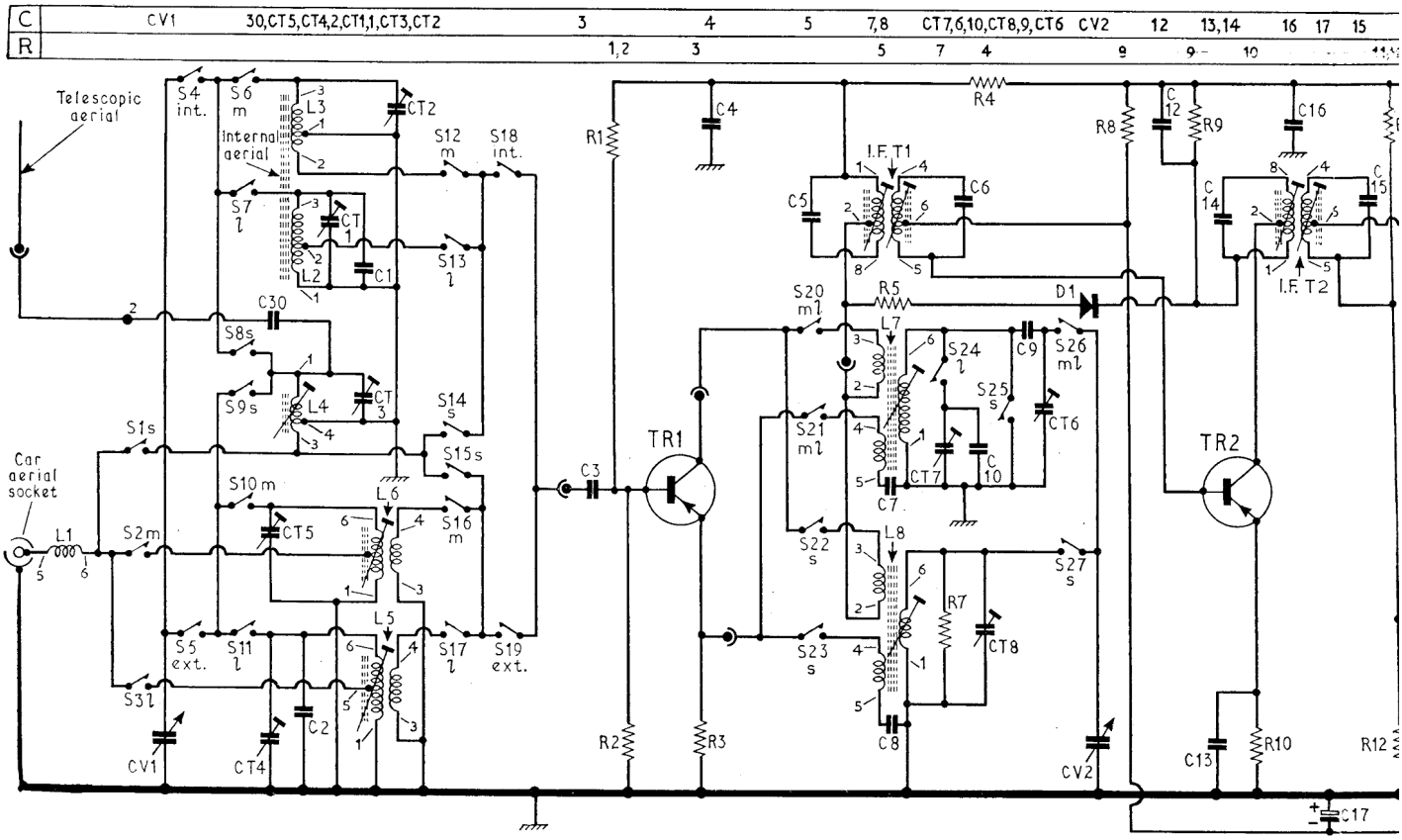
