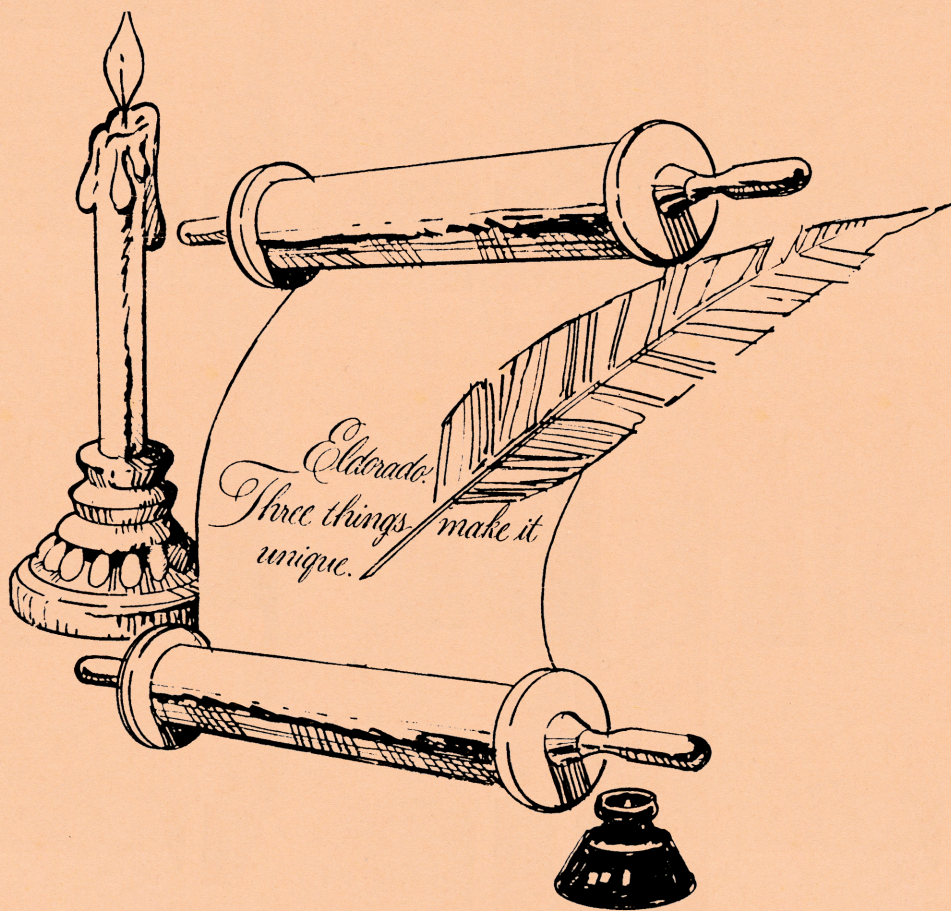


Wordwriter



Minimum Requirements
TI-99/4A Console, Cassette Recorder
Optional Printer Interface, Optional Printer and Cable

WORDWRITER

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Manual (c) 1987
DataBioTics Inc.

INTRODUCTION

WORDWRITER is a cartridge which fits into Texas Instruments home computer, model TI 99/4A, converting it into a "word processor", equalling (or at least rivalling) systems costing much more. When using this word processor you can:

- insert, delete, or rearrange the order of single characters, words, phrases, sentences, and whole paragraphs
- insert blank lines, copy existing lines, change the margin width.
- perform Full Screen Text Editing.
- edit Text of over 12286 Characters (16K Console).
- edit Text of over 36286 Characters (16K Console +32K Extended Memory).
- save to or load from cassette, floppy disk, or hard disk.
- arrange the text through the use of the Moving Text and Copying Text functions.
- print via RS-232 or Parallel Output to Printer.
- the + version of WORDWRITER will print through its own Module Interface Output (MIO) so that you do not have to buy a parallel interace (PIO).
- display and print disk directory (of course, this requires a disk drive)
- search text for a symbol, word, or phrase.
- replace a symbol, word, or phrase with something else
- scroll screen up/down/left/right
- window screen up/down/left/right/ to first screen/to last screen
- set margins, tabs, and indentation.
- reformat lines or paragraphs to where the cursor is or to the left margin.

MINIMUM HARDWARE REQUIRED

- TI 99/4A Home Computer
- television set
(or "composite" monitor)
- computer-to-TV cable
- computer-to-wall plug cable

IF YOU WISH TO PRINT...

- printer
- parallel interface
- computer-to-printer cable

IF YOU WISH TO USE A DISK...

- disk drive
- controller
- manager (a diskette)

IF YOU WISH TO BOOST MEMORY...

- 32K RAM add-on
(512K available)

IF YOU WISH TO USE A CASSETTE...

- Cassette tape recorder
- computer-to-cassette cable

This cartridge is your entry into word processing. You can add equipment as your budget allows.

Beyond the console and this cartridge your biggest expense will be a printer. Almost any kind will do: thermal, daisy wheel, dot matrix, ink jet, pen plotter, or laser. You will need a connecting cord with a plug on one end that fits into the back of your printer. The other end must have a plug which fits an accessory called an interface; the interface plugs into the right side of the console. Printers are either Parallel or Serial. Many printers (even the least expensive) have both kinds of inputs. If you have a choice I suggest using Parallel; this frees your computer to also use a modem, which is serial. Buy the correct cord when you buy your printer. Computer repair shops can make you a cord; they need to know the wiring diagram, which you can get from TI.

The Plus version of WORDWRITER lets you connect a printer directly to the WORDWRITER cartridge. The cord goes from the cartridge (not from the right side of the computer) to the printer.

If you do not buy the Plus version you will need to buy a Parallel interface that plugs into the right side of your console; the printer cord connects interface and printer.

If you buy the regular (non-Plus) version of WORDWRITER DataSoftics will let you trade it in for the Plus version for a fee. You will need the Plus version cable, too.

Quite often a parallel interface is combined in one unit with 32K memory, disk controller, power supply, serial interface, and disk controller. It is in the long run cheaper and more convenient to buy everything at once; however, you can also add bit by bit.

More than likely you already own some sort of tape recorder. It

need not be of any special sort; even a stereo Walkman type will do so long as it is a model that records as well as plays. It does not have to be a cassette; open reel, 8-track, or even the audio only part of a VCR will work as well.

The special cord between computer and tape recorder costs only about \$5. One end fits in the back of your computer, next to the power input. Do not try to plug it into the joy stick port on the left side of the console. The other end of the tape recorder cord has three plugs:

- (1) record [microphone]
- (2) playback [headphone]
- (3) microphone on/off

Some tape recorder cords branch to provide two sets of the above three plugs. This lets you hook up two cassette tape recorders.

The microphone on/off plug is smaller than the other two. Many tape recorders do not have a remote microphone with an on/off switch. If yours does not you will have to manually turn the tape recorder off and on; you can let that plug dangle. The other two plugs are usually color coded to let you know which is Record and which is Play. If not, you have a 50/50 chance of hooking them up right the first time. You can mark them yourself when discovering which is which.

Tape recorder file storage is much, much less expensive than disk. Disk drives are much, much faster than tape. Most people who start out with tape eventually switch to disk. However, the initial investment for beginning with tape (the \$5 cord) is so very small you need not worry about money lost in switch over costs.

With many tape recorders you will need to adjust tone and volume before obtaining a setting the computer (not WORDWRITER) will accept. There are a few tape recorders which are nearly impossible. Tape recorders without tone controls and those with automatic recording levels work as well.

Any color or black & white TV will work as a monitor. You can also buy a Composite color monitor, consisting of an ordinary TV without the channel changer, tuner, and receiver parts. It is no clearer than regular TV, though; they are often more expensive despite being less than a full TV. If you use a TV you need to interconnect with a special cord that comes with the computer. It has a cigarette pack size box with an on/off switch connecting to the TV's VHF antenna screws. It also has a channel 3 or 4 selector switch. If you use a Composite monitor you need a different cord, one without the box. DO NOT buy an RGB (red, green, blue) monitor; they are clearer, but will not work with the TI 99/4A.

