

ROBERTS - RT1

Transistor	Emitter (V)	Base (V)	Collector	
			(V)	(mA)
TR1 OC44	1.27	1.25	4.28	*
TR2 OC45	0.6	0.75	4.28	*
TR3 OC45	0.43	0.6	4.28	*
TR4 OC71	0.71	0.85	5.82	*
TR5 OC72's	0.025	0.2	6.0	4.0 ¹

¹Total current is adjusted under quiescent conditions to 4.0mA at 20 deg C by means of R18 (see "General Notes"). This should not need readjustment unless the transistors are changed

Intermediate frequency 470kc/s

Resistors

R1	10k Ω	A1
R2	22k Ω	A1
R3	3.9k Ω	A1
R4	43k Ω	B2
R5	8.2k Ω	B1
R6	680 Ω	B1
R7	1.5k Ω	B2
R8	20k Ω	B2
R9	3.9k Ω	B1
R10	470 Ω	F4
R11	5k Ω	H3
R12	1.5k Ω	F3
R13	1.5k Ω	F3
R14	27k Ω	C2
R15	10k Ω	C2
R16	680 Ω	C2
R17	390 Ω	C1
R18	3k Ω	H3
R19	82 Ω	D1
R20	5.6 Ω	D1
R21	820 Ω	D1
R22	10 Ω	C1

Capacitors

C1	—	A1
C2	—	F3
C3	—	A2

C4	—	E3
C5	0.1 μ F	A1
C6	0.01 μ F	A1
C7	—	F4
C8	—	A2
C9	—	A2
C10	—	A1
C11	250pF	A2
C12	0.1 μ F	F3
C13	0.01 μ F	A1
C14	0.1 μ F	B1
C15	58pF	B2
C16	250pF	B2
C17	0.1 μ F	B1
C18	0.1 μ F	F4
C19	18pF	B2
C20	250pF	B2
C21	100 μ F	C2
C22	0.02 μ F	G4
C23	8 μ F	C2
C24	0.02 μ F	F3
C25	100 μ F	C1
C26	0.1 μ F	D1

Coils*

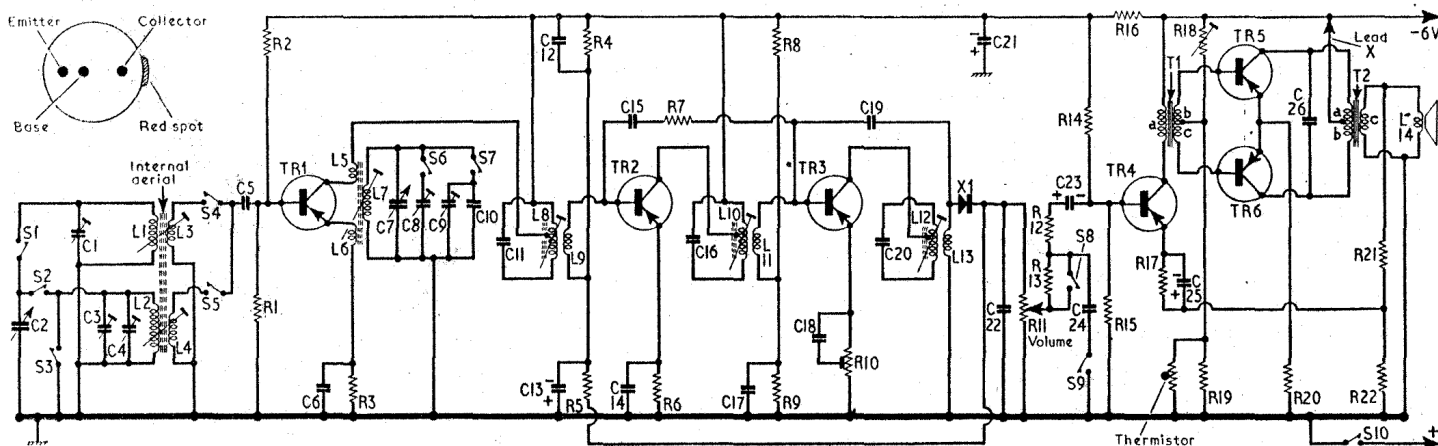
L1	1.0	B1
L2	4.7	D1
L3	—	B1

L4	—	D1
L5	—	A2
L6	—	A2
L7	1.9	A2
L8 (total)	4.0	A2
L9	—	A2
L10 (total)	4.0	B2
L11	—	B2
L12 (total)	4.0	B2
L13	—	B2
L14	3.0	—

