

MURPHY RECEIVERS

INTRODUCTORY NOTES

DETAILED technical information on the servicing of Murphy receivers is supplied only to accredited agents, and purchasers of this Company's products are advised, at the time of purchase, to have their receivers serviced only by such dealers. In the following pages, however, will be found diagrams of typical circuits which have been used in the main classes of post-war models manufactured by this Company and which illustrate the circuit features employed in this range of broadcast receivers.

It should be noted that several of the chassis have been modified at various times in production, so that the exact circuit details and component values found in any particular model may differ slightly from those shown.

The check voltages indicated on the circuit diagrams were normally measured with a 20,000- or 500-ohms/volt meter (as indicated) while the receiver was operating on the medium-wave band under no-signal conditions.

MODEL A172R

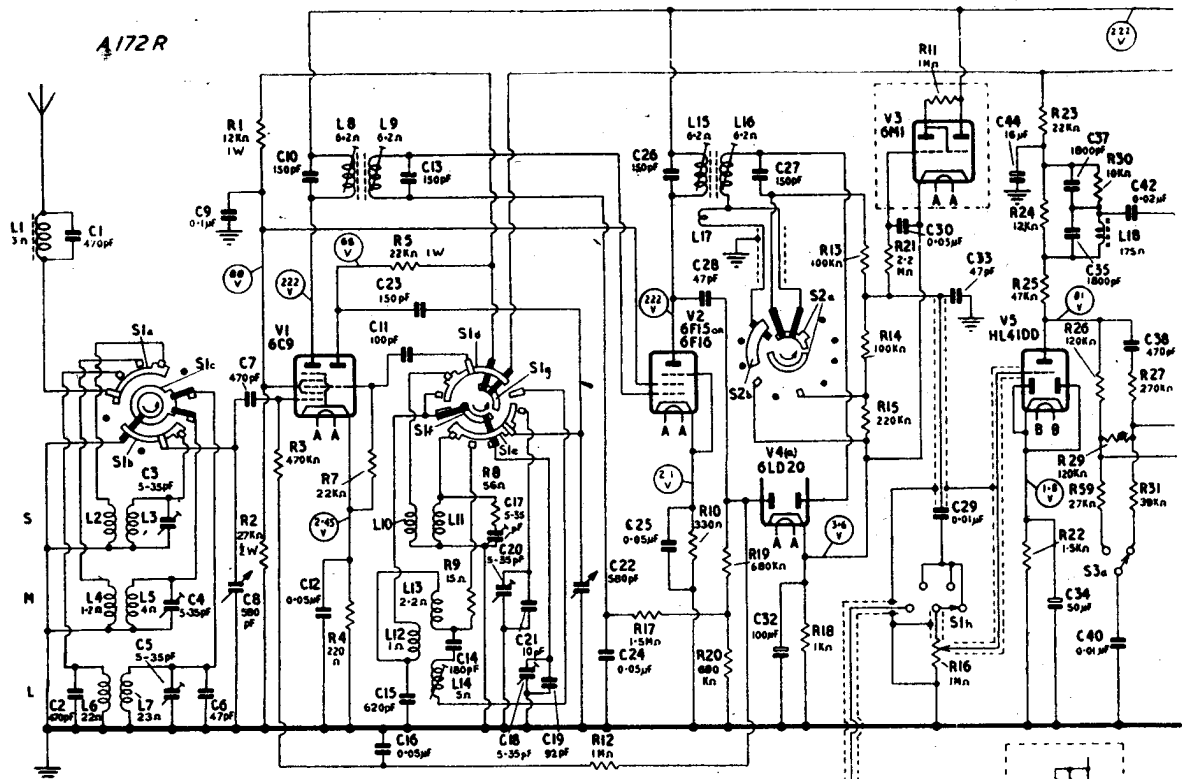
General Notes : Eight-valve (including tuning indicator), three-wave-band radiogramophone for standard and long-playing records with moving-coil (78 r.p.m.) and moving-iron (L.P.) light-weight pick-ups. Intended for operation from A.C. mains (200-250 volts, 50 c/s.).

Valves : (V1) 6C9, frequency changer; (V2) 6F15 or 6F16, I.F. amplifier; (V3) 6M1 or EM34 (non-interchangeable), tuning indicator; (V4) 6LD20, demodulator, A.V.C. and phase reverser; (V5) HL41DD, A.F. amplifier; (V6) 6F15, 2nd A.F. amplifier; (V7 and V8) Pen 44, push-pull power amplifier.

