

The PET® Gazette With A New Name.

COMPUTE.

The Journal for Progressive Computing™

REVIEW

NEW-CURSOR

\$4.95

INTERNATIONAL TECHNICAL SYSTEMS,
INC.P.O. Box 264
Woodbridge, VA 22194

NEW-CURSOR is a momentary switch and resistor device which is designed to attach easily to your PET and give you the capability of a semi-warm reset. If you lose your cursor, a simple press on your NEW-CURSOR button will cause PET to reset without the shock to your power supply and video system such as you get when you turn your PET off and then on again.

The instructions provided are brief but clear. No soldering is required and the only tool needed is a screwdriver to open your PET. It took me (all thumbs) less than ten minutes to install my NEW-CURSOR which I received within a week of my order.

SURPRISE BONUS — I found that when I use NEW-CURSOR, I do not lose information stored in the 2nd cassette buffer!

This item is a **MUST** for anyone doing machine-language programming.

by Dr. Matarella

Review NEW-CURSOR

INTERNATIONAL TECHNICAL SYSTEMS,
Box 264

Woodbridge, VA 22194

Cursor, not to be confused with the cassette magazine of that name, is a reset button to clear a program or stop a crashed program without turning off the PET's power. This little \$4.95 device consists of a pushbutton switch mounted with sticky tape and two jumpers with alligator clips — one grounded to a board mounting screw, the other going to a certain resistor on the board itself.

Installing cursor takes just a jiffy and it works exactly as advertised. One push of the button and you are back to the 'bytes free' message on the PET screen. Cursor is a worthwhile convenience and well-worth the price.

John Hirsch

Un-Crashing On Upgrade ROM Computers

Jim Butterfield, Toronto

If you do much work in machine language, sooner or later you'll write a program that will crash.

Formerly, you were out of luck. Unless you were lucky enough to stumble into a type 1 crash — which would take you to the Machine Language Monitor, or to an **INVALID NUMERIC** statement — your only remedy would be to reset, and wipe memory.

Type 2 crashes (tight loops) could be guarded against with a little preparation involving fiddling with the interrupt structure. But the nasty type 3 crash (X2 codes) cannot be fixed without kicking the Reset line; and Reset means memory test, and memory test means you'll have to reload your program.

No more. On upgrade ROMs, you can come out of a hard crash with memory preserved.

Method: Set the diagnostic sense pin to ground; then kick the Reset line. The processor will re-awaken in the Machine Language Monitor with memory preserved.

There's more: you're not yet out of the woods. Type a semicolon followed by **RETURN**; PET will respond with a question mark. Now move the cursor back to your register display line, and change the Stack Pointer (SP) value from 01 to F8. This strange procedure is important: you must follow it exactly. Once you've done so, you're clear. You may return to Basic with an X if you like, or proceed in the MLM.

Hardware: To make the diagnostic sense pin: take a standard 12-pin edge connector and wire pin 5 (diagnostic sense) to pin N (ground). Key the connector so it sits on the parallel user port. Plug it in whenever you want to un-crash, but don't leave it on the machine.

The Reset button is a little trickier, since you have to know where to connect it. Check with someone who's knowledgeable on PET hardware.

Commercial sources: International Technical Systems, Box 264, Woodbridge VA 22194 makes a Reset button.

INSTRUCTIONS FOR INSTALLATION OF NEW CURSORTM

1. WHAT IT DOES: There are several circumstances which can cause the COMMODORE model 2001 computer to lose control. In this condition, the blinking cursor on the screen disappears, and the computer will not respond to input from the keyboard. One way to regain control is to turn the computer off, then on again. Unfortunately, this action causes loss of program data, as well as placing undesirable stress on the computer's power supply, display screen, and other electronic components. The NEW CURSOR (TM) provides a method for regaining control without causing the stress on components and does leave the program data intact in the second cassette buffer area.

2. MATERIALS REQUIRED:

- 1 Phillips screwdriver (to open the PET/CBM cover)
- 1 NEW CURSOR (TM) kit

3. GETTING READY: Find a clear table or desk where you will have adequate room and light to work comfortably. UNPLUG THE COMPUTER, and place it on the work surface. Have your screwdriver and the NEW CURSOR kit close by. Read through these instructions to make sure you understand them before beginning.

