WORD
PROCESSOR
PAC

A Professional Word Processing
System for the Sorcerer Computer

Exidy inc.

```
###########################################
# *                                     * #
#   ===================================   #
#   = ******************************** =   #
#   = *                            * =   #
#   = *     THE WORD PROCESSOR PAC  * =   #
#   = *                            * =   #
#   = ******************************** =   #
#   ===================================   #
# *                                     * #
###########################################
```

A PROFESSIONAL WORD PROCESSING SYSTEM

FOR THE SORCERER COMPUTER

FROM
EXIDY INC.
DATA PRODUCTS DIVISION
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I.   INTRODUCING WORD PROCESSOR

This introductory section is intended to help you become familiar with the Word Processor's text editing features. It does not give a complete description of all Word Processor's functions and commands. It is best for you to become accustomed to the basic text entering and editing functions before you go on to the more sophisticated features.

To begin with, just try entering text from the keyboard and editing it. As you gain confidence and experience, try the more advanced features one at a time, as you need them.

*** Don't be afraid to experiment with different functions and commands: A manual can not teach you more about how the Word Processor works than you can teach yourself, by sitting at the keyboard and trying out lots of different commands. We have tried to make the Word Processor easy and natural to use.

Entering Text

After the Word Processor has signed on, the word "EDIT" appears in the upper left corner of the screen, and a blinking cursor (a light field against a dark background) also appears halfway down the screen at the left margin. You are now ready to begin entering text. The keyboard is used like a typewriter keyboard; anything you type will appear on the screen. The blinking cursor indicates where the characters you type will be located on the screen.

The top line of the screen is called the message line and will always display the "mode" in the upper left corner. Two numbers also appear on the message line to inform you of the current cursor location. The first number, tells you the line number from the top of text, and the second number, tells you the cursor's position from the left margin.

As you begin typing text, the first thing you will notice is that you do not need to enter a carriage return at the end of each line. When the line you are typing reaches the edge of the screen, the cursor automatically moves to the beginning of the next line. If you are in the middle of a word when you come to the end of a line, the entire word is automatically shifted to the beginning of the next line. This feature is called "wraparound."

*** You should type a carriage return only at the end of a
paragraph. The   automatic   "wraparound"   takes   care   to
properly arrange the text into lines as you type.

*** Type in several lines of text and observe how the text
rolls upward on the screen as you finish each new line. The
line with the blinking cursor always stays in the center of
the screen.

*** The line you are entering (typing on), always appears in
the center of the screen. This is called the "edit line".
The blinking cursor shows where the next character will be
located.

Editing Text

    Once you have familiarized yourself with entering text, it
is time to try the editing operations of changing, adding, and
deleting text.

    1. Modes of Operation

        Word Processor has two modes of operation, the EDIT
        mode and the COMMAND mode. Text is entered from the
        keyboard and editing operations are performed in the
        EDIT mode. Major changes in text are performed in
        the COMMAND mode. Either "COMMAND" or "EDIT" appears
        at all times on the message line to identify the
        current mode of operation. You can change from one
        mode to the other at any time by striking the MODE
        key.

    2. Function Characters

        Some editing functions are accomplished with the use
        of control characters. To type a control character,
        depress the CTRL key on the regular keyboard and
        continue to hold it down while typing a specific
        regular keyboard character. Word Processor then
        executes the specific operation designated by that
        control character. You will find a complete list of
        control characters in the section entitled "Word
        Processor Instruction Summary". You can only use the
        control characters when you are in the EDIT mode.

3. Function Keys

Function Keys are used to perform many of the same
functions as control characters, but they do not
require you to hold down the CTRL key while striking
another key. The Function keys are located on the
numeric keyboard to the right of the regular
keyboard.

Figure 1, shows all the Function keys and their
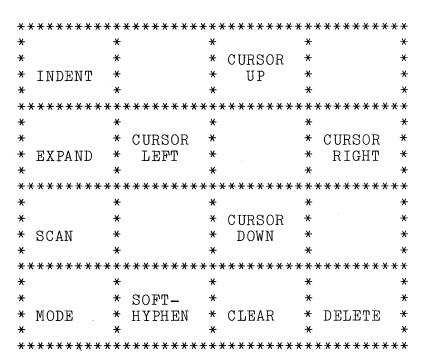locations on the numeric keyboard.

```
**********************************************
*               *          *          *          *
*               *          * CURSOR   *          *
* INDENT        *          *   UP     *          *
*               *          *          *          *
**********************************************
*               *          *          *          *
*               * CURSOR   *          * CURSOR   *
* EXPAND        * LEFT     *          *  RIGHT   *
*               *          *          *          *
**********************************************
*               *          *          *          *
*               *          * CURSOR   *          *
* SCAN          *          * DOWN     *          *
*               *          *          *          *
**********************************************
*               *          *          *          *
*               * SOFT-    *          *          *
* MODE          * HYPHEN   * CLEAR    * DELETE   *
*               *          *          *          *
**********************************************
```

Figure 1. Function Keys on the Numeric Keyboard

4. Moving the Cursor

Any changes you make in text with the various editing
functions occur at the location of the cursor. In
order to edit you must be able to move the cursor
anywhere in the text.

All cursor movement is accomplished by using the Function keys with arrows. To quickly transport the cursor from one end of a line to the other, strike the Scan Function key. Striking the Scan Function key once transports the cursor to the right margin; twice to the left margin.

Moving the cursor with these keys does not alter the text over which the cursor passes. However, an attempt to move the cursor using the space bar will replace characters with spaces.

Notice as you move from line to line in text, the line on which the blinking cursor appears remains in the center of the screen. Word Processor always displays 29 lines of text, but at any given time you may only alter the text on the "edit line", or the center line of the 29 lines displayed.

5. Changing Text

Changes in the text can be made in any of the following ways.

A. Typing Over Entered Text

Position the cursor over the character you wish to change. As you type the new character, the old one is deleted and the new one inserted in its place.

B. Using the Delete Function Key

To delete text without typing over it, position the cursor directly over the first character of the text to be deleted. Strike the Delete Function key for each character or space to be deleted. A "rubout" (or blank white space) will appear over each character you have deleted. After you have deleted all the desired characters, strike the Clear Function key. The rubouts will disappear and all the text following them will be shifted, so that a "hole" is not left by the removal of the deleted characters.

It is possible to delete whole lines or paragraphs without using the Delete Function key. Specific instructions for such deletions are given in the Instruction Summary under COMMAND mode commands.

C.   Using the Expand Function Key

If you wish to insert new characters in the middle of text without typing over old text, you must perform a special "insert" operation which pushes aside the existing text to make room for the new characters.

Place the cursor over the character where you wish the old text to be pushed aside to make room for the inserted characters.

Hit the Expand Function key. The text will break apart, and all text to the right of and below the cursor (including the character on which the cursor was positioned) will be relocated several lines down on the screen. You can now insert text in the space left by this relocation.

After you have typed the insertion, strike the Expand Function key again, and the old text will close up around the new.

Saving the Text on Cassette Tape

Once you have typed in some text, you should try saving it on a cassette tape. To save text on tape you must complete the following steps:

1. Locate the cursor at the beginning of the text you wish to save.

2. Put Word Processor into the COMMAND mode by striking the Mode Function key.

3. Start the recorder in the record mode at a place on the tape just prior to where you want to store your text.

4. Just as the digital locator on the recorder displays the number that will identify the location of this particular text, type "w/c2" and a carriage return.

5. The program will request that you enter a file name. Type a '/' followed by any 7 character name you want. Then hit a carriage return. The program begins to write your text to tape after you strike the carriage return. When the save operation is completed, the blinking cursor reappears.

6. Stop the recorder.

***The text is now saved on tape.

You should familiarize yourself with the cassette recorder and tape handling procedures in the "Data Storage" section, before attempting extensive text loading and saving.

