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INTRODUCTION TO WORD PROCESSING

A word processor is virtually the modern electronic successor to the conventional typewriter. Whether you're involved in creative writing, in preparing technical or business reports, or simply in writing numerous business letters, a word processor or "WP" lets you work faster, more efficiently and much more conveniently. After you've used one for even a short time, you'll wonder how you ever persevered with a conventional typewriter!

With a WP you key in your text material on a keyboard very similar to that on a normal typewriter. But it is not printed out on paper as you key it in; instead it is displayed on a TV-type video screen. You can make minor corrections to it as you are keying it in, and can also make more extensive changes once it is all stored in the processor's memory. You can fix spelling mistakes, delete wrong words, insert missing letters, words or even sentences -- and all with the touch of a few keys. You can throw away that eraser for ever!

Then, when you are happy with your "polished up" text, you can press another couple of keys and have the processor type the whole thing out automatically on paper.

That isn't all. With a WP you can also "save" your text on a magnetic disk or tape cassette, so that it can be retrieved and fed back into the processor at any future time. This lets you print out and save the draft copy of a report, for example, then feed it back in later to make any required corrections and print out the final version. Only the corrections have to be re-typed -- think of the time and tedium this saves compared with the conventional typewriter approach!

You can also use a WP as an "electronic notebook", using it to file away notes and ideas for later reference. For this sort of use of a WP, you don't even need a printer.

If you're familiar with computers, you'll no doubt realise from the above description that a word processor is basically a dedicated computer. Or in other words, a computer which is running a program specifically designed to manipulate strings of text. This means that almost any computer can be made to perform the functions of a word processor, simply by giving it the appropriate program.

The Dick Smith "WORP-1" Word Processor is just such a program, designed to run on either the Dick Smith System-80 or Tandy TRS-80 (Model 1, Level II) computers. It turns these machines into simple, easy-to-use but very practical word processors.

The WORP-1 Word Processor program is sold in two versions: One is a tape cassette version designed to run on a basic computer. The other version comes on a floppy disk and is designed to run on a more pretentious system. Both versions offer the same text editing and printing features.

WORP-1 AND WHAT IT CAN DO FOR YOU

WORP-1 is a low cost, easy to use and down-to-earth word
processing program designed to run on either the Dick Smith
System-80 or Tandy TRS-80 (Model 1, Level 2) computers. It has
been written in Australia, specifically to meet the needs of
Australian individuals and small business firms. Here are some
of its many outstanding features and functions:

* It handles documents, pages or letters of up to
         1300 words or 9000 characters in length
         (expandable to 2600 words/18000 chars).

* It has an automatic text wrap-around facility, so
         that you don't have to worry about the ends
         of lines when you feed in your text. If the
         last word in a line won't fit, WORP-1 will
         move it down to the start of the next line.
         Carriage returns aren't needed except at
         the end of paragraphs.

* It lets you do simple editing during text entry,
         using the "backspace/erase" key, so that
         you can correct many of the most common
         typing errors as they occur.

* It has a flashing cursor, to make it clear where
         the next character will go on the screen.

* It has full character-orientated delete and insert
         editing functions. These let you either
         remove or add in anything from a single
         character to as many as 255 characters --
         anywhere in the text, and with no hassle!

* It has auto-repeating cursor movement keys in edit
         mode: hold the keys down for more than a
         second, and the cursor moves continuously.

* It automatically converts the computer keyboard to
         normal typewriter mode, for more convenient
         operation. The keys feed in lower-case
         letters unless the shift key is used.

* It will work both with standard computers and with
         those fitted with a lower-case letters
         modification (but unmodified computers will
         not show lower-case letters on the screen).

* It allows line indenting using the TAB, "right
         arrow" or SHIFT and CTRL (or "down arrow")
         keys. Indent width is normally 5 spaces,
         but may be altered if desired.

* It has a user-formatted text option for flexibility
         in creating headings, data tables etc.

* It prints any text width from 1 to 60 characters, with lines automatically centred on the paper. (Maximum line width may be increased for use with 132-column printers.)

* It lets you print your text either "ragged right" or "justified". You can have the right-hand ends of the lines "as they come" (like this page), or with their ends lined up to make an even margin on both sides.

* It has a single/double line spacing option: you can print out the lines either as they are stored in memory, or with blank lines in between to space them out.

Additional features of the disk version of WORP-1:

* Storage for up to 8 separate documents per disk (using 40-track disk drives).

* Inbuilt disk copying facility.

* Saving and retrieval of documents by name (and the name may be up to 24 characters in length).

* Inbuilt directory of documents on disk.

* Will work with a single mini disk drive.

MINIMUM HARDWARE CONFIGURATION

In order to run WORP-1 on your System-80 or TRS-80 computer system, you will need at least the following hardware:

(a) For the cassette version:

1 x System-80 or TRS-80 computer with video monitor and 16K of RAM memory. If you have a TRS-80, you will also need a cassette recorder.

1 x 80- or 132-column printer, with cable. Either a dot-matrix or daisy-wheel type may be used, depending on the print quality desired.

(b) For the floppy disk version:

1 x System-80 or TRS-80 computer with video monitor and expansion unit, and provided with a total of at least 32K of RAM memory.

At least one 40-track floppy disk drive with daisy-chain cable and power supply.

1 x 80- or 132-column printer, with cable.

ABOUT WORP-1 AND LOWER CASE LETTERS

As they are supplied, model 1 System-80 and TRS-80 computers
are not capable of displaying lower case letters on their video
screens. However they can process the internal codes for these
characters, and feed them normally to a printer. So you can use
such machines for word processing with WORP-1, but you'll have
to type lower case letters in "blindly" as they'll all be
displayed on the screen in upper case (i.e., as capitals). If
you key in an upper case letter or two by mistake, you won't
find out until you print the text out on paper.

Needless to say, it will be more convenient and efficient to
use WORP-1 with a computer which is capable of displaying lower
case letters -- such as the System-80 model 1 when fitted with
the X-4020 Lower Case Mod Kit (available shortly).

With such machines, it will be necessary to ensure that the
additional lower-case software routines are "patched" into the
computer's operating system, in order to make the lower case
letters accessible to WORP-1. With the disk version of the
program this patching can be arranged to occur automatically
each time the program is loaded into the computer from your
disk, by modifying the disk's "auto-boot" sequence. How to do
this is explained in Appendix B at the rear of this manual.

ALTERING WORP-1'S BASIC TEXT PARAMETERS

As it is supplied to you, WORP-1 is set internally for the
basic text parameters normally required for most general
purpose word processing. This is to make it simpler and easier
to use. Specifically, the program is set for lines up to 60
characters long, centred on paper 80 columns wide. It is also
set to print out pages of 60 lines in length, and on single
sheets of paper. These settings basically suit it for printing
on "A4" sized paper sheets (210 x 297mm), as used for most
business letterhead stationery, reports and publications like
this manual. The <TAB> key (or its equivalent) is also arranged
to produce indents and spaces which are 5 characters long.

  Normally you should find these settings suitable for almost
every situation, but there may be occasions when you would like
to change them temporarily. How to do this is explained in
Appendix C, again at the rear of this manual.

MODIFYING WORP-1 FOR A MACHINE WITH 48K OF RAM MEMORY

As supplied, the disk version of WORP-1 assumes that you have
only 32K of RAM memory in your computer, so it limits your
documents to a maximum of 1300 words or 9000 characters.
However if you have 48K of memory, the program can easily be
changed to let you assemble in memory documents of up to 3000
words or 20000 characters. Details of this modification are
given in Appendix D, also at the end of this manual.

HOW TO USE YOUR WORP-1 WORD PROCESSOR

The remainder of this manual is devoted to showing you how to use your WORP-1 program for day-to-day word processing. As explained earlier, there are two versions of the program: the cassette version and the disk version. This manual covers both versions, and does not differentiate between the two in those areas where they operate in identical fashion -- which are basically all sections which deal with text entry, editing and printing. The two versions are only discussed separately in sections which either apply only to one version (like making a "backup" copy of your disks), or where the two versions are used in different ways (like saving and retrieving your text).

1. GETTING STARTED: LOADING WORP-1 INTO THE COMPUTER

Before you can do any work with WORP-1, you have to load it into your computer and set it running. Exactly how you do this depends upon which version of the program you are using.

For the cassette version: First turn on the power to your video monitor, to your printer (if you are using one), and then to the computer itself. You should be greeted by the usual turn-on message; simply hit the <NEW LINE> or <ENTER> key, and the computer will give you the BASIC prompt message:

        READY
        >_

Now take your tape cassette carrying WORP-1, and check that it is (a) fully rewound to the start; and (b) wound forward past the plastic leader, to the start of the actual tape. If necessary, perform step (b) with a pencil or ballpoint pen.

If you are using a System-80 computer, make sure at this stage that the "F1" button is in the UP position. Now place the cassette in the tape deck or recorder, and press the PLAY key down. Then key in the following command:

        CLOAD

and enter it by pressing the <NEW LINE> or <ENTER> key. The tape will begin moving, and WORP-1 should be loaded into the computer. It will take a little more than 2 minutes to load in, with the usual pair of asterisks (one flashing) up in the top right-hand corner of the screen.

