Word Processor — WP-2

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Word Processor WP-2
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Introduction to Word Processing

Word processing is the automated manipulation of text. This includes initial entry of text into a word processing system, editing of previously entered text and formatted printing of text. The text itself can be a form letter, a technical manual or the chapters of a book. Or it could be any other textual material that you want to print without errors or you will be printing a number of times with minor revisions from one printing to another. Word processing does not lend itself well to the routine typing of letters, invoices or other documents that are normally typed just once. But for repetitive tasks it can be a great time saver.

There are three basic steps involved in using a word processing system.

1. Entry of new text.

2. Editing or correcting previously entered text.

3. Output of previously entered text with formatting such as margin justification and page numbering.

The entry of new text into a word processing system is roughly equivalent to typing a draft of the material. Then the new text will be printed for review and edited one or two times before the final copy is printed. Since most word processing printers type at 500 or so words per minute each printout is

produced quickly and takes little operator assistance.

The automatic features of the Word Processing system provide for easy entry of changes and automatically compensate for these changes at the next printing. For example, if you insert a new sentence or paragraph, all text after the insertion is moved down and page boundaries are readjusted appropriately.

Some of the other features a Word Processor provides are:

* the ability to move blocks of text or duplicate blocks of text within a document
* the ability to find all occurrences of a given word or phrase within a document and, optionally, to change all such occurrences to a different word or phrase.
* automatic page numbering
* justified or unjustified margins
* true proportional character spacing
* optional hyphenation to minimize expansion of text lines for justified margins
* single or double line spacing
* easy storage and access to documents as text "files"

Word Processor WP-2 - Introduction

WP-2 is a very sophisticated yet easily understood and easily used program for Ohio Scientific computers. It contains all the features described in the preceeding introduction and more.

This manual is your guide to the use of Word Processor II. It contains detailed descriptions of all features of the Word Processor and many examples of their use. If you actively use the Word Processor while reading this manual you will rapidly acquire the ability to work with the Word Processor effectively. Most of you will with a day of practice be producing acceptable text and with a week's experience be able to make full use of all of WP-2's features.

The WP-2 diskette provided you has a unique registration number that is readable only by a program designed specifically to do so. This has been added to protect the program's copyright. You may make copies for your own use, but you are advised that distribution of this program to third parties is expressly forbidden and may subject you to prosecution for civil damages.

License Terms

This software product is copyrighted by Ohio Scientific, Inc. Any duplication or redistribution of other than original factory copies of this product other than for use on an individual computer system is strictly prohibited. Ohio Scientific dealers and representatives are authorized only to restore destroyed copies of this product on company-provided and serialized diskettes which contain the Ohio Scientific label and clearly specify the title of this product. Copying and redistribution of this product on any medium other than factory generated diskettes is strictly prohibited and in violation of copyright laws. Each diskette containing this product bears a unique serial number which is maintained on file by Ohio Scientific both to protect the software and to serve as a means of notifying software package owners of updates in the form of corrections or improvements that may occur.

Purchasing one copy of this product entitles the user to utilize this product on one system only. The serial number of the computer as well as the license number of the software are to be registered at Ohio Scientific, Inc. The license number is needed to obtain assistance and updates to this product.

WARRANTY

There is no warranty, either expressed or implied, for this product. It has been extensively tested by Ohio Scientific and is believed to be reasonably error free. However, Ohio Scientific does not guarantee this product in any fashion nor does Ohio Scientific guarantee that all problems that occur will be fixed. We will, however, under normal circumstances make an attempt to help you with any problems that may occur and intend to support this software package to every extent possible. If you have any problems with this software or think you have found a problem please contact us. Please include a documented example of the problem.

Software License

Software Product: Word Processor WP-2

License Number: _____

Factory Issue Date: _____

Diskette Serial Number(s): _____

_____

System Serial Number: _____

Keep This Information For Your Records

Word Processor WP-2

License Registration Form

License Number: _____

Factory Issue Date: _____

Computer Dealer: _____

Purchase Date: _____

Customer Name: _____

Company: _____

Address: _____

City, State: _____

Zip Code: _____

Computer Configuration: _____

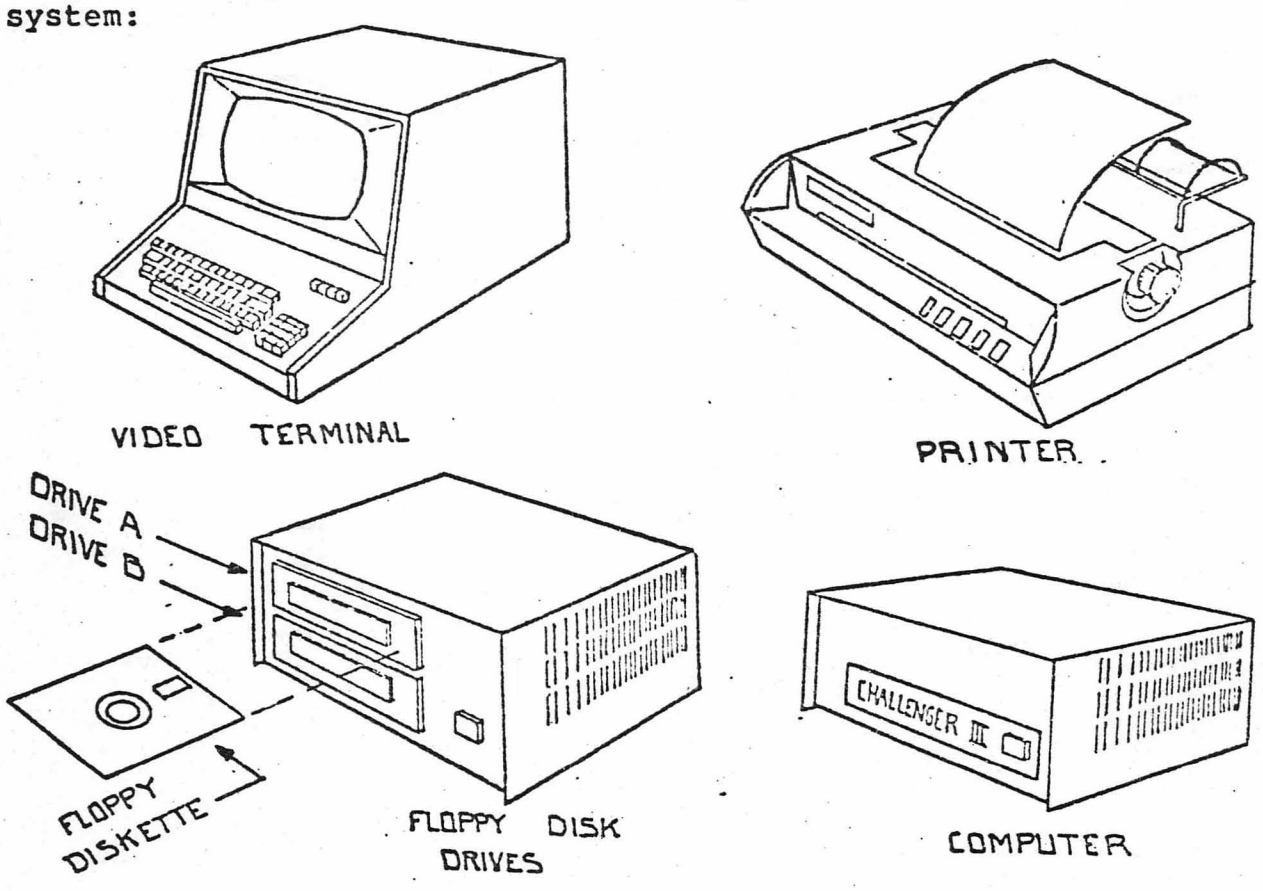
Computer Serial Number: _____

Return this copy to:

Ohio Scientific, Inc.
1333 S. Chillicothe Road
Aurora, OH 44202

Getting Started

This diagram shows the basic components of a word processing system:



Your system may take a somewhat different form but it contains the same basic components.

