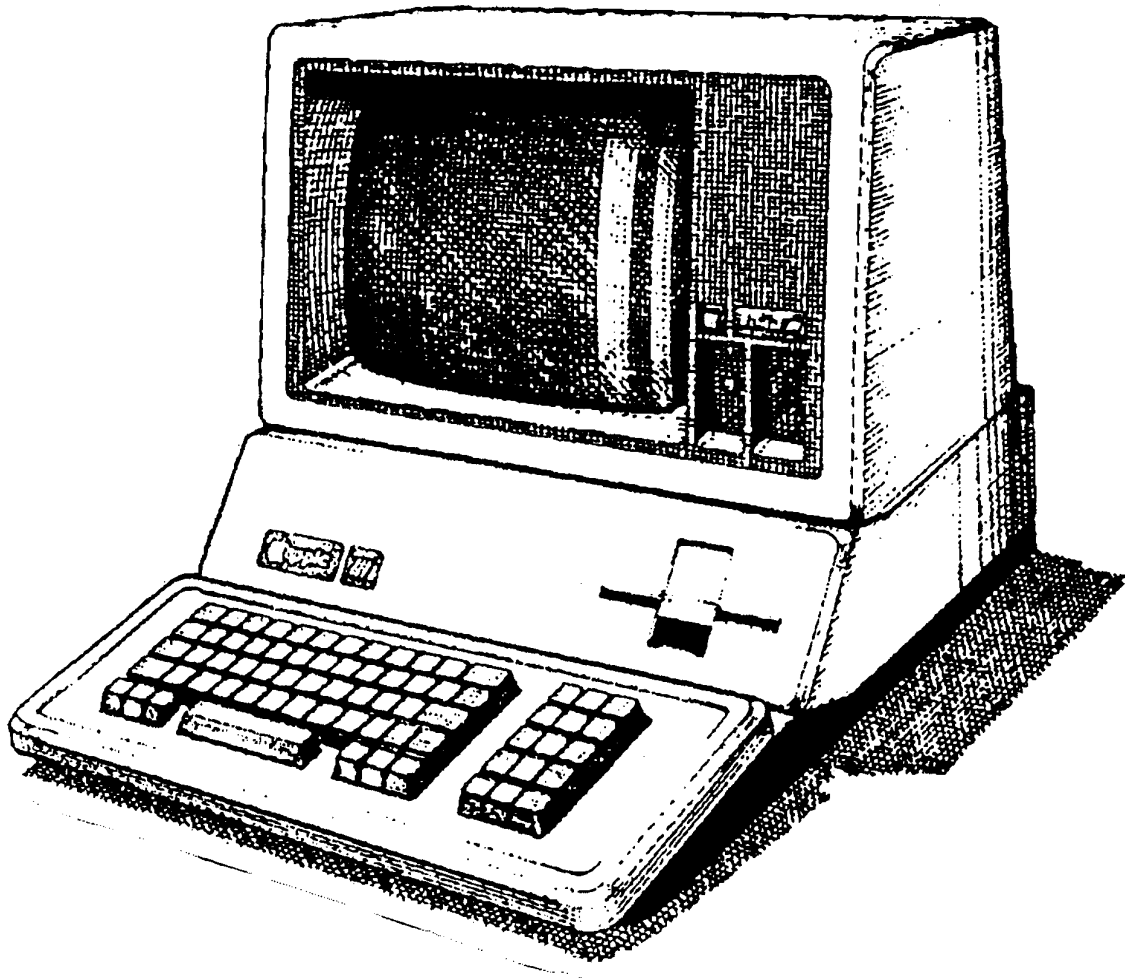




Apple /// Computer Information



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Ex Libris David T. Craig

How to Modify Apple Speller /// to Check 3EZ Files

10 pages

Modifying APPLE SPELLER III to read /// EZ Pieces word processing files

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Apple Speller III can be modified to directly read /// EZ Pieces (3EZP) word processing files. To do this, you either need a disk block editor (such as DA DataSystems "Disk Window ///+", now in the public domain) or you can get by using the ///'s built-in "monitor" with a freshly-formatted disk.

