

Word Processor — WP-3-2

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Word Processor WP-3

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Software License

Software Product: Word Processor WP-3

Diskette Serial Number: _____

Factory Issue Date: _____

Computer Model & Serial Number: _____

Keep This Information For Your Records

```

#####
  Word Processor  WP-3
  License Registration Form

  Diskette Serial Number: _____
  Factory Issue Date: _____
  -----
  Computer Model: _____
  Computer Serial Number: _____
  Printer Model: _____
  -----
  Computer Dealer: _____
  _____
  -----
  Customer Name: _____
  Company: _____
  Address: _____
  City, State: _____
  Zip Code: _____
  Purchase Date: _____
#####

```

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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 memos, invoices or other documents that are normally typed just once. But for repetitively printed documents 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 is printed for review, proofread and edited. The automatic features of the Word Processing system provide for easily making changes and automatically compensate for these

changes at each 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. Since most word processing printers print 500 or more words per minute each printout is produced quickly and also takes little operator assistance.

Some of the many 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 multiple line spacing
- * easy storage and access to documents as text "files"

Introduction to Word Processor 3

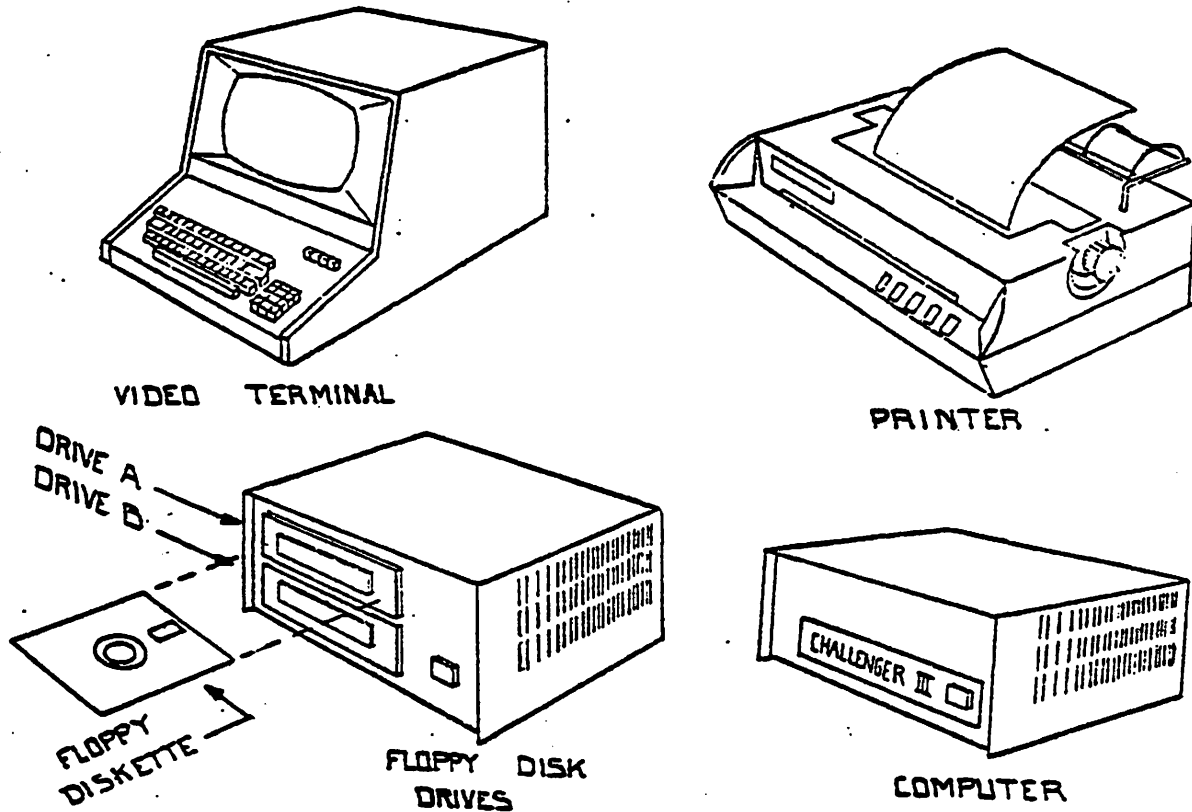
WP-3 is a very sophisticated yet easily understood and easily used word processor for Ohio Scientific computers. It contains all the features described in the preceding introduction and more.

