



audio output. When this voltage is fed back through R_5 to the grid of V_{2A} , the operating point of this tube is shifted to reduce the gain of the stage. By adjusting the *Gain Limiting Threshold* control, the amount of audio limiting can be varied over a wide range.

The circuit is fast acting and has a control range of more than 20 decibels with a normal threshold setting about $\frac{1}{3}$ open, as shown in Fig. 4. The control voltage is monitored by one section of V_5 and provides a relative indication of the output voltage from V_{2A} . Rectifier V_{3B} is driven from amplifier V_{2B} through C_{12} and the *VOX Sensitivity* control (R_{16}). The DC output of this circuit is developed across R_{14} and R_{15} and charges C_{11} to provide a positive gating voltage for control tube (V_4).

Output from the receiver is applied to the primary of T_1 (a

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FIG. 2. COMPLETE SCHEMATIC DIAGRAM of the OMNIVOX. Only those parts which require additional identification are shown in TABLE I — PARTS LIST. Resistances are in ohms, $\frac{1}{2}$ watt rating and ± 10 percent tolerance, unless otherwise marked. Capacitances are in microfarads (mfd), paper types of 600-volt DC rating, except where noted. Base pins of tube diagrams are numbered.

TABLE I — PARTS LIST—OMNIVOX

C_325 mfd, 25-volt electrolytic.
 C_{14}10 mfd, 25-volt electrolytic.
 C_{15}10 mfd, 450-volt electrolytic.
 J_1Chassis type microphone jack.
 J_2, J_3Chassis type 1-pin phono jacks, or phone jacks.
 L_1, L_21-mh pi-wound r.f. chokes.
 R_1, R_{11}500,000-ohm potentiometer, linear taper.
 R_{15}3-Megohm potentiometer, linear taper.
 R_{16}100,000-ohm potentiometer, linear taper.
 R_{19}6,000-ohm, 5-watt adjustable wire wound resistor.
 R_{20}1,000-ohm potentiometer, linear taper.
 R_{28}250,000-ohm potentiometer, linear taper.
 R_{35}20-ohm wire wound potentiometer.

R_{Y1}DPDT relay, 5,000-ohm 8 ma coil, 8-pin octal plug-in base (Potter-Brumfield KCP-11-5000 DC)
 S_1SPST toggle switch.
 S_24-pole, 3-position rotary tap switch.
 T_14-watt universal audio output transformer, 10,000-ohm primary to 3.2-ohm secondary.
 T_2matching transformer, 1200-ohm primary, 600-ohm secondary with precision electrical center tap.¹
 T_3matching transformer, 500-ohm primary, 4-ohm secondary.
¹Transformer T_2 in the author's model was obtained from a Signal Corps RM-52 Remote Control Unit, part of field telephone equipment which is available from several war surplus electronics distributors. T_2 is labeled "UTC 83718-C-280A."