



ADAM Gamma DRAM to SRAM Converter Installation Guide



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Rev A. All specifications and included hardware are subject to change.

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Product overview

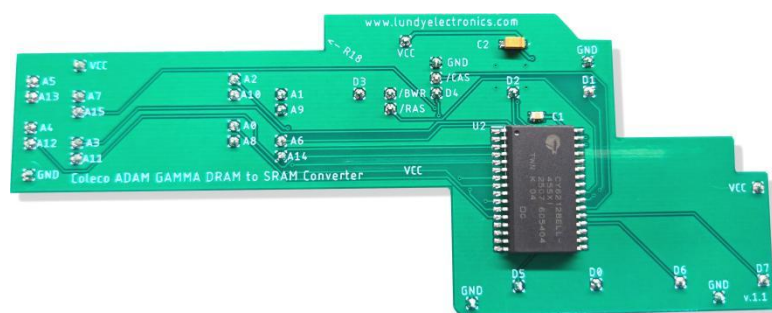
The Lundy Electronics ADAM Gamma **DRAM to SRAM Converter** PCB mod is the first conversion of its kind designed for the ADAM. This mod requires the user to have the required equipment and knowledge to safely solder and desolder components from their ADAM Gamma PCB and the necessary skills to read ADAM schematics if problems arise from damage to traces performing this mod. This document does not explain how to disassemble or reassemble the ADAM.

What's included

- Populated DRAM to SRAM Conversion PCB

Tools required

- Desoldering iron
- Soldering iron
- Multimeter if troubleshooting is needed



How does it work?

The Lundy Electronics ADAM Gamma **DRAM to SRAM Converter** PCB mod uses modern, readily available components to replace original, obsolete DRAM. The added benefit of this mod is that it also removes all eight DRAM and two multiplexer ICs and replaces them with a single SRAM IC. All the original DRAM, associated decoupling capacitors, and two multiplexer ICs are completely removed from the system. The new SRAM Conversion PCB then installs where the original components were removed, and specific required pins are then soldered in place on the PCB. The Converter PCB only requires 36 total solder pins versus the original 176 total DRAM, associated decoupling capacitors, and multiplexer IC solder joints.

!!! VERY IMPORTANT !!!

This product MUST be soldered directly to the ADAM Gamma PCB without the use of any sockets for proper clearance of third slot expansions.

Installation instructions

Note: Your DRAM to SRAM Converter PCB has been carefully tested by Lundy Electronics which includes visual inspection under a microscope, full testing in an ADAM console, heat stress testing, and tap/vibration testing to insure no faulty solder joints or issues found. It is guaranteed that this product is fully operational, and Lundy Electronics is not responsible for damages caused by static discharge, improper handling, or damage from desoldering and soldering.

With the ADAM Gamma PCB completely removed from the case, perform the following steps.

Step One

Desolder and remove all associated decoupling capacitors, DRAM, and multiplexer ICs. Below is a listing in the order on the PCB for easier reference. See **Figure 1**.

- Decoupling capacitors: C12, C13, C14, C15, C16, C17, C18, C19, C58 (not present on most boards); remove any additional capacitors soldered directly on C21 or C23 that may be in the way of the SRAM board (not present on most boards)
- DRAM: U11, U12, U13, U14, U15, U16, U17, U18
- Multiplexer ICs: U9, U10