This manual is your guide to the use of Word Processor 3. 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 quickly develop the ability to use 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-3's features.

The WP-3 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.

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 and the floppy disk drives, then the video terminal, and then the printer (if you intend to use the printer). The power switches are located in the rear of each unit or there may be a single keyswitch on the front of the computer which turns everything on. (NOTE: Be sure the terminal option switches are correctly set or WP-3 will not operate properly. See Appendix VII, System Configurations, for details.) Allow the terminal to

warm up for half a minute, then take the diskette marked "Ohio Scientific WP-3" with the label facing upwards and the notched edge facing the disk drive and gently insert it into floppy disk drive A (the top drive). When it "clicks" into place close the drive door by gently pressing it downward until it locks. (The drive door can be opened to remove a diskette by pressing the pushbutton on or near the door.)

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 be sure the ALL CAPS key on your keyboard is latched down -- if a small "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-3

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 command; 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. First you must tell the Word Processor that you're going to be entering

new text by typing:

NEW

then pressing the RETURN key on your keyboard. The period prompter is not displayed which indicates the Word Processor is ready for new text as opposed to a command. Now, try entering some new text. Type the following simple line:

WORD PROCESSING-

After typing the line press the RETURN key on your keyboard. This key tells the Word Processor that you have finished typing a line and should be pressed at the end of each line you type. The video screen display now "scrolls" upward leaving a blank line at the bottom of the screen for the next line to be typed.

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

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

Now you can continue entering text by merely typing it. Go ahead and type this:

can be a great time saver for repetitive production of detailed textual material such as legal documents, form letters and contracts.

You may have noticed while typing this that the Word Processor automatically pressed the RETURN key for you as the right side of the video screen was approached.

Now you can stop entering new text and return to the command mode of the Word Processor by entering an empty line. Do that now by pressing the RETURN key with the cursor at the beginning of the line. The period prompter now reappears indicating that you're in the command mode.

You can review the text you have entered by merely pressing the RETURN key when in the command mode. If you do that now you'll get the message:

END OF TEXT

because you are at the end of the entered text. However, this automatically resets to the beginning of the text, so pressing RETURN again will display the first line you entered. Pressing RETURN one more time returns you to the command mode and pressing it again displays the next line of text. If you hold the RETURN key down the Word Processor will continuously scroll through all of your text. Try it.

You may wish to note that the Word Processor internally assigns a line number to each line of text. Although you don't have to use the line numbers they are sometimes useful. You can display the line numbers with the command:

PRINT

Many of the commands provided by the Word Processor can be used with or without these line numbers. For example, you can print just line 20 by typing:

PRINT 20

If you have followed the above suggestions you have successfully entered a text "file" into the Word Processor. A file is merely a collection of lines or paragraphs of text that you choose to keep together. A file can be permanently saved on a floppy diskette and later recalled for revision and printing.

Now let's exercise some of the power of the Word Processor. We will **LIST** the file we just entered specifying a fifty character line width. To do so type:

LIST 50 (Don't forget the RETURN.)

This is what you'll see:

```
-----  
| WORD PROCESSING-can be a great time saver for |  
| repetitive production of detailed textual material |  
| such as legal documents, form letters and |  
| contracts. |  
-----
```

The first thing you'll notice is the neatly formatted output. The Word Processor does most of the work of producing a neat, orderly printout thus eliminating much of the detail work of text production. In succeeding sections of this manual you'll learn how to use even more powerful Word Processor features to produce high quality documents in less time than ever before.

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 "." prompt. 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.

Basic Entry Commands

INIZ clears the computer memory (not the floppy disk) of all text that may have been there. To enter this command type:

INIZ or just i

The question "INIZ?" will be asked to give you a second chance before memory is cleared. Type "Y" if that is your intent; if it is not just hit RETURN and the memory will not be erased.

NEW permits you to enter new text. You can type the new text continuously, without concern for the right margin because an automatic RETURN is provided between words as you

approach the right side of the video screen. To use this command type:

NEW or just n

After you type this command and press RETURN the video screen will scroll up one line leaving a blank line on the bottom of the screen with no period prompter. This indicates that the Word Processor is expecting new text entry (not a command).

To stop new text entry just enter an empty line by pressing RETURN with the cursor at the beginning of a line. Here's an example of new text entry:

.N (here you give the command to start new text entry)

Text typed by you ...

