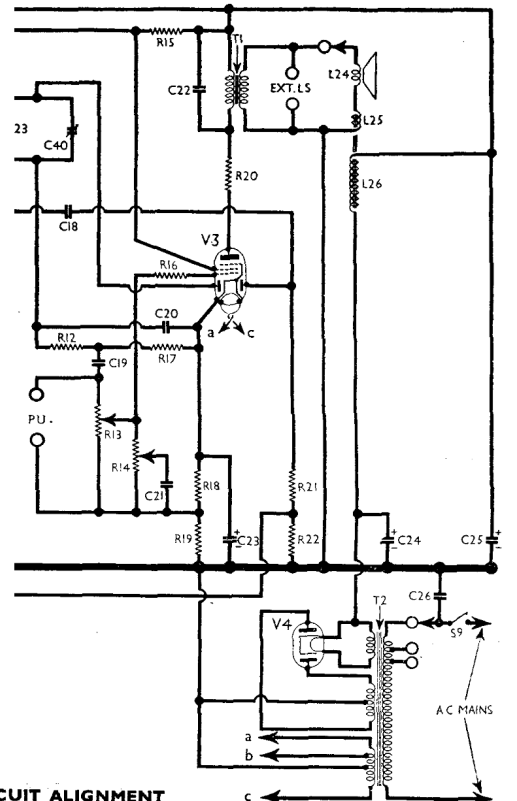


CONDENSERS	Values (μF)
C1	A2 series condenser ... 0.00005
C2	Part aerial coupling ... 0.0024
C3	Aerial auto tuning condenser ... 0.00046
C4	V1 heptode CG condenser ... 0.000025
C5	V1 heptode CG decoupling ... 0.05
C6	V1 SG decoupling ... 0.1
C7	V1 cathode by-pass ... 0.1
C8	V1 osc. CG condenser ... 0.00005
C9	Osc. auto tuning condenser ... 0.00035
C10	Osc. auto reaction coupling ... 0.00035
C11	Osc. circuit SW tracker ... 0.005
C12	Osc. circuit MW tracker ... 0.00035
C13	Osc. circuit LW tracker ... 0.00015
C14	V1 osc. anode coupling ... 0.0005
C15	V2 CG decoupling ... 0.05
C16*	HT circuit decoupling ... 4.0
C17	V2 cathode by-pass ... 0.1
C18	Coupling to V3 AVC diode ... 0.00001
C19	AF coupling to V3 tetrode ... 0.01
C20	IF by-pass ... 0.0002
C21	Part of variable tone control ... 0.002
C22	Fixed tone corrector ... 0.004
C23*	V3 cathode by-pass ... 50.0
C24*	HT smoothing condensers ... 8.0
C25*	Mains RF by-pass ... 0.004
C26	Aerial IF rejector fixed trimmer ... 0.002
C27	Aerial IF rejector tuning ...
C28†	Aerial circuit SW trimmer ...
C29†	Aerial circuit MW trimmer ...
C30†	Aerial circuit LW trimmer ...
C31†	Aerial circ. manual tuning ...
C32†	Osc. circ. manual tuning ...
C33†	Osc. circuit SW trimmer ...
C34†	Osc. circuit MW trimmer ...
C35†	Osc. circuit LW trimmer ...
C36†	1st IF trans. pri. tuning ...
C37†	1st IF trans. sec. tuning ...
C38†	2nd IF trans. pri. tuning ...
C39†	2nd IF trans. sec. tuning ...
C40†	2nd IF trans. sec. tuning ...

