

8-Channel Analog Output Card Installation Instructions for E4 Ultra

6867

This kit upgrades an E4 Ultra with an 8-channel analog output card which increases the total analog audio outputs to 16. The card is cleverly designed so that it can use either one or two of the expansion slots on the rear panel of the Emulator. If you are short on back panel space and don't require "balanced" outputs, the card can be configured to have (4) unbalanced stereo jacks instead of (8) mono, balanced jacks.

The 8-channel Analog Output card kit is designed to be installed by service centers or technically minded users. The modification is fairly easy to install, however if you are unsure of your abilities, please contact E-MU for referral to an authorized service center.

This kit cannot be installed in older Non-Ultra E4's due to hardware constraints.

Tools Needed:

Phillips head screwdriver #2

Kit Contents:

- (1) These installation instructions
- (1) Analog Output Card
- (1) 20-pin ribbon cable
- (1) 16-pin ribbon cable
- (1) Ferrite cable clamp
- (1) Adhesive Velcro

These instructions are not provided as a guarantee against improper installation. When in doubt, contact: E-MU Customer Service at (831) 438-1921. Contact E-mu UK at +44 (0) 131-653-6556.

WARRANTY MAY BE VOIDED IF DAMAGE IS CAUSED BY IMPROPER INSTALLATION, IMPROPER OR INADEQUATE MAINTENANCE, ACCIDENT, ABUSE, MISUSE, ALTERATION, UNAUTHORIZED REPAIRS, TAMPERING, OR FAILURE TO FOLLOW PROCEDURES OUTLINED IN THESE INSTRUCTIONS.

—————> **WARNING** <—————

UNPLUG THE AC CORD BEFORE DOING ANY WORK!

Groundwork

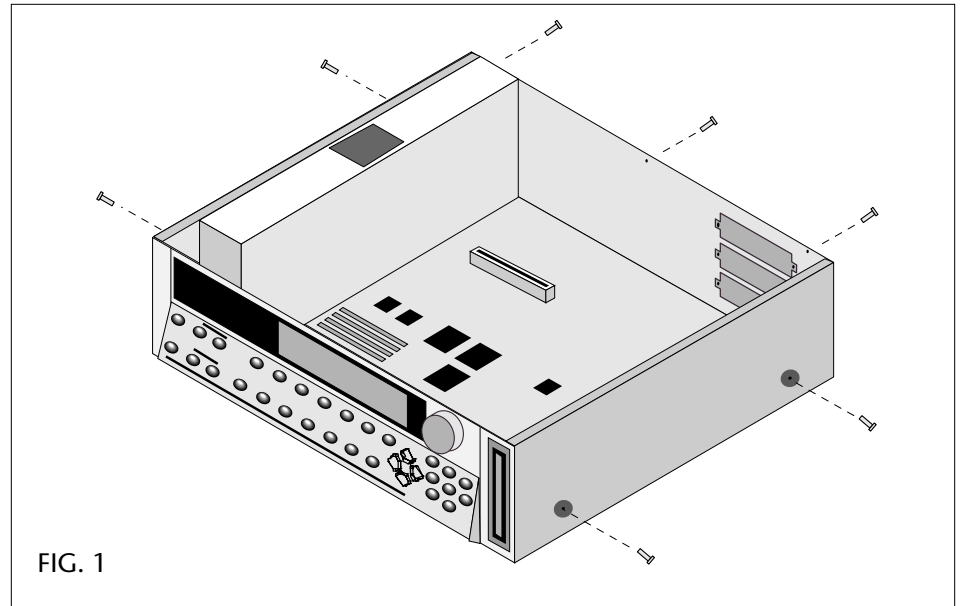
Before you begin, find a clean, well lit place in which to work. This procedure requires that you periodically "Ground" yourself, by touching a grounded object such as a water pipe or a grounded piece of equipment. Grounding yourself prevents the static charge in your body from damaging the sensitive memory chips. When you are asked to "Ground" yourself, simply reach over and touch the grounded metal. Do not walk across the room or a rug, as this will defeat the purpose of grounding.

