

SEEBURG

STEREO HIGH FIDELITY AMPLIFIER

TYPE SHFA4

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STEREO HIGH FIDELITY AMPLIFIER, Type SHFA4

This is a dual channel stereo, low distortion, wide frequency range, constant voltage type amplifier. It is part of the Seeburg stereophonic sound system that also includes the Seeburg stereo pickup, one or more pairs of Seeburg twin stereo speakers, two speakers and a speaker network in the phonograph.

The two output signals of the low impedance magnetic pickup of the Select-O-Matic mechanism are connected to the amplifier through the input socket and have a nominal signal level for each channel of five millivolts. Both signals are independently amplified, one in the left channel, one in the right channel. Each channel is complete with the tone controls and the volume control mechanically linked to provide equal and simultaneous positioning.

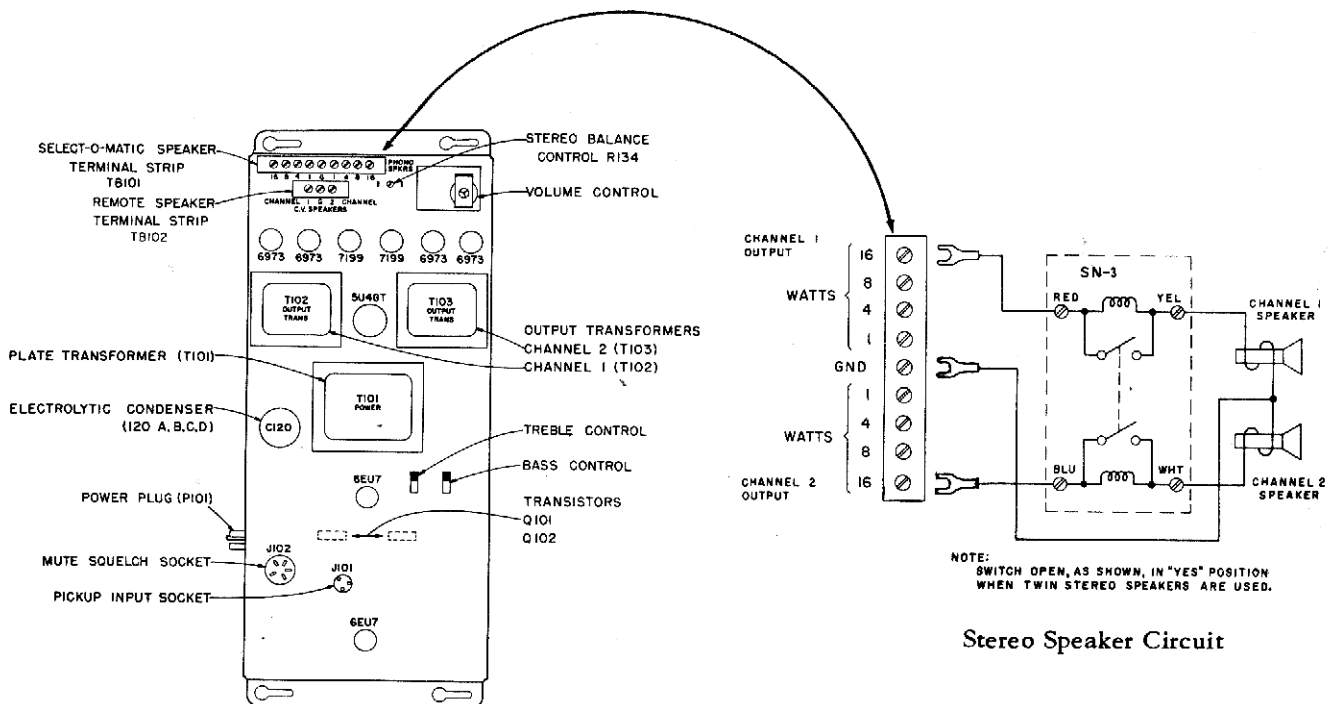
The output transformers of each channel have low and high impedance terminals. The low impedance windings drive a 16 ohm phonograph speaker to which they are connected through a network. Connections to this load are through the speaker terminal board, TB101. The high impedance terminals are 70 volt, C.V. outputs that terminate at channel 1 and channel 2 of the re-

mote speaker terminal strip, TB102. These outputs drive the side channels of one or more external stereo speakers that have, in their cabinets, a high-pass network.

The total output power for each channel can be divided between the phonograph speaker and the external stereo speakers by positioning the phonograph speaker terminals and the loading taps on the external speakers. The phonograph speaker terminals are calibrated in watts with reference to the power delivered at full output by each output transformer to the 16 ohm phonograph speaker load.

The total load of the phonograph speakers as indicated on the speaker terminals and the load of external speakers must not be greater than 20 watts for each channel.

Automatic volume compensation is incorporated in this amplifier to compensate for variations in the average volume levels of different records and make possible a volume control setting for normal records without danger of "blasting" or high volume due to exceptionally loud records.



