

# ROBERTS - P4D

Switch Table

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

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 DK32	82	0.62	50	1.09
V2 DF33	82	1.12	82	0.21
V3 DAC3E	25	0.024	—	—
V4 DL35	78	5.15	82	1.24

## RESISTORS

		Values (ohms)
R1	V1 osc. C.G. resistor ...	200,000
R2	V1 osc. C.G. stabilizer ...	100
R3	V1 S.G. H.T. feed ...	30,000
R4	A.V.C. line decoupling ...	1,000,000
R5	Manual volume control ...	1,000,000
R6	V3 triode C.G. resistor ...	2,000,000
R7	V3 triode anode load ...	1,000,000
R8	V4 C.G. resistor ...	2,000,000
R9	V4 G.B. resistor ...	750

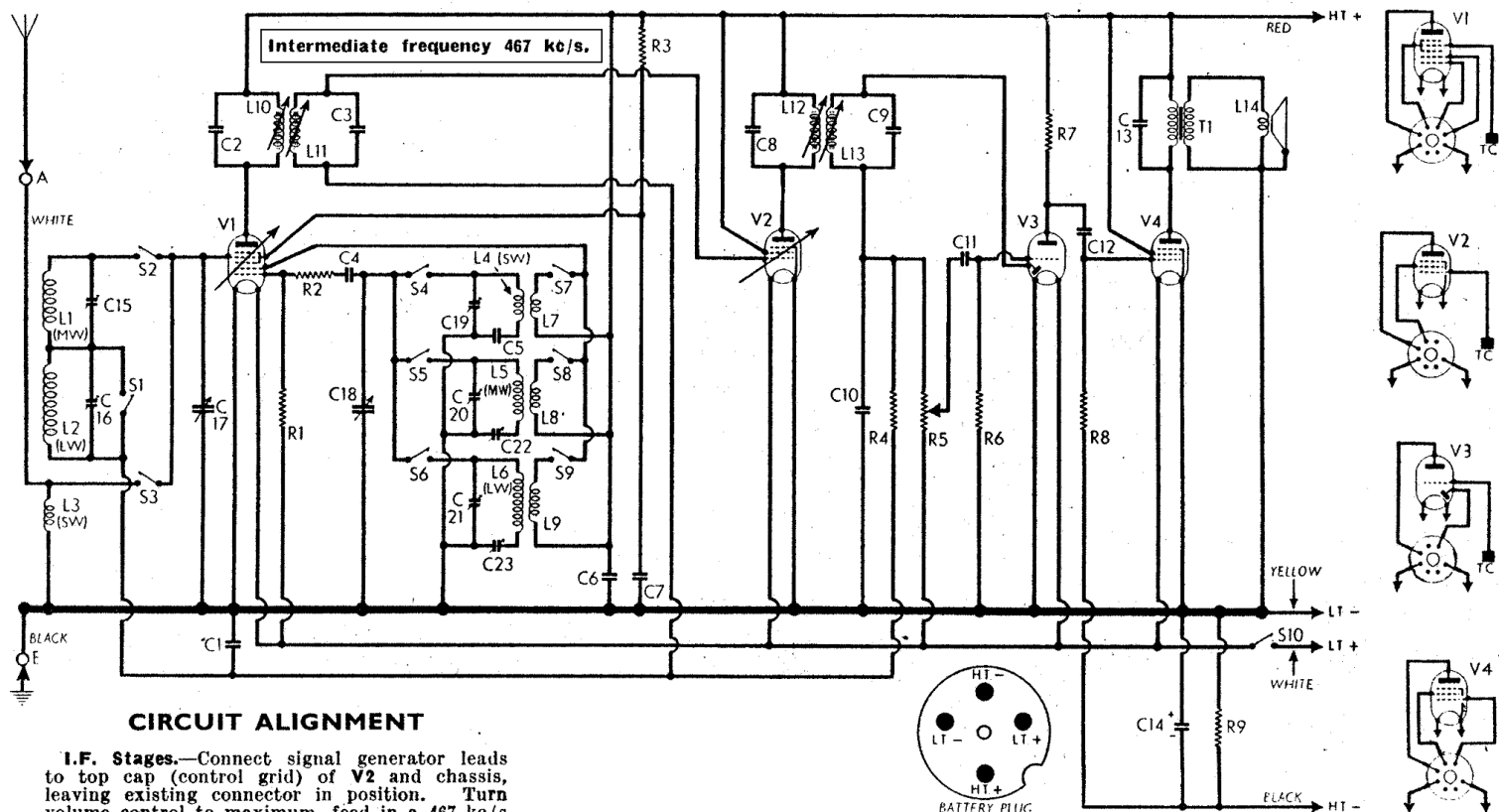
## CAPACITORS

		Values (μF)
C1	A.V.C. line decoupling ...	0.1
C2	1st I.F. transformer fixed ...	0.0001
C3	tuning capacitors ...	0.0001
C4	V1 osc. C.G. capacitor ...	0.0001
C5	Osc. circ. S.W. tracker ...	0.005
C6	H.T. circuit R.F. by-pass ...	0.1
C7	V1 S.G. decoupling ...	0.1
C8	2nd I.F. transformer fixed ...	0.0001
C9	tuning capacitors ...	0.0001
C10	I.F. by-pass capacitor ...	0.0001
C11	A.F. coupling to V3 triode ...	0.01
C12	A.F. coupling to V4 C.G. ...	0.005
C13	Fixed tone corrector ...	0.001
C14*	V4 G.B. by-pass ...	50.0
C15†	Aerial circ. M.W. trimmer ...	—
C16†	Aerial circ. L.W. trimmer ...	—
C17†	Frame aerial tuning ...	—
C18†	Oscillator circuit tuning ...	—
C19†	Osc. circ. S.W. trimmer ...	—
C20†	Osc. circ. M.W. trimmer ...	—
C21†	Osc. circ. L.W. trimmer ...	—
C22†	Osc. circ. M.W. tracker ...	—
C23†	Osc. circ. L.W. tracker ...	—

## OTHER COMPONENTS

		Approx. Values (ohms)
L1	Frame aerial windings ...	5.0
L2	—	31.0
L3	Aerial S.W. tuning coil ...	Very low
L4	Osc. S.W. tuning coil ...	Very low
L5	Osc. M.W. tuning coil ...	1.7
L6	Osc. L.W. tuning coil ...	13.8
L7	Osc. S.W. reaction coil ...	0.2
L8	Osc. M.W. reaction coil ...	5.5
L9	Osc. L.W. reaction coil ...	10.2
L10	1st I.F. trans. { Pri. ...	13.0
L11	Sec. ...	13.0
L12	2nd I.F. trans. { Pri. ...	13.0
L13	Sec. ...	13.0
L14	Speaker speech coil ...	3.5
T1	Output trans. { Pri. ...	780.0
S1-S9	Waveband switches ...	0.25
S10	L.T. circuit switch, ganged ...	—