When the loading is complete, you will get the BASIC prompt message again. All you need to do then to start WORP-1 running is type in the command:

        RUN

followed again by hitting the <NEW LINE> or <ENTER> key. But note that if your computer is fitted with a modification for

the display of lower-case letters, you may need to key in a
couple of additional commands before entering the RUN command.
See Appendix B at the rear of this manual for more details.

For the disk version: First turn on the power to your disk
drives, to the printer, to the video monitor, and to the
expansion unit -- in that order. Then take your copy of the
WORP-1 disk, and check that it has a "write protect" tab over
the notch on the side of the sleeve. If it hasn't, fit one
immediately to ensure that this disk cannot be accidentally
over-written or erased (it will only be used as your master
copy, from which working disks are made, and will never be
written upon).

Now put the disk into your disk Drive 0, label uppermost and
with the central slot in the sleeve towards the rear, and shut
the drive latch. Then simply turn on the power to the computer,
and the disk's "auto-booting" facility will cause WORP-1 to be
loaded into the computer and set running.

Note that if your computer is fitted with a lower-case letters
modification, you won't get lower-case letters at this stage.
However when you have made your first working disk, you can
easily modify the new disk's auto-booting so that it
automatically patches in the lower-case software as part of the
loading sequence. More about this soon.

2. RUNNING -- WORP-1'S MAIN MENU

As soon as WORP-1 begins running, it presents you with its Main
Menu. This gives you a list of all the main functions which the
program can perform. Here is the Main Menu for the disk version
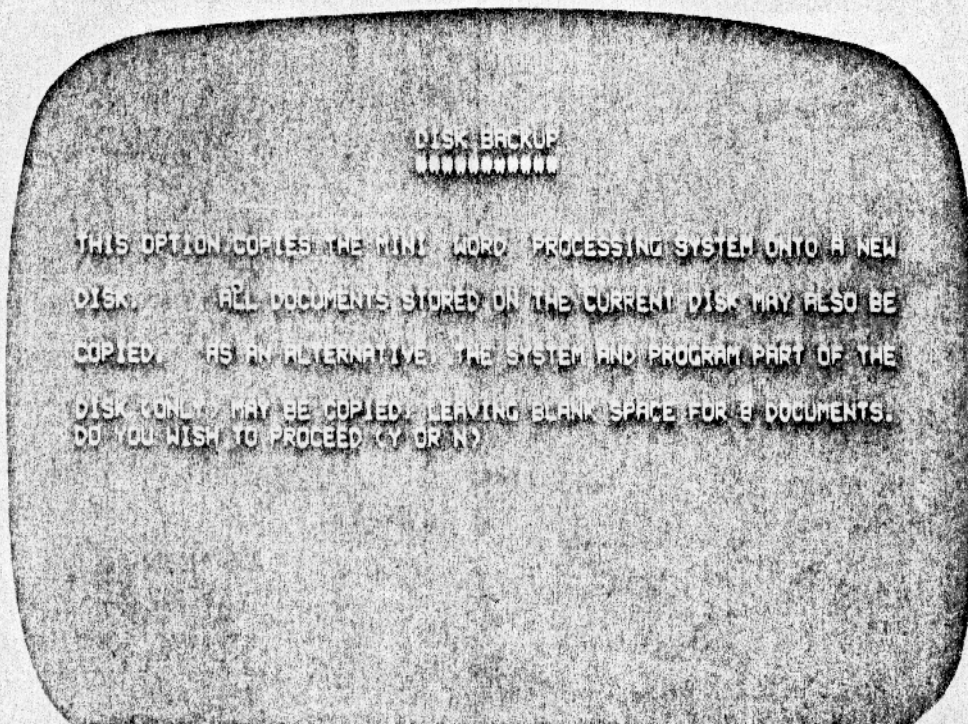of the program:
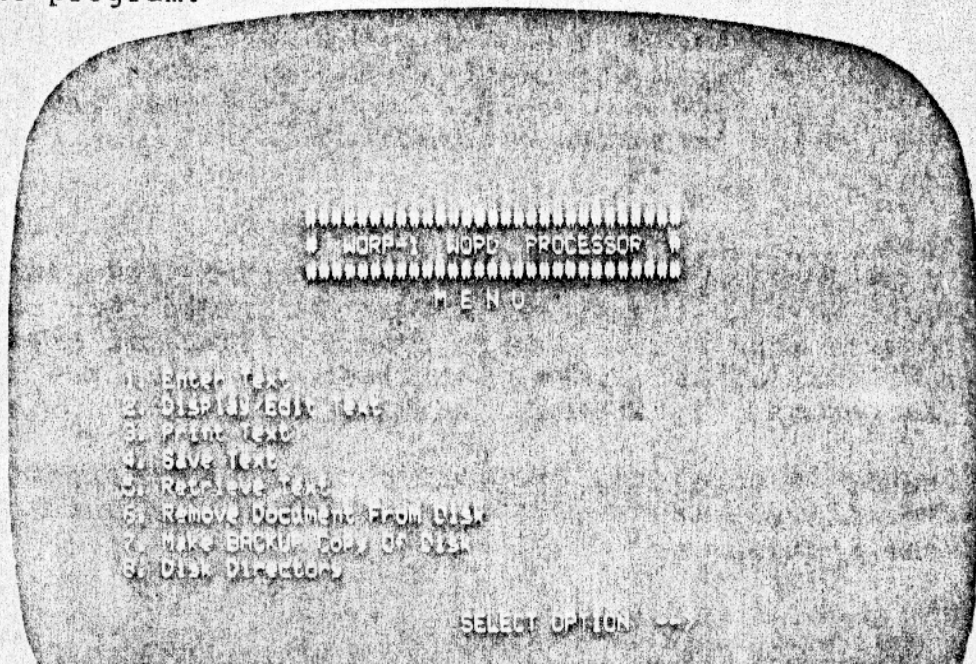
The menu for the cassette version is similar, but provides only
the first five functions as the others are not appropriate.

As you can see, the menu gives you the choice of entering new
text from the keyboard, displaying and/or editing text after
you have entered it (or retrieved it from disk or tape),
printing it out, saving it, retrieving it, and then the three
options which apply only to the disk version: removing a
document from the disk, making a "backup" copy of a disk, or
displaying the directory of the documents currently on the
disk. To select the option you want, you simply key in the
appropriate number as indicated.

At this stage, people who are using the disk version of WORP-1
should make a working disk from their master disk, to protect
it from mishaps. This will now be described; those using the
cassette version can skip the following section and go straight
to section 4.

3. MAKING A WORKING DISK (DISK VERSION ONLY)

To make a working copy of your WORP-1 master disk, select the
"Make BACKUP Copy of Disk" option by pressing the <7> key in
response to the main menu. This will bring up the following
message:


```
                    DISK BACKUP

     THIS OPTION COPIES THE MINI  WORD  PROCESSING SYSTEM ONTO A NEW
     DISK.       ALL DOCUMENTS STORED ON THE CURRENT DISK MAY ALSO BE
     COPIED.   AS AN ALTERNATIVE  THE SYSTEM AND PROGRAM PART OF THE
     DISK ONLY  MAY BE COPIED  LEAVING BLANK SPACE FOR 8 DOCUMENTS.
     DO YOU WISH TO PROCEED (Y OR N)
```

Since you do wish to proceed, press the <Y> key. You will then
be asked:

    ARE CURRENT DOCUMENTS TO BE COPIED ONTO NEW DISK (Y OR N):

Press the <Y> key again, as there is a sample document on the
master disk which you may wish to retrieve and look at later
on. Now you will be asked to give the drive number for the
source disk to be used in the copying process:

    SOURCE DRIVE NUMBER . . . 0,1,2 OR 3 THEN <NEW LINE> ?

Press the <Ø> key, followed by <NEW LINE> or <ENTER>. You will
then be asked to give the drive number for the "destination"
disk (the new copy):

    DESTINATION DRIVE NUMBER ...Ø,1,2 OR 3 THEN <NEW LINE> ?

If you have only the one disk drive, press the <Ø> key again,
and then <NEW LINE> or <ENTER>. But if you have two drives,
press the <1> key ONLY and skip to the right section below.

If you have only one disk drive, you will now be asked to put
the "source" disk in Drive Ø, and then hit the <NEW LINE> or
<ENTER> key. Since your source disk in this case is to be the
WORP-1 master disk, and it is already in Drive Ø, you only have
to hit the <NEW LINE> key.

The program will then read in some of the data from the master
disk (an asterisk will flash in the top right-hand corner of
the screen), store it in memory and then ask you to put the
"destination" disk into Drive Ø. So remove the WORP-1 master
disk from the drive, and replace it with a fresh, blank
diskette (soft sector type, DSE Cat. No. X-351Ø or similar).
Then hit the <NEW LINE> or <ENTER> key.