The correct system start up procedure is to first turn on the computer, then the video terminal, and then the printer (if you plan to use the printer). The power switches are located in the rear of each unit. Allow the terminal to warm up for 30 to 60 seconds, then take the diskette marked "Ohio Scientific WP-2" with the label facing upwards and the side with notched edges facing the disk drive and gently insert it into floppy disk drive A (the top drawer). When it "clicks" into place close the drive's cover by gently pressing it downward until it locks.

Reset the computer by pressing the white pushbutton on the front panel of the computer. "H/D/M?" will appear on the screen. Type a D. (It must be a capital D, so have the ALL CAPS key of the terminal depressed -- if a "d" is struck you will have to reset the computer and try again.) After a momentary pause the following will be displayed on the screen:

Ohio Scientific Word Processor WP-2

date of RELEASE

The above procedure is referred to as "booting" (bootstrapping) or "loading" the system from disk. The period (.) on the video screen is a "prompter" and indicates that the Word Processor is ready for your input; the "cursor" (the blinking indicator on the screen) is where the next character you type will appear.

At this point you can begin entering lines of text into the Word Processor. As an initial example, type the following line:

```
10 THIS IS A SAMPLE LINE OF TEXT.
```

After typing the line press the RETURN key on your keyboard. This key tells the Word Processor that you have finished typing the line. The Word Processor will immediately display another "." prompter at the beginning of the next line.

You undoubtedly noticed that the above sample line started with a number. This is called a "line number" and must be used to start each line of text you enter. It tells the Word Processor where to place the line among the lines already entered. It also gives you an easy way to refer to lines in the more advanced commands which we'll cover later. The line numbers are not printed when the text is printed in final form but are printed when the text is printed directly. The command for directly printing text is:

```
PRINT
```

Type this command then press the RETURN key. The sample line of text will be printed on the video screen just as you entered it. Now let's add a couple more lines. Type these and remember to press the RETURN key after each:

```
5 THIS LINE SHOULD BE THE FIRST.
20 THIS LINE SHOULD BE THE LAST.
```

Now PRINT the text again. Notice the order of the lines. They are in line number order even though you entered line 10 first, then 5, then 20.

So far we have typed only capital letters. You can also use lower case (uncapitalized) letters. Locate the ALL CAPS key on your keyboard and release it.

> The ALL CAPS key on most keyboards is a push-on, push-off type of key. If it is latched down it is in the ALL CAPS position and will come up when pressed. If the key is up (normal position), it will latch down when pressed.

Now type this line:

```
15 This line has lower case letters.
```

You have now entered a four line text "file" into the Word Processor. A file is merely a collection of lines of text that you keep together.

Now let's exercise some of the power of the Word Processor and, at the same time, demonstrate one of the most important concepts in word processing. We will LIST the file we just entered and specify a forty character line width. To do so type:

LIST 40 (Don't forget the RETURN.)

This is what you'll see:

```
-------------------------------------------
| THIS LINE SHOULD BE THE FIRST. THIS IS A |
| SAMPLE LINE OF TEXT. This line has lower |
| case letters. THIS LINE SHOULD BE THE    |
| LAST.                                    |
-------------------------------------------
```

The first thing you'll notice is that the neatly formatted output bears little resemblence to the entered lines. Although this takes some "getting used to", it is a real advantage because the Word Processor will do the orderly formatting of the printout.

As a result, you should type text into the Word Processor without any particular attention to margins, but in relatively short lines to make later changes and additions easy.

Basic Word Processing Commands

This section defines the first level of word processing commands. These commands will give you the capability to perform basic word processing operations and to print formatted output. The commands should be typed directly after the "." prompter. They may be typed in either upper case (capital letters) or lower case, whichever is more convenient.

ENTRY GROUP OF COMMANDS

INIZ clears the computer memory of all text that may have been there. To enter this command type:

INIZ or just i

The question "INIZ?" will be asked to be sure you want to clear the memory. Type "Y" if that is your intent; if it is not just hit RETURN and the memory will not be erased.

line-number Any text ... enters a line of source text into the file in computer memory. The line is placed into the file in order according to its line number. The line number may be any number from 1 to 65000.

NUMBER n provides automatic line numbering. Once started, it will automatically provide the next line number for you after you enter each line of text. To use this command type

"Nnn"

and the number you have specified for "nn" will appear on the next line. After placing text on the line and hitting the RETURN key, the next line number (incremented by ten) will be provided. To stop automatic line numbering just hit RETURN immediately after a line number is output. Here's an example:

```
.N400(here you start auto-numbering with line number 400)
.  400 Text typed by you
.  410 ... more text typed by you.
.  420(here you type RETURN to stop auto-numbering)
.421 Here you type your own line number
```

DELET removes lines of text. "D" followed by a line number eliminates a single line. For example, D50 would delete line 50. Deletion of a range of lines is also possible with the DELET command. For example, D-50 would delete all lines from the first through line number 50. While D50- would delete line 50 and all succeeding lines. The command D50-130 would delete lines 50 through 130. Additional line specifications can be used in a single DELETE command, for example,

```
D200,50,90-130
```

EDIT is used to make typographical corrections to a line. Typing E60, for example, will display line 60 with the cursor after the last character or space in the line. From this position the cursor can be moved back to any point in the line by typing the BACKSPACE (or control-H) key. The SHIFTed BACKSPACE (or control-L or control-P) will move the cursor forward (to the right). Deletions can be made at any point by typing the underline (or back-arrow) key. And you can insert additional text anywhere in the line by positioning the cursor at the point where the insertion is to be made and typing the text to be inserted.

> NOTE: A "control-H" is typed by pressing and holding the CTRL key down, hitting the H key, then releasing the CTRL key. Other "control" keys are typed in a similar way.

PRINT displays the text in the computer memory in order by line number. If you wish to see all of the text in memory type:

PRINT or just p

"P" followed by a single line number will display the single line of text (for example, P 40 will print line 40). Other possible line specifications are P-nn (from the beginning of the file through line "nn"), Pnn- (from line "nn" to the end of the file), and Pnn-mm (from line "nn" through "mm"). Examples would be:

P-40, P40-, P40-230.