Loading Text from Cassette Tape

Try loading the text you just saved by performing the following steps:

1. Put Word Processor into the COMMAND mode and type "e" followed by a carriage return, to position the cursor at the end of the text.

2. Start the recorder in the play mode on the tape just prior to the location of the text you saved.

3. Type "r" and a carriage return. When the program requests a filename, type another return. The cursor reappears on the screen, along with the text just loaded, when the read operation has been completed.

4. Stop the recorder.

***The text that you saved on tape should reappear on the screen starting on the edit line.

Printing the Text

After you have typed the text and made all necessary corrections, the text is ready to be printed. For detailed instructions see the section on "Printing Options."

Printing is done by entering the COMMAND mode and typing "p" followed by a carriage return. Now, Word Processor prints one full page of text, with the cursor pointing to the line currently being printed. When an entire page has been printed, the blinking cursor returns to the message line indicating the program is ready for further instructions.

Error Messages

When you make certain errors using Word Processor, error messages will appear in the upper right corner of the screen on the message line. These error messages include the following:

INVALID ENTRY: This message appears if you have typed an incorrect COMMAND mode command. Here are some possible causes:

        The command letter does not correspond to a command.

        An   illegal   number of lines   were entered for the command.

        An attempt was made to hold or save O (zero) lines of text.

NO ROOM: Appears if you attempt to enter text from cassette tape, but there is not enough memory space to accommodate all of the new text.

        Appears if there is insufficient memory space to perform a hold command. (The holding command requires 256 characters of memory for operation. That much space must be available at the time you attempt a hold.

DEVICE ERROR: Appears if the cassette reading operation is not functioning correctly. Malfunctions will occur if cassette plugs are not in, volume or tone adjustments are not right, or if the tape was not started at the beginning of a file.

EXPAND: Appears if you are operating in the expand mode, and attempt to perform an operation unrelated to the insertion of text. Such operations cannot be attempted until you are no longer in the expand mode.

OFF END: The cursor is currently in the off end-zone. Only cursor movement controls may be performed in this zone.

        An off-end zone is a region on the screen which does not contain text, either at the beginning of a line containing an indent, or at the end of a line shorter than the 63 character screen line.

HOLD EMPTY: Appears if COMMAND mode command "u" is entered
                   when there is not text in the holding buffer.

HOLD FULL: Appears if COMMAND mode command "h" is entered
                   when there is text in the holding buffer.

NOT OPEN: Appears if a close file request is made when
                   the file on which the close is to be done (1
                   for read, 2 for write) is not open

II.   WORD PROCESSOR INSTRUCTION SUMMARY

Word Processor has two modes of operation, the EDIT mode and the COMMAND mode. You can change from one mode to the other at any time by striking the Mode Function key. The current mode is always displayed in the upper left hand corner of the screen.

The EDIT Mode

*** EDIT mode functions are used for entering and editing text, one line at a time.

*** EDIT mode functions are performed using the control characters or one of the Function keys.

*** EDIT mode functions always work at the location shown by the blinking cursor.

See the section on "Introducing Word Processor" for more information on how to use the EDIT mode to enter text.

EDIT Mode Functions

CONTROL CHARACTER/FUNCTION

CURSOR LEFT KEY or CTRL (a)
Moves the cursor back one character.

CURSOR RIGHT KEY or CTRL (s)
Moves the cursor forward one character.

CURSOR DOWN KEY or CTRL (z)
Moves the cursor forward one line in text.

CURSOR UP KEY or CTRL (w)
Moves the cursor back one line in text.

RETURN (m)
Carriage return. This key is generally used at the end of a paragraph.

DELETE KEY
Deletes the character under the cursor.

CLEAR KEY
Realigns the text from the current line to the next
carriage return. This instruction closes up any "holes"
in the text created by deletions.

EXPAND KEY
Expands text. This key opens a space at the location of
the cursor to allow the insertion of additional text.
After the new text is entered, strike the Expand key again
to close the old text around the new.

SCAN KEY
Scans the current line to the end. This key is used to
quickly transport the cursor to either end of a line, or
to view text extending beyond the 63 character screen.

TAB SKIP
Moves the cursor to the next tab setting. This function
acts like the tab key on a regular typewriter. To set or
clear tabs, use the "z" command.

HYPHN KEY
Inserts a soft-hyphen. See the "Special Features" section
on hyphens for further information.

INDENT KEY
Indents the current line to the next tab stop. This key
works within 15 characters of the beginning of a line.
See the "Special Features" section on indents.

MARK
Places a "mark" in the text. A mark is a non-printing
character (omega) generally used in print and save
options. A mark is entered by holding down the GRAPHIC
key and striking "9". See the "Special Features" section
on marks.

The COMMAND Mode

    *** COMMAND mode commands are used to make major changes
    in text, for cassette operations, and for printing.

    *** COMMAND mode commands are performed using the regular
    keyboard characters.

    *** COMMAND mode commands are performed on the text at the
    location indicated by a solid (unblinking) cursor.

Some COMMAND mode commands require you to specify the number of lines on which the command is to act. For example, the command "f" moves the cursor forward to another line. If you want to move the cursor forward 50 lines, enter "f 50". In the following list of commands, any number that may be used to specify a certain number of lines is represented by "n". The largest value you may enter for "n" is 255.

   *** If you do not enter a value for "n", the operation is performed on the text from the cursor to the first mark character, or to the end of file if a mark is not found.

If you make a mistake while entering a command, you can delete the last character you typed by using the Cursor Left key. The entire line can be removed by striking the MODE key twice.

To get into the COMMAND mode from the EDIT mode, strike the MODE key. When "COMMAND" appears in the upper left corner of the screen, enter one of the following letter commands, followed by a carriage return.

COMMAND Mode Commands

CHARACTER/COMMAND

f n
Moves the cursor forward n lines.

b n
Moves the cursor back n lines.

t
Moves the cursor to beginning of text.

e
Moves the cursor to end of text.

d
Immediately deletes all lines of text following the cursor, unless the lines to be deleted contain over 1024 characters. When there are over 1024 characters to be deleted, Word Processor asks, "REALLY?". The text is actually deleted when you enter "y". It does not effect any text stored in the holding buffer.

d n
Deletes "n" lines of text following the cursor.

k
Deletes all text on the screen, before and after the cursor. To avoid accidents Word Processor asks, "REALLY?". The text is actually deleted if you enter "y". It does not effect any text stored in the holding buffer.

p n
Prints "n" lines. Prints on the printer, as selected and entered in the Y Table. See the "y" command.

v n
Verifies that the "n" lines can be printed on the Hytype printer. This routine checks for print errors without actually printing.

w n
Saves "n" lines of text on cassette tape.

r n
Reads text from cassette tape at the point of the cursor. If there is already text below the cursor, it will be moved down to make room for the insertion of new text.

h n
Inserts "n" lines of text into the holding buffer. See the "Special Features" section for more information.

h 0
Clears the holding buffer.

u
Inserts text, saved in the holding buffer, back onto the screen. The text is inserted immediately after the cursor.

l n
Realigns (sets new line length for) text. This command allows you to set a line length of 15 to 120 characters. All text is realigned to the line length specified. See the "Special Features" section for more information.

l
Displays the current line length, in characters.

m
Displays the number of unused characters left in memory.

s
Searchs for a string of characters and replaces with
another string. See the "Special Features" section for
more information.

x
Exits the Word Processor Pac and enters the System
Monitor.

y
Sets page length, right justification, proportional
spacing, titling, pagination and other printing options.
Specific instructions are displayed on the screen after
you type "y". See the "Printing Options" section for
further information.

z
Sets tab stops. See the "Special Features" section on
tabs for further information.

a
Removes characters from the point of cursor to the end of
text and puts them in the macro buffer. See the "Special
Features" section on Macro Programming.

a 0
Removes contents of macro buffer and displays them on the
screen.

a n
Executes list of commands in macro buffer "n" times.

i
Causes macro command chain to stop and wait for keyboard
input.

q q0 q1 q2
Provides motor control of tape recorder. "q" turns both
on, q 0 turns both off, q 1 turns on unit 1, q 2 turns on
unit 2.

q3 q12
Sets the Baud rates for cassette drivers. q3 sets the
Baud rate to 300, and q12 sets it to 1200.

c1
Closes the read file.

c2
Closes the write file.
Macro command chain to stop and wait for keyboard input.

