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'SORCERER
Programs

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BASIC SCREEN EDITOR

by STEVEN DICKER

Written in Machine Language
To be used with the BASIC ROM PAC
on any 8K thru 48K Sorcerer

INDEX

1. LOADING THE EDITOR

Type 'BYE' to enter the Monitor. Then type 'LOG'(CR) and play the tape. The Editor will load and initialize itself and then return to BASIC. Once loaded, the presence of the Editor is completely invisible to the user. The loading and saving of programs written both when using and not using the Editor are covered in a later section.

2. GENERAL DESCRIPTION

If you're tired of retyping an entire line of BASIC just to fix one little mistake then the Basic Screen Editor is for you. Now you can change, insert or delete errors right on your screen. The screen editor, coupled with the auto numbering facility of the Basic Screen Editor will have you entering and debugging programs in a fraction of the time it takes you now. The Basic Screen Editor was written to link to and enhance your ROM BASIC so that it occupies less than 300H bytes of your BASIC programming space. You won't even know it's there. (Until you want to use it.......and use it you will!). No more need to be embarrassed by the editing capabilities of your Sorcerer. With the Basic Screen Editor, you have editing capabilities just as good as those 'other' machines.

3. CALLING AND LEAVING THE EDITOR

To call the Editor at any time (from either the ROM BASIC or the Monitor) press CONTROL 'E' (♦E). The appearance of the Editor prompt, an asterisk (*), will indicate that you have invoked the Editor. To return to the ROM BASIC, press CONTROL 'B' (♦B) when the prompt (*) appears. The message 'READY' will appear when you have left the Editor.

4. AUTO NUMBERING MODE

To enter the Auto Numbering Mode of the Editor, call the Editor (using ♦E) and then press 'A' when the Editor prompt appears. The message 'START WITH?' will appear. Type in the line number you wish to start with and press (CR). If you just press (CR) or type in an invalid number, the starting line number will default to 1Ø. Next the message 'INCREMENT BY?' will appear. Type in the amount by which you want the line number to increment for each new line. Again, a (CR) or invalid answer will cause the increment value to default to 1Ø.

When these two numbers have been entered, the Editor will print your selected starting number near the bottom of the screen and then wait for input. Type in your BASIC program as you normally would but with the following differences:

-    The input buffer is now expanded to 127 characters (almost two lines) rather than the 64 characters in normal BASIC. Therefore, you can continue typing past the end of the first line of text and go on to a second one if you wish.

-    There is no automatic return while you enter the line. You may do as many rubs as you wish without worrying about this problem.

4. AUTO NUMBERING MODE (Cont'd)

- You may move the cursor to anywhere within the line using the cursor controls and overwrite, insert or delete characters as described in the section covering the EDIT MODE. (*Note: Cursor controls entered between quote signs are not recorded and executed in a program. You must use CHR$( ) to print cursor controls.)

When you are finished entering a line press (CR). The cursor may be any-where within the line when (CR) is pressed. The line will be entered and compressed (see Special Notes). The next line number will appear near the bottom of the screen and you are ready to input the next line. If you want to skip a line press (LF) (LINE FEED) and the next line number will be printed near the bottom of the screen.

When you have finished entering your program, press (ESC) and the Editor prompt will appear. You may then restart the auto numberer at another line, switch to another mode or return to the ROM BASIC to run the program.

5.   EDIT MODE

To enter the edit mode, type 'E' in response to the Editor prompt.   The message 'START WITH?' will appear.   Type in the line number at which you wish to begin editing your program.   If you press only (CR) the Editor will start at the first line of your program.   The lines will be listed at the bottom of the screen and will scroll up.   The cursor will appear at the end of each line listed, in position for you to append text to the line.   All keys operate in the same fashion as they do when you use the ROM BASIC with the following exceptions:

'@'   The '@' key is used to switch in and out of INSERT MODE. It does not cause line input to restart.

(TAB)   The (TAB) key moves all characters from the one under the cursor to the end of the line to the right one space and puts a blank under the cursor. That is, it opens space for insertions.

(RUB)   The (RUB) key (unshifted) deletes the character currently under the cursor and moves all characters past the cursor to the left one space.

****   These keys ('@',(TAB),(RUB)) perform the same functions when used in the AUTO NUMBERING MODE ****

(LF)   The (LF) key is used to skip to the next line in the program.   To do a rapid listing, press (LF) and then hold the REPEAT key down.   When the end of the program is reached, the listing will loop back to the first line of your program.

5. EDIT MODE (Cont'd)

(ESC) The (ESC) key is used to exit the EDIT MODE. You may then start editing at another line, change to another mode or return to the ROM BASIC.

When you have finished editing a line, press (CR) with the cursor anywhere within the line and it will be entered and compressed. The corrected line will then appear at the bottom of the screen. Press (LF) to go to the next line.

