

Update

# “Absolute Reset” for Newest Apple IIs

*Information you need to use the Apple IIe Absolute Reset with the new “enhanced” Apple IIe and IIc*

**T**he original Absolute Reset article that appeared in the February and March 1985 issues of *Modern Electronics* gave fixes to change the Apple IIe’s restrictive ROM monitor to an absolute old reset, thereby unleashing the computer’s real power. It was intended to work on only the version of Apple IIe computer made before January of this year. (You have the older version if you cannot enter BASIC commands in lower-case without getting a syntax error.) To have the Absolute Reset code work on a newly enhanced IIe or a IIc, you need “alike but different somehow” patches, as detailed here, customized for each machine version.

Shown in the two boxes is the key information you need for each machine. Note that the new IIe version is pretty much the same as the old. Only the entry point and length of the code change somewhat. But close doesn’t count for much.

Note further that the IIc version has two major differences. Firstly, you must use a 27128 EPROM to hold the *entire* monitor. Secondly, the patch goes into the “F” area of the monitor, rather than the “C” area. The patch is in three pieces. There wasn’t quite enough room to put it all in one place.

Free construction details of a simple adaptor that will let a 2764 EPROM burner handle a 27128 are available from me on request. (I also have a complete, ready-to-use absolute reset software package that includes all details needed for all three versions.)

One minor bug. Some of the text talks about a 4-second delay on activating the absolute reset. The present value is 2.8 seconds, which is consistent with the present checksums needed to pass all memory diagnostics.

There has been lots of reader interest in an absolute reset for the older

### Absolute Reset for the Apple IIc

The Absolute Reset for either Apple IIe will not work on a IIc and should not be used. Instead, a three-piece patch that overwrites part of the “F” ROM area should be used. Note that the *entire* monitor gets written into a single 250-nanosecond 27128 EPROM.

To build an Absolute Reset for the new IIc:

- (1.) Use SNATCHMON IIC to grab the IIc monitor image.
- (2.) BLOAD IICMON.F, A\$8000
- (3.) CALL-151
- (4.) 8B64: 05
- (5.) 8CCA: EE F4 03 A0 1C A9 C5 20  
A8 FC 2C 61 C0 10 05 88  
D0 F3 F0 2A
- (6.) 8D03: C8 E5 EC ECF 4C 59 FF 91
- (7.) BSAVE KREBFMON.F IIC,  
A\$8000, L\$1000
- (8.) Burn the new CDEF EPROM.

If your burner can handle a whole 27128 at one time, combine and move your files downward to a suitable buffer

space in memory. For instance, do a BLOAD IICMON.C, A\$2000, a BLOAD IICMON.D, A\$3000, a BLOAD IICMON.E, A\$4000, and, finally, a BLOAD KREBFMON.F IIC, A\$5000. This gives you a 16K buffer starting at \$2000.

Free plans for a simple 27128 adaptor for older burners are available on request and are included as part of the Reset package.

The new boot prompt is “Hello.” Note that the IIc self-test never ends. The C006: 00 black magic is also not needed on the IIc.

To install the chip, unplug IIc power and remove the six outermost screws from the bottom. Press into the front crack directly in front of the “N” key with a 1” dull putty knife to release the front snap. The monitor is the chip directly under the keyboard center at D-18, slightly to the left of the speaker. Make sure the dot and notch go to the left when you replace it.

### Absolute Reset for the New Apple IIe

The Absolute Reset for the old Apple IIe will not work on a new IIe or a IIe upgraded to the new ROM set and should not be used. Instead, an "alike but different somehow" patch should be used. This patch goes in a different location, is slightly longer, and has a different checksum.

To build an Absolute Reset for the new IIe:

(1.) Use SNATCHMON to grab the new IIe monitor image.

(2.) BLOAD IIEMON.C, A\$8000

(3.) CALL-151

(4.) 82C8: EE F4 03 A0 1C A9 C5 20  
A8 FC 2C 61 C0 10 0B 88  
D0 F3 4C 59 FF C0 C0 00  
00 00

(5.) BSAVE KREBFMON.C NEW IIE,  
A\$8000, L\$1000

(6.) Burn the new CD EPROM. Use KREBFMON.C NEW IIE for the low 32K and IIEMON.D for the high 32K.