III. DATA STORAGE

    When you create text it is stored in Word Processor's
internal memory. This storage is not permanent. If Word
Processor is turned off or you exit the program, the text is
lost. After you have completed a file, you will generally want
to save it on a storage medium such as cassette tape or disk.
The text will remain there until you erase it or record over
it.

    Word Processor offers several options of storage. It is
possible to write to, or read from, two separate cassette
recorders. With the optional Word Processor Disk Driver
Package, it is also possible to read from, or write to, up to
four CP/M compatible disk drives. If you are working from a
cassette recorder you may read/write at either 300 or 1200
Baud. At either Baud rate you may use one of two different
file transfer formats.

    All files begin with a filename block which contains 16
characters, followed by blocks of 256 characters separated by
gaps on the tape. If the rapid file option is used, the blocks
are written out with only a fraction of a second between each.
This is the best choice for ordinary text files. At the slower
rate, there is approximately a three second inter-record gap.
The slower rate is appropriate for more complex operations in
which motor control is used, such as mailing lists in which the
list of names and addresses is longer than available memory or
keyword searches of data files. The discussion below will start
with the simplest cassette operation.

Cassette Basics

    Cassette operations are performed with a regular tape
recorder using regular cassette tape. Text is stored on the
tape in the form of magnetic impressions. To avoid disturbing
these impressions, you should keep the tape clean (do not touch
it with your fingers), and away from magnets and electric
motors (such as those found in vacuum cleaners) which generate
strong magnetic fields.

    When you first start using Word Processor each day, begin
by creating and saving a small file. This will serve as a test
for the save operation. If the save operation malfunctions,
adjustments of the recorder's tone or volume may be necessary.

Saving Files on Tape

Positioning Files on Tape

     Many different files can be stored on a single tape. The
files should be stored one after the other, with spaces left
between to prevent overlap.   The location of files on a tape
is indicated by the recorder's digital locator. If your
recorder doesn't have a digital locator, we recommend using
short cassettes and only writing one file on each cassette.
Although the Word Processor is capable of "searching" a tape to
find a particular file, it is very time consumming when it is
the last one on the tape.

     For example, the first file on a tape should be stored
at the beginning of the tape. To save the file you should:

     1. Locate the cursor at the beginning of the file. Be sure
         that Word Processor is in the COMMAND mode.

     2. Insert the cassette tape into the recorder.

     3. Rewind the tape until it is at its beginning

     4. Go forward on the tape until the tape head is well past
         the leader and on the magnetic tape itself.

     5. Start the recorder in the record mode.

     6. Type "w n/c2" and a carriage return to indicate that you
         want to write n lines of text to a file which is to be
         closed immediately after the write. If you wish to save
         the entire text, which is usually the case, simply type
         "w/c2".

     7. Word Processor   will   respond   with   the message
         "#/FILENAME:" with the cursor blinking beside the final
         colon. The number 0, or the default value, means
         cassette with no motor control, (the rapid cassette
         routine). The numbers 1 and 2 are for cassette with
         motor control. All routines operate at 1200 Baud unless
         set to 300 Baud using the "q" command. The unit numbers
         3,4,5, and 6 are used to designate CP/M compatible disk
         drivers A,B,C and D respectively. These unit numbers
         will only operate if the optional Word Processor Disk
         Driver Package is in use. After the backslash enter a
         filename up to seven characters in length. While this
         is not necessary for cassette operation, it is nice

because as   the   file is read, you can ascertain
immediately if the tape is correctly located. In this
case, we do   not want motor control so we enter the
following:

/DOCUMT <CR>

8. When the tape is in position to record, enter the
    carriage return. The save operation begins immediately.
    The cursor will disappear, and then reappear along with
    the text, after the save has been completed. Prior to
    the completion of the save, the message line reports the
    length of the file by the number of characters.

9. When the save   operation   is   completed, the the blinking
    cursor reappears beside the COMMAND on the message line
    and the text is again displayed on the screen. Let the
    recorder run for a couple of digits to make a blank spot
    at the end of the file, then turn off the recorder.

Be sure that you remember to stop the recorder. Because
the recorder is in the record mode,   if it is allowed to
continue it will erase any other files stored on the remainder
of the tape.

***Your file is now saved at the beginning of the tape.

Continue in this manner to save files sequentially on a
single tape. Be sure to leave about 5 seconds of space
between the end of one file and the beginning of the next.

It is important to keep a directory showing the exact
location of each file on each tape. Location is indicated by
the numbers on the recorder's digital locator. Be sure to note
both the beginning and ending numbers of each file.

Erasing Files

You can erase a file by recording a new file over it. Be
sure when recording the new file, to start the recorder in the
record mode at least 2 digits before the location you will be
storing the new file. This insures that remnants of the old
file will not remain at the beginning to interfer with reading
the new file.

Loading Files from Tape

It is possible to load a file into Word Processor's memory even if text is already present in memory. The new file being loaded will be added at the end of the present text.

To load a file from tape, do the following:

1. Type "r", and a carriage return in the COMMAND mode.

2. Word Processor will respond with "#/FILENAME:" Specify unit number 1 or 2 if you are running under motor control. Simply type a slash "/" if you are not using motor control. You may enter a file name which can be searched for on the tape or simply strike the carriage return to read the next file on the tape. Now, start the recorder running in the play mode just before the tape file you want to read, and enter a carriage return.

3. The first block of material to be read contains the name of the file. The name appears on the message line shortly after data transfer begins.

4. When the read operation is complete, the new text appears on the screen and the blinking cursor returns, next to the word COMMAND. On the left side of the message line, either the number of characters read or the words "END OF FILE" appears.

If the error message "NO ROOM" appears in the upper right corner of the screen during a loading operation, it means that Word Processor's available memory space cannot accomodate the text you are attempting to load. In this case, you should close the file using the "c 1" command and delete enough text to load the whole file.

If the error message "DEVICE ERROR" appears during a loading operation, the Word Processor program has not been able to read your file from tape. Check the plugs and volume and tone controls of the recorder to be sure they are correct. Also check to be sure the file is positioned properly on the tape.

Premature Exit from Tape

Sometimes, you will decide after you have already started writing that you don't want to write. To return to Word Processr, hold down the ESC key on the keyboard. A "DEVICE ERROR" message will appear, but your text will not be altered.

If the ESC key doesn't work immediately, hold it down until it
does. If you have started reading, the escape key will   not
work, but you can shut off the recorder. When the Sorcerer
doesn't receive data for 10 sec., it aborts the read.

Motor Controlled Tape Operations

     To permit the computer to control the cassette recorder, the
motor control plug from the Sorcerer must be plugged into a
jack on the recorder generally labelled "remote". Now, the
Sorcerer controls the motor of the recorder, and will turn it
on only when it has data to write or read.

     Tnere will be occassions when you want to turn the motor on,
to position the tape, and the Sorcerer won't let you.   There
are a set of commands for these occassions to overrule the
Sorcerer. These commands entered in the COMMAND mode are:

          q0 Turn both motors off
          q1 Turn on motor 1
          q2 Turn on motor 2

     When you are reading or writing files from tape under motor
control (file number 1/ or 2/), the program automatically
inserts a delay between tape blocks. This gives the recorder
time to start. Tnis greatly reduces the overall speed of
cassette operations, but it also allows you to do some other
nice things, as we shall see. Don't forget:

          ***You cannot read a file back into text under motor
          control if it was written out using the fast cassette
          transfer mode. Be careful not to specifiy the /FILENAME
          option if you plan to read the file back later using
          motor control.