HOWEVER, there are limitations to what you will get from this modification.

1) Apple Speller III will still not be able to properly handle 3EZP's internal formatting settings -- that is, without further modifying 3EZP and also Apple Speller III's setup. The reason is 3EZP occasionally attaches strings of data to words, which in turn Apple Speller III could interpret as a misspelled word.

To get around this problem, see the section on "Further Modification of Apple Speller III for specially formatted 3EZP documents"

2) Apple Speller III can normally check ASCII, DATA, TEXT, or W/P files. This patch requires you to replace one of these file types with 3EZP word processing files. If you use Apple Speller III to check the spelling of all these 4 types of files, you may have to make a separate Apple Speller III boot disk for checking 3EZP documents.

3) If you find a misspelled word and the correct spelling is of a different length, you will either have blank spaces inserted into your document (if the correct spelling has fewer letters than the incorrect spelling) or you will have to mark the work as spelled incorrectly for later fixing in 3EZP (because Apple Speller III will not increase the length of a word).

4) In general, I only recommend this patch if
-- you want to check your spelling in 3EZP documents once in a while
AND -- you already own Apple Speller III.

If you don't have a spell check program, **** strongly **** consider getting StemSpeller from ON THREE. The price (about \$70) is competitive with that of Apple Speller III from Sun Remarketing, StemSpeller can handle 3EZP's internal formats, and StemSpeller can also check ASCII, Pascal Text, and StemWriter files. Also, I believe that StemSpeller does not have the problem I noted above in #3. Finally, StemSpeller IS STILL SUPPORTED by ON THREE.

MODIFYING APPLE SPELLER III TO READ 3EZ PIECES FILES (Disk Window version)

With that all said and done, here are the modifications you need to make to your Apple Speller III boot disk using DISK WINDOW ///+. (Instruction for using the ///'s monitor to modify Apple Speller III follow this section.)

First, make a backup copy of the file SPELLER.BIN; name it something like OLD.SPELLER.BIN. Then find the following data in the file SPELLER.BIN (the arrows are for later reference)

```

                                |   |   |
                                V   V   V
090 20 04 53 AD BE 34 C9 03 F0 5C C9 04 F0 58 C9 05 .S..4...\...X..
      |
      V
0A0 F0 54 C9 0B F0 50 20 0F 71 20 8C 72 1C 19 06 07 .T...P .q .r....
0B0 44 6F 63 75 6D 65 6E 74 20 66 69 6C 65 73 20 6D Document files m
0C0 75 73 74 20 62 65 20 41 53 43 49 49 2C 20 44 41 ust be ASCII, DA
0D0 54 41 2C 20 54 45 58 54 2C 20 6F 72 20 57 2F 50 TA, TEXT, or W/P
0E0 20 66 69 6C 65 73 21 00 20 1E 71 A9 1C 20 36 74 files!. .q.. 6t
    
```

if you are using DISK WINDOW, this is at the top of block \$0011.

- In position \$097 is \$03, which represents Pascal Textfiles
- In position \$09B is \$04, which represents Pascal Asciifiles or Basic TEXT
- In position \$09F is \$05, which represents Pascal Datafiles
- In position \$0A3 is \$0B, which represents Word processor files.