... more text typed by you.

(here you press RETURN to stop new text entry)

. (now the Word Processor is back in the command mode)

NOTE: Since the Word Processor reformats lines upon printout you must be sure to type a space between the last word on a line and the first word on the next line. (These two words will probably be together on the same line after reformatting.) An easy technique to use is let the Word Processor automatically supply the RETURN's. It always does this just after a space has been typed near the right side of the video screen, thus insuring a space between all words.

Basic Edit Commands

Before describing the edit commands some preliminary introduction is in order.

Many Word Processor commands can be used to refer to only a part of your whole text file. Text demarcators are used with these commands to identify the portion of text you want to affect. A demarcator (or "marker") is a special character you insert into the text as a control-D. It is displayed on the video screen as a flashing vertical bar (|).

NOTE: A "control-D" is typed by pressing and holding the CTRL key down, hitting the D key, then releasing the CTRL key. Other "control" keys are typed in a similar way. In effect, the CTRL key is used like a SHIFT key.

Additionally, the Word Processor internally assigns a line number to each line of text. These line numbers can be displayed with the PRINT command (described in the next section). Line numbers or markers can be used in Word Processor commands to specify a portion of your text file. Since line numbers refer to whole lines they cannot specify a point within a line like markers can.

Now the edit commands:

DELET removes lines of text from your file. "D|" will remove the first block of text enclosed by markers. "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 50. D50- would delete line 50 and all succeeding lines. The command D50-130 would delete lines 50 through 130. Multiple 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. This command is automatically executed whenever you just press RETURN immediately after the command prompt: the next line of text is displayed and may immediately be edited.

You can also specify a line to be edited by line number. Typing, E60, for example, will display line 60 with the cursor at the beginning of the line.

During editing cursor can be moved to the right or left by typing the -> (or control-P) key or the <- (or control-H or BACKSPACE) key.

NOTE: The gray cursor control keys on the numeric keypad of Ohio Scientific's standard video terminal require use of the SHIFT key.

The cursor can be instantly moved to the front (left) of the

line with a control-F and to the right side of the line with a control-R. Control-I will move the cursor to the next tab stop (see below). Deletions can be made at any point by pressing the DElete key for each character to be deleted. And you can insert additional text anywhere in the line by positioning the cursor at the point where the text is to be inserted and typing the new text.

Whenever a line of text is being displayed for editing you can also use the <down arrow> key to immediately display the next line of text. (Pressing the <down arrow> key is the same as pressing the RETURN key twice in succession.) Similarly, the <up arrow> key can be used to immediately display the previous line of text. If you press and hold the <up arrow> key you will scroll backwards through the text.

The following table summarizes the line editing commands:

<u>To Do This:</u>	<u>Type This:</u>
Step right	SHIFT ->
Step left	SHIFT <-
Skip to next tab stop	CTRL I
Backup to front of line	CTRL F
Skip to rear (right) of line	CTRL R
Insert text	(text)
Display next line	SHIFT <down arrow>
Display previous line	SHIFT <up arrow>

The cursor does not have to be at the end of the line when you press RETURN; you can press it anytime you're done editing the line.

These line editing commands can be used any time. They are not restricted to the editing of text and can even be used to make corrections when you're entering commands.

After you finish editing a line and press RETURN the command prompt will reappear. If you immediately press RETURN again the next line of text is displayed for review or editing. This process continues until the end of the text is reached, the message

END OF TEXT

is displayed and the command prompt reappears.

The Word Processor's internal "current line pointer" always points to one of the lines of text. It is the line currently being displayed or just previously displayed if the Word Processor is in the command mode. When the END OF TEXT message appears, the current line pointer is reset to the first line of text.

AGAIN is used to reset the current line pointer back to the first line of text. Typing "A" and RETURN then again typing RETURN will display the first line of text. An example:

.A

.(here you immediately press RETURN)

This would be the first line of your text.

ZEN is used to display the last line of text for editing. If RETURN is pressed then "NEW" typed you will be able to add text at the end of the file.

<TAB> (TAB key or control-I) when pressed immediately after the period prompter will display a line showing the current tab stops. Each existing tab stop will be indicated by an "I" in the, otherwise blank, line. You can then change the tab stops by merely adding, deleting or moving the I's in this line. You can even use the previously established tab stops while setting the new ones.

