

SERVICE MANUAL
PHILIPS RADIO RECEIVER
TYPE L2G 77B



GENERAL DESCRIPTION

The L2G77B is a small portable receiver for use on medium and long wave lengths. It is housed in a small case, fitted with a long shoulder strap, which may also be adjusted to form a short handle.

VALVE COMBINATION

V1	DK96	Frequency Changer.
V2	DF96	I.F. Amplifier.
V3	DAF96	Detector, A.F. Amplifier and A.G.C.
V4	DL96	Power Output.

DIMENSIONS

Length 9½". Breadth 3". Height 6".

BATTERIES

H.T.	67.5 V. (Ever Ready B101, Vidor L5500)
L.T.	1.5 V. (two) (Ever Ready U2, Vidor 0002)

WAVERANGES

M.W.	527—1604 Kc/s.
L.W.	150—255 Kc/s.

INTERMEDIATE FREQUENCY

470 Kc/s.

TRIMMING FREQUENCY

I.F.	470 Kc/s.
M.W.	525 Kc/s, 1610 Kc/s, 640 Kc/s, 1500 Kc/s.
L.W.	170 Kc/s, 240 Kc/s.

CONSUMPTION

When switched to M.W., the consumption with H.T. = 67.5 V. and L.T. = 1.5 V. is approximately:—

H.T.	10 mA.
L.T.	125 mA.

CIRCUIT NOTES

The circuit is a conventional superhet. A ferroxcube aerial assembly S1 (for long wave) and S10 is used. On medium waves S1 and S10 are connected in parallel. S2 and S3 are the oscillator coils.

ACCESS TO THE CHASSIS

Remove the two bolts which hold the carrying strap.

The strap and lower half of the case may then be removed, giving access to valves, etc.

After removing the knobs (pull off) the top half of the case may be removed.

The two sides of the case are held together by three brackets and bolts, the heads of the bolts normally being hidden by the fabric back, or the speaker grille. The fabric back, or the speaker grille can be removed by first prising off the metal clamping strip.

The back, or the front of the case may then be removed by removing the appropriate bolts. The receiver chassis is mounted between the two.

TRIMMING INSTRUCTIONS**(1) I.F. Circuits**

Switch to medium waves, turn gang to minimum and volume control to maximum.

Apply a signal of 470 Kc/s to g3V1 via a capacitor of 47 KpF, and trim for maximum output in the following order. (The output level should be kept below 50 mW.):—

S7, S6, S5, S4.

(2) R.F. Circuits

The oscillator frequency is higher than the signal frequency on both wavebands. The output level when trimming must be kept below 50 mW.

(a) Oscillator Circuits

Turn gang to maximum. Apply a signal of 525 Kc/s to g3V1, and trim S2 for maximum output. Turn gang to minimum and apply a signal of 1610 Kc/s. Trim C4 for maximum output.

Repeat as necessary.

(b) Aerial Circuits

Switch to medium waves, apply a signal of 640 Kc/s to g3V1 and tune the receiver for maximum output. Remove the signal from g3V1 and transfer it to junction R3/R11. Adjust S10 for maximum output. Change the frequency to 1500 Kc/s, tune the receiver and adjust C3 for maximum output.

Switch to long waves, apply a signal of 170 Kc/s to g3V1 and tune the receiver for maximum output. Remove the signal from g3V1 and transfer it to the junction R3/R11. Adjust the long wave aerial coil S1 for maximum output.

Switch to medium wave and repeat as necessary.

SPARE PARTS LIST—L2G77B

CABINET ASSEMBLY

Cabinet complete—Brown	...	...	MK.979.10
Cabinet complete—Cream	...	...	MK.979.20
Cabinet complete—Green	...	...	MK.979.31
Philips trade name	...	...	MK.705.54
Valve position	...	...	PG.010.66

BACKPLATE complete—Brown

Backplate complete—Brown	...	...	MK.878.23
Backplate complete—Cream	...	...	MK.878.24
Backplate complete—Green	...	...	MK.878.31

CARRYING STRAP—Brown

Carrying strap—Brown	...	...	MK.961.33
Carrying strap—Cream	...	...	MK.961.34
Carrying strap—Green	...	...	MK.961.37
Brass screw for above (2)	...	...	MK.961.36
Retaining ring for screw (2)	...	...	MK.449.49