If you buy a disk drive, too, you will have so many cables and

plugs it is necessary to buy a Power Strip for your wall plug:

- | | | |
|--------------|----------------|---------------|
| (1) TV | (4) disk | (7) modem |
| (2) computer | (5) controller | (8) interface |
| (3) printer | (6) cassette | (9) memory |

Despite the clutter, the Powerstrip lets you turn everything on with one foot toggle. Powerstrips are available for \$5 on sale. The computer, cassette, and modem need transformers, but cassette and modem can be run by batteries instead of wall plugs.

Your choices for upgrading to disk drive are TI, Myarc, or Corcomp. TI built about 300,000 Peripheral Expansion boxes and about 3 million consoles. The PE boxes are available second hand, usually advertised in the Sunday paper classified section. A complete used system goes somewhere between \$300-500. Myarc and CorComp continue to produce (and innovate) new peripheral systems. Depending on what you buy, expect to pay more for the newer (and warrantied!) systems.

SETTING UP THE SYSTEM

- (1) Connect console and wall plug with transformer power cord. Make sure wall plug is "live", i.e., not disabled by a light switch.
- (2) Connect console and TV with FM modulator cord. The wires go to VHF, not UHF. Turn TV to same channel as switch on modulator box. Turn "TV/antenna" switch on box to "TV". Make sure TV is plugged in, on, and working.
- (3) If you turn on the console when WORDWRITER module is inserted the main menu screen will list WORDWRITER as an option. If "WORDWRITER" does not appear on the main menu you cannot begin. Either the module is inserted wrong or it is broken. Before assuming your module is broken try using any other module. Obviously, if none of the other modules work, the fault lies with the console.
- (4) When you select WORDWRITER from the main menu by keying in the number beside it a title page screen appears; it tells you to enter any key to continue. When you do so, the title screen disappears and the phrase "End of Document Version 1.00" will appear at the top of the screen. You can now begin using WORDWRITER.

USING WORDWRITER

You are now in a new, empty file. It is as though WORDWRITER opened a metal filing cabinet and handed you a manilla folder (the file) filled with several sheets of blank paper. The sheets within the file are blank and the file is unnamed. Once you begin typing you begin filling the sheets within the file. When you are done typing and wish to "put away" the file filled with your work, it is as though you are handing the file back to WORDWRITER to put in the file cabinet.

The hollow (non-wordwrap) cursor appears on the blank line over the End of Document phrase. You can begin typing. As you type, the cursor travels along, preceeding the last letter by a space.

FUNCTION AND CONTROL KEYS

Each side of the space bar has keys which probably intimidate you a little bit. The right FCTN key has a gray dot and the left CTRL key has a red dot. ENTER has a yellow dot. For all practical purposes they all do the same thing: react to your commands when you key them correctly.

I recommend holding down CTRL with your left thumb and FCTN with your right thumb. CTRL and FCTN are never keyed in alone. You use them the same way you use the upper case shift key on a typewriter: in conjunction with some other key. Cursor movement is a good illustration of how to use the FCTN key:

CURSOR MOVEMENT

You can move your cursor right with FCTN d and left with FCTN s along the length of the line it is on. You must hold down the FCTN key with your right thumb; while holding it down you can move the cursor by keying s (left arrow) or d (right arrow). Cursor movement is "auto repeat": the cursor will move as long as you hold down the s or d. Once the cursor begins to move you can release the FCTN key; the cursor continues to move. You can use either minor case or capital letters for cursor movement. If you neglect to hold down the FCTN key the letters s or d will appear. These, too, will auto repeat. If you accidentally do this you can key in OOPS! (CTRL 1). This "undoes" the accident for one line only.

ENTER KEY AS CARRIAGE RETURN LEVER

The cursor is hollow when you first turn on WORDWRITER. When the cursor is hollow it stops when it gets to the end of the line. When the hollow cursor reaches the right edge of the screen it will stop in the same a typewriter stops when it comes to the end of a line. If you key in ENTER the hollow cursor drops a line and moves to left margin; in this case the ENTER key acts like a typewriter carriage return.

The up and down arrows are e and x, respectively. The four arrow keys are marked with arrows on the front sides of the keys, but you will grow so used to the logical diamond pattern that you will come to use them not just by touch but also unconsciously and automatically.

An arrow cannot go higher than the first line of a file. WORDWRITER creates extra lines at the bottom of a file as needed when you cursor down; the End of Document line is pushed down below the cursor.

TYPING OVER TEXT

If you wish to erase something you have typed all you have to do is position the cursor over the previously typed letters and retype something else on top of the old text. Or, you can erase text by holding down the space bar; when you do so the cursor moves right and leaves blank space when there previously was text. It also auto repeats. You can wipe out a line in a few seconds.

ERASING TEXT

FCTN 1, CTRL j, CTRL k, FCTN 3, CTRL 1.

You can also delete one character by moving the cursor on top of it then keying FCTN 1. That one character will vanish and all text on that line to the right of the cursor moves left to close up the gap. Holding down FCTN 1 auto repeats this process of "deleting and closing" until you stop or until all characters on the line right of the cursor are gone.

You can erase portions of a line equally as fast by using either the space bar or FCTN 1. You can also erase everything on a line to the left of the cursor with one command: CTRL j. CTRL k erases everything on the line after the cursor.

If you do wish to erase an entire line you can do so by positioning the cursor anywhere on that line and keying in FCTN 3. If you erase the wrong line or if you change your mind you can correct up to one line's worth of error with OOPS! (CTRL 1).

DEFAULTS

When you first turn on the console and select WORDWRITER the new, blank file has several "default" conditions. The concept of default is analagous to a light switch: it is either on or off. If you enter a dark room the default condition for the light switch is "off"; however, you can turn it on to change the condition.

A better analogy is a car with automatic transmission: you can shift to Drive or Reverse after starting the engine, but you always start the engine in Park. Similarly, in WORDWRITER, there are several conditions which you can change after you turn on the program, but the conditions always come on in the same way:

	ON	OFF
line numbers (comes on "off")	FCTN 0	FCTN 0
margins (comes on with L on 1; R on 80)	CTRL T	ENTER
wordwrap (comes on "off")	CTRL 0	CTRL 0
horizontal window jump (comes on as 20)	CTRL w	CTRL w

LINE NUMBERS

WORDWRITER comes on without showing line numbers. If you key in FCTN 0 line numbers 0001 through 0024 will appear down the left side of the screen. If you key in FCTN 0 again they will disappear. You can make the numbers appear and disappear in this way as often as you like. The numbers are useful, telling you how long your file is. You also need the line numbers when you tell WORDWRITER to Move or Copy a group of lines from one location to another.

The TV screen shows 40 columns of text ACROSS, except when the line numbers are on. Then you can only see 34 columns of text across because the line numbers down the left side of the screen take up 6 positions (4 digits & 2 spaces). When you key in FCTN 0 again, the line numbers vanish and you can once again see 40 columns across.

LINE NUMBERS

Key FCTN 0 to show the column of four digit line numbers along the left side of the screen. FCTN 0 is an on/off switch. When you key it again the line numbers vanish. With the line numbers on you will see that you cannot make the cursor go higher than line 0001. The lowest you can move the cursor is to the line above End of Document. If you continue moving the cursor downwards new blank lines will be created.

MARGINS

You can set margins directly (CTRL t) or with the MASTER PROMPT LINE (FCTN = or FCTN 9). I recommend CTRL t. Hold down the CTRL key with your left thumb while simultaneously keying the t. It makes no difference if you use lower case t or upper case T. As soon as you do this a column of four digit line numbers appears down the left side of the screen. The top row of the screen (beginning with "Tabs") lists 1 through 9, space, 1 through 9, etc. The second line across the screen has an L (left margin) under the 1, and I (indentation) under the 5, then a series of T's (tab stops) under the 5's and 10's places. Your TV screen shows up to column 34. To see 35 through 80 you must move your cursor right.

