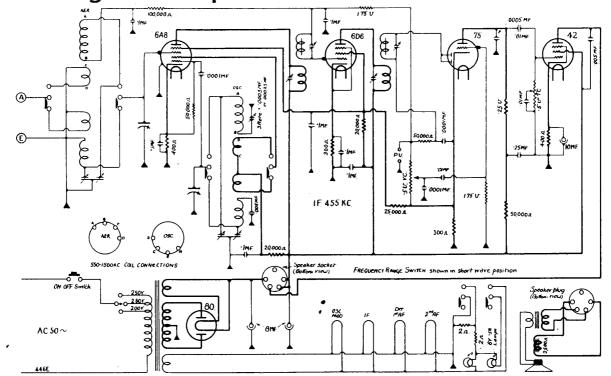
"Healing" A.C. Operated Dual-Wave Model 446E



Healing model "446E" is a five-valve, dual-wave receiver designed for operation from 200-250 volts, 50 cycles, A.C. mains. It is housed in a console-type cabinet and uses an eight-inch energised speaker with a field resistance of 2,500

Five controls are fitted to this receiver. These are, in order from left to right, for tone (continuous), volume, tuning, power switching and wave-change. The latter also controls the dial scale illumination and thus provides an indication as to the wave-band in use. A sixth control is fitted to the power transformer, at the back of the chassis, for adjustment to suit the line voltage available.

The design of this receiver is fairly conventional and no difficulty will be experienced in following the circuit arrangement. A minor point of interest is the use of fixed bias for the triode section of the 75. This fixed bias is applied by tapping the cathode on to a point one volt above earth on the screen voltage divider. This divider is composed of separate resistors connected in series and has a total resistance of (20,000 + 25,000 + 300) = 45,300 ohms. It is suggested that a slight improvement in performance will be obtained in some receivers by shunting the 300 ohms section of this divider with a low-voltage, high-capacity electrolytic condenser.

The intermediate frequency used in this receiver is exactly 455 KC. The short-wave coverage of this receiver is from 16.5 to 50 metres. Trimmers for the aerial and oscillator circuits are mounted in two separate groups under the chassis.

two aerial trimmers are mounted horizontally and the two oscillator trimmers vertically. In the first case, the broadcast trimmer is the one nearest the chassis end, while in the second case, the broadcast trimmer is the one nearest the chassis.

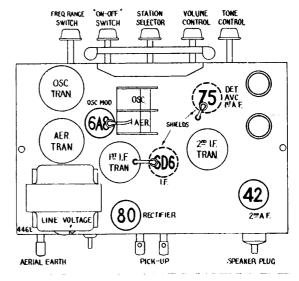
OPERATING VOLTAGES.

The voltages given below were taken with a "1.000 ohms per volt" meter between the chassis and the socket contact indicated. The aerial was disconnected and the receiver detuned from any signal whilst the measurements were being

made. The "50 volts" scale of the meter was used for the cathode measurements and the "250 volts" scale for all others. Note carefully that the frequency converter is an octal-based metal type 6A8; all the other valves are standard "glass" types.

6A8, Frequency Converter: Plate, 240 screen, 80 v.: cathode, 3 v.; oscillator plate, 160 v.

6D6, 455 K.C. I.F. Amplifier: Plate, 240 v.; screen, 80 v.; cathode, 2.5 v.



75. Detector, A.V.C. Rectifier and Audio Amplifier: Plate, 100 v.; cathode, 1.0 v. 42, Output Pentode: Plate. 215 v.:

screen, 240 v.; cathode, 16 v. 80, Rectifier: The output voltage of

this should be 380 volts D.C. This may be measured directly (between one filament and chassis), or indirectly by checking the voltage drop across—the loudspeaker field. This should be 140 volts, which, when added to the filtered high-tension voltage (240 volts) make up the required total of 380 volts.