Other Components*

T1	a 150.0	C2
	b 43.0	
	c 50.0	
T2	a, b (total) 7.0	D2
	c	
X1	Mullard OA70	G4
Thermistor	VA1040	D2
S1-S10	—	E3

*Approximate D.C. resistance in ohms. Read "Warning" under "General Notes" before making measurements



CIRCUIT ALIGNMENT

Equipment Required.—An accurately calibrated signal generator; a high resistance voltmeter or an output meter of 3 ohms impedance; a non-metallic trimming tool for core adjustments.

Connect the output meter in place of the speaker, or the A.C. voltmeter across winding c of T2. The output must be limited to 50mW (0.38V) to prevent A.G.C. action masking the adjustments.

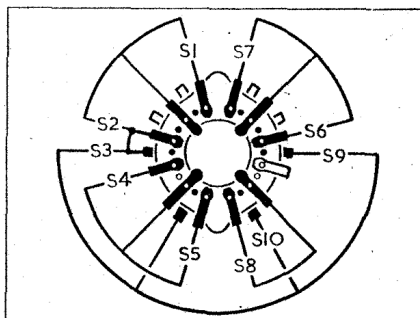
Check that with the gang at maximum capacitance the cursor coincides with the high wavelength ends of the M.W. and L.W. scales.

L1 (B1) and L2 (D1) are ferrite rod tuned and should be adjusted for maximum output by sliding the formers along the ferrite rod and securing them to the rod after alignment to prevent them from moving. Carry out alignment as follows:—

1.—Switch receiver to M.W. Turn gang and volume control to maximum. Connect the signal generator between the junction of C5, S4 and chassis. Feed in a 470kc/s signal and adjust the cores of L12 (B1),

Switch Table

Switch	M.W.	L.W.
S1	C	—
S2	—	C
S3	—	—
S4	C	—
S5	—	C
S6	—	—
S7	C	—
S8	—	C
S9	—	—
S10	C	C



Above: Diagram of the switch unit as seen from the rear of an inverted chassis.

L10 (B1) and L8 (A2) for maximum output. Repeat these adjustments until no further improvement can be obtained.

- Loosely couple the signal generator output leads to the ferrite rod aerial. Tune the receiver to 500m, feed in a 600kc/s signal and adjust the core of L7 (A1) and the coil of L1 (B1) for maximum output.
- Tune the receiver to 214m, feed in a 1,400kc/s signal and adjust C8 (A2) and C1 (A1) for maximum output.
- Repeat operation 2 until no further improvement in output can be obtained.
- Repeat operations 3 and 4 for optimum response.
- Switch receiver to L.W. and tune it to Kalundborg, feed in a 245kc/s signal and adjust C9 (A2) and C3 (A2) for maximum output. C4 (E3) may be set to minimum or maximum according to the range required on C3.
- Tune the receiver to Paris, feed in a 164kc/s signal and adjust the coil of L2 (D1) for maximum output.
- Repeat operations 6 and 7 for optimum response.

Switches.—S1-S10 are the combined waveband and battery switches, ganged in a single rotary unit and shown in our underside plan view of the chassis in location reference E3. This unit is also shown in detail in the diagram in col. 1, where it is drawn as seen from the rear of an inverted chassis. Above it is the associated table, giving the switch positions for the two "on" positions. The control knob is turned clockwise for M.W., and anti-clockwise for L.W.