Select the file type you least use in Apple Speller III. In my case, it was Pascal Datafiles (\$05). Use your block editor to change this \$05 to \$1A (the filetype for 3EZ Pieces word processing documents). Then change where it refers to DATA file types into 3EZP (use the same number of letters and spaces as what you are replacing). So, in my case, I now have:

```

                                changed to 1A here |
                                V
090 20 04 53 AD BE 34 C9 03 F0 5C C9 04 F0 58 C9 1A .S..4...\...X..
0A0 F0 54 C9 0B F0 50 20 0F 71 20 8C 72 1C 19 06 07 .T...P .q .r....
0B0 44 6F 63 75 6D 65 6E 74 20 66 69 6C 65 73 20 6D Document files m
                                |Text changed in this |
                                V position          V
0C0 75 73 74 20 62 65 20 41 53 43 49 49 2C 20 33 45 ust be ASCII, 3E
    
```

"_83.PICT" 194 KB 2001-08-29 dpi: 300h x 300v pix: 2050h x 2948v

```
0D0 5A 50 2C 20 54 45 58 54 2C 20 6F 72 20 57 2F 50 ZP, TEXT, or W/P
```

We are now half done. If you quit now, you will be able to read 3EZ Pieces' files. However, if you ask for a listing of the files on disk, the filetype for 3EZP files will be blank; which implies that it is not a file compatible with Apple Speller III. We can correct that by altering block \$1C. Read this block and you will see: (without the "V" markers)

```
120 00 2C BB 34 10 03 4C CB 68 20 57 61 AD 40 35 D0 .,.4..L.h Wa.@5.
      |
      V
130 03 4C CB 68 60 C9 03 D0 10 20 8C 72 54 65 78 74 .L.h .... .rText
      |
      V
140 66 69 6C 65 20 00 4C A4 69 C9 04 D0 10 20 8C 72 file .L.i.... .r
      |
      V
150 41 73 63 69 69 66 69 6C 65 00 4C A4 69 C9 05 D0 Asciifile.L.i...
160 10 20 8C 72 33 45 5A 50 20 57 2F 50 20 00 4C A4 . .rDatafile .L.
      |
      V
170 69 C9 0B D0 10 20 8C 72 57 50 66 69 6C 65 20 20 i.... .rWPfile
180 20 00 4C A4 69 C9 0F D0 12 20 8C 72 12 44 69 72 .L.i.... .r.Dir
190 65 63 74 6F 72 79 11 00 4C A4 69 20 8C 72 20 20 ectory..L.i .r
1A0 20 20 20 20 20 20 00 60 A9 01 85 59 85 5E 20 . . . .Y.^
```

Depending on which filetype you changed, you will replace the filetypes' listing with 3EZP W/P. You need to change the filetype indicator to 1A, then replace the filetype name, using spaces to cover any excess space. In my case, I replaced filetype \$05 (Datafile), so my altered file looks like this:

```
140 66 69 6C 65 20 00 4C A4 69 C9 04 D0 10 20 8C 72 file .L.i.... .r
      |
      V
150 41 73 63 69 69 66 69 6C 65 00 4C A4 69 C9 1A D0 Asciifile.L.i...
      |
      V3 E Z P W / P
160 10 20 8C 72 33 45 5A 50 20 57 2F 50 20 00 4C A4 . .r3EZP W/P .L.
170 69 C9 0B D0 10 20 8C 72 57 50 66 69 6C 65 20 20 i.... .rWPfile
```

Now just write this back to the disk, and you are done. Boot up Apple Speller III and it should include your 3EZP word processing files in the list of documents to chose from. Remember, there may be extra characters at the beginning or end of words. Apple Speller III will note these as incorrect spellings - but you can check the spelling by deleting this first character.

-- How to delete a character in Apple Speller III? If you have patched the "|\" key on your keyboard layout table to act a a delete (hint: it is ASct does in 3EZP, use it. If you haven't made the patch, you can use Control-Shift-\\).

