McMICHAEL BATMAN Model 352

General Description : Four-valve, two-waveband, superheterodyne mains/battery portable.

Power Supplies : A.C./D.C. mains, 190–260 volts; *or* H.T. battery, 85·5 volts Ever Ready Type B129; L.T. battery 7·5 volts Vidor Type L5042.

Wave-bands : M.W. 190–550 m.; L.W. 900–2000 m.

Controls : There are four controls, and reading from left to right their functions are: (1) Battery–Off–mains switch (three positions). (2) Volume control. (3) Tuning. (4) Wave-change switch. Two positions, medium wave and long wave.

Intermediate Frequency : 470 kc/s.

Circuit Notes : The 150-mA. fuse (cartridge-type) has been replaced by 250 mA. rating. The frame aerial is of the high-impedance type, and is concealed inside the back door. It should be noted that R15 (91 ohms) is not included in current production, and also that the positive end of C29 is returned to the lower end of R22 and not as shown in the circuit diagram.

Valve Analysis : All valves are of Mullard manufacture.

V1	DK92	Frequency changer	Oscillator anode	Pin 3 25 v.
			Screen	Pin 5 55 v.
			Anode	Pin 2 85 v.
V2	DF91	I.F. amp.	Anode	Pin 2 50 v.
			Screen	Pin 3 60 v.
V3	DAF91	Det. and A.F. amp.	Anode	Pin 5 15 v.
			Screen	Pin 4 5 v.
V4	DL94	Output	Anode	Pin 2 80 v.
			Screen	Pin 3 85 v.

Metal rectifier: Westinghouse Type 15B–35–U407; H.T. current: 10 mA.; L.T. current: 50 mA.; Power consumption on mains: 15 watts; Power consumption on batteries: 5·5 watts.

The average voltages given above were measured on a Universal Avometer Model 7 on the 400-volt D.C. range. Receiver tuned to 550 m. (no signal).

Alignment Procedure : Equipment required: signal generator, output meter (3 ohms). Standard frame-aerial alignment procedure should be used.

(1) Adjust I.F. transformer cores for maximum output at 470 kc/s.

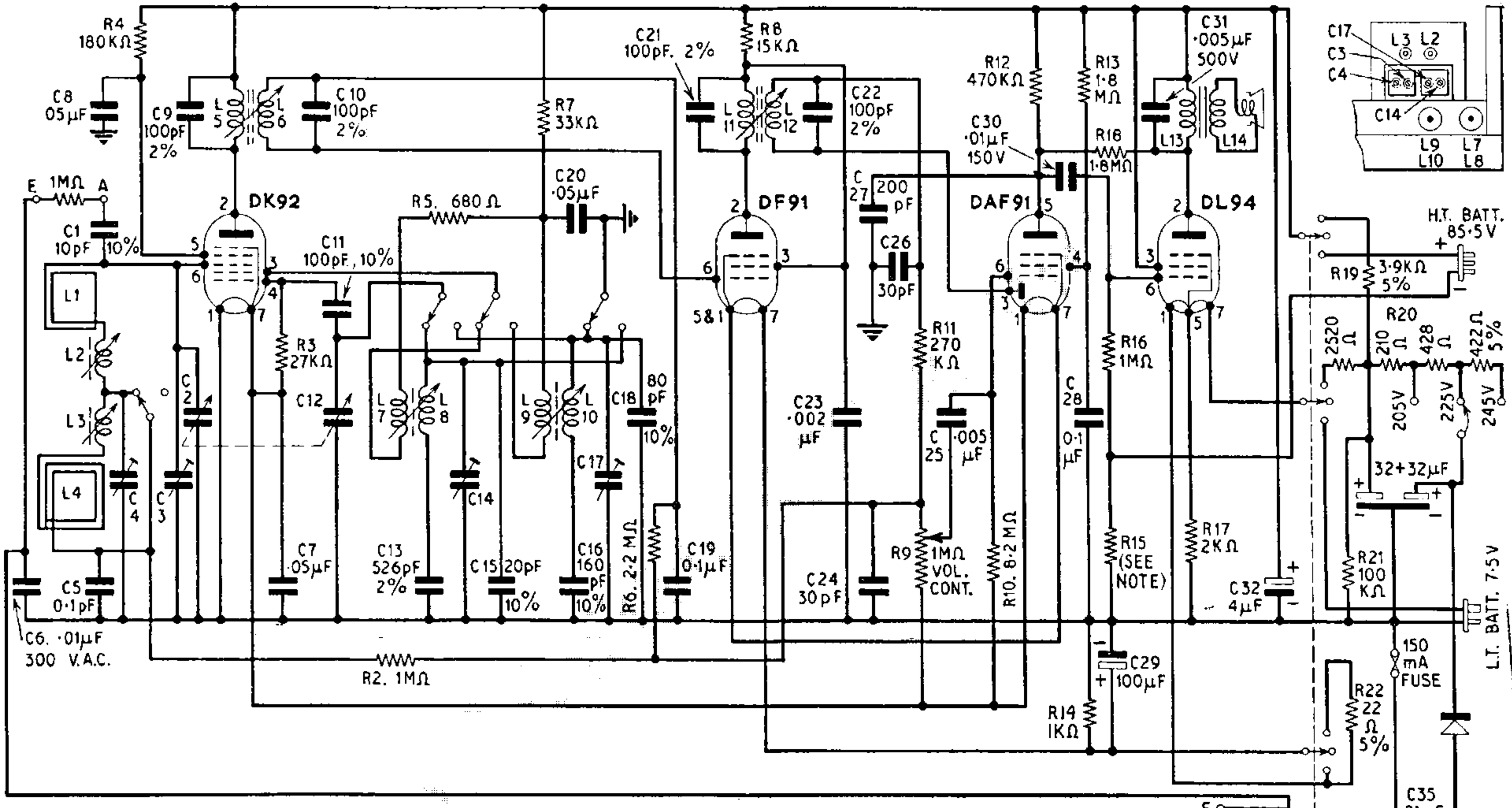
(2) With the ganged tuning capacitors fully meshed, adjust the pointer to coincide with the datum marks near the right-hand side of the scale.

(3) Medium wave: Set pointer to 190 m. (1·58 Mc/s.) and adjust oscillator (C14) and aerial (C3) trimmers.

(4) Medium wave: Set pointer to 500 m. (600 kc/s.) and adjust oscillator (L7/8) and aerial (L2) cores. Repeat (3) and (4).

(5) Long wave: Set pointer to 900 m. (333 kc/s.) and adjust oscillator (C17) and aerial (C4) trimmers.

(6) Long Wave: Set pointer to 2000 m. (150 kc/s.) and adjust oscillator (L9/10) and aerial (L3) cores. Repeat (5) and (6).



CIRCUIT DIAGRAM—MCMICHAEL MODEL 352 ("BATMAN")