# Colecovision Dual BIOS Installation

When the Colecovision system is first turned on, it has a long 12 second delay before the game to play can be chosen. There is a modified BIOS that can be installed to remove that delay but there are games that it is not compatible with. This kit is for the installation of a switch selectable dual BIOS that will run all games. With the switch in the up position, the no-delay version of the BIOS will run and with the switch in the down position, the standard BIOS will run.

The installation of the BIOS is easy, but will require some modification to the Colecovision game board. The Colecovision uses a 24 pin 8k x 8bit ROM for the BIOS instead of an industry standard 28 pin version. Coleco did engineer the system with jumper pads, easily identified bridge traces, and enough solder pads and traces to install the 28 pin IC.

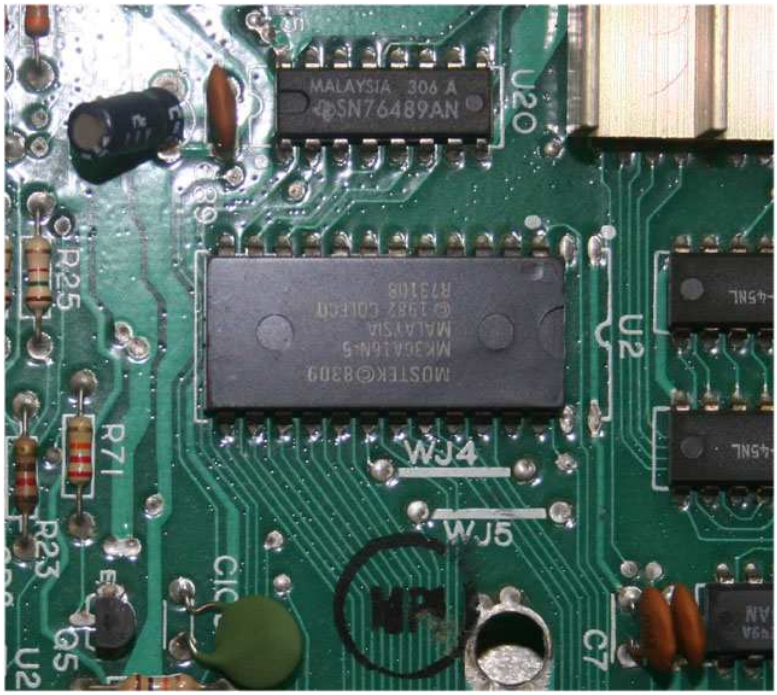
For this kit, those extra pieces will be reconfigured to allow a 16k x 8bit, 28 pin EPROM to be plugged in. The uppermost address line will be switched to select the BIOS type to run.

WARNING: Do this at your own risk. Only you are responsible for any damage to your system. If you cannot solder and desolder IC chips then please get help with the installation of this kit.

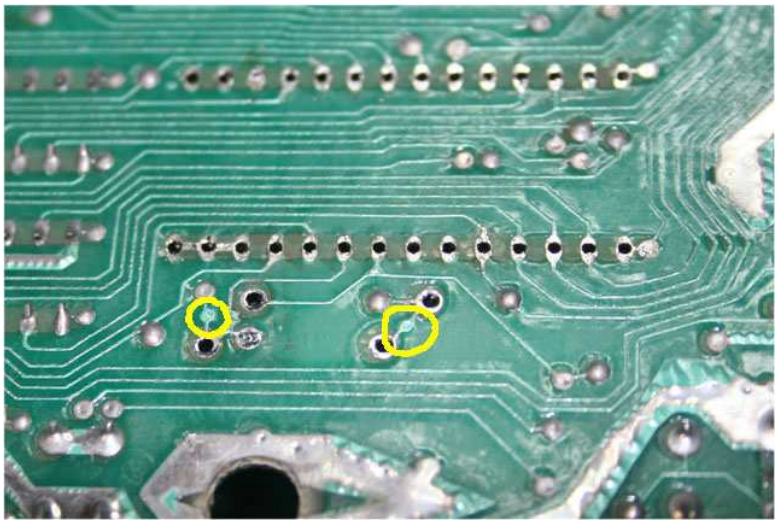
Disassemble the Colecovision

Take 8 screws from the bottom. Carefully peel the silver & black Colecovision sticker from the front panel to reveal 3 more screws. Remove those and the front panel will come off. The expansion module door will fall out as well. It's only held in by the front panel's pressure against the case.