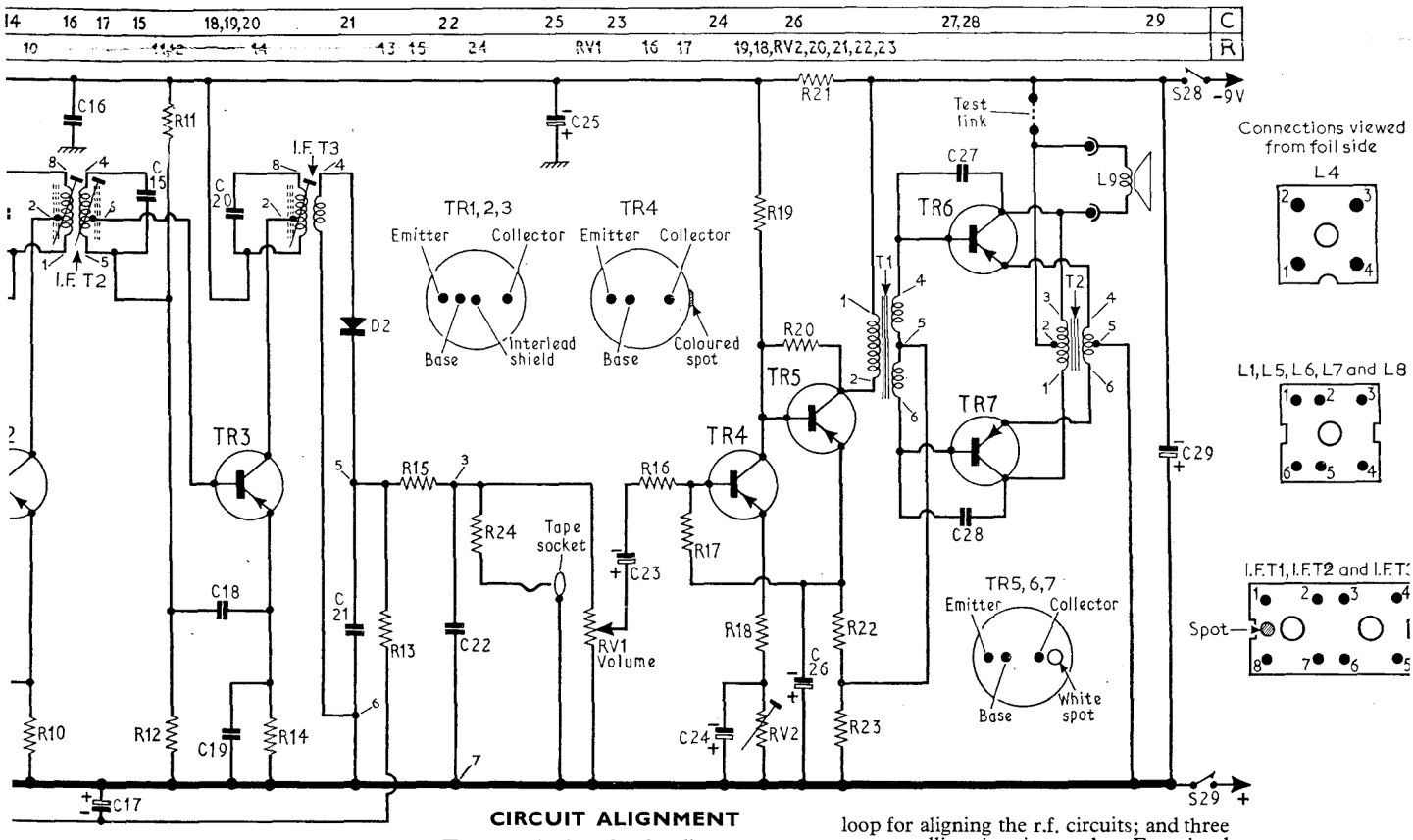




