keys are the same as most typewriters. After you complete each line (that is, after you reach the right side of the screen), or after you move the cursor off the line, the system automatically puts the line into working memory.

To erase a line before it is completed or before you move the cursor off the line, simply depress [ESC]. The line will disappear from the screen.

2) Carriage return

Do not use the [RETURN] key at the end of every line, as you would on a typewriter. The system automatically moves the cursor to the next line when the edge of the screen is encountered. The word being typed is also carried down to the next line so that it is not split. SIMPLY TYPE CONTINUOUSLY AS IF THERE WERE NO EDGE TO THE SCREEN. Notice that you can type at great speed in this way.

Use the [RETURN] key only at the end of paragraphs. In general, use it at the end of any line where you want to FORCE a carriage return when the text is printed. [RETURN] causes a small square to appear on the screen, and the cursor to move to the beginning of the next line.

Using [RETURN] in the middle of a paragraph defeats the various techniques available for controlling the format of printing. For example, when a line ends with [RETURN], the carriage return will take place at that point rather than at the point you specify when

you set up the width of the page.

3) Sentences ending at the edge of the screen

As many as 79 characters can be put on a single line. No characters can be placed in the 80th column, only the cursor. After the last character appearing on the screen in each line, one space is automatically included in memory. (The rest of the space appearing on the edge of the screen is NOT included in memory.) This is done in order to guarantee a space between the last word on each line and the first word of the next line. However, conventional typing requires TWO spaces after periods and colons. Simply type the two spaces as if at a typewriter. The second space will automatically appear at the beginning of the next line.

4) Upper and lower case characters

The [SHIFT] and [LOCK] keys work as on a normal typewriter. In addition, the keyboard includes an [ALL CAPS] key. [ALL CAPS] locks the letter keys into upper case, but has no effect on any of the number and symbol keys.

5) Number keys

The system keyboard features a "10-key" number pad. Numbers can be typed on this pad or on the normal number keys, whichever is most convenient. However, when the keyboard is shifted or locked, the 10-key pad can still be used to enter numbers. The 10-key pad also includes a decimal point key, which produces a period. The [LF] key which seems to be part of the number pad will be explained in Chapter 3.

6) Tabbing

See Chapter 3.

2 - MEMORY CAPACITY

In a standard system (having 48K RAM memory) 185 "blocks" of memory can be used to store text. One block contains 256 characters (4 lines of 64 characters.) Hence a standard system has space for roughly 24 typed pages, depending on how dense the typing is.

3 - THE STATUS OF TEXT COMMAND - ST (auxiliary command)

Purpose

This command is used find out how much of working memory is used by the document you are currently working on, and how much space is left over.

Procedure

1) Enter ©A to go into Auxiliary Command Mode.

2) Enter ST [RETURN].

3) A message will appear on the screen telling you how many blocks in working memory have been used up, and how many are still available. If the document in memory has been recalled or saved, (using the Recall Document or Save Document commands,) then the title of the document will also appear. To clear the message from the screen, depress [ESC].

4) This puts the system back in the Auxiliary Command Mode. You can enter another Auxiliary Command, if desired.

5) To return to Typing Mode, depress [ESC] again.

CHAPTER 3

MOVING THE CURSOR AND SCROLLING

1 - MOVING THE CURSOR BY SINGLE LINES OR SPACES - [↑], [←], [→], [↓] (key commands)

Located between the 10-key pad and the typewriter keys are four black keys having arrows pointing respectively leftward, upward, downward, and rightward. These keys are used when the system is in Typing Mode in order to move the cursor. The text is not affected or erased as the cursor passes over it. Each key moves the cursor in the indicated direction.

If the cursor is at the top or bottom of the screen when one of the vertical arrow keys are used, the entire screen will shift one line, leaving the cursor in the same position but on the preceding or next line. If the cursor is at the edge of the screen, use of one of the horizontal arrow keys will cause the cursor to "wrap around" to the other end of the previous or following line.

Hold an arrow key down in order to cause the cursor to move continuously in any one direction.

2 - SCROLLING - [SHIFT]/[↑] and [SHIFT]/[↓] (key commands)

"Scrolling" is the act of moving the entire screen image continuously upward or downward, exposing new areas of the text in memory. Scrolling automatically terminates when the screen image reaches the beginning or end of the text.

To scroll the text, depress the [SHIFT] key, and then WHILE YOU ARE HOLDING THE SHIFT KEY DOWN, depress either the [↑] or the [↓] key. Scrolling will then begin in the direction indicated by the key.

Remember that if the [LOCK] key had been depresed previously, the vertical arrow keys will cause scrolling just as if the [SHIFT] key were depressed. This can be the cause of unnecessary panic. If the vertical arrow keys do not seem to be working normally, always check whether the [LOCK] key is activated.

Reverse direction of scrolling

Enter the opposite scrolling command, while scrolling is taking place.

Stop scrolling temporarily

Depress the [space bar]. Scrolling will stop. An "SS" will flash on and off continuously in the lower right corner of the screen. No text or commands can be entered except the following three:

Resume scrolling line-by-line under operator control

Depress the [space bar] to continue scrolling one line only. This can only be done if the system is in the "SS" stop-scrolling-temporarily condition, caused by depressing the [space bar] during scrolling.

Resume normal scrolling

Depress [RETURN] key while system is in the "SS" stop-scrolling-temporarily condition.

Stop scrolling or escape stop-scrolling-temporarily condition

Depress [ESC] key. This returns the system to Typing Mode.

3 - SCROLLING BY PAGES - ©P followed by [↑] or [↓] (key commands)

©P causes the system to enter the scrolling-by-pages condition, indicated by a flashing "SP" in the lower right corner of the screen. Then depress [↑] or [↓] to scroll instantaneously up or down by one screen image. This is excellent for proofreading or for quick movement through the text.

Repeat scrolling by pages.

After an arrow key has been depressed once, scrolling by one page in the same direction may be repeated by depressing the [space bar]. Hold the [space bar] down to cause continuous repetition. Scrolling-by-pages will also repeat if the arrow key is held down.

Escape scrolling-by-pages condition

Depress [ESC] key. This returns the system to Typing Mode.

4 - MOVE CURSOR TO BEGINNING OF LINE - [LF] (key command)

"LF" means "Line Feed." Use the [LF] key to move the cursor back to the beginning of the line on the screen.

5 - MOVE CURSOR TO BEGINNING OF SCREEN IMAGE - ©B (key command)

©B moves the cursor to upper left corner of the screen, without changing the screen image.

6 - MOVE CURSOR TO BEGINNING OF TEXT IN WORKING MEMORY - ©B©B (key command)

Depress ©B twice to move the screen image to the beginning of the text and move the cursor to the upper left corner of the screen simultaneously.

7 - MOVE CURSOR TO END OF SCREEN - ©E (key command)

Depress ©E to move cursor to lower left corner of the screen, without changing the screen image.

8 - MOVE CURSOR TO END OF TEXT - ©E©E (key command)

Depress ©E twice in order to move the screen image to the end of the text and move the cursor to the lower left corner of the screen simulataneously.

9 - TABBING - [TAB] (key command)

The [TAB] key functions as on a typewriter. When depressed, the cursor moves to the next tab position on the screen. The only effect tabbing has is to move the cursor. It does not necessarily cause the printer to tab when the text is printed. However, tabbing on the screen can be used to create spaces at the beginning of a line, thus indirectly causing the printer to likewise space over.

10- SET TAB STOP - ©T (key command)

When the system is first turned on, there are preset tab stops already set for you, every 8 spaces on the screen. The first time you set a new tab stop, these preset tabs are cleared.

To set a new tab stop, move the cursor where desired. Then depress ©T.

No matter what other tab stops are set, the system always has a tab stop at the first location of every line on the screen.

11- CLEAR TAB STOP - ©T (key command)

To clear an existing tab stop, tab (or move the cursor in any way) to the undesired tab stop, then depress ©T.

12- VIEW TAB LOCATIONS - ©T©T at beginning of line (key command)

To view a "ruler" showing where all tab stops are located, first move the cursor to the beginning of any line, then depress ©T twice. To clear the ruler from the screen, depress ©T again (or most other keys). The ruler may also be viewed immediately after setting or clearing a tab anywhere on the screen. Simply depress ©T a second time.

Note that you should only use the View Tab Locations command to view tab stops that YOU have created, not the "preset" tab stops, because when you use this command, it will cancel all the preset tab stops.

13- CLEAR ALL TABS - CT (auxiliary command)

This auxiliary command clears all tabs.

Procedure

1) Depress ©A to go into Auxiliary Command Mode.

2) Enter CT [RETURN].

3) Since you are still in Auxiliary Command Mode, you can enter another auxiliary command if desired.

4) To return to Typing Mode, depress [ESC].

14- SET TABS AT EVEN INTERVALS - CT <interval between stops> (auxiliary command)

Purpose

This command clears all tabs previously set, then sets new tabs evenly along the screen. CT 8 puts tab stops every 8 spaces, which is the same as the preset tabs. However, these differ from the preset tabs in that setting an additional tab will not clear them.

Procedure

1) Depress ©A to go into Auxiliary Command Mode.

2) Enter CT, followed by a space.

3) Enter the length of the interval you want between the tab stops. This can be a number from 1 to 62.

4) Depress [RETURN].

5) You will still be in Auxiliary Command Mode. You can enter another auxiliary command, if desired.

6 To return to Typing Mode, depress [ESC].

CHAPTER 4

EDITING

INTRODUCTION

Editing refers to any modifications you make to text that you have already typed in. This can be as simple as backspacing and retyping one character, or as complicated as moving paragraphs around. You can edit while you are typing the first draft, or after you complete it. You can save a document on a diskette, then later recall it for further editing.

If you recall a document from diskette in order to edit it, editing procedures effect ONLY the text currently in working memory. The original document stored on diskette, is NOT altered. Therefore, editing procedures are considered PRELIMINARY until the diskette is updated. This is a safety feature in the system. If you carry out an editing procedure which you decide you do not like, you can recall the latest version of the document stored on diskette and begin again at that point.

1 - REPLACING A PORTION OF TEXT WITH NEW MATERIAL

There are several procedures you can use, alone or in combination. The key commands and auxiliary commands referred to in this section are explained in more detail under their own headings, in this chapter.

Replace Undesired Material in Middle of Line - Overtype

Overtyping is used to replace a portion of existing text with new material if the undesired material is in the middle of a line. Move the cursor to the beginning of the undesired material. Type over the undesired material. Then use deleting or inserting (see other sections in this chapter) if the new material is shorter or longer than the old.

Restore original line - [ESC]

To restore the original material on any one line after overtyping it, depress [ESC]. This must be done before moving the cursor off the line and before doing any insert or or delete operation.

Automatic insert of blank line

During overtyping, a blank line will be inserted in the text following the cursor when the cursor reaches the edge of the screen. This allows you to continue typing on a fresh line. If you would rather continue overtyping, depress [DEL]. This will eliminate the blank line.

If undesired material is longer than one line

Use the Clear Line command, ©K, (repeatedly if necessary), or the Clear Portion auxiliary command, CP, to eliminate the original material. Then use the Insert Blank Line command, ©G, to open up a blank line for the first line of new material. Additional blank lines will be inserted automatically each time the cursor reaches the edge of the screen. Thus, the Insert Blank Line command need only be used once. Overtyping may be used in addition, if the undesired material starts and/or ends in the middle of a line. Note that if overtyping is used at the beginning of the new material, the Insert Blank Line command is not needed at all.

2 - ERASE A CHARACTER AND MOVE THE CURSOR FORWARD - [Space bar] (key command)

[Space bar] is used to replace a short stretch of existing material with blank spaces without squeezing the text together. Move the cursor to the desired location and begin spacing over. Each character deleted is the one lying under the cursor. You are actually overtyping, but using only the [space bar]. To move the cursor WITHOUT erasing the text it passes over, use the arrow keys.

3 - DELETE ONE CHARACTER AND MOVE CURSOR BACKWARD - [BACK SPACE] (key command)

Like the [space bar], [BACK SPACE] is used to replace existing material with blank spaces without squeezing the text together. However, it moves the cursor to the left rather than the right. It is useful when the material to be erased lies to the left side of the cursor. Each character deleted is the one lying under the cursor.

4 - DELETE ONE CHARACTER AND SQUEEZE REMAINING TEXT TOGETHER - [DEL] (key command)

[DEL] deletes the character beneath the cursor, leaving the cursor in the same location. It then pulls all of the following text one space to the left in order to fill in the space.

5 - INSERT MATERIAL WITHIN A LINE - ©V (key command)

When you enter ©V, the system will go into the "insert" condition. In insert condition, each character typed is automatically inserted in the text, immediately to the LEFT of the cursor. The text is spread apart accordingly, in order to accomodate the new character. To insert material, move the cursor to the character immediately FOLLOWING the location where insertion is to take place. Depress ©V and begin typing.

[DEL] functions the same during insert condition as when typing normally. It deletes the character under the cursor and squeezes the text together.

However, [BACK SPACE] functions differently during insert condition than when typing normally. In addition to erasing material to the left of the cursor while moving the cursor the left, it also squeezes the remaining text together. When in insert condition, use [BACK SPACE] to eliminate material that you just inserted.

Escape from insert condition - ©V -retain inserted material
[ESC]-cancel inserted material

When you depress ©V a second time, you will terminate the insert condition and the inserted material will be retained in memory. To cancel the insert condition and the material inserted, depress the [ESC] key.

6 - INSERT LINE - ©G (key command)

This command causes a blank line to be inserted in the text. The line is inserted ABOVE the line that the cursor lies on. The cursor is then moved automatically to the beginning of the blank line so that typing may continue there.

7 - ELIMINATE BLANK SPACE AT END OF INSERTED LINE - [DEL] (key command) - or move cursor off line

After a blank line is inserted, either intentionally or automatically, and after you do some typing on that blank line, there will usually be some blank area you did not fill up at the end of the line. You will therefore want to close up the text. To do this, just depress [DEL]. This closes up the text automatically and leaves the cursor in the same location. This is particularly useful if you want to overtype the material immediately following the cursor. You will be doing this very often.

Get into the habit of using [DEL] to close up the text. It is very easy and you will use it a great deal.

An alternate method is to move the cursor off the line, for example by using the [ ] or [ ] key. This closes up the text automatically, and at the same time moves the cursor in the chosen direction.

If no material has been typed on the blank line, then both these methods simply eliminate the blank line.

8 - CLEAR LINE - ©K (key command)

This is used to delete a full line from the screen. To do it move the cursor onto the undesired line, at any point along the line. Then enter ©K. The cursor will be left at the corresponding place on the following line. To eliminate a series of lines, hold the key down for as long as necessary, making the command repeat automatically.

9 - CLEAR TO END OF LINE - ©X (key command)

This commands clears from the text all material lying to the RIGHT of the cursor on the same line. This includes the character lying immediately underneath the cursor. To do it, depress ©X.

To restore the original line, depress [ESC] before moving the cursor off the line or doing any insert operation.

10- CLEAR TO BEGINNING OF LINE - move cursor to desired location, then [RETURN] [↑] ©K (key commands)

You may often want to clear from a line all material lying to the left and underneath the cursor. This takes three key commands, as follows:

1) Move the cursor ON TOP of the last character you want cleared on the line.

2) Depress [RETURN].

3) Depress [↑].

4) Depress ©K.

11 - CLEAR - CL (auxiliary command)

Purpose

When you want to begin writing a new document after completing work on a different document, you will want to clear working memory entirely of text. For this purpose, use the Clear command.

Procedure

1) Depress ©A to go into Auxiliary Command Mode.

2) Depress CL [RETURN]

3) Since you are still in the Auxiliary Command Mode, you can enter another auxiliary command if desired.

4) To return to Typing Mode, depress [ESC].

12- CLEAR ALL AFTER CURSOR - CA (auxiliary command)

Purpose

Use this command when you want to clear a portion of working storage beginning at a certain point and going all the way to the end. It is faster than using the Clear Portion command, assuming there is nothing you want to keep from that point onward.

Procedure

1) Move the cursor to the first character in the portion you want to

eliminate. The character under the cursor will be eliminated, as well as everything following it.

2) Depress ©A to go into Auxiliary Command Mode.

3) Depress CA [RETURN]

4) Since you are still in the Auxiliary Command Mode, you can enter another auxiliary command if desired.

5) To return to Typing Mode, depress [ESC].

13- CLEAR ALL BEFORE CURSOR - CB (auxiliary command)

Purpose

Use this command when you want to clear all of working storage from the beginning to a certain point. It is faster than using the Clear Portion command, assuming there is nothing you want to keep from the beginning of text to the given point.

Procedure

1) Move the cursor to the last character you want eliminated. The character under the cursor will be eliminated, along with everything before it.

2) Depress ©A to go into Auxiliary Command Mode.

3) Enter CB [RETURN].

4) Since you are still in the Auxiliary Command Mode, you can enter another auxiliary command, if desired.

5) To return to Typing Mode, depress [ESC].

14- DELIMIT PORTION - ©D at beginning and end of portion (key command)

Purpose

The Clear Portion and Insert Portion commands that are explained below require you to mark off the portion of text that you want to clear or to insert elsewhere. To save space, the procedure for marking off ("delimiting") the portion is described here.

Procedure

1) Move the cursor on top of the first character of the portion.

2) Depress ©D. This puts the special delimiter character before the first character of the portion. The character looks like a small horizontal rectangle.

3) Move the cursor on top of the character that FOLLOWS the last character of the portion. You must not place the cursor after a [RETURN] character and on the same line. This will confuse the system.

4) Depress ©D. This puts the special delimiter character just after the last character of the portion.

15- REMOVE DELIMITER CHARACTERS

Purpose

The Clear and Insert Portion commands will not work if there are more than two delimiter characters in the text. Therefore, after they have served their function, you should delete the delimiter characters from the text, so that you can use them somewhere else later. This is only necessary if you only had used the Insert Portion command. This is because the Clear Portion command eliminates the delimiters as well as the portion you marked off.

Procedure

1) Depress ©A to go to Auxiliary Command Mode.

2) Depress RM [RETURN]

16- FIND THE DELIMITER CHARACTERS

Purpose

Sometimes you may forget to delete the delimiter characters. Then, when you try to do another Insert or Clear Portion command, the system will respond with an error message. If you do not remember where the delimiters are in the text, use the following procedure to find them. Note that the Search command cannot be used because it does not accept the special delimiter character. The following procedure will ONLY work if there are exactly two delimiter characters in the text. If there are more or less, you will have to scroll through the text until you find them.

Procedure

1) Delete the two delimiters most recently inserted.

2) Depress ©E©E in order to move the cursor to the end of text.

3) Depress ©A to go into Auxiliary Command Mode.

4) Enter IP [RETURN].

5) Depress [ESC] to return to normal Typing Mode.

6) You will find that the portion which had been delimited at some

earlier time will appear at the end of the text. Find this portion in the text by scrolling through the text or by using the Search command. Once you find it, delete the delimiters surrounding it.

7) Move the cursor to the end of text by entering ©E©E, or by using some other cursor movement procedure.

8) Use any technique available to eliminate the portion that you just inserted at the end of text. If it is long, use the Clear Portion command. Otherwise delete it line by line using the Clear Line command (©K).

17- CLEAR PORTION - CP (auxiliary command)

Purpose

Use this command when you want to eliminate a portion of the text. The portion may be as long as the entire text currently in working memory, or as short as one character. This command is most useful for long portions.

Procedure

1) Delimit the portion you want deleted, using the procedure described above, under "Delimit Portion" (Section 14 of this chapter.)

2) Depress ©A to go into Auxiliary Command Mode.

3) Enter CP [RETURN]. The portion will be deleted, including the delimiter characters.

4) Since you are still in the Auxiliary Command Mode, you may enter another auxiliary command, if desired.

5) To return to Typing Mode, depress [ESC].

18- INSERT PORTION - IP <# of times to insert portion (optional)> (auxiliary command)

Purpose

Use this command when you want to copy a portion of text, putting the copy at a different place in the text. By itself, the command does not "move" the portion, because the original remains where it was. To move text, you have to combine an Insert Portion and a Clear Portion command.

The command gives you the option of inserting the portion more than one time, each copy following the other.

Procedure

1) Delimit the portion to be inserted as explained under "Delimit Portion" (Section 14 of this chapter).

2) Move the cursor so that it is on top of the character in the text immediately FOLLOWING the location in which you want to insert the portion.

3) Decide how many times you want to repeatedly insert the portion at that location, if more than one time. Generally, you will only want to insert it one time, but occasionally there will be need to insert it more than once. The maximum allowed is 255 times.

4) Depress ©A to go into Auxiliary Command Mode.

5) Enter IP.

6) Depress [space bar]. Then, enter the number of times to insert the portion, if more than once. If you do not enter any number, the system will assume "one.")

7) Depress [RETURN]. The portion will be inserted at the chosen location. The cursor will be located somewhere near the inserted portion. The same portion will still at its original location as

well.

8) Since you are still in the Auxiliary Command Mode, you may enter another auxiliary command, if desired. A good example is immediately using the Clear Portion command, to clear the portion from its original location.

9) To return to Typing Mode, depress [ESC].

10) Unless you also deleted the original portion, move the cursor back to the original portion and delete the delimiter characters from the text.

19- MOVE PORTION - IP followed by CP (auxiliary commands)

Purpose

Move a portion of text from one location to another within the text. This is sometimes called "Cut and Paste."

Procedure

1) Delimit the portion to be inserted as explained under "Delimit Portion" (Section 14 of this chapter).

2) Move the cursor so that it is on top of the character in the text immediately FOLLOWING the location to which you want to move the portion.

3) Depress ©A to go into Auxiliary Command Mode.

4) Enter IP [RETURN]

5) Enter CP [RETURN]. The portion will be moved to the chosen location.

6) Since you are still in the Auxiliary Command Mode, you may enter another auxiliary command, if desired.

7) To return to Typing Mode, depress [ESC].

20- SEARCH - SR <string of characters> (auxiliary command)

Purpose

To locate within the text any occurrences of a given string of characters. The string can be from 1 to 37 characters long. It may include any letter, number, or symbol except for the special characters that cannot be printed (those produced by [RETURN], ©F, ©O, ©Q, ©L, ©D, ©V, and ©S.) Since spaces can be included, the string can include any number of words, so long as the string does not exceed 37 characters in length. After the system finds an occurrence of the string, you may make changes in the text. Then you may continue searching for the next occurrence of the string, as explained below.

Normally, the system ignores spaces before and after the string to be searched for. In other words, if you enter SR his , the system will think you are entering SR his. This may not be desired. A good example is when you want to find all occurrences of the word "his" but do not want to find words that CONTAIN these three letters, such as "this" or "history." To handle this situation, you are allowed to enter a slash, "/," before and after the string you want to find. Therefore, you would enter SR / his /. This guarantees that only the word "his" will be searched for.

The Wild-card Symbol - #

The string to be searched for may include the "wild-card" symbol, #, one or more times. # stands for ANY character in the text. This means that ANY character may occur in the text without invalidating the surrounding portion of text as a successful find. # may be used any number of times within the string. For example, if T#P# is the string to be searched for, then TAPE, TAPO, and TIPY will all be found if they are in the text.

Procedure to Begin Searching

1) Move the cursor to a location in the text PRECEDING all desired occurrences of the desired string. If this is at the beginning of the text depress ©B©B, to move the cursor.

2) Depress ©A to go into Auxiliary Command Mode.

3) Enter SR followed by a space.

4) Enter a string of between 1 and 37 characters as described above.

5) Depress [RETURN]. The system will begin searching from where the cursor was located at the time you went into Auxiliary Command Mode.

6) When an occurrence of the desired string is found, the system will return automatically to Typing mode. The cursor will be located at the beginning of the line containing the desired string. You may now move the cursor anywhere, and make any desired changes in the text, either to the particular string searched for or any other portion of text.

Procedure to Continue Searching - ©C (key command)

To continue searching for the next occurrence of the string, depress ©C. The continued search takes off from where it left off. After each occurrence of the string is found, you may move the cursor and edit the text, then continue searching again.

Terminate Searching [ESC] (key command)

There is no real need to terminate the search after the last desired occurrence of the string is located, because the system returns to Typing Mode after each successful find. However, it should be noted that [ESC] does terminate the search. Therefore, if you wish to continue searching, be careful not to use the [ESC] key before continuing the search. Should you attempt to continue searching after you depress [ESC], the system will display an error-message reporting that an the string cannot be found.