Since this is a Screen Editor, you need not edit the last line listed. Using the cursor controls, you may move the cursor to anywhere on the screen, make the necessary corrections and press (CR). However, if you are editing a line other than the one currently listed at the bottom of the screen, it will not be reprinted for you to check. Only the last line listed is printed after each time you hit (CR).

You may not enter any direct mode commands or delete any lines from the Editor. These should be done using the ROM BASIC.

6. INSERT MODE

The INSERT MODE is entered by pressing the '@' key at any time while you are in either the EDIT or AUTO NUMBERING MODE. This mode allows you to add a line having a number other than that printed by the auto numberer.   Space is cleared at the bottom of the screen and the cursor is placed there ready for input.   To exit this mode press the '@' key a second time.

7. SAVING AND LOADING PROGRAMS

The Editor reserves space for itself at the bottom of memory so that your BASIC program and variables will not disturb it. Because of this, your BASIC programs begin at address 04AA Hex rather than 01D5H as they normally do. A program written using the Editor may be saved using the CSAVE command in the normal fashion and may be reloaded using CLOAD so long as the Editor has been 'LOG'ed first.   The only problem arises when you wish to edit a program written without the Editor (A) or load a program written with the Editor but without first loading the Editor (B). Neither case is difficult to handle.

(A) After loading the Editor as described in section 1 above, load the program using the full form of the CLOAD command. For example, to load a program named PGM you would type:

CLOAD PGM 1 4AA (CR)

(If you were using tape unit #2 you would replace the 1 with a 2.)

(B) Again, the answer is to use the full CLOAD command.   In this case you would type:

CLOAD PGM 1 1D5 (CR)

8. SPECIAL NOTES

In order to expand the line input buffer, the screen memory has been used to replace the buffer used by the ROM BASIC. BASIC shortens command and function keywords (ex/NEW, FOR, GOTO) down to one character 'tokens' before storing them as part of the program. Normally this 'compression' process occurs invisibly but since the input buffer is now on the screen, you can see the compression taking place. Whenever you enter a line it will be transformed to BASIC tokens right on the screen.

Some of you may realize that this could allow you to enter lines even longer than two screen lines long. All you need do is enter the line, compress it using (CR), replace the line number by using the (TAB) key to insert, then add more text to the compressed line and enter it once again. This practice is not recommended, however, since, although you will save a little more program space, you make it difficult to edit the line should the need arise. When edited, the line is expanded to full length and the portion which exceeds the two line limit will be lost when you press (CR).

You should not try to edit lines which have been listed using the ROM BASIC 'LIST' command. The Editor requires a blank line before each program line so that it can locate the start of the line no matter where the cursor is when you press (CR). It won't operate properly without these blank lines. Knowing this, perhaps some Sorcerer owners are going to prove this out for themselves.

8. SPECIAL NOTES (Cont'd)

Another point to note is that going through a listing with the Editor is admittedly slower than using the ROM BASIC. One way to speed things up is to use the (ESC) key properly. Let's say you're at line 100 and want to edit something in line 6750. Instead of listing through the whole program, press (ESC) to get to the Editor Mode Select Level. Then press 'E' and type '6750' in response to the 'START WITH?' prompt. You'll find this speeds things up a lot and allows you to skip around in the program quickly.

9. SAMPLE TEST

Finally, let's run through a quick example to insure that you understand the Editor operation.

Load the Editor as explained in Section 1. Now follow the example below. (Boldface text is printed by the computer. Comments are in square brackets.)

[Call the Editor]
↑E

*A [Enter AUTO NUMBERING MODE]

START WITH? 100(CR)

INCREMENT BY? 5(CR)

[Now type in the program.]
100 PRINT "EDITOR TEST"(CR)

105 FOR I=1 to 1000:NEXT I(CR)

110 (ESC)

*E [Switch to EDIT MODE]
START WITH? 100(CR)

[Now let's see how easy it is to duplicate a line. Using the cursor controls and REPEAT key, move the cursor over the first zero in '100' and change it to a one by pressing '1'. Now press (CR). Now press (LF) twice to edit line 105. Move the cursor over top of the last zero in '1000'. Press (RUB) to change the number to '100', then press (CR). The corrected line will be listed at the bottom of the screen. Press (LF) again to go to line 110 (which you just created.) Move the cursor over the 'E' in 'EDITOR'. Press (TAB) 11 times and then type 'THIS IS AN'(CR). Then press (ESC).]

*↑B [Leave the Editor.]

9.   SAMPLE TEST (Cont'd)

Now run the program. It should print 'EDITOR TEST', pause for an instant and then print 'THIS IS AN EDITOR TEST'. If it doesn't check the program and make sure you have made the changes correctly as laid down in this section.