★ Before you Begin: *The RFX card MUST be installed first in order to install the 8-channel Analog Output card!*

Also... This RFX-based Output Expander card cannot coexist with an older Analog Output card.

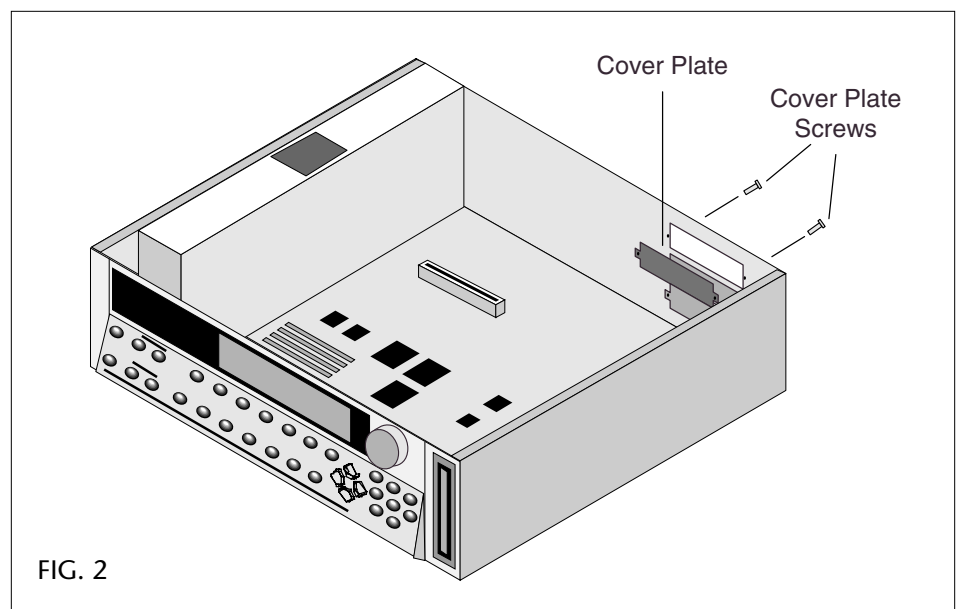
Remove the Top Cover

To gain access to the interior of the unit, the top panel must first be removed. The top panel is attached to the main chassis by means of (7) screws. There are three screws along the back of the unit and two on each side. When all the screws are removed, slide the metal top backwards and up off the unit, exposing the main circuit board. Set the top cover aside in a safe place and put the screws into a cup so they will not get lost. The power supply is covered by a metal box. Do not remove this metal cover!