MODIFYING APPLE SPELLER III TO READ 3EZ PIECES FILES (Apple Monitor version)

For those of you who don't have a disk block editor -- (and why not?? since DISK WINDOW /// is now in the public domain, and there are other patches you can use to make 3EZP accept the "\" character, and to make other programs accept the "\" as a delete that are easy to do if you have a disk block editor), -- do the following:

- 1) Copy the file SPELLER.BIN into a BLANK, freshly formatted disk.
- 2) Enter the Apple /// monitor by pressing control-reset-OPENAPPLE, then releasing control-reset. Keep pressing Open-Apple.
- 3) A flashing arrow will appear in the upper-left corner of your screen.
- 4) Press ESCAPE, then 8, then RETURN. You have switched the monitor from being in a 40 column mode to the 80 column mode.
- 5) Insert the disk with just the Speller.bin file into the ///'s built-in drive.
- 6) Type:

18 1000.2FFFR then press RETURN.

This reads into the ///'s memory 16 blocks of data, beginning at block \$19. This should be enough for our purposes. Note that if your disk had a bad sector or some other problem, the location where you copied the file SPELLER.BIN could differ by a block or more. If you can't find the locations, either try another blank disk, or get a disk block editor.

- 7) Type 1090.10EF then press RETURN. You should see:

```
1090 20 04 53 AD BE 34 C9 03 F0 5C C9 04 F0 58 C9 05 .S..4...\...X..
10A0 F0 54 C9 0B F0 50 20 0F 71 20 8C 72 1C 19 06 07 .T...P .q .r....
10B0 44 6F 63 75 6D 65 6E 74 20 66 69 6C 65 73 20 6D Document files m
10C0 75 73 74 20 62 65 20 41 53 43 49 49 2C 20 44 41 ust be ASCII, DA
10D0 54 41 2C 20 54 45 58 54 2C 20 6F 72 20 57 2F 50 TA, TEXT, or W/P
10E0 20 66 69 6C 65 73 21 00 20 1E 71 A9 1C 20 36 74 files!. .q.. 6t
```

- 8) If your disk didn't have any bad blocks, you should see something similar to what is shown above. The difference between what is shown above and what the folks using Disk Window /// is only the reference to the location of the data shown on the left.

To replace the - DataFile - type with 3EZP, type
 109F:1A
 and while holding down the open-apple, press Return.

Then to replace the wording "DATA" with "3EZP", type
 10CE:33 45 5A 50
 and while holding down the open-apple, press Return.

- 9) Now to change the directory listings: type

2720.27AF

This should give you:

```

2720 00 2C BB 34 10 03 4C CB 68 20 57 61 AD 40 35 D0 .,.4..L.h Wa.@5.
2730 03 4C CB 68 60 C9 03 D0 10 20 8C 72 54 65 78 74 .L.h ....rText
2740 66 69 6C 65 20 00 4C A4 69 C9 04 D0 10 20 8C 72 file .L.i....r
2750 41 73 63 69 69 66 69 6C 65 00 4C A4 69 C9 05 D0 Asciifile.L.i...
2760 10 20 8C 72 33 45 5A 50 20 57 2F 50 20 00 4C A4 .rDatafile .L.
2770 69 C9 0B D0 10 20 8C 72 57 50 66 69 6C 65 20 20 i....rWPfile
2780 20 00 4C A4 69 C9 0F D0 12 20 8C 72 12 44 69 72 .L.i....r.Dir
2790 65 63 74 6F 72 79 11 00 4C A4 69 20 8C 72 20 20 ectory..L.i.r
27A0 20 20 20 20 20 20 00 60 A9 01 85 59 85 5E 20 . ...Y.^

```

Change the filetype name and character as described in the procedure used for Disk Window users. For example, to change the Datafile to 3EZ Pieces, type:

```
275E:1A
```

and while holding down the open-apple, press RETURN. This changes the 05 representing the Datafile into the 1A which represents 3 EZ Pieces WP files. Then type

```
2764:33 45 5A 50 20 57 2F 50
```

and while holding down the open-apple, press RETURN. This replaces the text string "Datafile" with "3EZP W/P".