MARGINS, INDENTATION, AND TABS

When you key in CTRL t the top line of the screen will display column numbers 1 through 34. At the same time, the line numbers

also appear down the left side of the screen even if you do not already have them on. Notice that the cursor has moved so that it is under column 1 on the Left margin. An I (Indentation) is under the 5. A series of T's (Tabs) are under every fifth position. You can cursor over to column 80. Under it is R (Right margin).

You can change the position of R, I, L, and the T's. You can eliminate all the T's or put in as many as you wish. You can put the I anywhere, even on or to the left of R. The L cannot be on the same column as R; nor can L be right of R. This is just like a typewriter and is all common sense.

When you finish setting margins, indentation, and tabs both the column numbers (across) and line numbers (down) disappear when you key ENTER. Remember: CTRL t turns on both column numbers and line numbers; ENTER turns them both off. However, if you already had line numbers on (FCTN O) before keying on Margins (CTRL t) the line numbers stay when you key ENTER.

In the discussion of the line numbers you learned that FCTN O is an an/off switch for making the line numbers appear or disappear. The column number display is different in this regard: CTRL t turns it on; after you have changed the margins the ENTER key turns it off.

MARGIN SETTING BYPASS

You can temporarily go outside your margin with CTRL m. This allows you to deviate from your setting without the bother of changing them twice. It does not need to be turned off, works only for the line the cursor is on, and works with both margins. It works just like the typewriter version.

WORDWRAP

CTRL O is the on/off switch which engages/disengages wordwrap. The hollow cursor indicates "off" (the default condition); the solid cursor indicates wordwrap is "on".

When wordwrap is off WORDWRITER's cursor works just like that of a typewriter: when you come to the end of a line you must manually cause the carriage to return by keying ENTER. When the cursor is at the last position on the line, i.e., just under the Right margin R any text you type will type over and over again on the same position.

WORDWRITER does not have a bell to warn you you are coming to the end of a line, so you need to watch for the end of the line when you type with wordwrap off. Otherwise, you will find yourself at the end of the line and realize that the last few words have been lost, each letter and space having been deposited one on top of the last. Of course, typing over a letter erases it. It is best to type with wordwrap on.

WINDOWS

You just learned that you can move the cursor around with the FCTN and arrow keys. Using this kind of cursor movement allows you to, say, move from line 1 to line 200. All you need do is key in FCTN x and hold down x until line 200 comes into view. But you can do this faster by jumping down a screen at a time using the same diamond of arrow keys, but this time with the CTRL key instead of the FCTN key.

Windowing lets you move the screen around the cursor instead of moving the cursor around inside of one screen. Since there are 24 lines per screen you only have to key in CTRL x eight times to go from line 1 to 200. Or, you can just hold down CTRL x because windowing also auto repeats. Additionally, you can window to the first (0001-0024) window via FCTN h. FCTN b takes you to the "bottom" window.

You can also window right, up, and down using the FCTN keys, but I do not recommend this. Consult the alphabetical index for this alternate method of windowing, but only after you have mastered the normal diamond shaped pattern described here. Remember: the arrow keys used with the FCTN key regulate cursor movement. The arrow keys used with the CTRL key regulate window movement.

HORIZONTAL WINDOW JUMP: 1 OR 20 COLUMNS

Since WORDWRITER has 80 columns and since your TV only shows forty you can window or cursor back and forth across the screen. There are three overlapping windows: 1-40, 20-60, and 40-80. CTRL s and CTRL d window left and right.

When you window right and left the TV screen will show one of the three overlapping windows. Each time you window horizontally the screen jumps 20 columns.

When you cursor right and left you have a choice of jumping 20 columns or 1 column at a time when the cursor reaches the side of the screen. The default condition is the 20 column jump. When you are typing in this mode the screen will abruptly jump when the cursor reaches the right edge of the screen. All of a sudden the second screen (20-40) will appear. It is difficult for most people to read text when it jumps like this.

WORDWRITER has the 20 column jump automatically when you turn it on; keying CTRL w is the switch which causes the screen to jump one column at a time if you wish. It beeps when you key it. When you key it again you are back in the 20 column jump mode. Remember, CTRL w only alters (1) cursor [not window] movement (2) horizontally [not vertically].

RECOMMENDATION

SET YOUR MARGINS AT 1 AND 34. TURN WORDWRAP ON (SOLID CURSOR).

SINCE YOUR R MARGIN IS BELOW 40 YOU CAN IGNORE HORIZONTAL WINDOW JUMP. Later, as you become more proficient you might wish to change these settings, especially just before printing when you will probably want to "reformat" your text to wider margins.

REFORMATTING TEXT - DELETING

As you type you will occasionally want to delete a character, word, phrase, line, or group of lines. When you do this there will be gaps, large blank spaces between words. WORDWRITER lets you close up the text with two different kinds of reformatting. It is easy to do and is one of the great attractions of word processing.

First of all, WORDWRAP MUST BE ON (SOLID CURSOR) FOR BOTH KINDS OF REFORMATTING! This is the general procedure:

- (1) set margin width
- (2) turn on wordwrap
- (3) move cursor to end of passage
- (4) key in FCTN 2; key in ENTER (a carriage return appears)
- (5) move cursor onto first line of passage where you wish reformatting to begin.
- (6) there are two kinds of reformatting:
- (7) CTRL 2 - from the L margin
- (8) CTRL r - from the cursor
- (9) text between cursor and carriage return reformats

DISCUSSION

When you close up by reformatting, text will reorder itself within the boundaries of the L & R margins with one space between words and two spaces after periods. Reformatting occurs DOWN TO the first carriage return symbol; it begins with the line the cursor is on. Text reorders within the boundaries of the two margins if you key in CTRL 2. If you key in CTRL r text reorders between the R margin and whichever column the cursor is on.

REFORMATTING TEXT - INSERTING

Sometimes you will want to insert a character, word, phrase, line, or group of lines. To do so you must create extra space. Of course, you could make a blank line by keying FCTN 8, but there are two better ways.

INSERTING - WORDWRAP ON/WORDWRAP OFF

Refer to "insert" in the alphabetical index for explanation of these two types of insertion. That portion of the index says it

clearly.

RECOMMENDATION

ALWAYS INSERT WITH WORDWRAP ON (SOLID CURSOR). Since you must have wordwrap on to reformat anyway, it is better to leave it on at all times until you become intimate with WORDWRITER.

A BRIEF REVIEW

wordwrap on (solid cursor)	CTRL O
insert (wordwrap on)	FCTN 2
insert (wordwrap off)	FCTN 2
delete a character	FCTN 1
delete a line	FCTN 3
delete to end of line	CTRL k
delete to beginning of line	CTRL j
reformat from cursor	CTRL r
reformat from L margin	CTRL 2

NAMING, SAVING, LOADING FILES

For WORDWRITER to be able to find a file again you must first tell WORDWRITER to "Save" the file; otherwise, when you turn off the computer all the work you typed in will be erased. When you Save work you must label it so that WORDWRITER can find it again; it is as though you are putting a label on the outside of a manilla folder, handing the file back to WORDWRITER, and telling the program, "if I ask for this folder again, please give it to me". When you ask for a folder in word processing that is called "Loading" a file.

DRAWERS: TAPES AND DISKS

You can think of a tape or a disk as a drawer in your filing cabinet. If your drawer becomes too full you can tell WORDWRITER to put one or more of the files of the full drawer into an empty drawer. In other words, if a tape or disk becomes too full of files you must put some of them onto another tape or disk.

You can throw away (Delete) a file. You can also rename a file; all you have to do is (1) Load it [with the old name], (2) Save it [with the new name], then (3) Delete the file with the old name.

The console alone can handle files with a maximum content of 16K. If you have 32K memory expansion the largest file WORDWRITER can handle is 48K. But remember, this is of no consequence because you can have as many files as you want, because all of them are stored for retrieval on tape or disk. You can have millions of files!

The only limitation is how many drawers (tapes or disks) you own. The size of your filing cabinet is this number.