CONTROL KNOB—Tuning—Brown

Control knob—Tuning—Brown	...	...	MK.855.35
Control knob—Tuning—Cream	...	...	MK.855.36
Control knob—Tuning—Green	...	...	MK.855.37
Leaf spring for above	...	...	MK.751.01
Control knob—Volume—Brown	...	...	MK.855.34
Control knob—Volume—Cream	...	...	MK.855.38
Control knob—Volume—Green	...	...	MK.855.39
Spring ring for above	...	...	MK.750.90
Felt ring	...	...	MK.448.11
Control knob—Wavechange—Brown	...	...	MK.262.16
Control knob—Wavechange—Cream	...	...	MK.262.20
Control knob—Wavechange—Green	...	...	MK.262.19

BAFFLE ASSEMBLY

Loudspeaker grille	...	...	MK.835.18
Speaker holding bracket (3)	...	...	MK.047.60
Fixing screw (4BA × ½") (3)	...	...	G7.780.88
Cup washer (3)	...	...	MK.449.50
Hexagonal nut (4BA) (3)	...	...	G7.091.04

CHASSIS ASSEMBLY

WAVECHANGE SWITCH—SLIDER	...	...	MK.973.73
Wavechange Switch—Stator	...	...	MK.973.74
Switch operating lever	...	...	MK.979.35
Connecting pin	...	...	MK.616.43

Bronze washer for above	...	...	B.046.AF/4
Circlip	...	...	B.048.AF/5
Location spring for switch	...	...	MK.751.32
Pressure spring for switch	...	...	MK.751.33

METAL SLEEVE on Tuning spindle

Thrust spring for above	...	...	MK.961.39
Friction washer	...	...	MK.751.35
Friction washer	...	...	MK.449.52
Grubscrew (2)	B.061.ED/3×5

L.T. BATTERY BRACKET ASSY.

L.T. BATTERY BRACKET ASSY.	MK.828.81
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VALVEHOLDERS

VALVEHOLDERS	MK.225.44
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MISCELLANEOUS

Battery connector—positive	MK.955.25
Battery connector—negative	MK.955.26
2BA Insert nut for strap screws (2)	...	...	MK.927.07
Bracket for S1/10	...	...	MK.067.68
Spring clip for S2-3	...	...	MK.750.98
Spring clip for S4-5 and S6-7	...	...	MK.730.23
Nut for R4	...	...	MK.927.05
Chassis screws No. 6 × 5/16" (22)	...	...	MK.961.43
Gang capacitor screws (5) 4BA × 3/16"	...	...	G7.790.87

VALVES

V1	...	...	DK96
V2	...	...	DF96
V3	...	...	DAF96
V4	...	...	DL96

TRANSFORMER AND COILS

S1/10 Ferroxcube aerials	...	...	MK.820.30
S2-3 Oscillator coil	...	...	MK.568.28
S4-5 1st I.F. coil	...	...	A3.126.98
S6-7 2nd I.F. coil	...	...	A3.126.98
S8-9 Output transformer	...	...	MK.515.07
S11 Loudspeaker (9755Z)	...	...	MK.956.20

CORES FOR COILS

S2	...	...	MK.955.03
S4, 5, 6, 7	...	...	A3.750.70

SPARE PARTS LIST—(contd.)

