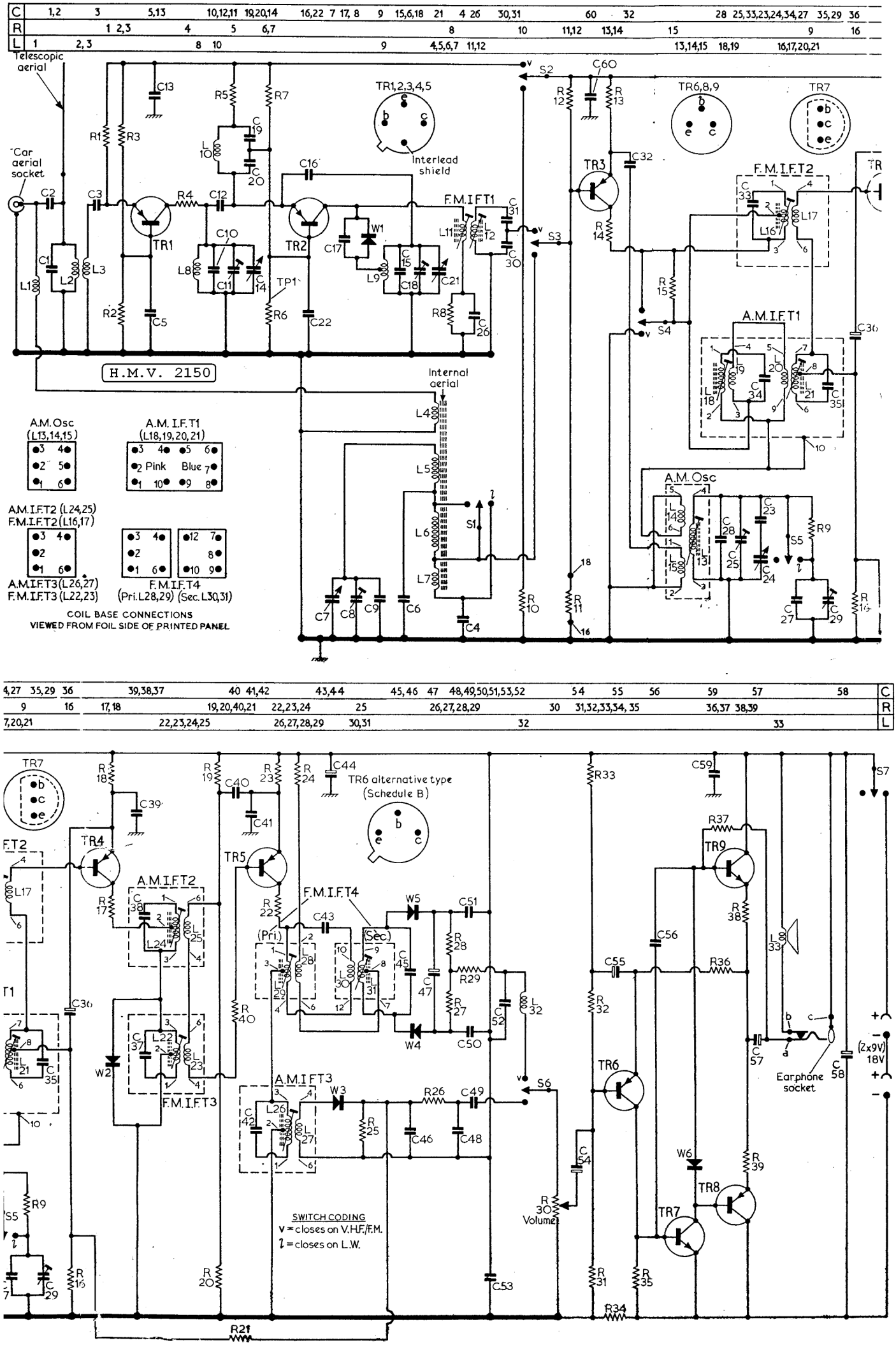

C 1,2 3 5,13 10,12,11 19,20,14 16,22 7 17, 8 9 15,6,18 21 4 26 30,31 60 32 28 25,33,23,24,34,27 35,29 36
R 1 2,3 4 5 6,7 8 10 11,12 13,14 15 9 16
L 1 2, 3 8 10 9 4,5,6,7 11,12 13,14,15 18,19 16,17,20,21
Telescopic aerial
Car aerial socket
H.M.V. 2150
TR1,2,3,4,5
Interlead shield
TR6,8,9
TR7
F.M.I.F.T1
F.M.I.F.T2
A.M.I.F.T1
A.M.I.F.T2
A.M.Osc
Internal aerial
A.M.Osc (L13,14,15)
A.M.I.F.T1 (L18,19,20,21)
Pink
Blue
A.M.I.F.T2 (L24,25)
F.M.I.F.T2 (L16,17)
A.M.I.F.T3 (L26,27)
F.M.I.F.T3 (L22,23)
F.M.I.F.T4 (Pri.L28,29) (Sec.L30,31)
COIL BASE CONNECTIONS
VIEWED FROM FOIL SIDE OF PRINTED PANEL
4,27 35,29 36 39,38,37 40 41,42 43,44 45,46 47 48,49,50,51,53,52 54 55 56 59 57 58 C
9 16 17,18 19,20,40,21 22,23,24 25 26,27,28,29 30 31,32,33,34, 35 36,37 38,39 R
7,20,21 22,23,24,25 26,27,28,29 30,31 32 33 L
TR7
TR6 alternative type (Schedule B)
A.M.I.F.T2
F.M.I.F.T4
(Pri.)
(Sec.)
A.M.I.F.T3
F.M.I.F.T3
