

Skunkboard Rev 2 High Voltage Mod

This mod is for Rev 2 Skunkboards and removes the high voltage programming line from the flash chip. The high voltage (9v) is passed unregulated from the power supply directly to the flash chip, and has been implicated in numerous Skunkboards burning out. Rev 3 and later removed this line. After performing this mod, the Rev 2 Skunkboard will be electrically identical to the Rev 3 board and can run Rev 3 firmware.

This mod is not necessary on the Rev 1 Skunkboard (as far as we can tell the 8MB flash is more susceptible), although the Rev 1 board may still be damaged by an out-of-spec power supply (more than about 10v). There is no BIOS update available for the Rev 1 board if you attempt this mod on it (at your own risk).

This mod is not necessary on the Rev 3 Skunkboard as they were shipped this way.

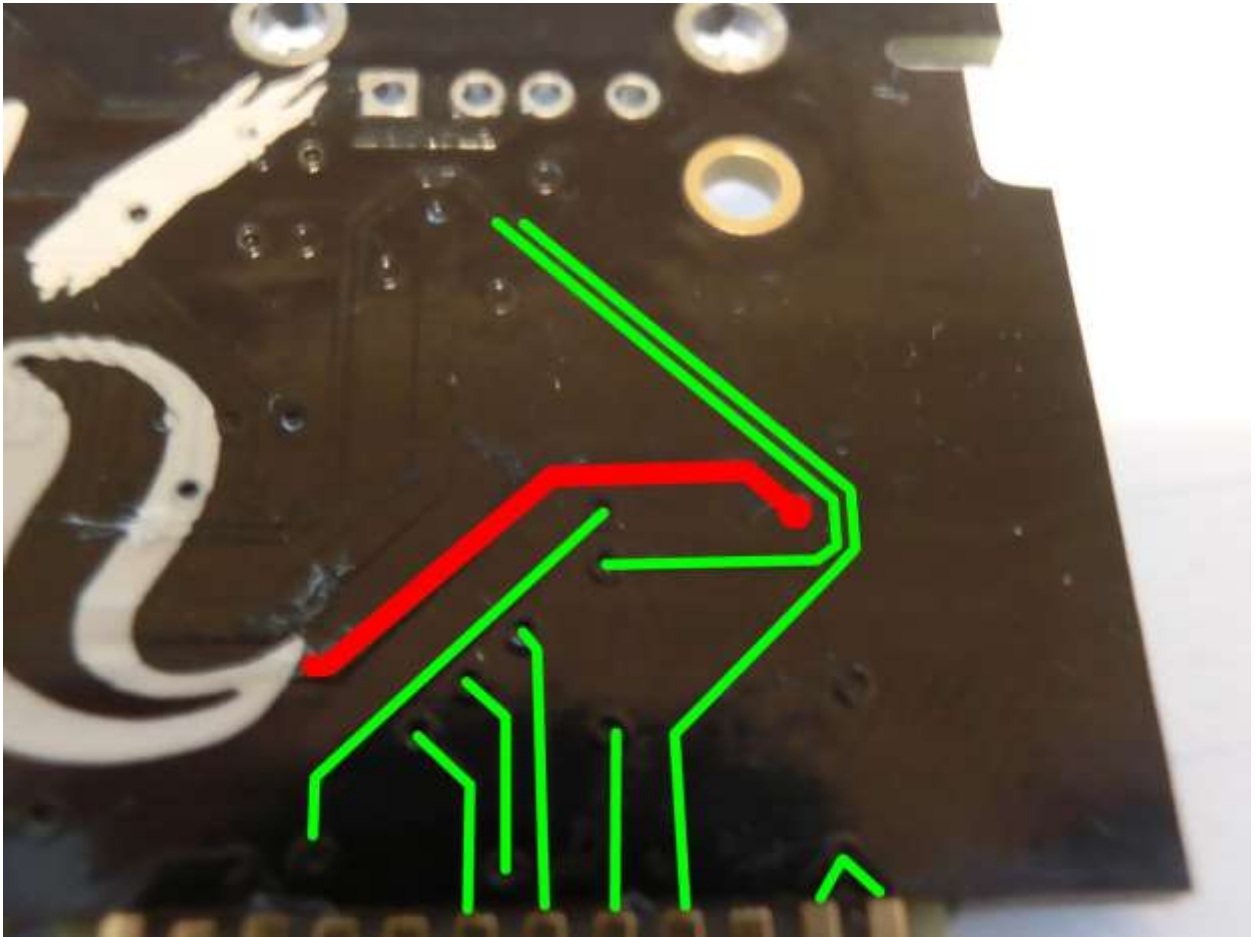
This mod will require you to cut one trace, and solder one wire. You are also recommended to upgrade the BIOS to a revision 3 BIOS (although this is not mandatory).