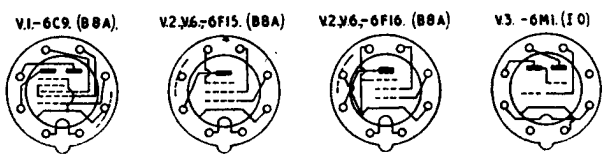
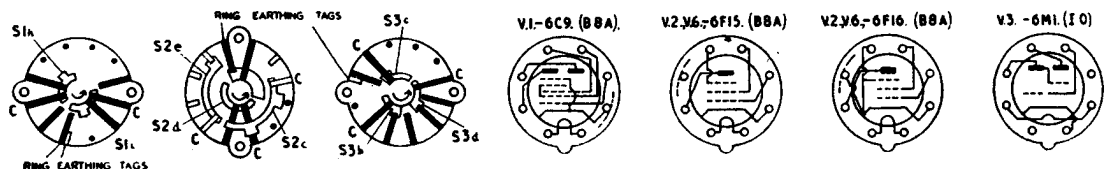
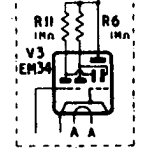
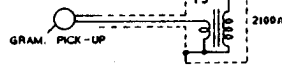
Pilot Lamps : Four 6.5 volts, 0.3 amp.

Circuit Notes : A feature of this circuit, designed to provide high-fidelity gramophone reproduction, is the five-position tone-corrector network forming the inter-valve coupling between the first and second audio-frequency amplifying stages. Variable I.F. selectivity is also provided to increase top response on powerful signals. Switched correction-filters for standard and L.P. records are also incorporated. Twin loudspeakers are fitted, and a negative feedback loop is derived from a separate winding on the output transformer. The receiver is accommodated on two chassis, the push-pull output stage and power pack being connected to the main receiver chassis by two multi-core cables. Selenium rectifiers are used in a full-wave bridge and a 750-mA. fuse incorporated.

Intermediate Frequency : 470 kc/s.



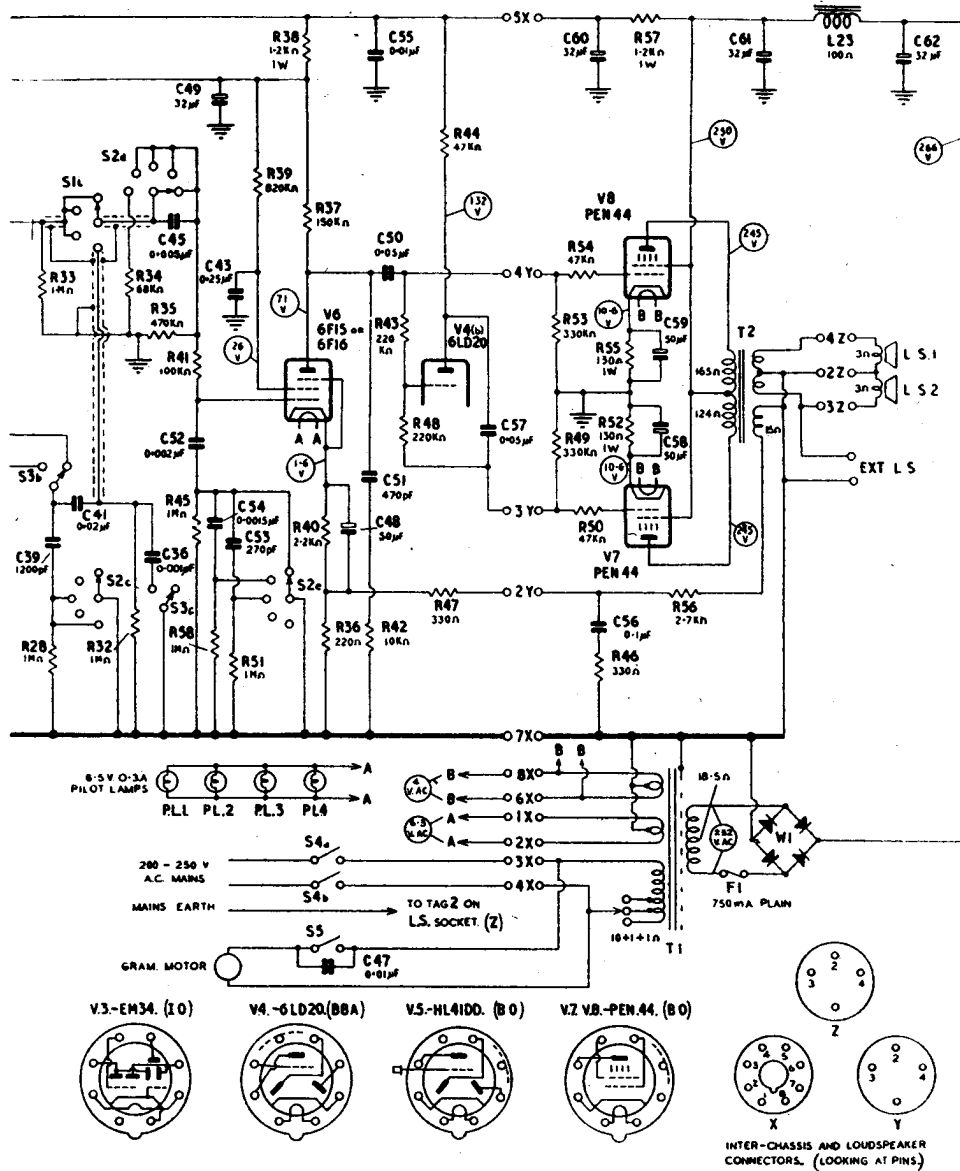
ALL VOLTAGES WERE MEASURED WITH A 500Ω/V METER UNDER NO-SIGNAL CONDITIONS ON THE MEDIUM WAVEBAND. S1 (a-1) IS SHOWN IN THE 'S' POSITION. S2 (a-e) " " " " MIN. TOP MAX SELECTIVITY POSITION. S3 (a-c) " " " " 78 R.P.M. POSITION. ALL SWITCHES ROTATE ANTI CLOCKWISE FROM THE POSITIONS SHOWN AND ARE VIEWED FROM THE REAR OF THE RECEIVER. THE BLACK CONTACTS AND INNER ROTORS ARE ON THE HIDDEN SIDES OF THE WAFERS.



