

**C. C. WRITER**

**WORD PROCESSING**

**for the**

**TRS-80 Color Computer**

**- A Trademark of the Tandy Corporation -**

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## INTRODUCTION

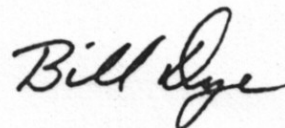
C.C.WRITER started out as a word processor for my two girls to help them with their high school work. Like many other programs, it continued to grow as new demands were made on it. When I started Version 1.3, I kept the features that were designed to make it easy to use for a person without micro-computer experience and added features popular on commercial and micro word processors.

Ease of use was the primary concern though. Where a feature would be nice but seldom used in normal practice, it was left out so it wouldn't complicate the options and eat up space. But, if you want to get fancy and justify the print, use compressed printing, or write letters in the shape of a Christmas tree, the options are there.

Once you have set up the way you want your page to look, you don't have to worry about it. All commands except the double margin indent are self canceling. You can just type, much as you do on a typewriter, and worry about errors and appearance later. This word processor uses the <ENTER> key much like the RETURN key is used on a typewriter except that ENTERS (RETURNS) are done at the end of a sentence rather than at the end of a page line.

This documentation was written with C.C.WRITER on a 32K Color Computer using an Epson MX-80 printer. The first few drafts of the first 11 pages of this documentation just fit in the 19,000 spaces in the 32K version. It was later broken up and stored on several cassettes for ease of editing. All of the text was printed in a single pass. There are no pages that were composed by overprinting the paper in a second pass. Anything (and more) that you see in the documentation can be duplicated with C.C.WRITER on most printers including the Radio Shack Line Printer VII. You can even do graphics.

I hope you enjoy using C.C.WRITER. If there's anything you don't understand, assume I didn't do something right and drop me a note. I'll try to clear it up.



L. W. C. Dye  
Bloomingdale

Note: If the program cassette should prove to be unloadable within a reasonably short time, return it for replacement. C.C.WRITER carries no other warranty.

## C. C. WRITER

C.C.WRITER is designed for the Radio Shack TRS-80 Color Computer with 16K of memory and Extended Color Basic. It has an option for 32K that will allow much more text to be held in memory before saving it to a cassette file. Two pages may be held in the 16K version and 8 to 12 pages with the 32K option.

This word processor, like any other, has many features. These instructions will try to cover them all but some features, used in combination, may create new ones. For example:

One feature allows you to insert a sentence. If you wanted to insert an entire paragraph, the insert option (being one sentence at a time) might be tedious.

Another feature allows you to move blocks of text. A third feature allows you to continue entering text at the end of the text already in memory. It's easier to add the text as one continuous paragraph at the end of the old text, then move it to where you want it. Presto! Paragraph insertion.

Read through the following instructions and then sit down and experiment. There is a Practice Session following these directions to help you get started.

### LOADING THE PROGRAM

The cassette contains a program to help you load C.C.WRITER. Insert the cassette in your recorder and enter "CLOAD". You do not have to specify the program names but they are "CCW.LOAD" and "CCWRITER". The loader program clears out all but one graphics screen and clears enough space for C.C.WRITER to load. Just RUN the loader program and it will load C.C.WRITER for you. When you get the "OK", enter RUN and C.C.WRITER will start.

If anything goes wrong, check your volume control and make sure the cassette is rewound to the beginning.

## RUNNING

The title screen will come up and in a few seconds you'll be asked for the memory size. The program defaults to 16K so if you just press <ENTER>, you'll get 16K. If you have 32K, enter "32". You will have more than four times the workspace of the 16K version. You don't have to use it but it's there if you need it.

## THE MASTER MENU

The program really starts here and it will return at the end of each function. Allowing for the differences between paper and screen, the menu looks about like this:

## C. C. WRITER

- 1 - SET UP PRINT
- 2 - ENTER
- 3 - INSERT, DELETE, OR MOVE
- 4 - EDIT
- 5 - SAVE
- 6 - LOAD
- 7 - PRINT
- 8 - QUIT

## YOUR CHOICE?

19,000 SPACES LEFT IN BUFFER  
1,270 MEMORY AVAILABLE

Besides allowing you to select the next option to use, the menu screen also tells you how many character spaces are left in the text buffer and the amount of free memory. The initial figure is over 4,000 for the 16K version and 19,000 for the 32K version. This buffer and the number of slots in the array for the buffer are the limiting factors on the amount of text the program can hold.

Enter the number of the option you want. The program uses numbers for menu selection for simplicity of use and to save precious memory space. You don't need the <ENTER> key on menu selection. You must use the <ENTER> key in other functions whenever you see the flashing cursor. One of the several reasons for this is to give you time to change your mind. Let's start with number 1.