After the last possible occurrence of the string is located, if you continue the search one more time, the system will display a message reporting that the string cannot be located. Depress [ESC] to return to Auxiliary Command Mode. Depress [ESC] again to return to Typing mode.

21- GLOBAL SEARCH AND REPLACE - SR <string of characters to be replaced>/<new string of characters>/<# of occurrences to be replaced> (auxiliary command)

Purpose

To search for a number of occurrences of a particular string of characters, and replace each occurrence with a specified new string of characters. The system will begin searching and replacing beginning from where the cursor is located at the time you enter the command.

Characteristics of the string that can be search for are the same as described under Search, (Section 20 of this chapter), including the use of wild-card characters. The replacement string can be a string of printable characters of any length (limited as explained in the next paragraph). The number of occurrences to be replaced must be any value 1 or larger. The system will search for and replace only this number of occurrences, leaving all subsequent occurrences of the given string in the text the same as before. If no number is specified, the system will replace all occurrences of the particular string that appear in the working memory with the new string.

The total obtained by adding together the amount of characters in the searched-for string, the amount of characters in the replacement string, and the amount of digits in the number of occurrences to be replaced cannot exceeed 35. Otherwise the size of the command will exceed the maximum possible size for an auxiliary command. If you desire to use a very long replacement string, use the Insert Portion command along with a regular Search, as an alternate method.

Procedure

1) Move the cursor to a location in the text PRECEDING all desired

occurrences of the string to be replaced. If this is at the beginning of the text, depress ©B©B to move the cursor.

2) Depress ©A to go into Auxiliary Command Mode.

3) Enter SR, followed by a space.

4) Enter the string of characters to be searched for.

5) Enter a slash (/).

6) Enter the replacement string.

7) Enter another slash (/).

8) Enter the number of occurrences to be replaced. If you want to replace ALL occurrences of the given string in the text, use a very large number, say 999.

9) Depress [RETURN]. The system will carry out the search and replace operation, then display a message telling how many times the searched-for string was actually found and replaced.

10) Depress [ESC] to return to Auxiliary Command Mode. Depress [ESC] again to return to Typing Mode.

22- REMOVE ©R<character> (key command)

Purpose

This command is used to delete variable amounts of text material under direct user control. Depress ©R to enter the remove mode. The cursor will then disappear. The system will then erase from the invisible cursor position to the first occurrence of the next character input. This gives the user an unprecedented degree of flexibility in text deletion.

Procedure to delete to end of a word- ©R <space> (key command)

This command deletes any material from the cursor position up to and including the next occurring space. The cursor is then positioned at the beginning of the character following the space. The space taken by the deleted material is compressed.

Procedure to delete to the end of a phrase- ©R, (key command)

This command deletes any text material from the cursor position up to and including the next occurring comma. The cursor is then positioned at the beginning of the character following the comman. The space taken by the deleted material is compressed.

Procedure to delete to the end of a sentence- ©R. (key command) - statement ©R? (key command) - question

This command deletes any text material from the cursor position up to and including the next occurring period or question mark. The cursor is then positioned at the beginning of the next sentence. The space taken by the deleted sentence is compressed.

Procedure to delete to the end of a paragraph- ©R [RETURN] (key command)

This command deletes any text material from the cursor position up to and including the next carriage return. The cursor is then positioned at the beginning of the next character. The space taken by the deleted paragraph is compressed.

Procedure to delete to any character- ^R <character> (key command)

This command deletes any text material from the cursor position up to and including the character input. The cursor is then positioned at the beginning of the next character. Ths space taken by the material deleted is compressed.

CHAPTER 5

PRINTER HARDWARE

1 - PAGE SIZE SETTING

There are several actions that can cause the printer to roll up to the top of the next page. (1) The system automatically rolls to the next page after printing the number of lines (actually, half-lines) specified by the Length-of-Page format setting, described in Chapter 6. (2) The printer rolls up if the system runs across an End of Page symbol within a document while printing the document (see Chapter 7, Section 4). (3) The printer rolls up if the operator initiates a Form Feed (FF) command from the keyboard (see Chapter 7, Section 5). (4) The printer rolls up if the operator depresses the Form-Feed or Top-Form key on the front of the printer, if there is such a key.

Whenever the printer rolls to the top of the next page, the system has to know how far to roll the paper. The system determines how far to roll the paper by subtracting the distance already moved since the current page began from the current value of the "Page Size" setting. The "Page Size" setting is simply the length of one page. It is normally set to 11 inches.

You can change the Page Size setting to a value other than 11 inches. You should do this whenever you are printing on sheets, forms, or envelopes that are not 11 inches long. However, it is not essential if the sheets are separate from each other (rather than continuous). This is because if you leave it at 11 inches, the only consequence will be that the platen will roll a short distance extra AFTER each sheet has been ejected. However, if you are using continuous fan-fold paper which is not 11 inches long, then you must reset the Page Size setting.

The Vector Sprint 3, the Qume Sprint 5, the Diablo 1640, and other printers, each have a different method of changing the Page Size setting. If you have a Sprint 3, use the PS command (PS stands for Page Size), described in Chapter 7, Section 16. If you have a Sprint 5, use the Form Length dial on the front of the printer. If you have a Diable 1640, first order from Vector Graphic and then use the Page Size module described in Chapter.12

2 - SET TOP OF FORM

In order for the printer to count lines properly, it has to know when it is at the top of the first page, so that it knows where to begin measuring. With a Sprint 3, Qume Sprint 5, and similar printers, the printer assumes that it is at the top of a page whenever (1) you turn the printer on; (2) you depress the RESET key on the front of the Sprint 5 (not the one on the computer) (not available on the Sprint 3); (3) you depress the Set TOF key on the Sprint 5 (not available on the Sprint 3; (4) you initiate a printer RESET command from the keyboard (using the RS command); (5) or the system rolls to the top of a new page as described in the first paragraph of this chapter.

Because of (5), you should end every document with an End-of-Page character

(control-L), as described in Section 7-4. Otherwise, when you go to print the next document, the printer will think you are beginning in the middle of a page, even if you roll the paper up by hand.

If you forget to put an End-of-Page character at the end of a document and then you print it, or if for some reason you abort the printing of a document in mid-page, you will have to reset the printer's line counter afterward. With the Sprint 5, the best way is to depress the Set TOF key on the printer. With the Sprint 3, you simply enter an RS command from the keyboard. The only problem with the RS command is that it also resets all the print format settings back to their standard values (see Chapter 6). Since most documents begin with a line that sets up the desired format settings for that document, this is not a serious problem.

Note that you do not have to enter an RS command or depress the Set TOF key every time you begin to print a document, even if you have rolled the platen by hand since the last document was printed, so long as the last document ended in an End-of-Page character.

For additional information on printer indicator lamps and switches, refer either to the notes below on the Sprint 3 or to those on the Qume Sprint 5, depending on which printer is used. For another kind of printer, refer to its own manual.

3 - SPRINT 3 LAMPS AND SWITCHES

The Sprint 3 printer from Vector Graphic has only three indicator lamps: POWER, READY, and RIBBON. There may or may not be a TOP-FORM key.

1) Power - Lit when the printer is plugged in and turned on.

2) Ready - Lit when the printer is ready for use. It goes out if the power is off, if the cover is not on tight, if there is a jam in the mechanism preventing the printwheel or the carriage from moving freely, or there is something more seriously wrong with the printer.

3) Ribbon - It is lit if there is ribbon properly threaded. When the ribbon runs out, the lamp goes out. If the printer fails to function at any time, ALWAYS check the ribbon. This is the most common reason for the printer to seem inoperative, without actually being broken.

4) Top-Form key - This key is not present on most Sprint 3 printers. However, if it is present, depressing this key causes the paper to roll up to the top of the next page. It has exactly the same function as the Form-Feed (FF) command in Memorite.

Now, turn to the day-to-day printer operating instructions below, in this chapter. They are reprinted from the Qume Sprint 5 manual, but they apply as well to the Sprint 3. (With a Sprint 3, ignore the reference to the TwinTellect switch and the Carrier Detect lamp in the section "If You Have Problems," below.)

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3 - QUME SPRINT 5 LIGHTS AND SWITCHES

If you are using the Sprint 3, skip this section.

1) Reset - should rarely be needed. The use of this switch is mentioned later in this chapter, under the section "If You Have Problems."

2) Baud-rate - should always be at 1200.

3) Duplex - should always be at "FULL".

4) Parity - should always be at "MARK".

5) Reset Comm. - Depress this switch if the red error light to its right comes on.

6) Auto LF - should always be at "OFF".

7) Twintellect - should always be at "STD".

8) Char spacing - should always be at 12.

9) Form Length - should usually be set at 11. The purpose of this switch is to determine the distance that the printer rolls up when it rolls to the top of the next page, as explained at the beginning of this chapter.

10) Set TOF - It means "Set Top Of Form." This is rarely used, because as explained earlier, the printer automatically knows it is at the top of a page when it is turned on, reset, or finishes a previous page. Use it only if you prematurely stopped the printing process in the middle of the page and rolled the paper up by hand, because without it the printer would still "think" that it is in the middle of a page. An RS command from the keyboard has the same affect, besides resetting the format settings (see Chapter 6, Section 7.)

11) Power - Lit when the printer is plugged in and turned on.

12) Ready - Lit when the printer is ready for use. It goes out if the power is off, if the cover is not on tight, if there is a jam in the mechanism preventing the printwheel or the carriage from moving freely, or there is something more seriously wrong with the printer.

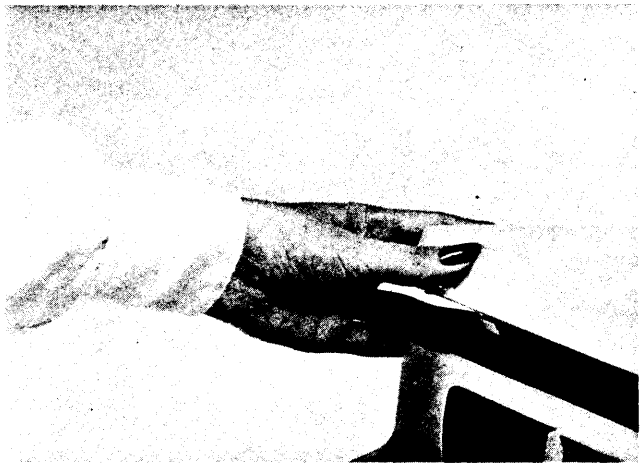
13) Ribbon - It lights up so long as there is ribbon in the machine. When the ribbon runs out, the lamp goes out. If the printer fails to function at any time, ALWAYS check the ribbon. This is the most common reason for the printer to seem inoperative, without actually being broken.

14) Form Feed - When you depress this switch, the printer rolls the paper up to the top of the next page. It has exactly the same function as the Form-Feed (FF) command in Memorite.

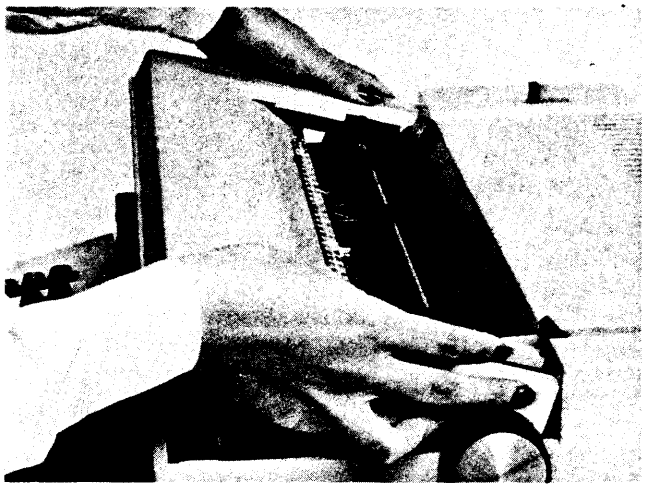
REMOVING AND REPLACING THE TOP COVER

The top cover must be removed to install or replace the printwheel and ribbon. The Sprint 5 is protective interlocked in the top cover, and except for the manually activated ribbon advance, it will not function when the cover is off.

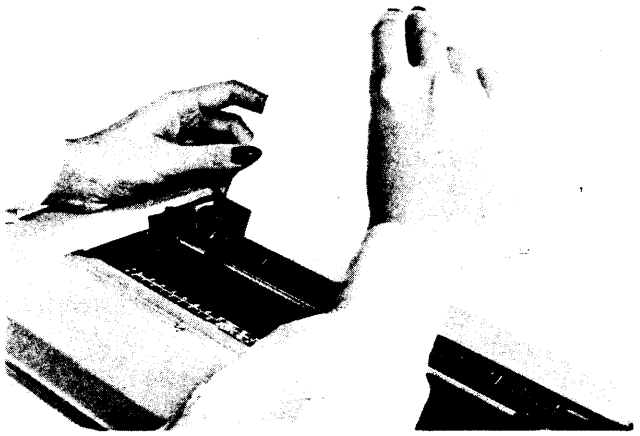
- To remove the top cover, grasp at both corners, and pull upward and forward as shown.



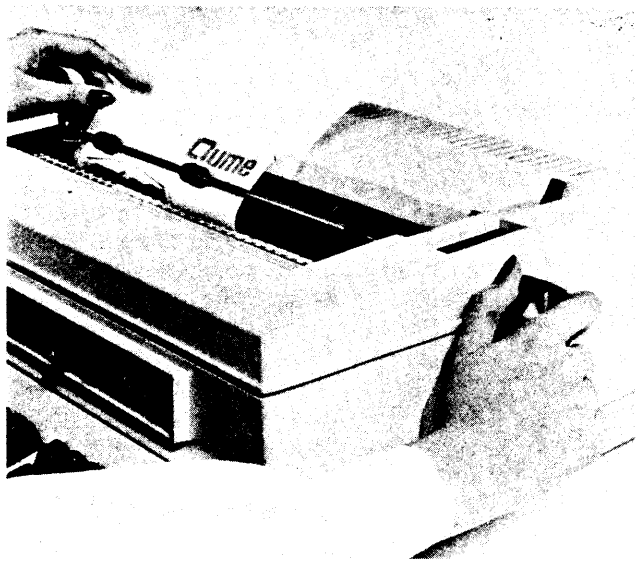
- To replace the top cover, carefully align the rear tabs on the top cover with the corresponding slots in the intermediate cover. Press the top cover to the rear and downward until it "snaps" securely into position.



- Insert the form or sheet at the rear of the platen, top first, and with the side to be printed away from the operator.



- Rotate the platen to feed the paper until the top of the sheet can be held against and compared with the portion that is entering behind the platen.

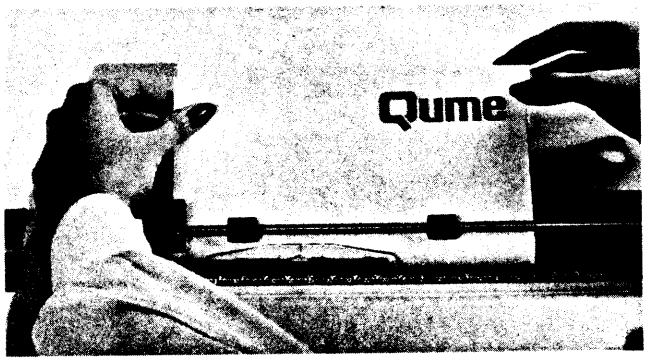


LOADING PAPER

Paper is loaded into the Sprint 5 much as it is in most office typewriters.

- Pull the paper bail forward, away from the platen.
- If the edges do not align, release the tension on the paper by pulling the Paper Release lever forward.

- Align the paper by pinching the two edges together, and moving the paper to the proper position (see illustration).



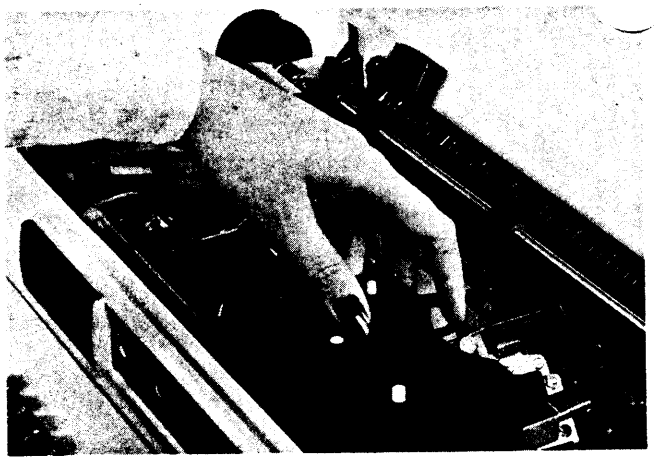
- If necessary, horizontally position the paper and the Paper Out sensor. Do not buckle or bind the paper edge with the sensor.
- Return the Paper Release lever to the rear position.
- Move the Paper Bail to the normal operating position on the platen.
- Rotate the platen backward until the sheet is at the top printing line.
- Momentarily depress the Set Top of Form switch if that option is in use on your printer.

CHANGING THE RIBBON

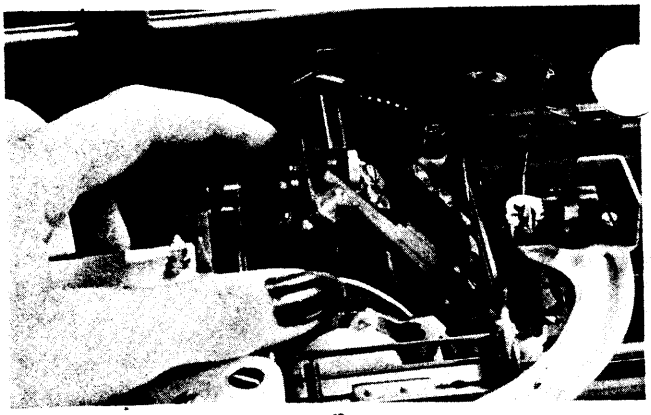
Cloth ribbons are a continuous loop and will recirculate until the lack of print quality forces replacement. Singlestrike or multistrike Mylar ribbons pass through one time only, and must be replaced when they are exhausted. The End of Ribbon detect will stop the printer at the point on the writing line where the singlestrike or multistrike ribbon runs out. Printing will continue from where it stopped, once the ribbon is replaced and the top cover is in place. A slight hesitation may be noticed when printing resumes if the printwheel was moved while changing the ribbon.

- To change the ribbon, remove the printer top cover as described previously.

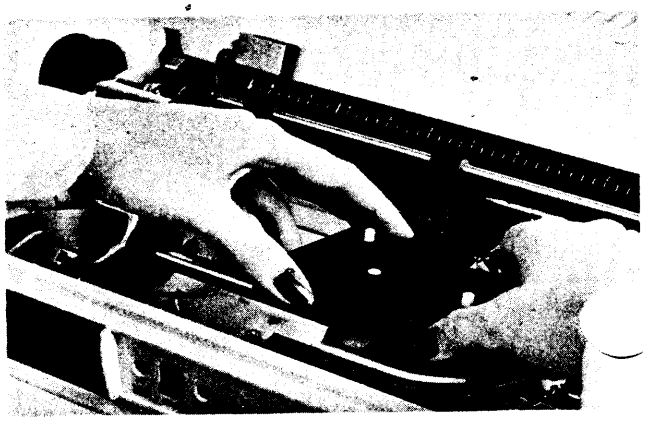
- Depress the red cartridge release lever as shown below.



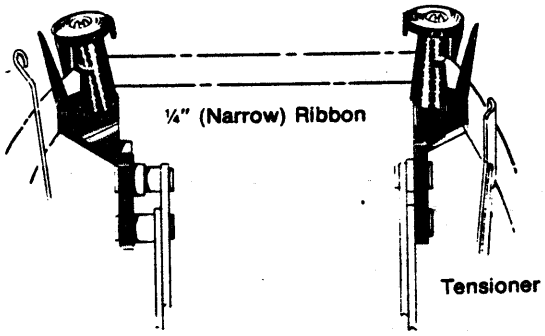
- Lift out the exhausted ribbon cartridge, unthreading the ribbon from the two guides.
- Depress the release (open) button for the printwheel motor assembly as shown below, and tilt it slightly toward the front of the printer.



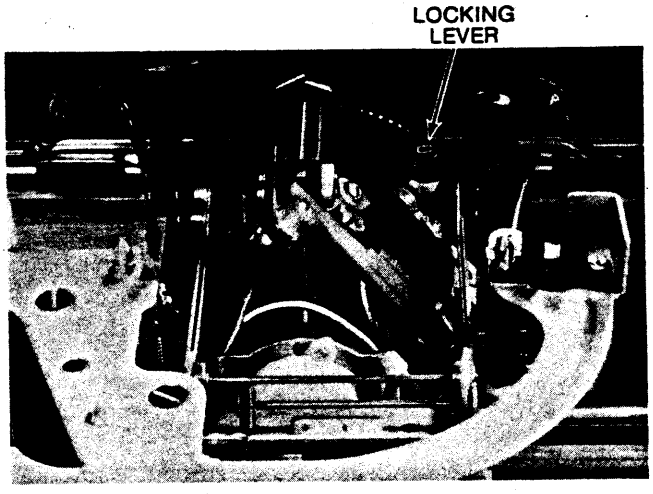
- Pull a small loop of ribbon out of the replacement cartridge.
- Place the replacement cartridge into position, and pressing downward, snap it into place.



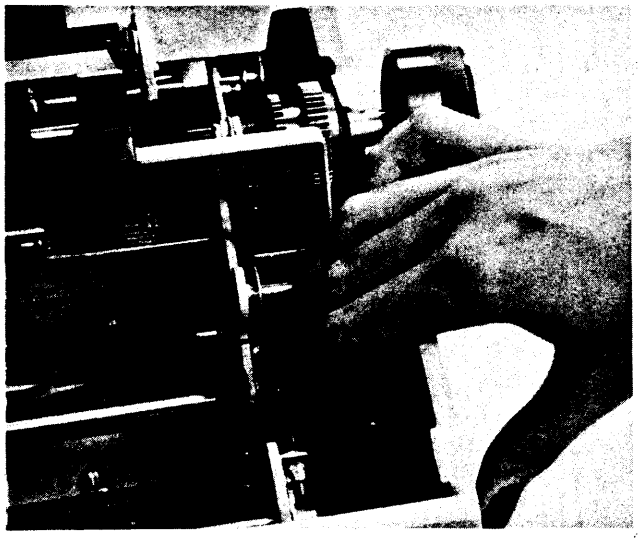
- If necessary, rotate the ends of the ribbon guides to accept the width of ribbon that is being installed (see the illustration below). All Sprint 5 printers are adaptable to either 1/4" or 1/2" (two color) ribbon.



- Thread the ribbon through the guides and around the outside of the tensioner as shown above.
- Push the printwheel motor assembly back into operating position.
- Press the locking lever (the button marked C) until a slight "click" is heard and felt. This locks the mechanism into place.



- Depress the Ribbon Feed switch until the ribbon is feeding properly, and if the ribbon is the single-strike or multistrike type, until the ribbon lamp lights.

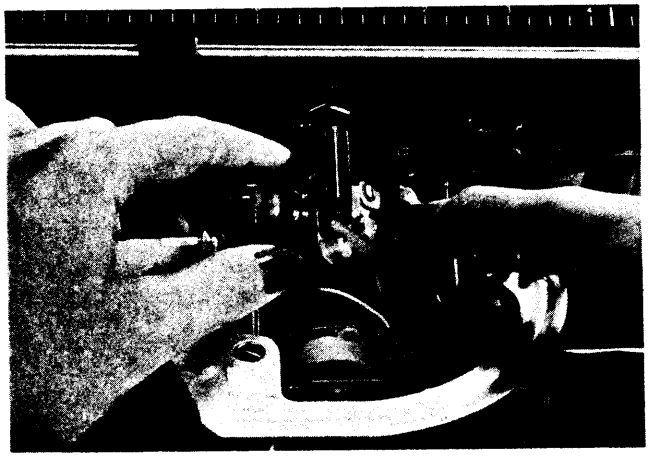


- Replace the top cover.

