

audio research

H I G H D E F I N I T I O N[®]

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VT200 TUBE REPLACEMENT REQUIRED ADJUSTMENTS

- 1) Utilizing adjustment pots RV5, RV6 (right) and RV7, RV8 (left), adjust output tube bias to approximately 100mV DC across R81 and R82 in each channel (4 adjustments). These adjustments are located roughly in the middle of each side of the VT200. The front pot adjusts bias to the front four tubes in each channel and the rear pot adjusts bias to the rear four tubes.

Ensure that you use clip-on or grabber probes and not pin probes on your digital volt meter. Pin probes can slip, shorting traces together and damaging the output board. Output board damage due to slipped probes is not warranted.

- 2) After thorough warmup (about 20 minutes), reset output tube bias to final reading of 130mV DC (4 adjustments). This is all that is required if you are only retubing the output stage.
- 3) If input and driver tubes are replaced (10 6922s), ensure that V1-V4 triode sections are well matched for ease of adjustment and lowest distortion. Audio Research tubes are pre-selected for best performance in this circuit.
- 4) Adjust RV1 and RV2 in each channel to +60v DC at each of V1(2) and V3 (4) plates. Balance within .01 VDC at top lead of 21.5k ohm resistor R9B to same point of 21.5k ohm resistor R12B. These resistors are located on outside of each circuit board directly above the RV1 and RV2 trim pots. Color codes are (top-to-bottom) red, brown, green, red, brown, red.

One adjustment affects the other and voltages drift slightly, so several readjustments may be needed. The best method is to adjust one trim pot for half the error and then adjust the other trim pot for the other half of the error. Note that as you balance RV1 and RV2, the overall +60v DC level will adjust up / down. Once RV1 and RV2 are balanced, turn both pots the same amount CW or CCW to raise or lower the +60v DC level. Note that in right channel CW rotation raises plate voltage, while in left channel CW lowers plate voltage. Recheck for less than .01v DC balance.

- 5) Check driver tube DC balance for +160v DC +/- 10v at front side of R29B and R30B 100k ohm 2 watt resistors (brown, black, black, orange, brown, red) located 3/4" above and below the AC balance pot. Balance DC to 0V DC between front ends of R29B and R30B using DC balance pot RV3.
- 6) If suitable test equipment is available, adjust RV4, AC balance pot for lowest second harmonic distortion with a 1KHz input signal, amp connected to a 16 ohm load, 1 watt output. If only conventional THD equipment available, adjust for lowest THD. Unit will typically measure less than .04 percent THD, 1 watt into a 16 ohm load.

Call Audio Research service (763-577-9700) days between 8 and 4 pm CST if you have any questions.