Additional line specifications can be used in a single PRINT command, for example,

P30,60,100-150

LIST will output text with the line width you specify (up to 127 characters) and right margin justification. For example, the command:

L65

will list on the video screen with a line width of 65 characters (6.5 inches at 10 characters per inch). Spaces are inserted to form a justified right hand margin. Most of this manual is an example of LISTed output.

If you wish to list only a portion of the file in memory you can enter a line specification after the line width, for example:

L65,-140

will list the file up through line 140.

ZIGZAG operates in manner similar to LIST. However, it produces a "ragged" right hand margin, much like conventional typing. Z65, for example, will display all text in the file with a maximum line length of 65 characters. Some lines, however, will be shorter - creating a ragged edge appearance -- as no padding of spaces between words occurs and if all of the last word that might be placed on a line would exceed the specified width it will be transferred down to the next line. This format is often preferred for letters because it appears to be more personalized than does a justified right margin. This paragraph is an example of "ragged edge" output.

LIST and ZIGZAG for Output to a Printer:

If either LIST or ZIGZAG have an ",ON" appended to the end of the command and the edit printer has been turned on, the text will be output to the edit printer as well as the video terminal. For example, the command:

Z72,-130,ON

will cause text up to and including line 130 to be output to the video screen and the edit printer, ragged edged, with a maximum line width of 72 characters.

Optionally, the ON command can be followed by a device number to specify output to a specific device. The available devices are:

3 - word processing printer (via serial CA-6S/7S interface)

4 - edit printer (via parallel CA-9 interface)

8 - word processing printer (via parallel CA-9 interface)

Automatic Page Numbering

An F command may be used after L or Z for automatic pagination and optional numbering of pages. For example, the command:

L64,F0,ON8

will output the text to the word processing printer, margins justified with 64 character lines and leave space at the bottom of each page for later insertion of page numbers. "F" followed by any non-zero number will cause pages to be numbered starting with that number.

Embedded Commands

Embedded commands are commands in the Output Group which are "embedded" within your text. In other words, they occur in a line with a line number and form part of the body of text. To distinguish them as commands they are preceded by an escape character, which is displayed on the terminal as an up-arrow or caret (^). Your terminal has a key labeled ESC or ESCAPE which is used for this purpose. Do not confuse the ESC key with the key that does have an up-arrow or caret on it.

^# (ESC pound-sign) starts a new line and includes all succeeding spaces up to the first word. This command is used between paragraphs. It prevents the last line of the previous paragraph from being justified when LISTed and starts a new line - permitting indentation - for the next paragraph. If a number of ^#'s are strung together a corresponding number of lines will be skipped.

Detailed Example of Basic Commands

The following is a sample of a text file as it was entered into the Word Processor. Following this sample is a formatted printing of the same text as produced with the command, L65. This same text is supplied on standard WP-2 diskettes in the file SAMPLE. After reading the next section on Word Processor files, you can load this file and practice with it.

SAMPLE File:

```
10^#   Important !!!^#   This is delicate magnetic media.  Study
20 and understand the instructions on reverse side before using.
30^#   Return the flexidisk to its sleeve after each use.
40^#   Do not punch edges of diskette by use of paper clips or
50 other fasteners.
60^#   Use felt tip pen only.
70  Ball point may dent inner magnetic disk.
80^#   Do not touch exposed inner disk.  Body oils and other
90 grime can affect performance.
100^#
110^#   DO NOT BEND! If the jacket develops crimps at the edges,
120 rotation of disk can be affected.
130^#   Use the library labels provided or a similar PEEL CLEAN
140 type only.  Remove previous label before adding new one.
150Stacked labels can cause jacket to squeeze inward on spinning
160 disk.  Never let label adhesive contact exposed inner disk.
170^#
180^#   OPERATING & STORAGE ENVIRONMENT^#
190^#   1.  Store away from strong magnetic fields.
200  (magnets, large motors or cathode ray tubes)
210^#   2.  Avoid storage in direct sunlight or adjacent
220 radiators, heating or cooling ducts.
230^#   3.  Temperature 50 - 125 F (10 - 52 C)
240^#       R.H. 8% - 80%
```

SAMPLE File Formatted Printout:

Important !!!
This is delicate magnetic media. Study and understand the instructions on reverse side before using.
Return the flexidisk to its sleeve after each use.
Do not punch edges of diskette by use of paper clips or other fasteners.
Use felt tip pen only. Ball point may dent inner magnetic disk.
Do not touch exposed inner disk. Body oils and other grime can affect performance.

DO NOT BEND! If the jacket develops crimps at the edges, rotation of disk can be affected.
Use the library labels provided or a similar PEEL CLEAN type only. Remove previous label before adding new one. Stacked labels can cause jacket to squeeze inward on spinning disk. Never let label adhesive contact exposed inner disk.

OPERATING & STORAGE ENVIRONMENT

1. Store away from strong magnetic fields. (magnets, large motors or cathode ray tubes)
2. Avoid storage in direct sunlight or adjacent radiators, heating or cooling ducts.
3. Temperature 50 - 125 F (10 - 52 C)
   R.H. 8% - 80%

A "file" is simply a collection of lines of text that is stored on a floppy diskette and referenced by name.

Word Processor II permits you to create files, rename and delete them and print a directory (list) of them. Once created, the file can be used to save text that you have entered into the Word Processor. The text will be retained on the floppy disk file indefinately and can be loaded back into the Word Processor for revision or printout at any time.

The amount of text that can be processed directly by the Word Processor is limited by the size of your computer's memory. It is about 20,000 characters in a system with 32K of memory or 34,000 characters in a 48K system. However, documents of essentially unlimited length can be handled as a sequence of files, one after the other. Each diskette can hold nearly 175,000 characters, or over 60 typical pages, and multiple diskettes can be used to hold documents of any length.

The Word Processor uses a named file system in which you are required to predefine file names and lengths. Some may argue that it would be better if a file system were used that did not require prior naming of files and definition of their lengths. However, such file systems demand more memory support (with a consequent increase in cost) and impose a greater obligation on the user to know the intricacies of the operating system. Moreover, such systems typically take a "memory window" approach to word processing. Text editing and text formatting for the printer are two distinct programs. The result is that, unless a very costly terminal is employed with special function keys

devoted to and labeled for word processing, this approach is rarely able to survive in a normal office environment. Word Processor II achieves an excellent compromise: the system is very sophisticated yet easily understood and utilised.

Four functions are available in the Word Processor for creating, deleting, renaming and listing a directory of your text files. The following pages contain descriptions of these functions. PLEASE NOTE that any text file present in computer memory is erased when one of the following functions is used.

> **NOTE:** Before using any of these functions you may wish to latch the ALL CAPS key down on your keyboard as all keyboard entries for these functions must be in capital letters. This requirement will serve as a reminder to you that any file in computer memory will be lost when these functions are used.

Listing a Directory

To list a directory of file names, locations and sizes type:

```
DIR
===
```

The following question will appear:

```
-----------------------------------------------
| List on printer instead of here (Y/N) ?  |
-----------------------------------------------
```

Type "Y" to have the directory printed, otherwise type "N" and the directory will be displayed on your video terminal.

