

CIRCUIT ALIGNMENT

I.F. Stages.—Connect signal generator leads via a 0.1 μ F capacitor to control grid (top cap) of V1 and chassis, turn the gang and the volume control to maximum, and the tone control fully anti-clockwise. Feed in a 465 kc/s (645.16 m) signal, slacken the lock-nuts, and adjust the cores of L18, L19, L20 and L21 for maximum output, reducing the input signal as the circuits come into line. Tighten lock-nuts.

R.F. and Oscillator Stages.—Transfer signal generator leads to A and E sockets, via a suitable dummy aerial. With the gang at maximum, the pointer should be horizontal, and it should be directly behind the mark at the high-wavelength end of the M.W. band scale.

I.F. Filter.—Switch set to M.W., feed in a 465 kc/s (645.16 m) signal, and adjust the core of L1 for minimum output.

S.W.1.—Switch set to Band 1, tune to 13.3 m (170 m mark on M.W. scale), feed in a 13.3 m (22.5 Mc/s) signal, and adjust C44, then C39, for maximum output.

S.W.2.—Switch set to Band 2, tune to 48 m (170 m mark on M.W. scale), feed in a 48 m (6.25 Mc/s) signal, and adjust C45, then C40, for maximum output.

M.W.—Switch set to M.W. (Band 3), tune to 170 m on scale, feed in a 170 m (1,765 kc/s) signal, and adjust C46, then C41, for maximum output. Tune to 526 m (spot on scale), feed in a 526 m (570 kc/s) signal, and adjust the cores of L16 and L8 for maximum output. Repeat the 170 m and 526 m adjustments until no improvement can be obtained.

L.W.—Switch set to L.W. (Band 4), tune to 750 m (170 m mark on M.W. scale), feed in a 750 m (400 kc/s) signal, and adjust C47, then C42, for maximum output. Tune to 2,000 m on scale, feed in a 2,000 m (150 kc/s) signal, and adjust the cores of L17 and L9 for maximum output. Repeat the 750 m and 2,000 m adjustments until no improvement can be obtained.

RESISTORS		Values (ohms)
R1	V1 hex. C.G. resistor ...	470,000
R2	V1 S.G. H.T. potential	22,000
R3	divider resistors ...	33,000
R4	V1 fixed G.B. resistor ...	220
R5	V1 osc. C.G. resistor ...	47,000
R6	Osc. S.W.1 stabiliser ...	47
R7	Osc. S.W.2 stabiliser ...	470
R8	Osc. L.W. stabiliser ...	2,200
R9	V1 hex. C.G. decoupling ...	470,000
R10	V1 osc. anode H.T. feed ...	22,000
R11	V2 C.G. decoupling ...	470,000
R12	V2 S.G. H.T. feed ...	68,000
R13	V2 fixed G.B. resistor ...	330
R14	I.F. stopper ...	100,000
R15	V3 signal diode load ...	330,000
R16	Manual volume control ...	1,000,000
R17	V3 triode grid stopper ...	47,000
R18	V3 G.B. ; A.V.C. delay ...	1,000
R19	V3 triode H.T. decoupling ...	10,000
R20	V3 triode anode load ...	33,000
R21	V3 A.V.C. diode load ...	470,000
R22	V4 C.G. resistor ...	470,000
R23	V4 C.G. stopper ...	47,000
R24	V4 G.B. resistor ...	150
R25	H.T. smoothing resistor ...	2,000
R26	V4 anode surge limiter ...	125
R27	Heater ballast resistor ...	812

* Tapped at 100 Ω + 100 Ω + 612 Ω from V5 heater.

CAPACITORS		Values (μ F)
C1	Aerial isolator ...	0.005
C2	I.F. filter tuning ...	0.0005
C3	Earth isolator ...	0.02
C4	Aerial M.W. shunt ...	0.00025
C5	Aerial L.W. shunt ...	0.001
C6	Aerial L.W. fixed trimmer ...	0.00002
C7	V1 hex. C.G. capacitor ...	0.0001
C8	H.T. circuit R.F. by-pass ...	0.25
C9	V1 S.G. decoupling ...	0.1
C10	1st I.F. transformer tuning	0.0001
C11	capacitors ...	0.0001
C12	V1 osc. C.G. capacitor ...	0.0001
C13	V1 cathode by-pass ...	0.1
C14	V1 hex. C.G. decoupling ...	0.1
C15	Osc. circ. S.W.1 tracker ...	0.0054
C16	Osc. circ. S.W.2 tracker ...	0.0018
C17	Osc. circ. M.W. tracker ...	0.000538
C18	Osc. circ. L.W. tracker ...	0.00016
C19	Osc. L.W. fixed trimmer ...	0.00005
C20	V1 osc. anode coupling ...	0.0001
C21	V2 C.G. decoupling ...	0.1
C22	V2 S.G. decoupling ...	0.1
C23	2nd I.F. transformer tun-	0.0001
C24	ing capacitors ...	0.0001
C25	V2 cathode by-pass ...	0.1
C26	I.F. by-pass capacitors ...	0.0001
C27	V3 A.V.C. diode coupling	0.0001
C28	A.F. coupling to V3 triode	0.01
C29	(continued next column)	