If the file you are working on becomes filled to its maximum capacity WORDWRITER will tell you and you can Save what you have, then continue by opening another empty file. When the second file is full (or when you are finished working, say, due to an interruption) you must Save the second file, but WITH A DIFFERENT NAME. You MAY NOT have two different files with the same name within the filing cabinet of WORDWRITER. If you already have Saved a file named "letters" on a disk, then try to Save another file also named "letters" on the same disk WORDWRITER will Delete (erase) the first file. If you already have Saved a file named "letters" on ONE disk, then save another file, also named "letters", on ANOTHER disk, obviously WORDWRITER will not be able to erase the first file. However, it is a bad practice to have more than one file with the same name. If you use the same file name more than once you will eventually erase a file accidentally.

Another reason not to do this has to do with Chain Printing one file after another; you would confuse WORDWRITER if you told it to print the file named "letters" immediately after the file named "letters". Instead of asking you which to print first, WORDWRITER would merely be unable to interpret what you meant, then stop, being unable to continue.

TAPE

If you are not using a disk system you will be storing (Saving) your files on tape. When you retrieve (Load) your files from tape you must (1) put the correct tape in the tape recorder, (2) rewind or fast forward to the beginning of the file [using the digital counter on the tape recorder], then (3) play back (Load) the file into the console. Tape files are not "named". You must write down a list of your tape files.

When you Save a file on tape you are using the tape recorder in its Record mode. When you Load a file from the tape recorder into the console you are using the tape recorder in its Play mode. Before you begin to Save a file on tape make sure there is enough tape to Record the file. In other words, do not begin Saving (Recording) near the end of a cassette. Worse than that, do not begin Saving so that you cut off the beginning of a another file previously Saved further along on the same tape.

PRINTING

When you create a new file you must first store it on either disk or tape before printing it if you wish to print it again later. Merely printing a newly created file DOES NOT Save it for later retrieval. Once having been saved to either disk or tape you can print it over and over again later.

KEY TO SYMBOLS USED IN INDEX

<u>P</u> MASTER PROMPT LINE	d requires disk system
CTRL control key	lf line feed
FCTN function key	> appropriate arrow
ENTER enter key	+ can be set with printer
<u>P</u> a page advance	Cr carriage return
<u>W</u> wordwrap (see below for effect on cursor)	
■ PRINTER CURSOR (<u>W</u> on; CTRL u is on/off for cursor size)	
□ PRINTER CURSOR (<u>W</u> off); CTRL u is on/off for cursor size)	
□ HOLLOW CURSOR (<u>W</u> off; CTRL O is on/off for wordwrap)	
■ SOLID CURSOR (<u>W</u> on; CTRL O is on/off for wordwrap)	

Some items below have a P on the left and are accessed via a PROMPT line. Other items below can be accessed directly with a COMMAND (shown to the right, at the end of the line). Some items have both. COMMANDS are faster by one or two keystrokes once memorized.

PROMPTS	COMMAND
novice	expert
Key in FCTN 9 or FCTN =, then follow screen instructions; use capital letters followed by ENTER.	Don't use FCTN 9/FCTN = or ENTER; Key in 2-character combinations which begin with FCTN or CTRL.

=====

ALPHABETICAL INDEX

- carriage return appears (W on)
 - after ENTER when typing on last line of text buffer
 - won't appear when not on last line unless preceded by FCTN 2
 - after CTRL 8; cursor moves to indent on newly-created blank line below
 - NOTE: it is convenient to set indent & L margin at same place (see Tabs) when you wish to end lines with CTRL 8
 - -Pa Cr appear in first column of line above cursor after CTRL 9 (W on or off)
 - carriage return symbol (□ on) Sm carriage return cancelling:
 - FCTN 1 (erase the Cr symbol only)
 - FCTN 3 (erase that whole line)
 - -switch to hollow cursor (W off) to keep Cr from appearing after each ENTER when on last line of text buffer.
- Chain Print
- also known as Include File or Merge Print
 - key in .CF DSK1.FileBname on last line of text of FileA
 - printer will continue printing 8

right after A without a gap even though the two together may exceed the memory capacity of the computer;
 -you may Chain Print any number of files provided all the .CF commands are at the end of the first file;
 you may not "nest" the chain.

color of screen.....CTRL 3
 column numbers (see tab)
 copy line cursor is on.....CTRL 5
 P Copy any line(s) (under Lines)..... CTRL c
 cursor █ or □ (see wordwrap)
 cursor □ (see printer control)

cursor down	FCTN x
< cursor left	FCTN s
> cursor right	FCTN d
cursor up	FCTN e

P disk directory.....FCTN v
 P -Show Directory under Files
 delete character.....FCTN 1
 del. line cursor is on.....FCTN 3
 P Del. any line(s) you say
 < del. to beginning of line.....CTRL j
 > del. to end of line.....CTRL k
 del. a file (see files)

ESCAPE: controls printer for various nontext functions, i.e., margins, underlining, space between letters, lines, etc. Nonprintable characters (and the first printable character after an up-arrow WILL NOT print, though they will appear on screen.

escape (0-31)
 □ -CTRL u (printer control on)
 -small cursor appears until
 CTRL u is keyed again
 □ -FCTN r (up-arrow appears)
 -the following 0-31 symbol (see
 chart this manual) shows on
 screen, controls printer, but
 won't print
 □ -CTRL u (printer control off)
 -large cursor appears again
 -SECOND character following arrow
 resumes normal typing

 escape (32-127)
 □ -CTRL u (printer control on)
 -small cursor appears until
 CTRL u is keyed again

- -FCTN r (up-arrow appears)
- -CTRL u (printer control still on for character following arrow, but now for codes 32-127
 - the 32-127 symbol (see chart printer manual) shows on screen, controls printer, but won't print
 - SECOND character following arrow resumes normal typing

2 Exit (see Quit)

files

- begin a new: you are automatically in a new file when you turn on WORDWRITER

P -delete (erase from disk, tape)

P -purge (erase from console, but not from disk or tape)

P -save (FROM console)

P -load (TO console)

P -merge

- LOAD (not SAVE) part or all of fileA to fileB.
- can be on same disk or different disks.
- merging "copies"; doesn't "erase" original.
- cannot use memory image

P -print (type in PF in FILES).....CTRL p

- rename - SAVE to new name, then delete file with old name

P find (see SearchH)

P indent (see tab)

- moveable anywhere, even to L of L margin
- shows as i (except when at same place as left margin)
- (see paragraph C8)

insert a blank line ABOVE.....FCTN 8

■ insert a blank line ABOVE.....FCTN 2

- if u on & if cursor at L margin

■ insert (u on).....FCTN 2

- breaks text at cursor
- the cursor and text L of cursor remain where they are, but are followed by blank space
- text to the R of the cursor drops down one line and is preceded by blank space
- type in new text
- close up with CTRL 2 or CTRL r

□ insert (u off).....FCTN 2

- breaks text at cursor
- type in new text

-text to R of cursor is pushed R
 off screen and becomes erased
 -turn on ⁴ with CTRL O
 -close up with CTRL 2 or CTRL r

P/P

line numbers on/off.....FCTN O
 load file.....CTRL L
 load memory image.....FCTN L
 margin release (L & R).....CTRL m
 margin set (see tab set)

merge ALL OF FileB to end of FileA
 P -load FileA in console.....CTRL L
 -load FileB on top of A:
 -type in: a (end)
 (space)
 DSK1.FileBname
 ENTER
 merge ALL OF FileB before FileA
 P -load FileA in console.....CTRL L
 -load FileB on top of A:
 -type in: O (line # O)
 (space)
 DSK1.FileBname
 ENTER
 merge ALL OF FileB somewhere within FileA
 P -load FileA in console.....CTRL L
 -load FileB on top of A:
 -type in: FileA AFTER line #
 (space)
 DSK1.FileBname
 ENTER

merge PART OF FileB to FileA
 P -load FileB in console.....CTRL L
 -note BEG. & END line #s of sec-
 tion you wish to merge to File A
 P -load FileA in console.....CTRL L
 (when you loadA, console purges
 itself of B)
 -note line # of line in FileA
 AFTER which you want to insert
 the section from FileB
 -load your section of FileB on
 top of A:
 -load via CTRL L or prompt
 -type in: FileA AFTER line #
 (space)
 FileB BEG. line #
 (space)
 FileB END line #
 (space)
 dsk1.FileBname
 ENTER