Here is a sample directory:

```
                Ohio Scientific,  Inc.
                 Word Processor WP-2

                   -- DIRECTORY --
         File Name    Track Range    Pages
         --------------------------------
          CNTRCT         15 - 17         3
          DUNLTR         18 - 18         1
          CNTR21         19 - 25         7
          unused ..... 26 - 27         2
          CNTR35         28 - 30         3
          JONESW         31 - 42        12
          unused ..... 43 - 64        22
          SCRTCH         65 - 76        12

          52 of 58 files defined
          38 of 62 pages used
```

This directory shows that six files are currently defined. The first file, CNTRCT, occupies tracks 15 through 17 on the diskette giving it the capability to hold three full pages of text.

> A "track" is one of the 77 concentric rings on which data are stored on the floppy diskette. Each track can hold approximately one single-spaced, 8 1/2" x 11" page of text.

The other files occupy tracks 18 through 25, 28 through 42 and 65 through 76. This leaves tracks 26-27 and 43-64 free for assignment to new files. Tracks up to 14 contain Word Processor programs and are unavailable for text file storage.

The directory can be used to record up to 58 file names. Since six are currently defined in this sample directory, fifty-two remain available.

Creating a File

Prior to creating a new file on a diskette you should review the current directory on the diskette in order to locate free tracks for assignment to the file. See Listing a Directory, above.

To create a new file type:

```
CREATE
======

-----------------
| FILE NAME ?   |  will be asked.
-----------------
```

Type a one to six character name. The first character must be a letter and the name cannot already be in the directory.

```
----------------------------
| FIRST TRACK OF FILE ?    |  will be asked.
----------------------------
```

Type the number of the first track to be assigned to the file.

```
------------------------------
| NUMBER OF PAGES IN FILE ?  |  will be asked.
------------------------------
```

Type the approximate number of pages you want the file to hold. Each "page" is given a track of disk storage. A page can hold about 3000 characters which is about 500 words - the amount of text that would fill a typical, single-spaced 8 1/2" by 11" page.

> NOTE: A full legal size page is equivalent to about 1 and 1/3 letter size pages. So, for example, a three page legal document would require four "pages" of storage.

After giving the number of pages, the file you have specified is ready. You can confirm that the file is in the directory with the DIR function.

If any conflicts are encountered such as a duplicate name or a track already in use, a message will inform you of the fact before proceeding.

Renaming a File

Occasionally you may find it desirable to change the name of an existing file. To rename a file type:

```
RENAME
======

----------------
| OLD NAME ?   |  will be asked.
----------------
```

Type the name of the file to be renamed. It must exist in the directory. Then

```
---------------------------------
| RENAME "old file name" TO ?   |  will be asked.
---------------------------------
```

Type the new file name and the change will be made.

If the old file name can't be found or the new name is unacceptable a message will inform you of the fact before proceeding.

Deleting a File

Occasionally you will find it desirable to delete an existing file.

> For example, if the amount of text grows too large for the disk file you will receive a message (ERROR #D) when you attempt to PUT the file back onto disk. When this occurs you should save the text in your SCRTCH file, delete the old file that is now too small and create a new file with the same name but a larger number of pages. Then load the SCRTCH file and save it in your newly created, larger file.

To delete a file type:

```
DELETE
======

-----------------
|  FILE NAME ?  |  will be asked.
-----------------
```

Type the name of the file to be deleted. The file name will be located in the directory and deleted. You can confirm that the file is no longer in the directory with the DIR function.

If the file you specify can't be found in the directory, a message will inform you of the fact.

File Commands

Whenever the Word Processor's prompter (.) is present you can retrieve text from the diskette into computer memory via the !LOAD command. The format of this command is:

!LOAD filename or just !LO filename

To save the text currently in the computer memory in a disk file use the !PUT command. The format of this command is:

!PUT filename or just !PU filename

The file name used in !LOAD or !PUT commands must already exist in the directory. When a file is !LOADed we are merely copying the file from the diskette into computer memory. The copy of the file remains unchanged on disk (no matter how much the copy in computer memory is altered). Conversly, PUTing a file from the computer's memory to a diskette erases what was previously in that diskette file. So always be careful when using the !PUT command.

A recommended practice to follow is to keep on each diskette a scratch file (named SCRTCH) which can hold the largest text file you can produce. Use the CREATE command to define the size of SCRTCH as seven pages if you have a 32K system or twelve pages if you have a 48K system. Then you can use this file whenever creating new text. After saving your new text file in SCRTCH, use the SIZE command to obtain the number of pages of text, and create a named and appropriately sized file for saving it.

To use the SIZE command to determine the length of a file, merely type the word "SIZE". The file size will be reported in pages.

> CAUTION: If you ever enter so much text that you get a *FULL message, immediately put the text to a disk file. Lengthy text files are more cumbersome since the text editing commands of the Word Processor are slowed by them. A better practice to follow when a document is lengthy is to cut it into separate blocks, ending on a paragraph or logical section.

The Word Processor supports up to four floppy disks. If your Challenger has white drive covers it has two drives, Drive A on top and Drive B on the bottom. If it has black covers the drives are double-sided, with Drive C on the flip side of A and D on the flip side of B. You can switch drives with the commands: !SE B, !SE C, and !SE D (SE for SELECT). Diskettes themselves are not flipped in these drives. The system remembers which drive is selected for use; therefore, you must !SELECT the proper drive whenever switching from one to another.

Advanced Word Processing Commands

This section defines the more advanced and powerful word processing commands. These commands permit more detailed specification of printing format and provide more powerful editing control.

EDITING GROUP OF COMMANDS

These commands can be typed directly after the "." prompter. They may be typed in either upper case (capital letters) or lower case, whichever is more convenient and may be abbreviated to just their first letter.

FIND searches the text for all occurrences of a specified word or phrase up to 50 characters in length. For example, the command:

```
F"and"
```

will display every line which contains "and". Note that this search would also find any words in which the letters "and" are included such as "standard", "band", etc. This can be avoided by simply including the preceeding space like this:

```
F" and"
```

A FIND search may be limited to a specified range of lines. For example,

```
F"and",180-450
```

It is best to search for a small portion of a particular phrase as your chances of locating it are better. This is because the FIND command seeks an exact pattern match, including spaces. It will not locate variations such as different capitalization of the same word. It also will not locate a word or phrase that lies across a line boundary. However, you will soon see that this command is extremely powerful. It eliminates, to a great extent, any dependence upon line numbers for locating a given piece of text. All you have to do is enter a FIND command with a couple words from the text you are seeking. Then all lines containing those words used together will be displayed and you can quickly locate the desired one from the surrounding text on the line.

CHANGE searches the text just as the FIND command does but also changes each occurrence of the specified word or phrase to another word or phrase or eliminates it entirely. For example,

```
C"pen","pencil",110-
```

will change each occurence of the three letters "pen" to "pencil" in lines 110 through the end of the text in memory.

Note that the word "open" would thus become "opencil"! To avoid this, include the preceeding and/or succeeding space for the word. For example,

```
C" pen "," pencil ",110-.
```

To eliminate a word or phrase completely CHANGE it to "".