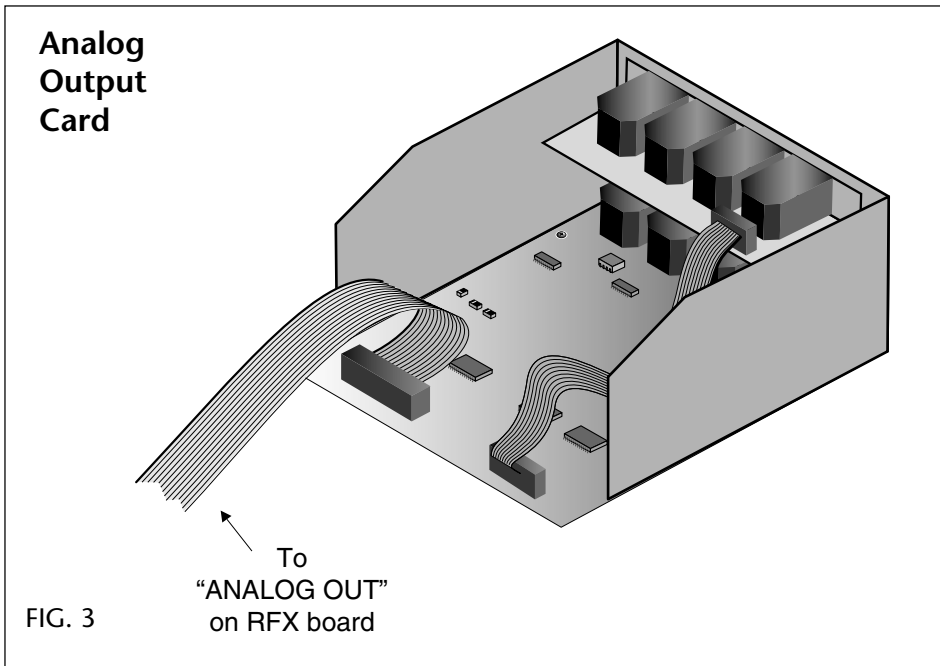
Remove the Metal Cover Plate

Before you install the Analog Output board, you need to make a place for it. On the back of the unit there are three metal cover plates covering the three option card slots. Choose a slot and remove the two screws from the plate. Put these screws in a cup and save them for later reassembly. Remove the cover plate and store it with your other “useful” things which don’t seem to have any particular use.



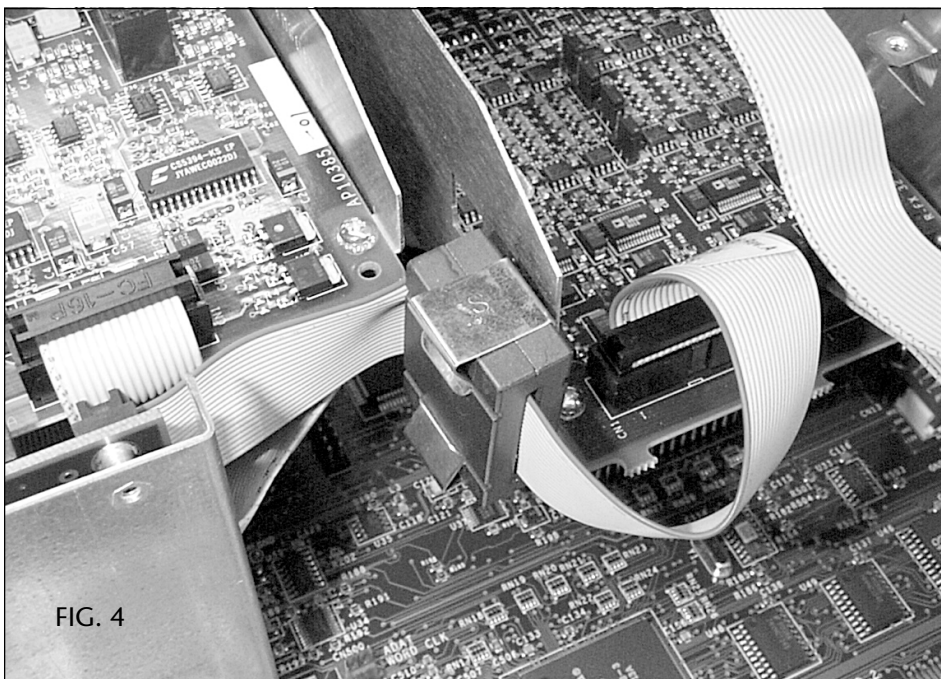
Install the Analog Output Board

The Analog Output Board is easy to install. Ground yourself again, by touching a grounded object, then remove the board from its protective bag.



Install the Analog Output card from the inside of the unit. While holding the card with one hand, secure with one screw from outside the unit. Use the same screws that were holding the cover plate.

Next install the other three screws and tighten them all down.