WARNING: The Skunkboard is a static-sensitive device. Perform this work on a static-safe surface and wear a grounding strap to prevent static build-up. A static shock to the board can destroy it. Soldering involves high temperatures and you can be badly burned - work with caution or find someone experienced to help you. Knives are sharp, don't cut yourself.

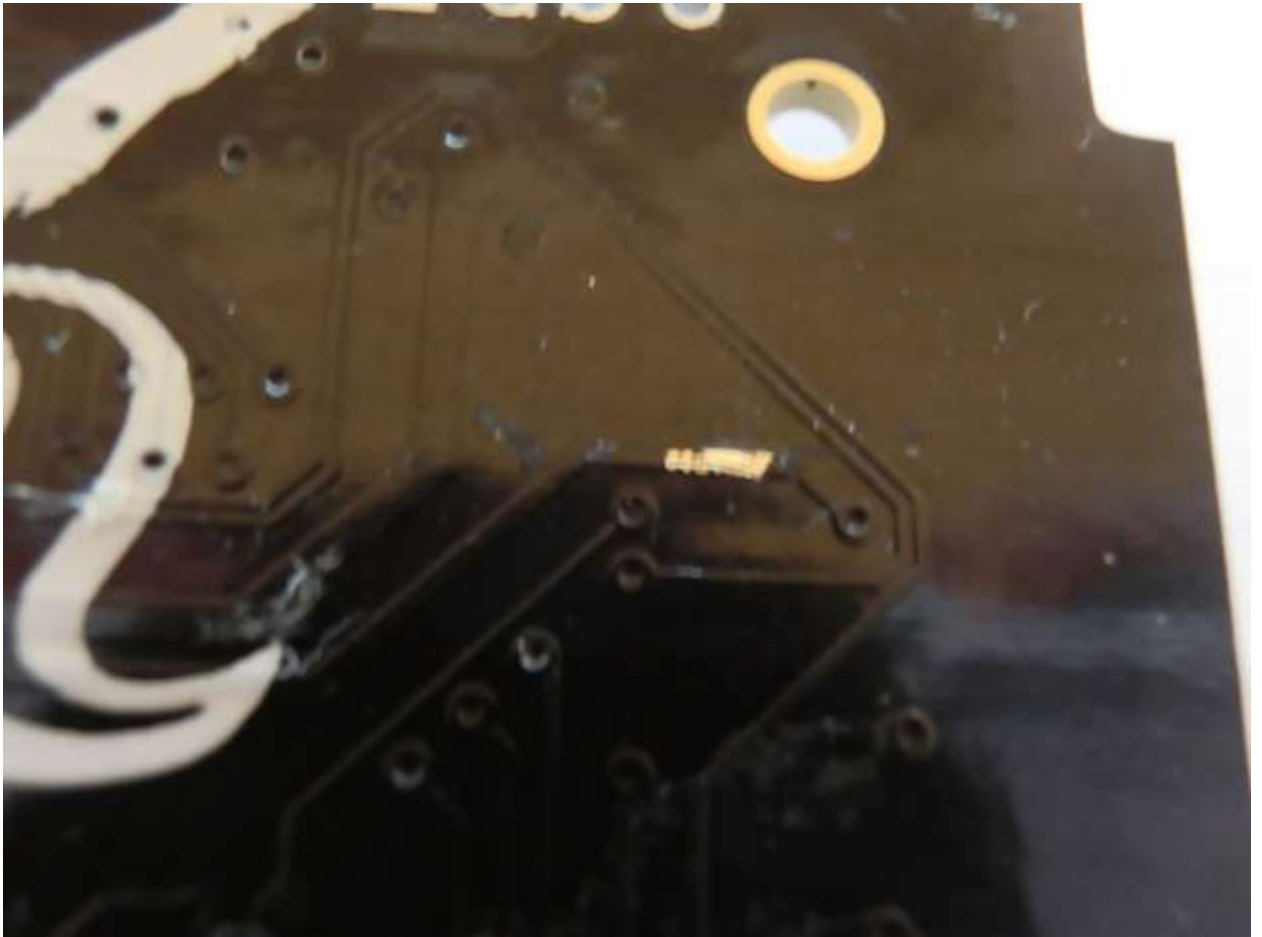
1. Flip your Skunkboard over to the logo side. The large USB-A ports may or may not be installed, depending on your board.



