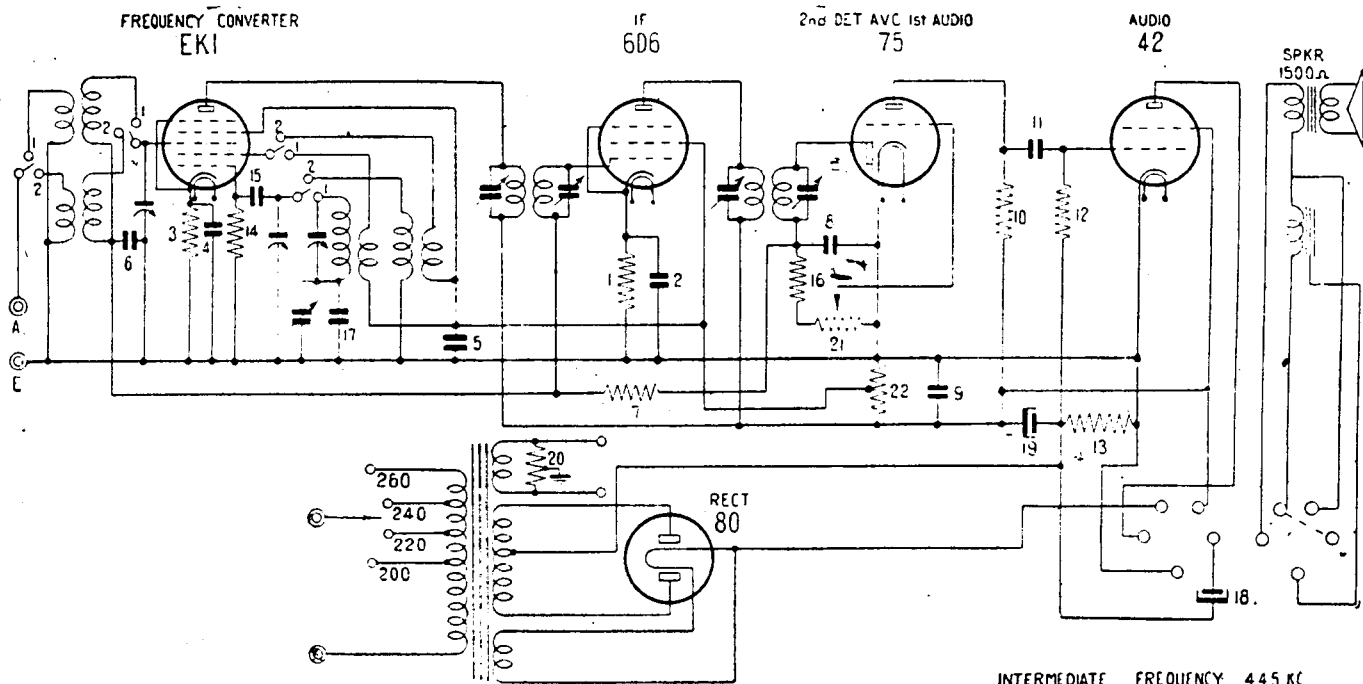


"Genalex" A.C.-operated Dual-Wave Console Model BC295



INTERMEDIATE FREQUENCY 445 KC.

Genalex model "BC295" is a five-valve receiver designed for dual-wave coverage and operation from 200-260 v. A.C. mains. This receiver is of the console type and is fitted with three controls, these being for volume, tuning and wave-change. The loudspeaker employed is an eight-inch diameter unit with a field-coil resistance of 1,500 ohms. This model was marketed during 1935.

The design of this receiver follows that of model "BC290" (see previous page) very closely, the only important changes being the omission of the tone control and the inclusion of provision for coverage of the 18-50 m. short-wave band. This means that the same remarks apply regarding EKI replacement and the biasing system for the type 75 detector-amplifier. It should be noted, however, that an appreciable improvement of short-wave performance will be obtained as a result of using the newer type EK2, as long as care is taken to see that the screen and anode-grid voltages are altered to the rated values of 50 v. and 200 v. respectively.

The short-wave circuits of this receiver are quite simple and consist merely of two coils (aerial and oscillator), wound on one former, and the necessary switching gear. No arrangements are made for "padding" of the short-wave oscillator circuit, as the necessary adjustments have been taken care of in the original design. Broadcast trimmers and a "padder" have, of course, been provided, and these are adjusted in the normal manner. The intermediate frequency used is exactly

445 kc. The volume control was at its maximum setting and the receiver was tuned to a point of "no signal." The power supply was 240 v. A.C. and the voltage selector switch was adjusted to the appropriate position.

EK1, Octode Frequency Converter: Plate, 230 v.; screen, 70 v.; cathode, 1.2 v.; osc. anode grid, 70 v. Plate current, 1.6 mA.

6D6, 445 kc. I.F. Amplifier: Plate, 230 v.; screen, 70 v.; cathode, 2.4 v. Plate current, 4.4 mA.

75, Detector, A.V.C. Rectifier and A.F. Amplifier: Plate, 50 v.; cathode, earthed. Plate current, 0.65 mA.

42, Output Pentode: Plate, 210 v.; screen, 230 v.; cathode, earthed. Grid bias obtained from drop across resistor 13 in H.T. return—16 v. Plate current, 25 mA.

80, Rectifier: Each plate, 325 v., r.m.s., A.C. Total D.C. output, 60 mA.

Component Values

The following index numbers and component values correspond to those used in the circuit diagram.

1—500 ohms, w.w.; 2, 5, 9—0.5 mfd., paper; 3—180 ohms, w.w.; 4, 6—0.1 mfd., paper; 7, 12—1.0 megohm; 8—0.00025 mfd., mica; 10—0.25 megohm; 11—0.01 mfd., mica; 13—250 ohms, w.w.; 14—50,000 ohms; 15—0.0001 mfd., mica; 16—10,000 ohms; 17—0.0004 mfd., mica, padder shunt; 18, 19—8 mfd., 500 v., electro; 20—50 ohms, C.T., w.w.; 21—500,000 ohms, volume control; 22—15,000 ohms, w.w., voltage divider.

Operating Voltages

The following measurements were made with a 1,000 o/v meter between chassis and the socket contact indi-