4. OPEN THE COMPUTER: Locate the four Phillips head screws holding the upper and lower parts of the Computer cabinet together. You will have to look up underneath the white "skirt" of the upper part (on the left and right sides). The screws are inserted in the black lower section of the case. Unscrew all four screws, and put them where they will not be lost. Carefully lift the white upper section at the front (it is hinged at the back). Look inside the upper part of the case on the left side, and find the prop rod if there is one. Swivel the prop rod down until it rests in the screw bracket on the lower case. If there is no rod find something to prop the top open. The rod will hold the computer open.

5. UNPACK THE NEW CURSOR(TM): Find the switch and its leads and clips and compare it to figure 1.

6. LOCATE THE MOUNTING POSITION: The switch assembly will be mounted using the left screw holding the back cover on the picture tube housing. (left side, looking from the back see figure 2.)

7. INSERT THE LEADS: Place the leads and clips thru the slot under the picture tube housing starting from the outside rear. The switch assembly will be outside the case. Pull enough of the leads through the slot so that the clips may be attached to the points on the circuit board.

CHECK AGAIN AND MAKE SURE THAT THE COMPUTER IS UNPLUGGED

FOR 2001-16/32 (skip this step if you have a 2001-8)

8. ATTACHING THE CLIPS: Using figure 4 to locate components, attach the two leads to the circuit board as follows; One of the clips has a small tube coming out of the protective covering over the wire. This clip goes on the rear mounting screw of the silver regulator on the long black heat sink on the left of the circuit board. The other clip goes on the front wire leg of a resistor next to the small IC in the right rear corner of the circuit board. Check figure 1 closely to make sure you clip to the right resistor on the circuit board. It may help to bend the capacitor next to the resistor a bit to the right. Be gentle

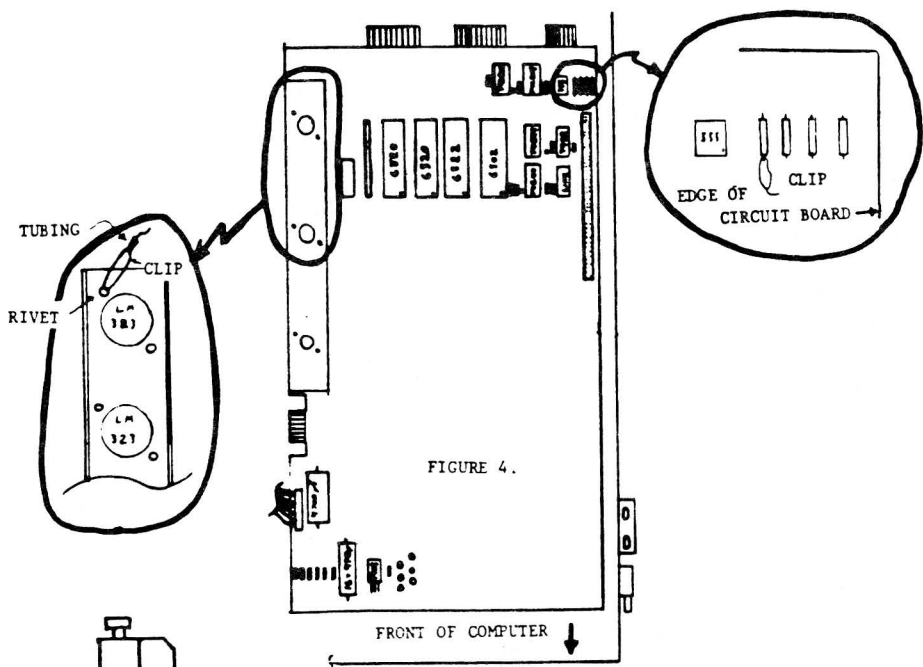


FIGURE 4.