The program will then "format" the new disk, to prepare it for
receiving the copying information, and display the message:

            FORMATTING DESTINATION DISK

The formatting should take around 9Ø seconds, during which time
nothing will happen on the screen. Then an asterisk will appear
in the top right-hand corner, as the already-read block of data
from the master disk is written onto the new disk. When this
has been completed, you will be asked to re-insert the master
(source) disk again, to read another block. Then you will be
asked to put the new (destination) disk in again, to receive
that block, and so on.

You'll find yourself swapping the two disks back and forth,
until the copying is completed -- a little tedious, but the
only way around this is to get yourself another disk drive! The
main thing to watch is that you don't get out of step, and put
the wrong disk in at the wrong time (the program will pick this
up quickly if you do, but you'll have to start all over again).

If you have two disk drives, the copying will be considerably
faster and less tedious than for one drive. Simply leave your
WORP-1 master disk in Drive Ø, and place a fresh soft-sector
disk (X-351Ø or similar) into Drive 1. Then press the <NEW
LINE> or <ENTER> key, and the program will do the rest. It will
first format the new disk, then automatically perform a series
of "reads" from Drive Ø and "writes" to Drive 1, until the
copying is completed. The whole thing will take about 2-1/2
minutes, and will tell you when it is finished.

With either one or two drives, at the end of copying you will

be asked to replace a disk containing WORP-1 in Drive 0, before continuing. As you have now produced your first "working" disk, this will be the disk to place in Drive 0; however before you do so, it would be a good idea to provide it with a suitable label. Use a soft felt pen to do this, if you write directly on the disk sleeve, otherwise use an adhesive label and write on it before sticking it on. Don't forget to put your WORP-1 master disk away in a safe place.)

Having placed your working disk in Drive 0, you can now press the <NEW LINE> or <ENTER> key. This will then return you to WORP-1's main menu.

4. NORMAL OPERATION -- ENTERING NEW TEXT

To enter new text into WORP-1, select the text entry mode from the main menu by pressing the <1> key. The screen will immediately clear, and all you will see is the flashing cursor up in the top left-hand corner of the screen. You can then start to type in your new text.

As you type it in, WORP-1 will look after the ends of lines for you. Simply type the words in, and you'll see it "wrap around" to the next line as each line is filled. If a word won't fit at the end of a line, it is moved in full down to the start of the next. So you don't need to worry about hyphenation, and you only need to put in carriage returns (which are produced by pressing the <NEW LINE> or <ENTER> key) when you want to deliberately end a line -- for example at the end of a paragraph or heading.

By the way, WORP-1 won't let you type in faster than about 35 words per minute. This is because it is written in BASIC, and needs a few milliseconds to store away each character and do other "housekeeping" chores. But you shouldn't find this a problem unless you're a high-speed touch typist.

If you make errors as you are typing the text in (don't we all!), and you spot them straight away or soon after, you can easily fix them. This is done simply by using the <BACK SPACE> or <←> key, which functions as an "erasing backspace" in this text input mode. Keep hitting the key until you have erased back to, and including the wrong character, then simply resume normal typing again.

If you need to erase back over quite a few words, you can do this faster by holding down the <SHIFT> key. The <BACK SPACE> or <←> key will then erase a whole word each time it is pressed, instead of just a single character!

Note, however, that the <BACK SPACE> key can only be used to erase back to the start of the line before the point that you had reached when you spotted the error. In other words, it can only be used to correct errors in the "current" line and the line before it. To correct any errors earlier than that, you

have to wait until you have entered the text, and then go into the EDIT mode. This is explained shortly, in section 7.

If you need to indent or "space in" the start of a line, this is done by using the <TAB> or <→> key (or with earlier System-80 machines, by holding down the <SHIFT> key and pressing the <CTRL> key). When you press this key, WORP-1 will automatically insert five special graphics characters into your text. Note that while the inserted characters produce graphics on the screen, they print out as normal spaces.

The <TAB> key can be used repeatedly to give larger indents; each time it is pressed you get the equivalent of 5 spaces. Conversely if you want fewer than 5 spaces, you can press the key once, then use <BACK SPACE> or <←> to erase some of the graphics characters. The <TAB> key can also be made to give a different number of spaces permanently -- see Appendix C.

Note, however, that you should NOT try to produce indents and other long spaces by simply pressing the keyboard's normal space bar the required number of times. This will appear to do the job, but because of the way WORP-1 works, the multiple spaces will "collapse" into a single space when your text is saved on disk or cassette. So to avoid problems, get into the habit of using <TAB> or <→> (or <SHIFT> & <ESC>)!

The only time that the normal space bar can be used to make multiple spaces is when you are in user-formatted text mode:

User-Formatted Text Input Mode This is a special mode of text entry provided by WORP-1 to allow you to produce headings, tables, etc., more easily. You enter this mode by pressing the <CTRL> or <↓> key at the start of a new line (i.e., just after you have pressed the <NEW LINE> or <ENTER> key). The cursor will stop flashing, to remind you that you are in this special mode, but you can enter any characters you like -- including multiple spaces, using either the space bar or <TAB> key.

Note, however, that in user-formatted text mode the keyboard reverts to computer format: the keys give upper-case (capital) letters, unless the <SHIFT> key is used. This is because WORP-1 assumes that you will mainly use this mode for headings.

User-formatted text mode is terminated automatically when you press the <NEW LINE> or <ENTER> key. This returns you to normal text entry mode.

RETURNING TO THE MAIN MENU

When you have finished entering your new text, hold down the <SHIFT> key and press the <ESC> or <↑> key. This will make WORP-1 exit from its text entry mode, and return you to the main menu.

The combination of <SHIFT> and <ESC> or <↑> keys is in fact the

common "escape" code used in all of WORP-1's main operating modes, so it is an important one to remember. No matter what mode you're in, simply holding down the <SHIFT> key and pressing the <ESC> or <↑> key will let you escape.

5. ADDING NEW TEXT TO EXISTING TEXT

If you want to add to some text that is already in WORP-1's memory, simply select the ENTER TEXT mode again by pressing the <1> key in response to the main menu. It doesn't matter if the existing text was entered from the keyboard, or retrieved from disk or cassette.

If you select the ENTER TEXT mode and there is already some text in its memory, WORP-1 will simply ask you:

  DO YOU WISH TO ADD ONTO EXISTING TEXT? (Y OR N)

Fairly obviously, you press the <Y> key if you want to add the new text onto what's already there. The program then sets up its cursor at the start of the next line, and away you go...

By the way, if you press the <N> key instead of the <Y> key in response to the above question, WORP-1 will assume that you want to "forget" the existing text, and replace it altogether. This is in fact the way to "kill" the existing text, and start on a new document.

So be careful which key you hit -- pressing the wrong one could be embarrassing, if you haven't got a copy of the existing text on disk or cassette!

6. DISPLAYING THE TEXT IN WORP-1'S MEMORY

To display the text in WORP-1's memory, select the DISPLAY/EDIT mode by pressing the <2> key in response to the main menu. The program will respond by displaying the first 15 lines of your text (or the whole text, if it is only 15 lines or less), on the screen.

At the bottom of the screen you will also be presented with a "mini-menu":

          <B> <F> <E> <SHIFT/UP>   SELECT OPTION --> _

As you can see, it gives you four options, of which the last is simply that of "escaping" to the main menu by holding down the <SHIFT> key and pressing the <ESC> or <↑> key. The first three options are as follows:

<B> Hit this key to "scroll" BACK in the text (i.e., to look at
        the previous 15 lines). Needless to say, you can't
        scroll back if you're already at the start of your
        text; if you try, you'll simply get a curt reminder

that you're at the START OF TEXT. But there's no harm
done; WORP-1 simply waits for you to try again.

<F> Hit this key to "scroll" FORWARD in the text (i.e., to look
     at the next 15 lines). Again, you can't do this if
     you're already at the end of your text. If you try to
     do so, you'll again get a curt reminder that you're
     already at the END OF TEXT.

<E> This is the key to hit if you want to enter the EDIT mode,
     to make corrections to the 15 lines of text currently
     displayed on the screen. This mode is explained
     further in the next section.

7. EDITING TEXT IN MEMORY

When you enter the EDIT mode by pressing the <E> key after
displaying 15 lines of your text in memory, the first thing
that WORP-1 does is put a set of line numbers down the left-
hand side of the screen. Then it asks you to indicate which
line you want to do your editing in:

            GIVE LINE NUMBER.... & <NEW LINE>: _

In response to this you type in the appropriate line number,
following it with <NEW LINE> or <ENTER>. WORP-1 will then clear
the rest of the lines from the screen, leaving the one you want
in the middle. You can then perform your editing, as follows.

To move the cursor forwards along the line, press the <TAB> or
<→> key, or on older System-80 machines the <SHIFT> and <BACK
SPACE> keys. Holding this key or keys down for more than a
second will cause the cursor to move automatically along the
line, until you release the key.

To move the cursor back along the line, press the <←> or <BACK
SPACE> key. Again holding this key down for more than a second
will cause the cursor to move automatically.