REPLACING THE PRINTWHEEL

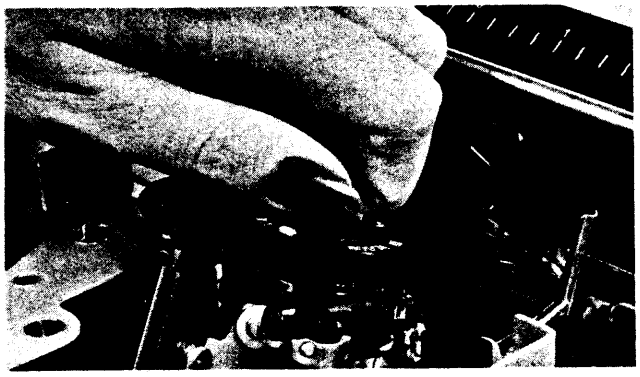
Changing the printwheel is an operator function, and is as follows:

- Remove the top cover and ribbon as described previously.
- With the ribbon removed, depress the release (Open) button for the printwheel motor assembly.

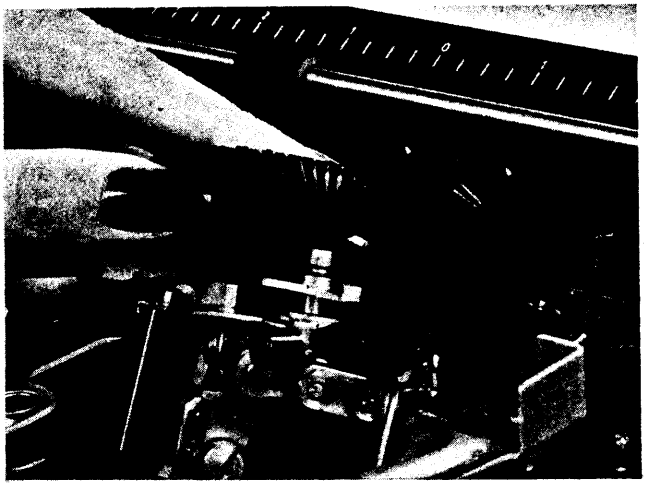


- Tilt the printwheel motor assembly forward as far as it will go.

- Grasp the printwheel firmly by the hub and pull upward (see the illustration below). The printwheel will slide off the end of the shaft.



- Examine the printwheel for ink or dirt buildup, and signs of wear or damage that could impare the print quality. Replace badly worn or damaged printwheels.
- When replacing the printwheel, be sure that the alignment tab on the shaft matches the slot in the printwheel (see the illustration below).



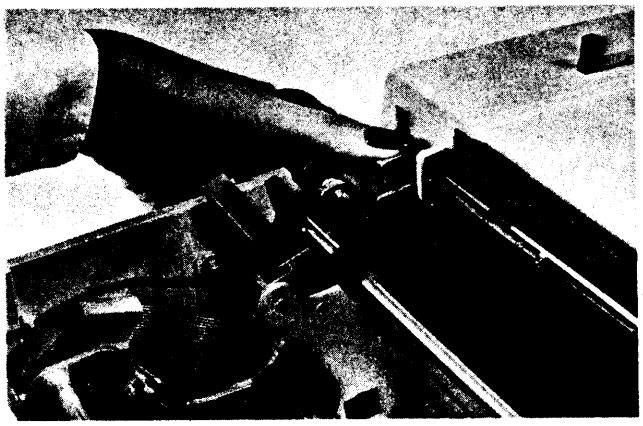
- With the printwheel properly aligned, press firmly on the center hub of the printwheel until it is seated on the shaft.
- Return the printwheel motor assembly toward the printing position, but do not lock it into place.
- Reinstall the ribbon cartridge as described previously. Be sure the ribbon is threaded on the outside of the tensioner arm, and the guides on the ribbon lift arms are positioned for the proper width ribbon.
- Place the printwheel motor fully into the working position, and press the locking lever (marked C for close). A slight click will be heard and felt when the mechanism locks.
- Remove the slack in the ribbon by momentarily depressing the RIBBON ADVANCE switch.
- Replace the top cover.

REMOVING AND REPLACING THE PLATEN

The platen must be occasionally removed for cleaning and general printer maintenance. Do not attempt to clean the platen while it is in place, as the cleaning fluid will attack the plastic card guides and other plastic parts.

To Remove the Platen

- Remove the top cover as previously described.
- Pull the paper bail forward, out of the way.
- Grasp both ends of the platen by the knobs.
- With the thumbs, depress the platen release levers at each end (see the illustration below).

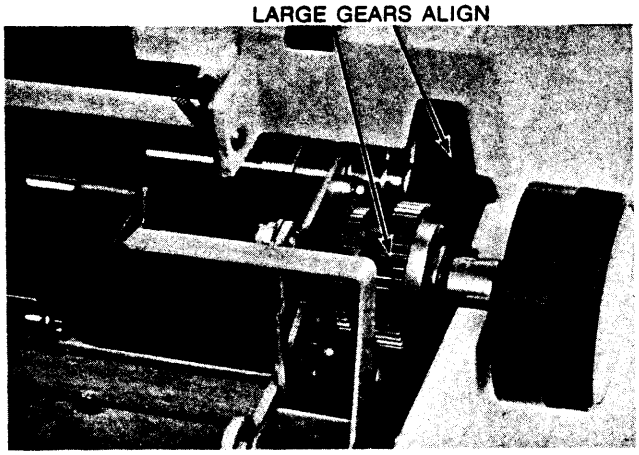


- Lift the platen up and out.

To Replace the Platen

- Check to see that the lower rollers and the under cradle are clean and properly seated.
- As the platen is placed into position, align the gear teeth to center on the large gear below (for a single platen, the gear is on the right).

LARGE GEARS ALIGN

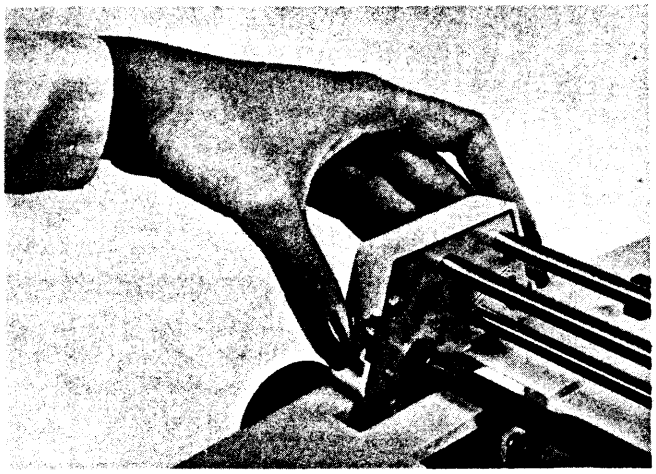


- Simultaneously press down on both platen knobs. The platen will lock into place. If the platen does not lock into place, check the alignment.
- Replace the top cover.

MOUNTING THE FORMS TRACTOR

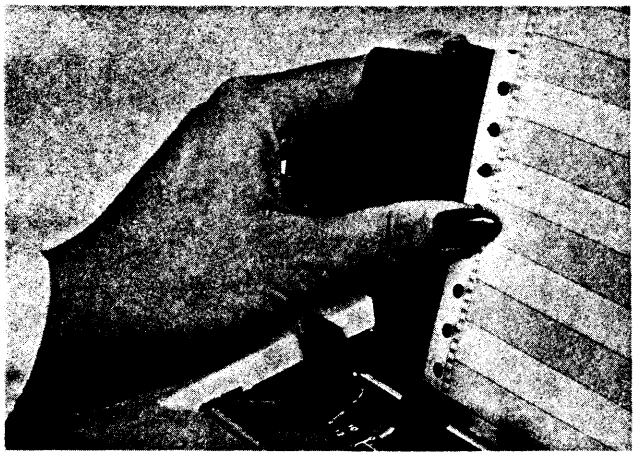
The optional forms tractor accepts and drives continuous feed forms with perforated edges (standard one half inch hole spacing). The forms tractor adjusts to forms that are two inches to 14.65 inches wide.

- Temporarily remove the top cover from the printer.
- Grasp the forms tractor at both ends, with the paper gates toward you (see the illustration below).



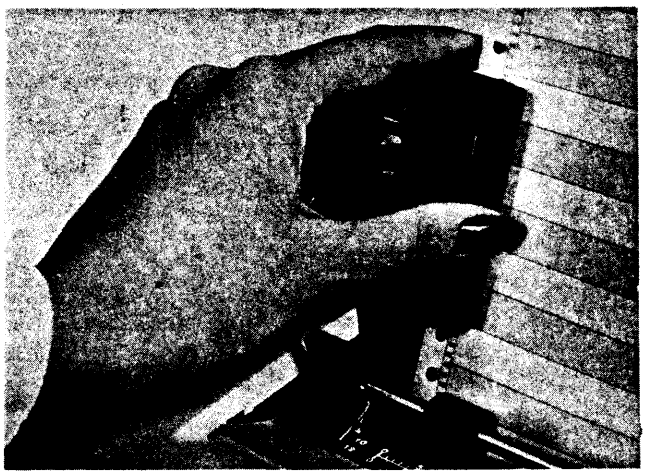
- With the thumbs, depress the release latches on each end of the forms tractor.
- While still holding the release latches, insert the tractor into the printer. The right hand position of the tractor straddles a groove in the platen shift, allowing the gear mechanism to engage. It may be necessary to slightly rock the tractor to properly seat the mechanism.
- Let go of the release latches, and allow the tractor to lock into place. Be sure that both release latches return to the normal position. If they do not, rock or reposition the tractor until they do.
- Loosen the locking screws on the side of the paper gate (shown in the illustration) allowing the mechanism to slide freely along the rail.

- Feed the forms or perforated edge paper behind and around the platen, and through to the front. If the optional bottom feed is being used, the forms feed up through the bottom slot, and do not pass around the platen.
- Pull the paper release lever (at your right) all the way forward. Leave the lever in this (released) position while the forms tractor is being used.
- Open the paper gates, and position each mechanism so that the holes at the edge of the paper are engaged by the pins on the tractor feed. Be sure the pins engage corresponding holes at each edge of the paper, or it will not feed properly.

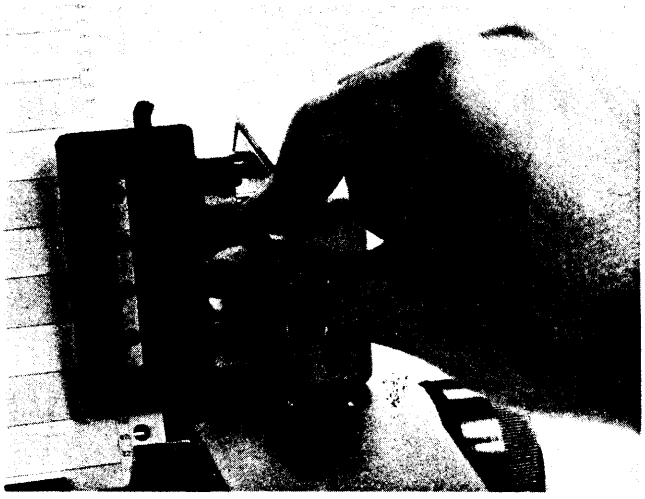


- Close the paper gates. Be careful that the paper does not buckle or disengage from the tractor pins.

- Adjust the lateral position of the gate mechanisms slightly, if necessary, to smooth the paper, and relieve any minor pulling or binding.



- Tighten the lock screw on each of the gate mechanisms. They should no longer slide on the rail.



- Carefully replace the printer top cover.

CLEANING

Periodic cleaning is necessary to maintain high print quality and dependability. Heavily used printers accumulate paper fibers and ink particles. All printers accumulate dust and atmospheric particles. General cleaning should be done as a preventative measure, and "heavy" cleaning, such as the platen, should be checked weekly, and performed when necessary.

If a cloth ribbon is used (especially the heavier inked varieties) a complete and thorough cleaning of the printwheel should be done each time the ribbon is replaced (unless replacement is for color only). In any case, cleaning the printwheel on a monthly basis will help preserve sharp and clear impressi Between cleanings, brush away any loose pa ers with a moderately soft brush.

The recommended cleaning solution is one of the light-bodied non-caustic cleaners such as Zoom, Formula 409, or Fantastik. Do not use petroleum based solvents, clorinated hydrocarbons (Triclorethylenes, etc.), or solutions that leave a powder residue.

CAUTION

Do not spray cleaners directly into the printer; use only the methods outlined below. Be very careful to avoid the print hammer when cleaning. The print hammer requires a special lubricant that must be applied in exactly the right quantity. Your service representative will clean and lubricate the print hammer for you as required.

- To clean the internal surfaces, use a soft lint-free cloth, moistened with one of the cleaners listed above.
- Ink spatters will accumulate on the plastic card guide, obstructing the operator view of the printed line. Remove this ink with a soft cloth or n swab moistened with cleaner.
- The printwheel should be removed and cleaned as follows.

CAUTION

The printwheel cleaning procedure can spatter ink on clothing and surrounding objects. Take the necessary precautions to avoid ruining clothing or other objects.

- Place the printwheel in a shallow dish or container.
- Pour cleaner (previously listed) over the printwheel until it is barely covered.
- Allow it to soak for a minute or two.
- Using a type cleaning brush or a medium stiffness toothbrush, remove any caked areas that have not dissolved.
- When the printwheel is clean, carefully pat dry with absorbent cloth or paper towel.
- Reinstall the printwheel in the printer.
- Every few months (or more often if necessary), remove and clean the platen. The recommended cleaner for the platen is Fedron or an equ t product. Fedron is usually available from writer repair or supply outlets. Minor cleaning can be done with one of the previously listed cleaners, but Fedron contains preservatives and lubricants for the platen surface that will greatly add to the life of the platen.

CAUTION

Fedron will attack paint and plastic parts. Do not use Fedron on any part of the printer except the platen, feed rolls, or bail rolls, and only when these parts have been removed. Fedron is extemely flammable; read and follow all precautions and warnings on the container.

- While the platen is removed for cleaning, alsc clean the lower rollers and under cradle below the platen area, using a soft cloth or swab moistened with Zoom, Formula 409, Fantastik, or an equivalent cleaner. Do not use Fedron in the cradle area or within the printer mechanism.

IF YOU HAVE PROBLEMS

The Sprint 5 does many complex things. Many of these things depend upon adjoining or surrounding equipment working properly. The following list suggests some things that can be checked before you call your service representative. Many "failures" are not within the printer, but may be caused by interfacing equipment, cables, or misoperation.

Check These Things First

- Does the printer have power? At least the red POWER lamp on the front panel should be lit. If it is not, check the line cord connection, power supply cable (if separate) power supply ON switch. Try another electrical appliance in the same receptacle to verify power at the source.
- Is the cover off? The Sprint 5 is disabled when the top cover is off, or improperly installed. Check the cover; remove it and reinstall it if there is doubt.
- Is the ribbon cartridge empty? For printers that are equipped with the out of ribbon detect, the printer is usually disabled by an internal option when there is no ribbon.
- If the Sprint 5 moves across the page, but does not print, check the TwinTellect switch for proper position. When the optional internal TwinTellect electronics are not installed, the terminal will not print if the TwinTellect switch is in the SPEC position.
- In communications situations, the CARRIER DETECT lamp must be ON, indicating that the communication link is established.
- Is the READY lamp lit? Except for limited situations with the receive only configuration, the READY lamp must be lit if the printer is to work properly.
- Momentarily depress the RESET switch on the printer front panel. This resets the internal portions of the printer. If this must be done often, it indicates possible programming problems, or difficulties within the printer.
- Be sure that the printwheel is firmly and squarely in place.
- Be sure that the printwheel motor mechanism is locked into place by firmly depressing the button marked "C" near the printwheel.
- Make sure all cables are properly attached, and have not been damaged.
- If print quality is poor, examine the printwheel for dirt or wear. Replace the printwheel if necessary. Also check that the ribbon is threaded properly and is advancing as it should.
- Command a self test (see the command set for instructions), from the keyboard. If the test completes satisfactorily, any problems are most probably external to the printer.
- If all else fails, call your service representative. Do not attempt to repair or lubricate the printer; the service representative will do that.

A Note About Static Electricity

The Sprint 5 can withstand static electricity discharges that are normally found in the typical terminal and printer environments. Static electricity is generally not a problem in most areas, and can usually be ignored. However, some of the new man made fibers

and materials that are used in carpets, shoes, etc., can couple with very low humidity to cause unusually severe discharges. Some discharges can be many thousands of volts, but because of their extremely short duration they may be momentarily painful to humans, but do not cause lasting damage.

The Sprint 5 can also be temporarily upset by some particularly severe discharges. If this happens the printed output may be "scrambled" and unpredictable for a character or two, or possibly as much as an entire line. The temporary condition is self clearing, and the Sprint 5 will return to proper operation.

If static discharge becomes a problem, some precautions can be taken to avoid the annoyance.

- If possible, raise the relative humidity of t. vironment to above 30%.
- During extreme dry conditions, avoid moving toward or brushing against the terminal when it is already working. It is movement that generates static.
- Treat the surrounding carpet or floor area with anti-static sprays available, usually from carpet dealers or large department stores. These sprays require twice a week applications for the first few times, and once a month after that.
- In some cases an anti-static mat may be desirable. These are available through industrial materials suppliers around the country.

CHAPTER 6

BASIC PRINTING AND FORMAT CONTROL

INTRODUCTION

This is the first of two chapters concerned with how to control the printing process on the system. This chapter deals with the methods you use to print a document, and then deals with how you tell the system the format you want to use - for example, what margins you want, whether you want the text right-justified, what "headers" and "footers" you want on each page, and so on. Also explained is how you can insert non-printing comments within your document.

The next chapter will deal with additional techniques you can use to control the printing process.

1 - PRINT - PR <# of times repeated, (optional)> (auxiliary command)

Purpose

After you have written or edited a document, use this command to print the document. The document printed will be the one in the system's working memory.

New text can be typed into the system, edited if necessary, and then printed immediately, even before it is stored on disk. If text had previously been written and then stored on disk, you must first recall a copy of that document from the disk, using either the Recall or Append Document disk directory commands. This text can then be edited further before printing. The format of the printed copy is determined by the embedded print directives that have been written into the text.

The system does not require that you begin printing at the beginning of the document. Printing begins wherever the cursor is located. In order to

print the entire document, you must first move the cursor to the beginning of the document. If you want to start printing elsewhere, you must move the cursor there.

Procedure

1) Make sure that:

the printer is turned on,

there is paper, properly loaded,

there is ribbon in the printer,

and, the Form Length dial is set for the proper length of paper.

(Refer if necessary to Chapter 5, "Printer Hardware.")

2) Make sure that the top edge of the first sheet of paper is rolled up to the desired level.

Normally, the top edge of the first sheet of paper should be just under the paper bail rollers. By starting the paper at this level, the standard 55 lines will be centered evenly on 11-inch paper. You may want to start higher or lower on each page if you are using more or less than the standard 55 lines (110 half-lines) per page, or if a special application requires that you start higher or lower than the standard distance. It is entirely up to you.

3) If you are using single sheet paper, then depress the "Set TOF" switch on the printer NOW. If you are using continuous form paper, then you only have to depress the "Set TOF" switch if you have MANUALLY rolled the carriage since the last time you depressed the "Set TOF" switch, or if you have not depressed the "Set TOF" switch at all since the printer's power was turned on. If you have done other continuous form printing since the printer was turned on and have not moved the carriage manually since that time, then you do not have to depress the "Set TOF" switch again.

4) Move the cursor to the place in the text at which you want to begin printing. All text before the cursor will NOT be printed. In most cases, therefore, move the cursor to the very beginning of the text. To do this depress ©B©B. If you want to move the cursor elsewhere, use any combination of cursor movement commands.

5) Depress ©A. This puts the system in auxiliary command mode.

6) Enter PR.

7) If you want the document to be printed more than once, automatically, then depress [space bar] followed by the number of times you want it to be printed. The maximum number of times allowable is 255.

8) Then depress [RETURN]. Printing will begin immediately.

9) If you are using single sheet paper, and have the Form-stop setting set so that the printer stops after each page, you have to load a fresh piece of paper for each page. So that all pages have the same top and bottom margins, you should load all pages into the printer with the top edge rising to the same point that it did when you loaded the first page.

2 - STOP PRINTING - [ESC] (print mode command)

Purpose

This is used to stop printing completely before it is supposed to stop. The system returns to the Typing mode. It is used if you are not satisfied with, or have found an error in, the material which is printing.

Procedure

1) Depress the [ESC] key. The printer will stop after it completes both the line currently being printed and the following line. Occasionally, it will stop immediately.

2) Roll the paper up by using the auxiliary command Form Feed. (See the section "Form Feed," in Chapter 7.) Use this command twice if necessary to get the perforation in continuous-form paper past the

top of the pin-feed tractor. You may use the Form Feed key on the printer instead, if desired. The reason you should use one of these methods to roll the paper up is that if you roll the carriage manually, you will have to depress the Set TOF key on the printer again after you position the top of the paper properly.

3 - STOP PRINTING TEMPORARILY - [space bar] (print mode command)

Purpose

From time to time, you will want to stop the printer TEMPORARILY, so that you may restart a short time later exactly where it left off. The most common reason for this is to proofread the material that has already been printed if you suspect that there is an error, but are not sure. If you do find an error, you can then stop printing completely by depressing [ESC]. (See the heading "Stop Printing," above.)

This technique can not be used to stop the printer at a very specific point in order to change print wheels or ribbon colors. The reason is that the printer does not stop immediately. It continues printing for another 2 lines, including the line it is currently printing. You must use the Quick Print Stop for this purpose. (See the heading "Quick Print Stop," in Chapter 7.)

Once stopped, you can cause printing to proceed one line at a time under your control, or you can cause the system to resume normal printing.

Procedure

1) Depress the [space bar]. Printing will stop after printing both the current line being printed and the following line. While it is stopped, there will be a "TS" blinking in the lower right-hand corner of the screen to remind you what state the system is in. "TS" stands for "Temporary Stop." In this state, you will notice, you cannot do any typing or enter any commands except what is explained below.

2) To stop printing completely, depress [ESC]. See the heading "Stop Printing," above for further informtion on this. If you do not do

this, then continue with step 3.

3) To continue printing one line at a time, depress the [space bar] again. Each time it is depressed, another line will be printed. You may do step 2 at any time during this process.

4) To resume printing normally, depress [RETURN].

4 - FORMAT SETTINGS

Purpose

A Format Setting is like a switch or a dial inside the system and invisible to you. There is a Format Setting for each aspect of the format of a printed page. For example, there is a Format Setting which determines the size of the left margin and there is one which determines where the page number is located on the printed page. The complete list of Format Settings is as follows. Following each Setting is the symbol used for that setting.

Right-justification	- J
Form-stop	- F
Alternation of Layout	- A
Line-width	- W
Indentation Margin	- I
Margin	- M
Line-spacing	- S
Type-density	- T
Length of Page	- L
Page Number Location	- H
Current Line Number	- N
Next Page Number	- P

How You Change Format Settings

As operator, you control what the Format Settings are by using format directives. In addition, certain Format Settings can also be changed by entering auxiliary commands. The following paragraphs should clarify the difference between these two methods of changing Format Settings.

Format Codes are Embedded in the Text

When you write a document, you will also write format directives at various points within the text. The format directives are displayed on the screen and stored on diskette along with the rest of the text. Hence, we say that they are "embedded" within the text.

A format directive begins with a ©F, followed by one or more "format codes" strung together in a line. For each Format Setting you want to change, you type one format code. Thus you can use one format directive to change several Format Settings. An example might be ©F M10 I15. This particular format directive makes the left margin 10 spaces wide and makes the paragraph indentation 15 spaces from the edge of the page.

When you type a ©F, the resulting character looks like two small vertical lines on the screen. This character will not be printed. Because of the ©F at the beginning of the format directive, the system knows not to print the directive literally when it prints your document. Instead, the system responds to it by changing the Format Settings. This change does not occur until the printer prints the document.

** REMEMBER **
A FORMAT DIRECTIVE DOES NOT TAKE EFFECT UNTIL THE DOCUMENT IS PRINTED. The system does NOT react to a format directive UNTIL it runs across that directive while it is printing the document. The system does NOT react to the format directive at the moment you type it.

This feature allows you to change Format Settings during the course of printing a document WITHOUT stopping the printer. You do this simply by writing format directives at predetermined points in the text. Also, since the format directives are written into the text, you do not have to enter them each time you go to print the document. They will always be there each time the document is printed. If you want to experiment with different format settings, all you have to do is change the format directives just as if you were changing normal text.