## THE PAGE CONTROLS

Each item in the page print control will come up as soon as the prior one is passed or changed. When they're all up it looks like this:

## PAGE CONTROLS

```

PAUSE (0=OFF,1=ON) = 1
EJECT (0=OFF,1=ON) = 1
JUSTIFY (0=OFF,1=ON) = 0
DBL SPACE (0=OFF,1=ON) = 0
LINE #'S (0=OFF,1=ON) = 0
LEFT MARGIN AT 10
LINE LENGTH 60
/p INDENT OF 0
PAGE LENGTH IN LINES = 66
PRINT LINES/PAGE = 56
FIRST LINE ON 6
PAGE # IS 0
HEADER =

```

If you don't like the preset values, you can change them. If you press <ENTER>, you will accept the current value for that item. If you do change anything, you will always go through the list one more time. Some of these values are saved with the text and retrieved when it is loaded. The saved values are left margin, first line, line length, lines/page, page number, eject, indent, justify, and the header.

Most of these options are self explanatory and experimentation will teach you more than any description.

Let's quickly run through the options:

PAUSE - will stop the printer between pages to allow the insertion of single sheet paper. If you have a bell it will ring, toot, or buzz.

EJECT - will advance to the top of the next page at the end of the print.

JUSTIFY - will line up the right margin on full lines to give your papers that "professional" look.

DOUBLE SPACE - will do just that.

LINE NUMBER - is a number that will be printed on the left side of the page and references the program location of a sentence.

LEFT MARGIN - is measured from the beginning of the printer's print line.

LINE LENGTH - is measured from the left margin.

PARAGRAPH INDENTATION - is the number of spaces to indent each paragraph. The program is told to use this when you give it the paragraph command - /p.

PAGE LENGTH IN LINES - is used if your printer does not recognize top of form and you answered NO to the SMART PRINTER question at the start of the program. An 11 inch page is 66 lines long at 6 lines per inch.

PRINT LINES/PAGE - is the number of print lines you will allow on a page before the program will force a page break. Useful for rough drafts.

FIRST LINE - is measured from the top of the page to the first line of print (including the page number).

PAGE NUMBER - If it's zero it will not print or update. If 1 or more, it will be updated and will print from page 2 on.

HEADER - The header will print if the page number prints. This is handy for continuations such as:

"Dr. Smith, August 23, 1981

Page 2"

#### ENTERING TEXT

This function is used for entering new text and for adding more text to some already in memory. The program will ask you "old" or "new". Entering "new" will clear out old text that you don't need anymore. Entering "old" will position the text pointer at the end of the text in memory. If you tell it new when you meant old and have already pressed the <ENTER> key, too bad. It's gone.

The text entry screen will give you a quick refresher on the various commands you can embed in the text and then will get pushed up out of the way as you start entry. If you have specified "old", the last sentence of the old text is displayed to help you make the transition.

When you are in the text entry function and several others, the keyboard is unlocked and the lower case letters will appear green on a black background. Use the shift key to get upper case. All the commands are entered in lower case. This puts a lot of black on the entry screen so I'll not try to duplicate it here, just explain it.

## COMMANDS

`/f` will Force a new page. You probably won't use this until you have seen a rough draft using the automatic page break value.

`/p` will start a new Paragraph after skipping one line. If you have specified indentation, the first line will be indented that number of spaces. Don't get in the habit of using `/p` when you should use `/s1` (skip 1 line). A `/p` can also indent and may do strange things if you just wanted to space one line.

`/sN` will Skip N number of lines. You may use two positions so up to 99 lines may be skipped. If you are skipping 9 lines or less and the first position of text is numeric, the program will think it is part of the skip number. Put a blank between them. The blank will be stripped in the print.

`/c` will Center the following text. It must be less than the line length and only one sentence.

`/i` will Indent both margins five positions until turned off by a second `/i`.

`/tN` will force a line and Tab to position N. Be careful of numerics and only tab a line that is shorter than the space from the tab position to the right margin.

`/l` will force a new Line. You will need this any time you don't want text lines to join together on the page such as inside addresses.

`/aN` will send ASCII codes from 0 to 255 to the printer. You may stack up as many as you want. Such as:

`/a12/a7/a27/a69` will force a new page, ring the bell, and switch to emphasized print on my printer. A blank line is printed after transmitting the last ASCII character to the printer. This keeps the unprintable codes from messing up the alignment but does lock out some features of some printers (including mine).

`/q` means Quit. Lower case `q` means quit all through this program and here we need the slash (`/`) to indicate a command.

You may have more than one command in a sentence but they must be the first characters in that sentence. These examples were forced to print by putting a blank in front of them. A "/f/s12/cHEADING" sentence will force a new page, skip 12 lines plus the first line skip specified in the print controls, and center the text "HEADING". There is a logical hierarchy to the commands that follows the sequence listed.