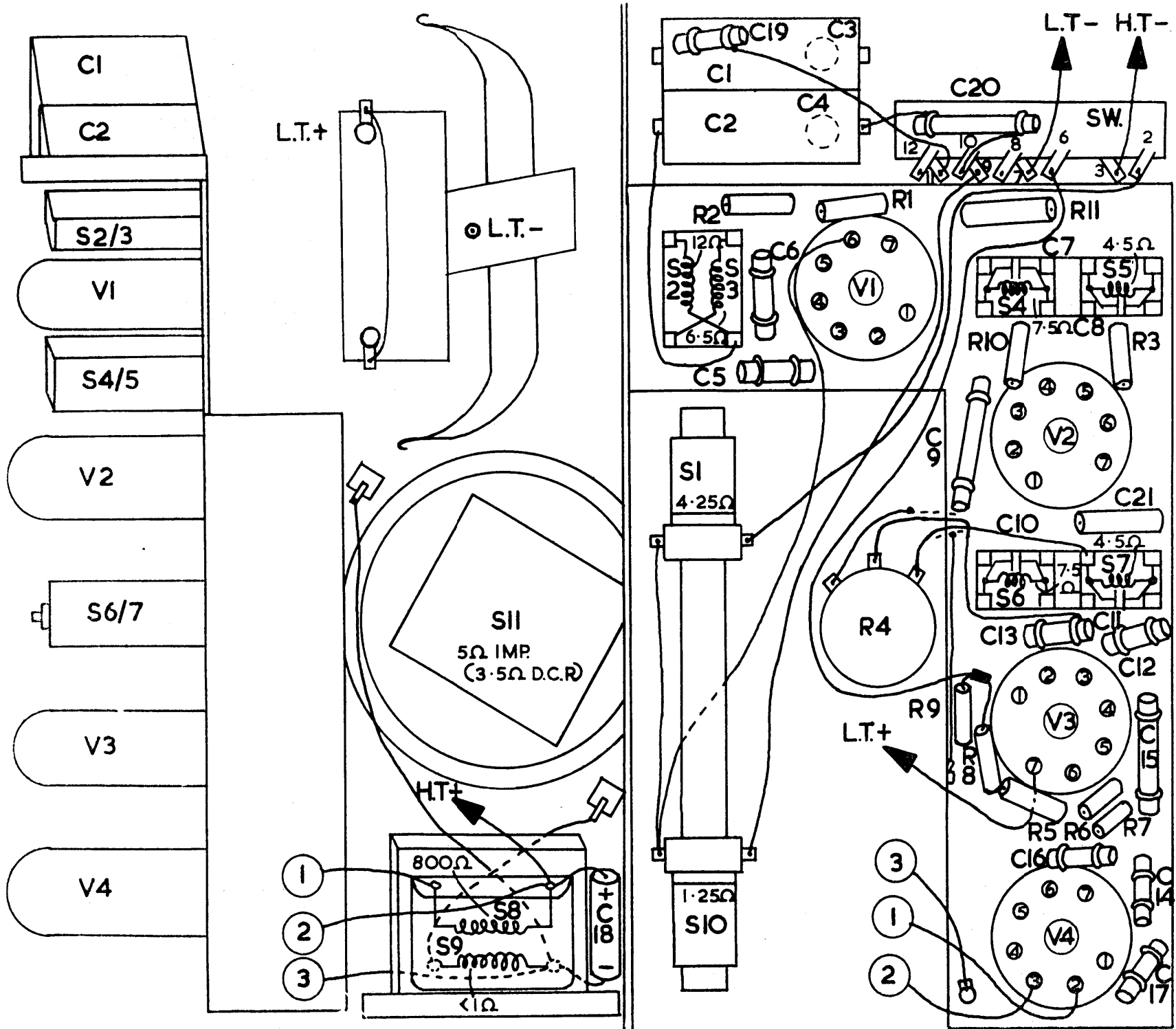
CAPACITORS

						Working Voltage	Permitted Tolerance	
C1 } C2 } C3 } C4 }	Gang	...	...	...	...			MK.211.09
C5	Ceramic	...	...	...	47 pF	...	10%	48.406.02/47E
C6	Ceramic	...	...	...	2,200 pF	...	-20% +50%	C.301.AA/H2K2
C7		...	...	...				} In 1st I.F. coil
C8		...	...	...	
C9	Ceramic	...	...	...	18,000 pF	...	-20% +50%	C.301.AA/H18K
C10		...	...	...				} In 2nd I.F. coil
C11		...	...	...	
C12	Ceramic	...	...	...	220 pF	...	10%	48.406.10/220E
C13	Ceramic	...	...	...	2,200 pF	...	-20% +50%	C.301.AA/H2K2
C14	Ceramic	...	...	...	100 pF	...	10%	48.406.05/100E
C15	Ceramic	...	...	...	10,000 pF	...	-20% +50%	C.301.AA/H10K
C16	Ceramic	...	...	...	2,200 pF	...	-20% +50%	C.301.AA/H2K2
C17	Ceramic	...	...	...	2,200 pF	...	-20% +50%	C.301.AA/H2K2
C18	Electrolytic	...	...	...	10 uF	70V		MK.185.03
C19	Ceramic	...	...	...	135 pF	...	1%	48.406.01/135E
C20	Ceramic	...	...	...	348 pF	...	1%	48.406.01/348E
C21	Ceramic	...	...	...	3,300 pF	...	20%	MK.206.04