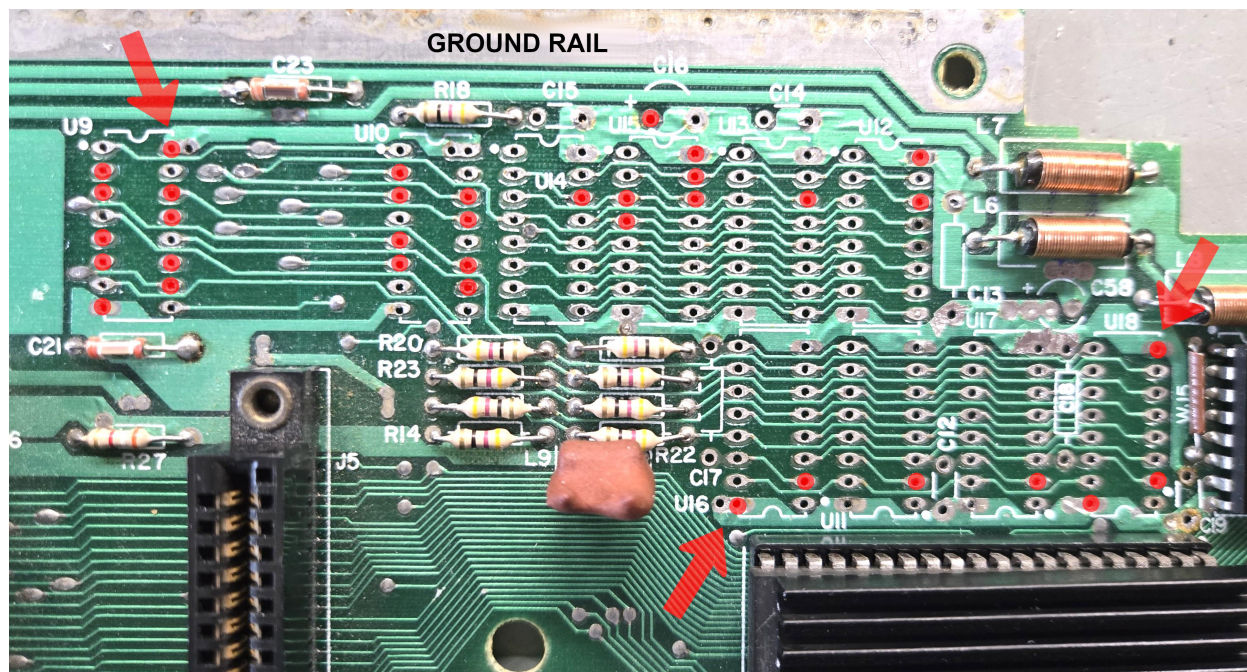


Figure 1



Step Two

Inspect desoldering work performed and repair any visual issues found or take notes at this point to address later if bodge/repair wires need to be added after the new DRAM to SRAM converter board is installed. Verify all solder is fully removed from solder pads shown in red in **Figure 1** to ensure room for pins later. Note: Redundant parallel signals are not used by the new SRAM Converter mod PCB and may not even have to be addressed if the break is after where the signal is being tapped for the new PCB. See troubleshooting section for diagnosing broken traces if needed.

Step Three

Start the process of installing your new SRAM Converter mod PCB by aligning the GND and VCC pins just above the U24 40-pin IC then verify the placement of GND and VCC at the far left of the PCB as the reference to properly align the PCB. See arrows in **Figure 1**. Carefully and slowly lower the PCB in place. Do not rush this process. It may be necessary to wiggle the PCB slightly if any pins are ever so slightly off as you work them all in place as you carefully lower it. If for some reason a pin will not align, bend it slightly to seat. Lower the PCB as parallel as possible with the ADAM Gamma PCB to avoid bending pins and making the installation more difficult.

Step Four

Once the Converter PCB is seated fully in place, carefully rotate the entire ADAM Gamma PCB and verify the board is still fully seated all the way down. Carefully solder all 36 pins in place to the corresponding original solder pads. Your new **DRAM to SRAM Converter** mod PCB is now installed and ready for testing.

Testing

Attach the ADAM Gamma PCB in the case without any RF tins followed by the upper Delta (CV) PCB and connect the power supply with the power switch in the OFF position. Also connect audio and video using your unit's configuration. Power on the display and console unit and verify it boots to SmartWRITER without any display issues or speaker buzzing. If it correctly displays SmartWRITER cleanly, then congratulations, your new SRAM board is now operational. Enjoy! If you are experiencing display issues or speaker buzzing, see troubleshooting section below.

Troubleshooting

To fully troubleshoot any issues, use the following checklist to verify each signal used by the SRAM PCB to the corresponding IC and corresponding pin number to find any broken traces to repair. It is assumed the installer understands proper pin numbering scheme of DIP IC packages.

