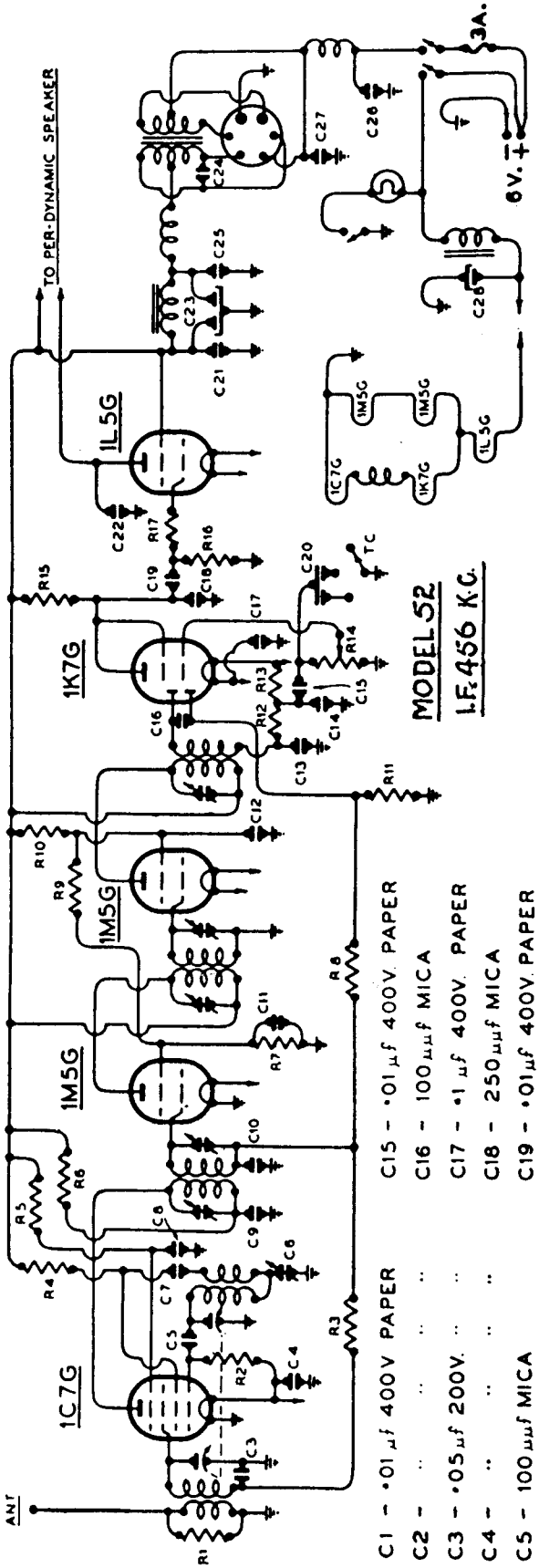
"Mullard" Battery-operated Broadcast Model 52



C1 – ·01 μf 400V. PAPER
C2 – .. ..
C3 – ·05 μf 200V. .. ..
C4 – .. ..
C5 – 100 μμf MICA
C6 – ADJ. PADDER 5 PLATE
C7 – 1000 μμf MICA
C8 – ·05 μf 200V. PAPER
C9 – .. ..
C10 – .. ..
C11 – .. ..
C12 – .. ..
C13 – 100 μμf MICA
C14 – .. ..
C15 – ·01 μf 400V. PAPER
C16 – 100 μμf MICA
C17 – ·1 μf 400V. PAPER
C18 – 250 μμf MICA
C19 – ·01 μf 400V. PAPER
C20 – ·001+·004 μf 400V.
C21 – ·05 μf 200V. PAPER
C22 – 5000 μμf MICA
C23 – 8+8 μf ELECT. 450V.W.
C24 – ·02 μf 1500V. MICA
C25 – ·01 μf MICA
C26 – 100 μμf MICA
C27 – ·5 μf 400V PAPER
C28 – 500 μf 6V W. ELECT

R1 – 10K Ω ¼ WATT
R2 – 50K Ω ½ .. ..
R3 – ·1M Ω ¼ .. ..
R4 – 50K Ω ½ .. ..
R5 – .. ..
R6 – 5K .. .. ..
R7 – 20K .. .. ..
R8 – 1M Ω ¼ .. ..
R9 – 50K Ω ½ .. ..
R10 – 50 K Ω ½ WATT
R11 – 1M Ω ¼ .. ..
R12 – 50K Ω ¼ .. ..
R13 – ·5 M Ω .. .. V.C.
R14 – .. ..
R15 – ·1M Ω ½ WATT
R16 – ·5M Ω ¼ WATT
R17 – 50K Ω .. ..

Mullard model "52" is a five-valve receiver designed for broadcast coverage and operation from a six-volt accumulator. This receiver is of the "moulded mantel" type and is fitted with four controls—volume (with combined two-pole battery switch), tuning, tone (three positions) and dial-lamp switch. The loudspeaker fitted to this receiver is a 6½ inch unit of the permanent-magnet type. Conversion of the low-tension supply to high-tension is effected by means of a synchronous type vibrator unit, which is mounted on the receiver chassis.

The circuit arrangement of this receiver is quite straightforward and, apart from one or two minor points, requires no explanation. The first of these is that a low-resistance radio-frequency choke is wired between the 1K7G and 1C7G valve filaments as a "hash" filter, operating in conjunction with the condensers C4 and C17. A second point to note is that the 1M5G filament at the negative (earthed) end of the series-parallel filament network is that of the first I.F. amplifier, thus permitting zero bias operation of this valve under "no signal" conditions.

OPERATING VOLTAGES.

The following measurements were made, under "no signal" conditions, with a "1,000 ohms per volt" meter between chassis and the socket contact indicated. Exceptions to this are provided by the bias voltages, which are measured between the negative leg of each valve filament and the point on the filament circuit to which its grid is returned.

1C7G, Frequency Converter. Plate, 130 v.; screen, 45 v.; grid, zero; osc. anode grid, 60 v. Plate current, 1.5 mA.; osc. anode current, 1.1 mA.

1M5G, 1st stage 456 KC. I.F. Amplifier. Plate, 140 v.; screen, 17 v.; grid, zero. Plate current, 0.2 mA.

1M5G, 2nd stage, 456 KC. I.F. Amplifier. Plate, 140 v.; screen, 65 v.; grid, —2 v. Plate current, 1 mA.

1K7G, Detector, A.V.C. Rectifier and A.F. Amplifier. Plate, 60 v.; screen, tied to plate; grid, —2 v. Combined plate and screen current, 0.7 mA.

1L5G, Output Pentode. Plate, 135 v.; screen, 140 v.; grid, —4 v. Plate current, 7.5 mA.

Total drain from "B" supply unit, 16.5 mA., approx.

Total "A" drain, without dial-lamp, 0.9 A., approx.