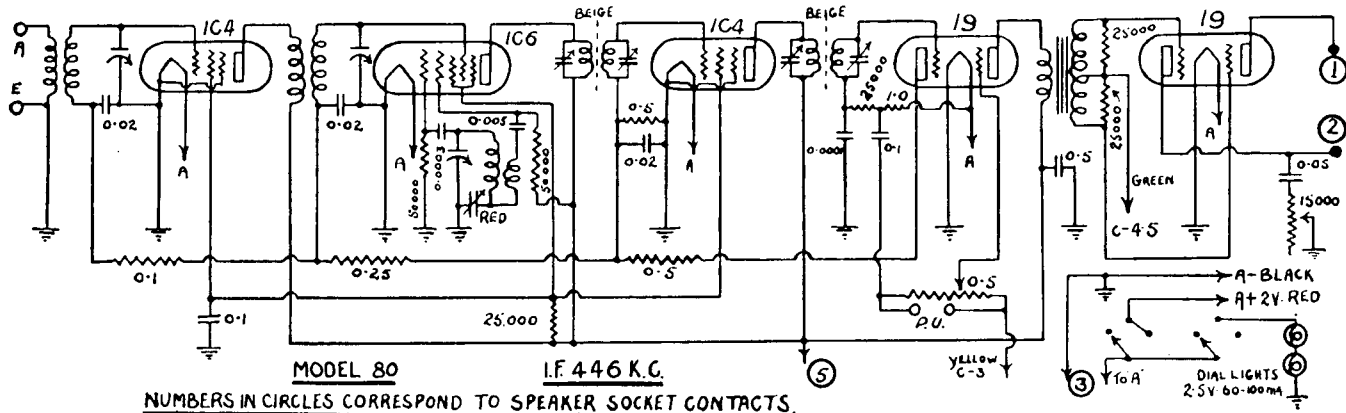


"Breville" Battery Broadcast Model 80



Breville model 80 is a five-valve receiver designed for broadcast coverage and operation from battery power supplies. This receiver is of the console type and is fitted with four controls—volume, tuning, tone (continuous), and battery switch (with extra position for dial-lamp control). The loudspeaker is an 8 inch permanent magnet unit, and power supply is obtained from a 2 v. accumulator ("A"), three series-connected 45 v. dry batteries ("B"), and a tapped 4.5 v. dry battery ("C"). Connection to the "B" supply is effected through the loudspeaker plug in accordance with the group diagram on Page 256.

The circuit arrangement of this receiver is particularly noteworthy on account of the unusual detector and

A.V.C. rectifier system employed. This makes use of one triode section of a type 19 class "B" output valve. The grid of this valve is used as detector diode and functions quite normally as such, but the operation of the A.V.C. portion of the system is not quite so normal. The plate of the "detector" section of the 19 is used as A.V.C. rectifier and to understand its action it is necessary to go back to the grid circuit of the I.F. amplifier. Here it will be noted that the grid return is made through an 0.5 megohm resistor shunted by an 0.02 mfd. condenser, while the junction of the I.F. secondary and this resistor-condenser combination is coupled to the otherwise "floating" plate of the 19 detector section. In the presence of a signal, voltage is developed across the I.F. grid return

and this is rectified by the plate of the 19, thus setting up a negative D.C. voltage across the system. This voltage is then applied to the controlled valve grids in the usual manner.

Apart from this, the circuit arrangement is quite straightforward. The second triode section of the "detector" 19 is used as an A.F. amplifier and the signal from this is passed on to the grids of another 19 used as class "B" output stage. The voltage distribution system employed is fairly simple and it is only necessary to note that the "no-signal" potential applied to the screens of the R.F., converter and I.F. valves is approximately 50 volts. Voltage is applied to the oscillator anode grid through a 50,000 ohms resistor from "B" max. and the applied potential is approximately 60 volts.