Transistor Table

Transistor	Emitter (V)	Base (V)	Collector (V)
TR1 AF115	1·10	1·05	7·30
TR2 AF117	0·69	0·85	5·00
TR3 AF117	1·10	1·38	7·40
TR4 OC71	0·69	0·79	1·30
TR5 OC81D	1·15	1·30	8·23
TR6 OC81	—	0·17	9·00
TR7 OC81	—	0·17	9·00

CIRCUIT ALIGNMENT

Two methods of i.f. alignment are given: a visual method (the preferred method), and a meter method if visual alignment equipment is not available.

Equipment Required.—An a.m. signal generator with suitable modulation; an output wattmeter with an impedance of 15 ohms or an a.c. voltmeter; an aerial pad made up as shown overleaf for aligning the external aerial circuits; a length of insulated wire formed into a coupling loop for aligning the r.f. circuits; and three non-metallic trimming tools. For visual alignment of the i.f. circuits, a wobbulator and oscilloscope are required additionally.

I.F. Alignment (Visual Method)

1.—Switch receiver to m.w. and fully mesh the tuning gang. Turn the volume control to minimum.

2.—Connect the oscilloscope across the volume control **RV1.** Connect the wobbulator to the i.f. panel input

Resistors		
R1	33kΩ	J4
R2	6·8kΩ	J4
R3	1kΩ	J4
R4	100Ω	K4
R5	680Ω	K4
R6	—	†
R7	68kΩ	C2
R8	56kΩ	J4
R9	2·2kΩ	K4
R10	680Ω	¶
R11	18kΩ	K5
R12	4·7kΩ	J5
R13	8·2kΩ	J5
R14	470Ω	J5
R15	330Ω	J5
R16	3·9kΩ	K5
R17	22kΩ	K5
R18	150Ω	K5
R19	6·8kΩ	K5
R20	150kΩ	L5
R21	270Ω	K5
R22	270Ω	K5
R23	33Ω	K5
R24	47kΩ	J5
RV1	5kΩ	J5
RV2	1·5kΩ	K5
Capacitors		
C1	80pF	D2
C2	47pF	C2
C3	0·01μF	J4
C4	0·1μF	J4
C5	300pF	J4
C6	300pF	J4
C7	0·022μF	A2
C8	1,200pF	C2
C9	330pF	A2
C10	260pF	B2
C11	—	†
C12	0·1μF	J4
C13	0·1μF	J4
C14	300pF	K4
C15	300pF	K4
C16	0·1μF	K4
C17	12·5μF	J4
C18	0·047μF	J5
C19	0·022μF	J5
C20	250pF	J5
C21	0·01μF	J5
C22	0·01μF	J6
C23	25μF	K5
C24	125μF	K5
C25	160μF	J5
C26	160μF	L5
C27	0·01μF	L4
C28	0·01μF	L5
C29	320μF	L5
C30	40pF	D2
CT1	40pF	C2
CT2	40pF	D2
CT3	40pF	D2
CT4	40pF	C2
CT5	40pF	C2
CT6	40pF	A2
CT7	40pF	A2
CT8	40pF	B2
CV1	326pF	A2
CV2	326pF	A2
Coils*		
L1	11·7	C2
L2 1-3	10·6	D2
L2 1-2	1·2	D2
L3	—	B1
L4	—	D2
L5 1-6	23·0	C2
L5 1-5	10·9	C2
L5 3-4	—	C2
L6 1-6	4·2	C2
L6 1-5	1·0	C2
L6 3-4	—	C2
L7 1-6	3·3	B2
L8 1-6	1·0	B2
L9 —	15·0	—
Transformers*		
1FT1 1-8	5·3	J4
1FT1 1-2	3·5	J4
1FT1 4-5	5·3	J4
1FT1 4-6	5·0	J4
1FT2 1-8	5·3	J5
1FT2 1-2	2·1	J5
1FT2 4-5	5·3	J5
1FT2 4-9	4·9	J5
1FT3 1-8	3·6	J5
T1 1-2	204·0	K5
T1 4-5	95·0	K5
T1 5-6	95·0	K5
T2 1-2	1·6	L5
T2 2-3	1·6	L5
T2 4-5	1·1	L5
T2 5-6	1·1	L5
Miscellaneous		
D1	OA79	J4
D2	OA91	J5
S1-S3, S6-S17	—	C2
S4, S5, S18, S19	—	B1
S20-S27	—	B2
S28, S29	—	J5

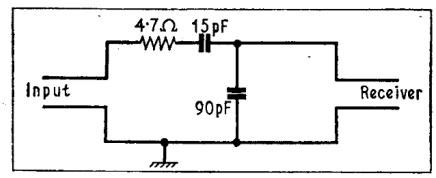
¶See i.f./a.f. panel caption overleaf.
**Approximate d.c. resistance in ohms.*
†No component.

I.F. Alignment (Meter Method)

1.—Switch receiver to m.w. and fully mesh the tuning gang. Turn the volume control for maximum output.
2.—Connect the output meter or a.c. voltmeter across the loudspeaker terminals leaving the loudspeaker connected in the case of the a.c. voltmeter. Connect the signal generator between chassis and the i.f. panel input terminal at **C3** after removing the connection from the r.f. panel.
3.—Feed in a 470kc/s modulated signal and adjust the cores of **IFT3, IFT2** and **IFT1** in that order for maximum output. Repeat with reduced signal input until there is no further improvement. Reconnect the r.f. output connection to the i.f. panel input terminal.