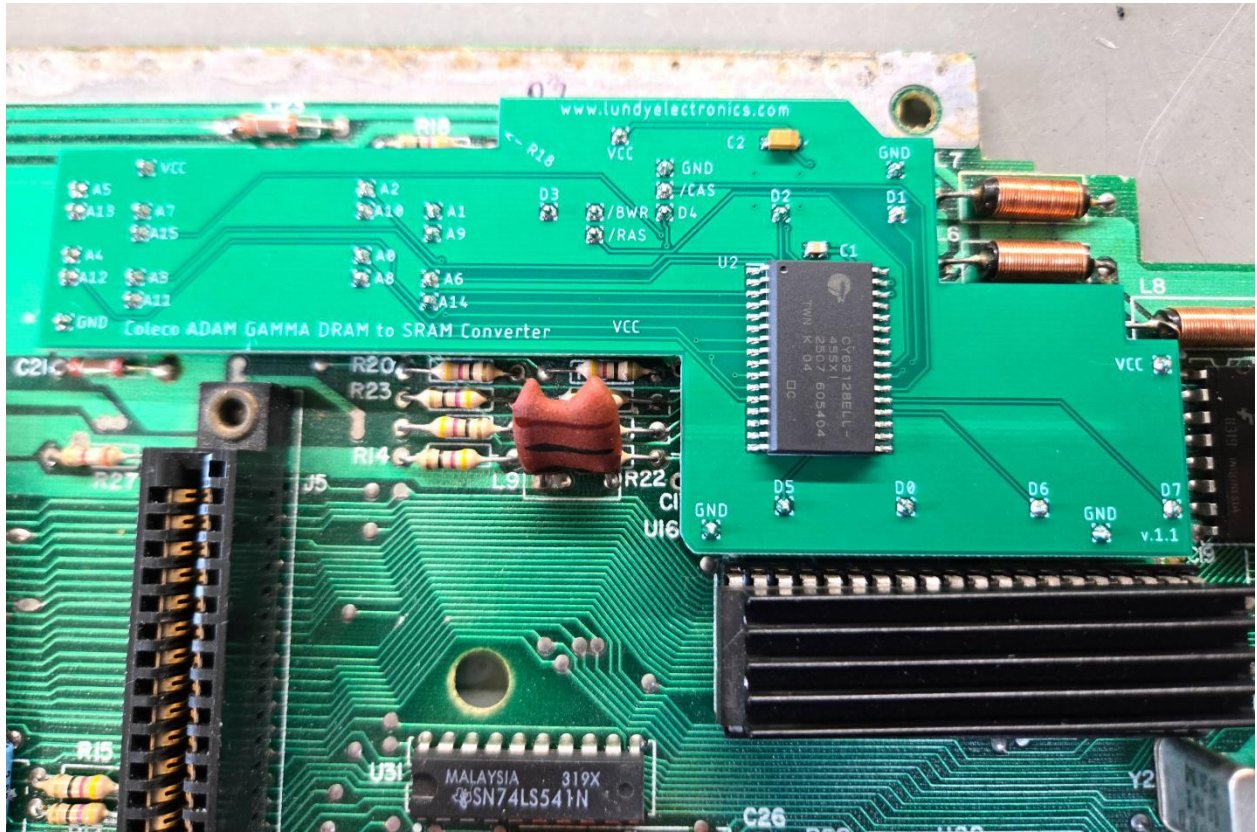


The following checks are done from the top side of the ADAM Gamma PCB in order of PCB top to bottom.

SRAM PCB	Test Location
<input type="checkbox"/> GND (5)	Ground Rail along top of PCB (see Figure 1)
<input type="checkbox"/> VCC (3)	Top side of L1
<input type="checkbox"/> A5	U6 Pin-24
<input type="checkbox"/> A13	U6 Pin-18
<input type="checkbox"/> A4	U6 Pin-25
<input type="checkbox"/> A12	U6 Pin-17
<input type="checkbox"/> A7	U6 Pin-22
<input type="checkbox"/> A15	U6 Pin-20
<input type="checkbox"/> A3	U6 Pin-26
<input type="checkbox"/> A11	U6 Pin-16
<input type="checkbox"/> A2	U6 Pin-27
<input type="checkbox"/> A10	U6 Pin-15
<input type="checkbox"/> A0	U6 Pin-29
<input type="checkbox"/> A8	U6 Pin-13
<input type="checkbox"/> A1	U6 Pin-28
<input type="checkbox"/> A9	U6 Pin-11
<input type="checkbox"/> A6	U6 Pin-23
<input type="checkbox"/> A14	U6 Pin-19
<input type="checkbox"/> D3	U6 Pin-34
<input type="checkbox"/> /BWR	R12 (between 2 nd and 3 rd expansion slots)
<input type="checkbox"/> /RAS	U7 Pin-38
<input type="checkbox"/> /CAS	U7 Pin-39
<input type="checkbox"/> D4	U6 Pin-33
<input type="checkbox"/> D2	U6 Pin-35
<input type="checkbox"/> D5	U6 Pin-32
<input type="checkbox"/> D1	U6 Pin-36
<input type="checkbox"/> D0	U6 Pin-37
<input type="checkbox"/> D6	U6 Pin-31
<input type="checkbox"/> D7	U6 Pin-30



Thank you for choosing Lundy Electronics, and we hope you enjoy your ADAM product.



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