Opening and Closing Files

     The motor control cassette file allows you to do things you
cannot do using the fast option. It reads or writes a few
lines from, or to, a file and performs some other operations.
Then it returns to read or write again ,from the same file.
Here are some examples:

          1. You can store a file on tape which is longer than the
              total memory capacity of your computer.

          2. You can read from a file and write out only selected
              lines, a few lines at a time.

3. You can read or write a cassette file a few lines at
    a time and in between perform functions like search,
    hold, delete or print.

     To perform multiple reads or writes from the same cassette
file, the computer must know you have started to transfer data
from the file and that data is going to be transferred. Such a
file is called "open". The first time you attempt to read or
write from a file, the Word Processor will ask you:

     #/FILENAME:

     If you are using motor control, specify the unit number (1
or 2) followed by a file name from 0 to 7 characters in lengh.
If for some reason you have decided not to open a file after
all, hit the ESC key.

     When you are reading, Word Processor attempts to read the
file header from the specified device. If it is successful,
the file is "open" for reading. Successive "r n" commands are
read from that file until the end of file is reached or you
"close" the read file with a "c 1" (read file close) command.

     When you are writing, Word Processor begins writing to the
specified tape unit as soon as you have entered the filename.
Be sure that the recorder is on, in the record mode before you
hit the carriage return at the end of the filename. Now, the
file can accept successive data from "w n" commands until you
execute a "c 2" (write file close) command.

          ***Remember: Word Processor will always keep a file
          "open", if it has not been closed. You must close all
          write files with the "c2" command to close them. If you
          forget to do this, you may lose all or some of the data
          you are writing onto tape.

     The Word Processor program does not allow you to exit while
the read or write file is open.

Changing the Baud Rate

     The Word Processor ordinarily transfers information to tape
at 1200 baud. If you want to read or write at 300 baud, key in
the command "q3". To return to 1200 baud, key in "q 12".

Verifying a Cassette File

If you have just saved   a file   on tape and wish to verify
that   it has written, you may want to read it back right away.
If it is a short file, a simple "r" command reads   the   whole
file and return with the "END OF FILE" message when it has been
read without errors.

Sometimes, there   is   not enough room left in memory to read
the   whole file back, without deleting some or all of the text
already in the computer memory.   That is just what   you   don't
want to do until you are certain that the tape just written can
be read in again.   The following command can be used to read a
whole file in from tape without using a lot of memory:

COMMAND:250 r5/d

This command reads the file from tape, two lines at a time
and then deletes the lines just read. When you reach   the   end
of   the   file   on   tape,   the   program prints the "END OF FILE"
message and asks you to open a new file. Now, you can escape
back to the Command mode with the ESC key. If "DEVICE   ERROR"
appears instead, you know that the file was not saved properly
and you must try again.

IV.   SPECIAL FEATURES

This section describes the sophisticated text editing, text formatting and macro programming features of the Word Processor. These features include:

        Wraparound and Carriage Returns
        Line Length Variability
        Underlining
        Boldfacing
        Tabs
        Indenting
        Hyphens
        Using Marks
        Search and Replace (Global Changes)
        Holding Buffer
        Autocommand
        Macro Programming

Wraparound and Carriage Returns

Because of Word Processor's wraparound feature, it is not necessary to enter a carriage return at the end of each line. When the line you are typing reaches the edge of the screen, the cursor automatically moves to the beginning of the next line. If you are in the middle of a word when you come to the end of a line, the entire word is automatically shifted to the beginning of the next line. Thus, carriage returns are only necessary at the end of paragraphs.

When you enter a carriage return, a nonprinting carriage return character (left arrow) appears on the screen. This character is displayed on the screen so you can see the location of carriage returns in the text, but it will not be printed on the finished copy.

Word Processor stores each paragraph in its memory as a continuous "ribbon" of text, unbroken by carriage returns. It is for this reason that you are able to realign text to any line length, and the text realigns itself after you make additions or deletions. Entering carriage returns in the middle of a paragraph destroys the "continuous ribbon" of the text. Thus, it is recommended that you do not enter unnecesary carriage returns in the middle of a paragraph.

Although, text is stored in Word Processor's memory as a
continuous ribbon, it must be broken up into lines to be
displayed on the screen. Most of these lines do not extend all
the way to the edge of the screen, resulting in a blank area
between the end of the last word and the edge of the screen.
This blank area is called the off-end zone. When you move the
cursor into this area the message "OFF END" appears in the
upper right corner of the screen.

When the cursor is in the off-end zone, it is in an area
that does not contain text. Because there is not any text in
this area, you cannot perform text editing functions; such as,
enter text and use the expand and the tab functions, etc. The
only commands you can use when the cursor is in the off-end
zone are EDIT mode commands to move the cursor. When the
cursor has been moved out of the off-end zone, you can perform
all text editing functions again.

Line Length Variability

Text can be composed and printed at any line length
desired, from 15 to 120 characters per line. Unless you
specify otherwise, Word Processor sets a line length of 63
characters per line. This is the maximum line length that can
be displayed on the Sorcerer screen. To change the line
length, type the COMMAND mode command "L n". In this command
"n" represents the number of characters desired per line. For
example, enter "L 25" to set a line length of 25 characters.
If the line length is less than 63 characters, a broken white
line appears down the length of the screen to identify the line
length boundary. If the line length is greater than 63
characters, only part of each line can be displayed on the
screen at a time.

The EDIT mode SCAN key is used to view text extending
beyond the 63 character screen. SCAN is also used to transport
the cursor quickly from one part of the text to the other.
Striking SCAN once, moves the cursor to the end of a line on
the 63 character screen. Striking SCAN a second time, causes
the screen to display the text beyond the 63 character screen.
Striking SCAN a third time, moves the cursor to the end of the
line on the screen. Striking SCAN a fourth time, moves the
cursor back to the beginning of the line.

The Cursor Right key, can also be used to move the cursor
to text extending beyond the 63 character screen. Using the
Cursor Right key, you can move the cursor to the right on a
line until it reaches the end. However, once you have moved

the cursor into the text extending beyond the 63 character
screen, you cannot use the Cursor Left key to return to the
first 63 character portion of the text.

It is necessary to set the margins before you begin to
type with a printer. Using the Word Processor you can set or
change margins at any time. You can even change them after all
the text has been entered, by instructing Word Processor to
change the number of characters per line. This capability is
useful in a number of situations. For example, you can
eliminate typing the last few lines of a letter on a second
page by realigning the text to a longer line length.

*** Since most screens are capable of displaying a maximum
line length of 63 characters per line, it is generally
easiest to compose text at this line length. If you wish
to have a longer line length for the finished product,
simply realign the text before printing.

Underlining

To underline text, position the cursor over the first
letter you wish to underline and strike the underline key. The
text that is underlined appears on the screen with black
letters on a white background.

Boldfacing

If you have a daisy wheel printer, boldfacing can be used
for emphasis. Boldfacing is done exactly like underlining in
the EDIT mode. Prior to printing, the special character entry
in the Y Table is changed from 0 to 1 and every character that
would have been underlined is boldfaced instead. During
printing, the boldfaced character is typed normally, the
carriage is moved 1/120th of an inch and the letter is typed
again.

Tabs

To initiate the procedure for setting and clearing tabs,
type the COMMAND mode command "z". The screen displays the
preset tab stops, indicated as solid unblinking "cursors" on
one line. The blinking cursor is located on the line just
below the tabs displayed. All preset tab stops can be cleared
by striking the CLEAR key while in the Z Table.   New tab stops

can be set by moving the cursor to the desired location and striking the TAB key. When a tab is set, a solid cursor appears on the line above the cursor to indicate the presense of a tab stop.

