

LIMITING AMPLIFIER

TYPE BA-6A

FEATURES

- Prevents distortion and adjacent channel interference
- Economical in price—high-quality performance
- Provides for a more effective use of transmitter power
- Compact, plug-in unit—requires little rack space
- Complete rotary switch selection of metering of all key functions provided

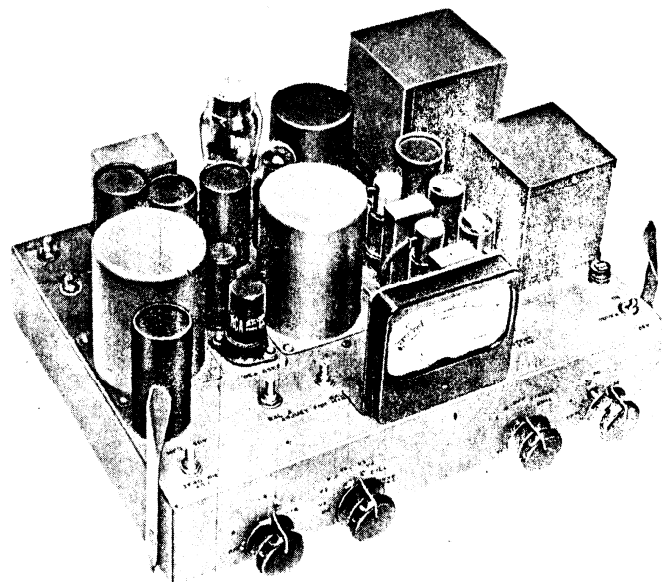
USES

The BA-6A Limiting Amplifier has been designed to provide economical, yet high-quality operation in the speech input channels of FM and AM broadcast and TV sound transmitters. It serves as an automatic means of limiting the audio signal peaks to a certain pre-determined level thereby preventing overmodulation or overloading with its consequent distortion and adjacent channel interference. This amplifier also provides for a more effective use of transmitter power by allowing the system to be operated as near maximum output as possible. It raises the average percentage modulation level several db without appreciably increasing the harmonic distortion.

The limiting characteristics of the BA-6A also readily adapt it for use in recording applications. For this use, it prevents over-cutting of the recording disc on heavy passages of music or speech and permits a marked improvement in the signal to noise ratio. Thus, the BA-6A Limiting Amplifier is an essential item for the successful operation of every broadcasting station and recording studio.

DESCRIPTION

The BA-6A is a balanced, three-stage amplifier which uses commonly available tube types that do not require special selection or matching. The use of high-quality components and the straightforwardness of design, employing only 9 tubes including rectifier and voltage regulator, insure a maximum degree of reliability. Fewer tubes, fewer types



(only 6) and fewer stages of simplified design result in lower tube costs, low initial cost and reduced power input requirements.

The BA-6A Limiting Amplifier also incorporates those features which are found in other RCA high-quality broadcast audio amplifiers. The amplifier with its self-contained power supply is constructed on a plug-in chassis for shelf mounting and is therefore readily removable for inspection and service. All controls, tubes, and plug-in capacitors are accessible from the front.

A rotary selector switch permits use of the four-inch illuminated meter for measuring gain reduction, the cathode current of all amplifier tubes, tube balance and d-c filament voltage. Plate and heater power are available for operating a pre-amplifier in applications where additional gain is required. The rotary switch (BAL-LIM) provided on the front panel also permits selection of a filter with either a single or dual time constant. In the "single" position the attack time is 0.0006 seconds. In the "dual" position the recovery time is lengthened to two seconds on sustained peaks.