NOTE: total file length after merging may not exceed memory capacity of system

move part of 1 file to another
-can't do (MOVE erases original)
-files CAN be copied (see merge)

P moveline(s) (under Lines).....FCTN 7
page, start a new (or end an old).....CTRL 9
-A T appear in first column of line
above cursor after CTRL 9 (W on or off)

+ page, set length of
■ paragraph, begin a new (W on).....CTRL 8
-text (if any) breaks at cursor
-creates T symbol at break
-creates blank line below
-cursor drops to blank line
-cursor stops at indent

+ print bold
P print file.....CTRL p
-command when in Files is PF
-default mode is MIO (for WORD-
WRITER+); type PIO if you have
your own Parallel Interface
-type in beg. end line #s
before MIO/PIO to print part
of a file.
-WARNING: if you enter PF without
first loading that file, the
computer will treat the command
as DF (Delete File)
-NOTE: precede PIO with L to print line #s
□ printer control cursor on/off.....CTRL u
-note: irrelevant if W on/off
-on: (W on) ■ (W off) □
-off: (W on) ■ (W off) □

P prompt on/off FCTN 9 or FCTN =

P Purge (see files)
Quit (exit WORDWRITER)

■ reformat from cursor (W on).....CTRL r
□ reformat from L margin (W on)...CTRL 2

P Save File.....CTRL z
P Save Memory image.....CTRL a

P Search (FindString).....CTRL f
-put slash before and after; ENTER
P Search (ReplaceString)
-use 3 slashes:
-/look for/replace with/; ENTER
-1 at a time (Yes, No), All, Stop
P Search for something similar.....CTRL f

-use #'s for unknown letters

P Show Disk directory.....FCTN v
P Showline(s) (under Lines)
+ subscript
+ superscript
tab advance.....CTRL i or FCTN 7
P tab & margin set/clear.....CTRL t
-(see indent)
-R,I,L at 0, 5, 80, unless
changed
+ underline
undo (oops!).....CTRL 1
-undoes last command
-one line only

window to bottom screen.....FCTN b
window down.....CTRL x or FCTN 4
< window left.....CTRL s
20 or 1 line jump.....CTRL w
> window right.....CTRL d or FCTN 5
window to top screen.....FCTN h
window up.....CTRL e or FCTN 6

wordtab (cursor to next word).....CTRL 7

wordwrap on/off.....CTRL O
■ on:
-auto carriage return
-both types of reformat
-insert creates extra line
-mandatory for CTRL 8
□ off:
-manual carriage return
-neither reformat will work
-insert pushes text off screen

PROMPT COMMANDS AND DIRECT COMMANDS
(NOVICE VERSUS EXPERT)

Pages 20 through 25...

discuss commands via a MASTER PROMPT LINE. These pages also mention how to do the same commands "directly", without the prompts.

Pages 26 through 27...

discusses direct commands for expert users of WORDWRITER. Page 27 is a chart of direct commands.

There is no reason you cannot do some of the commands directly and others via prompts. As you begin to use the different features of WORDWRITER you will tend to form your own habits.

Pages 14 through 19...

is an alphabetical index, a chart listing both types of commands: PROMPT commands are designated with a P along the left column; DIRECT commands are to the right (following dotted lines).

To do a DIRECT command you must hold down a FCTN or CTRL key with your thumb and simultaneously hold down another key with another finger. You do not use ENTER.

To do a PROMPT command you must hold down FCTN (with your right thumb) and simultaneously hold down = or 9. You will see the MASTER PROMPT LINE appear. Then you key in the capital letters of words on the line. Then you key in ENTER.

COMMANDS WITH PROMPTS
(novice)

Because there are so many function and control commands to memorize, WORDWRITER has a menu of prompts to help you. When you use these prompts you do not have to rely on memory: the computer will lead you through all the steps. Later, when you begin to feel more comfortable with word processing you can bypass the prompt line by entering in the same commands directly; you will have to memorize these "expert" commands. The expert commands are also discussed in the text below which, of course, deals mainly with the "novice" or prompt mode. The prompts will appear across the top of the screen when you enter either FCTN = or FCTN 9:

Edit Files Lines Purge Search Tabs Quit

=====

This is the MASTER PROMPT LINE. The blank line below it with the cursor can be thought of as the COMMAND LINE. After you type in the appropriate letter(s) (E, L, F, P, SH, T, or Q) followed by

the Enter key the MASTER PROMPT LINE will disappear - it will be replaced by something else, depending on which of the master prompts you chose.

Edit Files Lines Purge SearchH Tabs Quit
=====EDIT=====

If you type E (for Edit) followed by Enter, the computer takes you back to the text and the prompt line vanishes. If you want to see the MASTER PROMPT LINE again you must Enter FCTN = or FCTN 9.

Edit Files Lines Purge SearchH Tabs Quit
=====FILES=====

If you select the second option from the MASTER PROMPT LINE you will need to type in F (for Files) followed by Enter. The MASTER PROMPT LINE will vanish and be replaced by the "FILES" PROMPT LINE. This line is 80 columns across, so you will have to window right (CTRL d or FCTN 5) to see it all. It is shown below in chart form, vertically. There are nine options, each requiring a two letter entry (followed by the Enter key). Notice that some of the commands can also be done directly.

	novice	expert
LF	LoadFile	CTRL L
LM	LoadMem	FCTN L
LX	Loadfix	
LV	LoadVariable	
SF	SaveFile	CTRL z
SM	SaveMem	CTRL a
SX	Savefix	
DF	DeleteFile	
SD	Show Directory	FCTN v

The FILES PROMPT LINE with these nine options walks you through the procedures necessary to:

LOAD A FILE

put a file into the computer by playing it back from the cassette or disk upon which it had been previously stored. There are four ways to Load.

SAVE A FILE

record or store a file on cassette or disk. There are three ways to Save.

DELETE A FILE

this will erase a file on a disk.

SHOW DIRECTORY OF FILES

this will list all the files stored on a disk. If you are using a cassette this option is superfluous.

There are three ways to Save and four to Load:

MEMORY IMAGE (LoadMem SaveMem)

can be used with cassette or disk. It uses about one-third less storage space and is, therefore, much faster to Load or Save. It requires three passes through a cassette player, but is the preferred method for saving or loading text.

On a disk system it uses two (sometimes three) files, but - unlike the cassette - only requires one pass. The second and third disk files will name themselves by causing the last letter of the original file name to ascend the alphabet a letter each. If the original file name ends in a digit the second and third file will rename themselves, progressively, a digit higher each. Memory image cannot be used to move lines from one file to another - its main (and only) disadvantage. On the disk directory a memory image file type will be listed as "program". When you delete a memory image file you will have to delete each name separately - in other words, three times.

DISPLAY VARIABLE (LF, LV, SF)

This is the normal way of loading and saving text when you need to move parts of one file to another. It takes more time than memory image. On the disk directory a display variable file type will be listed as "Dis/Var". If you want to load part or all of one file to another (merging) your files must be Dis/Var, not memory image.

DISPLAY FIXED (LoadfiX SavefiX)

You won't be using either of these for text.

When you instruct the computer to either load or save a file you will be using a cassette tape recorder or a disk drive system. The computer automatically assumes a cassette (CS1), so if you are using a disk you will have to type over CS1 with "DSK1.filename" (without the quotes; with the real filename). You must capitalize all three letters of DSK.

After you Enter any of the above FILE PROMPT LINE commands the computer does what you ask of it and the prompt line vanishes. If you want to see the MASTER PROMPT LINE again you must Enter FCTN = or FCTN 9.

