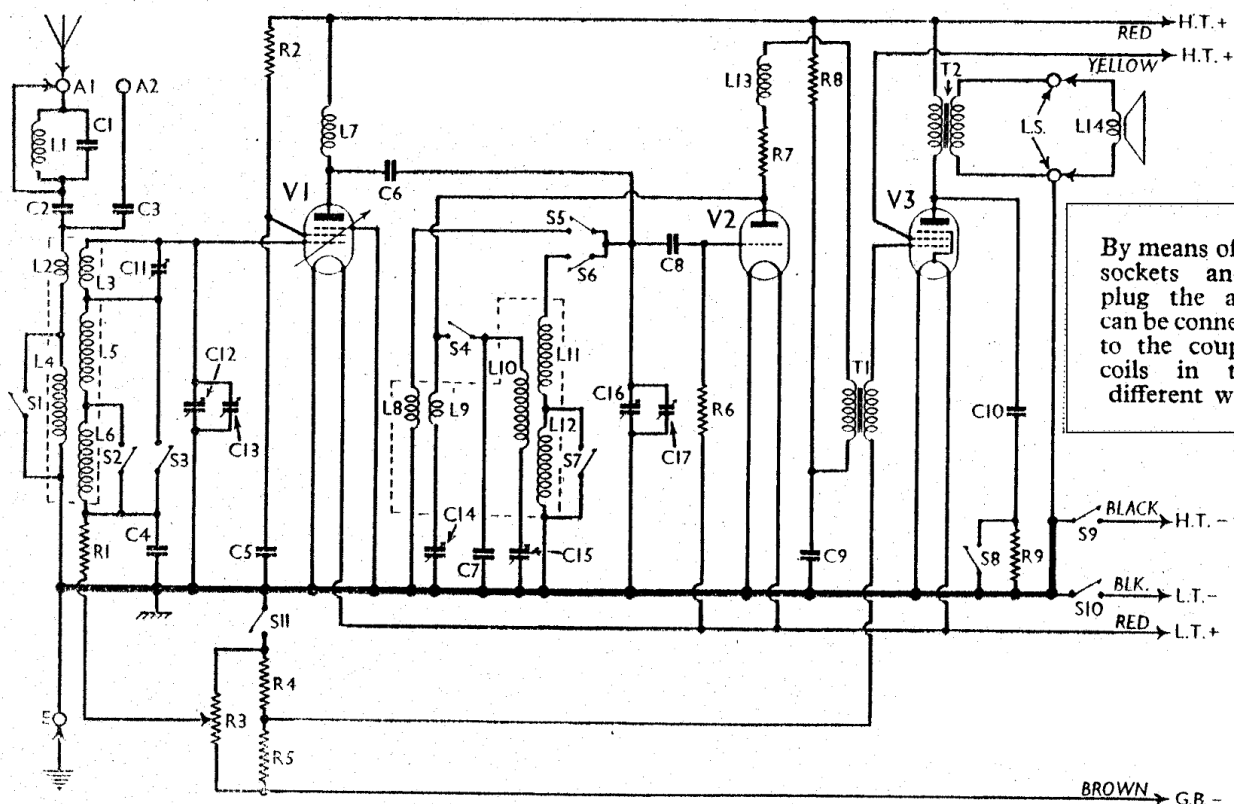


LISSEN - 8165



COMPONENTS AND VALUES

RESISTANCES		Values (ohms)
R1	V1 C.G. decoupling ..	110,000
R2	V1 S.G. H.T. feed ..	40,000
R3	V1 gain control ..	3,000
R4	G.B. potential divider	430
R5		2,200
R6	V2 grid leak ..	2,100,000
R7	V2 anode H.F. stopper ..	5,000
R8	V2 anode decoupling ..	11,000
R9	Part of T.C. filter ..	31,000