NOTE: When your text is output with the LIST or ZIGZAG command the words and lines of text you typed into the Word Processor will be altered to accomodate the line width you specify. When you use tabs to columnate information you normally don't want this restructuring to take place so follow these rules when producing columnated text:

1. Preceed each block of columnated text with at least one ^# command.
2. End each line in which you use tabs with ^#.
3. Keep your lines shorter than the line width specification you intend to use for the LIST or ZIGZAG output.

Basic Output Commands

PRINT displays the text along with line numbers. If you wish to see all of the text in memory type:

PRINT or just p

You can also print just a part of the text. "P|" will print the first block of text enclosed by markers. "P" followed by a single line number will display the specified 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"). Attach ",ON" to the command to turn the printer on. Examples would be:

P-40, P40-, and P40-230,O.

Multiple 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 will justify the right margin. For example, the command:

L65

will list on the video screen with a line width of 65 characters (6.5 inches). 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 use markers or 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 a conventional typewriter. 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. 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 ZIGZAG output.

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 causes all video screen printing to also be printed on the printer. Typing a second Control-T will stop the printing on the printer.

LIST and ZIGZAG to a Printer:

If either LIST or ZIGZAG have an ",ON" appended to the end of the command and the printer power switch has been turned on, the text will be printed on the printer instead of the video terminal. For example, the command:

Z72,ON

will cause the text to be printed on the printer, ragged edged, with a maximum line width of 7.2 inches.

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/CA-18 interface)

8 - word processing printer (via parallel CA-9/CA-18 interface)

Automatic Page Numbering

An F command may be used after L or Z for automatic pagination and optional numbering of pages, and must be used for the printer to hold at the end of pages (see HOLD command). For example, the command:

L64,F0,ON8

will output the text to the word processing printer, margins justified within 6.4 inch 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 actually be numbered starting with that number.

Basic Embedded Commands

Embedded commands are commands which are embedded within your text. In other words, you type them directly into your text. To distinguish them from text 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 you use for this purpose. Do not confuse the ESC key with the key that does have an up-arrow or caret on it.

`^#` will start a new line in the printout and will indent the first line if you leave spaces after the `^#`. 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 between the paragraphs.

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 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:

```
^# Important !!!^# This is delicate magnetic media. Study
and understand the instructions outlined below 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%
```

SAMPLE File Formatted Printout:

Important !!!

This is delicate magnetic media. Study and understand the instructions outlined below 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%

WORD PROCESSOR FILES

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

Word Processor 3 permits you to create files, rename and delete them and print a directory (list) of them. Once created, a file can be used to save text that you have entered into the Word Processor. The text will be retained on the floppy diskette indefinitely 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 at one time by the Word Processor is limited by the size of your computer's memory. It is about 200 lines in a system with 24K of memory, 300 lines in a 32K system, and 500 lines 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 2600 lines, or over 60 typical pages, (600 lines, or over 18 pages on a mini-floppy system), and multiple diskettes can be used to hold documents of any length.

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:

Do you want the Directory printed on the printer (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:

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Word Processor WP-3

```
      -- 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
```

6 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 many 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 (up to 21 on a mini-floppy) 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 (2000 characters or about 350 words on a mini-floppy) - 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 its 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 into a disk file use the !PUT command. The format of this command is:

!PUT filename or just !PU filename or just !PU

!PU without a filename saves into the last file from which you !LOADED. A 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). Conversely, PUTTING 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 disk surfaces. If your Challenger has single sided drives it can have two drives, Drive A on top and Drive B on the bottom. If it has drives that are double-sided, then Drive C is on the flip side of A and Drive D is 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 you want to access a different drive.

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.

Advanced Editing Commands

These 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 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 the first line containing "and". When the line is displayed you can immediately edit it if desired. To find the next occurrence you only need to type "f" after the prompter and the next line on which "and" occurs will be displayed for editing. You can continue this until the END OF TEXT message is displayed to indicate that you have searched completely through the file.

Note that the above search would also find any words in which

the letters "and" are included such as "standard", "band", etc. This can usually be avoided by simply including the succeeding space like this:

F"and "

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

F|,"and " F180-450,"and "

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. It will not locate variations such as different spacing or capitalization. It also will not locate a phrase that lies across more than one line. However, you will soon see that this command is extremely powerful. It eliminates tiresome visual scanning to locate a given piece of text.