Note that these two cursor movement keys only perform this
"auto-repeat" function in EDIT mode. Note also that both keys
are able to make the cursor "wrap around" at the end of the
line: if the cursor reaches the end of the line and you still
hold the key down, the cursor will "flip" to the other end.
This is worth remembering as it lets you get from one end to
the other faster than by moving right along the line.

When you have brought the cursor to the place where you want to
do your editing, just "overtype" to make changes to characters.
For more drastic changes you have the following options:

To erase a character or characters, hit the <CTRL> or <↓> key.
Each time you do this, the character currently under the cursor
will be replaced or "blanked out" with a graphics block. When
you ultimately return to the Display mode, these graphics

blocks disappear, and the text "closes up" to fill the holes produced by erasing the original characters.

To insert a character or characters, hit the <ESC> or <↑> key. This will "open up" the current line, to let you type in extra text. The line is opened up immediately following the current position of the cursor.

You can insert as many as 255 characters in this fashion -- i.e., approximately 4 lines of text. If you need to insert more text than this, you'll have to exit the insert mode to the display mode, and then re-enter it again for another go.

Note that inserted text is added immediately onto the end of the text before the breakpoint, so that you may have to key in spaces in order to prevent words from running together. Note also that if you want to force a carriage return or new line as part of your inserted text, by using the <NEW LINE> or <ENTER> key, this should be done at the end of the preceding line rather than the start of the following line. Otherwise you may find that WORP-1 transfers the first word of the following line into your new line.

To leave the EDIT mode and return to DISPLAY mode, after either deleting or inserting characters, hold down the <SHIFT> key and press the <ESC> or <↑> key. WORP-1 will then display the 15 lines that were being displayed when you went to EDIT mode, with your corrections now incorporated. But note that if you inserted characters, there will be a small delay in returning to the display mode, as WORP-1 does internal housekeeping. Just to let you know what is going on, it will display the message:

RE-SEQUENCING TEXT

This will only take a few seconds, after which time the corrected text will be displayed on the screen.

8. PRINTING OUT TEXT FROM MEMORY

To print out your text on paper after having edited it into its final form, select the PRINT TEXT mode from the main menu by pressing the <3> key. You will then be asked to specify the line width you want:

HOW MANY CHARACTERS WIDE (MAX. 60) ? _

Here you simply type in the number of characters you want in the lines -- any figure between 1 and 60, followed by pressing the <NEW LINE> or <ENTER> key. Regardless of the figure you choose, the text will be centred for paper 210mm wide.

When you reply to this first question you are then asked:

DO YOU WANT RIGHT MARGIN JUSTIFIED (Y OR N)? _

Here your reply will depend upon the type of printout you want.
If you want it "justified", with the right-hand ends of all
full lines aligned to produce even margins on both sides (like
this particular paragraph), press the <Y> key. Conversely if
you want the right-hand ends of the lines to be printed "as
they come", or "ragged" (like the rest of this manual), press
the <N> key. In either case, to end your reply hit <NEW LINE>
or <ENTER>. You will then be asked the further question:

DO YOU WANT DOUBLE SPACING? (Y OR N) ?

This should be fairly self-evident. If you want normal
printout, with the lines single spaced, press the <N> key. But
if you want double spacing, with the lines separated by blank
lines, press the <Y> key instead.

Before going further, make sure that you have a sheet of paper
in your printer. Also check that the printer is turned on, and
that it is in the "SELECTED" or "ON LINE" mode. Then hit the
<NEW LINE> or <ENTER> key, and printing will commence. Just to
reassure you, the message

** PRINTING **

will appear on the screen. This is also to allow you to
trouble-shoot if things grind to a halt: it shows that WORP-1
is trying to print out your text, so that if nothing happens
you can look for things like the printer not turned on, or out
of paper or ribbon etc.

Note that if you select justified printout, WORP-1 prints more
slowly than if you select ragged printout. This is because in
this mode it has to do some calculations before printing each
line, to work out how many words can be fitted in and how many
spaces must be added between them to bring the line up to the
specified width.

Note also that because WORP-1 is written in BASIC, there can
from time to time be mysterious "pauses" when you are printing
out justified text. These pauses can last from about 10 to 80
seconds, and depend upon the length of your document; they are
quite normal, and are not actually caused by WORP-1 itself.
Level 2 BASIC has an internal "garbage collector", which
periodically has to "tidy up" and consolidate its stored
strings when certain types of user program are being run. When
this "garbage collection" takes place, the user program appears
to "go dead" for a while.

These pauses can also occur during document saving, retrieving
and editing. When they occur don't panic; just wait a while and
WORP-1 will soon spring into life! Remember too that the
shorter your documents, the shorter will be any delays...

To abort printing at any time, simply press any of the normal
character keys on the keyboard (but not the <BREAK> key).
Printing will then stop at the end of the current line.

A further note about printing. As mentioned earlier, WORP-1 as
supplied is designed to print on "A4" sized paper sheets.
Because of this it automatically pauses after printing 60
lines, to allow you to change paper. When you have positioned a
new sheet in the printer, simply press the space bar on the
keyboard and printing will continue.

If you are using continuous stationery rather than single
sheets, WORP-1 can be modified quite easily to match as
explained in Appendix C. This also explains how to change the
number of lines printed on single sheets before pausing, from
the existing figure of 60. So you can adapt it not only to
different paper sizes, but to continuous stationery as well.

9. SAVING YOUR TEXT ON DISK (DISK VERSION ONLY)

When your text is in memory, it may be saved on disk for
retrieval at a later session with WORP-1. This may be done
either before or after it is edited, and whether you have
printed it out or not. To select the SAVE TEXT mode, press the
<4> key in response to the main menu. You will be given the
opportunity to escape back to the main menu (in case you have
pressed the <4> key by mistake), and also asked to provide a
document name for the text to be saved:

        NAME OF DOCUMENT (MAX. OF 24 CHARS) ? _

Here, as the program itself reminds you, you can provide your
text with any convenient name up to 24 characters long, in
contrast with many other word processors which allow names of
only 8 characters or less. So with WORP-1 you don't have to
compress the document's real name into a single cryptic word;
you can have names like MEMO TO ALL MANAGERS, or SECOND AND
FINAL NOTICE.

Note that if you are re-saving a document that is already on
the disk, and you only want to save the new version, you don't
have to think up a different name. Simply specify the same name
as before and WORP-1 will automatically replace the old version
on the disk with the new.

If on the other hand you want to leave the original version on
the disk and save the new version as well, you will have to
think up another name.

Once you have typed in the document name for the text to be
saved, check that your current working disk has no write-
protect tab, is in Drive 0, and that the drive latch is closed.
Then press the <NEW LINE> or <ENTER> key. WORP-1 will then save
your text on the disk. As it does so, an asterisk will flash in
the top right-hand corner of the screen.

Note here that WORP-1 can store only 8 documents per 40-track
disk. If you already have 8 documents on the current disk and
try to save another, it will advise you accordingly by display-

ing the following message on the screen:

DISK FULL - 8 DOCUMENTS ON DISK ALREADY.
COPY WORD PROCESSOR ONTO A NEW DISK AND THEN SAVE YOUR
TEXT ON NEW DISK (YOUR TEXT REMAINS UNALTERED WHILE YOU MAKE
A DISK COPY VIA MENU OPTION 7).
ALTERNATIVELY YOU MAY WISH TO DELETE AN UNWANTED DOCUMENT FROM
THE DISK VIA MENU OPTION 6 (TEXT STILL REMAINS UNALTERED).
HIT <NEW LINE> TO CONTINUE.

As you can see, it gives you the option of either making a new
working disk and saving your new document on that, or of
deleting an existing document from the present disk and saving
the new document in its place. The choice is up to you --
either way, WORP-1 lets you do it without disturbing your text
currently in memory, by taking you back to the main menu.

A further point. If you tell WORP-1 to save your text and
during this operation it finds that the text exceeds its limit
of 9000 characters/1300 words, it will save as much as it can
of the text and then display the following message:

        DISK FILE SIZE EXCEEDED. DOCUMENT TRUNCATED

This lets you know that not all of your text was able to be
saved on disk as a single document. If it is essential to save
all of the text, you will have to split it into two and save
the two as separate documents.

Note that if you are using a machine with 48K bytes of RAM
memory, WORP-1 can be modified to cope with documents of up to
18000 characters/2600 words in length. This is explained in
Appendix D.