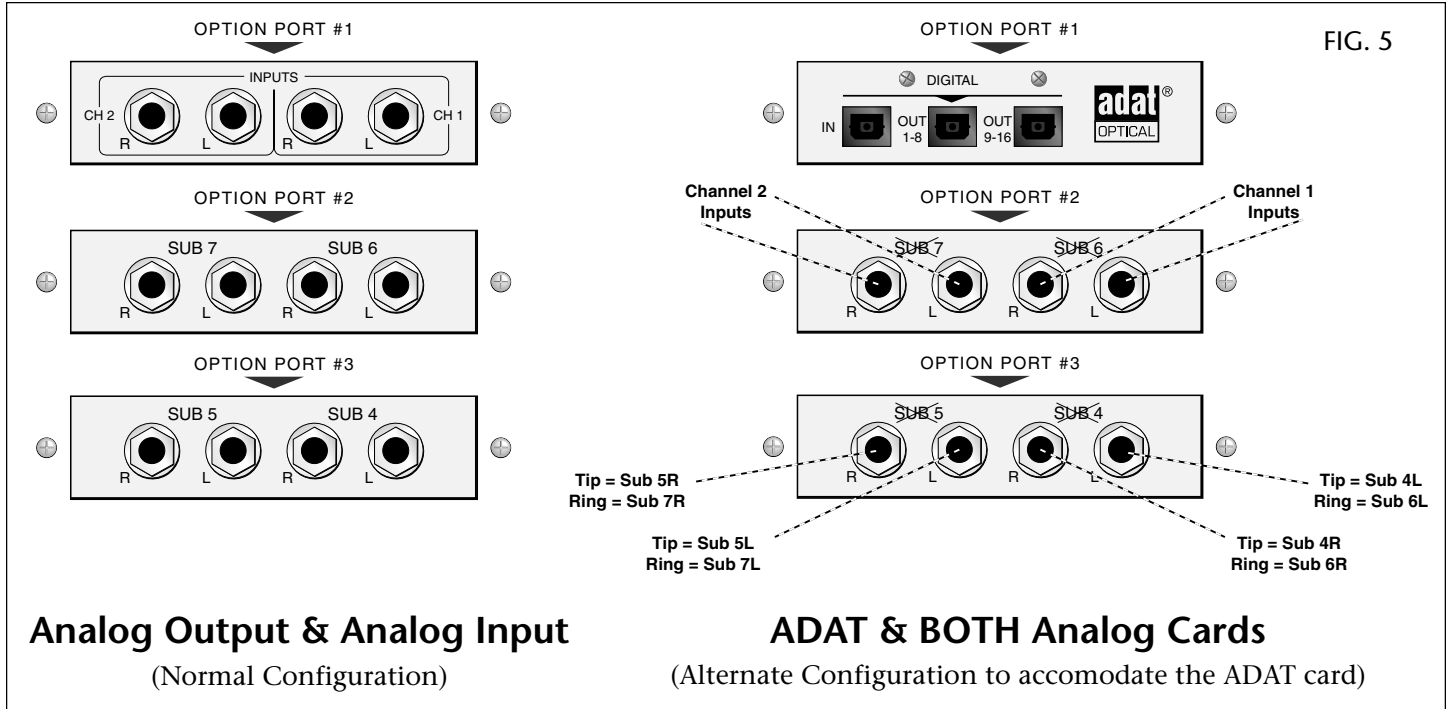


Connect the Ribbon Cable

Connect one end of the wide 20-pin ribbon cable to the card and the other to a connector on the RFX card labeled "Analog Out", which is on the top-right of the card. The cable only connects one way so you shouldn't have any problems. Be sure not to disconnect any other cables in the unit.

Alternate Configuration for the Output Card...

The card can be configured with (8) mono balanced jacks or 4 stereo unbalanced jacks. This was done because older E4 Ultras only have three rear panel expansion slots, two of which are used by this update. There aren't enough option slots for this card together with the ADAT Optical Interface and the Analog Input card. By unplugging the upper 4 jacks and converting the remaining four jacks to stereo unbalanced, all three option cards can be installed.