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 you specify or eliminates it entirely. For example,

C110-,"pen","pencil"

will change each occurrence 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 preceding and/or succeeding space with the word. For example,

```
C110-," pen "," pencil "
```

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 so much text in the middle of a line that the line would become wider than the video screen, move the cursor to the point where you wish to add text and type a control-B. The text to the right of the cursor will disappear, now add the new 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.

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 between existing lines. If the point to which you want to move or transfer text is in the middle of a line, you must make that point the end of a line by "breaking off" the line there with a control-B.

Advanced Output Commands

These commands can be typed directly after the "." prompt. 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 all output. 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. (The BOUNDARY setting when the Word Processor is booted is B66,0.) How many of the 6 lines of margin 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:

B84,12

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 printer if the F subcommand isn't used in a LIST or ZIGZAG command. The use of any other number after the SKIP command will result in the printer skipping that number of lines. You don't need to 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 with 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. After printing the first file, !LOAD each successive file and use this command to produce a document of essentially unlimited length.

Advanced Embedded Commands

Embedded commands are commands which are embedded within your text. In other words, you type them directly into your text. To distinguish them from text 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.

^Cnnx positions the text which follows the command at column nn and fills the intervening space with x's or whatever character you specify in place of the "x" in the command. (Of course a space is OK.) This command provides absolute "tabbing" or column positioning.

NOTE: When your text is output with the LIST or ZIGZAG command the words and lines of text you typed into the Word Processor will be altered to accomodate the line width you specify. When you use tabs to columnate information you normally don't want this restructuring to take place so follow these rules when producing columnated text:

1. Preceed each block of columnated text with at least one ^# command.
2. End each line in which you use tabs with ^#.
3. Keep your lines shorter than the line width specification you intend to use for the LIST or ZIGZAG output.

^I+nn indents the following text +nn positions from the current indentation point (Note: two digits must be given for "nn", such as 08). The specified 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 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 Start underlining. All text and spaces will be underlined.

^UE End underlining. Every character position between **^US** and **^UE** will be underlined.

^Snn skips nn lines to leave room for any reason.

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

^Vn 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:

```
^#^L50^US   Important !!!^UE
^#   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.
^#
^#   ^USDO NOT BEND!^UE 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.
^#^#^I+04^L-04
^#   ^USOPERATING & STORAGE ENVIRONMENT^UE^#
^#^V2   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%
^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.

Extended Edit Command

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

!MERGE filename inserts the specified file into the text file currently in computer memory immediately after the "current" line. Remember, the current line is the last line displayed or edited. The lines in the incoming file are listed on the video screen as the merge proceeds.

NOTE

At least one extra page of memory must exist in addition to that required for both files for the MERGE to complete successfully. For example, a 48K computer can handle a maximum of 12 pages of text at one time so could merge two files totaling up to eleven pages, but no more.

Extended Output Commands

These commands can be typed directly after the "." prompt. 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 sheet. This command is only effective during LIST or ZIGZAG printing when the F subcommand is used. The command can be abbreviated as "h n" and "h f".

HYPHENATE n controls hyphenation of words at the end of lines. Hyphenation can be optionally used to minimize the insertion of spaces between letters and words to justify the right margin. Sometimes this insertion of spaces results in excessive separation between characters and words. It is minimized 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 than 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 finely graduated and proportional spacing features of some printers. These features can only be used with a word processing printer that is appropriately equipped. The specific meaning of the "x n" command depends upon the printer being used as shown here:

"Conventional"	Serial	Parallel
Line or Char.	Word Processing	Word Processing
<u>Printer</u>	<u>Printer</u>	<u>Printer</u>
do not use	finely graduated spacing between words and char- acters	proportional char- acter spacing and finely graduated spacing between words and char- acters

Extended Embedded Commands

^A suspends printing during a LIST or ZIGZAG and accepts one line of information from the video terminal. Then inserts that line into the file in place of the ^A and continues the printout. This command makes it easy to run many copies of, for example, a business letter with a different name and address manually entered for each copy of the letter.

^0hh inserts into the text the character of code "hh". The control codes recognized by the standard Ohio Scientific parallel word processing printer are:

ESC RS n sets the vertical line pitch to n-1 48ths of an inch (normally 8/48ths - 6 pitch)
Example: ^01B^01E^005

LF skips down one line at current pitch
Example: ^00A

ESC LF skips up one line at current pitch
Example: ^01B^00A

These codes can be used to perform subscripting and superscripting. For example, to print the sequence:

A_1x^2

you could use the following:

^01B^01E^005 A^00A1^01B^00AX^01B^00A2 ^00A^01B^01E^009

^ ` ^ are accent marks that may be used by typing them after the letter above which the accent is to appear.

NOTE: These features are available only with a parallel word processing printer. Use the ^0hh command per your printer operator's manual for other printers.)

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 commands.

Important !!!

This is delicate magnetic media. Study and understand the instructions outlined below 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%

Appendix I

COPYING DISKETTES

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

WP-3 diskettes contain two distinct sections. The "files" section occupies the higher tracks. It is used to store the directory and your text files. The other area, the "system" section of the diskette, occupies the lower tracks. This section contains the WP-3 programs. 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-3 system. When this occurs you can update your existing WP-3 diskettes by merely copying the system portion from the WP-3 Update Diskette to your diskettes. This will leave your files intact but provide you with the latest Word Processor system.

To copy a WP-3 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.

- OR -

Type "S" to update the system.