Edit Files Lines Purge Search Tabs Quit
=====LINES=====

If you type L (for Lines) when you are in the MASTER PROMPT LINE the "LINES" PROMPT LINE appears:

Just as the "FILES" PROMPT LINE dealt with files, this prompt line deals with manipulating the lines of text within a file which is loaded into the console. By typing in any one of the four

appropriate letters followed by the enter key you will be able to:

S look up a line [S for Show]
D erase line(s) [D for Delete]
M move line(s) elsewhere
C duplicate a line or lines
elsewhere [C for Copy]

A QUICK REVIEW

S, D, M, and C are letters you can key in when you have the LINES prompt line at the top of the screen; in order for you to have the LINES prompt line appear you must first make the MASTER PROMPT LINE appear. To make the MASTER PROMPT LINE appear you must key in FCTN 9 or FCTN =; from that line you can select LINES by keying in L followed by Enter.

Remember also that the four options S, D, M, and C of the LINES prompt line are each followed by the Enter key.

Only two of the preceeding four has its Expert mode counterpart. The Expert mode bypasses the business of the prompts entirely, but requires you to memorize (or look up) each one.

Showline Deleteline Moveline Copyline
FCTN m CTRL c

When you select one of the four by typing in S,D,M,or C the "LINES" PROMPT LINE vanishes to be replaced by another prompt line asking for 1, 2, or 3 line numbers.

- S If you want to look up a line the computer will ask you to type in that one line number; after you do so, follow it with enter. If you want to look at the last line of text you can type E (for End) followed by Enter; of course, you can also go to the last line by windowing to it via FCTN b.
- D If you want to Delete (erase) a paragraph the computer will ask you to type in the line number of the first line of the paragraph (Start Line) and the line number of the last line of the paragraph (Stop Line). When you do so, leave a space between the two numbers, then hit the Enter key. The computer will erase those lines and then reorder the line numbers so as not to leave a gap in the sequence.
- D If you only want to erase one line type in its line number twice: number, space, number, Enter. Of course you can erase the line you are on faster using FCTN 3.
- M If you want to move line(s) the computer will ask you to type:
 - "Start Line" the line number that begins the block you want to move.
 - "Stop Line" the line number that ends the block you want to move.

- "After Line" the line number AFTER which you wish to insert the text you are moving.
- Leave a space after each number, then type in Enter. The computer will move the lines and reorder the line numbers.

- M If you move only one line, the Start and Stop lines are the same number but must be entered twice with a space between each entry. You must include the After line, followed by the Enter key.
- C If you move a line or lines elsewhere in the text without erasing the original we call that "Copying" text. This feature works just like Move except that we are duplicating the text elsewhere; text in the original location remains as is. The computer will ask for three line numbers: Start, Stop, and After.
- C If you merely want to copy the line you are on underneath it you can use a CTRL 5.

MOVE OR COPY VIA PROMPTS: (1) key in FCTN = or FCTN 9 [MASTER PROMPT LINE] (2) select the LINES option by keying in L followed by Enter (3) keying in M (followed by Enter) for moving line(s) or keying in C (followed by Enter) for copying line(s) (4) follow screen directions

MOVE OR COPY VIA DIRECT COMMANDS: (1) do not use the prompts at all (2) key in FCTN m (for move) or CTRL c (for copy) (3) follow screen directions.

The only difference between Copy and Move is that Copy will leave the original in place; Move erases it.

If you call up the MASTER PROMPT LINE, then accidentally type in L you can exit the "lines" prompt line without doing one of the four options of S, D, M, or C. Just select any one of them at random, then hit Enter when the screen asks for line number(s); you will be returned to the MASTER PROMPT LINE.

Edit Files Lines Purge Search Tabs Quit
 =====PURGE=====

When you have finished working with the material on your screen, i.e., typing in new text, altering the text in any way, erasing text, moving lines, etc., you must SAVE the finished product by (1) printing it, (2) saving it on cassette, (3) or saving it on disk. Otherwise, when you turn off the console the computer will forget the alterations. Remember, the console does not remember anything; only the cassette, disk, or printer records your additions, changes, and deletions. It seems strange that when you DELETE text that you must SAVE the change!

The word "purge" means "to clean out". When you purge you cause the console to erase its memory of the file on screen just as if you turned the console off, then turned it back on. Before you purge make sure you have saved your text.

Quit is the last option on the MASTER PROMPT LINE. Quit has Purge as an option within it, so, in a certain sense, having Purge stand alone is redundant. However, if you want to purge without saving text or exiting WORDWRITER you can save one keystroke by going directly to Purge.

```
Edit Files Lines Purge SearchH Tabs Quit
=====SearchH=====
```

This feature lets you look for something. If you want to do so it allows you to not only look for something but also to REPLACE it with something else. You might want to replace the word "friend" with "pal". To do so you must first go to the main prompt screen, then select the SearchH option by entering two letters: sh followed by Enter. The computer will ask you whether you wish to merely find something (FindString) or find and replace something (ReplaceString). You must decide which by either typing in Fs or rs, followed by Enter. You must put a slash symbol (/) before and after the entity you want WORDWRITER to search for. If you select the search & replace option there must be three slashes: /search for/replace by/. The program even allows you to be vague by allowing you to put in the * symbol for unknown letters. The Expert mode for FindString is CTRL f. There is no Expert mode for ReplaceString.

```
Edit Files Lines Purge SearchH Tabs Quit
=====Tabs=====
```

This feature really ought to be called "Tabs, left margin, right margin, and indentation". By erasing the existing L, R, I, or T's you can change any or all of these variables by typing in new positions for each of them. When you are done, key in Enter. Naturally, you may not have more than one L margin, R margin, or indentation. However, you may have as many or few T stops as you wish. The Expert mode for going directly to Tabs is CTRL t. Tab advance is either FCTN 7 or CTRL i.

```
Edit Lines Files Purge SearchH Tabs Quit
=====Quit=====
```

When you use Quit, WORDWRITER asks you if you want to:

```
Save - this is a reminder
Purge - you can say Yes or No
Exit - takes you out of WORDWRITER,
       back to the menu screen
```

This concludes our brief survey of the MASTER PROMPT LINE commands. Direct commands are discussed in the next section.

COMMANDS WITHOUT PROMPTS (EXPERT)

There are five kinds of commands in WORDWRITER in that:

- (1) some are via Prompt mode only. ReplaceString, for example, has no Expert mode equivalent; you must key in FCTN = or FCTN 9 (Prompts), sh (Search), Enter, rs.
- (2) some are via Expert mode only, i.e., the command cannot be done by keying in the Prompt line. Screen color, for example, can be changed only by keying CTRL 3.
- (3) some commands can be done both ways. The Expert mode for FindString is CTRL f. Its Novice mode is FCTN = or FCTN 9 (Prompts), sh (Search), Enter, fs.
- (4) some of the Prompt commands can be shortened by 1 or 2 keystrokes. For example, the normal and slower way to execute ReplaceString is given in (1) above. Although ReplaceString has no Expert mode, you can bypass a step in the Novice mode (Prompts) sequence by keying in FCTN = or FCTN 9 (Prompts), rs (ReplaceString), Enter. This shorter sequence leaves out sh (Search) and Enter. You can do this with almost all prompt commands to save time, once you have memorized them.
- (5) some commands require that you engage the Prompt line, but there is no proper prompt. EXAMPLE: to print a file, key in FCTN =, F (for Files), PF (for Print File), ENTER. Notice that the Files prompt line does not offer a PrintFile option; it is something you need to have memorized (or looked up). Luckily, there are not many commands like this. Of course, you can bypass the MASTER PROMPT LINE for this command anyway by entering CTRL p directly.

You can make a WORDWRITER overlay strip to help you learn some of the direct commands, at least the ones on the top row:

OOPS	RE-	COLR		COPY		WORD	NEW	NEW	WORD		RED
	FRMT			LINE		TAB	PARA	PAGE	WRAP		DOT
DEL	INS	DEL	WIND	WIND	WIND		BLNK	PRO-		PRO-	GRY
CHAR	CHAR	LINE	DOWN	RIGHT	UP	TAB	LINE	MPT		MPT	DOT
1	2	3	4	5	6	7	8	9	0	=	

Four are blank and do nothing. Some are duplicates: you can also window via the control & arrow keys. One duplicates itself: both FCTN 9 & FCTN = access the MASTER PROMPT LINE. One only tells you half the story: CTRL 2 is reformat from the left margin; CTRL r is reformat from the cursor.