Control-B "breaks off" a line at the point where the cursor is positioned. This is generally used in conjunction with the EDIT command. If you wish to add text at the beginning or middle of a line that would cause the line become wider than the video screen, move the cursor to that point where you wish to add and type a control-B. The text to the right of the cursor will disappear, now add your text. The "broken off" portion of line is not lost but is moved down to make a new line. If you PRINT the file you will see that what you "broke off" is still there, just one line down and without a line number. Therefore, you should RESEQUENCE the file after using this command.

You can also use a control-B prior to a MOVE or TRANSFER (See next section) to make the insertion point occur on a line boundary if it isn't already. This may be necessary because the MOVE and TRANSFER commands can move text only to a point after an existing line. If the point to which you want to move or transfer text is in the middle of a line, you must make that the end of a line by "breaking off" the line there with a control-B.

OUTPUT GROUP OF COMMANDS

These commands can be typed directly after the "." prompter. They may be typed in either upper case (capital letters) or lower case, whichever is more convenient and may be abbreviated to just their first letter.

BOUNDARY sets the vertical page boundaries for formatted printing. This includes the vertical size of each page and the top and bottom margins. For example, the command:

```
B66,6
```

specifies 66 lines per page with 6 of those reserved for top and bottom margins. (This is the BOUNDARY setting when the Word Processor is booted.) How many of the 6 lines of margins are at the top versus the bottom of the page depends only upon how the paper is inserted into the printer. Since the Word Processor prints 6 lines per vertical inch, the above command specifies an 11 inch page (66/6) with 1 inch (6/6) reserved for top and bottom margins. The boundaries for legal size paper could be defined by:

because 14" x 6 lines/inch = 84 lines. The BOUNDARY command is effective until the Word Processor is again booted from disk or another BOUNDARY command is entered.

SKIP n is used to skip "n" lines on the printer. The command SKIP 0 will set the Word Processor's internal pager to the top of the page. This should be done just before printing on the edit printer if the F subcommand isn't used in a LIST or ZIGZAG command. If your printer has a top-of-form feature, it will advance the paper to the next page. The use of any other number after the SKIP command will result in the printer skipping that number of lines. You need not follow this command with ON to activate the printer. This command can be abbreviated "s0", "s10", etc and may also be embedded in your text. (See Embedded Commands.)

VERTICAL 1/2 sets the vertical spacing of printed lines. A VERTICAL 2 command will cause double spacing. Likewise, V 1 will single space. If you wish to change from single to double spacing or vice versa you should carefully review your text on the video screen and adjust it, as needed, prior to the final printing. This command can be abbreviated as "v1" or "v2" and may also be embedded in your text. (See Embedded Commands.)

LIST and ZIGZAG Continuation from File to File

Lengthy documents may utilize more than one file or may even require multiple diskettes for storage. A special form of the LIST and ZIGZAG commands can be used to continue a formatted output withe the same line width and paging as the previous L or Z command. This form is:

L,ON or L,ONn or L,200-550 or L,

The printer ON specification and line number range can be omitted,but the comma after the L is required. This command can be used after !LOADing each file after the first to produce a document of essentially unlimited length.

Control-S suspends output to the video terminal. This command can be used when reviewing text on the video screen to momentarily stop the display for review. Pressing any other key will resume the output.

Control-C permanently stops the command in progress. This can be used to stop any printout or a FIND or CHANGE command.

Control-T turns the edit printer on. The edit printer will copy all video screen transactions while on. Entering a second Control-T will turn the edit printer off.

Embedded Commands

Embedded commands are commands in the Output Group which are "embedded" within your text. In other words, they occur on a line with a line number and form part of the body of text. To distinguish them as commands they are preceded by an escape character, which is displayed on the terminal as an up-arrow or caret (^). Your terminal has a key labeled ESC or ESCAPE which is used for this purpose. Do not confuse the ESC key with the key that does have an up-arrow or caret on it.

These commands must be typed in capital letters.

^I±nn (ESC Inn) indents the following text ±nn positions from the current left margin (Note: two digits must be given for "nn", such as 08). The indentation starts at the start of the next line. You can also use an unsigned amount in this command to specify an exact indentation point. For example,

```
^I20
```

^L±nn (ESC Lnn) sets the maximum line length to the current line length ±nn. You can also use an unsigned amount to specify an exact line length. For example,

```
^L72
```

^US (ESC US) Start underlining. All text and spaces will be underlined.

^UE (ESC UE) End underlining. Every character position between ^US and ^UE will be underlined.

^Snn (ESC S) skips nn lines to leave room for a figure or for any other reason.

^T (ESC T) skips to the top of the next page. To utilize this command properly you must specify paging. (See theBOUNDARY command).

^Vn (ESC V) sets vertical single spacing if n=1 or double spacing if n=2. Examples:

```
V1
v2
```

Detailed Example of Advanced Commands

The same sample text file used under Basic Commands is included again below. however, a number of the Advanced Commands have been added to demonstrate their use. On the following page is a formatted printing of this text as produced with the command, L65.

SAMPLE File:

```
10^#^L50^US   Important !!!^UE
15^#   This is delicate magnetic media.  Study
20 and understand the instructions on reverse side before using.
30^#   Return the flexidisk to its sleeve after each use.
40^#   Do not punch edges of diskette by use of paper clips or
50 other fasteners.
60^#   Use felt tip pen only.
70  Ball point may dent inner magnetic disk.
80^#   Do not touch exposed inner disk.  Body oils and other
90 grime can affect performance.
100^#
110^#   ^USDO NOT BEND!^UE If the jacket develops crimps at the
120 edges, rotation of disk can be affected.
130^#   Use the library labels provided or a similar PEEL CLEAN
140 type only.  Remove previous label before adding new one.
150Stacked labels can cause jacket to squeeze inward on spinning
160 disk.  Never let label adhesive contact exposed inner disk.
170^#^#^I+04^L-04
180^#   ^USOPERATING & STORAGE ENVIRONMENT^UE^#
190^#^V2   1.  Store away from strong magnetic fields.
200  (magnets, large motors or cathode ray tubes)
210^#   2.  Avoid storage in direct sunlight or adjacent
220 radiators, heating or cooling ducts.
230^#   3.  Temperature 50 - 125 F (10 - 52 C)
240^#       R.H. 8% - 80%
250^I-04^L+04
```

SAMPLE File Formatted Printout:

Important !!!

This is delicate magnetic media. Study and understand the instructions on reverse side before using.

Return the flexidisk to its sleeve after each use.

Do not punch edges of diskette by use of paper clips or other fasteners.

Use felt tip pen only. Ball point may dent inner magnetic disk.

Do not touch exposed inner disk. Body oils and other grime can affect performance.

DO NOT BEND! If the jacket develops crimps at the edges, rotation of disk can be affected.

Use the library labels provided or a similar PEEL CLEAN type only. Remove previous label before adding new one. Stacked labels can cause jacket to squeeze inward on spinning disk. Never let label adhesive contact exposed inner disk.

OPERATING & STORAGE ENVIRONMENT

1. Store away from strong magnetic fields. (magnets, large motors or cathode ray tubes)

2. Avoid storage in direct sunlight or adjacent radiators, heating or cooling ducts.

3. Temperature 50 - 125 F (10 - 52 C)

   R.H. 8% - 80%

Extended Word Processing Commands

This section defines the extended word processing commands. These commands permit even more detailed specification of printing format and more powerful editing control than the Advanced Commands but may require the use of a printer with special word processing features.

