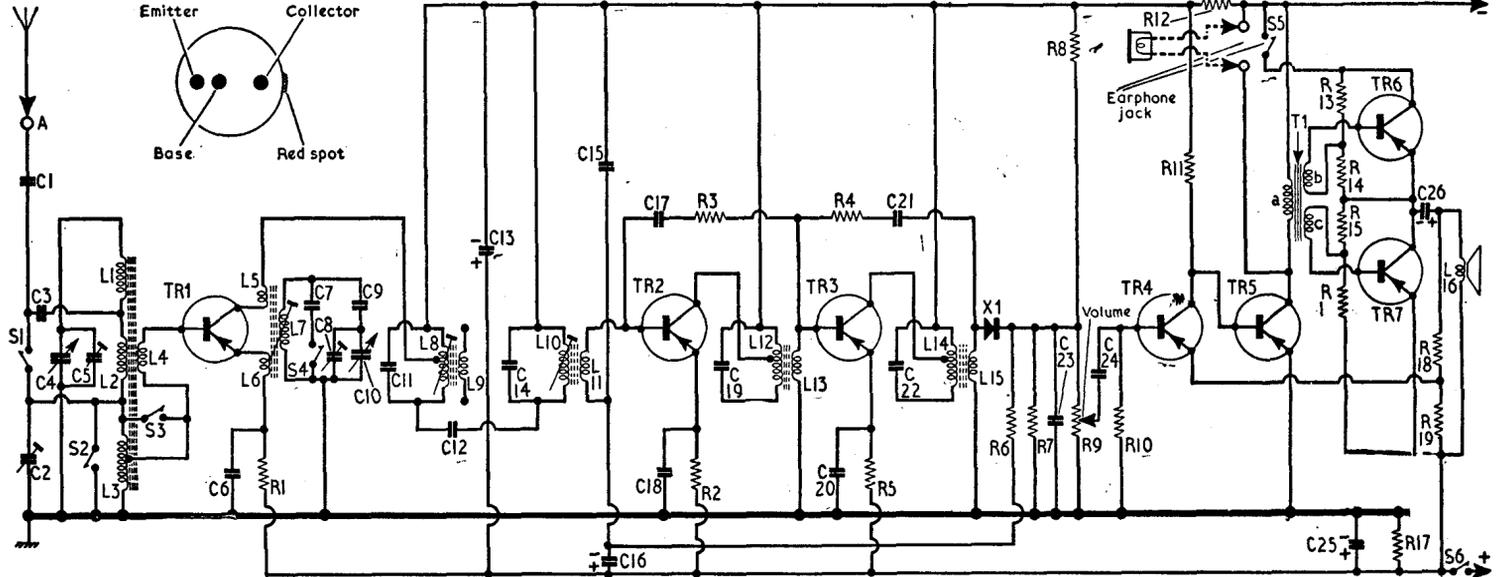


PERDIO - SUPER 7

CIRCUIT ALIGNMENT

Equipment Required.—An accurately calibrated signal generator with an output impedance of 37Ω , modulated 30 per cent at 400c/s; a 0-50mA or 0-100mA meter; a 12-inch length of insulated wire; a $0.05\mu\text{F}$ capacitor and a non-metallic trimming tool.

- 1.—Remove chassis from cabinet as described under "Dismantling" (Col. 3). Employing the 12-inch length of insulated wire to form a coupling loop, wind a single turn over L4 (B1), and connect signal generator, via the $0.05\mu\text{F}$ capacitor in its earthy lead, to the ends of the coupling loop. Connect the milliammeter in series with the battery supply. Switch receiver to M.W., turn gang to minimum capacitance and set volume control to maximum.
- 2.—Feed in a 470kc/s signal and adjust the cores of L14, L12, L10 and L8 (location references D4, E4), in that order for maximum output as indicated by maximum reading on the milliammeter.