RESISTORS

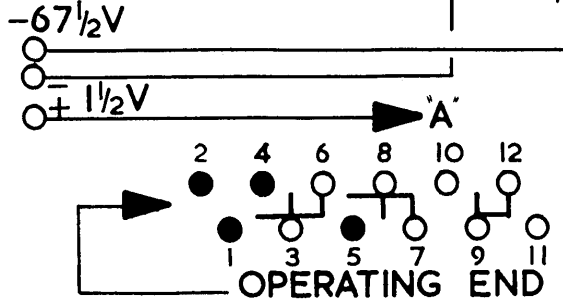
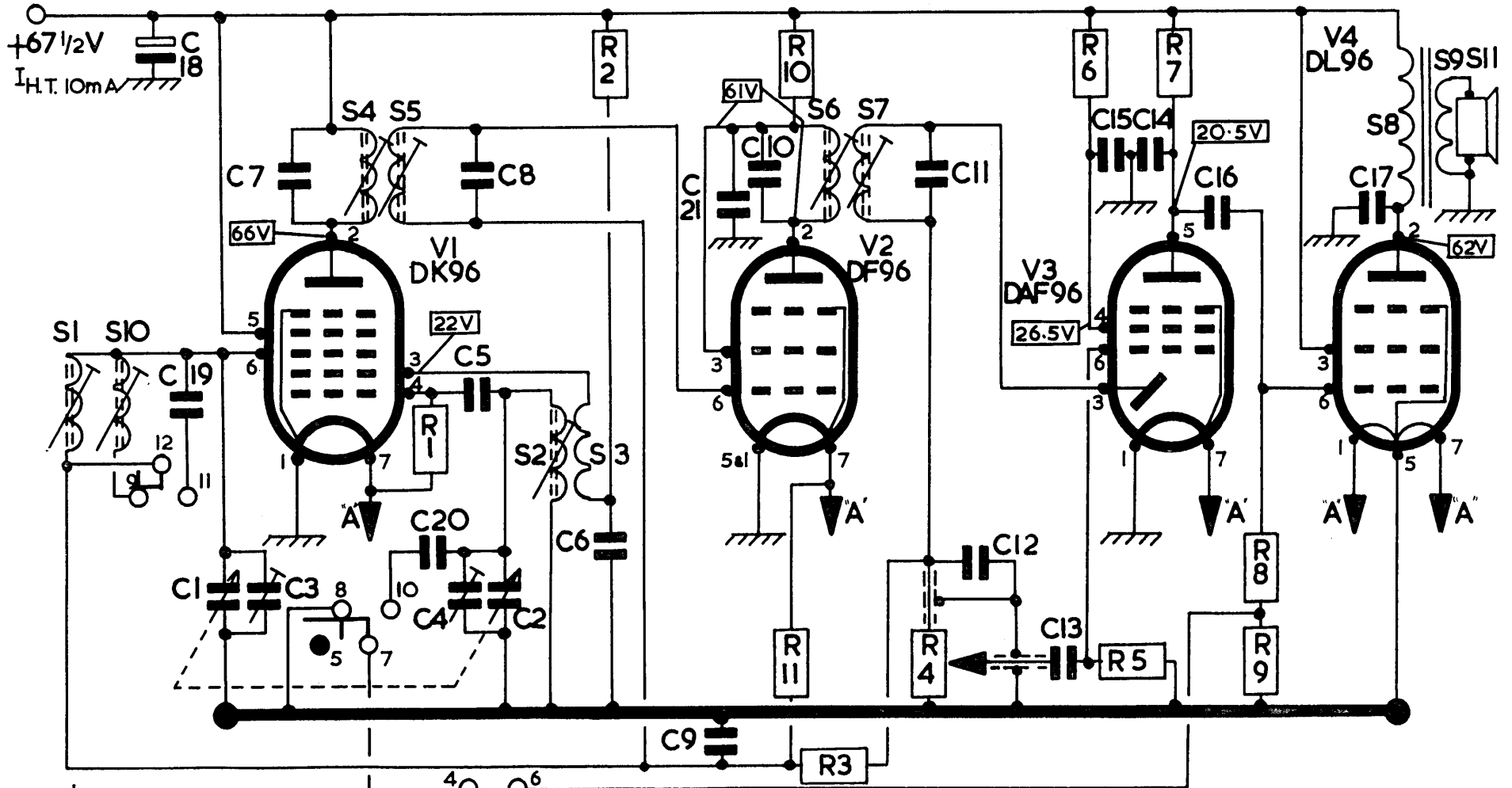
Wattage is based upon an ambient temperature of 70°C.