If you're thinking that you will have to experiment with this, you'll do just fine.

### THE TEXT

Text entry with C.C.WRITER is as fast or faster than on a typewriter, especially if you make mistakes. Enter the text using the shift key just as you would on a typewriter. The backspace key (left arrow) will rub out any errors you make entering a sentence. Once the <ENTER> key has been pressed, you must use an edit function to correct errors. It may be best to leave them until later. When you reach the end of a sentence (.!?, etc.) press <ENTER> just as you would a return key. Unless the computer is rearranging its innards, as it must do once in awhile, you can start the next sentence immediately. The maximum length of a text line is 255 characters (about one half a screen). There is no minimum.

C.C.WRITER is designed to let you type as fast as you want to while you're in the mood. You don't have to worry about formats, margins, bells, typos, or fresh paper. The next major functions will let you catch up with cosmetics when your creative mood starts to wane.

### INSERT, DELETE, OR MOVE TEXT

When your creative mood is past, it's time to get critical. Sometimes, no amount of editing will fix up what seemed so good when you first typed it. The only way to fix it is to rip it apart and do some electronic cut and paste.

To help you do this, I'd like to introduce "LINE SEEKER":

LINE #, q, OR ''?

This question will pop up when you are in any of the text editing functions. It means: "Do you want to give me a sentence number to find, quit and go back to the menu, or do you want to search for the sentence you want?". That '' at the end of the line indicates a null entry. That's what you're doing if you hit <ENTER> without data. If you don't know what sentence number you want and you don't want to quit the function, hitting <ENTER> will take you to a search routine.

Usually it will start out at reference number 0 and you move through the text by using the up and down arrow keys on the left side of the keyboard. You will move one sentence at a time but if you hold the shift key down, you'll move eight sentences. You stop searching and start doing (insert, delete, edit, etc.) when you press <ENTER>. The sentence selected will be the last sentence on the screen.

A sentence's reference number is just to the left of the text. Pressing <ENTER> tells the program that you've found the sentence you want. Any sentence number after will change if you insert or delete a sentence. After you have done whatever you were going to do, you are given the LINE NUMBER, QUIT, or LINE SEEKER option again. If you hit <ENTER>, you will not be at zero but at the same sentence number. But now you can use the arrow keys to move. Of course, you may quit or enter a sentence number and go directly to that sentence. You'll see what I mean when you try it.

#### INSERTION

This is like text entry but it is designed for just one sentence. Insertions are done in front of the sentence you specify. This is true whether you give the program a sentence number or hit <ENTER> while searching. The program will confirm the location and wait for your "y" (for yes) before allowing the insertion. If you say no, the program will give you another try.

## DELETION

This is almost the same as insertion except that the program will ask you if you want to "KILL THIS LINE" and will do so if you agree. You can say no if you want to save it.

## MOVING TEXT

This feature of text processing should rank with moveable type and the copy machine in the history of the written word.

LINE SEEKER is used to search through the text to identify the beginning and end of the block you want move and the place you want to put it. The entry screen to MOVE will tell you to:

```
PRESS:
<B> FOR BEGINNING OF BLOCK
<E> FOR END OF BLOCK
<T> FOR TARGET
READY?
```

The Beginning of the Block is the first sentence in the group you want to move. The End of the Block is the last sentence. The Target is the sentence you want the block to move in front of.

When you're ready, press <ENTER> and you're in LINE SEEKER. This time you're using it to find the text block and the target for the block's move. The program will repeat the sentence to indicate that it received each location. When you've identified all three, press <ENTER> and (if you did it right) you'll be back at the menu in a second or two. A long move may take a little more time.

If the locations did not make any sense to the program, the locations and the message "ILLEGAL MOVE" will be listed on the screen. You may have enough time to see the locations during a long move but you won't see the message. The beginning of the block can't be a higher number than the end of the block and the target can't be in between. A block can be as short as one sentence.

INS1



## REVIEWING AND EDITING THE TEXT

Now that you've finished with the cut and paste, it's time to get out the electric correction fluid. This section has two modes of operation. First, you may review and edit the text. Second, you may use the powerful Global Edit feature to search the text for a word or a phrase and change it if you so desire.

The LINE SEEKER is available in Review/Edit if you want to browse and change things you find. When you find a sentence you want to change, press <ENTER> and it will move into a work area. If you know what sentence you want, you can go right to it by entering the reference number. The line you have selected will appear on the screen by itself with the word "EDIT" above it. While you are editing, this word will change to remind you what you are doing in edit.

As soon as you press one of the four arrow keys, a white cursor will appear. The arrow keys let you move the cursor anywhere in the sentence. You can't go outside of the sentence unless you are inserting or changing text. The cursor will keep moving as long as you hold an arrow key down unless: 1-It would go outside of the sentence or 2-The computer is in a HESITATION.

