



ColecoVision and ADAM 8 BIOS Selector Kit Installation Guide



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Rev C. All specifications and included hardware are subject to change.
<http://www.lundyelectronics.com>

Product overview

The **Lundy Electronics ColecoVision and ADAM 8 BIOS Selector Kit** replaces the factory BIOS chip and is the first BIOS mod offering all eight known BIOS images in one adapter without the need for case mounted switches or physical jumpers on the adapter PCB. This kit requires no modifications to the case or opening the case to select a different BIOS image after installation.

This kit requires the user to be comfortable with disassembling the ColecoVision or ADAM and be able to de/solder. This document does not explain how to disassemble or reassemble the ColecoVision or ADAM.

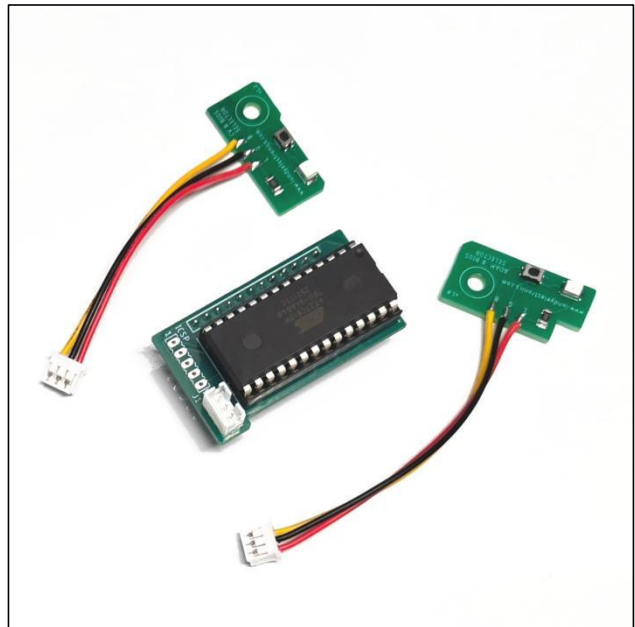
Note: This product is for all ADAM standalone consoles but is limited to only NTSC ColecoVision consoles because of space restraints of a PAL PCB layout.

What's included

- Populated 8 BIOS Adapter PCB
- ColecoVision or ADAM Selector PCB (option selected at time of purchase)
- BIOS PROM
- 24-pin DIP socket (option selected at time of purchase)

How does it work?

A small microcontroller monitors a momentary button hidden out of view and accessed by opening the cartridge slot cover. Use a non-conductive device such as a pencil with eraser or plastic pen to press a selector button while the unit is powered. Pressing the selector button will allow you to select up to eight BIOS images. The microcontroller counts each press of the button and will flash an LED indicator to make the desired BIOS selection count easier to see. A short time of no button activity will prompt the microcontroller to permanently save the new BIOS selection internally. For example, pressing the button twice will permanently save "NTSC short delay" to the microcontroller for all future use until a new selection is made.





The list of BIOS selections are as follows:

Disclaimer: All non-official images are considered hacks and not guaranteed bug free. List is subject to change. No delay images are known to have issues with some titles.

- 1 – NTSC – Factory (official)
- 2 – NTSC – Short delay
- 3 – NTSC – Button skip
- 4 – NTSC – No delay
- 5 – NTSC – Button skip with alternate font hack
- 6 – NTSC – Button skip with bold font (Bruce Tomlin optimized, **will not work on ADAM**)
- 7 – PAL – Factory (official)
- 8 – PAL – Button skip

The remote button/LED selector board mounts in place using the factory PCB mounting screw just above the cartridge slot. It is designed to not interfere with an inserted cartridge.

Please read these instructions in their entirety before performing this installation.

Installation instructions

Note: Your **ColecoVision and ADAM 8 BIOS Selector Kit** has been carefully tested by Lundy Electronics which includes close visual inspection for defects and testing in a physical console to ensure no faults or issues. We guarantee that this product is fully operational, and Lundy Electronics is not responsible for damages caused by static discharge, improper handling, incorrect installation, or damage caused by de/soldering.