CIRCUIT DIAGRAM—MURPHY

Component Values :

<i>Capacitors.</i>			
C1	470 pF.	C23	150 pF.
C2	470 pF.	C24	150 pF.
C3	5-35 pF.	C25	0.05
C4	5-35 pF.	C26	150 pF.
C5	5-35 pF.	C27	150 pF.
C6	47 pF.	C28	47 pF.
C7	470 pF.	C29	0.01
C8	580 pF. Swing	C30	0.05
C9	0.1	C32	100
C10	150 pF.	C33	47 pF.
C11	100 pF.	C34	50
C12	0.05	C35	1800 pF.
C13	150 pF.	C36	0.001
C14	180 pF.	C37	1800 pF.
C15	620 pF.	C38	470 pF.
C16	0.05	C39	1200 pF.
C17	5-35 pF.	C40	0.01
C18	5-35 pF.	C41	0.02
C19	92 pF.	C42	0.02
C20	5-35 pF.	C43	0.25
C21	10 pF.	C44	16
C22	580 pF. Swing	C45	0.005
C47	0.01	C48	50
C49	32	C50	0.05
C51	470 pF.	C52	0.002
C53	270 pF.	C54	0.0015
C55	0.01	C56	0.1
C57	0.05	C58	50
C59	50	C60	32
C61	32	C62	32
<i>Resistors.</i>			
R1	12k (1 W.)	R5	22k (1 W.)
R2	27k (½ W.)	R6	1M
R3	470k	R7	22k
R4	220	R8	56
		R9	15
		R10	330
		R11	1M
		R12	1M
		R13	100k
		R14	100k
		R15	220k
		R16	1M
		R17	1.5M
		R18	1k
		R19	680k
		R20	680k
		R21	2.2M
		R22	1.5k
		R23	22k
		R24	12k
		R25	47k
		R26	120k



MODEL A172R

Resistors.

R27	270k	R35	470k	R43	220k	R51	1M
R28	1M	R36	220	R44	47k	R52	130 (1 W.)
R29	120k	R37	150k	R45	1M	R53	330k
R30	10k	R38	1.2k (1 W.)	R46	330	R54	47k
R31	39k	R39	820k	R47	330	R55	130
R32	1M	R40	2.2k	R48	220k	R56	2.7k
R33	1M	R41	100k	R49	330k	R57	1.2k (1 W.)
R34	68k	R42	10k	R50	47k	R58	1M
						R59	27k

D.C. Resistance of Coils (ohms).

Values under 1 ohm omitted.

L1	3	L7	23	L13	2.2	L16	6.2
L4	1.2	L8	6.2	L14	5	L18	175
L5	4	L9	6.2	L15	6.2	L23	100
L6	22	L12	1				

T1 (primary) 10 + 1 + 1 (H.T. secondary) 18.5
 T2 (primary) 165 + 124 (neg. feedback winding) 15

T3 (secondary) 2100

INTER-CHASSIS AND LOUDSPEAKER CONNECTORS. (LOOKING AT PINS.)