SWITCH CODING
V = closes on V.H.F./F.M.
1 = closes on L.W.
Volume
Earphone socket
(2x9V) 18V

H.M.V. 2150

Transistor analysis
Transistor voltages quoted in adjacent table cols. 2 and 3 were obtained from information supplied by the manufacturers. They were measured under quiescent conditions with a 20,000Ω/V meter and are all negative with respect to the positive line of each transistor.

Resistors

R1	1kΩ	A2	R10	3·3kΩ	A2
R2	68kΩ	A2	R11	47kΩ	B2
R3	10kΩ	A2	R12	6·8kΩ	C2
R4	68Ω	A2	R13	1·5kΩ	B2
R5	1·5kΩ	B1	R14	330Ω	B2
R6	33kΩ	B1	R15	10kΩ	B2
R7	10kΩ	B1	R16	150kΩ	B3
R8	390Ω	B1	R17	330Ω	B3
R9	56kΩ	B3	R18	470Ω	B3
			R19	6·8kΩ	B3
			R20	47kΩ	B3
R21	8·2kΩ	B3			
R22	330Ω	B3			
R23	1·5kΩ	B3			
R24	220Ω	C3			
R25	5·6kΩ	C3			
R26	10kΩ	C3			
R27	3·3kΩ	C3			
R28	3·3kΩ	C3			
R29	1kΩ	C3			
R30	20kΩ	D2			
R31	12kΩ	C1			
R32†	43kΩ	C1			
R33	6·8Ω	C2			
R34	470Ω	C2			
R35	2·2kΩ	C1			
R36	5·6kΩ	C2			
R37	1·2kΩ	C1			
R38	4·7Ω	D2			
R39	4·7Ω	D2			
R40	68Ω	B3			

