

ECI-60 AES/EBU Sony Server Technical Bulletin

Elimination of Grounding Hum

10/01/09

The AES/EBU 8 channel inputs include grounding connections. The grounding points (pins) provide a termination for each individual pairs of AES/EBU signals with an additional cabling or outer shield termination point (pin). All AES/EBU ground signals are tied to a common connection within the ECI-60 that includes a filtered connection to the internal analog ground that is used by the analog circuitry.

Due to multiple grounding points in a system, small ground loop currents may exist. In this scenario the analog circuitry will be exposed to picking up externally generated hum, and can be heard in the audio. To eliminate the hum, the grounding system must be isolated and is achieved by removing the filter component designated as Z21 on the ECI-60 circuit card assembly.

A replacement unit can be sent out by calling USL Inc at (805) 549-0161 or contacting the technical support via the www.uslinc.com web page.

To make the corrections yourself, follow the instructions below as they will describe steps required for removing Z21 from the ECI-60 circuit card assembly:

Step 1: Cover Removal

Using a Phillips screw driver locate and remove the six screws on the top. Then remove the two screws located at each side, left and right. Remove the cover.

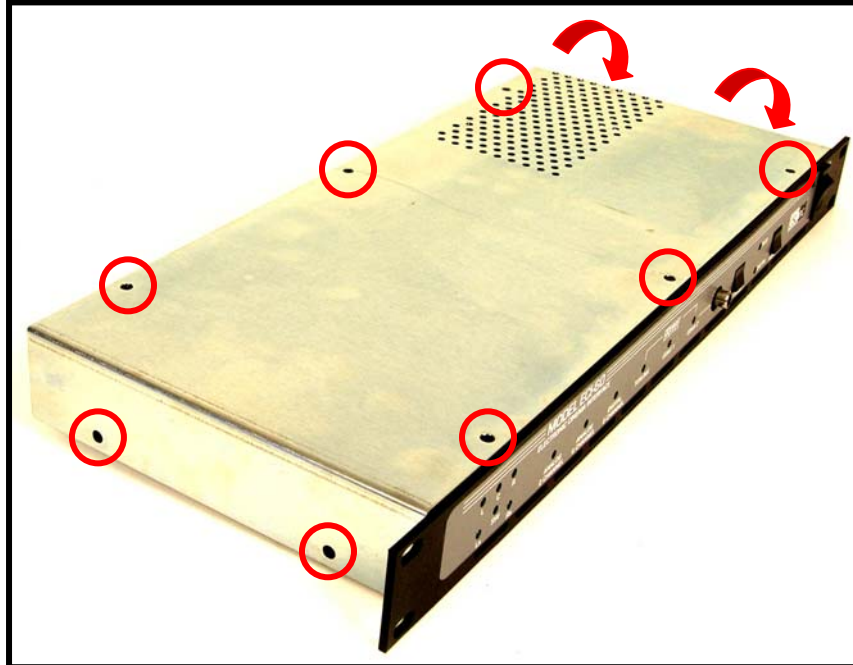


Figure 1: Cover Screws

Step 2: Locate Z21 Filter Component

The Z21 filter component can be found to the left side of the AES/EBU connector J3.



Figure 2: Locate Z21 Filter Component

Step 3: Remove Z21 Component

The filter is constructed with a Ferris material that can be easily destroyed by gripping the component with needle nose pliers and then twisting the component. Note that this component has three connection points, two metal contacts at each end and a center capacitor located in the middle.

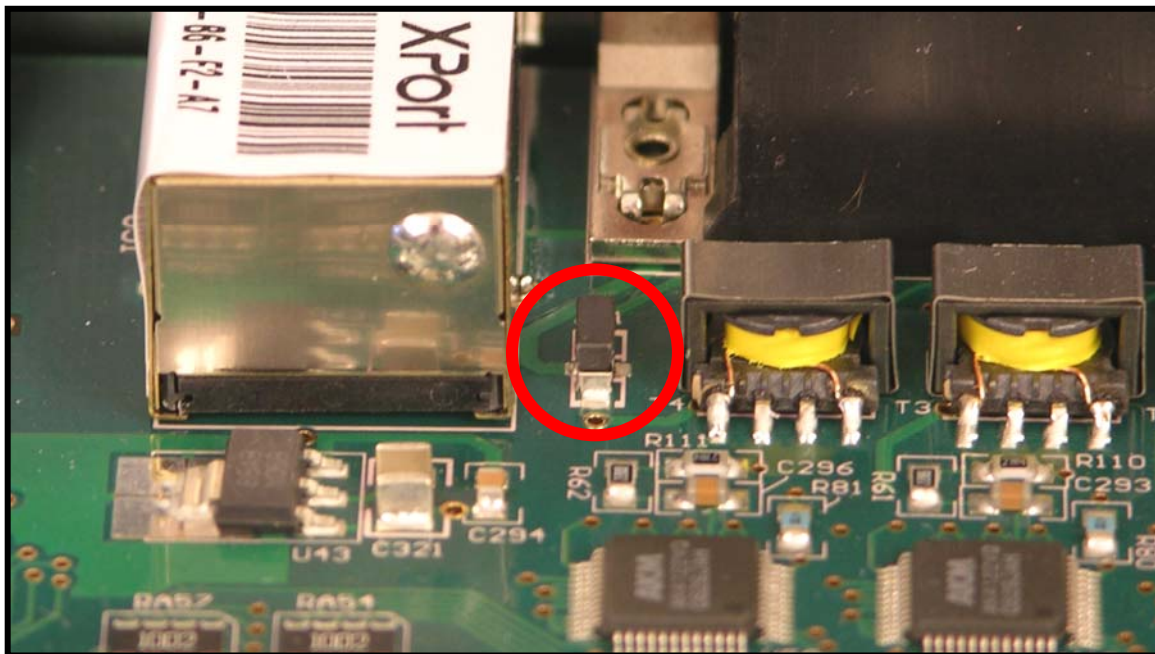


Figure 3: Z21 Filter Component Removal

Step 4: Z21 Location Inspection

Visually verify that all debris has been cleared and removed from the ECI-60. Verify that the three connection points for Z21 are clear and have no visual connection with each other.