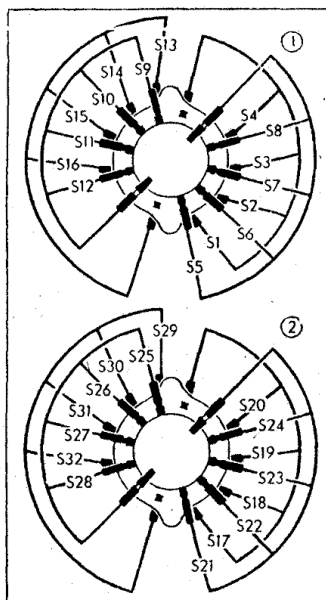
CAPACITORS (continued)		Values (μ F)
C30*	V3 cathode by-pass ...	50.0
C31	V3 triode decoupling ...	0.5
C32	A.F. coupling to V4 C.G. ...	0.02
C33	Tone control capacitors ...	0.01
C34		0.04
C35	Fixed tone corrector ...	0.005
C36*	H.T. smoothing capacitors	32.0
C37*		32.0
C38	Mains R.F. by-pass cap-	
	acitor ...	0.01
C39†	Aerial circ. S.W.1 trimmer	0.00004
C40†	Aerial circ. S.W.2 trimmer	0.00004
C41†	Aerial circ. M.W. trimmer	0.00004
C42†	Aerial circ. L.W. trimmer	0.00004
C43†	Aerial circuit tuning ...	—
C44†	Osc. circ. S.W.1 trimmer ...	0.00004
C45†	Osc. circ. S.W.2 trimmer ...	0.00004
C46†	Osc. circ. M.W. trimmer ...	0.00004
C47†	Osc. circ. L.W. trimmer ...	0.00004
C48†	Oscillator circuit tuning ...	—

* Electrolytic. † Variable. ‡ Pre-set.

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OTHER COMPONENTS		Approx. Values (ohms)
L1	I.F. rejector coil ...	4.5
L2	Aerial S.W.1 coupling coil ...	0.5
L3	Aerial S.W.2 coupling coil ...	1.25
L4	Aerial M.W. coupling coil ...	15.0
L5	Aerial L.W. coupling coil ...	24.0
L6	Aerial S.W.1 tuning coil ...	0.05
L7	Aerial S.W.2 tuning coil ...	0.4
L8	Aerial M.W. tuning coil ...	2.75
L9	Aerial L.W. tuning coil ...	18.5
L10	Osc. S.W.1 reaction coil ...	0.4
L11	Osc. S.W.2 reaction coil ...	1.4
L12	Osc. M.W. reaction coil ...	1.75
L13	Osc. L.W. reaction coil ...	4.0
L14	Osc. S.W.1 tuning coil ...	0.05
L15	Osc. S.W.2 tuning coil ...	0.35
L16	Osc. M.W. tuning coil ...	1.8
L17	Osc. L.W. tuning coil ...	7.5
L18	1st I.F. trans. { Pri. ...	10.0
L19		10.0
L20	2nd I.F. trans. { Pri. ...	10.0
L21		10.0
L22	Speaker speech coil ...	1.9
T1	Output { Pri. ...	300.0
	trans. { Sec. ...	0.3
S1-	Waveband switches	—
S32		—
S33,		—
S34		—
S35	Tone control switches ...	—
	Mains switch, ganged R16	—

SWITCH DIAGRAMS AND TABLE



Diagrams of the two waveband switch units, drawn as seen when viewed from the rear of an inverted chassis.

Chassis Divergency.—In later chassis, the scale lamp circuit may be shunted by a 100 Ω resistor to reduce the surge current when the receiver is switched on. This resistor is rated at 7 watts, and is wire-wound.

Switch	S.W.1	S.W.2	M.W.	L.W.
S1	C	—	—	—
S2	—	C	—	—
S3	—	—	C	—
S4	—	—	—	C
S5	—	C	C	C
S6	C	—	C	C
S7	C	C	—	C
S8	C	C	C	—
S9	—	C	C	C
S10	C	—	C	C
S11	C	C	—	C
S12	C	C	C	—
S13	C	—	—	—
S14	—	C	—	—
S15	—	—	C	—
S16	—	—	—	C
S17	C	—	—	—
S18	—	C	—	—
S19	—	—	C	—
S20	—	—	—	C
S21	—	—	—	C
S22	C	—	—	—
S23	C	C	—	—
S24	C	C	C	—
S25	—	—	—	C
S26	C	—	—	—
S27	C	C	—	—
S28	C	C	C	—
S29	C	—	—	—
S30	—	C	—	—
S31	—	—	C	—
S32	—	—	—	C