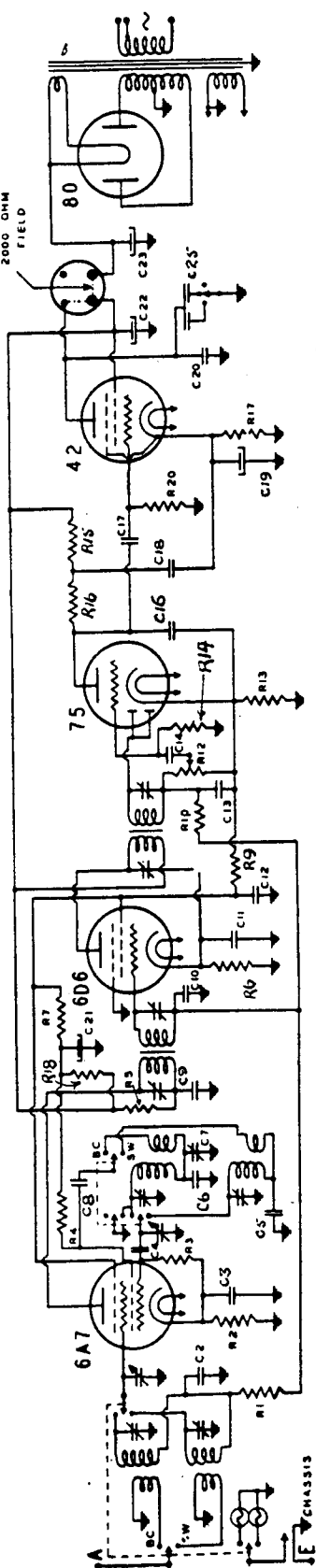


# 'Mullard' A.C.-operated Dual-Wave Console Models 80, 80A



I.F. 456 K.C. MODEL 80

- C2 - .05 uf 400V. H.F.
- C3 - .00025 uf mica.
- C4 - .1 uf 400V
- C5 - .0025 uf mica.
- C6 - .007 uf  $\pm 1\%$  mica
- C7 - .0003 uf  $\pm 3\%$  mica
- C8 - 3 plate padder
- C9 - .0005 uf mica
- C10 - .05 uf 400V.
- C11 - .1 uf 400V
- C12 - .02 uf 400V
- C13 - .00025 uf mica.
- C14 - .01 uf 400V.
- C16 - .0005 uf mica.
- C17 - .02 uf 400V
- C18 - .25 uf 400V.
- C19 - 10 uf 25 W.V. elect
- C20 - .005 uf mica
- C21 - 8 uf 500 P.V. elect
- C22 - 8 uf 450 W.V. elect
- C23 - 8 uf 450 W.V. elect
- C25 - .01 .03 uf dual
- R1 - .25 meg.  $\frac{1}{4}$  W
- R2 - 400 ohms  $\frac{1}{2}$  W
- R3 - .1 meg.  $\frac{1}{4}$  W.
- R4 - 10,000 ohms  $\frac{1}{2}$  W
- R5 - 4,000 ohms  $\frac{1}{2}$  W.
- R6 - 400 ohms  $\frac{1}{2}$  W
- R7 - 5,000 ohms 1W
- R9 - 20,000 ohms  $\frac{1}{2}$  W.
- R10 - 1 meg.  $\frac{1}{4}$  W
- R12 - .5 meg. V/C.
- R13 - 200 ohms  $\frac{1}{2}$  W
- R14 - 1 meg.  $\frac{1}{4}$  W.
- R15 - 50,000 ohms  $\frac{1}{2}$  W.
- R16 - .25 meg.  $\frac{1}{2}$  W.
- R17 - 460 ohms
- R18 - 5,000 ohms 1W
- R20 - .5 meg.  $\frac{1}{4}$  W.

Mullard models "80" and "80A" employ similar five-valve, dual-wave, A.C. operated chassis and differ mainly in cabinet style. Both models are, however, consoles and both are fitted with four controls, these being for volume, tuning, tone (three positions) and wavechange. The loudspeaker in both cases is a 10-inch unit with a field coil resistance of 2,000 ohms. These models were marketed during 1937.

The circuit used in these receivers is a fairly straightforward arrangement but has one or two interesting features. The first of these is the parallel-feed, modified Colpitts, oscillator circuit. Another one is the wiring of the second I.F.T. primary trimmer—this is returned to cathode instead of to the usual point on the high-tension side of the winding. Also of interest is the "voltage divider" method of biasing the 75—a low value of resistance is employed in the cathode circuit and the voltage drop is brought up to the required value by bleed current from the screen potential dividing network. Finally, attention should be paid to the wiring of the 75 plate circuit decoupling condenser (C18).

### Operating Voltages

The following measurements were made with a "1,000 ohms per volt" meter between chassis and the socket contact indicated. Care should be taken to see that the correct power transformer primary tapping is in use—yellow for supplies between 200 and 230 v.; red for supplies between 230 and 250 v.

- 6A7, Frequency Converter: Plate, 220 v.; screen, 105 v.; cathode, + v.; osc. anode, 130 v. Plate current, 3.5 mA.; osc. anode current, 2.5 mA.
  - 6D6, 456 K.C. I.F. Amplifier: Plate, 240 v.; screen, 105 v.; cathode, + v. Plate current, 8 mA.
  - 75, Detector, A.V.C. Rectifier, and R.F. Amplifier: Plate, 80 v.; cathode, 1 v. Plate current, 0.35 mA.
  - 42, Output Pentode: Plate, 225 v.; screen, 240 v.; cathode, 15 v. Plate current, 30 mA.
  - 80, Rectifier: Each plate, 370 v., r.m.s., A.C.
- NOTE: The above data are reprinted from page 27 of "Radio Retailer" dated December 2, 1933, so that both new and old readers may complete their files of readily accessible servicing information.

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