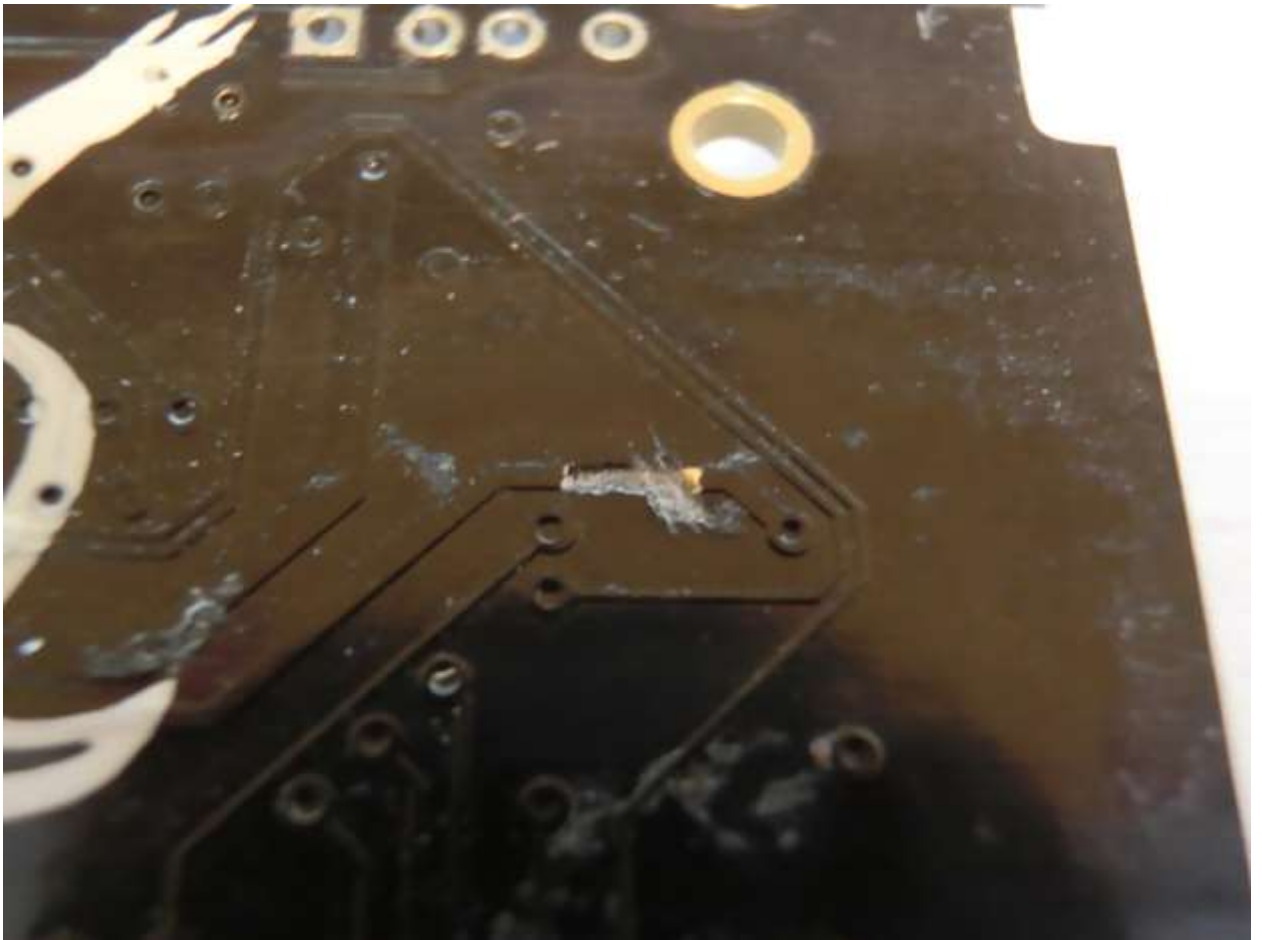
2. On the right side of the board, locate the thicker power trace. I have outlined several traces in green here, and the power trace that we are interested in in red.



3. Using a sharp knife, carefully scrape off some of the solder mask to expose the copper beneath. Be careful not to nick other traces and do not cut yourself.