On the cursor line, locations are marked every 10 spaces by "up arrows". In addition, there is a message above the tab line to tell you whether the left edge of the screen is in position 0 or 60. Any number of tabs may be set in the 120 position field. The second field of 60 spaces is entered by moving the cursor to the right past the right margin of the screen.

Tab stops may be removed selectively in the same way. Striking the TAB key at the location of the cursor adds a tab stop if none igsists and removes the tab stop if one already exists.

After you have finished setting and clearing tabs, enter a carriage return, and the text will return to the screen.

Tab stops are used in the EDIT mode just like they are used on a typewritter. Striking the TAB key moves the cursor to the next tab stop to the right of the cursor. When the tab operation carries the cursor over text, the text remains unaltered. When it does not move over text, the area is filled with spaces. However, when the cursor is moved over a carriage return, it automatically removes it.

Indenting

Indenting allows you to create text indented to the right of the normal left margin on the screen. This feature is particularly useful for creating outlines, with sentences and/or paragraphs aligned inside the normal left margin.

Although an indented line appears the same as a line created with the tab operation, there are differences. A tab fills the area between the left margin and the text with spaces, but the indent actually moves the left margin. If you create a paragraph that is "indented" using the TAB key and then try to do some editing of the first line, you will find blocks of spaces scattered throughout the text and text scattered throughout the left margin. If you use the Indent key to enter the paragraph, any amount of editing can be performed anywhere without affecting the spacing of the paragraph.

To indent a line, strike the Indent key while the cursor is at the beginning of the line you want to indent. This causes the indent character (right arrow) to appear on the screen at the first tab on the line. If you strike the Indent key again, the cursor moves farther inward, to the next tab. When the indent is at the desired location, proceed to type the text. Notice as you type over the end of the line, the usual "wraparound" occurs, and Word Processor starts the new line indented just like the one above it. You can continue to type indented text in this manner until you hit a carriage return. You do not have to strike the Indent key at the beginning of each line.

If you want to add to, or change the indent of text that you have already entered, go to the beginning of the first line of the text and strike the Indent key. Word Processor does the same thing it would do if you were just creating the text for the first time. The text from the cursor to the next carriage return is indented to the next tab stop on the right. If you strike Indent again, the text is indented to the right again. This can be continued until the next tab stop is farther to the right than column 55. Then the indent is deleted and the text returns to the orginal left margin.

Here are some things to remember about indents:

1. An indent creates a new left margin, from where you place the indent to the next carriage return.

2. You can always add or change the indent of a paragraph or a line of text by going to the beginning of the paragraph or line and striking the Indent key. You can delete an indent by indenting past column 55.

3. You cannot enter text to the left of the indented character (right arrow), even though it looks like there are spaces there. The indent feature assumes that there is not going to be text to the left of the indent. The message "OFF END" appears if you attempt to enter text to the left of an indent.

Hyphens

Word Processor has a hard-hyphen and a soft-hythen. The hard-hyphen is used for words that should be hyphenated no matter where they occur in a line. For example, the word "mother-in-law" should always be hyphenated. A hard-hyphen is entered by striking the hyphen key (-) on the regular keyboard.

The soft-hyphen is used for words you wish to hyphenate at the end of a line. They are usually not necessary because of Word Processor's wraparound feature. Because, Word Processor automatically relocates a word that will not fit on the end of a line, to the beginning of the next line.

Occasionally, you may want to hyphenate a word at the end of a line. For example, you might be typing the word "independence" and as you approach the end of a line, discover the last two letters will not fit. When the wraparound feature relocates the entire word to the next line, it leaves a large, unattractive space at the end of the current line. You can correct this, by putting a soft-hyphen in the middle of the word. The soft-hyphen is only printed when "independence" appears as the last word of a line.

When you add, delete, or realign text, words move to different lines and locations on the same line. If "independence" is moved by changes to the middle of a line, the soft-hyphen disappears. If you had used a hard-hyphen, it would have remained, and "indepen-dence" would appear in the middle of the line.

A soft-hyphen is entered by striking the Hyphen Function key on the Function keyboard. There are two different techniques for entering soft-hyphens.

    1. As you approach the end of a line and see there is not enough room to complete a long word before the end, you can backspace the cursor to the immediate right of where you wish to insert the soft-hyphen, and strike the Hyphen Function key. The letters under and following the cursor are moved to the next line, and a hyphen appears where the word was devided.

    2. As you type a long word at the end of a line, the wraparound feature may cause the word to be moved to the beginning of the next line before you notice it. Backspace to the place where you want to insert a soft-hyphen, and strike the Hyphen Function key. The part of the word to the left of the cursor is moved back to the end of the previous line, with the hyphen. If there is not enough room on the first line for the part of the word selected, look for a shorter deviding point. If after inserting a hyphen you want a longer segment, follow the procedure above to change the hyphen's location.

If the text is changed so that the soft-hyphen is no longer needed, the soft-hyphen is completly deleted from the computer memory. If the text is changed and the word again appears at the end of the line, the soft-hyphen does not reappear. Therefore, when you are typing text you expect to revise, it is better not to enter soft-hyphens. After the text has been revised and is ready for printing, go back through and insert soft-hyphens as needed.

Using Marks

A "mark" is a nonprinting character used to mark a particular location in the text. Place a mark in the text by striking the Graphic key and 9 at the same time, while in the EDIT mode. The omega character, indicating the location of the mark appears at the location of the cursor on the screen. Because, this character is displayed on the screen only as a locator in the text, it is not printed along with the text on the finished copy.

Marks may also be used to perform printing operations. For example, you may want to enter two letters in one file, and print each letter on a separate piece of paper. By placing a mark at the end of the first letter, you instruct the printer to stop at the mark. This allows you the time to insert a second piece of paper into the printer, before printing the second letter.

Marks can also be used with most of the COMMAND mode commands affecting a specified number of lines, such as f,b,d,p, and h. If the number of lines is not specified for these commands, the Word Processor program assumes the operation is to be performed on the text between the cursor and the next mark. If there are not any marks below the cursor, then the operation will be performed on the text between the cursor and the end of the file.

For example, a mark can be used with the f or b commands to enter a mark in the text as a location point. To accomplish this, enter a mark in the text where you wish to return. When you are ready to locate the mark, enter the command "f", if the mark is below the cursor in text, or "b" if it is above.

Marks can also be used with the command "h", to place a specified number of lines in the holding buffer. For example, you may want to move a particular paragraph in the middle of the text to the end. To do this, you must place the paragraph

in the holding buffer. Rather than count the number of lines
in the paragraph, you can place a mark at the end of the
paragraph and instruct the Word Processor to hold all text up
to the mark.

      The mark can not be used with a cassette write operation
even though it is a command modified by a specific number.
The "w" command saves all text from the cursor to the end of
file, including marks.

Search and Replace (Global Changes)

      Word Processor allows you to search for a specific string
of characters and replace them with another string. There are
two search and replace modes, manual and automatic. We
suggest you use the manual mode to start out, to help prevent
surprises while you are still learning to use this feature.

      To use the search and replace feature, enter the COMMAND
mode and position the cursor above the text you wish to search.
Enter a command using the following syntax example:

            25s/John/*Sam/ <Carriage Return>

      The number (25) specifies the number of times Word
Processor should perform the operation. Often any large number
will do, because the search and replace operation   is
automaticaly ended when the end of the file is reached. The
searched for string (John), is placed inside the first set of
slash marks. The replacement string is placed before the final
slash (Sam).

      The asterisk between the two strings is used to instruct,
Word Processor to wait for instructions from the operator, each
time it finds the searched for string.

      The search string must be entered exactly as it appears in
the text. The order of characters and capitalization must be
exactly the same.

      Word Processor searches through the text until it finds
the string of characters specified, and then displays the text
with the blinking cursor at the beginning of the string. Now,
you can do one of the following:

            1. Enter a carriage return to make the replacement.
            2. Enter a space to skip over the string just found.
            3. Strike the ESC key to stop the operation and
            return to the command mode.