OUTPUT GROUP OF COMMANDS

These commands can be typed directly after the "." prompter. They may be typed in either upper case (capital letters) or lower case, whichever is more convenient and may be abbreviated to their first character.

HOLD ON/OFF turns the "hold at end of page" feature on or off. When HOLD ON is issued (and a sheet of paper has been properly inserted into the printer) printing will stop at the end of the page to allow you to insert the next sheet of paper. After doing so press the RETURN key on the keyboard and printing will continue on the new page. This command is only effective during LIST or ZIGZAG printing. The command can be abbreviated as "h n" or "h f".

HYPHENATE n controls hyphenation of words at the end of lines. Hyphenation can be optionally used to minimize the padding of lines with embedded spaces used to justify the right margin. Sometimes this padding results in excessive separation between characters and words. It is avoided by hyphenating. With the Hn command you can specify that hyphenation can be used after the "n"th letter of a word. It will never be done between vowels or fewer that two letters before the end of a word. The available range is 1 to 7 characters; an H0 specifies no hyphenation. This command can be abbreviated as "h0", "h1", etc.

XTRA ON/OFF turns the "extra" word processing features on or off. These include the graphics mode and proportional spacing features of some printers. These features can only be used with a Diablo, NEC or Qume printer that is apporpriately equipped. The specific meaning of the "x n" command depends upon the printer being used as shown here:

"Conventional" Line or Char. Printer	Serial Word Processing Printer	Parallel Word Processing Printer
do not use	finely graduated spacing between words and characters	proportional character spacing and finely graduated spacing between words and characters

Embedded Command

^0hh (ESC 0hh) inserts into the text the character of code value is hh. This provides a means to print special control codes. (See Appendix IV, CHARACTER CODES.)

FILE GROUP OF COMMANDS

This command can be typed directly after the "." prompter. It must be typed in capital letters.

!MERGE filename merges the specified file with the text currently in computer memory. The merge is performed according to the line numbers of the two files. If any of the line numbers in the file in memory also occur in the specified file, only those in the specified file will remain after the merge is complete. The lines in the specified file are listed on the video screen as the merge proceeds.

Detailed Example of Extended Commands

The same sample text file used under Advanced Commands is printed below with the command, L65. However, in this case, the following Extended Commands were given prior to the printing:

HYPHENATE 3
XTRA ON

Compare the results of this printing with the previous one to see the difference caused by these additional two commmands.

Important !!!

This is delicate magnetic media. Study and understand the instructions on reverse side before using.

Return the flexidisk to its sleeve after each use.

Do not punch edges of diskette by use of paper clips or other fasteners.

Use felt tip pen only. Ball point may dent inner magnetic disk.

Do not touch exposed inner disk. Body oils and other grime can affect performance.

DO NOT BEND! If the jacket develops crimps at the edges, rotation of disk can be affected.

Use the library labels provided or a similar PEEL CLEAN type only. Remove previous label before adding new one. Stacked labels can cause jacket to squeeze inward on spinning inner disk. Never let label adhesive contact exposed inner disk.

OPERATING & STORAGE ENVIRONMENT

1. Store away from strong magnetic fields. (Magnets, large motors or cathode ray tubes exceeding 50 oersteds.)
2. Avoid storage in direct sunlight or adjacent to radiators, heating or cooling ducts.
3. Temperature 50 - 125 F (10 - 52 C)
   R.H. 8% - 80

Appendix I

COPYING DISKETTES

It is very important that you back up your files by making copies of your diskettes and storing them in a safe place. Whenever any significant amount of new text is added or a significant number of changes made, a "backup" copy of your "working" diskette should be made. In addition to the danger of physical destruction, diskettes wear out after time. They can also be damaged by the drives if a power failure occurs while a diskette is inserted.

WP-2 diskettes contain two distinct sections. The "files" area occupies track 8 and tracks 15 - 76. It is used to store the directory and your text files. The other area, the "system" portion of the diskette, occupies tracks 0-7 and 9-14. This section contains the programs which make WP-2 work. Since you will normally be changing only the files portion of your diskette, that is all you need to copy to your backup diskettes. Occasionally, Ohio Scientific may offer improved and updated versions of the WP-2 system. When this occurs you can update your diskettes by merely copying the system portion from the WP-2 Update Diskette to your diskettes. This will leave your files intact but provide you with the latest Word Processor system.

To copy a WP-2 diskette, boot the the diskette in a dual drive computer system and type:

COPY
====

The following question will appear:

```
-----------------------
|  COPY FILES  (F)     |
|  COPY SYSTEM (S) ?   |
-----------------------
```

Type "F" to backup the files from the A to the B drive diskette.

- OR -

Type "S" to update the "system" from the A to the B drive diskette.

```
----------------------------
|  FROM DRIVE (A/B/C/D) ?  |
----------------------------
```

will be asked.

Enter the letter for the drive from which to copy. Normally this is "A".

NOTE: "A" refers to the top drive.
"B" refers to the bottom drive.
"C" refers to the flip side of the A drive diskette.
"D" refers to the flip side of the B drive diskette.

```
--------------------------
|  TO DRIVE (A/B/C/D) ?  |
--------------------------
```

will be asked.

Enter the letter for the drive to which to copy. If you're backing up a WP-2 diskette in the A drive, insert a new diskette or your backup diskette into the B drive. If you are updating the system on your WP-2 diskette, place it into the B drive.

```
-------------------
|  READY (Y/N) ?  |
-------------------
```

will be asked.

---- CAUTION! ----

Only if you are satisfied that you have correctly specified the copy operation and that the diskettes are loaded into the drives as intended, type "Y". Otherwise, type "N" and the initial COPY question will reappear.

If you typed "Y" the copy will proceed with the following messages:

Message	Explanation
INITIALIZING	The tracks to be copied to are initialized (formatted) prior to receiving data.
COPYING TRACK: 08 15 16 etc.	The appropriate tracks are copied from the A to the B drive with each track number output prior to its being copied.

Appendix II

INDIRECT FILES

On occasion you may wish to use the power of WP-2 for editing BASIC programs or some other type of line numbered text file.

NOTE: OSI Assembler/Editor files on OS-65D V2 or V3 or WP-1B diskettes can be loaded directly into WP-2 for editing - indirect files are not needed. After booting WP-2, merely replace the WP-2 diskette in the A drive with the Assembler diskette and use the !LOAD and !PUT commands to access the desired Assembler files either by name or track number. If an ER#9 occurs when loading an OS-65D V2 file, enter the command !D9 to disable this error check.

The indirect file procedures are outlined on the following pages.

To transfer a BASIC program to WP-2 for editing:

1. Boot the BASIC system (OS-65D or OS-65U).

2. Enable the indirect file feature of the system and set an appropriate starting location for the indirect file:

OS-65D V3.0	OS-65U
POKE 9554,n	POKE 14646,91 POKE 11667,n

   Where "n" is the memory page number where the indirect file is to start. This location must be above the end of the BASIC program in memory but low enough to allow the indirect file to fit in the remainder of memory. The table at the end of this appendix shows the relationship between memory page numbers and decimal and hexidecimal memory addresses:

3. Write the BASIC program to the indirect file by typing "LIST[". (The "[" will not appear on the video screen but must be typed.)