To Delete, Change or Insert text, you move the cursor to where you want to start then press <D> to delete, <C> to change or <I> to insert. Specifically:

**DELETE** - The text to the right of the cursor will be removed one character at a time. The delete function will continue to work as long as you hold the key down. The word EDIT does not change while deleting.

**CHANGE** - Press <C> and the white cursor will start to flash just like in entry and the word EDIT will be replaced by CHANGE. The cursor will move to the right as you key in new text over the text you are changing. When you are done, press <ENTER> and the word EDIT will reappear.

**INSERT** - Press <I> and the part of your sentence that is after the cursor will drop down to make room and the top of the screen now says INSERT. The cursor is flashing and anything you key will be added to the left of the cursor as it moves to the right. Press <ENTER> to get out of the Insert mode.



While you are in CHANGE or INSERT, the Backspace key (left arrow) will operate normally. Always return to the EDIT mode before trying to move the cursor. When you press the <ENTER> key while the top of the screen says EDIT, you return to LINESEEKER.

You may find the GLOBAL EDIT easier but you must be careful about the search field. The program will ask you for the search text and then the replacement text. The only rule is that the search text should be unique in the text. However, each time it finds a match, The program will ask you if the text should be changed. Just tell it 'n' for NO if you don't want it to. The program will go on and look for the next match. To accept the change, press <ENTER>.

### SAVING THE TEXT

This function isn't complicated (Are the others?) but it does harbor dangers if you don't stop and think about what you're doing. You may write over some text that you wanted to save. You may think you're saving some text but the recorder is in play. You may save the text then forget what name you gave it. Most of these are operational problems and you should refer to the computer manuals for correct operation. However, a common identification technique in word processing is to put the name of the document at the end of the text as a short, one sentence paragraph such as /pFILENAME. You can delete it before the final print but many professionals leave it on.

The filename can be up to 8 characters long. Before you press <ENTER> make sure your recorder will really record. If you lose the first part of the file you won't be able to read it back in.

### LOADING TEXT

If you're not sure of the position of the file, start from the beginning of the cassette. If you start in the middle of another file, the program will "blow up" and say nasty things to you. Select function 6 and type in the file name. When you press <ENTER> the recorder will start. When the program has found your file and finished loading it, the program will return to the master menu. Old text is deleted before the load starts so you can't merge files this way.

## PRINTING THE TEXT

Now we're getting down to what you bought this for. You did remember to buy a printer didn't you?

When you enter this function, the program will ask you if you've checked the print controls. If you reply with anything but "y" or "yes" (yes sir will work) you'll find yourself back at the print controls without passing GO or collecting \$200. If you did enter yes, you'll be asked for a starting sentence number. Sometimes you will want to print just what you entered since the last draft and this allows that. Pressing <ENTER> will start from line 0.

If you trust your printer you may walk away for awhile. If you are using single sheets and left the page pause on, it will wait for you to get back. Some things will be going on though and at first you may want to watch. The program will display the page line number that was just printed. If it runs across an invalid ASCII code (such as /a300) it will bypass it and flash a message on the screen to tell you. If, in building a print line, it is going to create a raw text line that is more than 255 characters long, it will split it in two and tell you that it's doing it. If you save the text after printing, the split sentence is saved in that form.

There are a lot of things going on in the print routine so don't get worried if your printer seems to be running at half speed or worse. Justification in particular will slow it down.

When you get a page or two of text in the machine, save it in clean form and then play with it to see what happens. For example, what if you forget to turn off indentation (/i)? How can you print a page that's in the middle of the text in memory? I've included a Miscellaneous Notes section in the back that will cover these topics and more but you will learn best through practice and experimentation. C.C.WRITER can even mix text and graphics through use of the transmit ASCII (/a) function.

## QUITTING

Just enter function 8 and if you tell the program that you've saved your files, you will be in Basic command mode. You may use QUIT to reenter Basic for printer commands, SKIPF or any other purpose. Just be careful what you do. You may return to the program by entering "CONT" as long as you haven't done any editing of the program or anything else that will clear the variables.

INS2

## PRACTICE SESSION

The purpose of this section is to give you a step-by-step example of a typical use of C.C.WRITER. We're going to write a letter because letters tend to use most of the features available in a word processor. Take these instructions and the C. C. WRITER cassette and get your computer ready to begin. Read a paragraph or two and then go back and follow the directions.

When the computer is on and the recorder is ready, place the cassette in the recorder with the C.C.WRITER label up. Put the recorder in REWIND, type in "CLOAD", and press <ENTER>. If there is any slack in the tape it should take up in a second or two. As soon as the tape stops, press STOP and then press PLAY. An "S" will appear on the screen, then "F CCW.LOAD", then "OK". This means the program that will load C.C.WRITER is now in the computer. Type in "RUN" and press the <ENTER> key. The message:

"C. C. WRITER IS LOADING"

will appear and after a minute, the computer will say "OK".