Unless you strike the ESC key, the Word Processor does just as you instructed, and continues to search the text for the string. It will display the string on the screen and wait for you to enter one of the instructions listed above. This process continues until the Word Processor has repeated the operation the specified number of times or it reaches the end of file.

The automatic mode is like the manual mode except you do not enter the asterisk in the command. The search and replace operation procedes too quickly to see, and it does not allow you the opportunity to decide not to replace the string. After the search has been completed, the cursor stops, following the last replacement string.

Wildcards:

The period (.) has special significance in the search command. When you enter the string to be searched, a period in the string is understood to be equivalent to any character. You can use this "wildcard" feature to search for strings that are similar to the word desired:

For example, if you type in "/.at/, Word Processor will find such strings as "bat","cat","rat", and "mat". You may use as many periods (.) as you wish in a search string.

The period (.) can also be used alone, as the replacement string (/./) When used in this way, it only instructs the Word Processor to search for the string. Although this may not appear to be very useful, it is an excellent means of moving the cursor to specific locations in the text to perform special operations with macro programs (see Macro Programming).

Holding Buffer

The holding buffer is a section of the computer memory used to temporarily store text. The holding buffer is generally used to move paragraphs from one part of the text to another, but it also has many other applications.

To place text in the buffer, the cursor must be above and to the left of the text you wish to hold. Count the number of lines you wish to place in the buffer, or use a mark (see Using Marks). In the COMMAND mode enter the command "h", followed by the number of lines you wish to save. The lines of text following the cursor will disappear from the screen and be stored in the holding buffer. If a number is not specified, all the lines between the cursor and the end of text will be stored in the buffer.

The stored text is held in the buffer until you release
it. To release text from the buffer, place the cursor where
you wish the stored text to be inserted. In the COMMAND mode
enter the command "u", and the text in the holding buffer will
reappear on the screen.

If text is already stored in the buffer, you cannot hold
additional text there. When you attempt to do this the error
message "HOLD FULL" appears on the message line. Similarly,
when you attempt to release text from the holding buffer when
it is empty, the error message "HOLD EMPTY" appears in the
upper right corner of the screen.

All normal operations can be performed on the text while
text is in the buffer. If you enter the COMMAND mode command
"k", to delete all the text on the screen, the text remains in
the holding buffer.

After the text stored in the holding buffer has been
released, it can be used as often as you like. This feature
makes it easy to create repetative forms without doing the
repetative typing. To empty the holding buffer enter the
command "h O" (h zero).

Autocommand

Sometimes there are repetative tasks requiring you to
perform the same operations over and over again. An
Autocommand is a sequence of commands entered on a single
command line. It can be performed up to 250 times without
manual intervention.

The Autocommand is entered in the COMMAND mode and the
syntax is :

            nCommand1/Command2/...   <Carriage Return>

The "n" represents the number of times the operation is to
be performed. If the exact number of times is unknown, any
large number will do.

The following commands can be used to form an Autocommand:

            b,c,d,e,f,h,i,l,p,r,s,t,u,v,w

Any number of commands can be entered on an Autocommand
line, but the total length of the command may not exceed one
line. The Autocommand is performed when you strike the
carriage return. When the operation has been completed, the
blinking cursor returns to the command line.

For example, suppose you were doing a financial report and want more space between columns two and three. Using Autocommand, you might enter the following commands in the COMMAND mode:

        25s/   /./s/   / /f1/ <CR>

The cursor must be on the first entry when the carrriage return is struck to execute the Autocommand. Now, Word Processor proceeds to search the report for three spaces. They are found the first time, between columns one and two. Because, Word Processor has been instructed to leave them alone, by the period, they remain unaltered. They are found the second time, between columns two and three. This time they are replaced by five spaces, as per instruction "/   /". Word Processor then goes forward a line, as per instruction "/f1/" and repeats the entire sequence 25 times, because of instruction "25s/".

Two types of manual controls are available for use with Autocommands. Intervention can be used at any point in the command line by entering "/i/". When Intervention is requested, Word Processor stops before executing the next command. You can continue again by striking any key. If you decide not to continue, strike the ESC key.

Macro Programming

Macro programming is used to perform tasks that were not preprogrammed or perhaps not even thought of by the designers of the Word Processor Pac. Virtually anything can be accomplished with a series of Macro commands. Macros allow you to key in a series of commands once and place them into the macro buffer, for repetative use. When you enter the macro command "a n", it instructs Word Processor to perform the Macro program commands the number of times specified. This way, Word Processor is capable of automating nearly as many tasks as you can devise.

As you have noticed, a Macro is similar to an Autocommand, however, a Macro program is intended for use with more complex operations. It can also be used for operations that are repeated from day to day. The macro buffer is capable of handeling a command of up to 512 characters in length. No more than 60 characters can be entered using Autocommand. While the Autocommands are created in the COMMAND mode, Macro programming

commands are created in the EDIT mode. Consequently, all edit
mode operations, such as delete and insert, can be used during
the creation of a Macro program. Autocomands   are   also
destroyed when they are executed, but the Macro program is not.
The Macro program can be retrieved and executed as often as you
like.   In addition, Macros can even be saved on tape just like
ordinary files and loaded whenever desired.

     A Macro program is entered at the end of your text. The
commands are entered in sequence just like they would be
entered on a command line. Because they are actually entered
in   the EDIT mode, all normal editing functions can be
performed. When you have completely entered the commands,
position the cursor at the beginning of the commands. Issue
the command "a".   The Macro programming command then disappears
into the macro buffer, in the same way that text disappeared
into the holding buffer.

     The Macro command is now ready to be executed by entering
the command "a n", where "n" represents the number of times the
program is to be performed. In this case, "n" does not have a
default value. You should be careful at this point not to
issue the command "a", because it will capture anything
following the cursor and place it in the macro buffer.

     When an error occurs, Word Processor exits the automatic
mode and returns control back to you. The command "a 0" allows
you to return the contents of the macro buffer to the screen at
the location of the cursor.

     All COMMAND mode commands   used in Autocommands can be used
to create Macro programs. In addition, the "y" command can be
used in Macros, provided that it is entered on a line by
itself.

     The macro buffer has room for 256 characters including all
punctuation and carriage returns. If the Macro program does
not include a cassette write operation, an additional 256
characters may be used. This permits you to create a Macro
program up to 512 characters long, because the macro buffer
overflows into the write buffer when it is not being used.

     For example, surpose you want to do some two column
printing. You could print one column, roll back the paper and
print the second column. However, using a Macro program would
be more efficient and require less manual work.

   To accomplish this   task, first go to the end of your text
and enter the following commands in the EDIT mode.

          y ///0 0
          p1
          f1
          f55
          y ///5 1
          p1
          b56

   After you have   entered   the Macro   commands,   position the
cursor at the beginning of the sequence of commands (y).   Enter
the COMMAND mode and issue the command "a".   The list of Macro
commands then disappears from the screen and is placed in the
macro buffer.   Now, move the cursor to the first line of text
you wish to print and enter the command "a 55".   This operation
could not have been performed using Autocommands, because each
"y" command must be entered on a single line of its own.

   During operation, Word Processor begins by resetting the Y
Table. Because you do not want to change the first three
options on the Y Table, a backslash is entered for each option.
The first option of interest to you is the indent setting.
Because, it must be different for each column printed it is set
at zero, for the first column. The next option of importance
to you, sets the number of carriage returns after each line.
Because you do not need any, it is set at zero.

   Now, Word Processor prints the first line of text and then
goes forward 55 lines to get the next line of text. The Y
Table is changed again, so that the 55th line of text is
printed five spaces to the right of the first line. A single
cariage return is entered at the end of the second column of
text. After Word Processor has printed the 55th line of text
on the second column, it goes back to the second line of text
and begins again. This process is repeated 55 times to provide
you with 55 lines of two column printing. This routine works
with both daisy wheel and standard ASCII printers. Remember to
set the right justification option on the Y Table to two, so
the printer will space over to the second column after it
prints a short line.