Actually, the strip is useful, but not so useful as a complete list of all commands. The alphabetical index shows all commands, both via prompts (novice) and via direct commands (expert). However, the expert comands tend to become lost among the volume of prompts. The list of direct commands should prove useful as a reference tool to help you learn them.

DIRECT COMMANDS

carriage return	CTRL 8
chain print file	.CF
color	CTRL 3
copy line cursor is on	CTRL 5
copy line(s)	CTRL c
cursor down	FCTN x
cursor left	FCTN s
cursor right	FCTN d
cursor up	FCTN e
delete character	FCTN 1
delete line	FCTN 3
disk directory	FCTN v
duplicate line(s)	CTRL 5
erase to beginning of line	CTRL j
erase to end of line	CTRL k
escape 1-31:	CTRL u, FCTN r
escape 32-127:	CTRL u, FCTN r, CTRL u
find string	CTRL f
insert character	FCTN 2
insert blank line	FCTN 8
line number	FCTN o
load file	CTRL L
load memory image	FCTN L
margin release	CTRL m
move line(s)	FCTN m
oops!	CTRL 1
new page (pa cr)	CTRL 9
new paragraph (cr)	CTRL 8
print file	CTRL p
printer code cursor	CTRL u
prompt	FCTN 9 or FCTN =
reformat from margin	CTRL 2
reformat from cursor	CTRL r
save file	CTRL z
save memory image	CTRL a
tab advance	FCTN 7 or CTRL i
tab set	CTRL t
window down	FCTN 4 or CTRL x
window left	CTRL s
window mode	CTRL w
window right	FCTN 5 or CTRL d
window to first screen	FCTN b
window to last screen	FCTN h
window up	FCTN 6 or CTRL e
word tab	CTRL 7
word wrap on/off	CTRL 0

PRINTER CONTROL CODES

Printer control codes are used to instruct your printer beyond straight forward typing. For example, the automatic ("default") setting for many daisywheel printers is set for Pica: 10 characters per inch horizontally and 6 lines per inch vertically. You can decrease the distance between letters and lines so that your printer can output Elite: 12 characters per inch horizontally and 7 lines per inch vertically. You can also output Micron: 15 horizontally, 8 vertically. Or, you can mix and match as it suits you. Naturally, you will want to buy the correct size print wheels.

In computer jargon Unit Separator is the name given to horizontal spacing between letters. Record separator is the distance between lines. At risk of sounding unhelpful this manual can say the following: your printer manual does show you how to do these things, even though it may seem poorly presented and vague. Your printer manual can show you how to:

```
print bold, underline, auto strike out, footnotes and
subscripts via half-line feed: CO2.
superscripts via reverse half-line feed: 98.6°
compress print, compress print more, compress print even
more, widen print, widen print more.
```

This printer increases/decreases horizontal spacing in 1/120" increments and the distance between lines in 1/48" increments. Some printers use 1/72" as the amount for vertical. A few printers give you no selection, so ask before buying.

The printer control codes let you make a whole variety of symbols, even if you are using a daisy wheel printer:

7 :80#xX?◇ ◇ ◇ xXxXxX X X X X X ♡ zV # # #
@B¥I±[[I I □□□□ [] ⊗ ⊗ ⊗ ⊗] X X ∅∅ ∅
○ Y H H H H) ▯ ∞ ∞ ∞ ○○○ G) (((() f E w

You will also be able to set your left margin so that the printer will print beginning anywhere on the page you desire; you may not exceed 80 columns, though. For example you may have written text in 50 columns with WORDWRITER. You may instruct your printer via the printer control codes to begin the left margin anywhere up to the 30th column.

Otherwise, text will be left over at the end of a line; the left over text will wrap around to the beginning of the next line and print the remaining few letters. Your particular printer has its own unique instructions for setting margins. Some printers allow you to change top and bottom margins, too, as well as the default 11 inch paper length.

Daisywheel printers with 96 characters have two extra symbols printable only through printer control codes. To complicate

matters, not only do different printers have different instructions for doing this, but there are different symbols available in the same position on daisywheels. For example: the "vertical line" symbol on the 99 keyboard (on the front side of A; function A) prints out as $\frac{1}{2}$ with THIS printwheel; this printwheel does not have the vertical line. However, the screen shows the same symbol on the key. After all, the computer does not know which printwheel you have in your printer. Similarly, you will have to "map" your wheel by making a chart, showing (1) keyboard, (2) screen and, (3) paper. This map is not major work because, for the most part, we are only concerned with a few characters: $\$ \frac{1}{2} \frac{1}{4} \frac{1}{8} \pm ^\circ \&$. Most of them are the ones on the fronts of keys, but do not overlook any - take out your wheel and see if you missed any. Additional printwheels are fun to own, especially the different sizes. There are also wheels with symbols-only, different styles of type, and different, dedicated foreign languages. German has two dots over some vowels. French has left- and right- leaning accents. Spanish has a tilde. You can get the whole Greek alphabet, engineering, and math.

NOTE: some printers use one control code to begin a command and another to end it. For example, the Brother HR-10 underlines text by CTRL u, FCTN r, CTRL u, E (begins underline), the underlined word, CTRL u, FCTN r, X (ends underline). Similarly, this same printer prints bold (double strikes letters) by means of the same general procedure, except that F (instead of E) precedes. A full dozen other enhancements proceed almost identically.

You can set the left margin on the Brother HR-10 printer by:

- 1) CTRL u (printer control on)
- 2) FCTN r (escape; up arrow)
- 3) SHFT i (HORIZONTAL TAB - see O-31 symbol chart this manual)
- 4) left margin column number
 -for O-31 use this manual;
 -for 32-127 use HR-10 manual
- 5) FCTN r (escape; up arrow)
- 6) 9 (sets L margin on the Brother

The above is an example of this particular name brand and model printer only. Other printers have different procedures and it would be impossible, due to extreme length, to try to cover all of them in this manual. You will have to learn to use your own printer.

The chart on the following page lists the printer control codes for 0 through 31 for WORDWRITER. Your printer has a chart listing the control codes for 32 through 127.

The alphabetical index ("escape") explains how to do the codes, but not how to use them. Each printer is different, some having fewer features than others, some having the same features, but done different ways.

PRINTER CONTROL CODES

ASCII CODE	ACRONYM	FUNCTION	KEY	SCREEN DISPLAY
0	NULL	Null	SHIFT 2	0
1	SOH	Start Heading	" A	1
2	STX	Start Text	" B	2
3	ETX	End Text	" C	3
4	EOT	End Transmission	" D	4
5	ENQ	Enquiry	" E	5
6	ACK	Acknowledge	" F	6
7	BEL	Bell	" G	G
8	BS	Backspace	" H	H
9	HT	Horizontal Tab	" I	I
10	LF	Line Feed	" J	J
11	VT	Vertical Tab	" K	K
12	FF	Form Feed	" L	P _a
13	CR	Carriage Return	" M	C _r
14	SO	Shift Out	" N	N
15	SI	Shift In	" O	O
16	DLE	Data Link Escape	" P	P
17	DC1	Device Control 1	" Q	Q
18	DC2	Device Control 2	" R	R
19	DC3	Device Control 3	" S	S
20	DC4	Device Control 4	" T	T
21	NAK	Negative Acknowledge	" U	U
22	SYN	Synchronous Idle	" V	V
23	ETB	End Transmission Block	" W	W
24	CAN	Cancel	" X	X
25	EM	End Medium	" Y	Y
26	SUB	Substitute	SHIFT Z	Z
27	ESC	Escape	FCTN R	↑
28	FS	File Separator	" Z	+
29	GS	Group Separator	FCTN T	!
30	RS	Record Separator	SHIFT 6	■
31	US	Unit Separator	FCTN U	/

HELPFUL HINTS

After you reformat text WORDWRITER leaves one space between words and two spaces after a word ending with a period, i.e., the end of a sentence. If you reformat text that has a person's initials ending with a period you will need to delete the extra space after each period. Similarly, you will need to add a space after colons; WORDWRITER only leaves one space.