Type "RUN" and press <ENTER> again. C.C.WRITER will start. You'll be asked for the memory size of your computer but if you are not going to do anything long you can run in 16K spaces of memory. For this practice session, just press <ENTER> for 16K.

Now you're looking at the list of the major functions of the program. We're going to write a letter so press 2 to select ENTER TEXT. Here's the review of the commands you read about. The computer is also asking you what you want to do. We're going to enter some new text so type in "new". You must press <ENTER> after this and at the end of each sentence. I don't think I have to mention it every time. After you press <ENTER>, there will be a short pause and then:

TEXT>

will pop up on the screen. That means we're ready to go.

First a return address for the letter. We want to put it near the right hand margin and the line is 60 spaces long so we'll tab over to position 40 on the line. You can use your address but enter it as follows:

/t40 123 Main Street (/t40 means tab to 40)

Let's enter the entire return address and then the date. Don't forget to press <ENTER> at the end of each sentence. When you're done, the bottom of the screen will look about like this:

```
TEXT>/t40 123 Main Street
REF # = 1    69 SLOTS LEFT
TEXT>/t40Anytown, ST 00000
REF # = 2    68 SLOTS LEFT
TEXT>/t40September 23, 1981
```

Notice that the street number is separated from the number 40 by a blank. In this case it's not necessary but it's a good habit to get into. The "REF # =" tells you in what slot the following text is stored. In the 16K version you have 70 slots with 4,000 character positions for text. The number of character positions left is listed on the menu whenever you return.

Let's continue the letter and enter the inside address of the person we're sending this to. In this case, C. C. Writer. Proper form says to skip two lines and align the address with the left margin. I'll just show you the lines from now on and they should look like this:

```
/s2C. C. Writer
/l123 Easy Street
/lAnytown, ST 00000
/s2Dear C. C.,
```

We got two new commands in there. The /s2 Tells the Computer to skip two lines before printing. The /l (lower case L) tells it to start a new line even though the preceding sentence is not as long as the regular print line. If we didn't put the /l's in, the computer would put the street, city, state and zip code right behind the name.

Now I want you to type the first paragraph all by yourself. Type anything you want but start the first sentence with /p so the computer will know it is a new paragraph. Don't forget to press <ENTER> at the end of each sentence. When you get done with that, start reading again.

OK, let's see how we did. Type in /q for QUIT and press <ENTER>. We are back at the menu and we can print what we did so far. Turn on your printer and select function 7, PRINT TEXT. The computer will ask you if the page format is OK. Tell it "y" for YES, press <ENTER>, and it will ask you "START AT NUMBER?". We want to start at the first line so you may enter 0 or just press <ENTER>.



The printer should be running now. How did you do? If you see any mistakes, wait until we get further along before you try to correct them.

When the printer is done, the menu comes back. Select number 2 (ENTER TEXT) again but this time type "old" because you are going to add onto the text you already entered. The last sentence you entered will push the commands up and the TEXT> entry marker will be right under it. Type in the following just as it appears within the quotation marks:

```
"/s1/pThe following paragraph was in front of this  
one until I moved this one to the beginning of the  
letter."
```

Yes, we will move it but first I want to explain the /s1/p. We want to double space between the salutation and the first paragraph of the letter and /p only skips one line. The /s1 will skip one line also and between the two will do the job. Now, enter /q again and we'll move that paragraph.

Select function 3 - INSERT, DELETE, OR MOVE and within that function select number 3 - MOVE. Read what's on the screen and as soon as you're ready, press <ENTER>.

Hmmm. Not much there. Just a line number. That is the line you were on when you typed /q to QUIT. The sentence we want to move is just above this so press the up arrow on the left of the keyboard once. The sentence you want should be there now but if it isn't, the up arrow moves toward the top of the text and the down arrow moves toward the bottom.

Now that we have found the sentence we want, we have to tell the computer. Since we're moving just one sentence, this is both the beginning and the end of the block being moved. Press the B and the E keys to tell the computer. Don't use the shift key! Notice the sentence repeat each time you press a key? That lets you know that the computer received the codes "b" and "e".

Now use the up arrow key to find the first sentence of the paragraph you typed. If you overshoot, use the down arrow to get back to the right place.

The target line (the first sentence of your paragraph in this case) should be the last sentence at the bottom of the screen. Got it? Then press the T key for TARGET. Now press <ENTER> and the computer will make the move. Back at the menu already? Fast wasn't it.

If you got an ILLEGAL MOVE message instead, you did something wrong. If so, go through the directions and try again.

Now that we're at the menu, print out the letter again and see how it looks. I'll wait.