V.   PRINTING OPTIONS

When your file is ready, you should examine the printing options in the Y Table. Enter the COMMAND mode command "y", to display the default values for the Word Processor's printing options. The blinking cursor will appear beside the first option. You may change the default values, by entering new ones at the cursor and striking a carriage return. If you just enter a carriage return, the value remains the same as originally displayed. Figure 2, shows the Y Table and its default values as they appear on the screen when you enter the COMMAND mode command "y".

PRINT DEVICE	2
STOP PAGE END	1
LINES / PAGE	55
CRs PAGE END	0
PAGE TITLE	0
INDENT-10ths	10
CRs PER LINE	1
RIGHT JUSTIFY	0
WIDTH-10ths	63
LF SIZE - 48/IN	8
CHAR SIZE-120	12
SPECIAL CHAR	1
PROPORTIONAL	0
MAXIMUM SPACE	30
MINIMUM SPACE	5

Figure 2, The Y Table with Default Values

Each of the preset default values, produces a printed page that looks like it was typed on a standard pica typewritter (10 characters and 6 lines per inch). If this is your desired result, all the default values can remain unchanged, and there is no need for you to make adjustments to the Y Table. If the printer you are using is 12 or 15 pitched, certain Y Table adjustments are necessary. Also, if you desire to produce a more aesthetically pleasing printed appearance other changes will be required.

1. Print Device

   Two different types of printers can be used with the Word
   Processor Pac. You may use a daisy wheel or an ASCII
   printer, such as a dot matrix printer or a Selectric. If
   your printer is a daisy wheel printer enter a "0" for this
   option. If you use anyother type of printer, enter a "1".
   Daisy wheel printers are capable of very precise movements
   of the carriage   in   both   vertical   and horizontal
   directions. Most   other printers are not capable of
   movements that   are   less than a space or a line.
   Consequently, such printers are not capable of doing some
   of the functions described here. In many cases, the same
   features are   supported   for both, but require different
   procedures. For   example, if a subscript is designated, a
   daisy wheel printer will automatically print it, but an
   ASCII printer just stops and waits for someone to roll up
   the carriage before continuing to print.

   On the Sorcerer, print device 2 is used to drive a
   Centronics type printer.

2. Stop Page End

   Some printers are page printers and must be stopped at the
   end of each page, to insert a new sheet of paper. Other
   printers print on a continuous roll of paper, until they
   reach the end of the document. If printing must be
   stopped at the end of each page enter a 1, for this
   option, otherwise a 0 (zero) should be entered. If you
   are using a continuous printer, further refinements can be
   obtained by using the "CRs PAGE END" option and the form
   feed character.

3. Lines / Page

   Enter the number of lines you wish to be printed on each
   page. This is calculated by subtracting the width of the
   bottom and top margins from the paper's length, and
   multiplying it by the number of printed lines per inch.
   The standards are 6 for pica and 8 for elite printwheels.

4. CRs Page End

   This entry only applies to continuous printers and those
   with automatic paper insertion. This option specifies the
   number of lines the printer should insert between the
   bottom of the sheet just printed and the top of the next
   sheet.

5. Page Title

Any number other than zero for this option, automatically
generates a title and/or number at the top of each printed
page. The title must be entered on the first line of your
file and can only be one line in length. If any other
number is entered, it specifies the number of carriage
returns between the title and the first line of text.
The title and the specified number of blank lines are
subsequently printed at the top of each printed page. If
automatic pagination is desired, the starting page number
is typed on the same line as the title. It must be the
first number to the left of the right hand margin. This
number is incremented automatically, each time a new page
is printed. If the number is going to increase to 10 or
100, you must leave enough room to the right for the
extra digits. When printing copy with headers, the cursor
must be located on the first line of text - NOT THE TITLE
LINE - before you enter the COMMAND mode command "p".

6. Indent - 10ths

Enter a number in 10ths of an inch, representing the
desired width of your left margin. Because the width is
calculated in tenths of an inch, entering a 5 for this
option produces a 1/2 inch margin, and a 10 produces a one
inch margin, etc.

7. CRs Per Line

Enter a 1 to produce a single spaced printed page, and a
2 to produce a double spaced copy, etc. This command
functions as expected with a daisy wheel printer, but
greater resolution can be achieved by using the LINE SPACE
command.

8. Right Justify

Right justified printing, prints all lines at the same
length to form a smooth right edge. Entering a 1 for this
option results in right justified printing. If you enter
a 0 (zero), the lines will be printed with a "rag right"
edge. If you entered a 1 in the Print Device option, you
can justify by inserting additional spaces where spaces
are currently located, so the last character of all the
lines falls on the same location. If you enter a 0
(zero), justification is accomplished by distributing the
additional space equally to all current spaces on the
line. Additional refinements of this option can be
specified with the Minimum and Maximum Space Size options.
Enter a 2 to produce right justified printing, of two
columns using the Macro Programming feature.

9. Width-10ths

Enter the line width you desire, in tenths of an inch.
This number is calculated by subtracting the left and
right margins from the paper's width (8.5", and dividing
by the number of characters per inch (pitch). The
standards are 10 characters per inch for pica and 12 for
elite.

***The following options generally apply only to a daisy
wheel printer. If you are using a printer without fine
carriage movement, you can strike the ESC key at this point and
exit the Y Table options.

10. LF Size-48/IN

Enter the space you desire between lines, in 1/48ths of an
inch. The standards are 8 lines per inch for pica and 6
for elite.

11. Char Space -120

Enter the space you desire between letters, in 1/120th of
an inch. The standards are 10 characters per inch for
pica and 12 for elite.

12. Special Char

When a special character is entered, it appears on the
screen as a black character on a white background. If you
enter a 1 for this option, all characters will be
underlined during printing. If you enter a 0 (zero), all
characters will be printed in boldface type. This effect
is produced by printing the letter, moving the carriage
1/120th of an inch, and printing the letter again.

13. Proportional

With standard type, each character is assigned an equal
amount of space no matter how wide the character. With
proportional type, space is assigned to each character in
proportion to its width. This produces printed lines with
an evenly spaced appearance between letters. Standard
spacing is typical of typed copy, while proportional
spacing is almost exclusively printed copy. If you desire
standard spacing, enter a 0 (zero), for this option.
Enter a 1, if proportional type is desired.

***Remember the following about proportional spacing:

It adds a fixed amount of space to each character.

It always prints a series of characters in less space
than standard spacing. Consequently, the appropriate
values for the line width and character spacing must
be determined by experimentation.

For proportional   spacing   to   look right, each
character on each wheel must be assigned a specific
amount of space. Be sure that the print wheel you
are using is appropriate for the Word Processor Pac.

14. Maximum Space

When printing right justified text, sometimes an extra
long word will not fit on a line, and must be moved to the
following line. This leaves a large space at the end of
the first line. When the space is distributed throughout
the line, it leaves large gaps between the words. This
problem can be corrected by hyphenating large words.
This option allows you to set a maximum space desired
between words, in 120ths of an inch. When this option is
set, and the maximum is exceded, the line will not be
printed until it is corrected. This option is discussed
further in the "Printing Errors" section.

15. Minimum Space

This option allows you to set the minimum amount of space
allowable between words. Minimum space size option is
only important with proportional justified copy, when a
particular line contains many larger than normal letters.
When this happens, they can not all simultaneously fit on
the same line and still provide enough room between
words. This is also, discussed in the "Printing Errors"
section.

After all printing options have been set or reviewed, enter
a final carrriage return, and your text will return to the
screen. Printing options can be changed at any time by
entering the COMMAND mode command "y" and making the desired
adjustments.

VI.   PRINTING

   After you have set the printing options, Word Processor is
ready to print your file. Position the paper in your printer,
and postion the cursor at the beginning of the text. Now, you
can enter the COMMAND mode command "p". The file should
continue to print until the specified number of lines have been
printed.

