

PERDIO - PR24

Intermediate frequency 470kc/s

Transistor Table

Transistor	Emitter V	Base V	Collector V
TR1 OC44	0.85	0.8	6.7
TR2 OC45	0.5	0.6	6.7
TR3 OC45	0.85	0.95	6.7
TR4 OC81D	0.85	0.9	6.0
TR5 OC81	4.5	4.6	9.0
TR6 OC81	—	0.15	4.5

Resistors

R1	56kΩ	B1
R2	10kΩ	B1
R3	3.9kΩ	B2
R4	68kΩ	B2
R5	680Ω	B2
R6	22kΩ	B2
R7	4.7kΩ	B2
R8	1kΩ	B2
R9	8.2kΩ	B2
R10	330Ω	B2
R11	5kΩ	C2
R12	10kΩ	B2
R13	47kΩ	B2
R14	1kΩ	A2
R15	680kΩ	A2
R16	2.7kΩ	A2
R17	100Ω	A2
R18	2.7kΩ	A2
R19	100Ω	A2
R20	10kΩ	A2
R21	15Ω	A2
R22	1kΩ	A2

Capacitors

C1†	—	C1
C2†	—	B1
C3	15pF	C1

C4	6pF§	B1
C5	40pF	B1
C6	15pF	B1
C7	0.47μF	B1
C8	0.01μF	B2
C9	200pF	B2
C10	250pF	B2
C11	18pF	B2
C12†	—	C2
C13†	—	C1
C14	0.047μF	B2
C15	56pF	B2
C16	200pF	B2
C17	0.47μF	B2
C18	0.47μF	B2
C19	18pF	B2
C20	200pF	B2
C21	10μF	B2
C22	0.01μF	B2
C23	0.01μF	B2
C24	5μF	B2
C25	80μF	B2
C26	64μF	A2
C27	32μF	A2

