

Installation Instructions for KTA ST-70 PCB Upgrade Kit:

If possible it is recommended that you refer to the original assembly information if possible.

Remove bottom cover, and carefully unsolder all connections to the pcb. Install new pcb with center socket closest to front apron of the chassis..

It is assumed that all retained capacitors and other components in the amplifier are either in good condition or have already been upgraded. The selenium rectifier must be replaced for reliability. I recommend at least 220uF/100V electrolytics for the bias filter capacitors.

If you do not have the original Dynaco™ St-70 documentation you need to know that the front EL34 on the left channel is V3, the rear tube is V2, on the right channel the front EL34 is V6, and the rear right EL34 is V7. (Refer to the furnished chassis diagram)

As you rewire the amplifier this is a good time to upgrade internal wiring as you go. I also recommend replacing the grid stopper resistors between pins 5 and 6 of V2, V3, V6, and V7.

1. Remove old mono/stereo switch and RCA jacks. Replace with jacks of your choice. Make sure that the new jacks are insulated from the chassis as the old ones were. (If the old ones are in good condition they can be reused if desired.)
2. Once you have physically installed the pcb start by wiring the connections to V2-6 and V3 -6 **note that they are crossed.** Refer to the furnished board diagram..
3. Next wire the connections to V6-6 and V7-6. Note that these connections are not crossed.
4. Referring to the board diagram take one of the furnished 221 ohm resistors and solder it to the **"Left Input"** on the bottom of the pcb. Solder the other end to the signal side of the **Left** RCA jack. Take one of the furnished 100K resistors and solder it between the signal and gnd side of the Left channel RCA jack. Solder a short wire from **GND-L** to the gnd side of the **Left** RCA jack. Solder a wire from **GND-L** to the star ground lug already in the amplifier.
5. Referring to the board diagram take one of the furnished 221 ohm resistors and solder it to the **"Right Input"** on the bottom of the pcb. Solder the other end to the signal side of the **Right** RCA jack. Take one of the furnished 100K resistors and solder it between the signal and gnd side of the Left channel RCA jack. Solder a short wire from **GND-R** to the gnd side of the **Right** RCA jack. Solder a wire from **GND-R** to the star ground lug already in the amplifier.
6. Take one of the provided 1K resistors and solder it to **Lrfb**, solder a wire from the **Left** channel 16Ω tap to the other end of the 1K resistor. The resistor should be insulated with some of the provided heat-shrink tubing.
7. Take one of the provided 1K resistors and solder it to **Rrfb**, solder a wire from the **Right** channel 16Ω tap to the other end of the 1K resistor. The resistor should be insulated with some of the provided heat-shrink tubing.

8. Referring to the pcb diagram, and tightly twist and solder a pair of wires between all points labeled X and Y - solder these to pins 2 & 7 respectively of V3.
9. Referring to the pcb diagram, and tightly twist and solder a pair of wires between points labeled XX and YY - solder these to pins 2 & 7 respectively of V6.
10. Remove the stock 6800 Ω resistor on the quad cap and replace with the furnished 4.7K Ω resistor, replace the stock 22K Ω resistor with the furnished 49.9K Ω resistor. Solder a pair of wire from the capacitor terminal with only the 49.9K Ω resistor connected to it to the points on the pcb diagram labeled **B+2** and **B+4**. Solder a pair of wires to the junction of the 4.7K Ω and 49.9K Ω to the points labeled **B+1** and **B+3** on the pcb diagram.
11. Finally solder a wire from the **wiper** (center terminal) of each respective bias pot to the respective point labeled **Bias** on the pcb diagram.
12. Finally the stock EL34 cathode resistors should be removed and each output tube provided with an individual 15 Ω cathode resistor. (Resistors not provided.) Amplifier can be operated with the stock connections if these are unavailable. Suitable 1/2W resistors are available at Radio Shack™
13. If you have not already converted the EL34 to triode operation it should be done at this point. Simply remove the wire connected to pin 4 of each EL34 and insulate. Then solder a 100 Ω 1/2W resistor between pins 3 & 4 of each EL34 and you are done.

Carefully recheck all of your work prior to applying power. Use of a variac or ballast lamp is highly recommended during initial power application, and troubleshooting.

Potential Upgrades:

Referring to the schematic one possible improvement would be to provide individual decoupling for each channel of the driver pcb as shown on the schematic. Simply separate B+1 from B+3, and B+2 and B+4.. A pair of 50uF +50uF 500V LCR could be used to do this.

Coupling capacitors are another upgrade, worthwhile performance improvements can be had with Rel PPFX or RTX type coupling capacitors. 400V capacitors will work provided a tube rectifier is used in the amplifier, however 600V types are preferred.