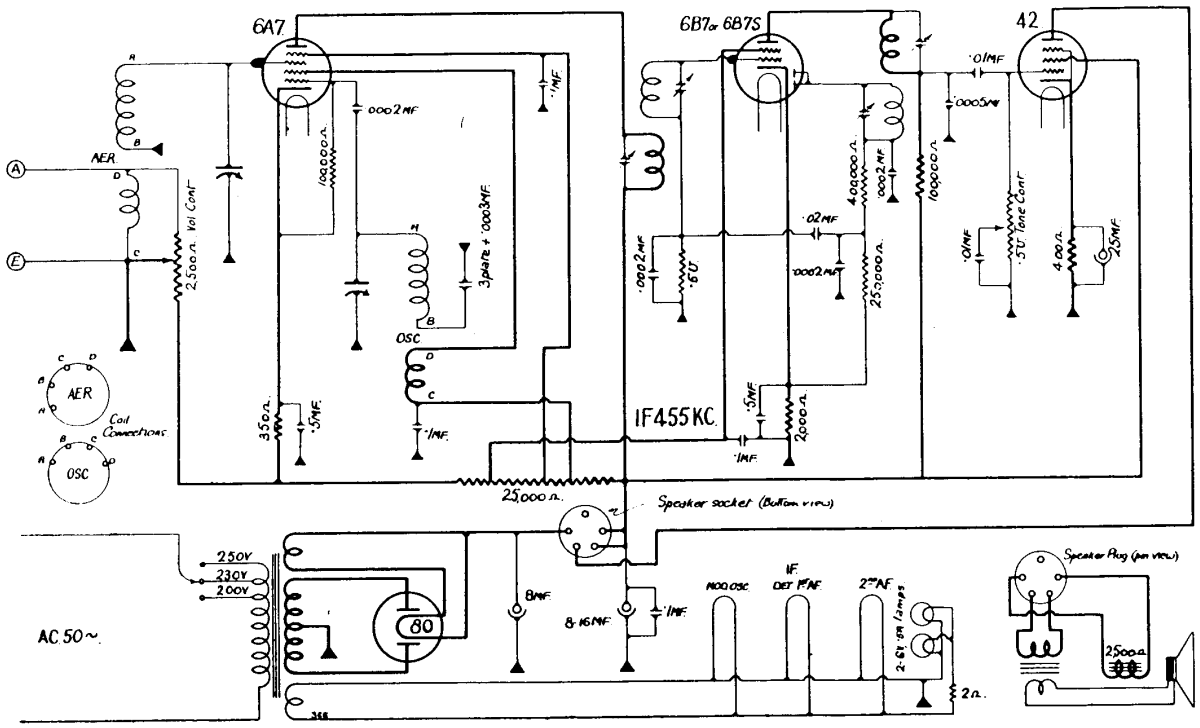
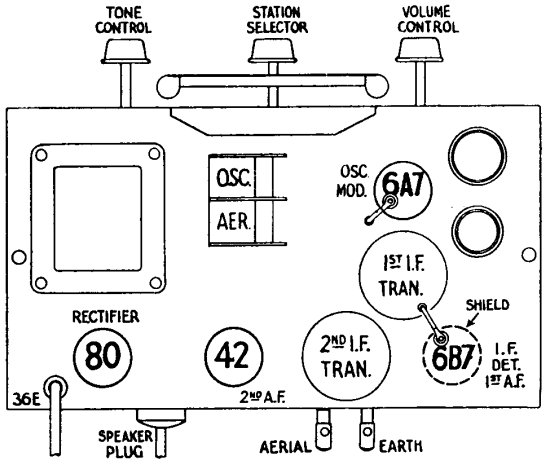
"Healing" A.C. Operated Broadcast Model 36E





The controls fitted to this receiver number three in all, and are for tone, tuning and volume. Their disposition is shown on the top-chassis layout drawing. Reference to the circuit diagram will show that the tone control also serves as grid-resistor for the output valve, and also that the volume control is of the "R.F." type which controls the aerial input simultaneously with the bias applied to the frequency converter.

Particular note should be taken of the fact that the wiring of the volume control is such that a variation of the voltages supplied by the 25,000 ohms potential divider is caused by its adjustment. This fact has been taken into consideration in the preparation of the following

Healing Model "36E" is a four-valve receiver designed for broadcast band coverage and A.C. operation. This model is fitted to a console-type cabinet and uses an 8½ inch, energised type loudspeaker.

The four valves employed are disposed in a reflex circuit arrangement. their types and functions being as follows:—One **6A7**, as frequency converter; one **6B7**, or **6B7S**, as I.F. amplifier operating at **455 KC.**, detector, A.V.C. voltage rectifier, and A.F. amplifier; one **42**, as output pentode; and one **80**, as full wave rectifier. The loudspeaker used has an overall diameter of 8½ inches and a field coil resistance of 2,500 ohms. Connection to this is made by means of a 5 pin (UY) socket and plug; the wiring for this is shown on the circuit diagram.

voltage distribution data and the words "ON" or "OFF" bracketed with each set of figures indicate the adjustment of the volume control.

VOLTAGE READINGS.

These voltages were taken with a "1,000 ohms per volt" meter operating on its 250 volt scale except for the cathode readings, when the 50 volts scale was employed. Readings are those obtained directly between chassis and the socket contact indicated when the receiver was operating with aerial disconnected and detuned from any signal.

6A7 (ON): Cathode, 2 v.; screen, 90 v.; plate, 250 v.; oscillator plate, 130 v.
6A7 (OFF): Cathode, 30 v.; screen, 105 v.; plate, 250 v.; oscillator plate, 125 v.
6B7 (ON): Cathode, 2 v.; screen, 30 v.; plate, 118 v.
6B7 (OFF): Cathode, 3 v.; screen, 52 v.; plate, 82 v.
42: Cathode, 16.5 v.; screen, 250 v.; plate, 225 v. (a slight alteration of these will take place as the volume control is rotated.)
80: Filament to earth, 385 volts with volume control "on." This may be checked with 250 volts scale meter by measuring the voltage drop across the speaker field coil (connections 2 and 4 on the speaker socket). This should read (385—250) = 135 volts.

Final points to note are the provision of alternative supply voltage tappings on the power transformer primary, thus permitting operation on mains ranging from 200—250 volts; and the correct rating of the dial lamps. Two of the latter are used and both should be 6 v., 0.5A miniature screw type. A 2 ohms resistor is wired in series with the lead to these in order to lengthen their life.