						Wattage	Permitted Tolerance	
R1	...	...	...	...	27,000 Ohm	$\frac{1}{2}$ watt	10%	48.426.10/27K
R2	...	...	...	...	33,000 Ohm	$\frac{1}{2}$ watt	10%	48.426.10/33K
R3	...	...	...	...	2.2M Ohm	$\frac{1}{2}$ watt	20%	48.426.10/2M2
R4	Potentiometer	...	...	...	0.5M Ohm	...		HT.103.57/GL500K
R5	...	...	...	...	10.0M Ohm	$\frac{1}{2}$ watt	20%	48.426.10/10M
R6	...	...	...	...	2.7M Ohm	$\frac{1}{2}$ watt	20%	48.426.10/2M7
R7	...	...	...	...	1.0M Ohm	$\frac{1}{2}$ watt	20%	48.426.10/1M
R8	...	...	...	...	1.5M Ohm	$\frac{1}{2}$ watt	20%	48.426.10/1M5
R9	...	...	...	...	220 Ohm	$\frac{1}{2}$ watt	10%	48.426.10/220E
R10	...	...	...	...	2,200 Ohm	$\frac{1}{2}$ watt	10%	48.426.10/2K2
R11	...	...	...	...	5.6M Ohm	$\frac{1}{2}$ watt	20%	48.426.10/5M6



S	CR
3	19
1	4
2	20
2	11
7	6
3	8
4	5
5	10
8	3
9	1
1	9
21	21
10	10
7	11
6	13
11	12
4	4
9	9
8	8
5	5
6	6
7	7
16	16
14	14
18	18
9	17

S	I.	10.	4.	5.	2.	3.	6.	7.	8.	9.	11.												
C	18.	19.	1.	3.	7.	20.	8.	5.	4.	2.	6.	9.	21.	10.	11.	12.	13.	15.	14.	16.	17.		
R					1.					2.			10.	11.	3.		4.		6.	5.	7.	8.	9.



3 Pos. W/Ch. switch
 in M.W. pos.
 Viewed into top
 of set. Operating
 end to the left.
 POS. 1 OFF
 POS. 2 MW
 POS. 3 LW

SERVICE NOTES FOR THE

PHILIPS

RECEIVER TYPE

L3G83B

Apart from the case assembly the receiver is similar to the L2G77B, a Service Manual for which has already been issued.

All spare parts are identical to those listed in the L2G77B Service Manual, with the following exceptions:—

CASE ASSEMBLY	MK.980.36
Speaker grille	MK.366.83
Valve position label	PG.010.66
CARRYING STRAP	MK.961.51
Brass screw (2)	MK.961.52
CONTROL KNOBS—Volume and Tuning	MK.855.38
Control knob—Wavechange	MK.262.20
Tuning dial	MK.963.01
Spring clip for above	MK.750.90
Felt ring (2)	MK.448.11
BAFFLE ASSEMBLY	
Insulating stud (3)	MK.961.53
CHASSIS ASSEMBLY	
MOULDED CONTROL PANEL	MK.939.10
Philips emblem	A3.357.10
Nylon washer for tuning spindle	MK.449.81
CAPACITOR	
C1—C4 Gang	MK.211.12



SERVICE DEPARTMENT
WADDON FACTORY ESTATE
CROYDON SURREY

FEBRUARY 1958

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