Lundy Electronics considers this device a permanent solution that can be soldered directly without using a socket if you so choose. The device itself has a socket for any future BIOS set changes. Soldering directly also reduces the risk of broken/bent pins or working loose.

With the ColecoVision or ADAM Delta (upper) PCB completely removed from the case, perform the following steps.

IMPORTANT NOTE: If you are installing this kit in a ColecoVision, verify the installed U2 BIOS is 24-pins shown in **Figure 1a**. The ColecoVision had the ability to be modified by third parties to convert the factory 2364 (24-pin) pinout configuration to a standard E/PROM 27 series (28-pin) pinout configuration. If your console was modified in this way to a 28-pin chip and you see jumpers placed in WJ4 and WJ5 just below the chip, you will need to reverse the conversion back to Coleco factory configuration before proceeding this procedure. See *addendum 28-pin configuration removal*.

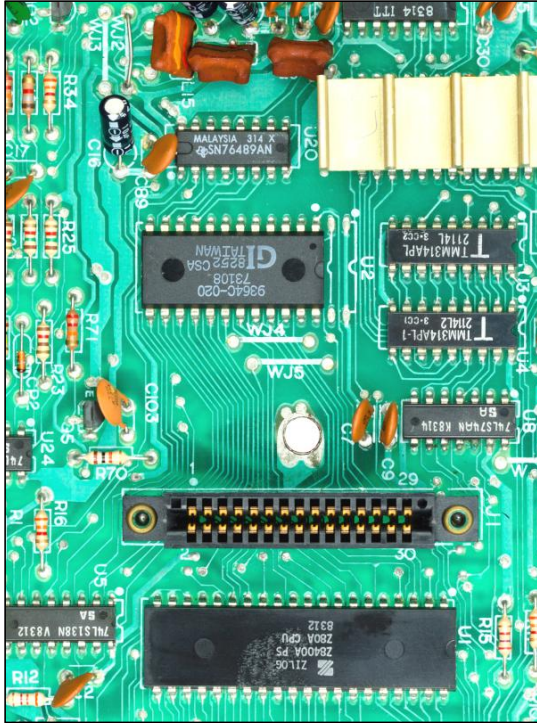


Figure 1a: ColecoVision



Figure 1b: ADAM

Step 1: Locate the U2 BIOS chip. It is the same for both the ColecoVision and ADAM Delta (upper) PCB. See **Figures 1a and b**.

Desolder U2 and install a 24-pin DIP socket in its place. Note: On the ColecoVision, make sure the socket is soldered in the exact same lower offset as the original BIOS with the top four PCB solder pads unused and the notch of the socket is the same orientation. See **Figure 2a**. The original BIOS chip is no longer needed and can be safely stored.

Step 2: Insert the 8 BIOS Adapter PCB in the socket. Note: The adapter **MUST** be properly oriented in the socket with the notch of the adapter chip the same as the original BIOS chip. See **Figures 2a and b**. Be sure to trim any long adapter pin leads afterwards if you chose to solder it directly.

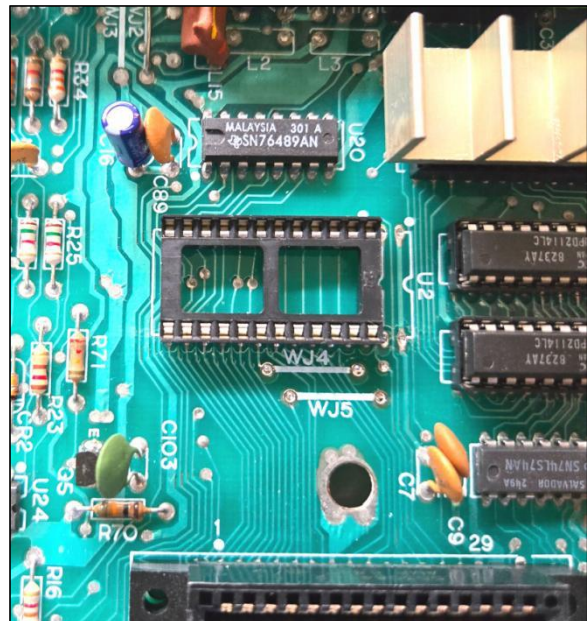


Figure 2a: ColecoVision



Figure 2b: ADAM



Figure 3: ColecoVision example shown

Step 3: Carefully plug in the small Selector PCB 3-pin connector to the 8 BIOS Adapter PCB, supporting it with your finger from the underside of the board as you press. Let Selector PCB dangle unmounted for now. See **Figure 3**.