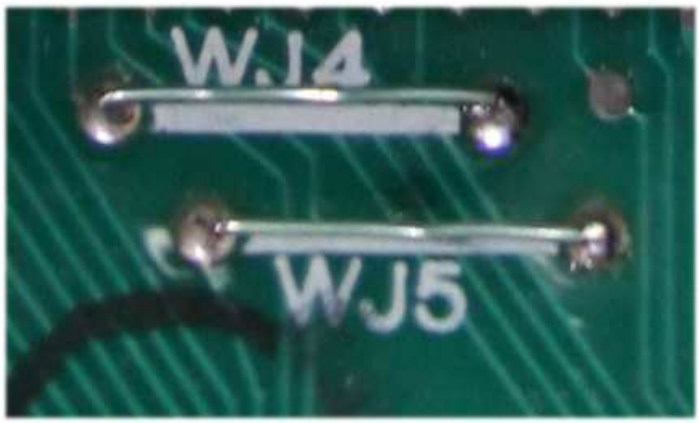
Take the 3 screws out of the RF shield then use a hot soldering iron to melt the solder by the expansion bay connector holding the shield in place. Remove the shield and remove the last screw in the middle of the board holding it in place.




First, desolder and remove the old BIOS chip and desolder the holes for jumpers WJ4 and WJ5. These jumpers are located right next to the BIOS chip.



Flip the board over and look at the desoldered holes for WJ5. Off each end of the jumper location WJ5 are little round cut-out pads connecting to other solder points. Cut these pads off the board. There's one between one end of WJ4 and WJ5 jumpers and another one that comes off of WJ4 and connects to pin 2 of the 28 pin BIOS socket.




With those 2 pads cut out, the next step is to solder in jumpers at location WJ4 and WJ5. The board is now wired for a 2764 EPROM.

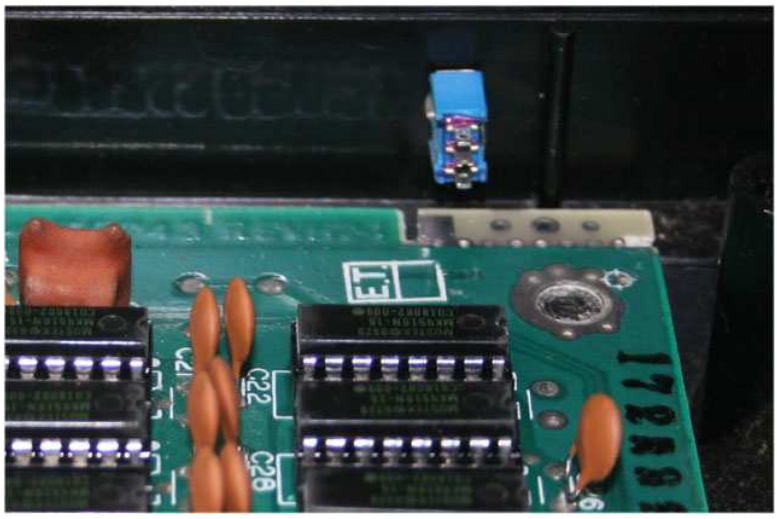
Solder in a socket, program the proper code into the EPROM and insert it. Give the board a smoke test. If it's not working, trace the signals and double check your work.

Pin 2 is A12
Pin 23 is A11
Pin 20 is CE*

If A12 and A11 are shorted then the circular pad wasn't cut off one end of WJ4.

If A11 and CE* are shorted then the circular pad between WJ4 and WJ5 wasn't cut.

The next step is to wire up a switch to select between the high and low banks.



