

# "Mullard" A.C. Operated Broadcast Model 50

(Circuit diagram of this model appears on Page 295.)

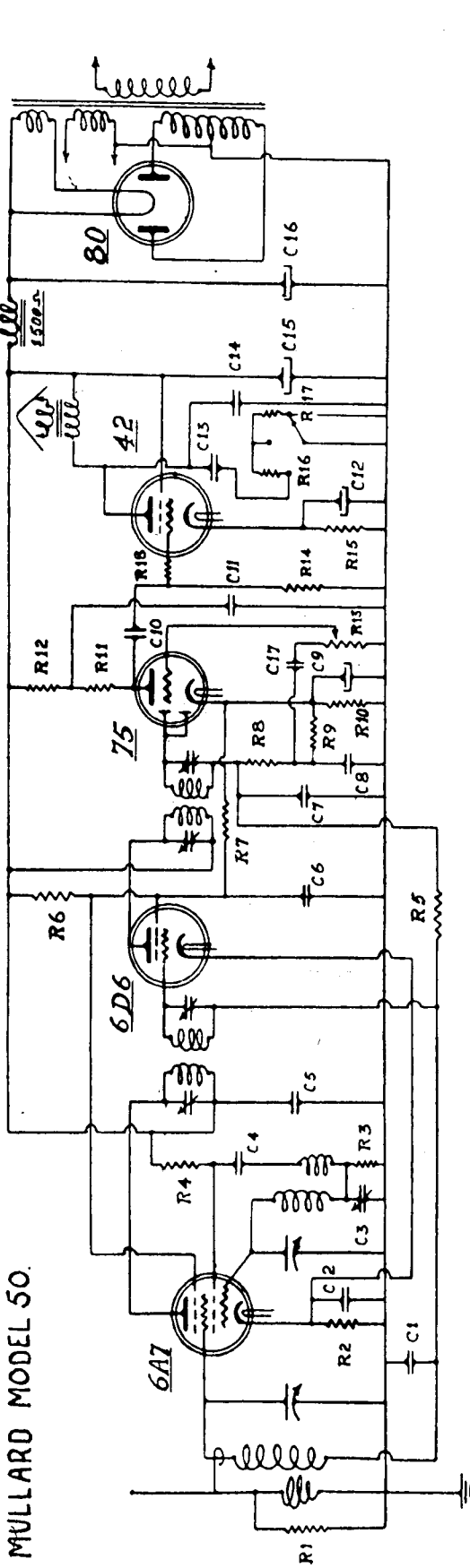
Mullard model "50" is a five-valve receiver designed for broadcast coverage and operation from 200-250 volts A.C. mains. This receiver is housed in a compact moulded cabinet of the "table" type and is fitted with three controls — volume, tuning, and tone (3 positions).

The loudspeaker employed is a 6½-inch unit with a field coil resistance of 1,500 ohms. This receiver was originally announced under the model number "M/520," but the designation given above ("50") was adopted as soon as distribution commenced.

The circuit arrangement of this receiver is quite straightforward and its analysis should present no particular difficulty. Points of interest are the fixed resistor shunt on the aerial coil, and the shunt-fed oscillator system. In connection with the latter it should be noted that the padding condenser (C3) takes the place of the usual grid blocking condenser, and that the fixed resistor (R3) shunted across this takes the place of the usual grid leak.

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MULLARD MODEL 50.



- C1 - .1  $\mu$ f 400V.Tub.
- C2 - .25  $\mu$ f 400V.Tub.
- C3 - Adj.padder 5P.
- C4 - 1000  $\mu$ f mica
- C5 - .1  $\mu$ f 400V.Tub.
- C6 - .1  $\mu$ f 400V.Tub.
- C7 - 100  $\mu$ f mica
- C8 - 100  $\mu$ f mica
- C9 - 10  $\mu$ f elect.25V.W.
- C10 - .02  $\mu$ f 400V.Tub.
- C11 - .5  $\mu$ f 400V.Tub.
- C12 - 10  $\mu$ f elect.25V.W.
- C13 - .05  $\mu$ f 400V.Tub.
- C14 - 5000  $\mu$ f mica
- C15 - 8  $\mu$ f elect.440V.W.
- C16 - 8  $\mu$ f elect.500V.W.
- C17 - .02  $\mu$ f 400V.Tub.
- R1 - 10 K. $\Omega$   $\frac{1}{2}$ W.
- R2 - 200  $\Omega$  P.Type
- R3 - 50 K. $\Omega$   $\frac{1}{2}$ W.
- R4 - 30 K. $\Omega$   $\frac{1}{2}$ W.
- R5 - 1 M. $\Omega$   $\frac{1}{2}$ W.
- R6 - 10 K. $\Omega$  1W.
- R7 - 20 K. $\Omega$   $\frac{1}{2}$ W.
- R8 - 50 K. $\Omega$   $\frac{1}{2}$ W.
- R9 - .5 M. $\Omega$   $\frac{1}{2}$ W.
- R10 - 200  $\Omega$  P.Type
- R11 - .25 M. $\Omega$   $\frac{1}{2}$ W.
- R12 - 50 K. $\Omega$   $\frac{1}{2}$ W.
- R13 - .5 M. $\Omega$  V.C.
- R14 - .5 M. $\Omega$   $\frac{1}{2}$ W.
- R15 - 460  $\Omega$  P.Type
- R16 - 5 K. $\Omega$   $\frac{1}{2}$ W.
- R17 - 15 K. $\Omega$   $\frac{1}{2}$ W.
- R18 - 50 K. $\Omega$   $\frac{1}{2}$ W.

## I. F. 456 K.C.

### VOLTAGE AND CURRENT ANALYSIS

All voltages to chassis, with 1,000 B.P.V. meter; tuned off signal O.P.V.

Valve	Plate volts	Plate mA.	Screen volts	Screen mA	Osc. anode volts	Cathode volts
6A7	220	4.0	110	3.0	135	4.0
6D6	220	7.1	110	1.8	—	4.0
75	85	0.35	—	—	—	1.2
42	210	24	220	5.0	—	14.5
80	310 (R.M.S.)	—	—	—	—	—

All voltages measured with 215 or 240 volts input, according to transformer tapping.

A general description of this model will be found on Page 293.