CONDENSERS		Values (μF)
C1	Droitwich retractor tuning ..	0.0003
C2	Aerial series condensers	0.0003
C3		Very low
C4	V1 C.G. decoupling ..	0.1
C5	V1 S.G. by-pass ..	0.1
C6	V1 to V2 H.F. coupling ..	0.00005
C7	V2 anode H.F. by-pass ..	0.0002
C8	V2 grid condenser ..	0.00005
C9	V2 anode decoupling ..	0.5
C10	Part of T.C. filter ..	0.01
C11	Aerial circuit S.W. trimmer	—
C12	Aerial circuit tuning ..	—
C13	Aerial circuit M.W. trimmer	—
C14	S.W. reaction control ..	—
C15	M.W., L.W. reaction control ..	—
C16	V2 grid circuit tuning ..	—
C17	V2 grid circuit M.W. trimmer	—

† Variable. † Pre-set.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Droitwich retractor coil ..	21.0
L2	Aerial S.W. coupling coil ..	0.7
L3	Aerial S.W. tuning coil ..	Very low
L4	Aerial M.W. and L.W. coupling	30.6
L5	Aerial M.W. and L.W. tuning coils	2.5
L6		11.0
L7	V1 anode H.F. choke ..	560.0
L8	V2 C.G. circuit S.W. tuning coil ..	Very low
L9	S.W. reaction coil ..	0.6
L10	M.W. and L.W. reaction coil ..	6.7
L11	V2 C.G. circuit M.W. and	3.7
L12	L.W. tuning coils ..	12.5
L13	V2 anode H.F. choke ..	550.0
L14	Speaker speech coil ..	1.2
T1	Intervalve trans. { Pri. ..	1,300.0
	{ Sec. ..	11,000.0
T2	Output trans. { Pri. ..	830.0
	{ Sec. ..	0.3
S1-S7	Waveband switches ..	—
S8	Tone control switch ..	—
S9	H.T. circuit switch ..	—
S10	L.T. circuit switch ..	—
S11	G.B. circuit switch ..	—

VALVE ANALYSIS

Valve voltages and currents given in the table (p. III) are those measured in our receiver when it was operating on a new H.T. battery reading 146 V. The volume control was at maximum, but the reaction control was at minimum, and there was no signal input.

Voltages were measured on the 1,200 V

scale of an Avometer, chassis being negative.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 K50M	130	1.9	110	0.5
V2 K30C	82	2.6	—	—
V3 K70L	125	5.6	130	0.9

GENERAL NOTES

Switches.—S1-S7 are the waveband switches, in a single unit beneath the chassis. One of the switches in the unit is blank. The table below gives the switch position for the various control settings, O indicating open, and C closed.

Switch	S.W.	M.W.	L.W.
S1	C	O	O
S2	C	C	O
S3	C	O	O
S4	O	C	C
S5	C	O	O
S6	O	C	C
S7	C	C	O

S8 is the rotary tone control switch at the rear of the chassis, closed when the knob is rotated anti-clockwise.

S9, S10, S11 are the H.T., L.T. and G.B. circuit switches, in a single unit mounted on the side of the cabinet. The mauve lead goes to the common contact (chassis). The thin black lead belongs to S9, the thick black lead to S10 and the brown lead to S11.

Coils.—L1 is in two sections on a tubular former beneath the chassis. L2-L6 and L8-L12 are in two screened units on the chassis deck. The latter also contains the trimmer C11. L7 and L13 are two H.F. chokes beneath the chassis, L7 being wound in five sections.

CIRCUIT ALIGNMENT

Rotate the gang until the pointers are at the higher wavelength ends of the scales. Push a rod through the hole in the side of the gang cover and against the vanes, and rock the gang until it can be felt that the rotors are fully in mesh. If the pointers do not coincide with the horizontal line, release the centre fixing screw, and adjust them to this position.

For alignment use the A1 aerial socket. Rotate the gang until the pointers are at the lower wavelength ends of the scales. Switch receiver to M.W., turn volume control to maximum and reaction to minimum. Apply a 202 m. signal, and adjust C13 and C17 for maximum output.

Switch the receiver to S.W., apply an 18.2 m. signal, adjust reaction condenser until receiver is just short of oscillation, then adjust C11 for maximum output. If necessary, re-adjust reaction condenser to keep the receiver below the oscillation point.