10) Now, if you are sure you haven't made any mistakes, write your changes back to disk. Do this by typing

```
18 1000.2FFFW
```

11) Boot Systems Utilities and change the name of the SPELLER.BIN file on your Apple Speller III disk with something like OLD.SPELLER.BIN (as a backup in case something went wrong with the changes we made), then copy your altered SPELLER.BAT file to your Apple Speller III disk.

Your Apple Speller III program will now list and read 3EZ Pieces files.

FURTHER MODIFICATIONS OF APPLE SPELLER III TO USE WITH SPECIALLY FORMATTED THREE EASY PIECES DOCUMENTS

The above modifications will allow Apple Speller III to read 3 EZ Pieces files. However, if you want to limit (or even eliminate) the problems caused by 3EZP's internal formatting of its files -- AND -- you are willing to limit your use of some 3EZP features, you can change the setup of Apple Speller III.

What features of 3EZP will you have to limit your use? That depends -- but at the least it requires you to have as few changes in the left margin as possible. One standard left margin is best, two is acceptable. Three or more..., well, it becomes less likely that Apple Speller III will reasonably interpret 3EZP files. The reason gets technical, but you must understand what 3EZP does to files in order to understand what you can and cannot get away with.

At the end of each line as displayed on the screen, 3EZP adds four bytes of information. Lets take an example -- here is a sentence that spans several lines of display on the screen:

default DMP settings. This is really not too serious when using /// EZ Pieces since it generally resets printer codes automatically. However, Applewriter does not, and perhaps other programs do not do so either.

If you use a disk block editor, you will see that the characters added are as follows:

```

080 20 63 6F 6E 74 72 6F 6C 20 63 6F 64 65 73 20 61 control codes a
090 72 65 20 6E 6F 74 20 73 65 74 20 62 61 63 6B 20 re not set back
0A0 74 6F 20 74 68 65 20 4A 00 03 48 64 65 66 61 75 to the J..Hdefau
0B0 6C 74 20 44 4D 50 20 73 65 74 74 69 6E 67 73 2E lt DMP settings.
0C0 20 20 54 68 69 73 20 69 73 20 72 65 61 6C 6C 79 This is really
0D0 20 6E 6F 74 20 74 6F 6F 20 73 65 72 69 6F 75 73 not too serious
0E0 20 77 68 65 6E 20 75 73 69 6E 67 20 2F 2F 2F 20 when using ///
0F0 45 5A 20 4A 00 03 48 50 69 65 63 65 73 20 73 69 EZ J..HPieces si
100 6E 63 65 20 69 74 20 67 65 6E 65 72 61 6C 6C 79 nce it generally
110 20 72 65 73 65 74 73 20 70 72 69 6E 74 65 72 20 resets printer
120 63 6F 64 65 73 20 61 75 74 6F 6D 61 74 69 63 61 codes automatica
130 6C 6C 79 2E 20 20 48 6F 77 65 76 65 72 2C 20 49 lly. However, I
140 00 03 C7 41 70 70 6C 65 77 72 69 74 65 72 20 64 ...Applewriter d
150 6F 65 73 20 6E 6F 74 2C 20 61 6E 64 20 70 65 72 oes not, and per
160 68 61 70 73 20 6F 74 68 65 72 20 70 72 6F 67 72 haps other progr
170 61 6D 73 20 64 6F 20 6E 6F 74 20 64 6F 20 73 6F ams do not do so
    
```

What these 4 characters are is:

The first two bytes form a word. The bytes represent the # of bytes in the line following this word. Since this is limited to about 80 (or \$50) bytes, the second byte in the word is always \$00.

The next byte represents the screen column for the first text character in the following line. Generally this is also \$00, unless we force 3EZP to display text in a column other than the first screen column. (That's a hint -- in order for our Apple Speller III patch to work well, we must make this byte not be \$00. In addition, we cannot have it be too many other characters either.)

The last byte represents how many bytes of text follow this byte. In addition, if the 8th bit is on, it means that there is a carriage return at the end of the line.