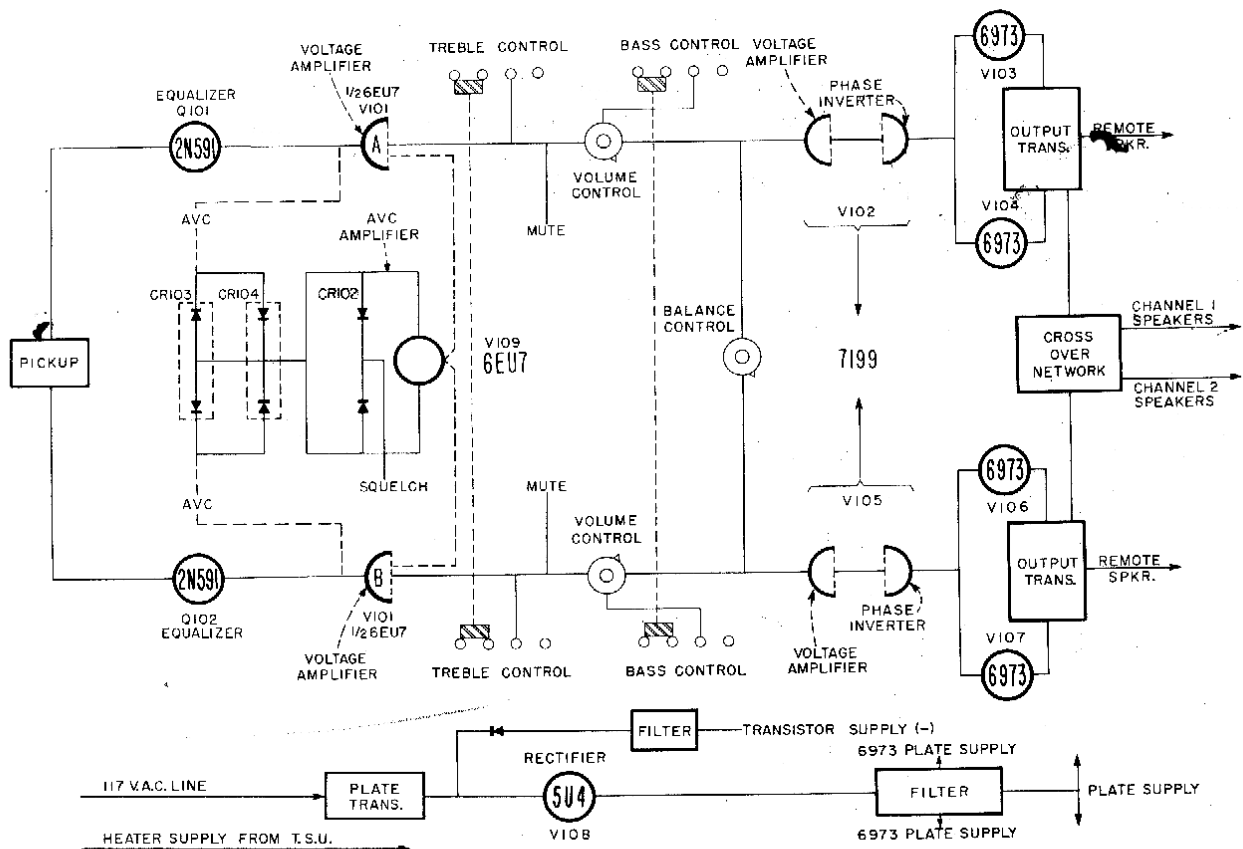
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The output of the 6EU7 (V109), AVC amplifier stage, is rectified by the back-to-back selenium rectifier (CR102) and is applied as a varying DC bias to two pairs of matched selenium diodes (CR103 and CR104). Varying the DC bias on these diodes varies inversely the AC reactance and consequently controls the signal level at grids of the 6EU7 voltage amplifier (V101). The back-to-back selenium rectifier (CR102) rectifies 20 volts supplied from the control circuits of the Select-O-Matic mechanism for squelch operation. The squelch voltage is applied only when a record is not being played.

Use of AVC is optional, and the AVC action may be disabled by removal of the 6EU7 (V109) tube.

The volume control adjusts the level of sound from the Select-O-Matic speaker and the remote speakers. It is located on the amplifier so it is accessible from the back of the cabinet. A powered remote volume control, Type PRVC2, may be used by the installation of a motor on the amplifier volume control. The motor is remotely controlled to increase or decrease the phonograph volume.

Heater current for the amplifier tubes is supplied at 6.3 volts from the Tormat Selector Unit. Plate current for the tubes is from an included plate supply transformer and 5U4GB rectifier. Current for the transistors and bias for the 6973 output tubes is supplied through the rectifier, CR101, and a three-section filter.



Block Diagram.