        ***Striking the space bar during printing results in a
        pause. Striking the space bar a second time causes
        printing to continue again. Printing can be terminated
        before a page is completed by striking the ESC key.

   It is possible to print a number of lines with a different
page length from the others, as established in the Y Table, by
entering "p n"; where "n" represents the number of lines you
wish to print before stopping.

Printing Errors

   Occasionally the printer may stop printing, and the message
line will display the "PRINT ERROR" message on the screen.
This message has only one meaning – THE AMOUNT OF SPACE BETWEEN
WORDS DOES NOT LIE BETWEEN THE MINIMUM AND MAXIMUM – as set in
the Y Table. The line has either too many or too few spaces to
print the line. The cursor stops on the line the message is
referring to. The error could be caused by a number of factors
and there are usually a number of ways to correct the
situation.

   If you are are using standard spacing, there is an error in
one of your Y Table settings. If you are using proportional
spacing and right justification, there may be an error in one
of your Y Table settings, but it is more likely that the line
about to be printed contains too many wide letters.

   When you use proportional spacing, the number of letters per
line, the character spacing, the line width, and the average
letter's width all interact. Word Processor is able to handle
all of these variables by adding up the sum of the character
widths, subtracting that sum from the line width, and then
dividing the remaining space by the number of spaces between
words. This process results in the proper number of spaces
between words. If for some reason there is insufficient space
for the proper printing of the line, Word Processor informs you
through the "Print Error" message.

Locating Printing Errors

Printing errors can be located by printing and dealing with
each error as it occurs. However, there are some disadvantages
to making corrections while the file is printing. For example,
both the line and page counter increase each time the printer
stops. This means you must change the page counter after you
correct an error. In addition, you have to stop the printer
manually.

The V command (verify) allows you to identify all printing
errors before you actually print a file. This command causes
Word Processor to go through all the operations of printing
without actually doing it. All the printing errors can be
corrected before you actually print your file.

Correcting Printing Errors

If a printing error occurs, the cause of the error should be
determined. If errors are frequent in the copy, then basic
adjustments should be considered first. For example, are you
trying to get too many characters on too short a line? If this
is the case, then realign the text accordingly. If each
character has too much surrounding white space, change the
character spacing in your Y Table. Ask yourself, if you are
being too critical about the minimum and maximum amount of
space between words? If you are not, change the Y Table
settings until the desired results are satisfactory.

If you are still getting a printing error on one line,
determine whether it is occurring because the interword spacing
is too small or large. If the spacing is too large, then a
portion of the next line should be printed on this line. If
the first word in the next line is a large one, it can probably
be hyphenated using a soft-hyphen. If the first word in the
next line is a small one, the dynamic line tweaking character
can be used to establish a suitable line segment. This segment
will not fit on the screen (because it is not proportionally
spaced), but it will fit on the printed line. If the interword
spacing is too small, enter a carriage return (preceded by a
hard-hyphen if the word is divided), followed by the dynamic
line tweaking character, to force the text on the screen to
remain as is and yet print properly.

VII.   DYNAMIC PRINTER CONTROLS

There are nine characters (Greek letters) affecting the operation of the printer. These characters are not printed along with the text although, they are displayed on your screen as they are entered. These characters are also not marked on the keyboard. They can be entered by holding down the GRAPHIC Key and striking a number from 1 to 9 or by striking CTRL "P", followed by a number from 1 to 8.

1.   Rho   Formfeed

The form feed character ejects the page being printed and starts a new page. It works with continuious form printers, tractor fed printers and those with automatic page insertion. The formfeed character is typically used on pages with less than the normal number of lines. It tabs down the page until it reaches the normal end of page. The CRs PAGE END option in the Y Table will complete the process. These commands insert the appropriate number of line feeds, and should work with any printer.

2. Sigma   Vertical Tab

The vertical tab character tabs back up to the top of the page. This feature is used for two column printing and overlays. For example, on the first pass a form is printed and on the second pass the form is filled out.

3.   Tau   Downshift

Tau is a downshift character causing the printed line to be shifted downward a fraction of a line. It is used to print subscript characters slightly above the normal printed line.

4.   Nu   Upshift

The upshift character causes the printing head to move up a fraction of a space for printing superscript. Although, both up and downshift characters require a space on the screen, a space or character is not printed. These characters must be used together, and only the character between them will be printed above or below the line. The first character indicates the direction of the printhead. Word Processor will automatically change the direction indicated if the line is being printed backward.

5. <u>Phi</u>   <u>Reformat</u>

   This character permits the adjustment of the Y Table
   during printing. Subsequent printing is performed with
   the new Y Table settings, until the printer encounters
   another Phi character or you enter the Y Table and make
   adjustments. This command must be placed on a separate
   line by itself. Figure 3, shows the Phi command format.

                    Phi aa bb cc dd ee ff gg hh ii

                    aa = lines per page
                    bb = return at page end
                    cc = title at top of page
                    dd = indentation
                    ee = between line spacing
                    ff = right justification
                    ee = line width
                    ff = line space
                    gg = character space
                    hh = special character
                    ii = proportional type

               Figure 3, Phi Command Format

   All entries on the command line must be followed by a space.
If a variable is not being changed, then a single slash (/) can
be entered in its place. The execution of Phi command can be
terminated at any time by entering a carriage return. If
adjustments are not going to be made after the dd location on
the command line, you may just enter a carriage return after
the dd entry. This is the short version of Phi command and it
can save you a lot of time.

   The Phi command actually replaces the Y Table printing
options with others that suit your purpose for the time they
are in operation. This feature has many applications, a few
are listed here.

      Saving print parameters. If you change the Y Table
      manually, you must record the values by hand and save them
      someplace for reference, so you can reproduce the desired

results at some other time. If you entered the Y Table
settings in the Phi command format on the first line of
your file, the information would be saved, and it would
also set the Y Table before beginning to print.

Two column printing. In addition to the vertical tab, two
column printing requires the indentation to be changed on
the second column.

Imbedded tabular printing. Tables can not be printed with
proportional spacing because the columns will not line up.
Therefore, you must shift out of the proportional mode
before printing a table.

Headings. Headings and subheadings can be set off from
other text by changing the character spacing.

Set off material. Typed copy often has a paragraph of
indented and single spaced text imbedded in the body of
double spaced text. This type of printing can be
accomplished using Word Processor, by dynamically changing
the indentation and the between line spacing. Indenting
the right margin is accomplished by simultaneously
altering the identation while in the EDIT mode, and the
printing identation using the Phi commands.

6. Chi   Merge Character

The merge character designates a place in the text where
sequential items on a list are going to be merged each
time the text is printed. For example, this character is
used to print a form letter, with different names and
addresses. In such cases, Chi is followed by a single
digit, making it possible to merge items from as many as
10 lists, into any number of locations in text. In all
cases, the existing text is automatically realigned to fit
around the item being merged.

7. Psi   Line Tweaker

Normally, Word Processor prints lines just as they appear
on the screen. However, the screen is not proportionally
spaced like the printed lines are, and some lines with
large numbers of w's or i's may not look correct on paper.
The line tweaker character appears at the end of a line on
the screen, if the line has less than half a lines width
of characters. The line tweaker appends the short line to
the preceding line when they are printed. If the line has
more than half a lines width of characters, it is followed
by a carriage return and is printed as.

8. Omega   Macro Delimiter

   This character designates the beginning of a list to be
   merged with text. It is typically used as a search
   character. It prevents the printer from going beyond this
   character in the text.

9.   Capital Omega   Mark

   The mark character is the one you can only enter using the
   GRAPHIC key. It has a dynamic effect on the printer as
   well as other operations. The mark terminates printing,
   whether or not the entire page has been printed. It is
   entered by holding down the GRAPHIC Key and striking 9.