- 3.—Turn gang to maximum capacitance. Feed in a 525kc/s signal and adjust the core of L7 (E4) for maximum output.
- 4.—Turn gang to minimum capacitance. Feed in a 1,570kc/s signal and adjust C8 (A1) for maximum output.
- 5.—Repeat operation 3.
- 6.—Feed in a 540kc/s signal and tune it in on the receiver, then slide the former of L1 (A1) along the ferrite rod for maximum output.
- 7.—Feed in a 1,450kc/s signal, tune it in on the receiver and adjust C5 (A1) for maximum output.
- 8.—Switch receiver to L.W. Feed in a 180kc/s signal and tune it in on the receiver, then slide the former of L3 (C1) along the ferrite rod for maximum output while rocking the tuning gang.
- 9.—Feed in a 270kc/s signal, tune it in on

Resistors

R1	3.3k Ω	A2
R2	1k Ω	B2
R3	1.2k Ω	B2
R4	\dagger 3.9k Ω	B2
R5	1k Ω	B2
R6	5.6k Ω	E4
R7	\dagger 4.7k Ω	B2
R8	100k Ω	B2
R9	5k Ω	B1
R10	10k Ω	C1
R11	6.8k Ω	C1
R12	470 Ω	C2
R13	\dagger 2.7k Ω	C2
R14	\dagger 100 Ω	C2
R15	\dagger 2.7k Ω	C2
R16	\dagger 100 Ω	C2
R17	470 Ω	C2
R18	100k Ω	C2
R19	1k Ω	C1

Capacitors

C1	18pF	A1
C2	40pF	A1
C3	0.001 μF	A1
C4	—	A1
C5	—	A1

Coils*

L1	0.45	A1
L2	0.45	B1
L3	11.0	C1
L4	—	B1
C6	0.01 μF	A2
C7	\dagger 180pF	A2
C8	—	A1
C9	\dagger 250pF	A2
C10	—	A1
C11	—	A2
C12	4.7pF	A2
C13	50 μF	A2
C14	—	B2
C15	0.04 μF	B2
C16	10 μF	B2
C17	\dagger 56pF	B2
C18	0.1 μF	B2
C19	—	B2
C20	0.1 μF	B2
C21	\dagger 18pF	B2
C22	—	B2
C23	0.04 μF	B2
C24	0.1 μF	B1
C25	100 μF	B2
C26	100 μF	B2

Miscellaneous*

L5	0.75	A2
L6	—	A2
L7	4.0	A2
L8	3.9	A2
L9	0.7	A2
L10	4.0	B2
L11	0.4	B2
L12	4.0	B2
L13	0.4	B2
L14	3.9	B2
L15	0.7	B2
L16	26.0	—
T1	{ a 330 b 55 c 55 }	C2
X1	OA70	B2
S1-S4	—	A2
S5	—	B2
S6	—	B1

*Approximate D.C. resistance in ohms.
 \dagger ± 5 per cent.
 \ddagger ± 2 per cent.

- 10.—Repeat operation 8.
- 11.—Switch the receiver to M.W. and repeat operation 6. Seal the formers of L1 and L3 to the ferrite rod with an adhesive.

TRANSISTOR ANALYSIS

Transistor voltages given in the table below are those derived from the manufacturers' information. The voltages were measured on the 2.5V and 10V ranges of a Model 8 Avometer, the positive terminal being connected to the positive battery terminal in every case. The receiver was switched to M.W. with the volume control and tuning gang turned to minimum. The total battery current was 7.5-8.0mA.

Transistor	Emitter (V)	Base (V)	Collector (V)
TR1 OC44	1.0	1.05 ¹	7.3
TR2 OC45	1.0	1.05 ¹	7.3
TR3 OC45	1.0	1.05 ¹	7.3
TR4 OC71	0.8	1.05 ¹	1.3
TR5 OC78D	1.05	1.3	8.3
TR6 OC78	4.5	\ddagger	9.0 ²
TR7 OC78	—	\ddagger	4.5

¹Measured across R17 (C1).

²Quiescent collector current 1.5-2.0mA.

\ddagger No reading quoted.

*Very low reading.