Use of format directives and format codes is taught full in Section 6, in this chapter.

Some Format Settings Can be Changed by Auxiliary Commands

There are a few Format Settings which from time to time you will want to

change without having to type format directives into the text. For each of these settings, an auxiliary command is provided, which allows you to change these settings directly from the keyboard. Remember that the system reacts to a command the moment you enter it, unlike an embedded directive. The settings for which auxiliary commands are provided are Form-stop, Current Line Number, Next Page Number, and Alternation of Layout. (The meaning of each of these settings is discussed in its respective section in this chapter.)

Format Settings are Always Numbers

The system thinks of each Format Setting in terms of a number. This number is the "value" of that Format Setting. For example, if the left margin is set for 10 spaces, then we say that the Margin Format Setting "has a value of 10." This is like a dial being set to a level of 10. In a similar way, the Right-Jusfication Format Setting can have the value 0 or 1, no others. 1 means that the right margin will be squared-off, and 0 means that it will not. This is more like a switch, having two possible positions. Other Format Settings are somewhere in between. For example, the Page Number Location Format Setting can have 6 values, one for each possible location of a page number on a page. Exactly what values each Format Setting can have is described under the heading for each Format Setting, in this chapter.

Standard Values of Format Settings

When the system is turned on, a each Format Setting is automatically assigned a certain value. These are called the "standard values". When printing begins, the system uses the standard value for each Format Setting until it runs across a format directive which changes that setting. The new value in turn remains constant until changed again. If the standard value for a particular Format Setting is satisfactory for a certain document, it can be used for the entire document, without ever changing it through the use of a directive. The standard value of each Format Setting is listed under the corresponding heading, in this chapter.

During the course of a day, you may print more than one document. You should begin printing each document by setting all the Format Settings back to their standard values. For this reason, it is normal practice to begin every document with a format directive that begins, following the ©F, with the R (Reset) code. Reset sets all the Format Settings back to their standard values. Following the Reset, in the same format directive, you may then change some or all of the Format Settings to the special values you want for this document.

Some Format Settings Change Automatically During Printing

Two of the Format Settings change automatically in the course of printing a document. These are the Current Line Number and Next Page Number settings. The Current Line Number setting always indicates what line number on the page is currently being printed by the printer. The Next Page Number setting always indicates the number of the NEXT page to be printed (not the number of the page currently being printed.) As will be explained below, at any moment while the printer is printing, you can see on the screen the current value of these settings, as well as the values of all the other Format Settings. More information on the Current Line Number and Next Page Number settings will be found in their respective sections in this chapter.

Format Settings are Displayed During Printing

At the same time that the system prints a document, the console screen shows the current values of all the Format Settings. Each one appears like this: "M=10". They will be grouped together in a line along the bottom of the screen. When a setting changes, either because of a format directive embedded in the text, because you changed it with a command, or automatically, this will be reflected on the screen.

For example, suppose you began a document by setting the Margin Format Setting at 10, using the code M10 in a format directive. When the document begins printing, "M=10" will be included in the display of current Format Settings on the screen. Then, suppose you change the Margin to 15 somewhere in the middle of the document, using an embedded format directive again, this time containing the code M15. As soon as the system reaches this point in the text, "M=15" will replace the "M=10" on the screen.

This display is useful because it helps you keep track of what the system is doing when it is printing. For example, if you want to know what the Margin setting is at any particular time during the course of printing a document, it is easier to look at the screen than it is to measure the margin on the document emerging from the printer. In a similar sense, it is easier to read the Current Line Number setting from the screen than it is to count the number of lines that have been printed on a page.

5 - VIEW FORMAT SETTINGS - VF (auxiliary command)

Purpose

After the system finishes printing a document, the display of the Format Settings disappears from the screen. The View Format Settings command enables you to put it back on the screen. Thus you use the View Format Settings command whenever you want to see where the Format Settings stood as of the end of the last document printed. You can also use this command if you interrupt the printing of a document part way through, and then you want to see what the Format Settings were when you interrupted the printer.

You can also use View Format Settings to find out quickly what the standard setting is for each Format Settings. First, enter the Reset Format Settings auxiliary command, RS, (see the section for this command in this chapter.) Then enter the View Format Settings command. The display on the screen will show the standard value for each setting.

Remember that format directives do not take effect the moment you type them, but only when the document is printed. Therefore, if you use the VF command right after you type a format directive, THE SCREEN WILL NOT SHOW THE NEW FORMAT SETTINGS. The screen will not show the new settings UNTIL the document is printed.

Procedure

1) Depress ©A to go into Auxiliary Command Mode.

2) Enter VF, followed by [RETURN]. The display of Format Settings will immediately appear on the screen.

3) To return to Auxiliary Command Mode, depress [RETURN] again. You may now enter another auxiliary command, if desired.

4) To return to Typing Mode, depress [ESC]. You can do this with or without first returning to Auxiliary Command Mode (step 3).

6 - FORMAT DIRECTIVES - ©F<one or more format codes>[RETURN] (print directive)

Purpose

The purpose of a format directive is primarily to change the format of the printed page. A format directive consists of a string of "format codes." Each format code in turn changes the value of one Format Setting.

A format code consists of the symbol for the desired Format Setting (as given at the beginning of this chapter) followed immediately by the value you desire to give that setting. There is also one format code, R, which is not followed by a number. If used, it simply resets all the Format Settings back to their standard values.

You may not arbitrarily give a Format Setting any value you want. They are limited to certain acceptable ranges. The range of acceptable values for each Format Setting will be found under the section in this chapter for each Format Setting.

Location of format codes

Format directives may be located anywhere in the text, with two limitations. First, a format directive must stand alone as a separate paragraph. Thus, it must be preceded by a [RETURN] or a ©L, unless it is the very first entry at the beginning of the text. In addition, it must end with a [RETURN] or a ©L. (©L is the End-of-page directive; see Chapter 7 under "End-of-page.") Second, it MUST begin on the left edge of the screen, with NO preceding spaces or any other extraneous characters. If these rules are not followed, the format directive will simply not work. Instead, the system will think that it is just part of the ordinary text.

There may be as many format directives in a given document as are needed, or none at all. If desired, two format directives may come one after the other in the text.

The First Format Code in a Document

As mentioned earlier, it is normal practice for the first line of a document to be a format directive. In this format directive, you set all the Format Settings to the values initially desired for the document. The first code in this directive should be R, in order to return all Format Settings to their standard values. Following this are the format codes for the Settings to which you want to assign non-standard values. In example of a typical initial format directive is ©F R J1 T10 M14 I10 W76 H4 [RETURN]. Notice the R near the beginning. Do not forget this. Format Settings which are not mentioned in this directive will have their standard values, as a consequence of the R at the beginning.

The precise procedure used to enter a format directive is given below, using in fact this same directive as an example.

Typing a format code

Each format code consists of one letter - the symbol for the desired Format Setting - followed immediately by the value you wish to assign to that setting. The only exception is the code R which is never followed by a number.

It makes no difference whether the letters are upper- or lower- case. However, in this manual, for ease of reading, all format codes are shown in upper case letters. You may want to type upper-case format codes in your document for the same reason. To do this, use the [ALL CAPS] key when entering a format directive.

When typing format codes, put no space between the letter and the number. For example, type M15, not M 15. However, you may put any number of spaces between the several format codes within a format directive.

The following is an example of a typical format directive. This particular format directive is probably the first format directive in a document, because it begins with a Reset code.

```
©F R J1 T10 M14 I10 W76 H4 [RETURN]
```

The following lines are equivalent, and can be used, although they are harder to read:

©Fr j1 t10 m14 i10 w76 h4 [RETURN]

©FRJ1T10M14I10W76H4 [RETURN]

The preceding format directives each tell the system the same thing:

Reset all Format Settings to their standard values;

justify the text along the right margin;

use a type-density of 10 characters per inch;

use a left margin of 14 spaces;

the first line of each specially marked paragraph should start 10 spaces from the edge of the paper (4 less than the regular left margin);

the width of the text is 76 characters; and,

the page numbers are located at the top right corner of each page.

Procedure for Entering a format code

The contents of this procedure section are the general rules and methods needed to put format directives into documents. The purpose and limitations of each individual Format Setting are discussed under its own heading later in this chapter.

1) Make sure that the cursor is at the edge of the screen. Make sure that the last character BEFORE the format directive is [RETURN] or ©L, unless the directive is the first line in the text.

2) The first character of a format directive must be ©F. This will produce a character which looks like two small vertical lines, something like a colon.

3) Next, type one or more format codes. It makes no difference how many spaces you type BETWEEN the codes, even none.

4) Terminate the format directive with [RETURN].

5) You may now type normal text, another format directive, a header or a footer directive, or any other material in the document.

7 - RESET FORMAT SETTINGS - R (format code)
- RS (auxiliary command)

Purpose

When you want to return ALL the Format Settings to their standard values, use Reset Format Settings. If you want to do this while the system is printing, at a particular point within a document, then use R, within a format directive. If you want to return them to standard values immediately, then use the auxiliary command, RS.

Typically, the first format directive in a document begins with the R directive. This makes it possible for you to enter additional format codes for only those Format Settings which are different than the standard settings.

Procedure for RS, the auxiliary command

1) Depress ©A to go into Auxiliary Command Mode.

2) Enter RS followed by [RETURN]. The system will immediately reset all the Format Settings to their standard values.

3) You are still in Auxiliary Command Mode. You may enter any other auxiliary command, if desired. For example, you may enter the View Format Settings command (VF) to see that the Format Settings are indeed returned to their standard values.

4) To return to Typing Mode, depress [ESC].

8 - RIGHT-JUSTIFICATION - J<0 or 1> (format code)

If J has the value 0, the right margin will be printed jagged. If J has the value 1, the right margin will be squared-off (right-justified), like this paragraph. The number of characters printed in any particular line is the same whether or not the text is right-justified, (as determined by the Line-Width setting, W.) The difference is that when the text is right-justified, short lines are automatically stretched out by adding small spaces between letters, so that all lines reach to the same right margin.

Standard value = 0 (no right-justification)
Other value = 1 (right-justify the text)

9 - FORM-STOP - F<0 to 3> (format code)
DEFINE FORM-STOP - DF <0 to 3> (auxiliary command)

If F is set at 0, the printer will automatically continue printing after moving to the top of each new page. This is used for continuous-form paper. If F is set at 1, printing will stop temporarily at the top of each new page. This is used for printing on single sheets, so that the next sheet can be loaded in the printer. It can also be used with continuous-form paper if you want to stop after each page is printed in order to check it over.

If you are using the BDT 140 sheet feeder, you can use the value of 2 to print continuously, one sheet after the other. If F is set at 3, printing will stop temporarily at the top of each page.

Standard value = 0 (no form-stop; no sheet feeder.)
Alternate value = 1 (form-stop; no sheet feeder.)
Alternate value = 2 (no form stop; using sheet feeder.)
Alternate value = 3 (form stop; using sheet feeder.)

Procedure for DF, the auxiliary command

1) Depress ©A to go into Auxiliary Command Mode.

2) Enter DF followed by a [space bar] followed by [0] or [1].

3) Depress [RETURN]. The Form-Stop Format Setting will now be set to the chosen value.

4) You are still in Auxiliary Command Mode. You may enter any other auxiliary command, if desired. For example, you may enter the View Format Settings command (VF) to see view the Format Settings on the screen.

5) To return to Typing Mode, depress [ESC].

Procedures for Restarting the Printer After It has Stopped at the Top of a Page due to the Form-stop Setting

To make the system continue to stop at the top of each page, depress [space bar]. Printing will start up immediately.

If you want the system to start printing, and NO LONGER stop at the top of each page, depress [RETURN]. Printing will start up immediately. Note that this can only be done if you are using continuous-form paper, or if the next page is the last page of the document.

10- **ALTERNATION OF LAYOUT - A<0, 1 or 3>** (format code)
DEFINE ALTERNATION OF LAYOUT - DA <0, 1 or 3> (auxiliary command)

Headers, footers, and page numbers can be placed flush with the left and right margins. (See "Headers," "Footers," and "Location of Page Number," in this chapter.) If you are going to have your printed output duplicated ON BOTH SIDES OF PAGES, then the page numbers, headers, and footers which are flush with the left and right margins should alternate from left to right depending on which side of the paper a given page will be duplicated on. (Look at any published book.) That is the purpose of this format directive.

If A is set at 0, then page numbers, headers, and footers will not alternate from left to right as each page is printed. If A is set at 1, then they WILL alternate. If A is set at 3, then they WILL also alternate, and in addition, the first, third, fifth pages, and so on, will be in the

alternated layout, instead of the second, fourth, sixth, and so on, so that you can print the first page of your document on the back side of a page.

While printing is taking place, if Alternation is set for 1 or 3 at the outset of printing, the Alternation Setting will itself alternate between 1 and 3 as each page is printed. You will be able to see this on the screen in the Format Settings line.

```
Standard value = 0 (no alternation)
Other values   = 1 (alternation)
               = 3 (alternation, beginning with
                    alternated layout on first page)
```

Procedure for DA, the auxiliary command

1) Depress ©A to go into Auxiliary Command Mode.

2) Enter DA followed by a [space bar] followed by [0], [1], or [3].

3) Depress [RETURN]. The Alternation of Layout Setting will now be set to the chosen value.

4) You are still in Auxiliary Command Mode. You may enter any other auxiliary command, if desired. For example, you may enter the View Format Settings command (VF) to see view the Format Settings on the screen.

5) To return to Typing Mode, depress [ESC].

11- LINE WIDTH - W<width of lines> (format code)

This Format Setting determines the maximum number of characters in any printed line. However, many lines will have fewer characters because the system does not split words. The printer skips to the next line if the next word to be printed would make the number of characters in the line greater than the Line Width setting.

Line Width does NOT determine the actual MEASURED width of he printed text in inches. This is dependent both on the number of characters per line AND the density of the type. Type-density is dependent on the Type-density Format Setting, described later in this chapter.

Standard value = 65
Minimum value = 25
Maximum value = 125

Although the maximum value for the Line Width Setting is 125, this will only work if the Margin Setting (left margin) is 0. When choosing values for the Line Width and the Margin, remember: THE TOTAL VALUE OF THE MARGIN AND LINE WIDTH SETTINGS CANNOT BE LARGER THAN 125. For example, if the left margin is set at 10, then the largest possible line width is 115.

NOTE: To print exactly what is seen on the screen, set the line width at 79.

12- INDENTATION MARGIN - I<size of indentation margin> (format code)

The Indentation Margin Setting is used to automatically indent paragraphs or to create outline layouts in which the first line of each block juts out. The latter format is used frequently in this manual, wherever you see section or step numbers jutting out from the rest of the text. By using the Indentation Margin Setting, you save the trouble of spacing in at the beginning of each paragraph if you want to indent paragraphs. Its greates value is in producing the outline layouts, however, because without it there is no way to print such layouts if you want them aligned along the right margin.

This Format Setting determines the number of spaces from the farthest left edge of the printer to the beginning of an INDENTED LINE. The value of I may be greater or less than the regular Margin setting, M, below. By setting it greater than M, indented lines will be indented IN from the regular margin, as in paragraph indentation. By setting it less than M, indented lines will jut OUT from the regular margin, as in an outline format.

In order for lines to be indented according to the Indentation Setting, a line in the text must be marked as an "indented line," as described under "Marking a Line for Indentation," just below.

Important: if you set I to a value of 0, this does not tell the system to begin indented lines on the left edge of the paper. Rather, it means that

you do not want any automatic indentation at all.

Standard value = 0 (indent to the regular margin)
Minimum value = 0
Maximum value = 100

Marking a Line for Indentation

If you want a certain line to be indented according to the Indentation Margin, type a . (period) as the first character of that line. The period MUST be on the far left edge of the screen. There can be no spaces or other characters before it. Also, the preceding line MUST end with a [RETURN] or a ©L. (©L is the End-of-page directive; see Chapter 7 under "End-of-page.") In other words, an automatically indented line must be a line that can NEVER begin in the middle of a paragraph.

For example, the second of the following two lines will be indented according to the Indentation Margin if it is typed on the left edge of the screen:

```
This is the end of the previous paragraph.[RETURN]
.This line will be indented.
```

The period at the beginning of the line will not be printed. Do not be concerned that real periods might be confused with this special marker, because the period at the end of a sentence would never end up on the left edge of the screen. Decimal points are another matter however. Be careful when you are using an Indentation Margin not to type decimal points (in fractional numbers) up against the left margin.

An Indentation Margin only exists if you specifically typed an I with a non-zero value in a format directive. If you did not, then if there are lines in your text that have periods on the left margin, these periods WILL be printed as you would normally expect.

13- MARGIN - M<size of left margin> (format code)

This is the left margin setting. It determines the number of spaces from the left edge of the printer to the left edge of printed material on the

page (except for indented lines.) This results in an even left edge on the printed page, except for indented lines.

Standard value = 10
Minimum value = 0
Maximum value = 100

14- LINE-SPACING - S<# of vertical spaces between lines> (format code)

This determines how many vertical spaces (also called "half-lines") that the printer spaces down to go from one printed line to the next. S = 2 results in normal single spacing. S = 3 results in 1 1/2 spacing. S = 4 result in double spacing.

Standard value = 2 (single spaced type)
Minimum value = 1
Maximum value = 10

15- TYPE-DENSITY - T<# of characters per inch> (format code)

This determines the number of characters printed per inch. Print wheels provided for word-processing printers are usually labeled with a recommended type-density, also in characters per inch. For example, 10 characters per inch is recommended for pica and 12 per inch for elite print wheels.

Standard value = 10
Minimum value = 1
Maximum value = 20

16- LENGTH OF PAGE - L<# half-lines per page> (format code)

This determines the number of vertical spaces per printed page, including the lines used for the page number and the header or footer, if any. It

takes 2 vertical spaces to move from one line to the next with single-spaced typing. Hence, each vertical space is sometimes called a "half-line".

Divide the Length of Page setting by 2 to obtain the number of lines of normal single-spaced type that will be printed per page. Divide it by 3 to obtain the number of lines of 1 1/2 spaced type per page. Divide by 4 to obtain the number of lines of double spaced type per page, and so on for wider spacing. The printer will automatically feed the paper up to the top of the next sheet after using up the set number of half-lines when printing a page.

Standard value = 110
Minimum value = 1
Maximum value = 251

NOTE: If using continuous form paper, do not specify a line length longer than one sheet. To do so will cause the printer to form out automatically after the value specified. If you find the printer printing alternate sheets, check the line length. For example, on 11 inch long paper, a line length in excess of 124 will cause the printer to skip every other sheet.

17- PAGE NUMBER LOCATION - H<location code> (format code)

The location of the page number on the page is determined by the H setting. The following table gives the various possible values of H. Set H to the value which puts the page number at the desired places on the page.

Value of H	Location
0	Bottom right (standard value)
1	Bottom left
2	Bottom center
4	Top right
5	Top left
6	Top centered

IMPORTANT
The H format code must come AFTER the W (Line-Width) and M (Margin) codes, either in the same format directive or in a following format directives.

18- CURRENT LINE NUMBER - N<current line #> (format code)
DEFINE CURRENT LINE NUMBER - DN <current line #> (auxiliary command)

Description of the Line Count

The system counts the number of vertical spaces (half-lines) it is using up while printing each page. It takes 2 vertical spaces to go from one line down to the other when using normal "single-spaced" typing, (as explained above, under Line Spacing). Hence, we call each vertical space a "half-line." The system begins counting with 1 at the top of a page, and then counts every half-line as it spaces down on that page until the count reaches the length (L) setting, or until it encounters an End-of-page directive in the text (©L). Then it rolls down to the next page. N appears on the screen DURING printing to show the count taking place. It increases in value each time the printer begins a new line.

Purpose

Occasionally, you may want to cause the system to think, while it is printing, that it is at a different place on the printed page than it expected to be, without stopping the printer. This capability will rarely be needed, but is provided if an application for it arises. If you know you want to do this at a particular place within a document, then use the N format code in a format directive. On the other hand, if you want to do this at the beginning of a document, you can use the DN auxiliary command.

Standard value = 1
Minimum value = 1
Maximum value = The current value of Length of Page

Procedure for DN the auxiliary command

1) Depress ©A to go into Auxiliary Command Mode.

2) Enter DN, followed by [space bar].

3) Enter the line number that you want the system to think it is on. Count by half-lines. For example, if you want the system to think it is 20 lines down the page, then enter 40.

4) Depress [RETURN]. The Line-count is now set the way you want it. Since you are still in Auxiliary Command Mode, you may enter another auxiliary command if desired. For example, you can enter the Print command, to begin printing immediately. Remember to roll the paper down to where you want to start printing, before you command printing to start.

5) Depress [ESC] to return to Typing Mode.

19- **NEXT PAGE NUMBER - P<next page #> (format code)**
DEFINE NEXT PAGE NUMBER - DP <next page #> (auxiliary command)

Purpose

If you give P the value 0, page numbers will not be printed, (regardless of what the Page Number Location setting is.) To cause page numbers to be printed, give P a value larger than 0. The value of P is the next page number to be printed. Therefore, if you want to print page numbers, begin most documents by giving P the value of 1 (in the first format directive).

The value of P can be changed at any place in the text using P in a format directive. For example, to avoid printing the page number on page 1 of a document, and to begin printing page numbers on page 2, do not put P in the first format directive of a document. If you want to print page numbers on the TOPS of pages, then somewhere before the beginning of the material to be printed on page 2, put P2 in a separate format directive. This can be accomplished by typing an EXTRA [RETURN] after the first format directive (producing a blank line at the beginning of the document). Right after this, type a format directive which contains only P2. If you want to print page numbers on the BOTTOMS of pages, then put a format directive containing P2 somewhere WITHIN the material to be printed on page 2. Remember that the P code does NOT tell the system WHERE to place the page number on the page (top or bottom; left, right, or center). For this, you must use, in addition to the P code, a Page Number Location code - H, described earlier in this chapter.

The auxiliary command is used if you want to begin printing in the middle of a document. Use the command to tell the system what page number to put on the first page to be printed.

Standard value = 0
Minimum value = 0
Maximum value = 255

Procedure for DP the auxiliary command

1) Depress ©A to go into the Auxiliary Command Mode.

2) Enter DP followed by [space bar].

3) Enter the next page number you want printed, followed by [RETURN]. The Format Setting will now be changed.

4) Since you are still in Auxiliary Command Mode, you may enter another auxiliary command, if desired. For example, you may begin printing by entering the Print command.

5) To return to Typing Mode, depress [ESC].

20- HEADER DIRECTIVE - ©F©[<optional location symbol><header>[RETURN] (print directive)

Purpose

A header is a character, word, or phrase, that you want printed automatically at the top of every page. An example might be the title of the document, or the title of the chapter. A header can be as long as the current Width Format Setting.

You have the choice of printing the headers flush with the left margin, flush with the right margin, or centered on the page. If you choose to make them flush with one of the margins, the system will print them flush with the original margin page after page, even if you change the margin at some point. (If you want the headers to be flush with the new margin, you will have re-enter a header directive after the new Margin setting in the document.)

You can change the content of the headers in the middle of a document. To do this, just type a new header directive at the point desired. This might be necessary for example at the beginning of a new chapter, if you are using the chapter title as a header.

As with page numbers, you can make the system begin printing the headers on page 2, rather than page 1. To do this, type an extra [RETURN], i.e. a blank line, after the first format directive of the document. Then, type your header directive. This works because the blank line causes the system to begin printing the first page before it knows you want headers. Thus it has to wait until the second page to begin typing the headers.

You can underline and/or boldface some or all of the header text. The procedure is given below.

Procedure

1) A header directive is similar to format directive in terms of how it is separated from the rest of the text. It looks like a separate paragraph. In other words, the material just before it must end in a [RETURN] or a ©L.

2) The cursor must be on the far left edge of the screen.

3) Depress ©F followed by ©[. The second of these causes a "back-slash" to appear on the screen.

4) Now, decide where you want the header positioned on the page. If you want it flush left, type a < symbol immediately after the ©[. (There cannot be a space between them.) If you want it flush right, type a > symbol immediately after the ©[. If you want it centered, then go right to step 5.

5) Now, without typing a space, (unless you want the header to begin with one or more spaces,) begin typing the header line. (Notice that if you want the header centered, you must begin typing the header line immediately after the ©[.) At the end of the header, depress [RETURN].