10. SAVING YOUR TEXT ON TAPE (CASSETTE VERSION ONLY)

Like the disk version, the cassette version of WORP-1 lets you
save your text for retrieval at a later session, but in this
case the text is saved on cassette tape. To select the TEXT
SAVE mode, press the <4> key in response to the main menu. You
will be given the opportunity to escape back to the main menu
(in case you have pressed the <4> key by mistake), and then
asked to provide a document name for the text to be saved:

        NAME OF DOCUMENT ? _

Here you can give a name of any length up to 24 characters.
Then press the <NEW LINE> or <ENTER> key, whereupon WORP-1 will
give you the following prompt message:

        PRESS <PLAY> & <RECORD> ON TAPE DRIVE
        HIT <NEW LINE> KEY WHEN READY

At this stage you should remove your WORP-1 program cassette
from the recorder, and replace it with a suitable blank data

cassette (a C-10 or C-12 cassette is ideal). Make sure that it
has been rewound, then wound forward to the start of the actual
tape (i.e., just past the plastic leader). Then press the
<PLAY> and <RECORD> keys on the tape deck or recorder, and
finally hit the <NEW LINE> or <ENTER> key. Your text will then
be saved, with the following message displayed:

           ** SAVING DOCUMENT **

Note that with this version of WORP-1 there is actually no
limit to the number of documents that can be stored on a single
cassette. However as the program itself doesn't keep track of
where the documents are stored, and relies upon you to do this,
it is usually best to save a single document per cassette side.
Hence the suggestion that you use C-10 or C-12 cassettes.

Note also that this version of WORP-1 does take a fairly long
time to save a document, with frequent pauses between its
activation of the tape drive. So this function is best selected
when you are ready to leave the keyboard for a while, to go and
have a cup of coffee or attend to a call of nature!

11. RETRIEVING YOUR TEXT FROM DISK (DISK VERSION ONLY)

Needless to say, WORP-1 allows you to retrieve documents you
have saved on disk, and load them back into memory. You select
this function by pressing the <5> key in response to the main
menu. You will then be given the option of escaping back to the
main menu (in case you pressed the <5> key by mistake), and
then asked to specify the document name of the text to be
retrieved:

           NAME OF DOCUMENT ? _

At this stage you should check that Drive 0 contains a disk
with the required document on it, then type in the exact name
given to the document when you saved it. End up in the usual
way by pressing the <NEW LINE> or <ENTER> key, and WORP-1 will
start to retrieve your document by searching the disk for the
specified name.

If it cannot find the name you have specified, it will display:

           [your specified name] IS NOT ON DISK

and will then give you the option of escaping to the main menu
again (perhaps to look at the disk's directory -- see section
15), or having another try at specifying the name.

Assuming it finds the specified name on the disk, the next step
depends upon whether or not there is any other text currently
in the computer's memory. If there is such text, it will now
ask you the following question:

    DO YOU WISH TO ADD [doc name] TO EXISTING TEXT? (Y OR N) ? _

This gives you the option of either killing the original text in the computer's memory and concentrating solely on that newly retrieved, or of combining the newly-retrieved text with that already in memory to produce a single longer document. Simply press the <N> key to kill the original text, or the <Y> key to combine the two. Retrieval will then take place.

If there was no existing text in memory, retrieval will have taken place automatically. Either way, WORP-1 will return you to the main menu when all of the desired document has been loaded into the computer's memory.

12. RETRIEVING YOUR TEXT FROM TAPE (CASSETTE VERSION ONLY)

Like the disk version of WORP-1, the cassette version also allows you to retrieve your saved documents, and again you select this function from the main menu by pressing the <5> key. You then receive the following prompt message:

PRESS <PLAY> ON TAPE DRIVE

At this stage you should insert the cassette which contains the document you wish to retrieve into the tape deck or recorder, with the tape positioned just before the start of the document. Then press the <PLAY> key of the deck or recorder. WORP-1 will then roll the tape, and retrieve the name of the first document it finds. But before proceeding, it checks whether or not there is any text currently in memory. If there is, it gives you the option of either "killing" it, or of combining the newly-retrieved text with it to form a single longer document:

DO YOU WISH TO ADD [doc name] TO EXISTING TEXT? (Y OR N) ?

Press the <Y> key to combine the two, or the <N> key to kill the old text and concentrate only on the new.

Following your reply, or if there is no existing text, it will ask you to confirm if the document found is really the one you want to retrieve, by displaying:

DOCUMENT FOUND IS [document name]
OK TO CONTINUE (Y OR N) ?

If the name displayed is indeed that of the document you want, press the <Y> key and it will now be loaded into memory. When it is all in memory, you will be returned to the main menu.

If the displayed document name is not that of the one you want, you should press the <N> key, which returns you directly to the main menu to decide what you want to do next. If you wish, you can locate the next document on the tape and have another try, by again selecting the RETRIEVE TEXT option.

The RETRIEVE TEXT function is the last option provided by the cassette version of WORP-1.

13. REMOVING A DOCUMENT FROM YOUR DISK (DISK VERSION ONLY)

The disk version of WORP-1 provides a built-in facility for
deleting any document stored on a working disk. To select this
option, press the <6> key in response to the main menu. The
program will first give you the opportunity to escape back to
the main menu (in case you pressed the <6> key by mistake),
then ask you to nominate the document to be deleted:

        NAME OF DOCUMENT ? _

Type in the name, ending up with the <NEW LINE> or <ENTER> key.
WORP-1 will search the disk in Drive Ø for a document bearing
this name. If it finds the document it will effectively remove
it from the disk, and indicate this by displaying its name
together with the flashing word "REMOVED" for a few seconds.
Then you will be returned to the main menu.

If WORP-1 cannot find the document of that name on the disk, it
will display:

        [document name] IS NOT ON DISK

and will give you the option of either having another try, or
escaping back to the main menu.

14. MAKING WORKING & "BACKUP" DISKS (DISK VERSION ONLY)

This function of WORP-1 has already been covered in the
discussion of section 3 concerning how to make your first
working disk from the master disk supplied with this manual.
Further working disks and "backups" or safety copies are made
in exactly the same fashion, by selecting the <7> option in the
main menu and using either your WORP-1 master disk or an
existing working disk as the "source" disk.

As before you will be given the choice of producing a new disk
with either the WORP-1 program alone, or with the documents on
the source disk as well:

    ARE CURRENT DOCUMENTS TO BE COPIED ONTO NEW DISK (Y OR N):_

To produce a new working disk, press the <N> key. On the other
hand if you want a "backup" copy of the existing disk, for
safety purposes, press the <Y> key instead.

15. DISPLAYING A DISK'S DIRECTORY (DISK VERSION ONLY)

The final main menu option provided on the disk version of
WORP-1 is that of displaying the directory of documents which
have been saved on the disk currently present in Drive Ø. To
select this option, press the <8> key. A list of the names of
documents on the disk will then be displayed. To return to the
main menu, press the <NEW LINE> or <ENTER> key.

APPENDIX A: SUMMARY OF WORP-1's COMMANDS

Below is a summary of the various command key functions used in
WORP-1's different operating modes.

1. General code to escape to main menu:

        `<SHIFT>` and `<ESC>` key or `<SHIFT>` and `<↑>` key

2. Control keys in ENTER TEXT mode:

`<NEW LINE>` or `<ENTER>` key	-- end of paragraph
`<BACKSPACE>` or `<←>` key	-- erase last character
`<SHIFT>` and `<BACK SPACE>` or `<SHIFT>` and `<←>`	-- erase last word
`<↓>` or `<CTRL>` after `<NEW LINE>` or `<ENTER>`	-- enter user-formatted text mode
`<TAB>` or `<SHIFT>` and `<CTRL>`	-- indent 5 spaces
`<SHIFT>` and `<↑>` (or `<ESC>`)	-- end text entry

3. Control keys in DISPLAY TEXT mode:

`<F>`	-- Scroll forward to next 15 lines
`<B>`	-- Scroll back to previous 15 lines
`<E>`	-- Enter TEXT EDIT mode
`<SHIFT>` and `<↑>` (or `<ESC>`)	-- back to main menu

4. Control keys in TEXT EDIT mode:

`<→>` or `<SHIFT>` and `<BACK SPACE>`	-- move cursor right
`<←>` or `<BACK SPACE>`	-- move cursor left
`<↓>` or `<CTRL>`	-- erase character
`<↑>` or `<ESC>`	-- insert text
`<SHIFT>` and `<↑>` (or `<ESC>`)	-- return to DISPLAY TEXT mode
(any normal key)	-- overtype

5. Control keys in PRINT TEXT mode:

    To abort printing at any time, hit the keyboard's
space bar or any other normal printing key (but NOT
the `<BREAK>` key). Printing will terminate at the end
of the line which is currently being printed.

APPENDIX B: MODIFYING WORP-1 FOR COMPUTERS WHICH CAN DISPLAY

LOWER-CASE LETTERS

As it is supplied, WORP-1 assumes that you are using a "standard" Mark 1 System-80 or TRS-80 which is not capable of displaying lower-case letters on the screen. It therefore makes no attempt to provide for display of lower-case letters as part of its initial "setting up".

This means that even if your computer is fitted with the necessary hardware to display lower-case letters, these won't be displayed by WORP-1 as it stands. You will have to make minor modifications, which do the required setting-up each time the program is loaded and run. Basically this involves "patching" additional instructions into the keyboard and display driver routines in the computer's Level 2 BASIC ROMs.

The exact modifications necessary to do this will depend upon which computer you have, which lower-case circuit hardware it is fitted with, and the version of WORP-1 you are using. For practical reasons, we can't deal here with every combination of these variables. So we'll describe what needs to be done with the System-80 computer, when fitted with the X-4018 Lower Case Mod Kit, for both the disk and cassette versions of WORP-1. Hopefully this will give you a good idea of what needs to be done, so that if you have say a TRS-80 and/or another lower-case hardware mod you will be able to make similar arrangements.