Step 4: Mount the Selector PCB using the original factory screw. See **Figures 4a and b**.

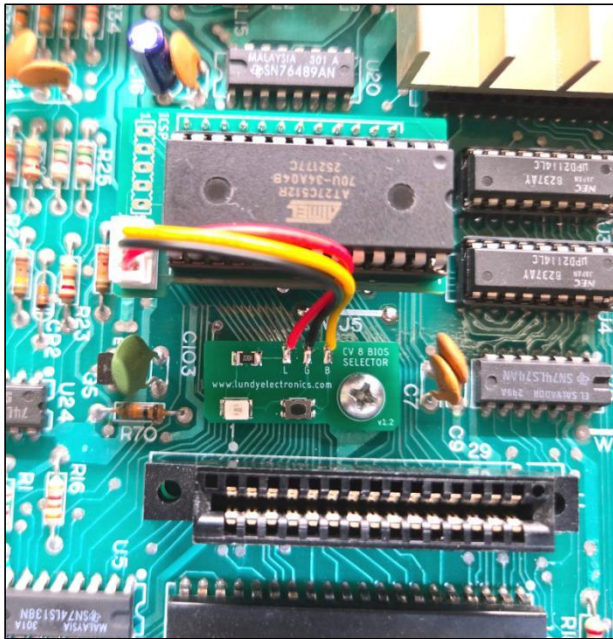
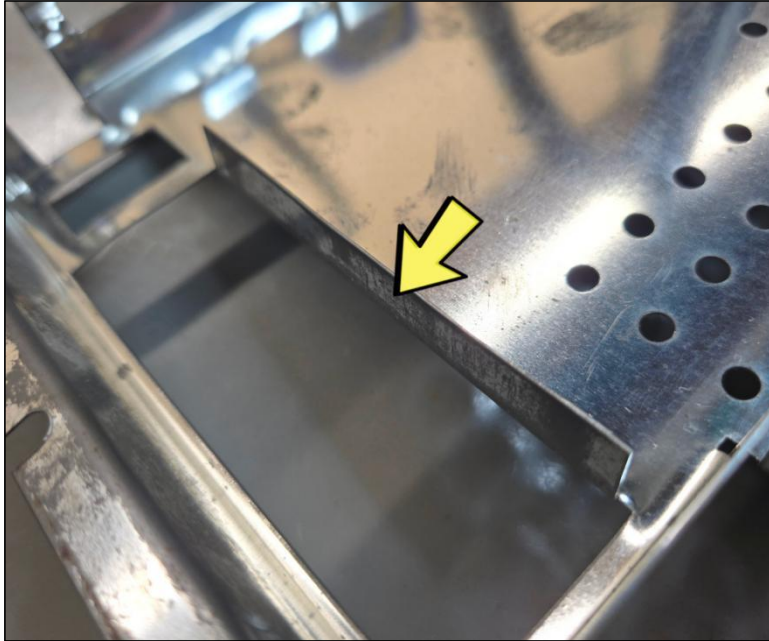


Figure 4a: ColecoVision



Figure 4b: ADAM



Bend edge away from cartridge slot opening.

Figure 5: Upper RF tin (ADAM tin shown)

Step 5 (optional): Bending the upper RF tin above the cartridge area a couple millimeters can make it easier to reach the selector button and typically only helps when installing in the ADAM. See **Figure 5**.

Installation is now complete. Thank you for choosing Lundy Electronics, and we hope you enjoy your product.

Addendum: 28-pin Configuration Removal

Perform this addendum only if your ColecoVision was modified by a third party to convert the factory 2364 (24-pin) pinout configuration to a standard E/PROM 27 series (28-pin) pinout configuration. The following procedure converts it back to factory 2364 (24-pin) pinout configuration before installing this adapter.