6) You can now type any other material or special directives if desired.

Procedure to Cancel Headers

If you have a header directive early in a document, you can stop printing headers later in the document. To do this type a header directive using a header with no characters. In other words, immediately after the ©[, depress [RETURN]. Do this at the point in the document that you want to stop printing headers.

Procedure to Underscore and/or Boldface the Headers

To do this, put the appropriate markers in the header text the same as you do with regular text. (See Chapter 7, under the headings "Underscore" and "Boldface.") If you do not turn the underscoring and/or boldfacing off by the end of the header text, the system will continue underscoring and/or boldfacing whatever it prints next, until you do turn them off.

21- FOOTER DIRECTIVE - ©F/<optional location symbol><footer>[RETURN] (print directive)

Purpose

A footer is the same concept as a header, except it is printed at the bottom of a page. A footer is a character, word, or phrase, that you want printed automatically at the bottom of every page. An example might be the title of the document, or its revision number. A footer can be as long as the Width Format Setting.

Just like with headers, you have the choice of printing footers flush with the left margin, flush with the right margin, or centered on the page. If you choose to make them flush with one of the margins, the system will print them flush with the original margin, page after page, even if you change the margin at some point. If you want the footers to be flush with the new margin, you will have to type a new footer directive after you change the Margin setting.

You can change the content of the footers in the middle of a document. To

do this, just type a new footer directive at the point desired. This might be necessary for example at the beginning of a new chapter, if you are using the chapter title as a footer.

As with page numbers, you can make the system begin printing the footers on page 2, rather than page 1. To do this, type the footer directive somewhere within the text which will be printed on page 2, rather than typing the footer directive at the beginning of the document.

You can underline and/or boldface some or all of the footer text. The procedure is given below.

Procedure

1) A footer directive is similar to format directive in terms of how it is separated from the rest of the text. It looks like a separate paragraph. In other words, the material just before it must end in a [RETURN] or a ©L.

2) The cursor must be on the far left edge of the screen.

3) Type ©F. Then type a / (slash).

4) Now, decide where you want the footers positioned on the page. If you want them flush left, type a < symbol immediately after the /. (There cannot be a space between them.) If you want them flush right, type a > symbol immediately after the /. If you want them centered, then go right to step 5.

5) Now, without typing a space, (unless you want the footers to begin with one or more spaces), begin typing the footer line. (Notice that if you want the footers centered, you must begin typing the footer material immediately after the /.) At the end of the footer, depress [RETURN].

6) You can now type any other material or special directives desired.

Procedure for Canceling Footers

If you have a footer directive early in a document, you can stop printing footers later in the document. To do this, type a footer directive using a footer with no characters. In other words, after the /, depress [RETURN]. Do this at the point in the document where you want to stop printing footers.

Procedure for Underscoring and/or Boldfacing the Footers

To do this, put the appropriate markers in the footer text the same as you do with regular text. (See Chapter 7, under the headings "Underscore" and "Boldface.") If you do not turn the underscoring and/or boldfacing off by the end of the footer line, the system will also underscore and/or boldface the page number and its prefix, if they are printed after the footer on the same line.

22- PAGE NUMBER PREFIXES - ©F#<prefix>[RETURN] (print directive)

Purpose

In many documents, you may want to print the page number accompanied by some other characters or information. This additional material is called the page number prefix. For example, the word "Page " is a page number prefix if every page number is printed like "Page 2." You can use the Chapter number as the Prefix, as is often done if page numbering starts from 1 at the beginning of each chapter. In other words, the Prefix for Chapter 6 might be "6-", which would result in page numbers looking like "6-2". This manual is an example of this technique.

As with headers and footers, you can change the page number prefix as often as desired and wherever desired within a document. For example, if you are using the chapter number as the page number prefix as described above, you will have to change it at the beginning of each chapter.

You can underscore and/or boldface the page number prefix and the page number. The procedure is given below.

Procedure

1) A page number prefix directive is similar to a format directive in terms of how it is separated from the rest of the text. It looks like a separate paragraph. In other words, the material just before it must end in a [RETURN] or a ©L.

2) The cursor must be on the far left edge of the screen.

3) Type ©F. Then type a #.

4) Now, without typing a space, begin typing the prefix. At the end of the prefix, depress [RETURN].

5) You can now type any other material or special directives desired.

Procedure for Canceling Page Number Prefix

If you have a page number prefix directive early in a document, you can stop printing prefixes later in the document. To do this, type a page number prefix directive using a prefix with no characters. In other words, after the #, depress [RETURN]. Do this at the point in the document where you want to stop printing a prefix with each page number.

Procedure for Underscoring and/or Boldfacing the Page Number and its Prefix

To do this, put underscore and/or boldface marker(s) as the first character(s) in the prefix text. (See "Underscore" and "Boldface" headings in Chapter 7.) Do not put closing marker(s) at the end of the prefix text, because you also want the page number to be underscored and/or boldfaced. Remember that anything printed after the page number on the same line, such as a header or footer, will also be underscored and/or boldfaced. To prevent this if not desired, put the closing marker(s) at the beginning of the affected header or footer text.

23- COMMENTS - ©F©F<comment> (print directive)

Purpose

There are many times that you will want to include "comments" within a document. Comments are words, phrases, lines, or paragraphs which appear on the screen but are never printed. For example, you may want to keep the date of the latest revision as a comment at the beginning of a document. You may want a comment to remind you how high to roll the top edge of the paper when loading it in the printer, if different than normal. You may be using the system to fill in a form. (See the heading "Form Fill-in," in Chapter 7.) In this case, the descriptions of the entries will be written into the document as comments, so that they are not printed when you print the entries onto the form.

A comment can appear anywhere within the document, with one limitation. It cannot be in the middle of a line of normal text. It must stand alone as a separate line or paragraph. A comment can be longer than one line. It can be as long as you want, so long as it is one paragraph.

Procedure

1) A comment is similar to a format directive in terms of how it is separated from the rest of the text. It looks like a separate paragraph. In other words, the material just before it must end in a [RETURN] or a ©L.

2) The cursor must be on the far left edge of the screen.

3) Type ©F©F.

4) Now, type the comment. It may be as long as you like; more than one line if desired. At the end of the comment, depress [RETURN].

5) You can now type any other material or special directives desired.

24- BOTTOM- B<0 to 110> (format code)

Purpose

The purpose of the Bottom command is to allow users of the BDT 140 sheet feeder a convenient means of defining how many half-lines to skip down the page before the printing starts. This may be used in conjunction with other print devices, as well.

Procedure

1) The bottom command is similar to a form-stop command in terms of how it appears in a line of print format directives. The previous line must have ended with a carriage return or a page feed.

2) The cursor must be on the far left edge of the screen.

3) Type ©F.

4) Now, type B followed by a number from 0 to 120. The default value is 0. At the end of the command, depress [RETURN].

5) You can now type any other material or special directives desired.

6) The Bottom command may be included in a line with other print format directives.

CHAPTER 7

ADDITIONAL PRINTING TECHNIQUES

INTRODUCTION

Chapter 6 covered the basic printing techniques. This chapter completes the topic of printing. The procedures in this chapter should not be considered "advanced." You will find them as easy to do as those in Chapter 6.

IMPORTANT
Several special non-printing directives are described in this chapter. These characters should never be followed immediately by a [RETURN] or ©L. If they are, then they simply will not work; the system will ignore them. For example, you cannot put a Quick Print Stop character, ©Q, at the end of a paragraph, followed only by a [RETURN] or ©L. If you want to do this, then follow the ©Q with a space, then depress [RETURN] or ©L. Do the same with any other non-printing directive.

1 - CENTERING - ©FC[RETURN] (print directive)

If a "centering directive" appears in the text, the text which immediately follows it will be centered on the page when it is printed. The material to be centered can be longer than one line on the screen, but it cannot be longer than one line on the printed page. Thus, its length must be less than the Line Width (W) setting.

A centering directive MUST begin on the left edge of the screen. First, type a ©F. Then, type a C, either upper or lower-case. Finally, depress [RETURN]. The line which you type next will be centered when it is printed. The centering directive itself will NOT be printed at all.

Put a [RETURN] in the text to indicate the end of the line to be centered. This line should begin on the left margin.

2 - UNDERSCORE - _<text to be underscored>_ (print directive)

Place an underscore character immediately before and immediately after the text you want underscored. If the text to be underscored ends with a [RETURN], then the second underscore may be omitted. The underscore character is generated as on any typewriter by holding down the [SHIFT] key and at the same time depressing the "-" key. It is itself a non-printing character.

3 - BOLDFACE - ©O<text to be boldfaced>©O (print directive)

Boldface refers to print which is darker than normal. The system produces boldface by striking each character twice, moving the second strike a small distance to the right.

To cause a section of text to be boldfaced, place a boldface character immediately before and immediately after the desired text. If the text to be boldfaced ends with a [RETURN], then the second boldface character can be omitted. The bold face character is produced by depressing ©O (letter O, not zero). On the screen the boldface character looks like a small square filled in with dots, almost like a smudge. The boldface character is a non-printing character.

4 - End-of-page - ©L (print directive)

When the system runs across an End-of-Page directive while printing, the printer will roll the paper up to the top of the next page. This is used when you want to FORCE the end of the page earlier than normal.

The End-of-Page symbol produced by depressing ©L looks on the screen like a large white square, four times the size of the square that designates a carriage return. It is a non-printing character.

In addition to causing the end of the page, End-of-page also acts the same as a [RETURN]. Therefore, you can put it at the end of the last line or

paragraph on the page in place of [RETURN], accomplishing both functions with one character. Alternately, you can put it on the left edge of the screen following the last material on the page and preceding the first line of the next.

The following problem will arise often: You will print a rough draft of a document and then decide you do not like the pagination decisions that the system has made. You would rather split the pages at different points. To do this you have to go back into the document and insert ©L wherever you want a page to end, and then print the document again. Remember that when you do this, any text you push onto a new page will affect where the system paginates the following text. For this reason, you may have to print the document several times until you are satisfied with the pagination decisions.

IMPORTANT
If you are printing page numbers and/or footers at the bottoms of pages, THE DOCUMENT MUST END WITH A ©L. If not, the page number and footer will not print on the last page.

5 - FORM FEED - FF (Aux. Comm.)

Purpose

If printing stops in the middle of a page, you will want to roll the paper up to the top of the next page so that it is properly positioned for the next document to be printed. Also you will want to roll the paper up, if it is continuous-form, and you are using a pin-feed tractor, in order to tear it off. Always use the Form Feed command, or the Form Feed key on the printer, for this purpose. If you do not, in other words, if you roll the carriage up by hand, then you will have to depress the Set TOF key on the printer after you have properly positioned the top of the paper for the beginning of the next document.

The Form Feed command has exactly the same function as the Form Feed key on the printer. It is just more convenient, since you do not have to reach around to the printer to use it.

Procedure

1) Depress ©A in order to go into the Auxiliary Command Mode.

2) Enter FF. Then depress [RETURN]. The paper will roll up exactly to the top of the next page. Repeat if necessary.

3) Since you are still in Auxiliary Command Mode, you may enter another Auxiliary Command, if desired.

4) To return to Typing Mode, depress [ESC].

6 - SUB-SCRIPT - ©S000<text to be printed below previous material> (print directive)

Purpose

The Sub-script directive is used to print characters BELOW the normal line, such as often required in technical formulae. An example is $_{this}$.

Procedure

The Sub-script directive is produced by typing ©S. When the system runs across a sub-script directive while printing, the printer immediately rolls down one half-line. Printing then continues at this new level, a half-line below previous material. Use a Super-script directive (see next section) to return to the original level.

Here is the difficulty with the Sub-script directive. If it is followed by a number, then you must put three zeroes immediately after the Sub-script character, ©S, like this: ©S0003456. In this example, the 3456 is what you want printed below the line. On the other hand, if the Sub-script character is followed by letters or symbols, then you do not have to put in the zeroes. For example, you can type ©SABC if you want to print ABC below the line. If you remember these facts, you should have no problem.

The sub-script character appears on the screen as two small white squares.

It will not be printed. Neither will the three zeroes. They only show up on the screen.

7 - SUPER-SCRIPT - ©S<# of half-lines to roll paper back><text to be printed above previous material> (print directive)

Purpose

The Super-script directive is used to print material ABOVE the normal line. Use it for technical formulae and footnote numbers, like this[2]. Unlike the Sub-script directive, you can roll the paper MORE than one half-line up from the original line. You can roll it up any number of lines you want, even to the top of the page. (You cannot go further than the top of the page.)

The super-script feature is handy, because you can use it to print two or more columns on the same page. To do this, print one column, then automatically roll the paper back up to the top of the page by using the Super-script directive, and then print the second column to the right of the first. For each additional column, repeat the process. For more instructions on this subject, you will find a section entitled "Multiple Columns" immediately after this one.

Procedure

The Super-script directive begins when you depress ©S. When you depress ©S you will see the same two small squares that are used for sub-scripts. The difference is that for super-scripts, you must type a number right after the ©S, whereas for sub-scripts, the ©S is followed immediately by a letter, symbol, or three zeroes.

When you are using the ©S for super-scripts, the number which follows the ©S tells how many half-lines you want the printer to roll upward. This number must be three digits long. Suppose you want to roll the printer up the smallest possible distance, which is one half-line. Then, type ©S001. Suppose you want to roll the printer up 20 typed lines. Since this is the same as 40 half-lines, you would type ©S040. If you use a number less than three digits long, the printer may not roll the distance you want it to.

As a short cut, you can make the number after the ©S less than three digits

long, but ONLY IF THE SUPER-SCRIPT ITSELF DOES NOT BEGIN WITH A NUMBER. For example, if you want to print the super-script "N", then you may type ©S1N. This produces ^{N}. Why are you only allowed to do this if the super-script does not begin with a number? Consider this example: Suppose you want to print the super-script "5," like this ^{5}. If you type ©S15, how does the system know you do not want to roll the paper 15 half-lines upward? The solution is to make sure that there are three digits between the ©S symbol and the number which follows, which in this case is 5. You would type: ©S0015. Three digits is all you need.

You are allowed to mix super-scripts and sub-scripts in the same line. In fact, this is necessary in order to roll the printer back to the regular line. For example, if you want to print an ordinary footnote number, like ^{5}, type ©S0015©S000. (Or, type ©S0015©S if the next character is not a number.) If you want to print an ordinary sub-script, like $_{2}$, type ©S0002©S001. You can print a more complicated formula such as:

$$X^{3^{(T+1)}+Y}_{-4}.$$

To produce this example, type X©S0013©S1(T+1)©S+Y©S-4.

CAUTION
Like any non-printing material, a Super- or Sub-script directive (including the three digit number which is often necessary) cannot come just before a [RETURN] or a ©L. Should you come across a situation in which you do not want to type anything more in the same paragraph after a Super- or Sub-script directive, then type a space after the directive, then the [RETURN] or ©L.

It was mentioned earlier that you cannot roll the printer up further than the top of a page. This makes it very easy to roll the printer up exactly to the top of a page, without counting the lines. Simply use a Super-script directive with a very large number, say 999. In other words, type ©S999. This works because the printer will stop at the top of the page no matter how much further you tell it to go.

IMPORTANT
You cannot print super-scripts when you are using the forms tractor as it is should be used: with the paper release lever in the "released" (forward) position. This is because the forms tractor only PULLS the paper through; it cannot PUSH the paper. If you want to use the Super-script directive, particularly to roll the printer back MORE than a line, you have to push the paper release lever to the "engaged" (back) position. However, you should not print the whole document this way if you are using the forms tractor because the pressure produced by the platen will pull the paper off the pins. Therefore, if you are using the forms tractor, stop the printer temporarily BEFORE it gets to the point in the document where the

Super-script directive appears, then engage the paper release lever, then resume printing, and then finally stop the printer again after the Super-script directives have been passed and return the paper release lever to the forward position. You can use a Quick Print Stop (described later in this chapter) to stop the printer temporarily at pre-determined points, or you can use the Stop Printer Temporarily command ([space bar]) if you can remember exactly where the Super-script directive is in the document while it is printing.

8 - MULTIPLE COLUMNS

There are two ways to cause printing of two or more columns of text or numbers on one page:

Straight across printing (for columns of numbers or very brief phrases)

In this technique, you create the desired page layout directly on the screen. Each column appears on the screen as it will appear on paper. Use tabs to space over to each column for quick entry of material. To the right of the right-most column, there must be a [RETURN] on EVERY line, so that the system does not attempt to compress all the lines into one paragraph. Because of this, the text will not realign itself when you make insertions and deletions, and in addition, you cannot right-justified it. For these reasons, you may not want to use this technique if the columns consist of prose.

This technique is also limited by the 16 by 64 character screen, because some of the width of a normal printed page will not fit on the screen. The columns you can set up will leave very large margins on both sides when printed, since the total number of characters across can only be 64 characters.

Column-by-column printing (for numbers or prose)

In this technique, the columns on each page are printed one at at time, the printer returning to the top of the page to begin the second and additionl columns. The procedure is stepped through below.

Procedure for column-by-column printing

1) Type the columns on the screen one after the other as if they were to be printed on separate pages. For numbers or discrete phrases, put a [RETURN] at the end of each line so that the system does not compress all the lines into one paragraph. Normal text can be typed all the way across the screen as usual, without a [RETURN] at the end of each line. Format directives will be used as explained below to squeeze the text into narrower columns.

2) Decide how wide each column is to be. For example, if you are using a Type-density of 10 characters per inch and you want to print two columns of text on a normal sheet of paper, then each column will be about 30 characters wide (3 inches). Therefore, the Width format setting must be set at 30. Type W30 within a format directive preceding the text to be printed in multiple columns.

3) Each column must not exceed the maximum number of lines possible on one page. (The maximum number of lines is determined by dividing the Length setting by 2. The standard maximum number of lines is therefore 55.) This is not hard to check if each line appears on the screen separately, ending with a [RETURN].

   However, if you are typing normal text all the way across the screen, there is only one way to determine in advance where the end of each column will be. This is: preceding all the text, enter all the format directives described below, but do not enter any Super-script directives yet. Then print a rough draft of the columns. You can then count the number of lines to determine where each column ends and a new one begins.

4) Decide where the left edge of each column will be. Using the same example, the left edge of the first column might be 10 characters from the edge of the paper, and the left edge of the second column might then be 45 characters from the edge of the paper, leaving a space of 5 characters between the columns. Therefore, preceding the first column on each page there must be a format directive in which the Margin setting is set at 10. (Type M10 within the format directive.) Preceding the second column on each page, there must be a format directive in which the Margin setting is set at 45. (Type M45 within the format directive.) The Indentation setting can be set up in a similar way.

5) All other format settings can be however desired. For example, the columns can be squared-off (Right-justification) or not.

6) Preceding the second and each additional columns, if any, type ©S999 [RETURN]. (Do not neglect to put the space before the [RETURN].) This is a Super-script directive which will cause the paper to roll back to the top of the page.

7) Following the last character in the last column on the page, enter an End-of-Page directive (©L).

8) Repeat steps 3 to 7 for each page of multiple column printing.

9 - QUICK PRINT STOP - ©Q (print directive)

Purpose

This directive temporarily stops the printer at a predetermined point in the text. This allows you to change print-wheels, to change ribbon color, or to type manually from the keyboard to the printer.

Procedure for Typing the Directive

While typing the text, enter ©Q at each point in the text at which you want printing to stop. This produces a character which looks like a vertical rectangle. This is a non-printing character. As with all non-printing characters, the Quick Print Stop Directive cannot be followed immediately by a [RETURN] or a ©L (End-of-page). If you want to follow it with one of these entries, put a space in between as a form of padding.

Procedure during Printing

Later, during printing, each time the system runs across one of these Quick Print Stop directives while printing a document, it immediately stops printing at that point in the text. The letters "QS" will be blinking in the lower right-hand corner of the screen, so that you know what state the system is in. At this time you may change print-wheels, or change ribbon color.

In addition, if you type at this time on the keyboard, it will print immediately on the printer instead of appearing on the screen. In other words, while stopped at a Quick Print Stop, you can use the system as if it were a normal typewriter. This is called "typing directly to printer." See the heading "Type Directly to Printer," below.

After changing print-wheels, changing ribbons, or typing directly to the printer, you may restart the automatic printing at the point it left off. To do this, depress ©Q.

If instead of restarting printing, you want to return to normal typing mode, depress [ESC].

10- TYPE DIRECTLY TO PRINTER

Purpose

When the printer is stopped at a Quick Print Stop, you may type at the keyboard, and the system will print directly on the printer whatever you type. The system acts as if it were a normal electric typewriter.

Procedure

General

When the printer is stopped at a Quick Print Stop, you will see a "QS" flashing in the lower right-hand corner of the screen. At this time, type normally as on a standard typewriter. What you type will print directly on the printer, and will NOT appear on the screen. When you are finished, you can resume automatic printing by depressing ©Q.

Note that the system does not readjust the rest of the printed text to take into account material you manually typed. Hence, if you finished typing in the middle of a line, the automatic printing will extend past the normal right margin.

The following paragraphs give greater detail as to what you can do when typing directly to the printer.

Typewriter Keys
You can use all the grey colored typewriter keys on the keyboard. There is one exception. Although the [TAB] key causes the printer to tab over, there is no way to set any tabs directly on the printer. Thus, the [TAB] key should not be used.

10-key Number Pad
The 10-key number pad can be used to print numbers. This includes using the decimal point key.

[LF] Key
This key has a different effect than when typing on the screen. When typing directly to the printer, it causes the paper to roll up a half-line.

[ALL CAPS] Key
This has the same function it has when you are typing on the screen - it only shifts letter keys, not the number or symbol keys.

[DEL] key and the Arrow Keys
The [DEL] key and the four arrow keys have no effect at all.

Boldface Print
If the printer was printing boldface print just prior to the Quick Print Stop, typing directly to the printer will continue to produce boldface printing. You can switch boldface printing on and off while typing directly to the printer. If the printer is printing boldface, depress ©O to resume normal printing. If the printer is NOT printing boldface and you would like it to do so, depress ©O. Everything you type will then be printed in boldface until you turn it off again. If you do not turn it off before resuming automatic printing, the automatic printing will be done in boldface, as if it had been directed by a Boldface directive.

Underscore
If the printer was underscoring just prior to the Quick Print Stop, typing directly to the printer will continue to produce underscored material. You can switch underscoring on and off while typing directly to the printer. If the printer is underscoring, depress the underscore key (while holding down [SHIFT]) to return to not underscoring. If the printer is NOT underscoring and you would like it to do so, depress the same key. Everything you type will then be underscored until you turn it off again. If you do not turn it off before resuming automatic printing, the automatic printing will be

underscored, as if it had been directed by an Underscore directive.

Go to End of Page
To cause the printer to roll the paper up to the bottom of the page (or to eject the current sheet if you are using single sheets), depress ©L.

11- PRINTER TEST - TP (auxiliary command)

Purpose

As mentioned in Chapter 5 ("Printer Hardware") you test the printer if you suspect that it is not operating properly. The command given here puts the printer into a "self-test" mode, in which it moves the carrier and prints a lot of characters, all without being told what to do.

Procedure

1) Make sure the printer is on a sturdy table, and there is on the table nothing fragile that can fall over. The printer is going to rock and vibrate a great deal.

2) Depress ©A to go into Auxiliary Command Mode.

3) Enter TP followed by [RETURN].

4) Wait about five seconds. The printer wheel will begin spinning wildly. Shortly after that, the carrier will begin travelling back and forth across the printer. Each time back and forth, it will return one less space, so that it moves a shorter distance each time. It will continue this until it comes to a halt in the center. If you allow it to finish, it will print "SELF TEST OK" and then stop. However, before it reaches this point, open the clear plastic lid on the front of the printer, and switch the "Duplex" switch to the middle position, which reads "Test." You cannot do this before the test starts; you must do it in the middle of the test. If you do, then after the printer prints "SELF TEST OK", it will begin printing long rows of characters, printing all the characters on the print wheel.

5) Allow the printer to print a few rows of characters. When it is clear that they are all coming out alright, then switch the Duplex switch back to the "Full" position. This will immediately terminate the test.

6) Depress [ESC] to return to Typing Mode.

7) If anything abnormal happens during the test, repeat the test. If it happens repeatedly, then contact your service representative.