Modifying the disk version of WORP-1 to take advantage of the X-4018 mod is quite straightforward. As the X-4018 kit provides the necessary additional software routines in an EPROM, all that is necessary is to give your WORP-1 program the extra instructions to "patch" one of these routines into the existing video display driver routine. This is done in the following way.

First, make a copy of your master WORP-1 disk. Then place this copy disk in your Drive 0, and press the <RESET> button to boot it up. WORP-1 will be loaded into the computer, and will display its main menu. Now press the <BREAK> key, which stops the program running and transfers control back to the BASIC interpreter.

Now carry out the following steps, making sure that you type in the commands exactly as shown. First, type in:

        LIST 30 <NEW LINE>

the computer will respond by displaying

        30 POKE16406,163:POKE16407,71

Now we want to add a couple of additional commands to this

line, so your next move is to type in:

EDIT. <NEW LINE>

the computer will respond to this by displaying the line number (3Ø), and pausing. If you hit the keyboard's space bar repeatedly, you'll find that the line will be "revealed again", character by character. Do this until pressing the bar produces no further effect, because the complete existing line is visible.

Now press the <H> key, which tells the computer that you want to add further commands to the end of this existing line. Follow this by carefully keying in the following:

:POKE16414,142:POKE16415,49<NEW LINE>

(for those interested, these commands simply change the BASIC interpreter's video display driver vector, to the start of the new "patch" routine)

This has modified your WORP-1 program, but what you should now do is save this modified version of the program on your working copy disk. This is done quite easily, as follows.

First, remove the disk from your drive for a moment, and make sure that it is not fitted with a write-protect tab. If it is, remove the tab temporarily and replace the disk in the drive. Now key in carefully the following command:

SAVE 21 <NEW LINE>

The disk drive will activate, and the modified program will be saved on the disk. When the disk is loaded in future, you'll find that WORP-1 will automatically provide full upper-and-lower case letter display.

You may wish to fit this disk with a write-protect tab, and make a further copy from it so that this first new disk can be used as a safety copy of your modified WORP-1.

With the cassette version of WORP-1 the procedure is almost identical. Simply load in WORP-1 from its master cassette, then carefully type in the following additional command line:

3Ø POKE16414,142:POKE16415,49<NEW LINE>

Now place a new blank cassette (previously rewound to the start of the actual tape) in the tape deck, press the deck's PLAY and RECORD keys, and save the modified program by typing:

CSAVE#-1,"W"<NEW LINE>

after the recording has taken place, it would be wise to check that it is "clean" by rewinding to the start and using the CLOAD? command (see your computer's operating manual).

APPENDIX C: ALTERING WORP-1'S TEXT PARAMETERS

It is possible to alter many of the basic parameters used by
WORP-1 to set its text size and printing format. In general,
you do this by loading the program, using the <BREAK> key if
necessary to stop it running, and then changing certain
instruction lines as described below. To make the changes
permanent, save the modified program again on disk or tape.

1. Changing the number of lines per page: As supplied the
program is set for printing pages of 60 lines on paper 297mm
deep. This can be changed to suit a different paper size or
printing format by changing line 50, which currently reads:

        50 L1=66: REM PRINTER PAGE LENGTH

Simply make L1 equal to a new value (either by using the EDIT
function or by simply re-typing the line). This must be 6
greater than the number of lines you want per page.

2. To print lines wider than 60 characters: As supplied the
program is set for printing lines of up to 60 characters,
centred on paper "80 columns" or 210mm wide. If you have a
printer capable of printing more columns on wider paper, this
can be done by changing lines 540, 550 and 580:

        540 PRINT:INPUT"LINE WIDTH (MAX. 60 CHARACTERS) ";WD
        550 IF WD>60 THEN WD=60

        580 C=0:CP=0:A=(80-WD)/2:POKE16424,L1+1:POKE16425,0

If you want to be able to print say lines of up to 120
characters, on paper 132 columns or 364mm wide, change each
"60" in lines 540 and 550 to "120" and change the "80" in line
580 to "132". Similar changes may be used to set the program
for other line and paper widths.

3. To change the Indent from 5 spaces: As supplied the <TAB>
or <→> key produces indents of 5 spaces. To change this to
some other figure, all you need to do is change line 55:

        55 N=5: REM SETS NUMBER OF SPACES IN HORIZ TAB

Simply make N equal to the number of spaces you would prefer.

4. To use WORP-1 with continuous stationery: As supplied,
WORP-1 is set for printing on single sheets of paper, with
pauses after printing each page to allow manual paper changing.
However it can be changed quite easily for printing on
continuous stationery, with automatic form feeding between
pages, by changing line 56:

        56 CX=1: REM SINGLE SHEET FEED =1 / CONTINUOUS STAT =0

Simply make CX=0 instead of 1, and Bob's your uncle!

As supplied, the disk version of WORP-1 expects to run in a System-80 or TRS-80 with a total of 32K bytes of user RAM memory. The program has been designed to balance the space available for text storage in the memory with that available on the disk for each document, and it is this balance which results in the maximum size of more than 9000 characters or 1300 words for individual documents.

If you have a computer fitted with the full 48K of user RAM memory, it is quite easy to modify the program to store more than double this document size in memory. All you need to change is the first two statements in line 40, which currently reads:

        40 CLEAR 9450:DIMW$(1400):....

If you change this line to read:

        40 CLEAR 20000:DIMW$(3200):...

you will be able to store documents of around 20,000 characters or 3000 words.

BUT NOTE that this modification <u>only</u> increases the amount of text that can be loaded into memory, displayed, edited and printed out; it <u>does not</u> increase the size of the individual documents that <u>can be</u> stored on disk.

In many cases this may be of little importance. A word processor is often used as a "sophisticated typewriter", to prepare and print out one or more copies of a document at a single session without worrying about saving it on disk. For this sort of use the fact that large documents cannot be saved and retrieved on disk in their entirety is purely academic.

If you must store large documents on disk, the best way to get around this limitation is to prepare your long document as a series of separate documents, each less than 9400 characters in length, and store each on disk as it is created. Then you can retrieve them back from disk, combining them in memory to form your final large document.

In any case it is good practice even with WORP-1 as supplied to split larger texts up into separate documents, as this will result in faster operation.

It is often convenient to split your text into documents of two or three pages each. A typical A4 page like those in this manual involves around 2200-2600 characters.