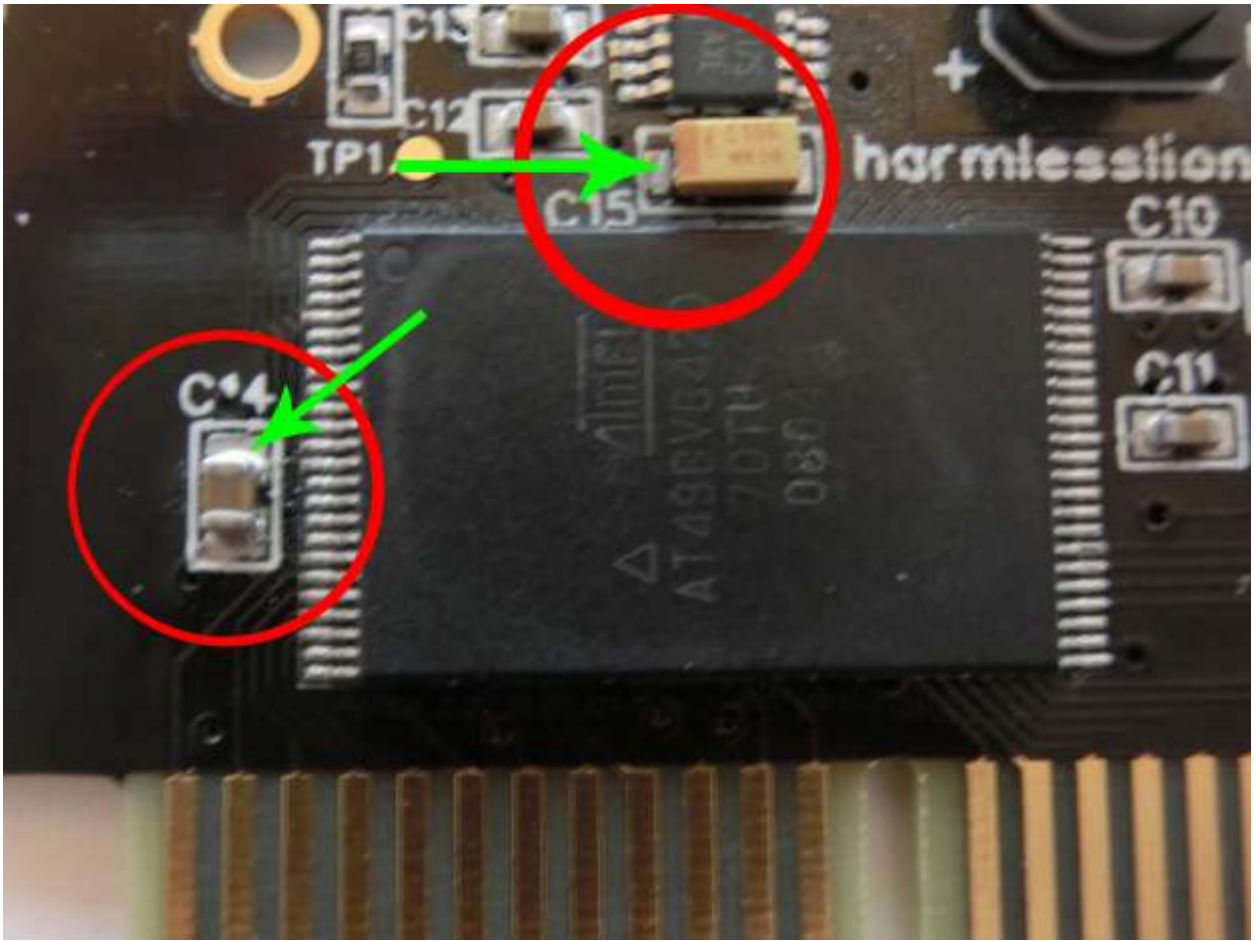
4. Remove a portion of the copper trace to break conductivity. The easiest way is to make two cuts across the copper and remove the copper between the cuts. Again, be careful not to nick other traces, do not cut deeply into the PCB itself, and do not cut yourself.



