

Studio 5 RAM Upgrade: Installation Manual

Studio 5 RAM Installation Instructions

IMPORTANT: Studio 5 RAM Installation must be performed ONLY by a qualified service technician.

NOTE: When you replace the RAMs, the Studio 5 will lose all of its internal patch data. Make sure to save a patch document reflecting the patches in the Studio 5 prior to installing new RAMs.

NOTE: The RAM chips and the Studio 5 are sensitive to static electricity. To avoid static discharge from your body while handling and installing the RAMs, you must wear a ground strap.

- ① Remove the power cord from the unit and turn off any devices (synthesizers, patchers, Macintosh, etc.) connected to the Studio 5.
- ② Put a ground strap around your wrist and connect it to an earth ground.
- ③ Remove the top of the Studio 5.

To do so, remove the 3 screws in the top of the front panel, the 3 screws in the top of the rear panel, and the 4 screws on top of the unit. After removing all 10 screws, lift the top of the Studio 5 off of the unit.

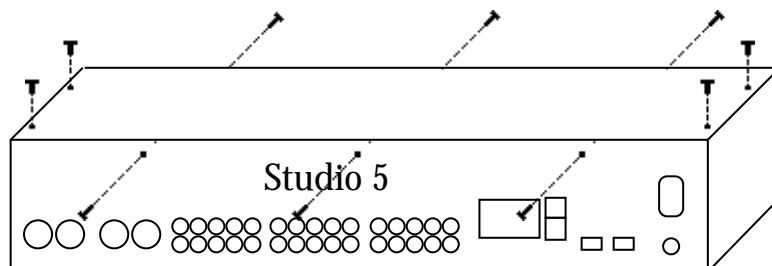


Figure 1: Remove Screws

④ Locate the RAM chips.

The RAM chips are located toward the middle of the main printed circuit board, between the ROMs and the back off the unit (as shown in [Figure 2](#)). The RAMs are NOT labeled, as opposed to the ROMs, which are labeled with the words "even" or "odd" and with a date (although not necessarily the date shown in [Figure 2](#)).

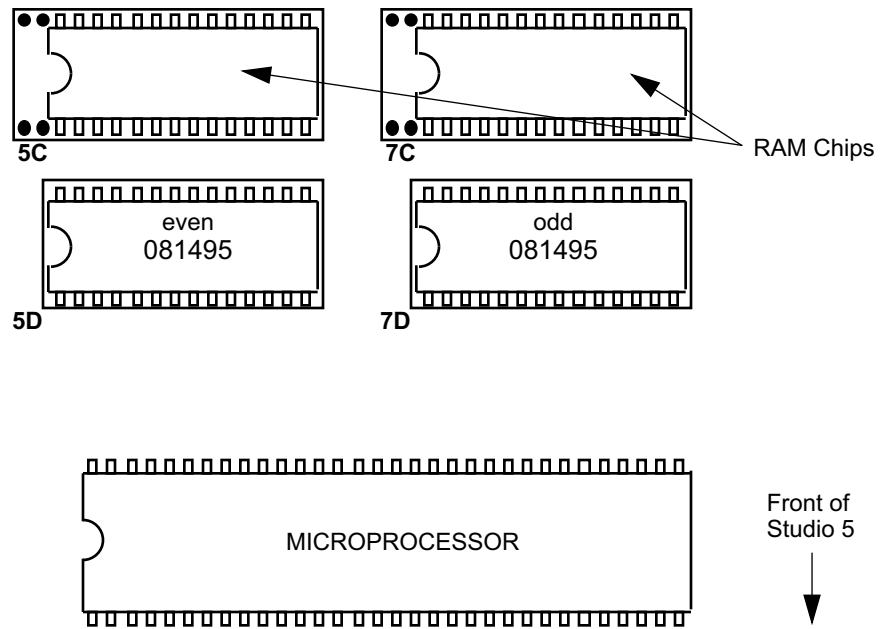


Figure 2: RAMs to Replace

⑤ Before you remove the existing RAMs, take note of their orientation. Specifically, the notches in the RAMs face left.

NOTE: Some early Studio 5's have RAM sockets that are too small to accommodate the new larger RAMs (as shown in [Figure 3](#)). These units are not user serviceable. If your Studio 5 looks like this, you may ship the unit to Opcode for free factory RAM installation. Please contact Opcode for details.

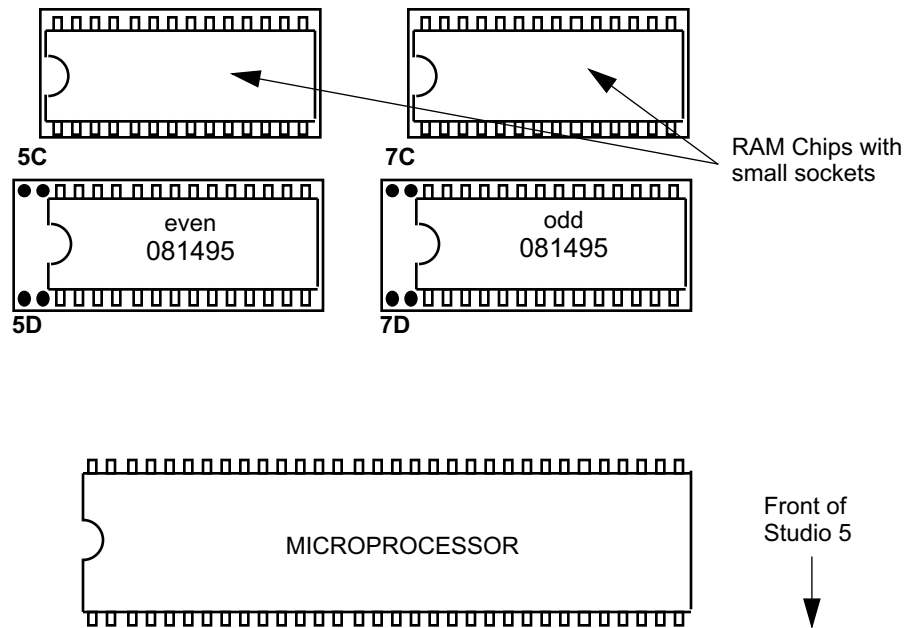


Figure 3: Studio 5's with Non-User Servicable RAM Sockets

- ⑥ Use a chip remover to pull the two RAM chips gently from their sockets.
- ⑦ Before inserting the new RAMs, examine them to make sure that there are no bent pins. The new RAM chips are physically larger than the old RAMs. Place each RAM chip in its socket (either RAM can go in either socket), making sure the pins align perfectly with all the socket holes, and apply steady pressure to the chip until it snaps into place.
- ⑧ Before you re-assemble the unit, turn it on while pressing both the increment and decrement buttons until the LED display on the front panel reads "--", after which you may let go of the buttons. The display should then flash 1 (the Studio 5 ID) and then 0. If this is not the case, recheck your work.
- ⑨ Reassemble the unit.
- ⑩ Please place the old RAMs in the anti-static materials supplied with the new RAMs and return them to us at:

Opcode Systems, Inc.
 c/o Studio 5 RAM Returns
 3950 Fabian Way, Suite 100
 Palo Alto, CA 94303