APPENDIX E: PROGRAM LISTINGS

1. Cassette version:

```
10 REM WORP-1 WORD PROCESSOR FOR SYSTEM-80 AND TRS-80 COMPUTERS     (CASSETTE VERSION)
20 REM COPYRIGHT DICK SMITH ELECTRONICS PTY LTD, 1981
40 CLEAR5000:DIMW$(700):DEFINTA,B,C,I,J,K,L,M,N,P,Z:DIMIN(15),AT(30),KE$(9),BB(40),ES(30),A(36)
50 L1=66: REM PRINTER PAGE LENGTH - SET FOR 11" PAPER
55 N=5;REM SETS NUMBER OF SPACES IN HORIZ TAB
56 CX=1:REM SINGLE SHEET FEED=1 / CONTINUOUS STATIONERY=0
60 ONERRORGOTO2540
70 CLS
80 PRINT@18,STRING$(29,"#")
90 PRINT@82,"# *WORP-1  WORD  PROCESSOR  #"
100 PRINT@146,STRING$(29,"#")
110 PRINTTAB(28)"M E N U":PRINTTAB(28)STRING$(7,CHR$(131)):PRINT
120 PRINT"     1. Enter Text
     2. Display/Edit Text
     3. Print Text
     4. Save Text
     5. Retrieve Text"
130 PRINT:PRINTTAB(30);"SELECT OPTION --> ";
140 GOSUB1190:IFZ$>"0"ANDZ$<"6"THENPRINTZ$;ELSEGOTO140
150 ONVAL(Z$)GOTO160,410,540,1750,1910
160 CLS:CP=0:IFI=0THEN170ELSEPRINT"DO YOU WISH TO ADD ONTO EXISTING TEXT?(Y OR N)";:GOSUB1190:PRINTZ$:IFZ$="Y"THENI=I+1:GOTO170ELSEI=0
170 W$(I)="":CC=0
180 GOSUB1190
190 IFZ>64ANDZ<91THENZ=Z+32:Z$=CHR$(Z):GOTO210ELSEIFZ>96ANDZ<123THENZ=Z-32:Z$=CHR$(Z):GOTO210
200 IFZ<33THEN220
210 W$(I)=W$(I)+Z$:CC=CC+1:PRINTZ$;:IFCC+CP>64THENP=64:GOTO180ELSEGOTO180
220 IFZ=13THEN340ELSEIFZ=32THEN240ELSEIFZ=8THEN280ELSEIFZ=24THEN350ELSEIFZ=27THEN70
230 IFZ=90RZ=250RZ=26THENZ$=STRING$(N,CHR$(160)):CC=CC+N-1:GOTO210ELSEGOTO180
240 IFCC=0ANDI>0THENW$(I-1)=W$(I-1)+Z$:PRINTZ$;:GOTO180
250 IFI>975THENCLS:PRINT@576,"THIS DOCUMENT IS NOW FULL.
SAVE IT ON DISK BEFORE EDITING.":FORA=1TO2500:NEXTA:GOTO70
260 CP=CC+CP+1:IFCP<=60THENPRINT" ";:I=I+1:GOTO170
270 P=CP-CC:CP=CC+1:FORA=1TOCC:PRINTCHR$(8);:NEXT:PRINTCHR$(13);:PRINTW$(I);" ";:I=I+1:GOTO170
280 IFPOS(X)=0ANDP=0THEN170
290 IFPOS(X)=0THENPRINTSTRING$(65-P,8);:IFP=64THENPRINT" ";:CP=P:P=0:ELSECP=P:P=0
300 IFCC>1THENW$(I)=LEFT$(W$(I),CC-1):GOTO330
310 IFCC=1THENW$(I)="":GOTO330
320 IFCC=0THENI=I-1:CC=LEN(W$(I))+1:CP=CP-CC
330 PRINTZ$;:CC=CC-1:GOTO180
340 PRINTZ$;
350 P=0:I=I+1:W$(I)=CHR$(13):I=I+1:CP=0:CC=0:W$(I)="":GOSUB1190:IFZ=10THEN400ELSEGOTO190
360 IFPOS(X)=0ANDP=0THEN170
370 IFPOS(X)=0THENPRINTSTRING$(65-P,8);:CP=P:P=0
380 IFCC>0THENPRINTSTRING$(CC,8);:GOTO170
390 IFCC=0THENI=I-1:PRINTSTRING$(LEN(W$(I))+1,8);:CP=CP-1-LEN(W$(I)):GOTO170
400 LINEINPUTW$(I):GOTO350
410 B=0:AT(0)=0:C=0
420 CP=0:LC=0:CLS:PRINT"        ";:IN(0)=B
430 IFB>1THENLC=LC+1:IN(LC)=B:GOTO490
440 IFW$(B)=""THENB=B+1:GOTO430
450 IFASC(W$(B))=13THENB=B+1:GOTO480
460 PRINTW$(B);" ";:CP=CP+LEN(W$(B))+1:B=B+1
470 IFLEN(W$(B))+CP+1<60THEN430
480 CP=0:PRINTCHR$(13);"        ";:LC=LC+1:IN(LC)=B:IFLC<15THEN430
490 PRINT@979,"<B>  <F>  <E>  <SHIFT/UP> SELECT OPTION -->";:GOSUB1190
500 IFZ=27THEN70ELSEIFZ=69THEN800
510 IFZ=660RZ=98THENIFC=0THENPRINT@960,"START OF TEXT":PRINT@1022,"";:GOSUB1190:PRINT@960,TAB(21);;:GOTO500ELSEC-1:B=AT(C):GOTO420
520 IFZ=700RZ=102THENIFB<ITHENC=C+1:AT(C)=B:GOTO420:ELSEPRINT@960,"END OF TEXT":PRINT@1022,"";:GOSUB1190:PRINT@960,TAB(14);:GOTO500
530 GOTO490
540 PRINT:INPUT"HOW MANY CHARACTERS WIDE (MAX. 60) ";WD
550 IFWD>60THENWD=60
560 PRINT:INPUT"DO YOU WANT RIGHT MARGIN JUSTIFIED (Y OR N)";B$
570 PRINT:INPUT"DO YOU WANT DOUBLE SPACING (Y OR N) ";A$
575 CLS:PRINT@473,"*** PRINTING ***"
580 C=0:CP=0:A1=(80-WD)/2:POKE16424,L1+1:POKE16425,0
590 LPRINTTAB(A1);:Z$=""
600 IFC<=1THEN630
610 IFB$="Y"THENGOSUB720
620 LPRINT:GOTO70
630 IFW$(C)=""THENC=C+1:GOTO600
640 IFASC(W$(C))=13THENC=C+1:GOTO680
650 IFB$="Y"THENZ$=Z$+W$(C)+" "ELSELPRINTW$(C);" ";
660 CP=CP+LEN(W$(C))+1:C=C+1
670 IFLEN(W$(C))+CP+1<=WDTHEN600
680 IFB$="Y"THENGOSUB720
690 CP=0:LPRINT:IFA$="Y"THENLPRINT
695 G$=INKEY$:IFG$<>""THEN70
700 IFPEEK(16425)<L1-6THEN590
710 IFCX=1THEN715ELSELPRINTCHR$(12):GOTO590
715 G$=INKEY$:IFG$=""THEN715
717 POKE16425,0:GOTO590
720 IFLEN(Z$)=0THENRETURNELSEZ$=LEFT$(Z$,LEN(Z$)-1):K=0:K3=0
730 IFLEN(Z$)>=WDORASC(W$(C-1))=13THEN790
740 K1=0
742 Z1$=RIGHT$(Z$,LEN(Z$)-K1):A=LEN(Z1$):K2=0
744 FORP1=1TOA:IFMID$(Z1$,P1,1)=" "THENK2=P1:P1=A
746 NEXTP1
750 IFK2=0THENIFK=0THEN790ELSE780
760 Z$=LEFT$(Z$,K1+K2)+" "+RIGHT$(Z$,LEN(Z$)-K1-K2):K1=K1+K2+K3+1:K=1
770 IFK1<LEN(Z$)ANDLEN(Z$)<WDTHEN742
780 IFLEN(Z$)<WDTHENK3=K3+1:GOTO740
790 LPRINTZ$;:RETURN
800 L=C#15:FORP=0TOLC-1:J=P+1+L:IFJ<100THENPRINT@64*P,J;:NEXTELSEPRINT@64*P,RIGHT$(STR$(J),LEN(STR$(J))-1);;:NEXT:D=0
810 PRINT@960,TAB(15);:PRINT"GIVE LINE NUMBER .... & <NEW LINE>:";CHR$(31);:M$=""
820 GOSUB1190:IFZ=27THENB=AT(C):GOTO420ELSEIFZ<>13THENM$=M$+Z$:PRINTZ$;:GOTO820
830 M=VAL(M$):IFM<L+1ORM>L+LCTHEN810
840 CLS:PRINT@384,"";:J=IN(M-1-L):IFJ>0THENIFW$(J-1)=CHR$(13)THENPRINT">";
850 GOSUB1520
860 FORP=0TOIN(M-L)-J-1:BB(P)=POS(X):IFW$(J+P)=""THENNEXTELSEPRINTW$(J+P);" ";:NEXT:BB(P)=100:PRINT@384,"";
870 GOSUB1190:A1=0
880 IFZ>64ANDZ<91THENZ=Z+32:Z$=CHR$(Z):GOTO940ELSEIFZ>96ANDZ<123THENZ=Z-32:Z$=CHR$(Z):GOTO940
890 IFZ=27THEN950
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900 IFZ=240RZ=9THENPRINTCHR$(25);:GOSUB1100:IFPEEK(16444)<>0THENPRINTCHR$(14);:FORA=1TO10:NEXTA:PRINTCHR$(15);:FORA=1TO5:NEXTA:GOTO900EL
SEGOTO870
910 IFZ=0THENPRINTCHR$(24);:GOSUB1100:IFPEEK(16444)<>0THENPRINTCHR$(14);:FORA=1TO10:NEXTA:PRINTCHR$(15);:FORA=1TO5:NEXTA:GOTO910ELSEGOTO