Capacitors

C1	27pF	B1	C38	180pF	B3
C2	20pF	B1	C39	0·02µF	B3
C3	220pF	A2	C40	0·02µF	B3
C4	2,000pF	B3	C41	0·02µF	B3
C5	1,000pF	A2	C42	180pF	B2
C6	60pF	B1	C43	30pF	C3
C7	266pF	A2	C44	100µF	B3
C8	5pF	B2	C45	50pF	C3
C9	7pF	A2	C46	0·01µF	C3
C10	18pF	A2	C47	8µF	C3
C11	5pF	A2	C48	0·01µF	C2
C12	4·7pF	B2	C49	0·04µF	C2
C13	0·02µF	B1	C50	330pF	C3
C14	20pF	A2	C51	330pF	C3
C15	15pF	B2	C52	0·01µF	C3
C16	5·6pF	B2	C53	0·02µF	C3
C17	60pF	B1	C54	2µF	C2
			C55	150µF	C1
			C56	1,000pF	C1
			C57	150µF	D2
C18	5pF	B2	C58	100µF	C2
C19	510pF	B1	C59	0·02µF	A3
C20	10pF	B2	C60	0·05µF	B2
C21	20pF	B2			
C22	1,000pF	B1			
C23	230pF	B2			
C24	266pF	B2			
C25	5pF	A2			
C26	1,000pF	B2			
C27	210pF	B3			
C28	4·7pF	B2			
C29	25pF	A3			
C30	510pF	C2			
C31	68pF	C1			
C32	0·01µF	B2			
C33	50pF	B2			
C34	180pF	B2			
C35	180pF	B2			
C36	75µF	B3			
C37	80pF	B3			

Coils and transformers*

L1	—	B1
L2	—	B1
L3	—	B1
L4	2Ω	B1
L5	—	C1
L6	11·5Ω	A1
L7	—	C1
L8	—	A2
L9	—	B2
L10	—	B2
L11	—	B1
L12	—	C1
L13	2·75Ω	B2
L14	—	B2
L15	—	B2
L16	—	B2
L17	—	B2
L18	5Ω	B2
L19	—	B2
L20	—	B2
L21	5Ω	B2
L22	—	B3
L23	—	B3
L24	5Ω	B3
L25	—	B3
L26	5Ω	B3
L27	—	B3
L28	—	C3
L29	—	C3
L30	—	C3
L31	—	C3
L32	—	C2
L33	35Ω	C2

Miscellaneous

W1	OA90	B2
W2	OA90	B3
W3	OA90	B3
W4	OA90	C3
W5	OA90	C3
W6	AA120	D1
S1-S7	—	A3

* *Approximate d.c. resistance in ohms.*
† *Not fitted in 9Volt version.*

Unlike components (9 Volt version)

R1	560Ω	A2
R3	12kΩ	A2
R5	1kΩ	B1
R6	22kΩ	B1
R10	2·2kΩ	A2
R11	33kΩ	B2
R13	1kΩ	B2
R16	68kΩ	B3
R20	27kΩ	B3
R23	1kΩ	B3
R34	220Ω	C2
R35	1kΩ	C1
R36	3·9kΩ	C2
R37	680Ω	C1
R38	2·2Ω	D2
R39	2·2Ω	D2
C56	2,500pF	
L33	15Ω	
W6	A8A21	

Transistor table

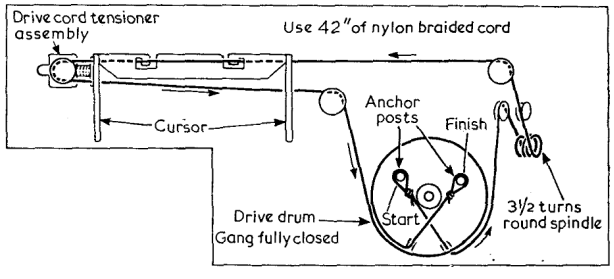
18 Volt version

Transistor		A.M. Emitter (V)	Base (V)	Collector (V)	F.M. Emitter (V)	Base (V)	Collector (V)
TR1	AF124	—	—	—	1·5	1·15	14·0
TR2	AF125	—	—	—	3·2	3·45	13·25
TR3	AF126	1·68	1·68	13·5	1·58	1·65	13·75
TR4	AF126	0·58	0·7	14·25	0·58	0·73	13·75
TR5	AF126	1·48	1·48*	14·0	1·38	1·38*	13·75
TR6	AC113	10·74	10·75	17·25	10·74	10·75	17·25
TR7	BC152	18·0	17·25	9·25	18·0	17·25	9·25
TR8	AC154	9·0	9·25	18·0	9·0	9·25	18·0
TR9	AC157	9·0	9·1	0	9·0	9·1	0