4. At the completion of the listing type "]" which will appear on the screen twice.

5. Remove the BASIC system diskette and insert and boot a WP-2 diskette.

6. Set the starting location of the indirect file by typing "WHxxxx", where "xxxx" is the appropriate hexidecimal address (from the table) which corresponds to the memory page number used in step 2. The normal (default) value for "xxxx" is 8000, corresponding to n=128.

7. Load the indirect file into WP-2 by typing "control-X". (This is done by pressing and holding down the CNTRL key on your keyboard then hitting the X key, then releasing the CNTRL key.)

8. When the file has completed loading, save a copy of it on disk and proceed with editing the file as needed.

To transfer a text file from WP-2 to a BASIC system:

1. Boot your WP-2 system.

2. Set an appropriate starting location for the indirect file with the WHxxx command . See 6. on the preceeding page.

3. Write the text file to the indirect file by typing "P control-\". (The "control-\" will appear on the video screen as "\".)

4. At the completion of the listing type "control-]". A "]" will appear on the screen.

5. Remove your WP-2 diskette and insert and boot the BASIC system diskette.

6. Enable the indirect file and set the appropriate starting location. See 2. on the preceeding page.

7. Load the indirect file into the BASIC system by typing "control-X".

8. When the file has completed loading, save it on disk.

MEMORY PAGE NUMBERS AND ADDRESSES

Page Number Decimal	Address Decimal	Address Hex	Page Number Decimal	Address Decimal	Address Hex
52	13312	3400	124	31744	7C00
56	14336	3800	128	32768	8000
60	15360	3C00	132	33792	8400
64	16384	4000	136	34816	8800
68	17408	4400	140	35840	8C00
72	18432	4800	144	36864	9000
76	19456	4C00	148	37888	9400
80	20480	5000	152	38912	9800
84	21504	5400	156	39936	9C00
88	22528	5800	160	40960	A000
92	23552	5C00	164	41984	A400
96	24576	6000	168	43008	A800
100	25600	6400	172	44032	AC00
104	26624	6800	176	45056	B000
108	27648	6C00	180	46080	B400
112	28672	7000	184	47104	B800
116	29696	7400	188	48128	BC00
120	30720	7800			

Appendix III

TRANSFERRING WP-1 FILES TO WP-2

If you have been a user of WP-1 you may wish to convert those files to WP-2. Naturally, your first step is to create named files for them of appropriate sizes on a WP-2 diskette. (WP-1 tracks are the same size as WP-2 pages.)

With the WP-2 diskette in Drive A and the WP-1 diskette in Drive B issue the following sequence of commands for each file to be transferred:

```
.!SE B
.!LOAD tt        (where "tt" is the starting track
.!SE A           of the file on the WP-1 system)
.C"#","^#"       (where "^" is ESC not the ^ key)
.!PUT filename   ("filename" is a WP-2 named file)
```

If you get ER#9, use the !D9 command to disable the error check so the WP-1 diskette can be read by WP-2. Once you have finished you should reboot the system so that the error check is restored.

Appendix IV

CHARACTER CODES

Whenever you wish to perform special control operations on your printer, you must embed in the text the appropriate control commands for the particular printer you are using. For example, you might wish to output the control character or escape code sequence to cause vertical half-spacing in order to print subscripts or superscripts. The ^0hh command is available for this purpose. A conversion table of characters and their codes is provided on the following page. The function performed by the various codes depends upon your particular make and model of printer, so are not given here. Refer to the Operator's Manual for your printer for this information.

CHARACTER CODES

Code	Char	Code	Char	Code	Char
00	NUL	2B	+	56	V
01	SOH	2C	,	57	W
02	STX	2D	-	58	X
03	ETX	2E	.	59	Y
04	EOT	2F	/	5A	Z
05	ENQ	30	0	5B	[
06	ACK	31	1	5C	\
07	BEL	32	2	5D	]
08	BS	33	3	5E	^
09	HT	34	4	5F	_
0A	LF	35	5	60	`
0B	VT	36	6	61	a
0C	FF	37	7	62	b
0D	CR	38	8	63	c
0E	SO	39	9	64	d
0F	SI	3A	:	65	e
10	DLE	3B	;	66	f
11	DC1	3C	<	67	g
12	DC2	3D	=	68	h
13	DC3	3E	>	69	i
14	DC4	3F	?	6A	j
15	NAK	40	@	6B	k
16	SYN	41	A	6C	l
17	ETB	42	B	6D	m
18	CAN	43	C	6E	n
19	EM	44	D	6F	o
1A	SUB	45	E	70	p
1B	ESC	46	F	71	q
1C	FS	47	G	72	r
1D	GS	48	H	73	s
1E	RS	49	I	74	t
1F	US	4A	J	75	u
20	SP	4B	K	76	v
21	!	4C	L	77	w
22	"	4D	M	78	x
23	#	4E	N	79	y
24	$	4F	O	7A	z
25	%	50	P	7B	{
26	&	51	Q	7C	|
27	'	52	R	7D	}
28	(	53	S	7E	~
29	)	54	T	7F	DEL
2A	*	55	U		

Appendix V

KEY CODES

Many different video terminals can be used with WP-2. However, keyboards and key cap legends often differ from one terminal to another. This appendix provides a cross reference of keycap legends for a number of the more popular video terminals and relates each WP-2 key function to the specific key to be used with each terminal.

	WP-2 Key Function				
Video Terminal	BACK SPACE	FORWARD SPACE	ESCAPE ("^")	CHARACTER DELETE	LINE DELETE
TEC 500 Series	CTRL-H	CTRL-L	ESCAPE	_	RUB
Hazeltine 1500	BACK S	S-BS*	ESC	_	DEL
Lear Sig. ADM3	CTRL-H	CTRL-L	ESC	_	RUB
TelRay 33II	CTRL-H	CTRL-L	CS-K**	SHIFT-O	DEL

* "S-" refers to a shifted key. Press and hold the SHIFT key then press the specified key.

** "CS-" refers to a shifted control key. Simultaneously press and hold the SHIFT and CTRL keys then press the specified key.

Appendix VI

ERROR CODES

Most Word Processor error messages are self explanatory. When the Word Processor file system encounters an error it will be reported by a number or letter designation. These are:

1 - CAN'T READ DISK TRACK/SECTOR (parity error)

The file or program being loaded is in error; go back to your backup copy and discard the bad diskette. Or a file is being !PUT to a bad diskette; !PUT the file to your backup diskette and discard the bad one.

2 - CAN'T WRITE DISK TRACK/SECTOR (compare error)

A file is being !PUT to a bad diskette. PUT the file to your backup diskette and discard the bad one.

3 - TRACK 0 IS WRITE PROTECTED

You have attempted to initialze track zero with an "!IN 00" command. Initialization of track zero is not needed nor is it permitted.

4 - DISKETTE IS WRITE PROTECTED

You are using a "write-protected" diskette. This is a diskette with an extra notch on the front. If not covered by opaque tape the diskette can have its files read, but not written.

