

ROBERTS - P5A

CIRCUIT ALIGNMENT

I.F. Stages.—Connect signal generator, via a 0.1 μ F capacitor in each lead, to control grid (top cap) 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 control grid (top cap) of V1 and chassis, again leaving existing connector in position, and adjust the cores of L10 and L11 for maximum output. Repeat these adjustments and reseat the core adjustment screws.

R.F. and Oscillator Stages.—With the gang at maximum 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.

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 C30, then C25, for maximum output. Feed in a 500 m (600 Kc/s) signal, tune it in, and adjust C32, while rocking the gang, for maximum output.

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 C31, then C26, for maximum output. Feed in a 1,800 m (166.7 Kc/s) signal, tune it in, and adjust C33, while rocking the gang, for maximum output.

S.W.—Switch set to S.W., and connect signal generator leads to A and E sockets via a suitable dummy aerial. Tune to 16 m on scale, feed in a 16 m (18.75 Mc/s) signal, and adjust C29 for correct calibration, choosing the peak involving the lesser trimmer capacitance. Check calibration at 50 m (6.0 Mc/s).

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

CAPACITORS		Values (μ F)
C1	Aerial series ...	0.00005
C2	Earth isolator ...	0.0001
C3	V1 hex. C.G. capacitor ...	0.0005
C4	V1 S.G. decoupling ...	0.1
C5	1st I.F. transformer fixed ...	0.0001
C6	tuning capacitors ...	0.0001
C7	V1 osc. C.G. capacitor ...	0.0001
C8	A.V.C. line decoupling ...	0.1
C9	Osc. circ. S.W. tracker ...	0.005
C10	V1 osc. anode decoupling ...	0.1
C11	V2 S.G. decoupling ...	0.1
C12	V2 cathode by-pass ...	0.1
C13	2nd I.F. transformer ...	0.0001
C14	fixed tuning capacitors ...	0.0001
C15	L.F. by-pass capacitor ...	0.0001
C16*	V3 cathode by-pass ...	20.0
C17	A.F. coupling to V3 triode ...	0.01
C18	A.F. coupling to V4 C.G. ...	0.01
C19	Fixed tone corrector ...	0.001
C20*	V4 cathode by-pass ...	20.0
C21	Part variable tone control ...	0.05
C22*	H.T. smoothing capac- ...	16.0
C23*	tors ...	16.0
C24	Mains R.F. by-pass ...	0.01
C25†	Aerial circ. M.W. trim- ...	—
C26†	mer ...	—
C27†	Aerial circ. L.W. trim- ...	—
C28†	mer ...	—
C29†	Aerial circuit tuning ...	—
C30†	Osc. circ. S.W. trimmer ...	—
C31†	Osc. circ. M.W. trimmer ...	—
C32†	Osc. circ. L.W. trimmer ...	—
C33†	Osc. circ. M.W. tracker ...	—

RESISTORS		Values (ohms)
R1	V1 hex. C.G. resistor ...	2,000,000
R2	V1 S.G. H.T. feed ...	68,000
R3	V1 osc. C.G. stabiliser ...	100
R4	V1 osc. C.G. resistor ...	56,000
R5	V1 osc. anode decoupling ...	20,000
R6	V2 S.G. H.T. feed ...	56,000
R7	V2 fixed G.B. resistor ...	220
R8	A.V.C. line decoupling ...	1,000,000
R9	I.F. stopper ...	100,000
R10	V3 diode load ...	560,000
R11	I.F. stopper ...	100,000
R12	V3 triode C.G. resistor ...	2,000,000
R13	V3 G.B. resistor ...	1,000
R14	V3 triode anode load ...	56,000
R15	Manual volume control ...	250,000
R16	V4 C.G. stopper ...	56,000
R17	V4 G.B. resistor ...	160
R18	V4 anode stopper ...	100
R19	Variable tone control ...	50,000
R20	V5 anode surge limiter ...	100

OTHER COMPONENTS		Approx. Values (ohms)
L1	Frame aerial windings ...	1.7
L2	Aerial S.W. tuning coil ...	20.0
L3	Osc. S.W. tuning coil ...	Very low
L4	Osc. M.W. tuning coil ...	Very low
L5	Osc. L.W. tuning coil ...	1.7
L6	Osc. S.W. reaction coil ...	13.8
L7	Osc. M.W. reaction coil ...	0.2
L8	Osc. L.W. reaction coil ...	5.5
L9	Osc. S.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 ...	2.5
L15	H.T. smoothing choke ...	350.0
T1	Output trans. { Pri. ...	500.0
	{ Sec. ...	0.25
T2	Mains { Pri., total ...	85.0
	{ Heater sec. ...	0.1
	{ Rect. heat sec. ...	0.1
S1-S9	Waveband switches ...	—
S10	Gram P.U. switch ...	—
S11	Mains switch, ganged R15 ...	—

* Electrolytic. † Variable. ‡ Pre-set.