9 Volt version

TR1	AF124	—	—	—	0·78	0·92	7·22
TR2	AF125	—	—	—	1·78	1·8	6·65
TR3	AF126	1·17	1·13	6·95	0·94	1·11	7·05
TR4	AF126	0·56	0·74	6·95	0·56	0·74	6·95
TR5	AF126	1·1	1·1*	7·1	1·1	1·1*	7·0
TR6	AC151†	7·2	6·8	8·35	7·2	6·8	8·35
TR7	BC152	9·0	8·35	4·7	9·0	8·35	4·7
TR8	AC153	4·5	4·7	9·0	4·5	4·7	9·0
TR9	AC176	4·5	4·55	0	4·5	4·55	0

* *Measured at junction* **L23/R40**
† *May be type AC 122*
Quiescent current 18 Volt version 21mA; 9 Volt version 17mA.



10. – Disconnect telescopic aerial lead and transfer signal generator output to this lead. Tune receiver to 88Mc/s scale calibration and feed in an 88Mc/s f.m. signal. Adjust by slightly opening or closing coil turns **L9** and **L8** for maximum output.

11. – Tune receiver to 96Mc/s scale calibration and feed in 96Mc/s f.m. signal. Adjust **C18** and **C11** for maximum output.

12. – Tune receiver to 92Mc/s scale calibration and feed in a 92Mc/s f.m. signal. Adjust **L12** for maximum output.

13. – Repeat operations 10 – 12 until no further improvement can be obtained. Disconnect and remove test equipment.

6. – Repeat operations 3 – 5 as necessary for optimum results.

7. – Switch receiver to v.h.f., tune to a signal free position in the waveband and feed in a 10·7Mc/s (25kc/s deviation) signal via a 0·1µF capacitor to **TP1,** common to chassis line tag 16. Adjust **L30/31, L28/29, L22/23, L16/17** and **L11/12** for maximum output.

8. – Switch signal generator to a.m. and adjust **L30/31** for minimum output (a.m. rejection).

9. – Repeat operations 7 and 8 as necessary for maximum f.m. output and minimum a.m. output.

Circuit alignment
Equipment required. – An r.f. signal generator amplitude modulated 30 per cent at 400c/s, an output meter having an impedance of 35Ω (15Ω schedule B) or alternatively, a model 8 Avometer switched to the 2·5V a.c. range; an r.f. coupling loop for alignment of the a.m. aerial circuits; an f.m. signal generator with 25kc/s deviation at an output impedance of 75Ω and capable of supplying a 30 per cent a.m. signal at 10·7Mc/s, and a 0·1µF capacitor.

Connect output meter in place of loudspeaker, a convenient method for this operation is to terminate the output meter in a miniature jack plug, then insert the plug into the earphone jack. This will automatically open circuit the loudspeaker. If an Avo model 8 is to be used then this meter should be connected in parallel with the loudspeaker.

Throughout alignment the signal input level to the receiver should be adjusted to maintain the audio output at approximately 50mW with the volume control set at maximum in order to avoid alignment error due to a.g.c. action.

1. – Switch receiver to m.w., rotate tuning gang to maximum capacitance and feed in a 475kc/s a.m. signal via a 0·1µF capacitor to tag 18, common to chassis line tag 16 (ie across **R11**). Adjust **L26/27, L24/25, L20/21** and **L18/19** in that order for maximum output. Repeat these adjustments in the same order until no further improvement can be obtained.

2. – With tuning gang at maximum capacitance, check that cursor coincides with the marker at the left-hand end of each scale. Slide cursor along drive cord to correct any error in calibration. Connect signal generator to the r.f. coupling loop and loosely couple loop to the ferrite rod aerial assembly. M.w. must be aligned first.

3. – Switch receiver to m.w., tune to centre of 500m as indicated on scale and feed in a 600kc/s a.m. signal, Adjust **L13,** and **L5** (by sliding ring along ferrite rod) for maximum output.

4. – Tune receiver to centre of 200m. as indicated on scale and feed in a 1,500kc/s a.m. signal. Adjust **C25** and **C8** for maximum output.

5. – Switch receiver to l.w., tune to l.w. calibration marker (just right of centre on l.w. scale) and feed in a 220kc/s a.m. signal. Adjust **C29** and **L6** (by sliding former along ferrite rod).