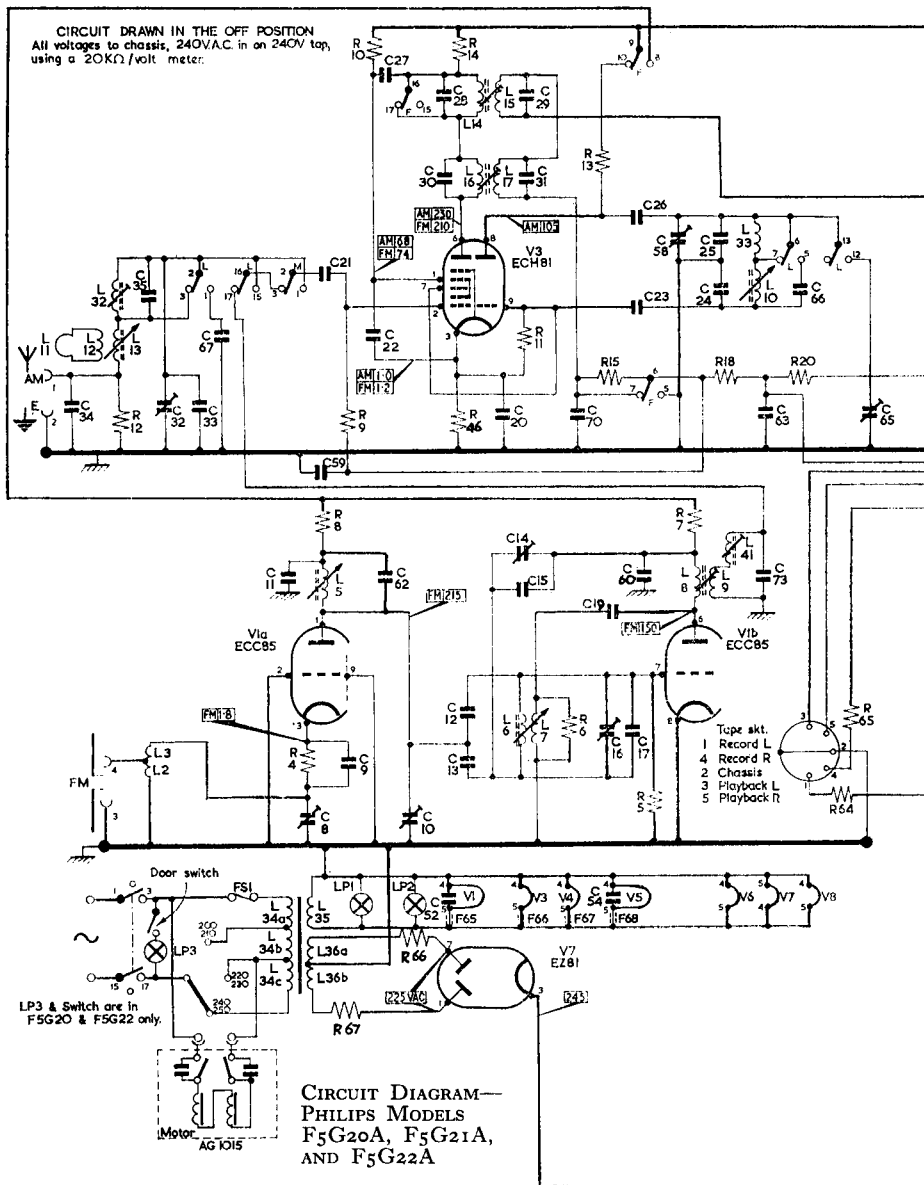


PHILIPS Models F5G20A, F5G21A, F5G22A

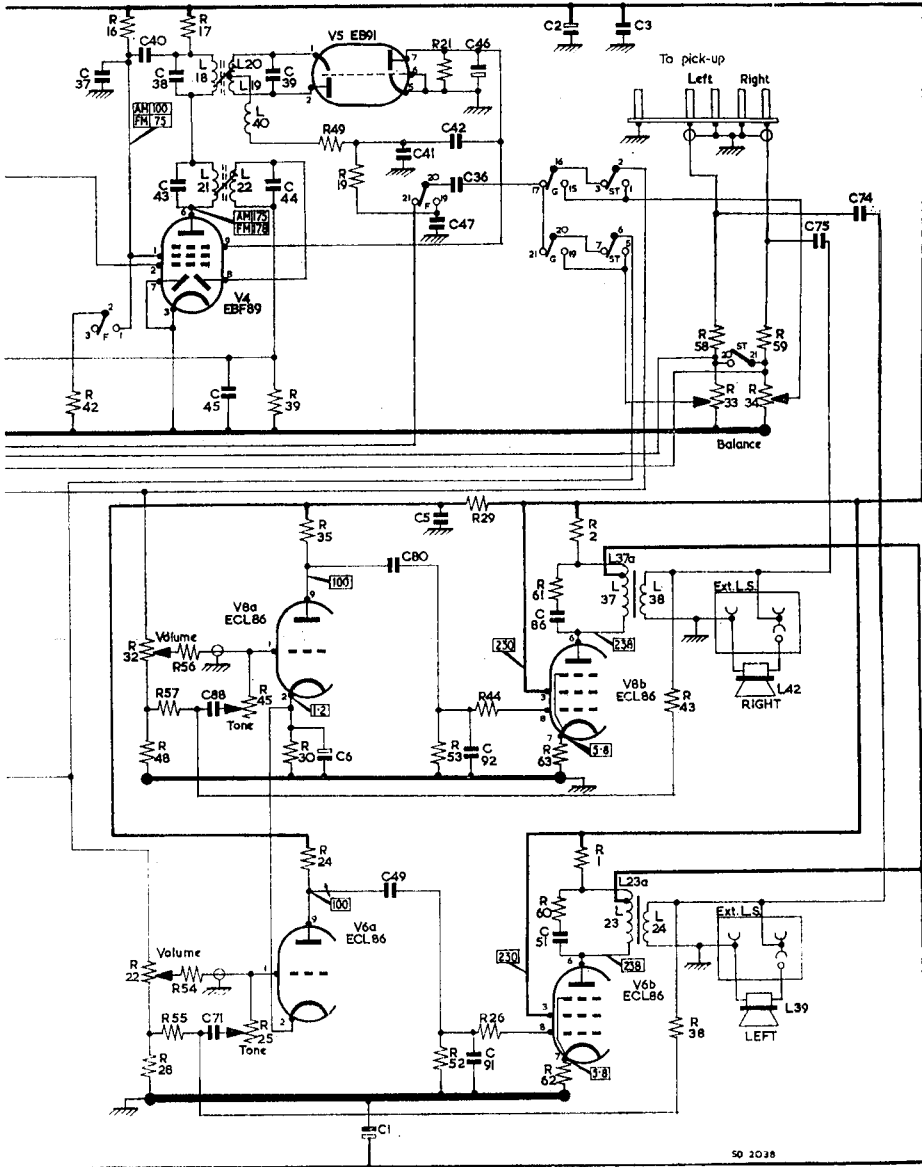
General Description: Seven-valve (including rectifier), three-waveband, A.M./F.M. stereo radiograms with Philips AG1015 four-speed auto-change

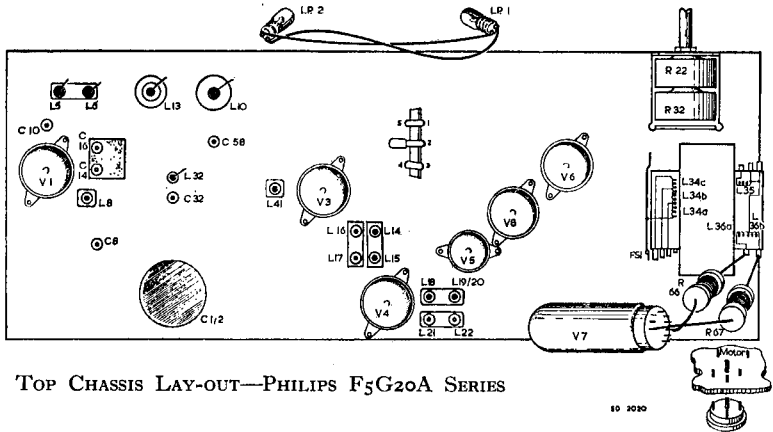


record unit. These models are also known as **520A**, **521A** and **522A** and differ in cabinets; the chassis are electrically identical.

Power Supply: A.C. mains, 200-250 volts, 50 c/s., about 120 watts.

Wavebands: M.W. 187-569 m.; L.W. 1090-2000 m.; V.H.F. 87.5-100 Mc/s.

