

Resistors

R1	6.8kΩ	B1
R2	47kΩ	B1
R3	1.5kΩ	B1
R4	56kΩ	A2
R5	150kΩ	B2
R6	470Ω	B2
R7	6.8kΩ	B2
R8	47kΩ	B2
R9	1.5kΩ	B2
R10	8.2kΩ	B2
R11	10kΩ	B2
R12	20kΩ	C1
R13	6.8Ω	A2
R14	39kΩ	B1
R15	18kΩ	B1
R16	470Ω	B2
R17	2.2kΩ	B1
R18	5.6kΩ	C1
R19	4.7Ω	C1
R20	4.7Ω	C1
R21	1.2kΩ	B1

Capacitors

C1	1,500pF	A2
C2	60pF	A1
C3	20pF	A2
C4	25pF	A1
C5	15pF	A2
C6	262pF	A1
C7	0.01μF	B1
C8	200pF	B2
C9	5,000pF	B1

Coils*

L1	2.0Ω	A1
L2	—	B1
L3	11.5Ω	A1
L4	—	B1
L5	—	A1
L6	—	A1
L7	—	B1
L8	1.0Ω	B1
L9	—	B1
L10	—	B1

Transistor table

Transistor	Emitter (V)	Base (V)	Collector (V)
TR1 AF125	1.55	1.75	15.75
TR2 AF127	0.6	0.75	15.85
TR3 AF127	1.625	1.7	15.85
TR4 AC113	4.05	4.0	6.9
TR5 BC152	18.0	0.6*	—
TR6 AC157	0.125*	0.125*	0
TR7 AC154	0.125*	0.125*	18.0

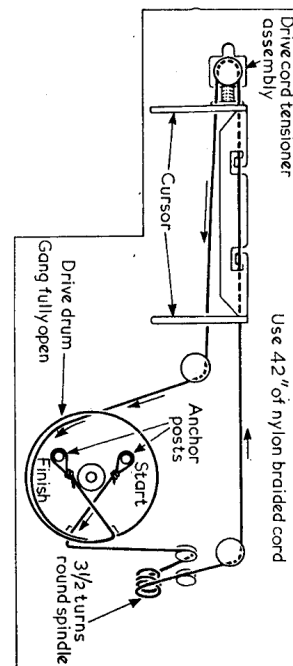
* Measured between emitter and base
Quiescent current 15mA
P.d. across R16 2.1V
Junction of R19/R20 8.5V

H.M.V. - 2154

Miscellaneous

W1	OA90	B2
W2	AA120	C1
S1-S7	—	C2

* Approximate d.c. resistance in ohms



Circuit alignment

Equipment required. — An r.f. signal generator amplitude modulated 30 per cent; an audio output meter with an impedance of 35Ω, or alternatively a model 8 Avometer set to its 2.5V a.c. range: one each 0.1μF and 10-15pF capacitors and an r.f. coupling coil. Connect the output meter in place of loudspeaker. Alternatively, connect the Avometer across speech coil. Pre-set volume control to maximum and check condition of batteries. Throughout alignment procedure attenuate input signal so that output does not exceed 50mW thereby avoiding alignment error due to a.g.c. action. All adjustments are to be made for maximum output.

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 the common pole of S6 (junction C13/R4), signal generator earth to chassis. Adjust L18/L19, L16/L17, L14/L15 and L12/L13 in that order and repeat in that order until no further improvement can be obtained.

2. — With tuning gang at maximum capacity check that cursor coincides with the calibration pip at right hand end of m.w. scale. Slide cursor along drive cord to correct any error in calibration. Connect the signal generator to the r.f. coupling loop and loosely couple the loop to the ferrite rod aerial.

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 L11 and L2 by sliding ring along ferrite rod.

4. — Tune receiver to centre of 200m. as indicated on scale and feed in a 1,500kc/s a.m. signal. Adjust C10 and C5.

5. — Switch receiver to l.w., tune to l.w. calibration marker and feed in a 220kc/s a.m. signal. Adjust C11 and L3 by sliding coil former along ferrite rod.

6. — Disconnect and remove r.f. coupling coil, disconnect lead to telescopic aerial and connect signal generator output via a 10-15pF capacitor to this lead.

7. — Switch receiver to s.w., tune to 6.7Mc/s calibration marker and feed in a 6.7Mc/s a.m. signal. Adjust L7 and L5.

8. — Tune receiver to 15.8Mc/s calibration marker and feed in a 15.8Mc/s a.m. signal. Adjust C14 and C4.

9. — Repeat adjustments as necessary in the order given to obtain maximum output and accurate calibration.

Transistor analysis

Transistor voltages quoted in the table overleaf were obtained from information supplied by the manufacturers. They were measured under quiescent conditions with a 20,000Ω/V meter and are negative with respect to the positive line except where otherwise indicated.