12- REPRINTING PART OF A DOCUMENT

Purpose

Very often you will discover an error in a long document after it is printed, or while it is printing, and you will want to correct it without reprinting the entire document. In this situation, you will probably want to reprint the document beginning with the page on which the error occurs. That is the purpose of this special procedure.

Procedure

1) If you notice the error while the printer is printing, then stop the printer completely by depressing [ESC]. Hold [ESC] down so that the system returns to the Typing Mode. If you want to roll the platen, then use the Form Feed key on the printer. Do not roll the platen by hand, because then you will have to reset the Set TOF key before you begin printing again.

2) Since the cursor will still be at the place in the document where you began printing (probably the beginning of the document), move the cursor to the area where the error is located by scrolling and using other cursor movement commands. Then correct the error using editing techniques. You can do as much rewriting as you need to do.

3) Determine if there are any differences in the format settings between the point you stopped the printer and the point you want to restart it. (See step 4) (Do not worry about the Page Number, Line Number, or Alternation of Layout settings.) If there are any differences, then type a format directive, somewhere in the text, containing the changed settings, and then print it now, then stop the printer again. Check the format settings with the View Format Settings command to make sure they are right. Then delete this format directive from the text so that it does not confuse you later.

4) When finished editing, move the cursor exactly on top of the FIRST character of the earliest printed page on which you made changes. This character can be anywhere, even in the middle of a line or word. The page beginning with this character will be the first page of the new printing.

5) Depress ©A to go into Auxiliary Command Mode.

6) Enter DN 1, then [RETURN].

7) Enter DP followed by a space followed by the page number of the first page of the new printing. Then depress [RETURN]. This guarantees that the page will be numbered properly.

8) If you are using Alternation of Layout, then determine whether the first page of the new printing will be printed on the front or back of the page. If it should be on the front, then enter DA 1. If it should be on the back, then enter DA 3. Then depress [RETURN]. If you are not using Alternation of Layout, then skip this step. (Alternation of Layout is described in Chapter 6.)

9) Enter FF [RETURN]. This will roll the paper to the top of a new sheet. If you are using single sheet paper, then insert a fresh sheet, and roll it up to the paper bails as usual.

10) Enter PR (or ML if you were doing a Merge List printing) followed by [RETURN]. Printing will begin.

11) You may dispose of any pages printed earlier that are now being reprinted.

13- APPEND DOCUMENTS ON PRINTER

Purpose

The working memory of the system can hold about 24 typed pages of text. Still, a very long document, such as this manual for example, will exceed the length of working memory. In this case, you will have to break the document into a number of smaller documents.

There is no problem. If you leave the last page of one document in the printer, and do not move the paper, or turn the printer power off, the next document will begin printing exactly where the preceding one left off. In other words, the division point between documents can fall in the middle of a page. The following precedure summarizes how you accomplish this.

Procedure

1) To make sure that the printer stops in the middle of the page when the first document ends, the first document must NOT end with an End of Page directive (©L). For the same reason, you must not use the Form Feed auxiliary command nor press the Form Feed key on the printer, nor move the paper manually in any way, between the time you finish printing the first document and the time you begin printing the second.

2) The second document, that is, the one which you want started in the middle of a page, must NOT have a Reset format directive (R) or a Current Line Number format code (N) in its initial format directive. This guarantees that all the format settings will remain the same as they were for the previous document, and that when you begin printing the second document, the line-count will continued where it left off during the printing of the first document. For the same reason, you must NOT use the Reset Format Settings auxiliary command (RS), nor may you turn the printer power off, between the time you finished printing the first document and begin printing the second.

3) If you are using a header, footer, and/or page number prefix, then these items must be re-written at the beginning of the second document, (using a header directive, footer directive, and/or page number prefix directive.) This is because when MEMORITE recalls

the second document, it erases all text, including these items, from working memory. In contrast however, the format codes do NOT have to be rewritten at the top of the second document unless you want to change them. They will automatically carry over when the second document begins printing.

4) After the first document is completely printed, simply Recall the second document and begin printing it, using the normal Print auxiliary command (PR). So far as the printing is concerned, there is no way to know that one document ended and another one began in the middle of a page.

14- MERGE LIST - ML <name of list> (auxiliary command)

The Merge List command causes printing just as a normal Print command does. The differences are 1) that names, addresses, and/or other such information contained in a list are included in the printed document at pre-determined places, and 2) the document is printed a number of times rather than once, each time using a different member of the list. Hence, the Merge with List command is used for mass mailing. However, the list can actually contain any kind of information, not only names and addresses. Therefore, the Merge with Mailing List command can be used any time it is desired to print a document (one or more times) merged with the members of ANY kind of list.

The Merge List feature has two further application. First, you can use it for printing just the list itself, using any format desired. To do this, create a document which consists only of Merge Directives. (See "Creating a Document to be Merged with a List," below.)

Second, you can use it to quickly fill in standard printed forms (such as insurance applications, health reports, tax forms, etc.). To do this, you create a list containing one member for each case on which you want to fill the form out. The information within each member consists of all the entries you want to put on the form.

In order to print the form, create a document whose only contents are the merge codes for the items to be printed. They have to be spaced on the page so that they print in the proper locations on the form.

A list can consist of various categories of members. For example a list of customers can be broken down into manufacturers, wholesalers, retailers, and

individuals. You can have up to 26 different categories. The purpose of using these categories is to allow you to specify when printing the list that only certain categories are to be pulled out and printed. Each category is identified by a symbol called a "qualifier." A qualifier can be any upper-case letter. Members are assigned their qualifier when they are put into the list. (See Chapter 11.) Each member can be given 1, or more than 1 qualifier, if they fit into more than 1 category. A member can have all 26 different qualifiers if needed.

One last point: normally each member of a list has a fixed number of lines of information (discussed in Chapter 11.) However, you are free to use 2 or more adjacent members of a list to store the data for one real member. The Merge List command gives you an opportunity to tell the system if you are doing this. This is important for filling in forms, which require a great deal of information for each case.

Procedures for Creating and Maintaining Lists

A separate chapter has been set aside for this topic. See Chapter 11.

Creating a Document to be Merged with a List

This is explained in the section following this one.

Procedure for Merging a Document with a List, and Printing

The following procedure describes the use of the Merge List command.

NOTE:
If the mailing list is not on the same diskette as the text document, place the text document in working memory, remove its diskette from drive 1 and mount the mailing list diskette in drive 1. Remember, the document diskette does NOT have to be mounted in order to print the document.

1) Make sure that the document to be printed has Merge Directives (@<#>) in all desired places. (Explained under "Creating a Document to be Merged with a List," the next section in this chapter.)

2) Decide that the list is complete and up-to-date as desired.

3) Do steps 1 - 5 of the Print command procedure, described in Chapter 6 under the heading "Print."

4) You should now be in the auxiliary command mode. Type ML, then a

space, then the name of the mailing list, then [RETURN].

5) The system responds by displaying "QUALIFIERS(S):". Here you specify which members of the list you want printed. The rest will be ignored. If you want all members who have the qualifier "A" then just enter A. If you want all members who have BOTH "A" and "D" as qualifiers, then enter AD. If you want all members who each have "R", "M", "X", and "T" as qualifiers, then enter RMXT. In other words, for any member to be printed, he has to have ALL these qualifiers.

Now, say you want the members who have "A", and you also want the members who have "B". Then enter A/B. The / means "or". Suppose you want all the members who have both "A" and "C" as qualifiers, and also all the members who have "R", "M", "X", and "T" as qualifiers. Then enter AC/RMXT. You can string a number of such groups together. For example, A/B/C/D means "print any member who has either "A" or "B" or "C" or "D" as a qualifier." Do not forget that if a member has more than one of these qualifiers, say both "A" and "B", then he also gets printed.

One more possibility: Suppose you want to print a member if he has A OR if he does not have B (even if he does not have A). Then, enter A/b. By putting the letter in lower case, it means "not". Similarily, if you want to print any member who has A AND does not have B, enter Ab, with no slash. Further, Abc would print any member who has A AND does not have B and ALSO does not have C.

After you are done entering qualifiers, depress [RETURN]. If you catch a typing mistake before you depress [RETURN], you can correct it by using the [BACK SPACE] key.

6) The system then responds by displaying "BEGIN:". Normally, enter 1, then depress [RETURN].

However, if you are continuing a mass printing which you had interrupted at an earlier time, then enter the number of the copy you should print next. In other words, if in the first sitting you had printing 100 letters, then after "BEGIN:" enter 101. Then depress [RETURN].

If you want to merge with each copy of the document two or more consecutive members of the list (lumping them together as if they were one member), type a slash, followed by the number of consecutive members you want lumped together. Then depress [RETURN]. For example, if you are using two consecutive members of the list to represent one real member, then type after "BEGIN:" 1/2. Then depress [RETURN]. If you have already done 100 letters as described above, then type 101/2 then [RETURN].

7) Printing will begin immediately. If the Form-stop format directive was set to a value of 1 in the document, then printing will stop after the document is printed, (because it stops after every page), allowing you to insert another sheet of paper. When you start printing again ([space bar]), the document will be printed again, merged with the next member of the list.

You can manually halt and restart printing, just as with the normal Print command. You should review if necessary the procedures described under "Print" in chapter 6.

15- CREATING A DOCUMENT TO BE MERGED WITH A LIST

Before you can merge a list with a document, the system has to know WHERE in the document to insert the information from the list.

Under each member in the list there are a number of items (see Chapter 11.) The first item is 01, the second is 02, and so on, up to 07, a total of 7 items. (The qualifier line is not counted.)

All you have to do to insert an item in a document is type the character @ followed by the number of the item. The items can appear in any order in the document. You can use one repeatedly, and not use another one at all. Here is an example of a letter to be merged with a list:

November 3, 1978

```
@01
@02
@03
@04  @05

Dear @06,

     We want to share with you as one of our clients a very useful
tool which we have made an integral part of our office operation.
It is the word processing system produced by Vector Graphic.

     As a friend, @06, allow us to suggest that you look into this
product.

                                        Sincerely yours,
```

Notice that item 06 appears twice. It happens to be the "salutation" item. It would be something like "Mr. Jones" or "Bob." The "Dear" part of the salutation is included in the text of the letter. The second time it appears, 06 is in the middle of the line. When this letter is printed, that paragraph will be adjusted to compensate for the length of the actual item. If the letter is right-justified, the edge of that line will line up perfectly, no matter how long or short the item turns out to be in each copy of the letter. This is true for every item. Any item can be put in the middle of a line, and the system will take care of realigning the text automatically to compensate for it.

The items used in this letter are obviously from a standard mailing list. 01, 02, and 03 contain the member's name, company, and street address. 04 is the city and state, and 05 is the ZIP code. 06 is the salutation item. 07 (not included) is the telephone number.

As mentioned under "Merge List," above, you have the option to tell the system to lump together two or more consecutive members of a list which together hold the data for one "real" member. If you are doing this, then when typing the document to be merged with the list, you continue numbering items past the normal last item # for a member, pretending as if all the information is under one member in the list. In other words, since there are normally 7 items of information per member, but you are lumping them together by pairs, then in your letter, the second group of items in each pair is numbered 08, 09, 10, 11, etc.

16- PAGE SIZE - PS <page size in inches> (Aux. Comm.)

Purpose

This command is only provided with copies of the word processing package ordered specifically for use with a Sprint 3 printer.

The purpose of this command is explained at the beginning of Chapter 5 in this manual. In brief, this command is only used if you are using a Vector Sprint 3 printer. It informs the printer what length page you are printing on, not in terms of how many lines, but it terms of inches. This information enables the printer to roll up the right distance when the system wants to print at the top of the next page.

Normally, the printer assumes that the length of a page is 11 inches, which is the standard in the United States. Only use the PS command if you are using a page size different than 11 inches, or you want to return to 11 inches after using a different size. For example, if you want to print on 12-inch paper, you will need the PS command to tell the printer to expect 12-inch paper. If you use this size paper every day, you will have to repeat the command every day.

Procedure

1) Depress ©A to go into Auxiliary Command Mode.

2) Enter PS followed by a space.

3) Now, type the length of the page in inches. The following are the only lengths allowable: 3, 3.5, 4, 4.5, 6, 7, 8, 8.5, 11, 11.6, 12, and 14. If you enter 11.6, the printer interprets this as 11 2/3 inches, which corresponds to an existing kind of paper.

4) Then, depress [RETURN].

5) The system will still be in Auxiliary Command Mode. You can check that the desired page length is in effect by typing FF [RETURN], which causes the printer to roll up to the next sheet. Repeat it several times, making sure it rolls the desired distance.

6) Depress [ESC] to return to Typing Mode.

CHAPTER 8

DISKETTES AND DISK DRIVES

1 - DESCRIPTION OF DISKETTES

The recording medium used with the the system is an industry standard 5 1/4-inch diskette in its hard-sectored version with 16 sectors, each defined by a sector hole. Thus, it has one index hole and 16 sector holes. Diskettes of this type are available from computer stores or from other computer supply sources. DO NOT USE DISKETTES WITH OTHER THAN 16 HARD SECTORS, OR THOSE WHICH ARE SOFT-SECTORED (NO SECTOR HOLES). THEY WILL NOT WORK.

2 - HANDLING DISKETTES

The system was designed to take every reasonable precaution to protect your diskettes and the data recorded on them. Examples of this care are the door interlock which prevents mounting of the diskette until it is properly inserted, and the automatic 4 second deselect feature which relieves the head load pressure from the recording surface when the drive is not in use.

Once the diskette is removed from the drive, it is your responsibility to exercise the same care in handling and storing the diskette to ensure its long service life. The following precautions are guidelines for proper handling:

a) The exposed recording surface is easily contaminated - do not touch or attempt to clean the surface. Do not smoke, eat or drink while handling the diskette. Whenever the diskette is removed from the drive, return it to its protective envelope.

b) The diskette is a thin oxide-coated plastic sheet which may be damaged if handled carelessly. Do not place heavy objects on the diskette; do not expose the diskette to excessive heat or sunlight; do not use rubber

bands or paper clips on the diskette; do not bend or fold the diskette.

c) Do not write on the diskette labels with an erasable pencil: graphite particles may contaminate the diskette or it may be damaged by the force exerted in writing. A fiber-tip type of pen is recommended. Return the diskette to its envelope before writing on labels.

d) Information is recorded on the diskette as magnetized "spots". Exposure of the diskette to magnetic fields or ferromagnetic objects which may become magnetized may result in the loss of information.

If a diskette is damaged or contaminated it should be replaced. If a contaminated diskette is placed in the drive, the drive and head may become contaminated and ruin other diskettes.

The auto-deselect will ensure reasonable diskette life. But, as a rule you should unmount the diskette whenever it is not going to be accessed for long periods of time. This will give added diskette life and prolong the life of the drive motor.

3 - LOADING AND UNLOADING DISKETTES FROM THE DRIVES

There are two stages of loading a diskette. First, insert the diskette with label side leftward, and with the edge nearest the open slot going in first. Insert the diskette all the way, until it clicks into place. At this point the diskette is said to be "inserted" but not yet "mounted". The diskette may be left like this for any length of time without decreasing its life. Power may be turned on or off with the diskette in this condition. It is recommended however that if a diskette will not be used for any length of time it be returned to its envelope or other storage file.

Second, the diskette is "mounted" by pushing the door on the drive closed slowly but firmly until it stays in the closed ("mounted") position. The drive will begin to turn and rotate the diskette inside its jacket. If the door cannot be fully closed, or if the drive sounds rough, this indicates that the diskette was not inserted completely or properly. Remove and re-mount it.

Power should NOT be turned on or off when a diskette is in the mounted position. The consequence is from time to time the loss of data on the diskette. However, if you accidentally make this mistake 99% of the time no damage will be done. Continue to use the disk as if nothing had happened.

If damage was done, you will know it when the system cannot recall one or more specific documents no matter how many times you try. If this does happen, then those documents are lost and must be retyped. This is one reason it is good to have back-up diskettes.

Once the diskette is mounted, it is accessible for saving or recalling information. Whenever the system accessess the diskette, you will hear an audible click from the drive unit and the red light on the unit will glow, indicating that unit has been selected. After the operation is complete, the unit will remain selected for 4 seconds. At the end of 4 seconds, the unit will be automatically deselected: the red light will go out, and there will be another click as the head load pad is raised off the surface of the diskette. This automatic deselect feature is important in lengthening the life-span of diskettes.

To dismount the diskette, push the door even further to the right, as far as it will go, then release pressure. It will then open to the unmounted position. This discontinues rotation of the diskette within its jacket. In order to do your part as user in prolonging the life of the diskette, observe the following rule: DISMOUNT THE DISKETTE DURING PERIODS IN WHICH IT IS NOT IN USE. This reduces wear of the diskette against its jacket. Note that the diskette may be left inserted, so long as it is dismounted, without shortening its life.

To remove the diskette, press the door leftward. The diskette will be popped out (de-inserted) and can now be removed.

4 - REPLACEMENT AND BACK-UP OF DISKETTES

The nature of floppy diskette drives is that the head is in contact with the diskette surface whenever the unit is selected, resulting in gradual deterioration of the surface. Continual loading of the head on a single track will naturally result in its deterioration before the rest of the diskette. The rotation of the diskette within its jacket is an additional source of wear.

Replacement

For these reasons, diskettes must be replaced from time to time. The intervals are entirely dependent on the kind of usage. There are no accurate predictions for diskette life-span, but 2000 to 3000 hours of

rotation is a reasonable estimate. A good suggestion therefore is that diskettes which are used every day should be replaced annually by copying them onto new diskettes. Diskettes used infrequently may never require replacement.

Failure of a diskette will be indicated by the inability of the system to recall a document or list which it normally has been able to recall. With proper care, this should not occur.

Backup

The last defense against loss of diskette-based data is maintaining a back-up diskette for each diskette you use. In the business world, this is considered dogma. Data is most often lost due to damage to diskettes from accidental mis-handling; normal wear is much less often a problem. The standard rule of thumb is as follows: copy a front-line diskette on to its back-up whenever you cannot afford to lose the information stored since you last backed it up. Do not put off this copying procedure, because once the diskette is damaged, the data which cannot be read can never be recovered.

To copy diskettes use the Copy Diskette command, found in Chapter 9.

5 - INITIALIZING DISKETTES

Previously unused diskettes must be initialized. Use the Initializing a Diskette command, found in Chapter 9. DO NOT INITIALIZE ANY DISKETTE CONTAINING DESIRED INFORMATION. THIS DESTROYS THEIR CONTENTS.

6 - PROTECT FOR WHOLE DISKETTES

This is accomplishing by attaching a protect tab over the protect cutout on the diskette jacket. Looking at the diskette's labelled face, right side up, the cutout is on the upper right-hand edge. So long as the tab is in place, the system will not be able to Save onto or Update the diskette. The tab can be removed easily, when desired.

Protect tabs are provided with newly purchased diskettes.

CHAPTER 9

THE DISK DRIVES - HANDLING WHOLE DISKETTES

INTRODUCTION

This is the first chapter concerned with how to put information on diskettes and how to take it off. This chapter is concerned with procedures that deal with the diskettes as wholes. The following chapter is concerned with how to deal with individual documents stored on the diskettes.

1 - INITIALIZING A DISKETTE - IN <#> (auxiliary command)

Purpose

Before you can use a diskette to store documents, the diskette must be "Initialized." Initializing refers to the process by which the system erases a diskette and prepares it to hold information. It is a good idea to Initialize all the new diskettes you plan to use in the near future at one sitting, so that you do not have to do it every time you want to use one.

Since Initializing a diskette completely erases it, DO NOT INITIALIZE ANY DISKETTE THAT CONTAINS INFORMATION YOU WANT. This includes the MZOS diskette which comes with the system. However, since Initializing does erase a diskette, if you want to erase a certain diskette and use it as a new diskette, you may use the Initializing procedure for this purpose.

If You Try to Use an Unitialized Diskette

With the exception of the Copy Disk procedure, described below, none of the disk procedures in this chapter will work on an unitialized diskette. If you try to use one of the procedures, you will get the error message "Disk System in Error." However, sometimes the red light on the drive will go on and it will stay on. The diskette will not make any noises and nothing will happen on the screen. When this happens, remove the diskette from the

drive. Then, depress the RESET key on the the system case. Then, enter GE000 (GE followed by three zeroes) on the keyboard. This will bring the system back to the Typing Mode.

Procedure

1) Mount the diskette you want to initialize in one of the drives.

2) As a measure of safety, remove any other diskette from the other drive.

3) Depress ©A in order to go into Auxiliary Command Mode.

4) Enter IN, followed by a space.

5) Enter the number of the drive holding the diskette, either a 1 or a 2. Make sure you enter the correct number because if there is a diskette in the other drive and you enter the wrong number, you will erase it. Drive 1 is the right-hand drive. Drive 2 is the left-hand drive.

6) Depress [RETURN]. The system will initialize the diskette. This process will take between 1 and 5 minutes. The red light on the drive will go on and stay on during the process.

7) You may remove the diskette when the process is complete. You will know it is done when the IN command disappears from the screen. You do NOT have to wait for the red light on the drive to go out. The system will be in the Auxiliary Command Mode. You may enter another auxiliary command if desired.

8) To return to Typing Mode, depress [ESC].

2 - DEFINE MAIN DRIVE - DD <#> (auxiliary command)

Purpose

The system includes two floppy diskette drives. The drive on the right is drive 1 and the drive on the left is drive 2. Some of the commands which control the disk drives allow you to enter a command without telling which drive is to be used. In such cases, the system automatically uses the "main" drive.

The purpose of the Define Main Drive command is to allow you to tell the system whether drive 1 or drive 2 is to be considered the main drive. The standard main drive is drive 1. In other words, each time you turn the system on, if you do not enter a Define Main Drive command, then the system will assume that drive 1 is the main drive. Once you enter a Define Main Drive command, the specified drive will remain the main drive until you enter another Define Main Drive command, to change it.

Procedure

1) Depress ©A in order to go into the Auxiliary Command Mode.

2) Enter DD, then a space.

3) Enter the number of the drive you want to be the main drive, either 1 or 2.

4) Depress [RETURN]. This completes the command.

5) You may now enter another auxiliary command if you desire. To return to Typing Mode, depress [ESC].

3 - VIEW DIRECTORY - VD <#> (auxiliary command)

Purpose

Use this command when you want to see a list of what is stored on a particular diskette. It causes the system to display on the screen a directory of the documents and MZOS files, if any, stored on the diskette.

Overall Description of the Directory

The directory that will be displayed on the screen has two halves. The halves are separated by a dashed line and the words "DOCUMENT DIRECTORY (#)" The "#" will either be a 1 or a 2, depending on which drive the diskette is in. Above the line, the names of all the documents on the diskette will be listed. Below the line, the names of all "MZOS files" will be listed. ("MZOS files" are explained below.)

Description of the Document Part of the Directory

The document part of the directory appears on the screen above the line of asterisks. The documents are listed in 4 vertical columns, to save space on the screen.

Next to each document, the display shows the number of times which that document has been Updated, or Saved. (See the headings "Update Document" and "Save Document," in Chapter 10.) For example, after the first time a document is Saved, the directory will show a "1" by the name of the document. Then, after the first time it is Updated, the directory will show a "2" by the name of the document. Each time thereafter that it is Updated, the number shown will increase by 1. If new material is Saved under the same name, replacing the old contents, this will continue to increase the number shown in the directory.

Also shown in the directory is whether or not each document is Protected. (For an explanation, see the headings "Protect" and "Unprotect", in Chapter 10). If a document is protected, an asterisk appears immediately following the name of the document in the directory.

MZOS Files Part of the Directory

An MZOS "file" is a body of information which is created by the MZOS operating system. It is not a document. The Demonstration diskette contains several such files. Examples of such files are MZOS itself, VBASIC, and MLPROG. Lists, for use with the Merge List command, also appear in the MZOS half of the directory.

As in the Document half of the directory, the names of MZOS files are listed in 4 vertical columns. If a file is protected, an asterisk will follow its name. Note however, that any files YOU create, in other words, your mailing lists, cannot be protected.

As in the document half of the directory, a number follows the name of each file. However, with MZOS files, this number indicates the "type" of file it is, rather than the number of times it has been Updated. The meaning of these numbers is not relevent to most users. (See the MZOS manual.)

Procedure

1) Make sure that the diskette you want to reference is mounted in one of the drives.

2) Depress ©A in order to go into the Auxiliary Command Mode.

3) Enter VD, followed by a space.