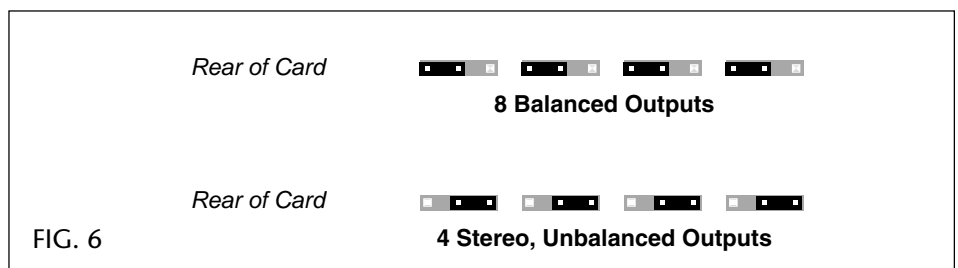
In the Alternate Configuration, the top 4 jacks of the 8-Analog output card have been removed, and the card reconfigured to provide 8 unbalanced outputs on 4 jacks. The Analog Input card is now installed in Option Port #2, leaving Option Port #1 free to accept the ADAT card.

Alternate Configuration

Here's how to configure the Analog Output card for 4 stereo outputs instead of 8 balanced outputs.

★ **Another Alternative:** Your E4 Ultra chassis can be factory updated with 5 option card ports. Contact E-MU Systems for details.

1. Unplug both ends of the ribbon cable (CN2 to CN7) connecting the upper four jacks to the lower board.
2. Using a 3/8" nutdriver, remove the jack nuts on the upper four jacks.
3. Configure the jumpers in the center of the board for (4) stereo unbalanced outputs. Refer to figure 6 below.
4. Remove the jack nuts and two phillips screws from the Analog Input card and install the Analog Input card in the (now empty) top half of the 8-output mounting bracket.
5. As the labels are now incorrect, you may want to re-label them yourself to avoid confusion.



Attach the Ferrite to the Ribbon Cable

A ferrite cable clamp is included with this kit to reduce RFI emissions. The ferrite clamps around the ribbon cable as shown in figure 4 and attaches to the side of the metal 8-output card bracket using the adhesive Velcro piece provided.

1. Clamp the ferrite around the ribbon cable close to the 8-output card bracket as shown in figure 4.
2. Stick one side of the adhesive Velcro to the ferrite clamp, then stick the other side to the side of the 8-output card bracket.
3. Press the adhesive Velcro firmly to the two parts to make sure the ferrite won't fall off.

Reassembly

1. Check for any loose cables or loose screws inside.
2. Take the top cover and tilt down the front edge. Carefully insert the front edge of the top panel between the front panel and the top of the metal enclosure. Next lay the top cover down flat on top of the enclosure.
3. Make sure all the screw holes line up and reinstall the seven screws. The screws are all the same.

Power On

At this point, the installation is almost finished. The Ultra should boot up normally when power is applied. It does? Great! During the boot-up process, watch for the display, "Output Option Card Installed". This verifies that EOS recognizes the Analog Output card.

Problems?

If the unit doesn't power up normally or doesn't show the "ADAT Option Card Installed" display, disconnect power immediately and try the following:

- Are you running EOS version 4.0 (or higher) software? You should be.
- Open the unit, and verify all cable connections.
- Try returning the unit to its original configuration.

If all else fails, call E-mu Customer Service at (831) 438-1921. Telephone support hours are 8:00-5:00 PST, Monday through Friday.

Operation

Outputs

When the Output Expander Card and EOS software version 4.0 or greater is installed, the additional outputs become available as choices in the RFX Output Map screen.

There is one difference between the Expander Card balanced outputs and the standard balanced outputs:

- The Expander Card outputs do not utilize “plug detection” as do the standard submix outputs. Plug detection automatically routes signals sent to the submix outputs if nothing is plugged into the output. Therefore if you have MIDI channels or voices routed to the Expander Card outputs and nothing plugged in there, you won't hear them.



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