

screen grid current automatically reduces voltage and vice-versa. By this means the screen grid power rating is not exceeded, giving excellent tube protection, and tube life is extended. A 5Y3GT tube is employed as low voltage rectifier for the power amplifier screen grid supply. A 6X5GT tube, operating as a half-wave rectifier, supplies all bias voltages to the power amplifier, buffer and keyer stages.

1-10. The microphone amplifier tube consists of a 6SJ7 tube which is capacity coupled to the following speech amplifier stage. One 6C5 tube is utilized as a speech amplifier, capacity coupled into a 6L6G driver stage. "Couplates" are used for coupling the aforementioned audio stages. They have a restricted audio range and allow full use of usable audio power, also, they discriminate against power wasting high and low audio frequencies. The 6L6G driver stage is transformer coupled to the modulator stage. All speech and driver stages are thoroughly decoupled, and all DC voltages applied to them are thoroughly filtered. Two 811A tubes, with zero bias, operate as push-pull, Class B modulators. Modulator plate current is indicated at all times, by a meter in the plate circuit. High voltage for the modulator is supplied by a pair of 816 rectifier tubes in a full wave rectification circuit. A 5Y3GT tube, in a full wave rectification circuit, supplies plate voltage for the speech and driver stages.

1-11. The speech compression circuit uses a 6AL5 rectifier operating in the following manner: A portion of the audio voltage developed in the plate circuit of the 6L6G driver stage is fed back through a voltage divider and decoupling network to the 6AL5 rectifier connected as a voltage doubler. The rectified audio from the 6AL5 is applied as a variable bias voltage to the suppressor grid of the 6SJ7 microphone amplifier. A maximum of 7DB compression is available with this circuit in operation. Due to this feature 100% modulation cannot be exceeded on voice peaks to cause excessive sideband splatter.

1-12. The high voltage supply for the R.F. uses two 866A tubes in a full wave rectification circuit. The filter section utilizes choke input. The R.F. driver power supply uses a 5U4G rectifier tube in a full wave rectification circuit, with single section choke input filter. Reduced screen voltage on the final amplifier tube is obtained by placing the function switch in tune position. This will prevent the final amplifier tube from drawing excessive plate current during tune-up and testing. A terminal strip on the rear of the main power supply chassis provides 115 VAC when the TRANSMIT switch is in ON position. This is to operate external relays used to silence the receiver, etc. The AC input circuit is fused with a 20 amp. fuse to protect the equipment in the event of component failure.