H.M.V. - 2013

Resistors

R1	3·3kΩ	B2
R2	33kΩ	B3
R3	470kΩ	B2
R4	47kΩ	B3
R5	220kΩ	B3
R6	22kΩ	B2
R7	1·5MΩ	C3
R8	330kΩ	C3
R9	100kΩ	C3
R10	470kΩ	A2
R11	470kΩ	B2
R12	500kΩ	D1
R13	500kΩ	C1
R14	220Ω	C2
R15	10MΩ	B2
R16	100kΩ	C2
R17	470kΩ	C2
R18	1kΩ	C2
R19	22kΩ	C2
R20	22kΩ	C2
R21	470kΩ	C2
R22	470kΩ	B2
R23	6·8kΩ	B2
R24	220Ω	B3
R25	10kΩ	B3
R26	560Ω	B3
R27	200Ω	D2
R28	100Ω	C2
R29	100Ω	D1

Capacitors

C1	3,000pF	B2
C2	137pF	B2
C3	523pF	A2
C4	3·25pF	A2
C5	220pF	B2
C6	200pF	B3
C7	200pF	B3
C8	100pF	B2
C9	56pF	B3
C10	390pF	B2
C11	395pF	B2
C12	523pF	A2
C13	3·25pF	A2
C14	10pF	A2
C15	0·1μF	B2
C16	200pF	C3
C17	200pF	C3
C18	220pF	C3
C19	220pF	C3
C20	0·01μF	A2
C21	5,000pF	B3
C22	0·02μF	A3
C23	2,000pF	A1
C24	0·02μF	A2
C25	0·01μF	A2
C26	800pF	C2
C27	0·04μF	B2
C28	0·01μF	C2
C29	0·01μF	C2
C30	0·01μF	C2
C31	0·1μF	C2
C32	50μF	B2
C33	2,000pF	—
C34	8μF	A2
C35	40μF	A2
C36	40μF	A2
C37	0·02μF	D2
C38	100pF	C2

Coils etc. *

L1	5·5	B2
L2	—	A1
L3	—	B3
L4	2·0	B3
L5	5·5	B3
L6	5·5	B3
L7	5·5	C3
L8	5·5	C3
L9	3·0	—
T1 a	250·0	—
T1 b	—	

Miscellaneous

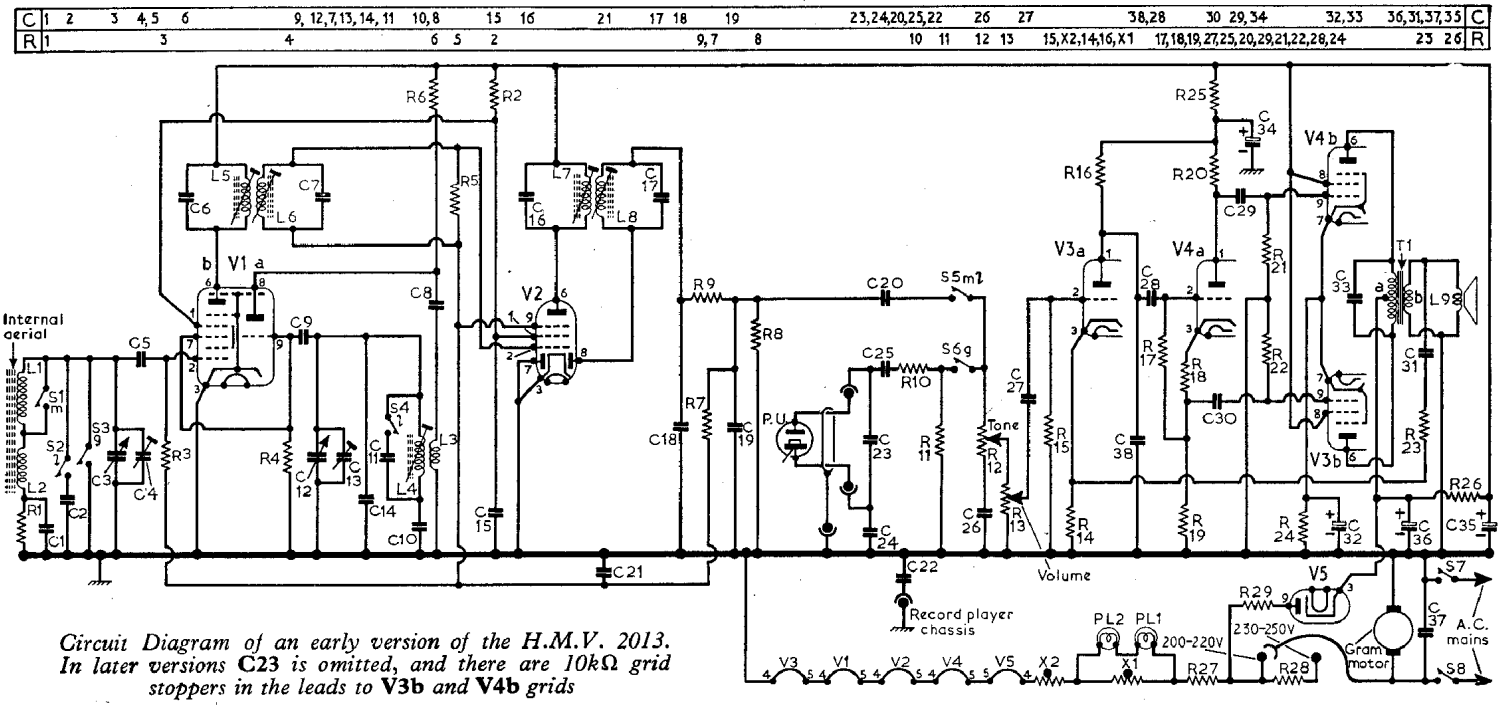
PL1, PL2	12V 0·1A M.E.S.	C1
S1-S6	—	B1
S7, S8	—	C1
X1, X2	CZ2	D2
		A2
		A3

