

NOTES FOR **CURSOR** Programs for PET[™] Computers NUMBER 15

December 1979

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A CURSORY GLANCE

There are several interesting facts to pass along this month about adventures in Commodore Land. We've peeked inside the new plastic Pet, and guess what we found? Two rectangular holes, right behind the Commodore label. These holes are exactly the right size for mounting floppy disk drives, and in fact the appropriate bolt holes and mounting brackets are already in place. From what we hear, it will be a while before the machines are delivered with floppies installed, as Commodore has run into some delays in getting the new drives in the quantity that they need. The new drives will be somewhat different from those in the 2040 disk unit. In order to reduce the cost of the floppy drives, Commodore has worked closely with the floppy manufacturers. One of the things they have been able to do is to design the unit so that it will work ok with slightly looser mechanical tolerances. As a result, the new model disk will have a couple fewer tracks. What about compatibility between the old and the new? You will be able to read disks from the 2040, but won't be able to write disks for it. From what we hear, Commodore is very sensitive to the issue of "upward compatibility", as well they should be. (At least some of you remember the hassle created by the reorganization of some of the operating system locations when they went to the upgraded Basic ROMs.)

Which brings us to another item: there are new "new ROMs" coming! As we go to press, we don't know the details of what we can expect to see in what will be called (we think) Version 4 of Basic, but we have some ideas. One important thing will be that the Pet will know about the disk. Since we don't have details, we can't evaluate how good a job they have done in integrating the Pet operating system with the 2040 disk system, but from what we've heard, things sound pretty good.

Speaking of disks, you might have noticed that we have not been complaining about the 2040 disk lately. The reason is that ours is working fine, given the limitations we have reported. (See Cursor 14 for an important note about the dangers of the 'at sign' as a way to replace files.) Our 2040 has been reliable, and we use it pretty hard. (We have strictly stayed away from trying to use their random access files, which are just plain clumsy.) Our mutterings about the disk recently are all concerned with ease of use. While the DOS Support program (often called "The Wedge") alleviates a lot of problems, it introduces some of its own. Many machine language routines were written that go into high memory, exactly where the wedge was put! Result: you get to choose between using the wedge and using the other program that needs to be located at the same place. An annoying inconsistency is that you may use the wedge to load programs from disk, but you can't use it to save programs on the disk. So what? Well, the rules are different, that's what! With the wedge you don't have to use quotation marks around file names (which is very convenient). Also, you don't have to refer to the "unit number" of the disk. But... when you are ready to save a copy of the same file, you use the built-in Pet command, e.g. SAVE"0:BLAT",8 where you are obligated to use quotes and the unit number. Let's face it, the wedge really helps make the disk easier to use, but it is what is known in the trade as a "patch" - it was done after the fact to rescue their product from the sticks and arrows of angry users. Now, thank goodness, they've had time to go back to the drawing board and do things right, or so we hope.

In case you wondered, the "old ROMs" were Version 2, the "new ROMs" (those that have been shipped with the 16k and 32k machines for the last year or so) are considered Version 3, and the newest ROMs will be Version 4. We aren't sure, but there may also be a "Business Basic" brewing, which would logically be called Version 5. Finally, improved disk ROMs should soon be available too. The big news is that there will be REAL easy-to-use random access files. There will also be some changes in the code that should improve the reliability of the system.

CURSOR 15 HAS THESE PROGRAMS:

COVER15!	The Christmas carols are by Ken Morley, and the graphics are by Glen Fisher.
DUNGEON	You are trapped in a dark, dank dungeon, trying to find gold (at \$600 an ounce), and kill the beasts that attack you. By Brian Sawyer.
FIFTEEN	The classic puzzle where you try to get the fifteen numbers arranged numerically. By David Platten.
GOMOKU	You play Gomoku against a tough (and fast) computer opponent. The object: place five "stones" in a row. By David Malmberg.
EVEREST	You are an armchair mountaineer in this entertaining simulation by Brian Sawyer. (Watch out for avalanches and blinding snowstorms.)
HAWAII!	Another animated cartoon from Ken Morely.

My own pet notion is that in the world of human thought generally, and in physical science particularly, the most important and most fruitful concepts are those to which it is impossible to attach a well-defined meaning.

H. A. Kramers (1947)

MORE ABOUT THE PROGRAMS

COVER15!... Happy Holidays from the Cursor staff! Our Christmas tree brings you music via CB2 sound. See Cursor #3 for a diagram of how to hook up sound to your Pet.

DUNGEON... The evil magician Trent has transported you into the depths of a set of dungeons filled with various bloodthirsty creatures. There is a way to escape: you must find (and take) all the gold hidden there (which is protected by those beasts mentioned before). However, the magician who constructed the dungeons was particularly fiendish: some of the rooms have no way in (except through the walls). Those rooms may have gold in them, too. The entire dungeons are surrounded by a completely impenetrable wall.

