



CONDENSERS		Values (μF)
C1	AVC line decoupling ...	0.05
C2	V1 osc. CG condenser ...	0.0001
C3*	HT reservoir condenser ...	8.0
C4	V1 SG decoupling ...	0.01
C5†	IF by-pass condensers ...	0.00005
C6†		0.00005
C7	AF coupling to V3 triode ...	0.001
C8	IF by-pass ...	0.0001
C9	V3 triode to V4 AF coupling	0.005
C10	Fixed tone corrector ...	0.002
C11†	Frame aerial LW trimmer	0.0001
C12†	Frame aerial tuning...	—
C13†	Frame aerial MW trimmer	—
C14†	Oscillator circuit tuning ...	—
C15†	Osc. circuit MW trimmer ...	—
C16†	Osc. circuit LW trimmer ...	0.0001
C17†	Osc. circuit LW tracker ...	0.0006
C18†	Osc. circuit MW tracker ...	0.0006
C19†	1st IF trans. pri. tuning ...	—
C20†	1st IF trans. sec. tuning ...	—
C21†	2nd IF trans. pri. tuning ...	—
C22†	2nd IF trans. sec. tuning ...	—

* Electrolytic. † Variable. ‡ Pre-set.

RESISTANCES		Values (ohms)
R1	V1 osc. CG resistance ...	260,000
R2	Oscillator reaction circuit damping resistances ...	10,000
R3		16,000
R4	V1 SG HT feed ...	71,000
R5	AVC feed potential divider ...	11,000,000
R6		4,100,000
R7	IF stopper ...	110,000
R8	Manual volume control; V3 diode load ...	500,000
R9	V3 triode CG resistance ...	11,000,000
R10	V3 triode anode load ...	1,100,000
R11	V4 CG resistance ...	2,100,000
R12	V4 auto GB resistance ...	850

OTHER COMPONENTS		Approx. Values (ohms)
L1	Ext. aerial coupling coil ...	Very low
L2	Frame aerial windings	0.8
L3		4.0
L4	Osc. circuit MW tuning coil...	1.8
L5	Osc. circuit LW tuning coil...	6.2
L6	Oscillator MW reaction	3.6
L7	Oscillator LW reaction	9.5
L8	1st IF trans. Pri. ...	27.0
L9		27.0
L10	2nd IF trans. Pri. ...	27.0
L11		27.0
L12	Speaker speech coil ...	1.8
T1	Output trans. Pri. ...	520.0
S1-S3	Waveband switches ...	0.2
S4	HT circuit switch	—
S5	LT circuit switch	—

VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating with a new 90V HT battery reading 97V on load. The receiver was tuned to the lowest wavelength on the MW band and the volume control was at maximum. The frame aerial leads were joined together.

Voltages were measured on the 400 V scale of a model 7 Universal Avometer, chassis being negative.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 DK1	88 88 88	0.6 Oscillator 1.0	40	0.7
V2 DF1	88	1.25	88	0.3
V3 DAC1	12	0.03	—	—
V4 DL2	85	5.2	88	1.2

CIRCUIT ALIGNMENT

IF Stages.—Short-circuit C14 and connect a 0.5 MO resistor across tags on the frame aerials to which the green and yellow wires are connected. Connect signal generator via a 0.1 μF condenser to control grid (top cap) of V1 and to chassis.

Feed in a 452 kc/s signal, and adjust C22, C21, C20 and C19, in that order, for maximum output. Re-check these settings, then remove the 0.5 MO resistor and the short from C14.

RF and Oscillator Stages.—These must be aligned with the frame aerials and chassis in position, through holes provided in the back of the cabinet. The two wavebands are not independent, and the MW band must be aligned first. With gang at maximum, pointer should cover the horizontal markings at the upper wavelength ends of the scales. Connect signal generator to external A and E sockets.

MW.—Switch set to MW, and tune to 214 m mark on scale. Set C18 about two-thirds in. Feed in a 214 m (1,400 kc/s) signal, and adjust C15, then C13, for maximum output. Feed in a 500 m (600 kc/s) signal, tune it in, and adjust C18 for maximum output, while rocking the gang for optimum results. Readjust C15 at 214 m if necessary.

LW.—Switch set to LW, tune to 1,000 m on scale, and set C17 about two-thirds in. Feed in a 1,000 m (300 kc/s) signal, and adjust C16, then C11, for maximum output. Feed in a 1,700 m (176.4 kc/s) signal, tune it in, and adjust C17 for maximum output, while rocking the gang for optimum results. Readjust C16 at 500 m if necessary.