5 - SEEK ERROR

The track number read from the diskette did not agree with that expected. Type "!HOME" and try again. Repeated seek errors indicates a bad diskette or drive.

6 - DRIVE NOT READY

The most probable cause of this error is no diskette in the referenced drive. Insert the diskette and try again.

7 - COMMAND ERROR, IMPROPER FORMAT

You have entered an improper command after an "!". Refer to the appropriate section of this manual for the proper format of the command.

8 - BAD TRACK NUMBER

A track number greater than 76 has been specified.

9 - CAN'T FIND TRACK HEADER

Each track on the diskette has a "header" that contains the track number and some other information. An inability to find the header usually indicates a bad diskette or drive.

A - CAN'T FIND PRIOR SECTOR

This error usually indicates a bad diskette or drive.

B - BAD SECTOR LENGTH VALUE

This error is usually caused by a computer memory failure.

C - NAME IS NOT IN DIRECTORY

The file name you have specified has not been defined.

D - ATTEMPTED TO READ OR WRITE PAST END OF FILE

The text file you have in the computer is larger than the file you tried to !PUT it into. PUT the file to your scratch file, DELETE the text file and reCREATE it large enough to hold the file. Then !LOAD the scratch file and !PUT it into the newly CREATEd larger file. If this error occurs on a !LOAD you have a bad diskette or a computer memory failure.

E - ATTEMPTED TO LOAD FILE LARGER THAN MEMORY

The file you attempted to !LOAD was created on a computer with more memory or a failure in your memory makes it appear to the Word Processor as less memory than existed when the file was last !PUT.

F - MERGE RESULTED IN FILE LARGER THAN MEMORY

The originally loaded file is too large to permit the MERGE function to run or the size of the file resulting from the merge is too large for your computer's memory.

Appendix VII

SYSTEM CONFIGURATIONS

The Word Processor WP-2 was designed expressly for use on Challenger computers utilizing a serially interfaced video terminal, an edit printer and a Diablo, NEC or Qume word processing printer. The video terminal requires only the following feature in order to provide complete editing capability: a non-destructive forward space and backspace.

The separate edit printer is useful for higher speed edit copies of text files. The printers supported for this purpose include:

Centronics Compatible: - as Device 4, CA-9 Interface
- Centronics model 779
- Okidata model SL125
- Many other "Centronics compatible" models

Serial Printers: - as Device 3, CA-6S/7S Interface
- Many RS-232 compatible models

If a separate edit printer is not included in the system, the word processing printer can be used for this purpose.

Six different configurations of word processing printer are supported. They are:

Serial Interface: - as Device 3, CA-6S/7S Interface
- Diablo models 1610 and 1620
- NEC Spinwriter models 5510 and 5520
- Qume Sprint 5 series

Parallel Interface: - as Device 8, CA-9 Interface
- Diablo models 1345A, 1355HS and 1355WP
- NEC Spinwriter model 5500
- Qume Sprint 5 series

Other Ohio Scientific computers, as well as other terminals and printers can be used with the Word Processor possibly with some reduction in capability.

As supplied, WP-2 uses device 4 as an edit printer. If you wish to change the edit printer device number type the sequence of commands show underlined below:

```
.EXXX
A*BA

OSI 9 DIGIT BASIC
COPYRIGHT 1977 BY MICROSOFT
 xxxxx BYTES FREE

OK
DISK!"CA 3D00=06,1
POKE 17920,n    (Where n is the device number)
DISK!"SA 06,1=3D00/B
```

Then reboot the system.

COMMAND SUMMARY

Direct Entry, Editing and Output Commands

.BOUNDARY l,m — Sets vertical page size to "l" lines and margins to "m" lines.

.CHANGE {linespec,}"fromstring","tostring" — Changes within 'linespec' all occurrences of 'fromstring' to 'tostring'.

.Control.B — Breaks line off at cursor position.

.DELET linespec{,linespec}... — Deletes lines 'linespec'.

.EDIT linenumber — Displays line 'linenumber' for editing.

.FIND {linespec,}"string" — Finds and displays within 'linespec' all occurrences of 'string'.

.HYPHENATE count — Enables hyphenation ('count' = 0 disables) after 'count' characters of a word.

.HOLD ON|OFF — Turns hold-at-end-of-page on or off.

.INITIALIZE — Erases text in computer memory.

.LIST {width}{,linespec}{,FORMAT pagenumber}{,ON{devicenumber}} — Lists lines 'linespec', justified within the specified line 'width'. If the FORMAT option is specified paging will occur and page numbers will be printed starting with 'pagenumber' - if 'pagenumber' is zero paging will occur without page numbers. If ON is specified, printing will also be on the edit printer or 'devicenumber' printer.

.MOVE linespec,destination — Moves 'linespec' lines to location after 'destination' line. Deletes original lines.

.NUMBER linenumber — Initiates auto-line numbering with line 'linenumber'. To exit type only RETURN.

.PRINT {linespec}{,linespec}...{,ON} — Prints 'linespec' lines, optionally to edit printer.

.RESEQUENCE {linenumber} — Renumbers all lines starting with 'linenumber' or 10 and incrementing by 10.

.SIZE — Reports file size in pages.

.SKIP count — Skips 'count' lines on edit printer. If 'count' = 0 sets pager to top of page.

.TRANSFER linespec,destination Transfers 'linespec' lines to location after 'destination' line. Leaves original lines.

.VERTICAL 1|2 Sets vertical line spacing to single or double.

.WHaddress Sets the computer memory text storage space high limit to hexidecimal 'address'.

.XTRA ON|OFF Turns the extra word processing printer features on or off.

.ZIGZAG {width}{,linespec}{,FORMAT pagenumber}{,ON{devicenumber}}
Lists lines 'linespec', ragged edged within the specified line 'width'. If the FORMAT option is specified paging will occur and page numbers will be printed starting with 'pagenumber' - if 'pagenumber' is zero paging will occur without page numbers. If ON is specified, printing will also be on the edit printer or 'devicenumber' printer.

Embedded Output Commands

^# Starts a new line; doesn't justify current line; inserts following spaces.

^Inn or ^I±nn Indent the next line to position 'nn' or ±'nn' from the current left margin.

^Lnn or ^L±nn Set the line length to 'nn' or ±'nn' from the current line length.

^Snn Skip 'nn' lines.

^T Skip to top of next page.

^US Start underlining.

^UE End underlining.

^V1 or ^V2 Single space or double space.

^Ohh Print the character of code 'hh'.

KEY to above: A vertical line (|) separates mutually exclusive options. Items in braces ({}) are optional. A string of dots (...) means previous item may be repeated.

File Commands

.!LOAD filename	Loads computer memory with 'filename'.
.!MERGE filename	Merges 'filename' into computer memory by line number.
.!PUT filename	Puts the text in computer memory into 'filename'.
.!SELECT diskdrive	Selects floppy 'diskdrive' - A, B, C or D.

File Functions

.COPY	Copies one diskette to another.
.CREATE	Creates a named file on diskette.
.DELETE	Deletes a file from diskette.
.DIR	Prints a directory of files.
.RENAME	Renames a file on diskette.