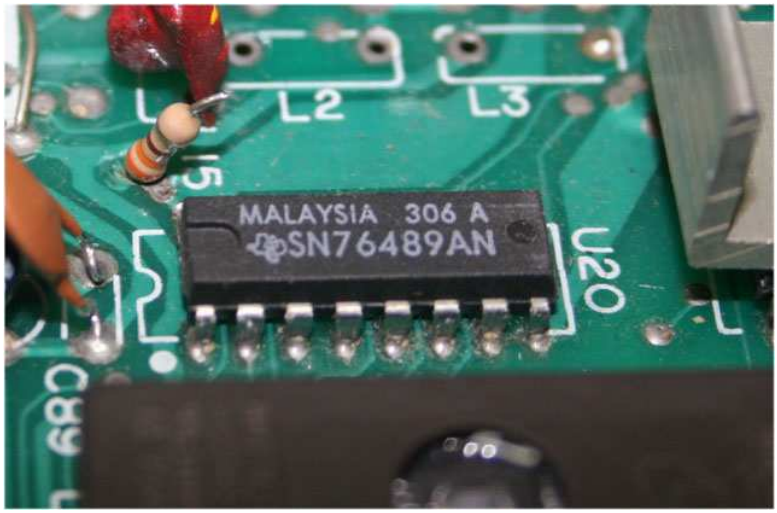

Drill a 3/16" hole in the rear case of the Colecovision to mount the switch. Be careful on this step! Leave enough room to put in 3 RCA jacks if an audio/video modification board is to be installed at a later date.

Test fit the RF shield on the board. Trim the rear of the shield to accommodate the wires needed for the switch. If installing an audio/video kit at a later date then simply cut out a large section of the shielding but DO NOT remove it. Simply cut the sides and fold it back against the top to keep sharp edges at a minimum.

Set the shield off to the side and continue with the modifications.

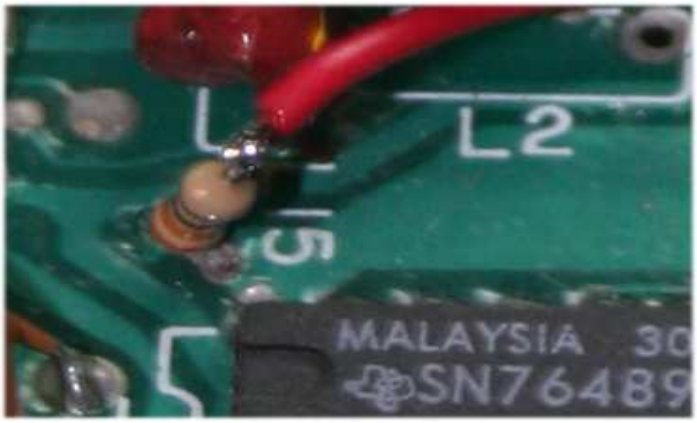
Strip 3/16” of insulation from each of the 3 wires included with the kit: red, black, and green. Tin the ends of the wires.

Next, CAREFULLY tin the lugs on the switch. If too much heat is applied the switch will be rendered inoperable. Heat damaged switches can be replaced by picking up one at the nearest Radio Shack or other local parts supply house.



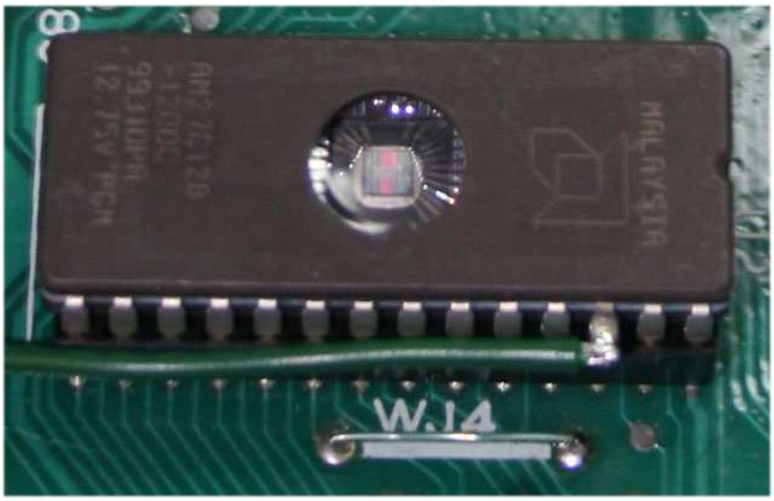

Desolder the holes next to pin 16 of U20, the SN76489 sound chip, and solder the supplied 330 ohm resistor into the hole to where it sticks straight up. This will be the source of +5v to select the upper ROM bank. The 330 ohm resistor does not have to be

installed, but it is a good idea. It will keep the power supply from shorting out if the red wire is somehow grounded.

