

CONDENSERS		Values (μ F)
C1	Aerial coupling condensers	0-005
C2	1st IF transformer fixed	0-004
C3	tuning condensers	0-00015
C4	V1 osc. CG condenser	0-00015
C5	V1 cathode by-pass	0-00005
C6	Osc. circuit LW fixed	0-1
C7	trimmer	0-000025
C8	V1 osc. anode coupling	0-001
C9	Osc. circuit LW tracker	0-00023
C10	Osc. circuit MW tracker	0-0004
C11	V2 CG decoupling	0-1
C12	V1, V2 SG's decoupling	0-1
C13	2nd IF transformer fixed	0-00015
C14	tuning condensers	0-00023
C15	V2 cathode by-pass	0-02
C16	IF by-pass	0-0005
C17	AF coupling to V3 triode	0-005
C18	Coupling to V3 AVC diode	0-00025
C19*	V3 triode anode decoupling	2-0
C20*	V3 cathode by-pass	25-0
C21	V3 triode to V4 AF	0-02
C22*	coupling	25-0
C23	V4 cathode by-pass	0-001
C24	Fixed tone corrector	0-03
C25*	Part of variable tone control	16-0
C26*	HT smoothing condensers	16-0
C27†	Aerial circuit SW trimmer	—
C28†	Aerial circuit MW trimmer	—
C29†	Aerial circuit LW trimmer	—
C30†	Aerial circuit tuning	—
C31†	Oscillator circuit tuning	—
C32†	Osc. circuit SW trimmer	—
C33†	Osc. circuit MW trimmer	—
C34†	Osc. circuit LW trimmer	—

* Electrolytic. † Variable. ‡ Preset.

RESISTANCES		Values (ohms)
R1	A2 aerial potential divider	10,000
R2	resistances	2,000
R3	V1 hexode CG decoupling	500,000
R4	V1 fixed GB resistance	300
R5	V1 osc. CG resistance	50,000
R6	V1 osc. anode HT feed	50,000
R7	Oscillator reaction damping	150
R8	V1, V2 SG's HT feed poten-	20,000
R9	tial divider	25,000
R10	V2 fixed GB resistance	300
R11	IF stopper	50,000
R12	Manual volume control	500,000
R13	V3 signal diode load	500,000
R14	V3 triode GB; AVC delay	7,000
R15	V3 triode anode decoupling	50,000
R16	V3 triode anode load	150,000
R17	AVC line decoupling	500,000
R18	V3 AVC diode load	500,000
R19	V4 CG resistance	500,000
R20	V4 GB resistance	400
R21	Variable tone control	50,000

OTHER COMPONENTS

		Approx. Values (ohms)
L1	Aerial SW coupling coil	0-5
L2	Aerial SW tuning coil	0-05
L3	Aerial MW tuning coil	2-4
L4	Aerial LW tuning coil	35-0
L5	Osc. circuit SW tuning coil	0-05
L6	Osc. circuit MW tuning coil	5-0
L7	Osc. circuit LW tuning coil	11-0
L8	Oscillator SW reaction	0-5
L9	1st IF trans. { Pri. ...	4-0
L10	{ Sec. ...	4-0
L11	2nd IF trans. { Pri. ...	4-0
L12	{ Sec. ...	2-5
L13	Speaker speech coil	2-0
L14	Hum neutralising coil	0-1
L15	Speaker field coil	1,200-0
T1	Speaker input. trans. { Pri. ...	420-0
	{ Sec. ...	0-3
T2	Mains { Heater sec. ...	29-0
	{ Rect. heat. sec. ...	0-4
	{ HT sec., total ...	0-2
S1-S10	Waveband switches	190-0
S11	Radio muting switch	—
S12	Speaker switch	—
S13	Mains switch, ganged R21	—

VALVE ANALYSIS

Valve voltages and currents given in the table overleaf are those measured in our receiver when it was operating on mains of 232 V, using the 225 V tapping on the mains transformer. The receiver was tuned to the lowest wavelength on the medium band and the volume control was at maximum, but there was no signal input.

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 20D2	268	2-3	106	3-5
	Oscillator	—	—	—
V2 9D2	100	3-5	106	1-9
V3 11D5	268	7-6	—	—
V4 7D5	95	0-6	268	7-0
V5 R2	251	38-0	—	—
	316†	—	—	—

† Each anode, AC.

SWITCH TABLE

Switch	SW	MW	LW
S1	—	—	—
S2	—	—	—
S3	—	—	—
S4	—	—	—
S5	—	—	—
S6	—	—	—
S7	—	—	—
S8	—	—	—
S9	—	—	—
S10	—	—	—

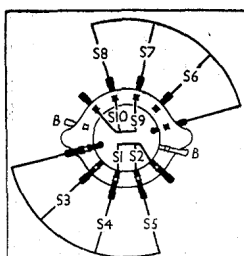


Diagram of the wavechange switch unit, viewed from the tone control end of the chassis.

CIRCUIT ALIGNMENT

IF Stages.—Connect signal generator via a 0-1 μ F condenser to control grid (top cap) of V1, and chassis. Switch set to MW, and turn gang to maximum. Feed in a 464KC/S signal, and adjust cores of L9, L10, L11 and L12 in turn for maximum output. Repeat these adjustments.

RF and Oscillator Stages.—With gang at maximum, pointer should cover the vertical lines at the right hand ends of the three scales. Connect signal generator, via a suitable dummy aerial, to A1 and E sockets.

MW.—Switch set to MW, tune to 500m on scale, feed in a 500m (600 KC/S) signal, and adjust core of L6 for maximum output. Tune to 214m (white spot) on scale, feed in a 214m (1,400 KC/S) signal, and adjust C33, then C28, for maximum output. Repeat the 500m adjustment, rocking the gang slightly for optimum results, then repeat the 214m adjustments.

LW.—Switch set to LW, tune to 1,714m (white spot) on scale, feed in a 1,714m (175KC/S) signal, and adjust core of L7 for maximum output. Tune to 857m on scale, feed in an 857m (350 KC/S) signal, and adjust C34, then C29, for maximum output. Repeat the 1,714m adjustment, rocking the gang slightly for optimum results, then repeat the 857m adjustments.

SW.—Switch set to SW, tune to 20m on scale, feed in a 20m (15 MC/S) signal, and adjust C32, then C27, for maximum output.