

## Element Power Distribution Board Termination

### Rev 1 and Rev 2 boards only.

23 September 2008, Cleveland Ohio, USA

Element consoles have a Power Distribution PCB located under the overbridge section to which all modules are connected via Category 5 cabling. This PCB is connected to the Element GPIO/PSU unit with a large grey cable with Molex connectors. This cable passes power and CANBus data. The CANBus requires proper termination to function correctly. Earlier consoles had these terminations directly soldered on the power distribution board on the Rev 1 & 2 PCB's as they were designed before the addition of the external accessory modules to the product line or consideration for a split console configuration. In order to add accessory modules greater than 10 ft (or 3 meters away) OR to add a second Element frame to create a SPLIT console configuration, one set of the terminations on the PCB must be removed.

*(Note: Some Element consoles with Rev 2 power distribution PCBs may already have this modification completed as they were manufactured after accessory modules became available. The terminators are removed from the PCB at the factory prior to shipment and replaced with encapsulated terminations within an RJ-45 plug and are plugged directly into the CANBus jacks. All Rev 3 power distribution PCBs use the encapsulated terminations. Rev 3 PCBs are exempt from this modification.)*

Below are steps to identify, locate, and remove one of the sets of the terminations on the power distribution board in order to add accessory modules beyond the length of 10 ft OR if you are creating a SPLIT console configuration in the studio. If you are NOT adding accessory modules or splitting your console configuration there is no need to perform this modification.

Locate the power distribution board underneath the Element over-bridge assembly. You will see a small PCB with multiple RJ-45 jacks on the board. These will have short Category 5 cables connecting to the various modules installed into the Element console. Also a large grey cable will be plugged into the MOLEX connector.



Figure 1 (Revision 2 Power Distribution Board)

On the top of Rev 2 PCB locate a pairing of resistors R1 and R2 and a capacitor C1 (highlighted on the left of Figure 1). There is a second set located near the Molex connector (highlighted on the right of Figure 1).

If the resistors and capacitors are not populated on the PCB then the modification has already been completed. Verify that you have the encapsulated RJ Plug terminations plugged into the PCB. You are done.

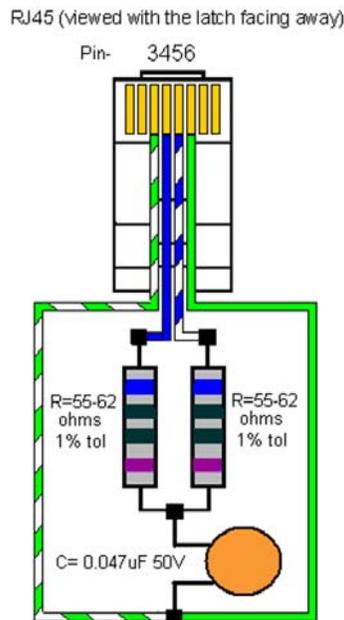
If the resistors and capacitors are still on the board then you can do this modification. Though it is tight in the back of the Element this modification can be done without removing the PCB from the console. Follow proper static control procedures whenever possible.

**IMPORTANT: DISCONNECT** the large grey cable to **REMOVE POWER** from the console before you begin this modification. It is not necessary to power down the Element GPIO PSU unit. With a soldering iron **CAREFULLY** remove R1, R2 and C1 from the board. Do **NOT** remove the second set of terminations on the PCB as it is not necessary at this time.

With the one set of terminations removed you can add the cabling to the accessory modules then terminate the end of the cable run of the modules with a plug-in termination. See details on adding accessory modules to the Element in the following document found at this link:

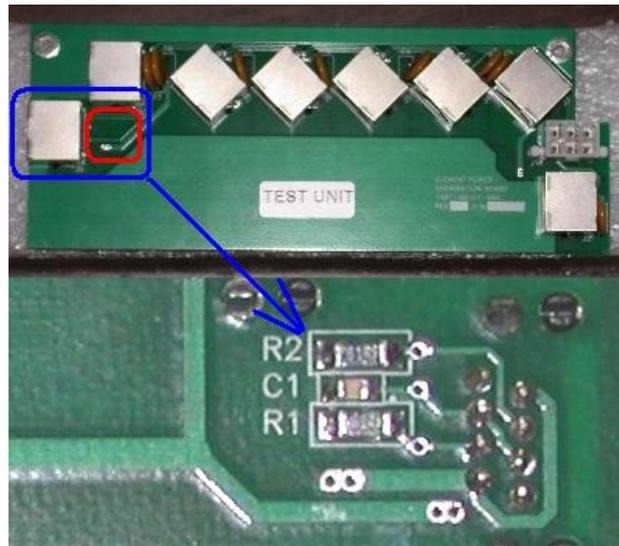
[http://www.axiaaudio.com/manuals/files/Element\\_Termination\\_10312007.pdf](http://www.axiaaudio.com/manuals/files/Element_Termination_10312007.pdf)

If you do not have any plug in terminations you can make your own terminators. Follow the diagram below using an RJ-45 plug connector and the noted components wired to pins 3, 4, 5, & 6 accordingly. Pins 1, 2, 7, & 8 are not used, no connection. Resistors can range from 55 to 62 ohms each.



**Figure 2 (RJ Terminator Plug Diagram)**

Rev 1 Power Distribution Boards are different only in that their terminations are on the BOTTOM of the PCB. There are few early consoles in the field with Rev 1 PCBs. Unless you are an early adopter of the Element consoles you likely have Rev 2 PCB's. This section is added for those that do have this version.



**Figure 3 (Revision 1 Power Distribution Board)**

Rev 1's terminations are located on the bottom of the PCB. R1, R2 and C1 are located behind the highlighted jack on the bottom (red area) and the second set is located near the Molex connector.

To do this modification partial disassembly of the console frame will be required to access the PCB. If you have a Revision 1 board, STOP. Contact Axia support for further instructions.

If you require more assistance or have questions about this procedure, please contact Axia Support at [support@AxiaAudio.com](mailto:support@AxiaAudio.com) or call us at 216-241-7225.