If your burner can handle a whole 2764 at one time, combine and move your files downward to a suitable buffer space in memory. For instance, do a BLOAD KREBFMON.C NEW IIE, A\$2000 and then a BLOAD IIEMON.D, A\$3000. This gives you an 8K buffer starting at \$2000.

Note that you will plow DOS if you try using an 8K buffer that starts at \$8000. Note also that the self-test on the new IIe behaves differently than the old. Expect some page two garbage and an occasional flash, followed by a "System OK" message after a minute or two.

Apple II+. The simplest way to handle this is to dig up an old integer card and use it. (These "old monitor" chips have been advertised from time to time in computer magazines.)

Alternatively, you can do a 2716 EPROM substitution here, provided you add an inverter to handle the reversed sense of the 2316 ROMs initially used. Skip this detail, and certain cards will hang the machine and

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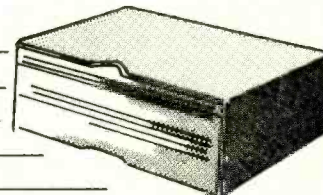
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## Computer System Power Controller (from page 43)

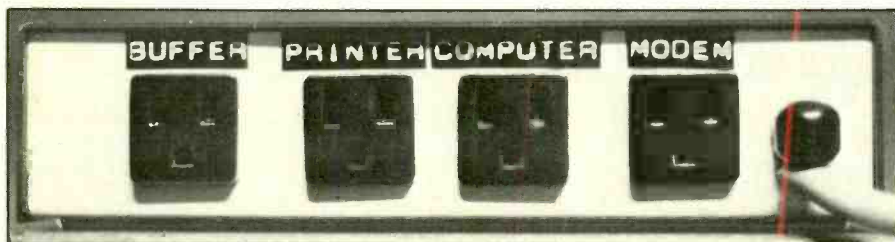


Photo shows details of controller's rear panel. Ac power cord enters through and ac receptacles mount on panel. So, too, does a circuit breaker.

hole for the ac line cord at one end of the rear panel. (If you plan on using a circuit breaker, drill its mounting and reset button holes in the rear panel, too. Then work on the front panel. Here, you need two holes for each lamp/switch combination, unless you opt for the more expensive lighted push/push switches mentioned in the Note at the end of the Parts List, in which case you need only one hole for each  $S_n/I_n$  through  $S_n/I_n$  combination.

Determine where to mount the EMI filter/suppressor module. Make sure that it is completely isolated from all other components. Then drill its mounting holes. This done, deburr all holes.

Label all switch/lamp pairs on the front panel and all ac receptacles on the rear panel with their appropriate legends, using a dry-transfer lettering kit. Then spray two or more light coats of clear acrylic over all exterior surfaces of the front and rear panels. Allow each coat to dry before spraying on the next.

When the acrylic has completely dried, mount the components in their respective locations. Then, referring back to Fig. 1, wire the circuit exactly as shown. Use only heavy-duty (12- or 14-gauge) stranded wire throughout, and maintain the white (WHT), black (BLK) and green (GRN) color-code scheme throughout. Connections to all filter/suppressor module leads are made with wire nuts; all other connections are soldered.

Double check all your wiring. Then plug the Controller's line cord into an ac outlet. Flip master POWER

switch  $S1$  to on and note that  $I1$  lights. Leave  $S1$  set to on and toggle on then off and then on the other switches on the front panel, observing that their respective neon lamps come on then go off and then come on again. Flip the POWER switch to off; all neon lamps should extinguish, indicating that all is well.

Disconnect the ac line cord from the wall outlet and finish assembling the enclosure. Your Power Controller is now ready to be put into service.

ME

## "Absolute Reset"

(from page 55)

possibly damage it. Apple clones and Hong Kong knockoffs normally do not need this inverter.

One prompt and low-cost source of EPROM burning services is E-TECH Services (Box 2061, Everett, WA 98203; 206-337-2370). Be aware, however, that no legal EPROM burning service can directly drop ship you a ready-to-use EPROM. Instead, you must furnish them with an exact image of the code you wish to have burned. Only after they receive your code image can they burn and ship the EPROM.

If you experience any difficulties in implementing either of the Absolute Resets detailed in the boxes, please contact me immediately.

You can get further information on any of the  $I1e$  and  $I1c$  (not the  $I1+$ ) stuff by calling me at (602) 428-4073 or writing me at Synergetics, Box 809, Thatcher, AZ 85552.

ME

—Don Lancaster

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