Coils*

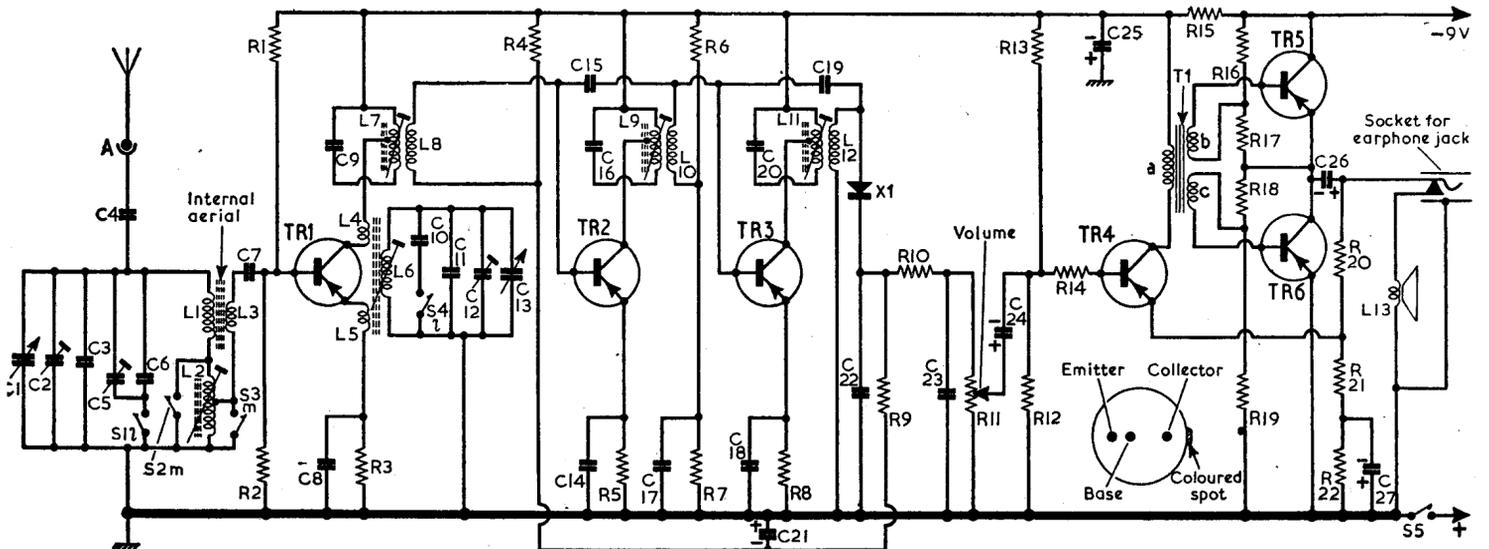
L1	2.0	C2
L2	10.8	B1

L3	—	C1
L4	—	B2
L5	—	B2
L6	2.5	B2
L7	5.25	B2
L8	—	B2
L9	5.25	B2
L10	—	B2
L11	6.2	B2
L12	—	B2
L13	80.0	B1

Miscellaneous*

T1	{ a 600.0 b 48.0 c 48.0 }	A2
X1	OA91	B2
S1-S4	—	C1
S5	—	C2

*Approximate D.C. resistance in ohms.
†C1, C2, C12 and C13 are combined in the tuning gang unit.
§Twisted wire.



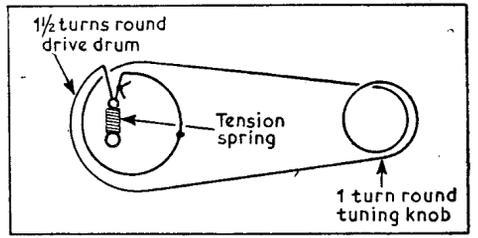
CIRCUIT ALIGNMENT

Equipment Required.—An a.m. signal generator modulated 30 per cent at 400c/s; an audio output meter of 80Ω impedance or a 0.2V A.C. voltmeter; an 0.1μF capacitor; a non-metallic screwdriver-type trimming tool for I.F. cores and a narrow bladed type for adjustments to the core of L2.

During alignment the input should be progressively reduced so that the output is not more than 50mW (1.2V on the A.C. voltmeter) to prevent A.G.C. action.

- 1.—Connect audio output meter across speech coil. Connect signal generator between "chassis" (battery positive) and, via the 0.1μF capacitor, to TR1 base. A suitable convenient point to connect to TR1 base is the outer end of R2, shown in location reference B1. Remove self-tapping screw in centre of printed panel which secures one side of speaker and swivel speaker outwards to give access to L11 (B2).
- 2.—Switch receiver to M.W., rotate tuning gang to maximum capacitance (fully anti-clockwise) and turn volume control to maximum. Feed in a 470kc/s signal and adjust L11, L9 and L7 (B2) for maximum output.
- 3.—Disconnect signal generator and place its output leads in close proximity to the ferrite rod aerial. With tuning gang still at maximum capacitance, feed in a 525kc/s signal and adjust L6 (B2) for maximum output.
- 4.—Rotate tuning gang to minimum capacitance (fully clockwise), feed in a 1,620kc/s signal and adjust C12 (located on underside of tuning gang in C2) for maximum output.
- 5.—Repeat operations 3 and 4 until balance is obtained, always finishing with operation described in paragraph No. 4.

- 6.—Feed in a 560kc/s signal and tune receiver to this signal. Adjust L1 (C2) for maximum output by sliding it along the ferrite rod.
- 7.—Feed in a 1,450kc/s signal and tune receiver to this signal. Adjust C2 (located on underside of tuning gang in B1) for maximum output.
- 8.—Repeat operations 7 and 8 until no further improvement can be obtained, always finishing with operation 8.
- 9.—Switch receiver to L.W. Feed in a 180kc/s signal and tune receiver to this signal. Adjust L2 (B1) for maximum output. Two peaks will be obtained. The one giving the greater output is correct.
- 10.—Feed in a 260kc/s signal and tune receiver to this signal. Adjust C5 (B1) for maximum output.
- 11.—Repeat operations 9 and 10 until no further improvement can be obtained, always finishing with operation 10. Seal L2 with suitable wax.



Drive Cord Replacement.—Approximately 10in of nylon cord is required. Pull off wavelength scale disc from tuning drive drum and rotate drum to the fully anti-clockwise position. Join the nylon cord to form a loop exactly 8in circumference. Hold the knot to the tuning drum spindle by pressing with a forefinger, thread one side of the loop out of drum and make a half-turn anti-clockwise round drum. Continue with one turn, anti-clockwise from front to rear, round boss on tuning knob and finish with one complete turn anti-clockwise round tuning drive drum. Hook small end of tension spring on cord and anchor other end over lug in drum moulding. Replace wavelength scale disc. The diagram below illustrates assembled tuning drive.