870
920 IFZ=10THENZ$=CHR$(143):GOSUB1090:PRINT" ";:PRINTCHR$(15);:PRINT@BJ+385,"";:GOTO870
930 IFZ=91THEN900ELSEIFZ=13THEN870
940 GOSUB1090:PRINT@BJ+385,"";CHR$(15);:GOTO870
950 IFD=-1THENFORP=0TOIN(M-L)-J-1ELSE970
955 A=0:FORP1=1TOLEN(W$(J+P)):IFMID$(W$(J+P),P1,1)=CHR$(143)THENA=P1:P1=LEN(W$(J+P))
957 NEXTP1
960 IFA<>0THENW$(J+P)=LEFT$(W$(J+P),A-1)+RIGHT$(W$(J+P),LEN(W$(J+P))-A):GOTO955ELSENEXTP
970 B=AT(C):GOTO420
980 BJ=POS(X):P=0:R$="":L$=""
990 IFBB(P+1)<=BJANDP+1<40THENP=P+1:GOTO990
1000 IFBB(P+1)=100ANDBJ>=BB(P)+LEN(W$(J+P))THEN870
1010 IFP=39THENPRINTCHR$(15);CHR$(24);:GOTO870
1020 IFW$(J+P)=""ORBB(P)+LEN(W$(J+P))=BJTHENPRINTCHR$(31);:PRINTSTRING$(4,13);:FORJJ=P+1TOIN(M-L)-J-1:PRINTW$(JJ+J);" ";:NEXT:PRINT@384+BJ
+2,;:ELSEGOTO1030"
1030 GOSUB1190
1040 IFZ>64ANDZ<91THENZ=Z+32:Z$=CHR$(Z):GOTO1070ELSEIFZ>96ANDZ<123THENZ=Z-32:Z$=CHR$(Z):GOTO1070
1050 IFZ=27THEN132#ELSEIFZ=90RZ=250RZ=26THENZ$=STRING$(N,CHR$(160)):CC=CC+N-1
1060 IF(Z=240RZ=8)ANDFS<>""THENIFASC(RIGHT$(FS,1))<>13THENPRINTCHR$(8);:FS=LEFT$(FS,LEN(FS)-1):GOTO1030ELSEGOTO1030
1070 FS=FS+Z$:PRINTZ$;:GOTO1030
1080 LS=LEFT$(W$(J+P),BJ-BB(P)+1):R$=RIGHT$(W$(J+P),LEN(W$(J+P))-1-BJ+BB(P)):PRINTCHR$(25);CHR$(31);STRING$(4,13);R$;" ";:FORJJ=P+1TOIN(
M-L)-J-1:PRINTW$(JJ+J);" ";:NEXT:PRINT@384+BJ+1,;:GOTO1030
1090 P=0:PRINTCHR$(14);:BJ=POS(X)
1100 IFBB(P+1)<=BJANDP+1<40THENP=P+1:GOTO1100
1110 IFP=39THENPRINTCHR$(15);:RETURN
1120 IFW$(P+1)=""THENRETURN
1130 IFBB(P+1)=100ANDBJ>=BB(P)+LEN(W$(J+P))THENPRINTCHR$(15);:RETURN
1140 IFBB(P)=CHR$(143)THEND=-1
1150 IFBJ=BB(P)+LEN(W$(J+P))THENIFZ$=CHR$(94)THENW$(J+P)=W$(J+P)+W$(J+P+1):W$(J+P+1)="":BB(P+1)=BB(P+2):PRINT@384+BB(P),W$(J+P);CHR$(94)
;:RETURNELSEW$(J+P)=W$(J+P)+Z$+W$(J+P+1):W$(J+P+1)="":BB(P+1)=BB(P+2):PRINTZ$;:RETURN
1155 IFBJ=0ANDP+J>0THENIFW$(P+J-1)=CHR$(13)THENW$(J+P)="":PRINTCHR$(94);CHR$(24);:RETURN
1160 W$(J+P)=LEFT$(W$(J+P),BJ-BB(P))+Z$+RIGHT$(W$(J+P),LEN(W$(J+P))+BB(P)-1-BJ):PRINT@BB(P)+384,W$(J+P);CHR$(15);:RETURN
1170 GOTO490
1180 IFA1=1THENRETURN:ELSEPRINTCHR$(14);:FORA=1TO250:NEXTA:A1=1:RETURN
1190 Z$=""
1200 FORA=1TO15:Z$=INKEY$:IFZ$<>""THEN1210ELSENEXT:PRINTCHR$(15);:FORA=1TO15:Z$=INKEY$:IFZ$<>""THEN1210ELSENEXT:PRINTCHR$(14);:GOTO1200
1210 PRINTCHR$(15);:A=15:NEXT:Z=ASC(Z$):RETURN
1220 CP=LEN(W$(B)):XZ$=W$(B):B=B+1
1230 IFLEN(W$(B))+1+CP<239THENCP=CP+LEN(W$(B))+1:XZ$=XZ$+CHR$(255)+W$(B):B=B+1:IFB<=ITHEN1230
1240 XZ$=XZ$+CHR$(244)
1242 A=LEN(XZ$):FORP1=1TOA:IFMID$(XZ$,P1,1)=","THENXZ$=LEFT$(XZ$,P1-1)+CHR$(254)+RIGHT$(XZ$,A-P1)
1243 IFMID$(XZ$,P1,1)=CHR$(13)THENXZ$=LEFT$(XZ$,P1-1)+CHR$(253)+RIGHT$(XZ$,A-P1)
1244 IFMID$(XZ$,P1,1)=CHR$(58)THENXZ$=LEFT$(XZ$,P1-1)+CHR$(252)+RIGHT$(XZ$,A-P1+
1245 NEXTP1
1248 RETURN
1250 W$(B)="":A=1
1260 XZ$=MID$(Z$,A,1):IFXZ$=CHR$(255)ORXZ$=CHR$(244)THEN1275
1265 IFXZ$=CHR$(254)THENXZ$=","
1266 IFXZ$=CHR$(253)THENXZ$=CHR$(13)
1267 IFXZ$=CHR$(252)THENXZ$=":"
1270 W$(B)=W$(B)+XZ$:A=A+1:GOTO1260
1275 IFLEN(W$(B))=0THENB=B-1:I1=I1-1
1280 IFXZ$=CHR$(255)THENA=A+1:B=B+1:B1=B1+1:W$(B)="":GOTO1260
1290 B1=B1+1:B=B+1:RETURN
1320 PRINT@906,"*** RE-SEQUENCING TEXT ***";:JJ=-1
1330 JJ=JJ+1:ES(JJ)=""
1340 IFF$=""THEN1430
1350 TS=LEFT$(FS,1):FS=RIGHT$(FS,LEN(FS)-1)
1360 IFASC(TS)=10THEN1400
1370 IFASC(TS)=13THENJJ=JJ+1:ES(JJ)=TS:GOTO1330
1380 IFTS=" "THENIFES(JJ)<>""ORJJ=0THEN1330ELSEES(JJ-1)=ES(JJ-1)+TS:GOTO1340
1390 ES(JJ)=ES(JJ)+TS:GOTO1340
1400 JJ=JJ+1:ES(JJ)=""
1410 TS=LEFT$(FS,1):FS=RIGHT$(FS,LEN(FS)-1):IFASC(TS)=130RFS=""THEN1420ELSEES(JJ)=ES(JJ)+TS:GOTO1410
1420 JJ=JJ+1:ES(JJ)=CHR$(13):GOTO1330
1430 IFJJ=0ANDLS<>""THENW$(J+P)=LS+ES(0)+R$:GOTO1510
1440 IFJJ=0ANDES(0)=""THENGOTO1510
1450 IFLS=""THEN1480
1460 FORA=ITOP+J+1STEP-1:W$(A+JJ)=W$(A):NEXT:I=I+JJ
1470 FORA=0TOJJ-1:W$(P+J+A)=ES(A):NEXT:W$(J+P)=LS+ES(0):W$(J+JJ+P)=ES(JJ)+R$:GOTO1510
1480 W$(P+J+1)=ES(JJ)+W$(J+P+1):FORA=ITOP+J+1STEP-1:W$(A+JJ)=W$(A):NEXT:I=I+JJ
1490 IFJJ>0THENFORA=0TOJJ-1:W$(P+J+1+A)=ES(A):NEXT
1500 GOTO1510
1510 GOTO890
1520 FORA=0TO40:BB(A)=-1:NEXT:RETURN
1530 PRINTTAB(13)"HIT <0> & <NEW LINE> TO RETURN TO MENU":PRINT:PRINTTAB(13)"NAME OF DOCUMENT ";
1550 INPUTAS:IFA$=""THEN1550
1560 IFAS="0"THENK1=-2
1570 RETURN
1750 CLS:PRINTTAB(23)"S A V E    T E X T":PRINTTAB(23)"**************":PRINT@512,;:GOSUB1530:IFK1=-2THEN70
1760 PRINT:PRINTTAB(13)"PRESS <PLAY> & <RECORD> ON TAPE DRIVE":PRINTTAB(13)"HIT <NEW LINE> WHEN READY";:GOSUB1190:PRINT:PRINT
1850 B=0:PRINT:PRINTTAB(13)"** SAVING DOCUMENT **"
1860 PRINT#-1,I,A$
1870 GOSUB1220:PRINT#-1,XZ$:IFB<=ITHEN1870
1890 GOTO70
1910 CLS:PRINTTAB(19)"R E T R I E V E    T E X T":PRINTTAB(19)"*************************":PRINT@448,;
1970 PRINT:PRINTTAB(13)"PRESS <PLAY> ON TAPE DRIVE"
1980 B=0:B1=0:I1=I:INPUT#-1,I2,A$
1990 IFI=0THENI=-1:GOTO2000ELSEPRINT:PRINT"DO YOU WISH TO ADD '";A$;"' TO EXISTING TEXT? (Y OR N) ";:GOSUB1190:PRINTZ$:IFZ$="Y"THENB=I+1
ELSEI=0:B=0
2000 I=I+I2+1:PRINTTAB(13)"DOCUMENT FOUND IS ";A$
2005 PRINTTAB(13)"OK TO CONTINUE (Y OR N) ? ";:GOSUB1190:PRINTZ$:IFZ$="N"THENI=I1:GOTO70
2010 PRINT:PRINTTAB(13)"** RETRIEVING DOCUMENT **":I1=I
2010 INPUT#-1,Z$:GOSUB1250:IFB1<=ITHEN2010
2020 I=I1:GOTO70
2540 RESUME70
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