Looks better now that the spacing after the salutation is correct doesn't it. Let's try something else now. Back to TEXT ENTRY and don't forget to tell it "old" so we don't lose your text.

Now type in:

```
/s1/cTHIS IS CENTERED
/iAnd this is indented text.
The text will stay indented five spaces from each
margin until it is turned off by another /i at the
beginning of a sentence.
/iSee what I mean?
```

We haven't used the Force a new page or transmit ASCII commands but they work the same way. Let's finish off the letter on a new page then we'll come back and edit it out. Type in:

```
/fThis is the last sentence of the letter.
/s2/t30Sincerely;
/s6/t30(YOUR NAME HERE)
```

Back to the menu and print it out. Remember how? Type /q then function 7 and so on...

We're printing now... The computer will ask you to "PRESS <ENTER> TO CONTINUE" because the page pause is on. If your printer has a bell it will ring.

Looks a little funny being on two pages doesn't it? Let's fix it with GLOBAL EDIT. Select function 4 and then option 2 (for GLOBAL EDIT). The search text will be "/f" (no quotes). The replacement text will be "/p". Press <ENTER>. There it is. Press <ENTER> to accept the change and you'll be back at the menu in a second.

Let's print it out and see how it looks now. Before you print though, select function 1 and let's change some of the page controls.

The first five controls are turned on if they're set to 1 and off if set to 0. Turn them all on (1) and set the paragraph indent to 5 spaces. The other values can stay the way they are for now. After the values are set, the computer will go through them one more time. Just keep pressing <ENTER> if you don't want to change anything. You'll be back at the menu after the second pass.

Print it out again. The printer will probably overflow to a second page because of the double spacing. Don't worry about the paper, this is educational.

Notice the line numbers printed on the far left side of the paper. These are the reference numbers for the place where the machine stores the text. Get a pencil and go through the letter looking for errors. When you find one, note the correction in the space above. That's why the double space option was turned on.

You probably found a few things to change but there are some changes I want to make to show you what to do. Find the sentence that says: "And this is indented text.". This really should be the start of a paragraph but we never told the computer.

Select function 4, option 1 - the regular edit. Enter the line number of the sentence that says "And this is indented text.".

WOOPS! Wrong sentence. The line number is for the last sentence on the printed line. In this case we want to go one forward. Press <ENTER> to get back in LINESEEKER. Now use the up arrow to find the right sentence. It should be the one above where you are. Once you've found it, press <ENTER>.

Now we can edit this line. First, see the cursor at the beginning of the sentence? OK, press the right arrow key a couple of times. Neat isn't it? Now hold the right arrow key down. You can't go outside the sentence while the top of the screen says EDIT. The cursor will stop just beyond the period because there is nothing else out there. If this were a longer sentence, you could use the up/down arrow keys to move the cursor a screen line at a time.

Now we wanted to make this the start of a new paragraph so we need a /p in there somewhere. Where? Hmm...

There is a logical sequence to these things so lets check the Quick Reference for the commands. The Quick Reference is the back page and it folds out so you can use it while reading. It shows that /p comes after /i so use the left arrow key to move the cursor between the /i and the "And". Once your there, press the <I> key. That's what I call making room. Notice that the top of the screen says INSERT. Type /p and then press <ENTER>. Back together again and now it will look better too.

Press <ENTER> for LINESEEKER and do the same thing to the sentence that closes the indent - "/iSee what I mean".

Now let's edit the sentence that says "The text will stay...". Got it? Try moving the cursor up, down and around.



When you've got the feel of it, move the cursor in front of the word "each". Press <C>, type the word "both" and press <ENTER>. The word "each" is now "both". Move the cursor to the end of the next word - "margin". Press <I>, then the letter "s", then <ENTER>. Move to the right to the end of the word "until". Press <D>. The top of the screen says DELETE and each time you press <D> a letter will be deleted. Remove the two words "it is" but leave a blank between "until" and "turned". The <D> key repeats if you hold it down so be careful. Press any key but <D> and you're back in EDIT. Press <ENTER> again and you're in LINESEEKER.

Now if you have any more changes, use the LINE SEEKER to find them. Use the UP/DOWN arrows to find the sentences you want to fix and press <ENTER> when they are the last line on the screen. Make your corrections just as before and when you're done enter "q" to QUIT while you're in LINESEEKER.

Back at the menu now? Go to the page controls and turn off the double space and line number controls.

Print out your final copy. Look OK? If not, you can still make changes but otherwise you are done. If you wanted to put the final copy on different paper, this is the point where you would do it.

Do you want to try saving the letter on a cassette and then load it back in? If you want to try out what you've learned so far and save this for later, fine. For those of you who aren't thoroughly exhausted yet, let's press on.