```
-----  
| 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.

(Some computers do not have the "C" and "D" drives.)

```
-----  
| TO DRIVE (A/B/C/D) ? | will be asked.  
-----
```

Enter the letter for the drive to which to copy. Normally, this is "B". For example, if you're backing up a WP-3 diskette in the A drive, insert a new diskette (or your backup diskette) 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:

<u>Message</u>	<u>Explanation</u>
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 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-3 for editing BASIC programs or some other type of line numbered text file.

NOTE

OSI Assembler/Editor files on OS-65D V2 or V3, WP-1B or WP-2 diskettes can be loaded directly into WP-3 for editing - indirect files are not needed. After booting WP-3, merely replace the WP-3 diskette in the A drive with the older diskette and use the !LOAD and !PUT commands to access the desired files either by name or track number. If an ER#9 occurs when loading a file, enter the command !D9 to disable this error check and try again. Note that the reverse process is not possible. That is, older systems cannot access WP-3 files.

The indirect file procedures are outlined on the following pages.

To transfer a BASIC program to WP-3 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:

Output from BASIC to memory

<u>OS-65D V</u>	<u>OS-65U</u>
POKE 9554,n	POKE 14646,91
POKE 9571,29	POKE 11667,n
	POKE 14688,29
	POKE 14677,29

Where "n" is the memory page number where the indirect file is to start (see following table). 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 hexadecimal 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. A SHIFT-K is used for the "[" on OSI polled keyboards)
4. At the completion of the listing type "control]". (Press a SHIFT-<RETURN> for the "]" on OSI polled keyboards.)
5. Remove the BASIC system diskette and insert and boot a WP-3 diskette.
6. Set the starting location of the indirect file by typing "WHxxxx", where "xxxx" is the appropriate hexadecimal 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-3 by typing "control-X". (This is done by pressing and holding the CTRL key on your keyboard then hitting the X key, then releasing the CTRL key.)
8. When the file has completed loading, save a copy of it in a disk file and proceed with editing the file as needed.

To transfer a text file from WP-3 to a BASIC system:

1. Boot your WP-3 system.
2. Set an appropriate starting location for the indirect file with the WHxxxx command . See step 6 on the preceding page.
3. Write the text file to the indirect file by typing "P control-\". (The "control-\" will appear on the video screen as "\".) For OSI polled keyboards use this procedure:

.EXXX
A*BA

OSI 9 DIGIT BASIC
COPYRIGHT 1977 BY MICROSOFT
xxxxx BYTES FREE

OK
POKE 9550,27
DISK!"ASM

.!LO (filename)
.WHxxxx
.P<ESC> (The <ESC> will display a "[" on the screen)

4. At the completion of the listing type "]", "control-]". A "]" will appear on the screen. (use a SHIFT-M for OSI polled keyboards)
5. Remove your WP-3 diskette and insert and boot the BASIC system diskette.
6. Enable the indirect file and set the appropriate starting location using these values. See step 2 on the preceding page and page 36 for values for "n".