If you are typing with wordwrap on you do not need to leave two spaces after each sentence! One will do; when you finish typing, cursor up to the top and reformat from the margin (CTRL 2) and WORDWRITER will restructure so that two spaces come after each period. Make sure you put a `␣` at the end before reformatting.

If you are at the last line of the text buffer you will obtain a carriage return if you key Enter when wordwrap is on. If you are not at the end of the text buffer you will have to force in a carriage return by (1) having wordwrap on (2) keying FCTN 2 [insert] and (3) then keying in Enter.

You can type in the letter E (for end) when WORDWRITER asks for the last line number in a file. You can use this for Showlines, for instance, but it is more useful when merging two files front to back.

WORDWRITER uses 1 and 80 as the default margins. It is most convenient to type with margins of 1 and 34 so that you do not have to worry about windowing horizontally. This setting lets you keep the line numbers on the screen at all times and see all text at all times. If you prefer not seeing the line numbers you could set the margins at 1 and 40. When you are done typing and are ready to print reset the margins to a wider, normal width, then reformat.

You set margins through the prompts (Tajs) or directly, CTRL t. When you set the R margin you must cursor right to 34, then type in R. You cannot leave the former cursor at 80; the computer will be confused at having two right margins. You must erase the 80 R. Do not waste time cursoring over to it, though. Merely erase the remainder of the line with CTRL k.

WORDWRITER provides prompts via FCTN = or FCTN 9 for the novice. On many of the same commands an expert bypasses the prompts and enters the commands directly. Some commands are expert only; others are prompt only. Most commands are either/or (novice/expert, i.e., prompt or command).

The 99 keyboard is unconventional and a few characters are hard to obtain: to print the right-hand symbols ?, ', and " you must hold down the function key - also with your right hand. This is especially inconvenient if you are typing text which makes

extensive use of these characters. Luckily you can let WORDWRITER's SearchH feature help reduce this inconvenience. If you type in substitute symbols which are easier to reach (=, /, q, z) you can go back and change them one at a time or globally into the symbols you want. In this same manner you can write "dont, wont, cant", and so forth, adding the apostrophes later.

You can use the ReplaceString feature to delete the same item all over without leaving a space after it: /item//. There is no space between the second pair of slashes, so WORDWRITER leaves none. Similarly, do not forget to leave a space if you need it.

HELPFUL HINTS are limited only to your experience and imagination. We would like to solicit your comments in writing.

THE MISSING FORMATTER

Texas Instruments first sold TI-WRITER for \$100. It consisted of a manual, module, and a disk. Using it required a disk drive, disk drive controller, parallel interface, disk manager program on disk, 32K RAM memory expansion board, peripheral expansion box, and a few other accessories. The whole outfit retailed for \$1000 or more.

Using TI-W requires both the module and the disk. Today, public domain modifications of it let you use either an Extended Basic module or Editor/Assembler module instead of the TI-W module, but you must still use both disk and some sort of module.

WORDWRITER differs in that no expensive disk system is necessary, though one can be used if available. If you have a disk system you can buy an inexpensive copy of TI-W and use its Formatting program in conjunction with WORDWRITER.

WORDWRITER has only itself on the main menu screen because it lacks most of the features of TI-W's Formatter. TI-W has two menus: Editor and Formatter. When using TI-W you must type, load, and save new text files while in the Editor program. You can print as is or further modify the appearance of the text by loading the file in the Formatter and then printing it. The TI-W Formatter lets you do several things not available with WORDWRITER, the most notable being a smooth right margin (right margin justification via Fill and Adjust). Other abilities of the Formatter include automatic centering of a title line and automatic, sequential page numbering, either at the top (a header) or at the bottom (a footer) of the page.

Formatter commands are typed on blank lines and appear on screen when in the Editor; when processed through the Formatter they do not print. Instead, they instruct the printer to modify the

appearance of the text. Most of the Formatter commands in TI-W are "dot commands" consisting of a period preceding two capital letters.

The one dot command available in WORDWRITER is the chain print command. Many of the missing Formatter features can be done manually: nothing prevents you from centering a title if you wish to do so. You can also change margin width at will. Probably the one Formatter command missed by most and not presently available in WORDWRITER is the smooth right margin feature. But do not feel as though it is a great loss. First examine what a smooth right margin involves: to achieve it the Formatter puts extra spaces between words. In text with short column width the Formatter goes to extreme measures, leaving five (1) spaces between words. In other words, the TI-W Formatter does not "pack in" more text per line than does WORDWRITER.

Future versions of WORDWRITER may offer additional features, including the above. There are physical and financial limits to how much can be put into one module, i.e., no one would buy WORDWRITER if production costs required a \$200 retail price. Right now you are getting good return for your investment.

Another shortcoming of the Formatter is that it does not show on screen how text will appear once printed. To achieve "What you see is what you get" you must (1) create your file in the Editor, (2) save it, (3) load the Formatter, then (4) print the file. You can use a trick, though, by "printing the file to disk". The Formatter asks for a "device name". Usually you would type in PIO (parallel interface output) which activates your printer. However, you can tell the Formatter that your computer is a printer: if you name a new file name instead of PIO the Formatter will "print to disk". When you load that file and view it on screen it will look sort of the way it would if printed.

OTHER DataBioTics PRODUCTS
for the TI994/A

DataBioTics manufactures many other items for this supposedly discontinued computer. The company is one of the largest (if not THE largest) supplier of new software and hardware for the 99. Rather than taper off production, they are continuing to innovate; more products are available now than when TI alone controlled the market.

SUPERSPACE I (8K) and SUPERSPACE II (32K) modules are cartridges with built-in permanent, long-life batteries to store information. You can create your own cartridges. You can use it to copy all your cartridges and put the programs on a disk. Design your own menu loader for up to seven assembly language programs. It comes with two disks, Editor/Assembler GROM, an updated public domain TI-W (with formatter), a Macro Assembler, a "C" compiler, bitmap graphic demo. Requires disk and 32K.

SUPER 4TH is almost as fast as Assembly but easier to learn. SUPER 4TH supports speech and sound, multiple disk drives (including Hard Disk). Comes with Decompiler and 109 page manual. Requires SUPERSPACE I or II and disk system.

STAR RUNNER. You are a captive aboard the Starship Arcturus, laden with plundered treasure taken from your planet. Your mission...recover the stolen booty stored on all 25 decks of the starship, one deck at a time. Your only weapons are blinding speed and your blaster. Music, sound effects and colorful visual cues combine to make STAR RUNNER the best entertainment value ever for your 99/4A. Joysticks recommended.

JUNKMAN JR. The year...2487 A.D. The place...aging Planet Earth in the dying city of Burrwin, Illinois. You are collecting pollution for transport to an outer space junkyard. But you must listen for vicious micro-dogs. Only your agility will save you. Entertains with lively music, spritely action, imaginative graphics and sound. Joysticks recommended.

DESKTOP PUBLISHING will be available from DataBioTics. As of this writing the product is not ready for release. Tentative features include multiple column text, perfect for professional appearing newsletters. You will literally be able to print your own camera-ready pages to Xerox or to take to a print shop. Let your printer align columns perfectly without cutting and pasting. You will be able to add in line drawings or half tones from another source. Or, you will be able to use your own computer derived artwork. Use a daisy wheel or dot matrix printer.

For a complete list of products write:

DataBioTics
P.O.Box 1194
Palos Verdes Estates, CA 90274

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This product is yours - not ours - you paid for and you own it. You may sell this product without notifying us. However we retain copyright and other property rights in the program code and documentation.

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If the product is defective within the warranty period return it to us for a free replacement.

We cannot be responsible for any damage to your equipment, reputation, profit-making ability or mental or physical condition by the use or mis-use of this product.

Under no circumstances will we be liable for an amount greater than your purchase price.

Some states do not allow limitations on how long an implied or express warranty lasts, or the inclusion or limitation of incidental or consequential damages, so some of the above limitations or exclusions may not apply to you.

FEEDBACK

Customer comments are VERY important to us. Please let us know how you consider the product.

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