If you want to check the print/page controls one more time, do it now. Whatever they are will be saved on the cassette. The cassette should be blank or spaced forward to a blank space large enough to hold the text. I strongly recommend getting and using a bulk tape eraser. Radio Shack's is well made and is a good value. Also, if the cassette has a leader you must space past the leader before recording.

When the cassette is ready, select function 5, SAVE TEXT, and enter the file name. Make sure the recorder will record before you press <ENTER>. The recorder will start immediately. The menu will reappear when the recording is done.

To reload the text, select function 6, LOAD TEXT, and after making sure the cassette is at the beginning, enter the file name. Anything that was in the machine will be cleared before the load starts. The computer will return to the menu when the loading is completed.

## MISCELLANEOUS INFORMATION

### ALPHABETICAL ORDER

This section is arranged in alphabetical order. It was typed in as the various subjects came up and then the MOVE function was used to arrange the blocks.

### BREAK KEY

If you ever hit the <BREAK> key, the program will stop. If you want to restart where you were, enter "CONT" and press the <ENTER> key. If you want to go to the master menu, enter "GOTO500" and press <ENTER>. As long as you haven't edited the program, the text should be intact.

### BUGS

If you find any major bugs in the program, I'd appreciate hearing about them. This program went through extensive testing but there is always some combination of text and circumstances that can blow up any program.

### CORRESPONDENCE

If you would like to drop me a line, send it to:

TRANSFORMATION TECHNOLOGIES  
194 Lockwood Lane  
Bloomington, IL 60108

I'd be interested in any comments or suggestions you may have. If there is some feature I left out that you think is a "must" even in a low-cost processor, let me know. I may send you a test copy to try out.

### DEFENSIVE PROGRAMMING

I've tried to code this program so you can't hurt it or the text you spent so much time keying. Some of you may find a way and if it's too big a hole, let me know.

Defensive coding is things like not saving the page pause indicator on the tape. It is initialized to ON and you must intentionally turn it off. It is better to have ten people mad at their printer because it is buzzed at them for the next page than to have one mad because their printer is banging away on an empty platen.

If you try to select an option that doesn't exist, the computer will just ask you again or, if it's not critical, will do the safe thing.

#### DESIGN PHILOSOPHY

Radio Shack had a Color Computer customer in mind who wanted an inexpensive home computer that they could learn how to program but who would probably want off-the-shelf programs for many uses. The Program Pak (A Tandy Trademark) is Radio Shack's solution to program availability. They do leave the computer memory free for other uses but you are paying for up to 16,000 characters of memory in the pack that can't be used for anything else.

So I designed this program for someone who may not want to program but might like the option someday. In the meantime, they could use C. C. WRITER just as it was on the cassette. If they did want to modify it, they would find a Basic language program that was laid out in an easy to follow form.

#### HESITATIONS

Every so often you may notice the computer seem to hesitate. If you have really filled the memory with text, it may freeze for so long that you think it died or got lost. This trait is normal but regrettable. While working for you, the machine creates a lot of temporary text strings, pointers, and other things that it doesn't really need once they've been used.

It's very busy so the computer doesn't have time to clean house and throw these things out. The computer finally finds that it doesn't have any room to work until it cleans up. Since it's been using the area of memory that you're not using, the more you fill up, the less room the computer has to clutter. With less room, it must clean up more often and when it does - everything stops.

#### INDENTATION

If you forget to turn off indentation, the shifted margins will remain and become the starting values the next time you print even if there was a save and reload in between.

## LONG MOVES

As I mentioned in the directions, long moves may take some time to execute. Normally the time won't be excessive unless the machine is almost full. This is due to a design trade off.

One of the common attributes of microcomputers is limited memory. When text is being moved, it must be stored someplace while the rest of the text is closing up on the space left or opening up to make room. To conserve memory, the text being moved is stored one line at a time and the rest of the text opens or closes one line. This is inefficient but it saves memory and allows moves that would otherwise be impossible.

## PRINTING (OUT-OF-SEQUENCE)

If you want to print page 3 of 7 but not 4, 5, 6, and 7; you have two options. Start printing at page 3 and press the <BREAK> key at 4 or move page 3 to the end of the text and let the printer stop by itself. Don't forget to put the text back when you're done.

## PROGRAM ORGANIZATION

If you're a programming person you may want to list out this program someday. It shouldn't be difficult to modify because it's organized in a "structured" manner. The master menu is at line 500 and the major functions are at their number in the menu times 1000. It's easy to renumber the program by checking line 660 for the current address of the major functions.

You will want to make a duplicate of the program in case it is damaged. Keep one copy in original line sequence (or at least a listing) so that you can apply any fixes that may be necessary.

## UPPER CASE

If you are going to enter a lot of upper case, you may use the SHIFT O combination to lock the keyboard in uppercase. Hit SHIFT O to unlock it when you're done.