OTHER COMPONENTS	Approx. Values (ohms.)
L1	Aerial IF rejector coil ... 4.0
L2	Aerial SW coupling coil ... 9.0
L3	Aerial SW tuning coil ... 0.05
L4	Aerial manual MW tuning ... 3.5
L5	Aerial manual LW tuning ... 12.0
L6	Aerial circuit LW auto tuning coils ... 10.5
L7	Aerial circuit MW auto tuning coils ... 1.75
L8	Aerial circuit MW auto tuning coils ... 1.25
L9	Oscillator circuit MW auto tuning coils ... 1.0
L10	Oscillator circuit MW auto tuning coils ... 2.1
L11	Oscillator circuit MW auto tuning coils ... 2.8
L12	Oscillator circuit LW auto tuning coils ... 3.25
L13	Osc. circuit SW tuning coil ... 6.3
L14	Osc. circ. MW manual tuning ... 6.5
L15	Osc. circ. LW manual tuning ... 6.5
L16	Osc. SW reaction coil ... 7.5
L17	1st IF trans. { Pri. ... 13.0
L18	2nd IF trans. { Pri. ... 13.0
L19	2nd IF trans. { Sec. ... 13.0
L20	Speaker speech coil ... 2.0
L21	Hum neutralising coil ... 0.1
L22	Speaker field coil ... 1,000.0
L23	Speaker input trans. { Pri. ... 430.0
L24	Speaker input trans. { Sec. ... 0.5
L25	Mains { Pri., total ... 38.0
L26	Mains { Heater sec., total ... 0.05
T1	Mains { Rect. heat. sec. ... 0.1
T2	Mains { HT sec., total ... 450.0
S1-S3	Aerial circuit manual waveband switches ...
S4-S8	Oscillator circuit manual waveband switches ...
S9	Aerial circuit auto selector switches ...
S10	Oscillator circuit auto selector switches ...
S11	Mains switch, ganged R13 ...



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

## VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating on mains of 235V, using the 220-240V tapping on the mains transformer. The receiver was tuned to the lowest wavelength on the MW band, and the volume control was at maximum, but there was no signal input.

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

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 TH41	210	5.0	142	7.0
V2 VP41	76	3.0	210	2.5
V3 Pen45DD	262	10.0	210	6.9
V4 UU6	245	34.0	210	—
	320†	—	—	—

† Each anode, AC.

## CIRCUIT ALIGNMENT

**IF Stages.**—Connect signal generator to control grid (top cap) of V1 and chassis, turn gang to maximum, and press MW button. Feed in a 470 KC/S signal, and adjust C40, C39, C38 and C37 in turn for maximum output. Repeat these adjustments.

**IF Rejector.**—Connect signal generator to A1 and E sockets, feed in a strong 470 KC/S signal, and adjust C28 (rear of chassis) for minimum output.

**RF and Oscillator Stages.**—With gang at maximum, pointer should be horizontal. Connect signal generator, via a suitable dummy aerial, to A1 and E sockets.

**MW.**—Press MW button, tune to 200 m on scale, feed in a 200 m (1,500 KC/S) signal, and adjust C35 for maximum output. Feed in a 250 m (1,200 KC/S) signal, tune it in, and adjust C30 for maximum output, rocking the gang slightly if necessary. Feed in a 500m (600 KC/S) signal, tune it in, and adjust core of L17 for maximum output, while rocking the gang for optimum results.

**LW.**—Press LW button, tune to 1,000m on scale, feed in a 1,000m (300 KC/S) signal, and adjust C36 for maximum output. Feed in a 1,300m (232 KC/S) signal, tune it in, and adjust C31 for maximum output, while rocking the gang slightly, if necessary. Feed in a 1,700m (176.3 KC/S) signal, tune it in, and adjust core of L18 for maximum output, while rocking the gang for optimum results.

**SW.**—Press SW button, tune to 19m on scale, feed in a 19m (15.8 MC/S) signal, and adjust C34, then C29, for maximum output. Check at 30m and 50m.

RESISTANCES	Values (ohms)
R1	Part aerial coupling ... 12,000
R2	V1 heptode CG resistance ... 1,000,000
R3	V1 heptode CG decoupling ... 1,000,000
R4	V1 SG HT feed ... 10,000
R5	V1 SG stabiliser ... 60
R6	V1 fixed GB resistance ... 200
R7	V1 osc. CG stabiliser ... 60
R8	V1 osc. CG resistance ... 100,000
R9	V1 osc. anode HT feed ... 40,000
R10	V2 CG decoupling ... 1,000,000
R11	V2 fixed GB resistance ... 130
R12	IF stopper ... 100,000
R13	Manual volume control ... 1,000,000
R14	Variable tone control ... 2,000,000
R15	HT feed resistance ... 2,000
R16	V3 tetrode grid stopper ... 1,000
R17	V3 signal diode load ... 500,000
R18	V3 tetrode GB and AVC delay resistances ... 140
R19	V3 tetrode anode stopper ... 115
R20	V3 tetrode anode stopper ... 60
R21	V3 AVC diode load ... 250,000
R22	resistances ... 750,000