Note: Some repair shops will install a 28-pin socket for future use but still maintain a factory 2364 (24-pin) pinout configuration. This is true if you see a 24-pin chip inserted in the lower pins of the 28-pin socket and WJ4 and WJ5 are not jumpered. If this is the case, no conversion is necessary, and you can simply install the adapter starting at **Step 2** to the existing socket lower pins, leaving the top four socket slots empty.

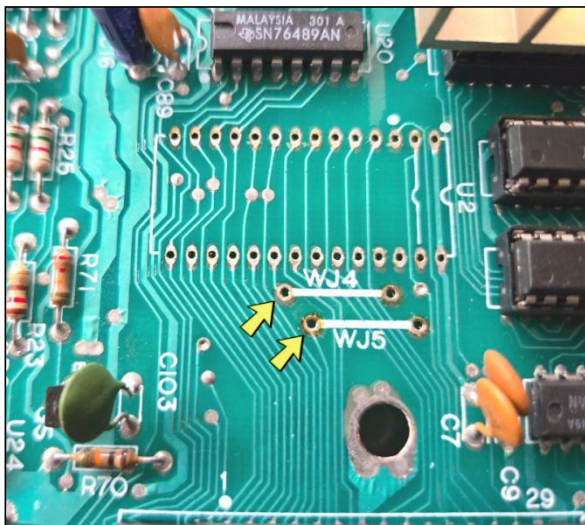


Figure A1

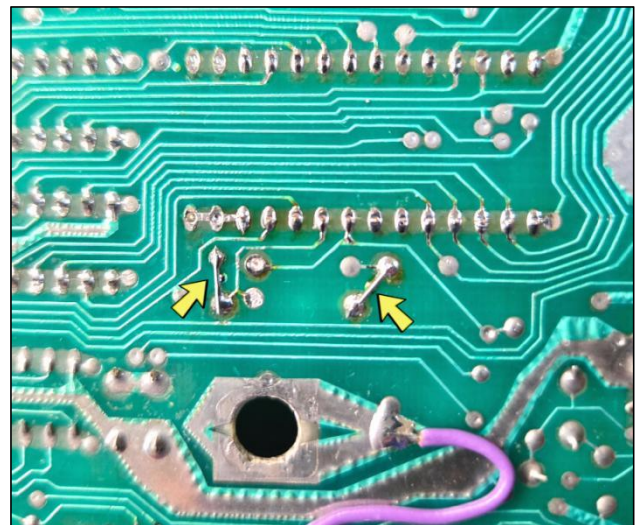


Figure A2

Step A1: Remove both WJ4 and WJ5 jumpers of the ColecoVision PCB located just below the BIOS chip socket. See **Figure A1**.

Step A2: Jumper the two cut traces on the bottom side of the ColecoVision PCB. See **Figure A2**.

Factory conversion is now complete, and you can now perform the installation procedure.



Addendum: 8 BIOS Selection Quick Reference Sheet

The following quick reference can be printed and affixed to your console.

8 BIOS Selection Quick Reference

- 1 – NTSC – Factory (official)
- 2 – NTSC – Short delay
- 3 – NTSC – Button skip
- 4 – NTSC – No delay
- 5 – NTSC – Button skip with alternate font hack
- 6 – NTSC – Button skip with bold font (Bruce Tomlin optimized, will not work on ADAM)
- 7 – PAL – Factory (official)
- 8 – PAL – Button skip



Addendum: Ways to Identify Active BIOS Selected if Required

By default, the 8 BIOS selector is designed to appear “stealth” and doesn’t flash the LED during boot or normal operation. A “visual” mode can be activated by pressing the selector button for one second while powering on the console. This mode is saved until the same process is repeated to disable it. When “visual” mode is active, the LED will blink to show what image number is currently selected when powering on the console.

If you have a cartridge emulator, a ColecoVision/ADAM cartridge ROM image utility called CVBIOSID created by Troy Schrapel and modified to show standard ColecoVision/ADAM Checksum 16 by John Lundy is also a great way to identify what BIOS is currently active.

<https://github.com/JohnLundy/cvbiosid>