## INS4

## ADVANCED TECHNIQUES

## FILE CHAINING

File chaining is the ability to call another file from the text of a file that has finished printing. That file can also call another and so on. It does not replace large memory because text cannot be moved between files but it does make printing easier.

The name of the file to be called is entered into the text of the file that will do the calling. The format is /dFILENAME. It should be the last line in the text because anything after it will be ignored.

If you want the called file to start on a new page, it must have the /f command in front of the first sentence. The page format will be reloaded with the new file so it is possible to change page formats in the middle of the page. Just don't do it accidentally.

In use, the printer will stop when a /d\_\_\_\_\_ is found. The print screen will disappear and the load screen will come up and tell you it is loading the specified file. When it is loaded, the print screen will come back and the printer will start again. The cassette should be rewound if the files are not in sequence.

## ASCII CODES

ASCII Codes will usually be on a text line all by themselves but if commands or other text are present, the ASCII must be first. The ASCII is (usually) unprintable but it is measured as part of the print line. This will cause following text to shift left. You may compensate for this with a tab of one space for each code.

## WIDE PRINT

You will have to mix ASCII and text if your printer resets the wide print command at the end of each line. With wide print you may need a negative tab (/t-5 for example) to line up with the normal (regular print) margin. The heading above is preceded by a /s2/a14/t-4. This margin is set at 10 but I only tabbed back four spaces because of the one position left shift caused by the /a14. You may think of other uses for the negative tab.

## GRAPHICS

Each graphic character will use five spaces in the print line so you are limited to about 50 per line. Line feed is automatic at the end of each line of ASCII. The format is /aNNN and you can mix in text by using the ASCII codes for the letters.

In order to use the graphic capability of your printer, you will have to load Radio Shack's PTFX program or use an 8 bit parallel port adaptor. Since the biggest problem with print graphics is getting them to look like you want them to, the editing features of C.C.WRITER will be valuable.

## MORE MISCELLANEOUS

It is a good idea to work with several cassettes and save your files on a regular basis. If you lose your power for a second or the program quits for some reason, you will lose the text you haven't saved.

Sometimes the program will not restart when you type in RUN. Part of it is located where the first graphics screen is supposed to be and it is possible to destroy it during an I/O error or the like.

I moved the program into the graphics screen area to open up enough memory for the file chaining code. At the same time the 16K version got another 600 character spaces and both versions got expansion room. The extra room also reduces the hesitations.

# C. C. WRITER QUICK REFERENCE

## COMMANDS

/f FORCE A NEW PAGE  
/aN TRANSMIT ASCII CODES TO THE PRINTER  
/c CENTER THE FOLLOWING TEXT  
/i INDENT BOTH MARGINS UNTIL NEXT /i  
/p START A NEW PARAGRAPH  
/sN SKIP N LINES  
/tN TAB TO POSITION N  
/l START A NEW LINE  
/q QUIT TEXT ENTRY - RETURN TO THE MENU

## PAGE PRINT DEFAULTS

PAUSE - ON  
EJECT - ON  
JUSTIFY - OFF  
DOUBLE SPACE - OFF  
LINE NUMBERS - OFF  
LEFT MARGIN - 10 SPACES FROM START OF PRINT LINE  
LINE LENGTH - 60 CHARACTERS  
PARAGRAPH INDENTATION - NO INDENTATION  
MAXIMUM PAGE LENGTH - 56 LINES  
FIRST LINE - 6 LINES FROM TOP  
PAGE NUMBER - 0 (NOT PRINTED OR UPDATED)  
HEADER - BLANK

## LINE SEEKER

THE PROMPT "LINE #, q OR '" WILL APPEAR IN SEVERAL FUNCTIONS. IT IS ASKING FOR A LINE NUMBER, QUIT INDICATOR, OR A NULL ENTRY TO START A SEARCH FUNCTION USING UP/DOWN ARROWS.

## MOVE CODES

PRESS KEY B AT THE BEGINNING OF THE BLOCK,  
E AT THE END OF THE BLOCK,  
T TO INDICATE THE TARGET POSITION.  
<ENTER> TO START THE MOVE

## THE "IN FRONT OF" RULE

WHEN A TARGET LINE IS SELECTED FOR A MOVE OR INSERTION FUNCTION, THE TARGET IS IN FRONT OF THE LINE CHOSEN.

## RETURNING AFTER EXITING C.C.WRITER

IF YOU DON'T EDIT, INSERT, OR DELETE PROGRAM LINES OR ENTER "CLOAD", YOU MAY RETURN WITH TEXT INTACT. "CONT" THEN <ENTER> WILL USUALLY WORK. USING THE RESET BUTTON WILL REQUIRE YOU TO TYPE "GOTO500" THEN <ENTER>.

<-----<<< FOLD OUT