INPUT TO BASIC FROM MEMORY

OS-65D V3.0
POKE 9368,n

OS-65U
POKE 14721,24
POKE 11667,n

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

<u>Page Number</u> <u>Decimal</u>	<u>Address</u> <u>Decimal</u> <u>Hex</u>	<u>Page Number</u> <u>Decimal</u>	<u>Address</u> <u>Decimal</u> <u>Hex</u>
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-3

If you have been a user of WP-1 you may wish to convert those files to WP-3. Naturally, your first step is to create named files for them of appropriate sizes on a WP-3 diskette.

With the WP-3 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-2 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-3. Once you have finished you should reboot the system so that the error check is restored.

Appendix IV

CHARACTER CODES

If you wish to perform special control operations on your printer, you must embed in your 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 `^Ohh` 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
<hr/>					
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	_
<hr/>					
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
<hr/>					
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
<hr/>					
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
<hr/>					
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
<hr/>					
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
<hr/>					
23	#	4E	N	79	y
24	\$	4F	O	7A	z
25	%	50	P	7B	{
26	&	51	Q	7C	
27	'	52	R	7D	}
<hr/>					
28	(53	S	7E	~
29)	54	T	7F	DEL
2A	*	55	U		

Appendix V
CRT KEY CODES

WP-3 is designed to operate only with Ohio Scientific's standard video terminal - the Hazeltine 1420. Due to significant differences in control codes between this and other video terminals a considerable number of program changes would be required to accomodate another terminal.

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 diskette capacity 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. It can also mean that you have tried to load an empty file. You must put something into a file before you can !LOAD it.

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 was designed expressly for use on Challenger computers utilizing a serially interfaced HAZELTINE 1420 CRT Terminal and a TEC, Diablo, NEC or Qume word processing printer and an optional edit printer. The HAZELTINE 1420 option switches (under the panel above the keyboard) must be set as follows:

LEFT SWITCH BANK

ESC

Switch Number:	1	2	3	4	5	6	7	8
Required Status:			as---needed			ON	OFF	OFF
			-----				----	
			BAUD RATE			~	PARITY	

RIGHT SWITCH BANK

		WRAP		U CASE	HD	CR	ON	LINE
Switch Number:	1	2	3	4	5	6	7	8
Required Status:		ON		OFF	OFF	ON	ON	
				U/L	CS	FD	A	LF

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

Centronics Compatible: - as Device 4, CA-9/CA-18 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 edit printouts.

WP-3 is designed specifically for use with the standard Ohio Scientific word processing printer, the TEC FP-1500 with a Diablo Courier 10 (pica) print wheel. However, many different configurations of word processing printer are possible. They include:

Serial Interface: - as Device 3, CA-6S/7S Interface
Diablo 1600 series
• NEC Spinwriter models 5510, 5520 (Consult Factory)
Qume Sprint 5 series (Consult Factory)
TEC FP-1500
Parallel Interface: - as Device 8, CA-9/CA-18 Interface
Diablo models 1345 and 1355 series
NEC Spinwriter model 5500 (with Diablo interface)
Qume Sprint 5 series (with Diablo interface)
TEC FP-1500 series (with Diablo interface)

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

Appendix VIII
MAKING CHANGES TO WP-3

As supplied, WP-3 uses the word processing printer (device 8) 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

97

OK
DISK!"CA 3D00=06,1
POKE 17920,n (Where n is 2^d (device number-1) SEE TABLE BELOW)
DISK!"SA 06,1=3D00/B

Then reboot the system.

For mini-floppy systems:

.EXXX
A*BA

OSI 9 DIGIT BASIC
COPYRIGHT 1977 BY MICROSOFT
xxxxx BYTES FREE

OK
DISK!"CA 4200=09,1
POKE 17920,n (Where n is 2^d (device number-1) SEE TABLE BELOW)
DISK!"SA 09,1=4200/5

Then reboot the system.

TABLE OF n VALUES

<u>Device numbers</u>	<u>n = 2^d (d-1)</u>
1	1
2	2
3	4
4	8
5	16
6	32
7	64
8	128

Other changes to the WP-3 program can be made as shown below. This procedure is provided here for the experienced programmer who is willing to take over responsibility for this product.