4) Enter the number of the drive holding the diskette you want to reference. If the diskette is in the "main" drive, then you do not have to enter a number. Note that if you do not enter a number, the diskette will be available for you to deal with individual documents. (See Chapter 10.)

5) Depress [RETURN]. The directory will appear on the screen.

6) To clear the the directory from the screen, depress [ESC]. This returns the system to the Auxiliary Command Mode. You may now enter another auxiliary command, if desired.

7) To return to Typing Mode, depress [ESC] a second time.

4 - PRINT DIRECTORY - PD <drive # (optional)> (auxiliary command)

Purpose

This command is used to print the same disk directory that you can view on the screen using the View Directory command, described above. Use it when you need a printed copy.

Procedure

1) Make sure that the printer is turned on, there is paper (properly loaded), there is ribbon in the printer, and the Form Length dial is set for the proper length of paper.

2) Depress ©A to go into Auxiliary Command Mode.

3) Enter PD.

4) If the diskette you want is in the main drive, then depress [RETURN]. If it is in the other drive, then depress [space bar] and then enter that drive # (usually 2). Then depress [RETURN].

5) Printing will start immediately. You can interrupt printing in any of the normal ways (see Chapter 6.)

5 - VIEW STATUS OF DISK - SD <#> (auxiliary command)

Purpose

This command allows you to see how much of a diskette is filled up with information, and how much is still available. After the View Status of Disk command is entered, a line will appear which reads: "### BLOCKS IN USE - ### BLOCKS REMAINING". The ###'s will be actual numbers. Each block contains 256 characters. A diskette contains space for 1228 blocks.

You can use this report to determine whether you have enough room on a particular diskette to store a certain group of documents. You will have to make your own estimate of the total length of these documents in blocks.

You do NOT have to find out the Status of Disk each time you want to Save or Update an INDIVIDUAL document on a disk. This is because, when you try to Save or Update a document and there is not enough room on the diskette, the system will inform you of this at that time.

NOTE: The Status of Disk command will often report that there is space on the disk even though the system reports "Disk is Filled to Capacity" when you try to save or update a document. The reason is that there are spaces BETWEEN documents which the Status of Disk command counts as empty but which are not big enough to be of any use. If you compact the disk (see Compact Disk, later in this chapter) then the Status of Disk command will be accurate. In other words, the Status of Disk command reports the status of the disk if it were compacted.

Procedure

1) Make sure that the diskette you want a status report on is mounted in one of the drives.

2) Depress ©A in order to go into Auxiliary Command Mode

3) Enter SD, followed by a space.

4) Enter the number of the drive holding the diskette you want to reference. If the diskette is in the "main" drive, then you do not have to enter a number.

5) Depress [RETURN]. The status report will appear on the bottom line of the screen.

6) To clear the report from the screen, depress [ESC]. This returns the system to Auxiliary Command Mode. You may now enter another auxiliary command if desired.

7) To return to Typing Mode, depress [ESC] a second time.

6 - COPY DISK - CD <#> (auxiliary command)

Purpose

Use this command when you want to copy the entire contents of one diskette onto another diskette. The most common reason for doing this is to "back-up" a diskette, in other words, make a duplicate copy for safe-keeping. (See Chapter 8.) The original is not changed in any way.

The diskette to be used for the copy does NOT have to be Initialized before the copy is made. You can use a diskette fresh from its package. This is the ONLY time you can use a diskette without Initializing it.

You do not HAVE to use a new diskette. A previously used diskette can be used for copying on. Beware however that the previous contents of that diskette will be completely erased when you copy another diskette onto it.

Procedure

1) Although any document currently in working memory will not be damaged by copying a diskette, it is still advisable to Save or Update onto diskette the document you have in working memory, then clear memory using the Clear command (CL). The reason is that the copying process is much faster the less material there is in working memory. If there is a very large document there, then copying will take more than 5 minutes. If working memory is empty, then it will take 1 or 2 minutes.

2) Mount the original diskette in one of the drives. Mount the diskette to be used for the copy in the other drive.

3) Depress ©A in order to go into Auxiliary Command Mode.

4) Enter CD, followed by a space.

5) Enter the number of the drive holding the ORIGINAL diskette - the diskette you want to copy. IT IS VERY IMPORTANT THAT YOU DO NOT ENTER THE WRONG NUMBER BECAUSE THIS WILL RESULT IN ERASING THE DISKETTE YOU WANT TO MAKE A COPY OF. Drive 1 is the right-hand drive. Drive 2 is the left-hand drive.

6) Depress [RETURN]. The system will begin copying the diskette. This process will take a few minutes. DO NOT TRY TO STOP IT, because you may loose all the information on your original diskette. While the system is copying, the red lights on the disk drives will alternately go on and off, and the drives will make noises. This indicates that the process is going well.

7) You may remove the diskettes from the drives as soon as copying is done. You will know that the copying is done when CD command disappears from the screen. You do NOT have to wait until the red lights on the drives go out. The system will now be in the Auxiliary Command Mode. You may enter another auxiliary command if desired.

8) To return to Typing Mode, depress [ESC].

7 - COMPACT A DISK - CO <#> (MZOS command)

Purpose

Whenever the system stores a document on a diskette, it puts it in the first space on the diskette which is big enough to hold it. Other documents may be stored on the diskette before and after it. If you should add material to a document, there may no longer be room for it in the place it was originally stored. In this case, when you do an Update or Save Document command (see these headings, below), the system automatically moves it to the first space on the diskette in which it will fit. The original location is left unused. If several documents on a particular disk are enlarged and updated several times, there may be many unused spaces on the diskette, scattered between the active documents on the diskette. The consequence is that the system may not be able to store any more large documents on that diskette, even though the Status of Diskette status report seems to indicate there is sufficient room. You CAN squeeze the unused spaces out of the diskette. That is the purpose of the Compact Disk procedure.

Procedure

1) Make sure that the document you were last working on is safely Saved or Updated on a diskette. (See headings entitled "Save Document" and "Update Document", below.) This is because using MZOS will clear all text from the system's working memory.

2) Mount the Demonstration Diskette in drive 1.

3) Depress ©A in order to go into Auxiliary Command Mode.

4) Enter OS [RETURN]. This causes the MZOS operating system to be activated. A line will appear on the screen which reads "Vector Graphic MZOS XX.X". After this line, a "#" sign will appear on the left-hand edge of the screen.

5) Remove the Demonstration Diskette and mount the disk you want to compact in drive 1.

6) Enter CO, followed by a [RETURN] This will cause the disk to be compacted. The process may take several minutes. As when initializing a diskette, the red light on the disk drive will go on. You will know that the process is complete when another "#" appears on the screen. You do not have to wait for the red light on the drive to go out.

7) To return to Typing Mode, enter JP E000 [RETURN]. (The E is followed by three zeroes, not o's.)

CHAPTER 10

THE DISK DRIVES - HANDLING INDIVIDUAL DOCUMENTS

INTRODUCTION

This is the second chapter concerned with how to put information on diskettes and how to take it off. This chapter is concerned with procedures that deal with documents one at a time, rather than with the diskette as a whole.

1 - CREATE A DOCUMENT NAME - CR <document name> (auxiliary command)

Purpose

Before you can save a document on a diskette, you have to put the desired name of that document in the directory of that diskette. You must do this for each document you want to store on that diskette. (You do not have to do this for ALL documents at the same time.) This action is called Creating a Document Name.

Procedure

1) Make sure the diskette you want to use is mounted in the "main" disk drives. The main drive is drive 1, unless you have changed it to drive 2. (See Chapter 9, under "Define Main Drive.")

2) If you are using a NEW diskette, Initialize it if you have not already done so. (See Chapter 9, under "Initializing a Diskette.")

3) Depress ©A in order to go into the Auxiliary Command Mode.

4) Enter CR followed by a space.

5) Type the name of the document. You may type in lower or upper case, but the system will automatically convert letters to upper case. The name may be from 1 to 8 characters in length. The first character must be a letter. After the first letter, you can use any letter, number, or symbol. There cannot be a space or a comma within the name. Some examples of valid document names are LETTER, MEMO#18 and A. Invalid names would be MEMO 2 (has a space), LETTER#24 (too long), 3 (starts with a number), #5MEMO (starts with a symbol), or BOOK,2 (has a comma).

6) After the name, depress [RETURN]. The red light on the disk drive will light up and the system will put the name of the document on the diskette. When it is done, the system will display the directory on the screen, to show you that the new document name is included.

7) You are still in Auxiliary Command Mode. You may enter another auxiliary command if desired. For example, you may immediately want to use the new document name to Save some text that you have been writing. You can enter VD right now in order to go into Disk Directory Command Mode, and then use the Save Document command. (See heading entitled "Save Document", below.)

8) To return to Typing Mode, depress [ESC].

2 - ENTER AND LEAVE DISK DIRECTORY COMMAND MODE - VD (auxiliary command)

Purpose

Most of the rest of the commands in this chapter are NOT auxiliary commands. They are called disk directory commands. In order to use them, the system must be in the Disk Directory Command Mode. This special mode is used, as you will see, because it makes it much easier to reference specific documents on the disk. Whenever you want to use any of the disk directory commands, first use the following procedure to get into the Disk Directory Command Mode.

Procedure

1) Make sure the diskette you want to reference is mounted in the main drive. Remember that the main drive is drive 1, unless you have made drive 2 the main drive using the Define Main Drive command. (See heading entitled "Define Main Drive", in Chapter 9.)

2) Depress ©A to go into the Auxiliary Command Mode.

3) Enter VD [RETURN]. The red light on the disk drive will light up briefly. (You do not have to wait for it go out before you continue.) On the screen, a directory of the documents on the diskette will appear. The first document name in the directory will be displayed in full intensity while the rest of the screen is in half-intensity. Furthermore, on the screen next to this name you will see a cursor. This indicates that the system is in the Disk Directory Command Mode. You may now enter one or more of the disk directory commands, as described below.

4) After you have done one or more disk directory commands, you can return to Auxiliary Command Mode. Just depress [ESC]. After this you can enter another auxiliary command if desired.

5) To return to Typing Mode, depress [ESC] again.

3 - USING DISK DIRECTORY COMMANDS

Purpose

Once the system is in the Disk Directory Command Mode, you may use one or more of the disk directory commands. Each time you use one of these commands, the system references one of the documents on the diskette. As examples, it may Recall a certain document from the diskette, putting it in memory to be edited or printed, or it may Erase a certain document from the diskette.

The following procedure explains how you tell the system which document you want to use. It also explains how you enter a command and how you can cancel a command before it is executed. An explanation of each disk directory command then follows below.

Procedure

1) Go into the Disk Directory Command Mode as explained above under the heading "Enter and Leave Disk Directory Command Mode."

2) Move the cursor to the name of the document you want to reference. To do this, use some or all of the four cursor movement arrow keys. These are the same keys you use to move the cursor when in Typing Mode. Do not worry about accidently erasing or typing over the names in the directory on the screen. This is because the system will ignore all keys except the arrow keys and the specific letter keys used to enter the disk directory commands.

   In using an arrow key, the cursor will move very quickly from one name to the next if you hold the key down. If you hold down one of the horizontal arrow keys, the cursor will "wrap around". In other words, it will go past the edge of the screen and continue on the next row up if the cursor is moving leftward, or the next row down if the cursor is moving rightward. This allows you to move very quickly through the directory to reach the document you want.

3) When the cursor is next to the desired document, depress the single letter key for the desired command. The various commands are described below. The letter you enter will appear "inside" the cursor, that is, superimposed black-on-white on the cursor.

4) To execute the command, depress [RETURN]. the system will then carry out the command as described under the particular command, below.

5) If you enter a command, and then decide you have made an error before you depress [RETURN], you can cancel the entry. If you want to enter a different command for the same document, simply depress the other command to cancel the first command. If you want to move to a different document name, use one or more of the arrow keys. This will automatically cancel the command you had entered, as well as move the cursor. If you want to leave Directory Command Mode altogether, depress [ESC]. This also will cancel the command you had entered, as well as go back to Auxiliary Command Mode.

6) After the system executes the command, the letter you entered will disappear and the cursor will remain. (This is not true for Erase Document, Protect Document, and Unprotect Document, which cause the cursor to go the upper left-hand corner of the directory.) At this time, you may enter another disk directory command for the same document, move the cursor to a different document in order to enter a command for it, or leave the Disk Directory Command Mode altogether. Depress [ESC] to return to the Auxiliary Command Mode, and another [ESC] to return to the Typing Mode.

4 - SAVE DOCUMENT - S (disk directory command)

Purpose

Assume you have just written a new document and the text of that document is sitting in the system's working memory. You use the Save command to save that text on disk under a specific document name. Once it has been saved, you can use the system to write or edit a different document. The original document can later be Recalled for editing and/or printing. The Save Document command can also be used to REsave a document that you had Recalled and then edited. However, in this case, it is easier to use the Update Document command, described further below. Note that you must use the Create a Document Name before you can Save a document under a name that does not yet exist on the diskette you want to use.

Procedure

1) Get into the Disk Directory Command Mode and move the cursor next to the name of the document you want to use. (To do this, see the headings "Enter and Leave Disk Directory Command Mode" and "Using Disk Directory Commands," above.)

2) Depress S.

3) Make sure that you have selected the correct document name. When you are sure, depress [RETURN].

4) The red light on the disk drive will go on. The system will save the text that is in working memory under the name you selected on the diskette. The text in memory will not be altered when this happens. Thus, until you Recall a different document or otherwise change the text that is in working memory, you will have the document in two places - in working memory AND on diskette.

5) You will know when the system has finished when the S disappears from the screen and the cursor reappears. You may now enter another disk directory command for the same document, move the cursor to a different document and enter a command for it, or leave the Disk Directory Command Mode altogether.

6) To return to Auxiliary Command Mode, depress [ESC]. To return to Typing Mode, depress [ESC] again. When you get back to Typing Mode, you will find that the document you saved is still available for further editing or for printing.

5 - RECALL DOCUMENT - R (disk directory command)

Purpose

You cannot review, edit, or print a document stored on diskette until you bring it back into the system's working memory. This is the purpose of the Recall Document command.

Consequences

When a document is recalled, the original on the diskette is not altered. It will only be changed if you Save new material under the same name, or Update it. However, if there is any text in the system's working memory when you Recall a document, the text in working memory will be replaced by the Recalled document. For this reason, as a safety feature, the system will not obey a Recall command the first time you enter it IF you forgot to Save or Update on disk the document currently in working memory. This gives you a chance to Save or Update it on disk. The second time you try to Recall the same document as before, the system will obey you whether or not you Saved or Updated on disk the document currently in working memory. This allows you to erase it from working memory if you really do not want it.

Procedure

1) Get into the Disk Directory Command Mode and move the cursor next to the name of the document you want to use. (To do this, see the headings "Enter and Leave Disk Directory Command Mode" and "Using Disk Directory Commands," above.)

2) Depress R followed by [RETURN].

3) If the document in working memory had not been Saved or Updated on diskette, then the system will put the following message on the screen: "TEXT HAS NOT BEEN SAVED." Depress [ESC] to clear the message from the screen and return to Disk Directory Command Mode. If you want to store that document, you may now do so using the Save Document or Update Document commands.

   After you have Saved or Updated, return to the Disk Directory Command Mode if you left it, move the cursor back to the name of the document you want to Recall, and enter R [RETURN] again. If you do not want to Save or Update on disk the document currently in working memory, then just enter R [RETURN] a second time. The second time it is entered, the system will recall the desired document whether or not you have stored the text currently in working memory.

4) The red light on the disk drive will go on when the system begins executing the Recall Document command. You will know that it is done when the R disappears from the screen and the cursor reappears. You may now enter another disk directory command for the same document, move the cursor to a different document, or leave the Disk Directory Command Mode altogether.

5) To return to Auxiliary Command Mode depress [ESC]. To return to Typing Mode, depress [ESC] again. When you return to Typing Mode, you will find that the document you recalled is in the system's working memory. The screen will show the beginning of the document. You may begin editing or printing the document.

6 - APPEND DOCUMENT - A (disk directory command)

Purpose

This command is used when you want to recall a document from diskette and ADD (append) it onto the text already in working memory. The result is that both documents are merged together in working memory. The second document is attached to the rear of the first. You can then edit and/or print the text in this new form as if it were a new document. Then you can Save it on diskette as a new document. Meanwhile, the originals are still available for future use, still stored as separate documents on the diskette.

Procedure

1) Get into the Disk Directory Command Mode and move the cursor next to the name of the document you want to use. (To do this, see the headings "Enter and Leave Disk Directory Command Mode" and "Using Disk Directory Commands," above.)

2) Depress A, followed by [RETURN].

3) The red light on the disk drive will go on when the system begins executing the command. You will know it is finished when the A disappears from the screen and the cursor reappears. You may now enter another Disk Directory command for the same document, move the cursor to a different document, or leave the Disk Directory Command Mode. If you are assembling a document from several segments, move the cursor to the name of the next segment, and depress A followed by [RETURN] again. Do this until you have used all the segments you want.

4) To return to Auxiliary Command Mode, depress [ESC]. To return to Typing Mode, depress [ESC] again. When you return to Typing Mode, you will find that the document(s) you referenced have in fact been appended to the material which was previously in working memory. The screen will show the beginning of the original material. You may begin editing or printing the newly assembled document.

7 - ASSEMBLING A DOCUMENT FROM BOILERPLATE

The Append Document procedure is commonly used for assembling a document from what is often called "boiler-plate." "Boiler-plate" means a collection of paragraphs, lines, or other STANDARD segments of text. These segments are used to create different documents by calling them up in different combinations. The resulting document can then be further edited in working memory and then printed. ("Boiler-plate" can also refer to a single document, such as a standard legal contract, which is called up when needed, and then modified slightly for each particular case.)

In order to set up a group of such segments on a diskette, write each segment as if it were a separate document. Note however, that each of the segments does not have to have format directives, except if special formats are used within certain segments. You can write them without format directives, and later write the format directives at the beginning of the final assembled document.

Give each of the segments its own descriptive name, using as many of the eight characters allowed as possible, so that they can be easily recognized in the disk directory. The Append Document command can then be used to call up very rapidly a large number of "boiler-plate" segments from storage on diskette, chaining them together in the system's working memory. The speed is a consequence of the fact that you do not have to type in the name of each segment. All you have to do is move the cursor from one desired segment to the next (while in Disk Directory Command Mode) and depress A followed by [RETURN] when it is next to each one. Note that the FIRST segment should probably be called up using the Recall Document command, in order to clear the system's working memory of any unneeded material.

8 - ERASE DOCUMENT - E (disk directory command)

Purpose

Documents stored on diskette may not be needed forever. When a document is no longer needed, use the Erase Document command to eliminate it from the diskette. This command will only effect the diskette. The text you are working on in working memory will not be erased or damaged.

Procedure

1) Get into the Disk Directory Command Mode and move the cursor next to the name of the document you want to erase. (To do this, see the headings "Enter and Leave Disk Directory Command Mode" and "Using Disk Directory Commands," above.)

2) Depress E. Now, make sure you have chosen the correct document. Once it is erased, it is GONE. When you are sure, depress [RETURN].

3) The red light on the disk drive will go on when the system begins executing the command. You will know it is finished when directory disappears and then reappears without the document you Erased. You may now move the cursor to a different document, or leave the Disk Directory Command Mode.

4) To return to Auxiliary Command Mode, depress [ESC]. To return to Typing Mode, depress [ESC] again.

9 - PROTECT DOCUMENT - P (disk directory command)

Purpose

As a user of the system, you will be putting in a great deal of time typing text into the system. You cannot afford to have your work lost through your own error or that of another operator of your system. One of the ways your work can be quickly lost is by accidently Erasing the wrong document. In a similar way, you may accidently Save a new document under the name of an existing document, thus destroying the existing document. This mistake can be made because you only have to accidently put the cursor next to the wrong directory listing when Erasing or Saving. For this reason, the Protect Document feature is provided.

When a document has been "Protected," the system will not allow you to Erase it, Update it, or Save another document under the same name. It has the same effect on an individual document as a write-protect tab has on the whole diskette. When you want to Erase it or change it, all you have to do is Unprotect it. (See below.)

For the above reasons, it is recommended that you Protect all documents stored on diskette that are not being frequently edited and Updated.

The Protect command only effects the diskette. It does not damage the text you are currently working on in working memory.

Procedure

1) Get into the Disk Directory Command Mode and move the cursor next to the name of the document you want to protect. (To do this, see the headings "Enter and Leave Disk Directory Command Mode" and "Using Disk Directory Commands," above.)

2) Depress P, followed by [RETURN].

3) The red light on the disk drive will go on when the system begins executing the command. You will know it is done when the directory disappears and then reappears. The P will be gone and the cursor will be in the upper left-hand corner of the directory. In addition, you will see an asterisk (*) next to the Protected document. This asterisk will always indicate which documents are Protected. You may now enter another disk directory command for the same document, move the cursor to a different document, or leave the Disk Directory Command Mode.

4) To return to Auxiliary Command Mode, depress [ESC]. To return to Typing Mode, depress [ESC] again.

10- UNPROTECT DOCUMENT - U (disk directory command)

Purpose

This command is used to "unprotect" a document which you had previously Protected. It must be done before you can Update or Erase that document, or Save another document under the same name. If you accidently Unprotect a document which was not Protected, no harm will be done.

The Unprotect command only effects the diskette. It will not damage the text you are currently working on in working memory.

Procedure

1) Get into the Disk Directory Command Mode and move the cursor next to the name of the document you want to unprotect. (To do this, see the headings "Enter and Leave Disk Directory Command Mode" and "Using Disk Directory Commands,"above.) The document name should have an asterisk next to it indicating that it is indeed Protected.

2) Depress U, followed by [RETURN].

3) The red light on the disk drive will go on when the system begins executing the command. You will know it is done when the directory disappears and then reappears again. When it reappears, the U will be gone, the cursor will be next to the same document, and the asterisk will be gone. You may now enter another disk directory command for the same document, move the cursor to a different document, or leave the Disk Directory Command Mode.

4) To return to Auxiliary Command Mode, depress [ESC]. To return to Typing Mode, depress [ESC] again.

11- COPY DOCUMENT - C (disk directory command)

Purpose

In Chapter 9, it was explained how to duplicate an entire diskette, usually done for security. (See Chapter 9, under the heading "Copy Disk.") From time to time you may also find it useful to copy ONE document from one diskette to another, rather than the whole diskette. This is the purpose of the Copy Document command.

The Copy Document command only effects diskettes. It will not damage the text you are currently working in the system's working memory.

Preparation

Unlike with the Copy Disk command, when you use the Copy Document command the disk receiving the material must already be Initialized. (See Chapter 9, under the heading "Initialize Disk.") However, the diskette receiving the document does NOT have to have the name of the document to be copied already in its directory. In fact, it MUST not have this name in its directory, or the command will not work.

Procedure

1) Mount in the "main" drive the diskette containing the document you want to copy. The main drive is drive 1, unless you have changed it to drive 2. (See Chapter 9, under "Define Main Drive.") Mount the other diskette in the other drive.

2) Get into the Disk Directory Command Mode and move the cursor next to the name of the document you want to copy. (To do this, see the headings "Enter and Leave Disk Directory Command Mode" and "Using Disk Directory Commands," above.)

3) Enter C, followed by [RETURN].

4) The red lights on both disk drives will light up alternately. Depending on the length document you are copying, they may alternate lighting up for as much as several minutes or as little as several seconds. You will know the job is done when the C disappears from the screen and the cursor reappears. You may now enter another disk directory command for the same document, move the cursor to a different document, or leave the Disk Directory Command Mode.

5) To return to Auxiliary Command Mode, depress [ESC]. To return to Typing Mode, depress [ESC] again.

12- VIEW LENGTH OF DOCUMENT - L (disk directory command)

Purpose

When you are assembling a long document from a number of shorter documents, using the Append command, the system will tell you when you have used up all the space available in its working memory. However, it will not tell you until after you have assembled a great deal of the document and then try to add on another piece that makes the total too big.

To avoid this situation, you may want to know IN ADVANCE whether you have room in the system's working memory to hold the total document. To do this, you will need to know the lengths of each of the segments. The purpose of the View Length of Document command is to find out the length of a document (i.e. segment) which is stored on a diskette. Then add them together and compare them with the total amount of memory available. Of course, you can use the View Length of Document to determine the length of any document stored on a diskette.

