

# Dynaco Stereo 70

## Bias Control Range Expansion Instructions

Stereo 70 Rev 0

This document describes the specific instructions and steps associated with the expansion of the Bias Adjustment Potentiometers control for the Dynaco Stereo 70 vacuum tube power amplifier. Once expanded, it will be possible to adjust the Bias Potentiometers to accommodate a broader range of output tube characteristics.

This procedure requires basic soldering skills and tools outlined in the following documents (available from our web page [www.curcioaudio.com](http://www.curcioaudio.com)) :

- a. Soldering Tutorial (CAE Tech Note # 2)
- b. Recommended Tools & Test Instruments (CAE Tech Note # 3)
- c. Dynaco Stereo 70 Owners Manual

Please take the time to familiarize yourself with all of these documents in particular Tech Note # 2.

Refer to Figure 1 and proceed with the following steps:

1. Disconnect your Stereo 70 power amplifier from the AC mains and allow the internal voltages possibly stored in the electrolytic capacitor to discharge over a 20 minute period.
2. Remove the four screws holding the top cover and remove the top cover.
3. Next remove the bottom plate of the amplifier. You will now be exposed to the bottom (foil) side of the printed circuit board and all of the amplifier's direct wiring. Orient the amplifier so that the output connections (speaker connections) are towards bottom and the input connector (RCA input connector) is at the top.
4. Refer to Figure 1 and locate the 7 lug terminal strip on the left side of the amplifier.
5. Obtain a 15K ohm, 3W, Metal Oxide resistor (Digi-Key # P15KW-3BK-ND).
6. Refer to figure 1 – Locate Resistor labeled R1 and connect one lead of the 15K/3W resistor to one of the leads of R1. Connect the other lead of the 15K resistor to the remaining lead of R1.
7. Obtain a 10K ohm, 3W, Metal Oxide resistor (Digi-Key # P10KW-3BK-ND).
8. Refer to figure 1 – Locate Resistor labeled R2 and connect one lead of the 10K/3W resistor to one of the leads of R2. Connect the other lead of the 10K resistor to the remaining lead of R2.
9. Rotate both the Left and Right Bias Adjust potentiometers Fully Counterclockwise (when viewed from the top of the amplifier).
10. Apply power to the amplifier. Referring to figure 1, using your digital voltmeter measure the voltage at the test point 1 (TP1) and test point 2 (TP2). You should find -47VDC at TP1 and -23.4VDC at TP2 (within 5%). If these voltages are significantly low (more than 10%), remove the power and replace the selenium rectifier with a silicon diode (1N4007). Be careful to observe the polarity of the

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- replacement diode (the “band” should connect to the power transformer RED-BLACK lead).
11. Position the amplifier so that you may safely readjust the operating bias in each channel. The correct bias voltage as measured on pin #8 of the front panel octal socket (you may wish to refer to Dynaco Stereo 70 manual for details on this procedure) is 1.56 VDC.
  12. Replace the bottom plate and top cover and secure with the four screws.

**Figure 1 – Stereo 70 Bottom View**