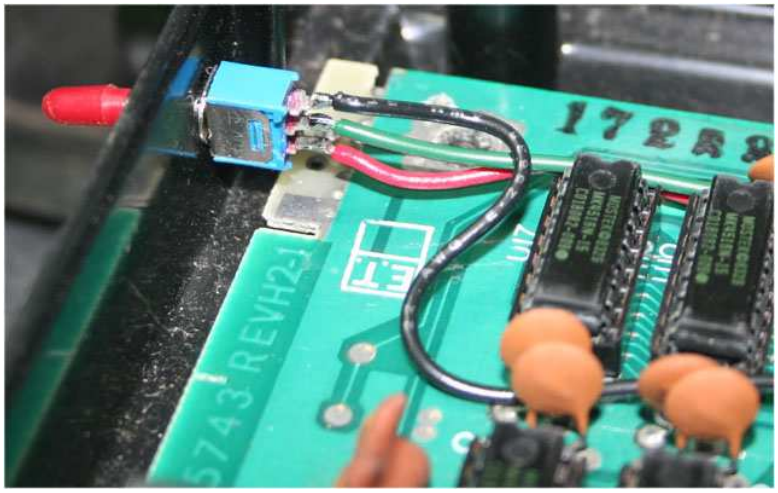



Solder the RED wire to the bottom lug of the switch and to the top end of the 330 ohm resistor. Heat shrink tubing can be used to insulate the solder joint, if desired.

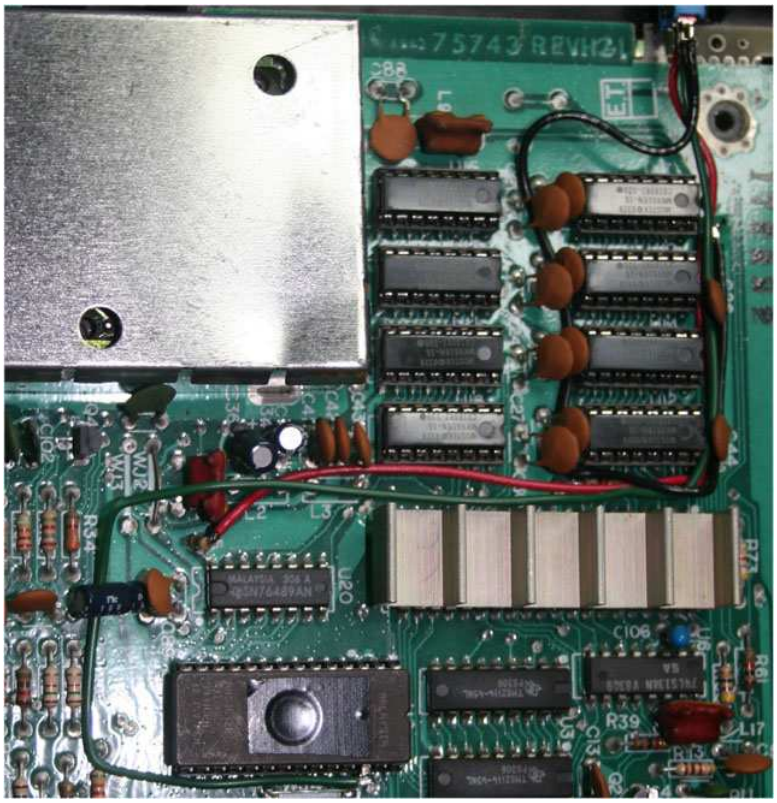
HINT: The stiff wire can be bent into shape with needle nose pliers and routed cleanly to the switch




Remove the 27128 EPROM from its socket and bend pin 26 up enough to stick straight out to the side of the chip. Cut the narrow part of the pin off, tin the pin of the chip, and then reinsert it into the socket. Run the GREEN wire from this pin to the center pin of the SPDT switch.



Connect the BLACK wire from the upper pin of the switch to ground. Any of the ground legs on the ceramic caps next to the memory chips can be used for this.



Route the wires as desired then reconnect the system and test. With the switch up the No Title Delay BIOS will run and with it in the down position the regular Colecovision BIOS will run.

Congrats! Reassemble the system and enjoy it, but keep in mind the system may crash if the switch is flipped while power is on. Simply press the reset button to recover.