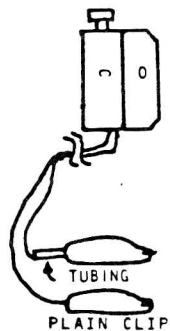
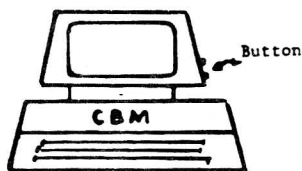
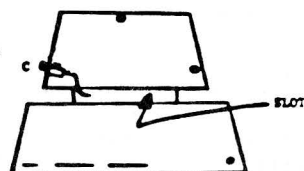


FIGURE 1



front

FIGURE 3



rear

FIGURE 2

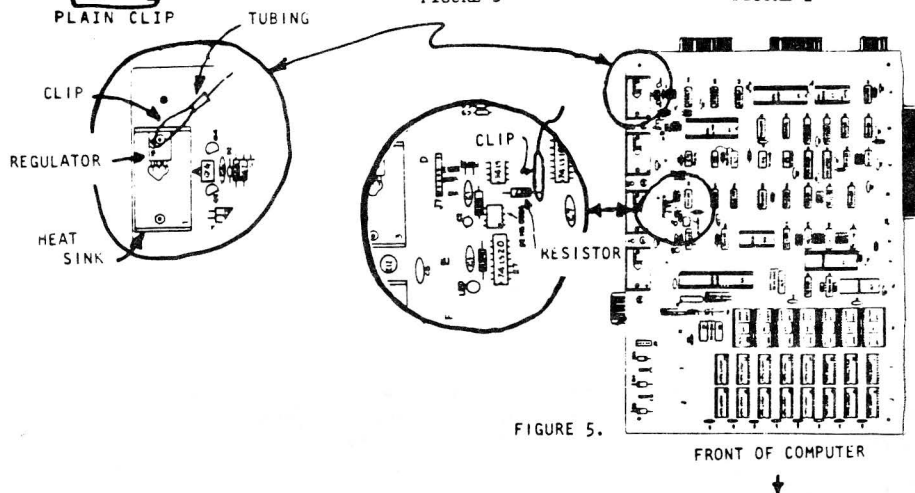


FIGURE 5.

FOR 2001-8 (skip this step if you have a 2001-16/32)

8. ATTACHING THE CLIPS: Using figure 5 to locate components, attach the two leads to the circuit board as follows; One of the clips has a small tube coming out of the protective covering over the wire. This clip goes on the rear mounting bolt holding the regulator to the large black heat sink on the left rear of the circuit board. The regulator has three leads and is in the center of the black heat sink. The other clip goes on the wire leg of a resistor near the center of the board. It clips on the leg on the right side of the computer. Check figure 5 to make sure you clip to the right resistor. Be careful and check your connections.

9. MOUNTING THE SWITCH ASSEMBLY: Close the computer and unscrew the retaining screw on the left side of the picture tube rear cover (figure 2). Put this same screw through the hole in the center of the NEW CURSOR cover, then screw it back into your computer. The button of the NEW CURSOR should now be visible from the front of the computer (figure 3). Push the extra wire into the slot and check to see the button moves and is not binding on the case of the picture tube.

10. CHECK THE CLIPS TO MAKE SURE: Double check the clips. Are they on the right points? Are they touching any other points? Readjust the positioning if required. The assembly was inspected and tested before shipping. It is very important that you make sure it is installed correctly before you apply power.

11. FINAL CHECK: Close the top (do not put in the screws yet). Plug in the computer and turn it on. You should get the usual Bytes Free message and READY. Push the button. The screen should go blank, then the message should reappear. This completes the final check. Now you can put the screws in to hold the top down.

12. OPERATION: When you wish to reset the machine, just push the NEW CURSOR (TM) button and release. Remember your BASIC program will be lost, however data in the second cassette buffer area and data in RAM in the 9,A and B area (if installed) will not be affected. HAPPY PROGRAMING.

W A R R A N T Y

NEW CURSOR (TM) IS WARRANTED TO BE FREE OF MANUFACTURING DEFECTS, AND WILL BE REPLACED IF IT SHOULD FAIL DURING THE FIRST YEAR OF OPERATION WHEN INSTALLED AS DESCRIBED IN THESE INSTRUCTIONS. THIS WARRANTY IS IN LIEU OF ANY OTHER, EXPRESSED OR IMPLIED. NO LIABILITY IS ASSUMED FOR CONSEQUENTIAL DAMAGES UNDER ANY CIRCUMSTANCES.