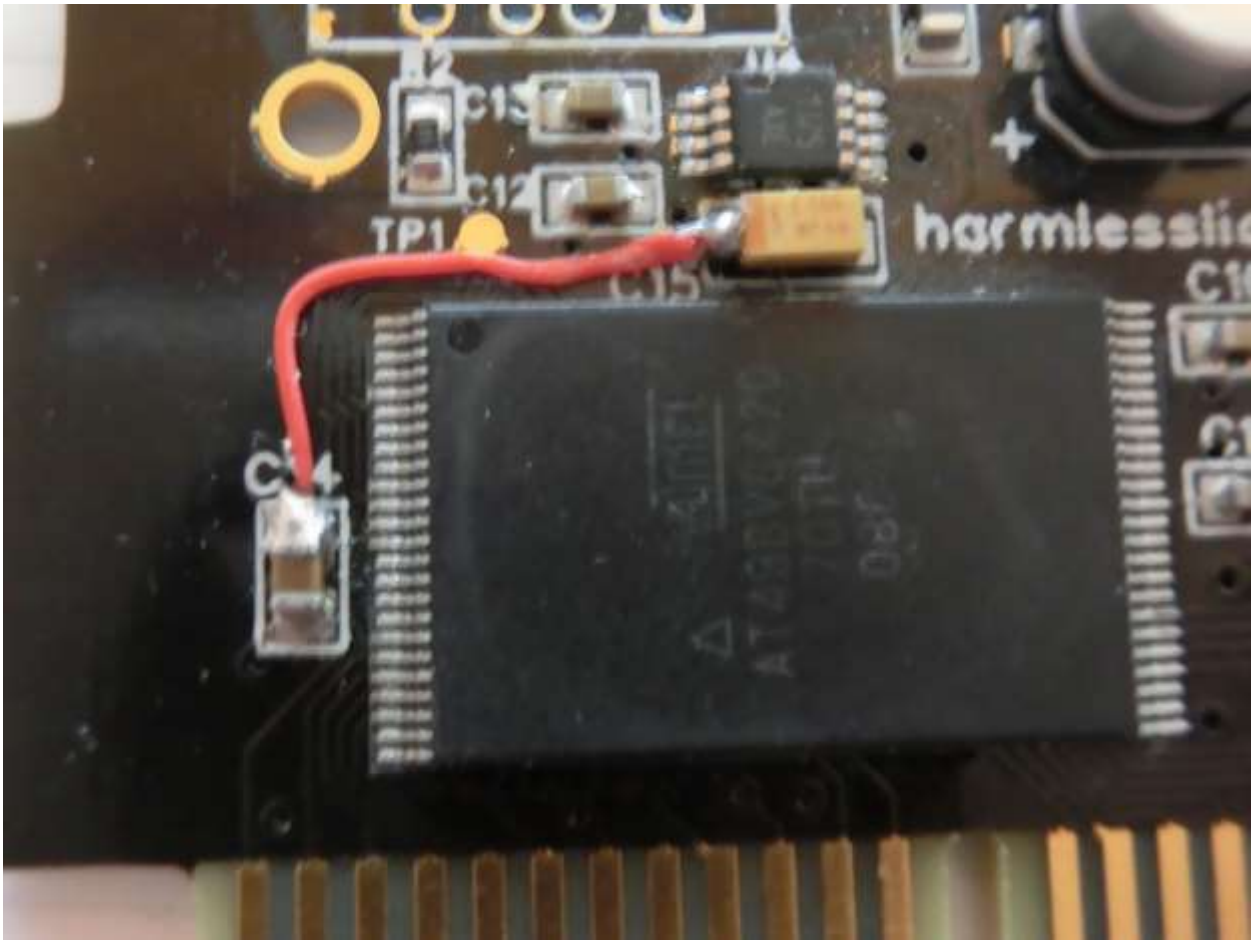
5. Use an ohm-meter to verify no conductivity across the cut trace. This disables the 9v feed to the flash chip.
6. Flip the board over to the component side. Locate the flash chip on the left side.



7. Identify C14 and C15 as in the following picture. The arrows show the sides you must attach to.



8. Attach a jumper wire connecting the two capacitors as shown below. Feel free to do a better job than I did. ;) Note that attaching to the correct side of each capacitor is very important. Be careful not to spill solder onto neighboring parts.



9. Use an ohmmeter to verify connectivity. This connects the regulated 5v to the programming pin.

10. At this point you are done, however, the high voltage programming mode available in Rev 1 and Rev 2 firmware will not function. You must always use JCP with the '-w' option for "slow word write mode". (Attempting to write otherwise will fail). It is recommended to update the board to a revision 3 BIOS, which no longer supports the high voltage mode and has optimizations to improve the performance of the word write mode. The current revision is 3.0.2 and can be located at <http://harmlesslion.com> in the full distribution package or at AtariAge <http://atariage.com/forums/topic/253868-skunkboard-update/?p=3533731> (registration required to download).