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 616G driver stage. "Couplates" are used for coupling the afore-mentioned audio stages. They have a restricted audio range and allow full use of useable audio power, also, they discriminate against power wasting high and low audio frequencies. The 616G 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.

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 616G 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 7 DB 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.

The high voltage supply for the RF uses two 866A tubes in a full wave rectification circuit. The filter section utilizes choke input. The RF 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.

SECTION II

OPERATING PROCEDURES

CONTROLS AND TUNING.

The following paragraphs describe the various panel controls of the Globe King transmitter Model 500-C. Tune-up and operating procedures are outlines following the description of controls. It is recommended that this