All lengths are measured in "blocks." A block consists of 256 characters, but you do not have to worry about that.

If you do not know how much memory there is in working memory when it is empty, first do a Clear command (Chapter 4) then do a Status of Text command (ST) (see Chapter 2.)

Procedure for View Length of Document

1) Get into the Disk Directory Command Mode and move the cursor next to the name of the first document you want to measure. (To do this, see the headings "Enter and Leave Disk Directory Command Mode" and "Using disk directory commands," above.)

2) Depress L, followed by [RETURN].

3) The length of the chosen document will appear on the screen. Write it down if you are going to measure other documents. Then depress [ESC] to return to Disk Directory Command Mode.

4) You may now move the cursor to the name of another document, and

enter L followed by [RETURN] to determine ITS length. Repeat the process for all documents you want to measure.

5) At any time, you may enter another disk directory command for the same document you just measured, enter another command for a different document, or leave the Disk Directory Commmand Mode. To return to Auxiliary Command Mode, depress [ESC]. To return to Typing Mode, depress [ESC] again.

13- UPDATE DOCUMENT - UD (auxiliary command)

Purpose

You should use the system most of the time as follows: First, you put the name of a document on a diskette by using the Create a Document Name command. Then, you type a few paragraphs. Then, go into the Disk Directory Command Mode, and use the Save Document Command on that document. Once you do this, the system knows that you are working on that document. Then you continue writing. Periodically during the day, you execute the Update Document command. This stores under the document's name on diskette whatever you have written so far. The purpose is to safeguard yourself against power failures, mechanical problems, or human mistakes, that can cause loss of the text held in working memory. Then you may print the document. Another day, you may use the Recall Document command to recall that document into the system's working memory. Because of the Recall, the system knows that you are working on that particular document. Then you edit it further and print it again. If you want to put the newly edited version of the document back on the diskette in place of the original version, you would use the Update Document command again.

The Update Document command has the same effect that the Save document command does. Therefore, you could use the Save Document command instead of the Update Document command in the above example. The difference is that the Update Document command is easier and faster to use. For this reason, you will use the Update Document command whenever it is possible.

How Update Document Works

The Update Document command is faster because you do not have to tell the system which document on the diskette to update. The system figures out which document to update. How? The system automatically assumes that the

last document you recalled from disk using the Recall Document command, or saved on diskette using the Save Document command, is the document you want to update. If you follow the above recommended working regime, this will usually be the document you are working on. This is particularly true if the last thing you did with diskettes is recall a document, because you recalled it specifically to work on it.

When you can you not use Update Document?

You cannot use Update Document to update your diskette if you did not use a Save or Recall Document command when you began working on the document. This might arise, for example, if you began by recalling one document, and then using Append Document to append a second document to it, and you want to store the entire document under the name of the second document. In this case, the system will think you are working on the first document, because it is the one which you used the Recall Document command on. Therefore, you have to use the Save Document command at least once to update the diskette.

How to be Sure that the System Knows which Document You are Working on

Use the View Status of Text auxiliary command (ST). The name of the document that the system thinks you are working on will be displayed on the screen, along with how much working memory is used up. If no name appears, this means that the system does not know.

Update Frequently

If you are editing a long document, it is recommended that you Update the version stored on disk every half-hour or hour. The Update Document command is so fast that this is not an inconvenience. If for some reason, the contents of working memory are lost, you will have lost very little work if you had shortly before-hand updated the document on diskette. This will happen rarely, but it WILL happen. If you have been updating the diskette frequently, then you only have to recall it, and take up editing or writing from the place you were when you last updated.

Procedure

1) The diskette holding the document you want to Update must be mounted in the same drive from which you earlier Recalled it.

2) Depress ©A to go into Auxiliary Command Mode.

3) Enter UD, followed by [RETURN].

4) The red light on the disk drive will light up. You will know that the system is done Updating when the UD disappears from the screen. You do not have to wait for the light on the disk drive to go out. (That would be a waste of time.) When it is done, you may enter another auxiliary command, if desired.

5) To return to Typing Mode, depress [ESC].

14- RENAME A DOCUMENT - RN <old name> <new name> (auxiliary command)

Purpose

If you create a document name and then you decide you do not like it, you can Erase it using the Erase Document command. (See the heeding entitled "Erase Document", below.) However, once you have saved a document under this name on the diskette, using the Erase Document command will destroy the text as well as the name. In this case, you can use the Rename a Document command to change the document's name. This command does not damage the text at all. It only changes the name. You may use it as often as you like.

Procedure

1) Make sure the diskette holding the document whose name you want to change is mounted in the "main" drive. Remember that the main drive is drive 1, unless you have made drive 2 the main drive using the Define Main Drive command. (See heading entitled "Define Main Drive", above.)

2) Depress ©A to go into Auxiliary Command Mode.

3) Enter RN followed by a space.

4) Type the old name of the document, followed by a space. Then, immediately type the new name of the document. The name must follow all the rules for a valid document name. (See heading entitled "Create a Document Name", above.)

5) Depress [RETURN]. The red light on the disk drive will light up and the system will put the new name in place of the old on the diskette. When it is done, the directory will appear on the screen to show you that the new name has replaced the old.

6) The system will still be in the Auxiliary Command Mode. You may enter another Auxiliary command if desired.

7) To return to Typing Mode, depress [ESC].

CHAPTER 11

CREATING AND MAINTAINING LISTS

1 - DESCRIPTION OF THE MAILING LIST PROGRAM

This chapter is concerned with a special program which is a part of the system. It is called the Mailing List Program. This program is used to create and maintain lists of names, addresses, and other associated information. It can also be used to print a set of mailing labels. The list can be sorted either alphabetically or numerically (zip code, date, etc.), and in addition, the operator can select a certain sub-group of the total list. Once a list is selected and sorted, the new version can be printed, stored on disk as a new list, or both.

As explained in Chapter 7, the system can access a list in order to insert (merge) the information at any desired points in letters, and on corresponding envelopes if desired. This feature is used for mass mailings.

Instructions for merging mailing list information with letters will be found in Chapter 7, under the headings "Merge List" and "Creating a Document to be Merged with a List."

2 - WHAT A MAILING LIST CONSISTS OF

A mailing list consists of the records of a number of "members." A list can have up to 1499 members. You can maintain on diskette any number of separate lists.

The records of all the members always consist of the same number of items. This is what makes it a "list." For example, you can have a list of names and addresses. For each member, there is a name and an address. What differs from member to member is the CONTENT of each item.

The Mailing List Program is designed specifically to create and maintain mailing lists. In this type of list, each member has the following items:

Item #	Item
	Qualifiers
1	First line of name (usually a person's name)
2	Second line of name (usually a company name)
3	Street address
4	City and State
5	Zip code
6	Salutation (something to follow the "Dear" in a letter)
7	Telephone number or Date or special code (or 2 or 3 of these together.)

A qualifier is a one-letter item which is used to categorize, in other words "qualify" the person. You can use any letter, but it must be upper-case. Thus there are 26 different possible qualifiers you can use within any one list. For example, if you are maintaining a list of vendors, you might use an M to indicate manufacturers, W for wholesalers, R for retailers, and I for individuals. The use of qualifiers allows you to select which members from the list you want to include when you are printing the list or merging it with a document. Therefore, each member must be assigned at least one qualifier. If you do not need to use them, then give every member the same qualifier, such as the letter A.

A member can have more than one qualifier. For example, a vendor might be both a manufacturer and wholesaler, so that his qualifier line would read MW. A member can have as many qualifiers as there are, i.e. up to 26 strung together.

All the other items can be up to 40 characters long. There is a further limitation however. The total number of characters used in all the items for one member cannot exceed 118 characters. There is no need to count exactly however, because the system will tell you if you enter too many, and give you a chance to eliminate some.

The system automatically assigns a "record #" to each member when you enter the member into a list. You will use these record #'s to refer to members when you are working with the system. For example, when you want to change an item of information under a particular member, the system will ask you for the record # of the member you want to correct. To find out what the record #'s are for the members of a list, use the option in the Mailing List program to print the list, and request (1) that it not be sorted, (2) that all qualifiers be printed, and (3) that record #'s be printed. When the

list is printed, the record # and the qualifiers will appear in the upper left-hand corner of the printout for each member, in that order.

Once a member is added to a list, his record # will always be there. To eliminate the member, change all his items to [RETURN]. (You use the option in the program for changing the data of an existing member, and answer [RETURN] when the system asks for each item.) This creates a space in the list whenever the list is printed. The next time you add a member to the list, use this unused record #, instead of adding the new member onto the end. To do this, use the option to change the data of an existing member, again, and change it to the data of the new member. The order of members in the list makes little difference, because when it is printed, you can have the list alphabetized, or sorted by zip codes, and also you can select which of the qualifiers you want to print.

The above is the "standard" way that a mailing list is organized. You have another choice. There is nothing stopping you from entering ANY kind of information for the items, so long as they do not exceed the length limitations described above. You do not have to use names, addresses, and phone numbers, although the program will always call them by these names. If you use items that are different in relative size than names, addresses, etc., the printing of the mailing list which is done by the Mailing List program may turn out somewhat difficult to read, because it is designed for that kind of information. However, you can create your own printout format by using the Merge with List command, and designing a document which consists solely of Merge Directives set up in a legible way. (See Chapter 7, under "Merge with List" and "Creating a Document for Merging with a List.")

The most common variation is to use the telephone number line to hold other types of numbers instead, or in addition to a telephone number. IMPORTANT: If you want to sort or select by a number or date stored in this line, this item must come first. For example, suppose you have a list of subscribers to a publication. In addition to all the other information, you also have the expiration date of each member, and each month you want to be able to select only those members who have expiration dates in the coming month. To do this, put the expiration date as the first item in the telephone number line. Then, after a blank space, you can put the telephone number.

IMPORTANT: The date must be in year-month-day format, with no symbols between the parts, and with numbers less than 10 filled out with a zero so that they have two digits. For example January 3, 1979 would be 790103. The total must be six digits. If you add a telephone number, it might look like this 790103 (213) 567-8765.

You can use any code number instead of a date, for sorting purposes. Remember that only the first six digits will be used in sorting. Any

additional digits will be ignored.

You are not limited to having 7 data items for each member. For example, if a certain application requires 21 items of information per member, then you can use the space normally used for the records of 3 consecutive members to store the information of one actual member. You can do the same thing using 2 consecutive records at a time, 4 records at a time, or any number that you need. Remember though, that the total number of records is still 1499, so that, for example, if you are grouping them in sets of 3, this gives you space for 499 real members. A list consisting of such lumped together records cannot be sorted, UNLESS the item which the sort is based upon is re-entered in all of the records (blocks of data) making up each real member, and it must appear in the same line in each record. This way, the records which make up a real member will stick together during the sorting operation. IMPORTANT: Whether or not you want to sort the list, the qualifier lines in all of the records making up one real member MUST be identical (contain the same qualifiers.)

There are two separate kinds of procedures used in this chapter. The first are the MZOS procedures. You will find a section later in this chapter called "MZOS Commands" which lists the commands used in MZOS procedures. Learn these. They are then applied in the sections entitled "Creating a Mailing List Name", "Lengthening a Mailing List," and "Creating New Mailing List Diskettes." The procedures used in these sections are done under MZOS, before you type VBASIC as described below. The second kind of procedure is running the Mailing List Program itself. The problems encountered here are discussed in section 4 of this chapter.

3 - PROCEDURE: GETTING STARTED

1) If you have been working on a document, put it on diskette using the Save or Update commands. If you leave it in working memory, it will be destroyed.

2) Mount in drive 1 the "Demonstration Diskette" which came with your system. In addition to several demonstraton documents and lists, this diskette also contains MZOS, V.BASIC, and MLPROG, which are needed for the following procedures. You do not have to know anything about these programs except what is written here."

3) Depress ©A to get into Auxiliary Command Mode.

4) Enter OS, followed by [RETURN]. The following message will appear on the screen: "Vector Graphic MZOS x.xx" This means that MZOS is in control of the system. When MZOS is in control, you cannot use any of the normal the system procedures, as described in the earlier chapters of this manual. After this, a "#" will appear on the left edge of the screen. This is the MZOS "prompt." Whenever you see it on the left edge of the screen, assuming MZOS is in control, it means you CAN use any of the commands and procedures described under the heading "MZOS Commands" and the headings which follow it in this chapter.

At this time, if you have not already done it, you must create the name(s) of the mailing list(s) you want to build. See the section in this chapter entitled "Creating A Mailing List Name." You must also create the names of mailing lists which you want to use to hold sorted versions of existing mailing lists. You must now do any other MZOS procedure that you want to do, such as creating new mailing list disketts or lengthening mailing lists, described later in this chapter.

5) Enter VBASIC [RETURN]. Two questions will appear on the screen. Depress [RETURN] in response to the first one. After the second one, type 80 [RETURN].

6) Following this, an "OK" will appear.

7) Enter PGMLD "MLPROG" [RETURN]. Another "OK" will appear in response.

8) Enter RUN [RETURN]. In response to this, the Mailing List Program will be activated. A list of options will appear on the screen. This lists looks like this:

THE MAILING LIST PROGRAM

OPTIONS:

1. SORT AND PRINT A MAILING LIST
2. ADD NEW MEMBERS TO AN EXISTING LIST THAT ALREADY HAS SOME MEMBERS
3. CHANGE DATA FOR EXISTING MEMBERS OF A LIST
4. BUILD A NEW MAILING LIST USING AN EXISTING NAME AND **ERASE OLD DATA, IF ANY**
5. NONE OF THE ABOVE - ESCAPE FROM THE PROGRAM

```
ENTER THE NUMBER OF YOUR SELECTON.
?
```

The program is almost completely self-explanatory from this point on. There are some points that do need clarification, however. They are discussed below. You must read these before you attempt to use the Mailing List Program.

9) To return to MZOS from VBASIC, depress ©V. You can go back to VBASIC again from MZOS by entering VBASIC again.

10) To return to Typing Mode from MZOS, enter JP E000 [RETURN]. (The E is followed by three zeroes, not letter O's.)

4 - SOME CLARIFICATION OF THE MAILING LIST PROGRAM

"Sort and Print a Mailing List" is used to print the contents of a list, using a specific format which you cannot change. You CAN change what it is printed on. If you print it on paper, then you get a printed copy of the list, for reference purposes. If printed on mailing labels, then you get mailing labels to put on envelopes. If you are printing on mailing labels, then use the 12" continuous-form mailing label sheets obtainable from word-processing or business forms companies. The program will ask you whether certain items, such as telephone number for example, are printed.

When the program asks you what qualifiers you want to select, the qualifiers are NOT entered the same way you do when using the Merge List command, described in Chapter 7. With the Mailing List Program, if you enter ABC, this means the same as A/B/C in the Merge List command: select all members that have either an A, B, or C (or combination). In the Mailing List Program, you cannot do the other selection techniques possible in the Merge List command. For example, you cannot select all members that have both A AND B as qualifiers, nor can you select all members that have A but NOT B.

Sorting by zip codes means sorting the file in numerical order of the zip codes. This is useful because the Post Office reduces the rates for pre-sorted mass mailings.

If you are sorting by dates (in the telephone # line), then when the system asks for the upper and lower limit, enter the date the same way you entered dates in the list: using the year-month-day format.

When a list is alphabetized, only the first four letters of each name is considered. Thus alphabetization will not be perfect if the first four letters of some names are identical.

The item normally used for alphabetization is the third item, called "The second line of the name." In other words, in a standard mailing list, the usual method is to sort it alphabetically by the first letters of the company name. However, you can specify for each member that this particular member be alphabetized using a different part of his information. You are limited to the two name lines, however, that is, the second and third items. In order to specify which letters are to be used for alphabetization, include, when you are adding the member to the list, a back-slash symbol just preceding the first letter you want used for alphabetizaton. This symbol must be somewhere in one of the two name lines. It cannot be at the beginning of the second name line, because this is the automatic location, and the system will become confused. A back-slash is produced by depressing ©[. This character will not be printed when the list is printed unless you specifically request that it be printed when the system asks. It is essentially invisible.

Note that the program gives you a choice whether to store the selected and/or sorted list, or just to print it. If you want to store it, you must create a name for the new list on a disk in either drive. The file must have a new name if it is being stored on the original drive. It should have the same length as the old list, unless you are sure that the selection procedure will reduce the length dramatically. Do not take any chances though, because if the new list is not created long enough, error messages will result when you run the Mailing List Program. The name of the new list is created under MZOS, before you type VBASIC. See "MZOS Commands and Procedures," later in this chapter.

Although lists can be as long as 1499, sorting such lists can take a very long time, often several hours. For this reason, if you often have to sort lists (not just select by qualifier), keep them down to no more than 500 members if possible.

When printing the list (the first option), 1-across printing produces a single-file column of names. 2-across printing produces 2 columns.

If using 12" mailing label sheets, it is NOT necessary to change the Forms Length dial on the printer.

When entering new data into a list, you MUST NOT type a comma within any line. For example, when the system asks for the city and state, type Los Angeles CA, rather than Los Angeles, CA. There is no way around this. Note that you CAN put commas in a letter to be merged with a list; it is only the list itself where no commas are allowed.

5 - MZOS COMMANDS

This section is concerned with commands and procedures which are needed to support the operating of the Mailing List Program, and which take place while MZOS is in control of the system.

NOTE: The word "file" is used here to mean any list, program or document, i.e. any distinct body of information on a diskette.

In the commands shown below, it is assumed that the diskette is in drive 1. If you want to use a diskette in drive 2, then simply add ",2" to any name of a list. For example, to copy a list from drive 1 to a list on a disk in drive 2 (already Created) type CF <source list> <destination list>,2 [RETURN]. If you have used the DD command, below, to define the main drive as 2, then you do not have to add the ",2" to each name to use drive 2, but then you have to add ",1" when you want to use drive 1.

LI <drive #> [RETURN]

This lists the directory of files on the disk in the given drive. The name of each file will be listed, followed by its address (on the diskette), length, protect status, type, and start address (for some files).

In the listing for each file, only the length value is relevent. Multiply the length by 2. The result is the number of members that can be included in that particular list. The length of a file can be changed by deleting, than recreating the file, if there is not data in it. Otherwise, see the section in this chapter entitled "Lengthening a Mailing List."

#CR <name of list> <length> [RETURN]

The length is the maximum number of members you expect to have in the mailing list, plus 1, divided by 2. The name can have no more than 8 numbers, symbols, or upper-case letters, and can not have commas or spaces.

#TY <name of list> 7 [RETURN]

This specifies that the named list is a BASIC data file. This command is

essential when creating a mailing list. Do it after you use the CR command.

#DE <name of list> [RETURN]

This deletes a list from the diskette directory.

#RN <old name of list> <new name of list> [RETURN]

Use this to change the name of a list that already exists. No other information in or about the list is altered. Do not use a new name which is the name of another list or document on the diskette.

#CF <source list> <destination list> [RETURN]

This command copies all the data from one list to another. The destination list must already be created by the CR command. It must have a length at least as large as the source list.

#CO <drive #> [RETURN]

This is the same command described in Chapter 9. If you are using the main drive, then you do not have to enter the drive #.

#IN <drive #> [RETURN]

This is the same as the Initialize auxiliary command described in Chapter 9. The difference is that here it is done under MZOS, so that you do not have to go back to the Auxiliary Command Mode to initialize a diskette. If you are using the main drive, then you do not have to enter the drive #.

#CD <source drive> <destination drive> [RETURN]

This is similar to the Copy Diskette auxiliary command described in Chapter 9. The difference is the command format is slightly different. However, it is duplicated in MZOS so that you do not have to go back to the Auxiliary Command Mode to copy a diskette.

6 - CREATING A MAILING LIST FILE

THIS PROCEDURE MUST BE DONE BEFORE ANY DATA CAN BE ENTERED INTO A PARTICULAR MAILING LIST.

1) Determine the maximum number of members which may eventually be included in the list. The number may not be larger than 1499. Add 1 and then divide it by 2. The result is the "length" of the list. If not a whole number, then use the next larger whole number.

If you want a mailing list larger than 1499 members, break the list into 2 or more separate groups. Then determine the number of members in each group. Each group will have its own list and its own name. The following procedure for creating a mailing list must be repeated for each group.

2) Decide on the name of the list. It may not be the same as any other list or document on the diskette. You may use the LI command to review the names of files already on the diskette.

3) Enter:

CR <name of list> <length> [RETURN]

Example: CR DEALERS 100 [RETURN]

4) If the system responds DISK OVERFLOW, then there was insufficient space on the disk for the new file. Either delete one or more unused lists or documents, or remove the disk and mount a disk with more space.

5) Enter:

TY <name of list> 7 [RETURN]

Example: TY DEALERS 7 [RETURN]

6) Enter LI [RETURN] to verify that the new file has been created with the correct name, length and type.

7) You may now go to the Mailing List Program in order to enter data into the file.

7 - LENGTHENING A MAILING LIST

Purpose

Once you create a mailing list name and put data into the list, you cannot easily increase the length of the list which you assigned to it in the

Create command. However, you should not make every list the maximum length of 750 (i.e. 1499 members) because this will waste space on the disk. If you have created a list and it turns out too short, then do the following:

Procedure

Create a new list, using a new name, with the desired length, using the CR command in MZOS. Then use the CF command while under MZOS to copy the data from the first list to the new one. Then use the DE command to delete the first list. It is good practice to get a printout of the new list before you delete the original.

8 - CREATING NEW MAILING LIST DISKETTES

Purpose

Your system comes with a Demonstration Diskette containing MZOS and VBASIC. In order to store more lists than this diskette can hold, you have to make new diskettes also having MZOS and VBASIC. It is much easier to copy the Demonstration diskette and delete unnecessary files than it is to copy the MZOS and VBASIC files onto a new diskette.

Procedure

Put the Demonstration Diskette in drive 1 and a fresh diskette in drive 2. The fresh diskette does not have to be initialized. Use the CD command in MZOS to copy the first diskette onto the second one. Transfer the new diskette to drive 1. Then, use the DE command in MZOS to delete all files on that disk EXCEPT "MZOS", "VBASIC", and "MLPROG". Once this is done, you can use the new diskette to run MLPROG and to store lists. Once you have such new diskettes, you can use them to create additional new diskettes, instead of using the Demonstration Diskette.

CHAPTER 12

SHORT MODULES

INTRODUCTION

The concept of a module is explained in Chapter 1 of the Reference Manual. This chapter (12) contains various modules that are too short to receive their own chapter. Instructions for new modules as they are released should be inserted in this chapter.

To run any module, first mount "DEMO" disk in the main drive (usually drive 1, the right hand drive.)

WORD COUNT

12-2

Purpose

The Word Count module produces a display on the screen reporting how many words and how many characters are in the current document in working memory. This information is of use to contract-writers primarily.

Procedure

1) Make sure the document you want to count is in working memory.

2) Remove document disk, temporarily. Mount demo disk in main drive.

3) Depress ©A to go into Auxiliary Command Mode.

4) Enter EN COUNT [RETURN].

5) If you have just made changes to the document, the system will report that the current document has not been saved. You can ignore this message. (It appears for all modules, including those that do NOT damage the current document, such as Word Count.) Enter EN COUNT [RETURN] again.

6) The report will appear on the screen. To return to Auxiliary Command Mode, depress [ESC]. Hold it down to go all the way back to Typing Mode.

PAGE SIZE

Purpose

This module is intended for use with the Diablo 1640 printer only. It enables you to change the printer's form length setting, because there is no form length dial on the 1640 printer itself. By changing the form length setting, the module changes the distance which the paper rolls up each time the printer goes to the top of a new page. This concept is explained in more detail at the beginning of Chapter 5 in this manual.

Note: Unlike other modules, this module does not come on the Demonstration Diskette. It is supplied on its own diskette, called the Page Size Module Diskette, which must be ordered separately, if you are using a 1640 printer.

Procedure

1) Remove document disk, temporarily. Mount Page Size Module Diskette in the main drive.

2) Depress @A to go into Auxiliary Command Mode.

3) Type EN PAGESIZE [RETURN].

4) You will see on the bottom of the screen the word "FORMLENGTH", followed by a cursor, followed by a number of possible form lengths. Next to each length in the list is a letter. Simply touch the letter corresponding to the desired length. The system will immediately return to the Auxiliary Command Mode.

5) That is all there is to it. The next time the 1640 printer goes to the top of a new page, it will do so according to the length you selected.