The last byte is the troublemaker as far as spell checking goes, since the byte representation of how many characters of text are following often turns out to be an ASCII character in the range \$20 to \$7F, and immediately precedes a word. As a result, if a line begins with the word "display", Apple Speller III could easily pick up 3EZP's internal formatting as, for example, "H Gdisplay".

Apple Speller III does give us an option to skip up to two characters following whatever ASCII character we specify. We could use the second byte of 3EZP's formatting as our identifier, since it is always \$00. However, it is the last byte that attaches itself to the next word. If we tell Apple Speller III to skip the two bytes following the \$00, what will happen is that the first byte will attach itself to the next word -- in our example, we would wind up with "Hdisplay" instead of "H Gdisplay".

Instead of using the \$00 byte, we could use the byte that specifies the beginning column of the screen display to tell Apple Speller III to skip the next character. In addition, we can tell Apple Speller III to treat \$00 as

always ending a word. Assuming we can correctly identify the screen display character, we would wind up with "H display" in our example. Now the result of this is that our text will sometimes have a stray single letter appear in our document, at least as far as Apple Speller III is concerned. However, this will not affect our spell checking since (I believe) all single letters are valid words in Apple Speller III.

From the above discussion, it is apparent that a screen display character of \$00 is useless to us, since if we tell Apple Speller III to skip any character following a \$00, Apple Speller III will first come across the permanent \$00 which precedes the screen display character, and will skip over the screen display character of \$00. In our example, we would wind up with "HGdisplay", which is no help at all!

We can force 3EZP to use a screen display character ranging from \$01 on up (although we can waste a lot of screen space by starting our text in the middle of the screen!). To force a screen display character other than \$00, create a single line with just a space in it. Set the margin for this line 1 or more tenths of an inch to the left of your primary margin. For example, if you usually use a left margin of 1 inch, you can have a screen display character of \$01 for most of your text by setting the left margin of our space line to 0.9 inches. To have a screen display character of \$02, set the left margin of our space line to 0.8 inches, and so on. (To get a screen display character greater than \$0A, you must change the primary margin to something larger than 1 inch.)

You can tell Apple Speller III to skip any \$01 it runs across, and also to skip the character following the \$01. Thus, if your screen display character is \$01, you will skip over the last offending byte of 3EZP's internal format. What is the problem with this? Well, \$01 also serves in 3EZP as the BEGIN BOLDFACE character. If you want to print "Computer" in boldface, you would enter the "begin boldface" character, which would be displayed as follows: ^Computer. The "^" is actually \$01, and if you ran Apple Speller III, your boldface "Computer" would show up as "omputer".

To get around this problem, you could either put an extra space between your boldface character and the words you wanted in boldface (e.g., "Apple_^_Computer") or you could change your skip character/screen display character to some other code. Choose the code you will use the least in 3EZ Pieces -- the codes and their meanings in 3EZP are as follows:

```
-----
```

Hex	Meaning	Hex	Meaning	Hex	Meaning
01	Begin Boldface	05	Subscript begin	09	Print Page #
02	End Boldface	06	Subscript end	0A	Enter Keyboard
03	Superscript begin	07	Underline begin	0B	Sticky Space
04	Superscript end	08	Underline end		

```
-----
```

As an example, suppose I usually use two left margins: one at 1 inch, and one at 4 inches. I need to use boldface, but I am willing to forgo the use of superscripts (hex code 03). Therefore, I need to have one line of my document to begin 3 screen columns to the left of my 1 inch margin. The setting for this is 0.7 inches. As a result, I need to tell Apple Speller III to skip over any \$03 it finds. My 4 inch margin is 33 characters over from the 0.7 inch margin, or \$21. However, \$21 represents the "!"; if I tell Apple Speller III to skip over the "!" and the character following it, I should be OK

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Best Wishes,
Robert Howe.

<<< *FINIS* >>>