R5	—	—

\* Electrolytic. † Variable. ‡ Pre-set.



## CIRCUIT ALIGNMENT

**I.F. Stages.**—Connect signal generator leads to top cap (control grid) of V2 and chassis, leaving existing connector in position. Turn volume control to maximum, feed in a 467 kc/s (642.4 m) signal, and adjust the cores of L12 and L13 for maximum output.

Transfer signal generator leads to top cap (control grid) of V1 and chassis, again leaving existing connector in position, and adjust the cores of L10 and L11 for maximum output. Repeat this procedure and re-seal the core adjustment screws.

**R.F. and Oscillator Stages.**—Owing to the interdependence of certain adjustments, it is important that the procedure described should be closely followed. With the gang at maximum capacitance the pointer should cover the horizontal lines at the high wavelength ends of the three scales.

The signal generator leads should be secured to the bench, close to the assembly, and an 0.2 m/A meter should be connected in series with the lead to the H.T.+ (red) tag on the second I.F. transformer primary L12, to act as an alignment indicator.

**M.W.**—Switch set to M.W., tune to 250 m on scale, feed in a 250 m (1,200 kc/s) signal, and adjust C20, then C15, for minimum deflection of the alignment indicator. Feed in a 500 m (600 kc/s) signal, tune it in, and adjust C22, while rocking the gang, for minimum meter deflection, which should coincide with correct calibration.

**L.W.**—Switch set to L.W., tune to 1,200 m on scale, feed in a 1,200 m (250 kc/s) signal, and adjust C21, then C16, for minimum meter deflection. Feed in an 1,800 m (166.7 kc/s) signal, tune it in, and adjust C23, while rocking the gang, for minimum meter deflection, which should coincide with correct calibration.

**S.W.**—Switch set to S.W. and connect signal generator to A and E leads via a suitable dummy aerial. Tune to 16 m on scale, feed in a 16 m (18.75 Mc/s) signal, and adjust C19 for correct calibration, choosing the peak involving the lesser trimmer capacitance. Check calibration at 50 m (6 Mc/s).