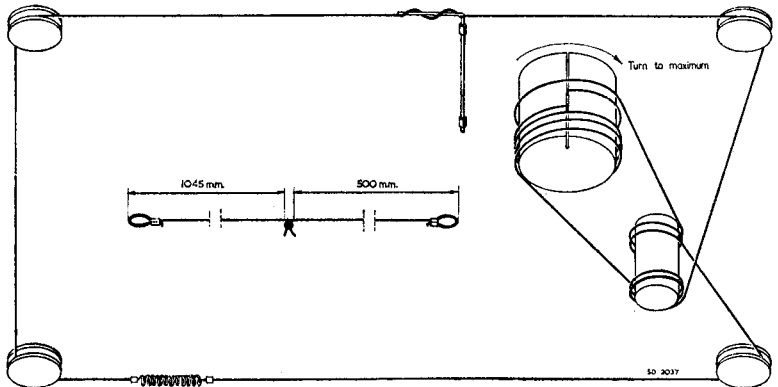




TOP CHASSIS LAY-OUT—PHILIPS F5G20A SERIES

Capacitors.	C35	56 pF.	C88	390 pF.	R28	68
C1, 2	50 + 100	(275 v.)	C91*	12 pF.	R29	0.1M
C3	82,000 pF.		C92*	12 pF.	R30	2.2k
C5	0.47				R33}	1M + 1M
C6	100 (6 v.)		Resistors.	R34}		
C8	1-18 pF.		R1	1k (1 W.)	R35	0.22M
C9	220 pF.		R2	1k (1 W.)	R38	2.7k
C10	1-5 pF.		R4	180	R39	0.22M
C11	1,000 pF.		R5	0.1M	R42	47k
C12	8.2 pF.		R6	2.2k	R43	2.7k
C13	8.2 pF.		R7	10k	R44	1k
C14	1-10 pF.		R8	2.2k	R46	120
C15	5.6 pF.		R9	1M	R48	68
C16	1-10 pF.		R10	39k (1 W.)	R49	120
C17	15 pF.		R11	47k	R52	0.82M
C18	33 pF.		R12	33k	R53	0.82M
C19	22,000 pF.		R13	33k (1 W.)	R54	68k
C20	22,000 pF.		R14	2.2k	R55	330
C21	100 pF.		R15	1M	R56	68k
C22	22,000 pF.		R16	33k (1 W.)	R57	330
C23	56 pF.		R17	4.7k (1 W.)	R58	0.1M
C24	290 pF. (1%)		R18	1.2M	R59	0.1M
C25	120 pF. (1%)		R19	47k	R60	3.9k
C26	470 pF.		R20	0.1M	R61	3.9k
C27	4,700 pF.		R21	27k	R62	150 (1 W.)
C28	15 pF.		R22	0.4M + 1.6M	R63	150 (1 W.)
C29	15 pF.		R23	0.22M	R64	0.47M
C30	110 pF.		R24	0.22M	R65	0.47M
C31	195 pF.		R25	2M + 2M (log.)	R66	100 (3 W., W.W.)
C32	1-18 pF.		R26	1k	R67	100 (3 W., W.W.)
C33	27 pF.					
C34	3,000 pF.					
C36	4,700 pF.					
C37	4,700 pF.					
C38	22 pF.					
C39	47 pF.					
C40	4,700 pF.					
C41	390 pF.					
C42	390 pF.					
C43	195 pF.					
C44	195 pF.					
C45	100 pF.					
C46	2 (50 v.)					
C47	1,200 pF.					
C48	4,700 pF.					
C49	1,000 pF. (1300 v.)					
C50	1,000 pF.					
C51	1,000 pF.					
C52	1,000 pF.					
C53	1,000 pF.					
C54	1-18 pF.					
C55	47,000 pF.					
C56	150 pF. (1%)					
C62	4.7 pF.					
C63	100 pF.					
C65	50 pF.					
C66	15 pF.					
C67	742 pF. (1%)					
C70	100 pF.					
C71	390 pF.					
C73	15 pF.					
C74	100 pF.					
C75	100 pF.					
C76	4,700 pF.					
C80	4,700 pF. (1300 v.)					

* Some sets only.



Valves: (V₁) ECC85; (V₃) ECH81; (V₄) EBF89; (V₅) EB91; (V₆) ECL86; (V₇) EZ81; (V₈) ECL86. Typical voltages shown on circuit.

Notes: Dial lamps two 6.5-volt, 0.3-amp. M.E.S. Gram light (520A, 522A only) 240–250-volt, 15-watt, S.E.S. F65–68 are Ferroxcube beads.

Alignment Frequencies: I.F. (F.M.) 10.7 Mc/s. (L18, L19/L20, L14, L15, L8, L41). R.F. 100 Mc/s. (C16, C10); 87.5 Mc/s. (L6, L5); 94 Mc/s. (C8). I.F. (A.M.) 470 kc/s. (L22, L21, L17, L16). M.W. 1620 kc/s. (C58, C32). L.W. 190 kc/s. (C65, L32).

Dismantling: *To remove chassis (520A, 522A).* Remove control knobs, chassis compartment back and base plates. Release gram lamp lead, balance control (two lower screws) and aerial panel. Detach internal aerial, motor mains plug and disconnect four speaker leads at connectors. Turn receiver face down on a protected surface and withdraw four chassis retaining screws (rubber mounted). Right receiver, lift rear of chassis to enable push buttons to clear cabinet, then withdraw chassis. To remove chassis completely, pick-up leads must be unplugged from socket beneath record changer; tape panel and gram lamp leads must also be detached. *To remove chassis (521A).* Remove control knobs and chassis compartment back plate, then release balance control (two lower screws), aerial and tape panels. Detach internal F.M. aerial, motor mains plug and release pick-up leads from their clamp. Disconnect four speaker leads at connectors then withdrawn four (rubber mounted) retaining screws from chassis mounting brackets. Lift rear of chassis to enable push buttons to clear cabinet, then withdraw chassis. To remove chassis completely, unplug pick-up leads from socket beneath record changer, detach tape panel and lamp lead. *To remove record changer (all models).* Detach motor mains plug from receiver chassis and release motor mains lead from cable clamp. Remove four nylon fixing bushes from changer top plate, lift unit up, detach pick-up lead plug, then withdraw changer.