The word processor resides in RAM from \$0200 to \$22FF and from \$3179 to \$32FF. The remainder of RAM below the start of the workspace (\$3300) is occupied by the OS-65D operating system. Changes to the word processor are made with this procedure:

1. Boot the word processor diskette.
2. Type "EXXX" to exit to the disk operating system.
3. Type "RE M" to exit to the machine language monitor.
4. Make your changes to the RAM image of WP-3.
5. Reenter the disk operating system at \$2547.
6. Save the revised WP-3 by typing:

8" Disk Systems

SA 05,1=0200/B
SA 06,1=0D00/B
SA 07,1=1800/B
SA 01,3=3179/2

5" Disk Systems

SA 07,1=0200/8
SA 08,1=0A00/8
SA 09,1=1200/5
SA 10,1=1A00/8
SA 11,1=2200/4
SA 09,2=3179/2

Print Wheel Changes

A Diablo Courier 10 (pica) print wheel is supplied with TEC printers as a standard by the manufacturer. This print wheel is designed for monospacing (10 characters/inch) but can be used for proportional spacing. In fact, WP-3 is designed to do so in order that you may begin using proportional spacing immediately.

If you change to a true proportional spacing print wheel the following tables in WP-3 must be changed appropriately:

Print Wheel Character Position Table (96 bytes at hex 2180) - This table contains the code required to print each character. The table is in ASCII code sequence (See Appendix IV) and contains one byte for each character from "space" to DEL (~). For example, to print an "A" the standard printer with the standard print wheel requires a code of 41. Therefore, the "A" entry in this table contains a 41. If another print wheel required a 5E code to print an "A" then 5E should be in the A entry in the table, etc.

Character Width Table (48 bytes at hex 1FC6) - This table contains the width to be allotted to each character when it's printed with proportional spacing. Each character's width occupies four bits in the table and specifies the width in 1/60ths of an inch. The table is organized in ASCII code sequence from "space" in the lower four bits of 1FC6 to "~" in the upper four bits of 1FF5.

If you wish to change the monospacing pitch from 10 to twelve characters per inch then change location 1EE7 from 06 to 05.

Ohio Scientific - Word Processor 3

COMMAND SUMMARY

Direct Entry, Editing and Output Commands

KEY: A vertical line (|) separates mutually exclusive options. Items in braces ({}) are optional. A string of dots (...) means previous item may be repeated. A "linespec" specifies a range of line numbers and may take the form:

first - last
first -
- last
or a single line number
or a marker (|)

- .AGAIN Resets line pointer to first line
- .BOUNDARY 1,m Sets vertical page size to "1" lines and top + bottom 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} or RETURN key Displays line 'linenumber' or "next" line for editing with these keys:
- | | |
|------------|-------------------------|
| -> | cursor right |
| <- | cursor left |
| (up arrow) | display previous line |
| (dn arrow) | display next line |
| Control-F | cursor to front of line |
| Control-R | cursor to rear of line |
| Control-I | cursor to next tab stop |
| Control-B | break line at cursor |
- .FIND {linespec,}"string" Finds and displays within 'linespec' the first occurrence of 'string'. Just "f" finds next, etc.
- .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.

.NEW Initiates new text entry. To exit type only RETURN.

.PRINT {linespec}{,linespec}{,ON}... Prints 'linespec' lines.

.RESEQUENCE Renumbers all lines starting with 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.

.WHaddr Sets the computer memory text storage space high limit to hexadecimal 'addr'.

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

.ZEN Sets line pointer to end of file

.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

<code>^#</code>	Starts a new line; doesn't justify current line; inserts following spaces.
<code>^A</code>	Accepts a line of text from the video terminal.
<code>^Cnnx</code>	Prints 'x's to column 'nn' (absolute tab).
<code>^Inn</code> or <code>^I+nn</code>	Indent the next line to position 'nn' or <u>+</u> 'nn' from the current left margin.
<code>^Lnn</code> or <code>^L+nn</code>	Set the line length to 'nn' or <u>+</u> 'nn' from the current line length.
<code>^Snn</code>	Skip 'nn' lines.
<code>^T</code>	Skip to top of next page.
<code>^US</code>	Start underlining.
<code>^UE</code>	End underlining.
<code>^V1</code> or <code>^V2</code>	Single space or double space.
<code>^Øhh</code>	Print the character of code 'hh'.

Control D Used as marker comes out looking like |
Control R move to right of line
Control L move to left or previous line
Control S suspend output to video
Control Q start output to VIDEO
Control + causes all video screen printing to go to printer

File Commands - MUST BE CAPS

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

File Functions - MUST BE CAPS

CAUTION: THESE ERASE ANY FILE IN MEMORY

.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.