

ing the connections to one winding of the modulation transformer, if necessary. These polarities can easily be seen in a scope presentation by observing the audio waveform while sounding a vowel such as "Oh" or "Ah," which are excellent test units for checking the limiting amplifier.

In use, the output gain control sets the absolute modulation percentage of the transmitter. An input volume control in the microphone preamplifier stages of the speech system will set the input level to the compressor and thus determine the amount of compression that takes place. If the microphone preamplifier is arranged to suppress the low frequencies and emphasize the speech frequencies, it will be possible to take advantage of as much as 20 db of indicated compression without any ill effects. With flat amplification it will be necessary, or at least advisable, to limit the indicated compression to only 10 db.

This circuit will compress up to better than 30 db without distortion and the output rise is less than 1 db at 30 db of compression, or a control ratio of better than 30 to 1 for any level above the threshold point.

EDITOR'S NOTE: You will note that in the schematic diagram of the power supply, Fig. 6, the 6.3 volt winding is floating and is not tied to ground. In the author's model, he had one side of the filament winding grounded. This, of course, does not follow sound engineering practice because under this condition the potential between cathode and heater of V_s would be 305 volts. The maximum rated potential is supposedly 300 volts. Again, the potential difference between the cathode and heater of V_s is 150 volts while the maximum allowable rating in this case is approximately 90 volts. In both cases the author has not designed his unit within specified ratings. He has, however, operated his unit under the grounded condition for some 5 years and hasn't lost any tubes as yet. There is no reason to believe that anyone following his idea would run into any particular trouble.

For good design practice, however, this should be corrected. There are several ways in which this condition can be overcome. One way would be to operate the heaters at a potential of 75 volts above ground. This would place all tubes within their ratings and would also have the added advantages of biasing the low-level heaters for hum reduction. The simplest way to achieve this condition is to return the heater winding center-tap to a point 75 or 80 volts above ground on the main bleeder. In doing this, connect a 100,000 ohm isolating resistor in series with the center-tap of the heater winding to the 75 or 80 volt point on the main bleeder.

If this suggestion is followed, it would make it necessary to obtain test a.c. voltage, mentioned under the adjustment procedure, from a separate source so that one side would be at ground potential.

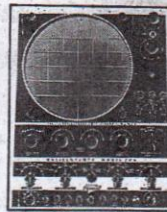
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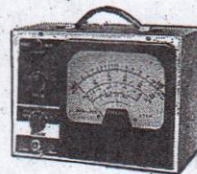
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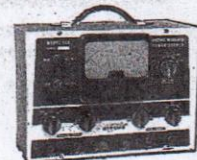


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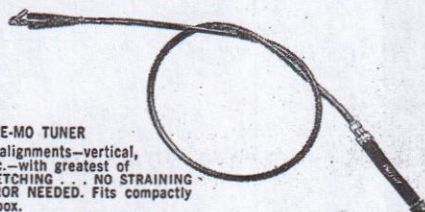


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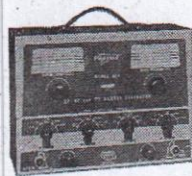


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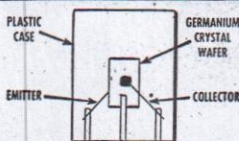


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