**Approximate d.c. resistance in ohms.*

VALVE ANALYSIS

Valve voltages given in the table in this column were taken from information supplied by the manufacturers. They were measured on a 20,000Ω/V meter.

Valve		Anode (V)	Screen (V)	Cathode (V)
V1 UCH81	a	114	—	—
	b	202	51	—
V2 UBF89	..	202	128	—
V3 UCL83	a	115	—	—
	b	209	202	12·5
V4 UCL83	a	150	—	25·0
	b	209	202	12·5
V5 UY85	..	—	—	212·0



Circuit Diagram of an early version of the H.M.V. 2013. In later versions **C23** *is omitted, and there are 10kΩ grid stoppers in the leads to* **V3b** *and* **V4b** *grids*

CIRCUIT ALIGNMENT

Equipment Required.—An a.m. signal generator; an audio output meter; a 0.1μF isolating capacitor and a length of insulated wire formed into an r.f. coupling loop.

R.f. alignment markers are provided along the top edge of the scale backing plate, which, when facing front of chassis, read right to left as follows: "set cursor"; 580kc/s; 210kc/s (l.w.) and 1,400kc/s.

1.—Switch receiver to m.w. and rotate the tuning gang fully anti-clockwise. Set the volume control at maximum. Connect the signal generator via the 0.1μF isolating capacitor to **V1b** control grid (pin 2) and connect the audio output meter in place of the speaker speech coil **L9**.

2.—Feed in a 470kc/s modulated signal and adjust **L8, L7, L6** and **L5** for maximum output, reducing the signal input as the circuits come into line to prevent a.g.c. action.

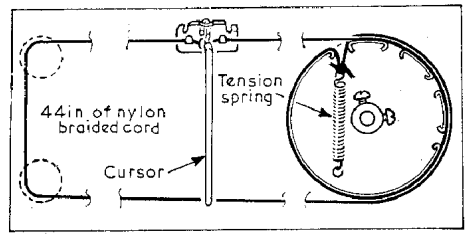
3.—Connect the signal generator to the r.f. coupling loop and loosely couple the loop to the ferrite rod aerial. With the tuning gang fully closed, adjust the cursor to the position where it coincides with the "set cursor" marker at the right-hand end of the scale backing plate.

4.—Rotate the tuning spindle sufficiently to align the cursor with the 580kc/s marker. Feed in a 580kc/s signal and adjust **L4** and the ferrite rod aerial adjusting ring for maximum output.

5.—Rotate the tuning gang to align the cursor with the 1,400kc/s marker. Feed in a 1,400kc/s signal and adjust **C13** and **C4** for maximum output.

6.—Repeat operations 4 and 5 as necessary for optimum results.

7.—Switch receiver to l.w. and feed in a 210kc/s signal. Tune receiver to this signal for maximum output and check the calibration against the 210kc/s marker. Then adjust **L1** for maximum output.



Drive cord assembly in the fully closed position as viewed from front of chassis