On the screen you will see a display of the dungeons. Your position is marked by a dot. Gold is marked by a 'G', and creatures by runes of various sorts. Open space that you've been to is white, and walls are black. (Anyplace you haven't been is black, too, even if it is open.) The doors between rooms are marked by a grey square. (The doors have spells on them preventing creatures from passing through them.) The impenetrable wall is shown as a checkerboard pattern. At the top of the screen is a line showing your 'hit points', your experience, and how much gold you've found. Hit points are a measure of strength; the higher your hit points, the stronger you are. You go up in experience as you defeat the creatures that lurk about. (You die if one of them defeats you.) Equally, the more experience you have, the stronger a creature you can defeat (assuming you have the necessary hit points). To move, use the number pad in the usual way: 8 means up, 3 means down and right, and so on. To move through a wall (this is magic we're talking about here, remember) hold the SHIFT key down when you press a number key. Naturally, moving through walls takes more of your strength than moving through rooms. Also, it is possible to rest, and recover your strength. Pressing '5' (no movement) allows you to rest for one turn. Be careful when and where you rest: the beasts have no mercy, and will attack you even if you do nothing. To throw yourself on the mercy of the evil magician, press 'Q' (for Quit).

FIFTEEN... This is our version of that hoary old problem, the Fifteen Puzzle. For those of you who have spent their lives in the magician Trent's dungeons, the object of the fifteen puzzle is to rearrange tiles with the numbers from 1 to 15 on them into numerical order. The tiles are arranged in a four-by-four square (with a hole where the sixteenth tile would be). You are allowed to move one tile at a time into the hole (which moves to where the tile was). In our version, you move the tiles by pressing the appropriate key on the number pad: '8' moves a tile up into the hole, '4' moves a tile left, '6' right, and '2' down.

One of our staff (who shall remain nameless) has fond memories of the cheap plastic version of this puzzle that he used to play during long, boring church services when he was a boy. I suspect that our Pet version will never be used for the same purpose...

GOMOKU... The object of Gomoku is to place five "stones" in a row, on a 14 by 14 board. (Yes, we know that it should be 19 by 19, but what do you expect in 8K?) It is very much like a grand tic-tac-toe, but you'll find that it is much more difficult. You have the option of playing either White or Black, and can select the style of play that the computer will use against you. You move by using the usual numeric pad keys, (8 means up, 2 down, 4 left and 6 right). When you have moved to the spot where you want to place a stone, just press "RETURN". The Pet will begin considering its move - you'll see a flashing white square bouncing around. When it selects its move it will report where it moved, and will place the cursor at that spot, and flash it.

EVEREST... Here is your chance to fulfill your lifelong ambition to climb Mt. Everest. There are the usual problems that hinder any climbing party: there are sharp crevasses, and steep, slippery slopes. (We've taken a few liberties, given the limitations of the two-dimensional CRT: the higher the number, the deeper the snow. So, zero is very easy climbing, and nine is damned difficult.) As the game begins, you'll see a diamond at the bottom of the screen, which is how we show where the climbing party is. You move by using the numeric pad (8=up, 7=diagonal up to the left, etc.). You'll soon encounter avalanches and snowstorms as you begin your assault. Avalanches have two effects: first of all, they are not very healthy for climbers. However, they do tend to knock the edges off of the ice, and so you'll find that they reduce the difficulty of the terrain that they pass over. The snowstorms have the opposite effect, and consequently make the climbing more difficult. Lucky for you, there is a wind indicator to the right of the screen. It will show you which way the wind is blowing, which may help you avoid the storms. Oh, one more thing: from time to time you'll slip as you climb!

HAWAII!... The continuing exploits of those guys from Canada (continued from Cursor 12).

BUGS IN MACHINE LANGUAGE MONITOR

There are a couple of problems with the machine language monitor. When you use the "L" command to load a file from the monitor, it sets the status variable. However, when you do a second load, it does not first reset the status variable! Result: you only get one byte loaded the second time. The second bug occurs when you try to save a file from the monitor. Seems that it won't save the very last byte that you specify. Since people often save a larger chunk of memory than absolutely necessary, this one doesn't hurt you as often as it might.

THANK YOU

The response to our comments in the last issue about the ethics of copying software has been very interesting. To summarize briefly, people do NOT want us to "protect" programs in such a way that they can't look at the source code, since many people study Cursor programs as a way to learn how to use the Pet more effectively. There will be times when machine language has to go at the end of a program (such as GOMOKU this month). But we have no plans to make our code unreadable to you! We've had very friendly mail about the ripoff problem, much of it in the vein "Well, I 'borrowed' one copy of Cursor from a friend, but it was so good that I went ahead and subscribed." Then there is also the fact that COMPUTE, the new 6502 magazine, reprinted our article in their second issue, and responded to our comments in a very helpful way.

To all of you: thank you again!