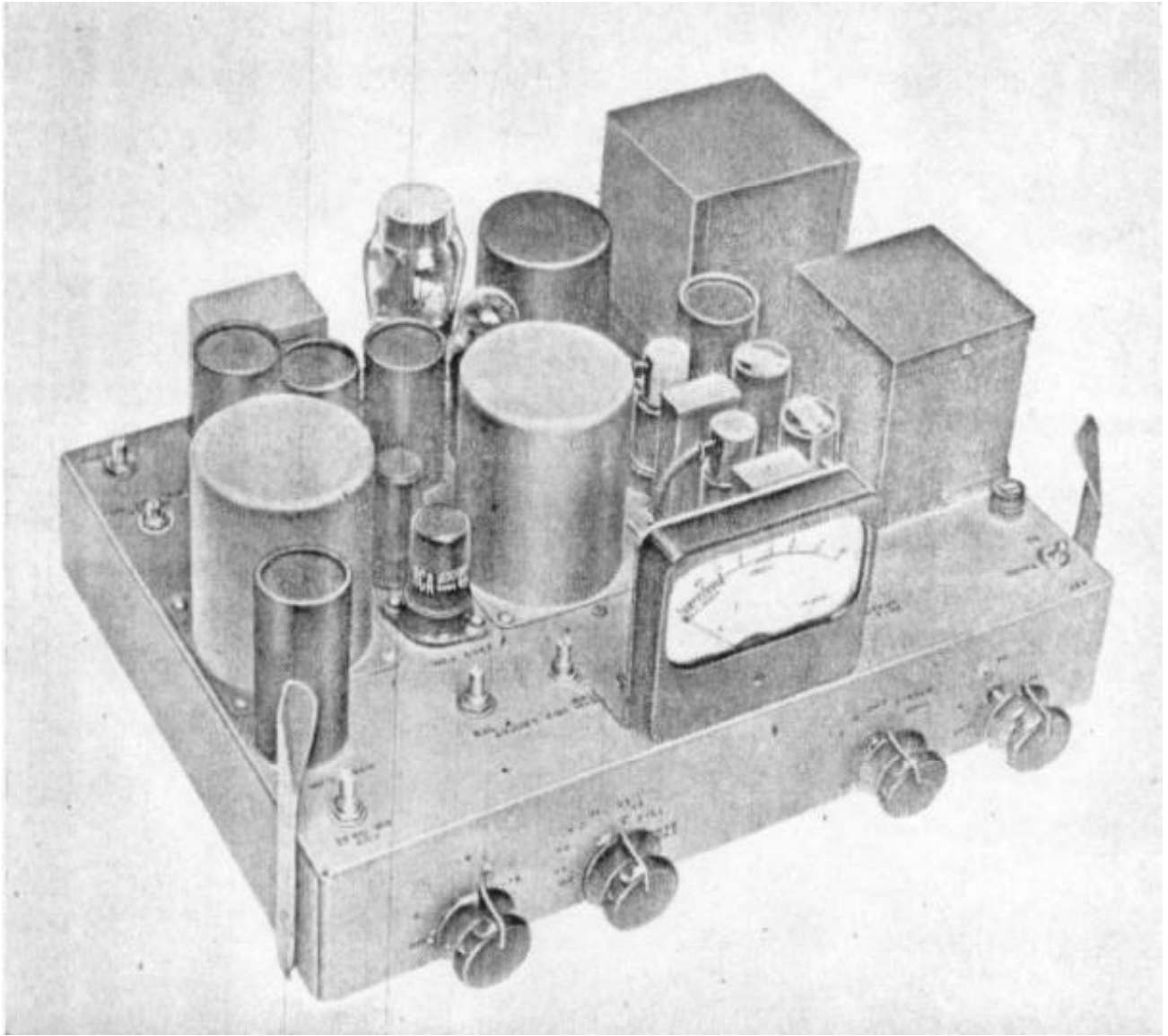
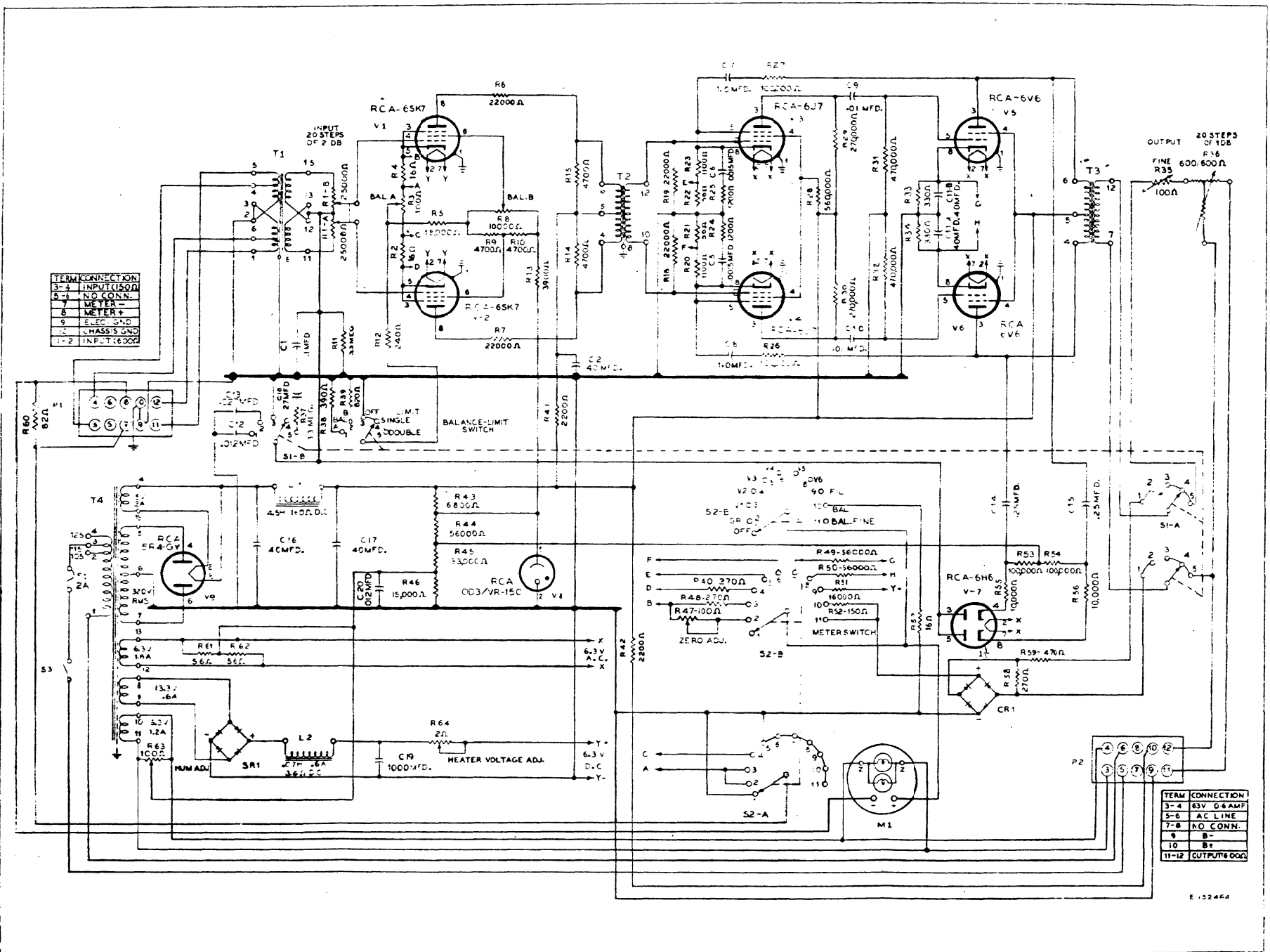


Figure 8 - Schematic Diagram



TERM	CONNECTION
3-4	INPUT (150Ω)
5-6	NO CONN.
7	METER -
8	METER +
9	E.C.C. GND
10	CHASSIS GND
11-12	INPUT 150Ω

TERM	CONNECTION
3-4	63V 0.6AMP
5-6	AC LINE
7-8	NO CONN.
9	B+
10	B+
11-12	OUTPUT 600Ω

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