R.F. Alignment

1.—Switch the receiver to m.w. and switch the aerial switch to the internal position. Rotate the tuning gang to maximum capacitance and check that the red line of the cursor coincides with the zero mark on the logging scale. Adjust the volume control to a convenient level, keeping the signal input as low as possible to avoid a.g.c. action. Connect the signal generator to the r.f. coupling loop and loosely couple the loop to the ferrite rod aerial.
2.—Tune receiver to 600kc/s, feed in a 600kc/s signal and adjust **L7** (location reference B2) for maximum output. Then tune receiver to 1,300kc/s, feed in a 1,300kc/s signal and adjust **CT6** (A2) for maximum output. Repeat this operation as necessary finishing with the 1,300kc/s adjustment.
3.—Tune receiver to 600kc/s and feed in a 600kc/s signal. Adjust **L3** (B1) by sliding its former along the ferrite rod for maximum output. Then switch the aerial switch to the external position and couple the signal generator to the car aerial socket via the special aerial pad shown above. Adjust **L6** (C2) at 600kc/s for maximum output.

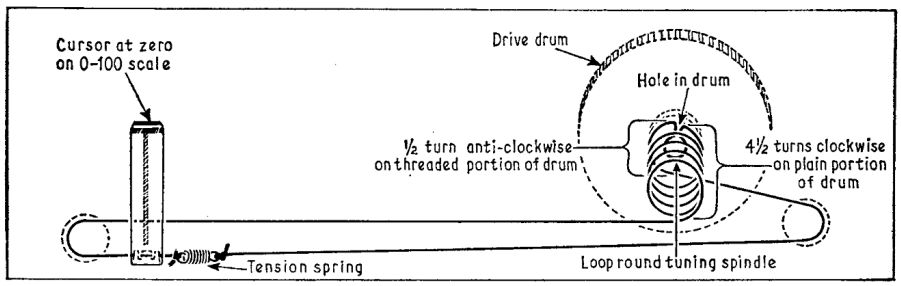


Circuit diagram of the aerial matching pad. If the car aerial lead capacitance varies considerably from a nominal value of 90pF, the 90pF capacitor in the pad should be replaced accordingly

4.—Tune receiver to 1,300kc/s. Feed in a 1,300kc/s signal and adjust **CT5** (C2) for maximum output. Then switch to the internal aerial position and reconnect the signal generator to the r.f. coupling loop. Adjust **CT2** (D2) at 1,300kc/s for maximum output.
5.—Repeat operations 3 and 4 until there is no further improvement, finishing with the 1,300kc/s adjustment.
6.—Switch receiver to l.w. and tune to 260kc/s. With the aerial switch at internal, feed in a 260kc/s signal via the coupling loop and adjust **CT7** (A2) and **CT1** (C2) for maximum output. Then switch the aerial switch to external and couple the signal generator to the car aerial socket via the special aerial pad. Adjust **CT4** (C2) at 260kc/s for maximum output.
7.—Tune receiver to 175kc/s and feed in a 175kc/s signal. Adjust **L5** (C2) for maximum output. Then switch to the internal aerial position and reconnect the signal generator to the r.f. coupling loop. Adjust **L2** (D2) at 175kc/s for maximum output.
8.—Repeat operations 6 and 7 until there is no further improvement, omitting the adjustment of **CT7** in operation 6. Finish with the 260kc/s adjustment.
9.—Switch receiver to s.w. and the aerial switch to the internal position. Fully extend the telescopic aerial. Tune to 6.2Mc/s, feed in a 6.2Mc/s signal at the car aerial socket via the special aerial pad and adjust **L8** (B2) for maximum output.
10.—Tune receiver to 16.5Mc/s and feed in a 16.5Mc/s signal. Adjust **CT8** (B2) for maximum output.
11.—Repeat operations 9 and 10 as necessary finishing with the 16.5Mc/s adjustment.
12.—Tune receiver to 6.2Mc/s and feed in a 6.2Mc/s signal. Adjust **L4** (D2) for maximum output.
13.—Tune receiver to 16.5Mc/s and feed in 16.5Mc/s signal. Adjust **CT3** (D2) for maximum output.
14.—Repeat operations 12 and 13 until there is no further improvement, finishing with the 16.5Mc/s adjustment.

AUDIO BIAS ADJUSTMENT

The audio bias potentiometer **RV2** should be set in the following manner:
Insert a milliammeter between the battery negative line and tag 2 of **T2**. A test link is provided to facilitate this connection. With no signal input, adjust **RV2** for an output stage current reading of 6.5mA. Remove the meter and resolder the test link.



Drive cord assembly illustrated with the tuning gang fully meshed. When replacing the cord, note the relative positions of the drive drum, cursor and tension spring (see "General Notes")

I.F. RESPONSE CURVE