Power Supply (Refer to Block Diagram)

The main power supply (±37V) consists of a full wave bridge rectifier and two 8,200 μF capacitors. The B+ and B– regulators (Q15 and Q16) supply ±24V for the low level circuitry. Unwanted transients are eliminated by circuitry consisting of Q17 to Q19 which perform a muting function when the unit it switched ON or OFF. At turn on, the supply voltage for the volume amplifier is delayed by Q17, as determined by the charging time of C8 through R9. In the same way, operation of the voltage amplifier is delayed by Q18, C9 and R10. In this way, the amplifier does not operate until the voltages in the output stage stabilizes.

At turn-off, FET (Q19) immediately turns on, shorting out C9 and eliminating the supply for the voltage amp, stopping amplifier operation.

ADJUSTMENT

Equipment Required

Audio signal generator.
DC voltmeter.
Speaker load resistors, 8 ohm, 100 watt.
Digital voltmeter or DC milliammeter.
The following adjustments are the same for both the left and the right channel.

Bias Adjustment

1) Connect 8 ohm resistors to the speaker A terminals, and set the Speaker Mode switch to A position.
2) Turn the Volume control fully counter-clockwise.
3) Turn RV1 fully counterclockwise.
4) Depending on available equipment, use A or B:
   A. Set digital voltmeter to most sensitive voltage range. Connect probes across R75 and R77 (Voltmeter bias test points, L channel).
   Turn unit on. Let it idle for at least one minute. Adjust RV1 for 40 mV across the resistors.
   B. With unit off, remove jumper between PC board terminals H and H, and connect ammeter, set to 100 mA range.
   Turn unit on and let it idle for at least one minute. Adjust RV1 for 40 mA.
5) Perform the same procedure for the right channel, except measure voltage across R76 and R78 (voltmeter bias test points, R channel) or replace jumper from E to E with ammeter. Adjustment is made with RV2.
6) Leave the amplifier on for about 30 minutes, then recheck measurement. A tolerance of ±25% is acceptable. Readjust if necessary.

Power Meter Calibration

1) Connect the audio signal generator to the amplifier and apply 1 kHz signal to Aux input, Left channel.
2) Connect voltmeter across the left channel load resistor.
3) Turn power on.
4) Adjust the signal generator output so as to obtain 2.83 volts on the voltmeter.
5) Check that the left channel meter indicates 1 watt. If not, adjust RV3.
6) Perform above steps on the right channel, adjusting RV4 if necessary.

Adjustment Locations