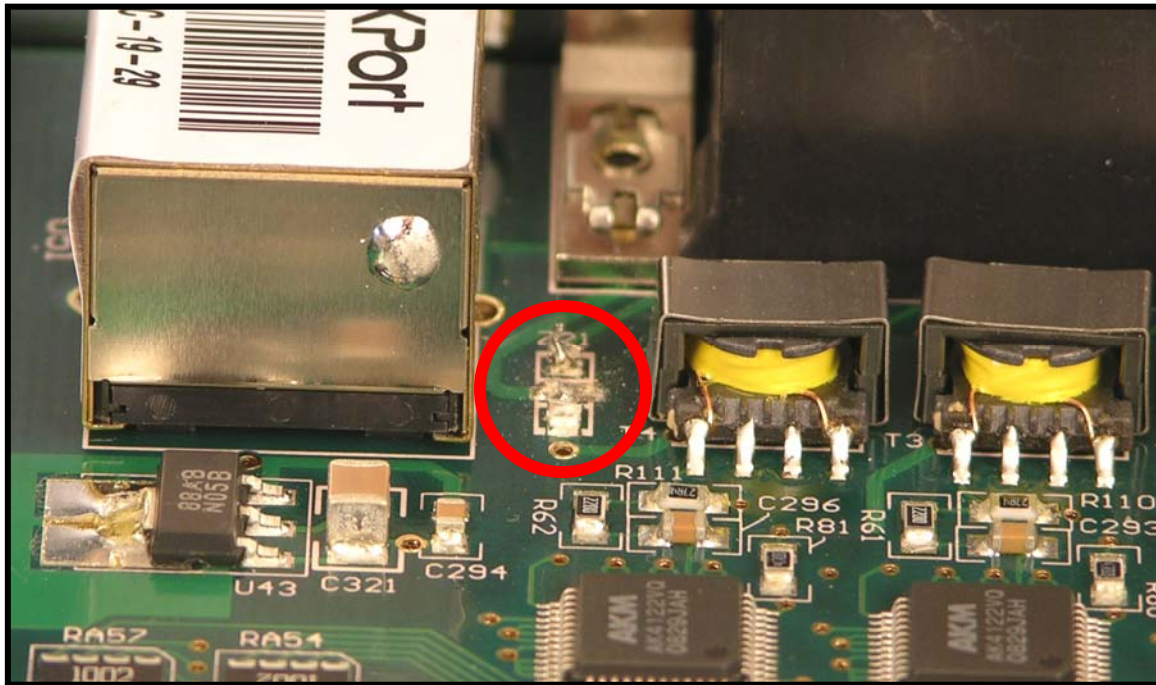


Figure 4: Visual Inspection

Step 5: Reassembly

Replace cover and the ten screws.

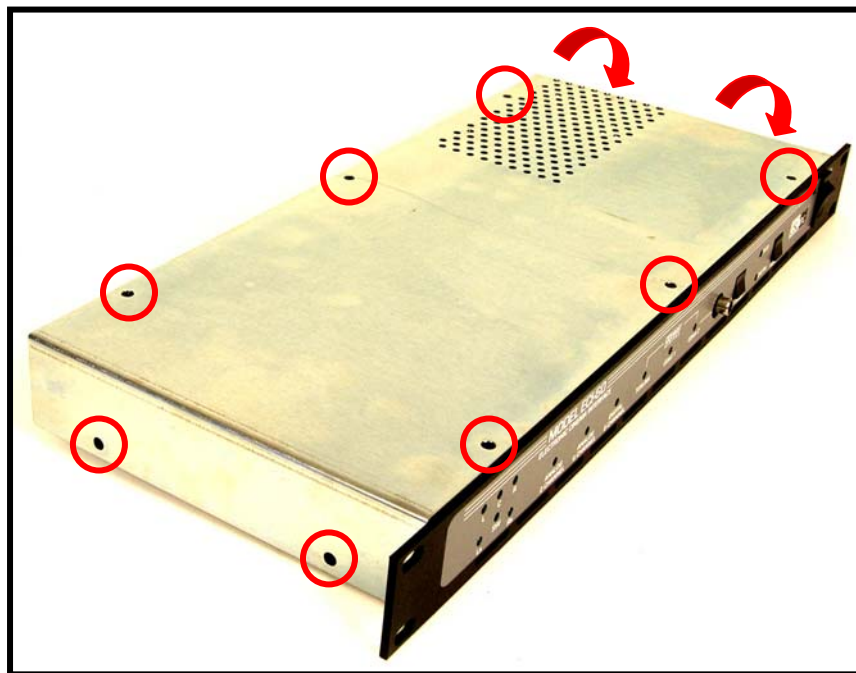


Figure 5: Cover Screws