

PHILCO

REG. U.S. PAT. OFF.

Service Bulletin—No. 158

Model 54

THE PHILCO RADIO MODEL 54 is a five-tube superheterodyne, designed for operation on 110 volts, alternating current, 25, 60 cycles, and 110 volts direct current, employing the new Philco high efficiency tubes with pentode output and an Electro Dynamic Speaker. The set uses a Philco Type 6A7 tube as a first detector and oscillator; a Type 78 tube as intermediate frequency; a Type 75 tube as a second detector; a Type 43 tube as pentode output and a Type 25-Z-5 tube as a rectifier and voltage doubler. The intermediate frequency for tuning the I. F. transformers is 460 kilocycles. The power consumption on both A. C. and D. C. is approximately 50 watts.

Table 1—Tube Socket Data*—A.C. Line Voltage 115 Volts

Circuit	Det. Osc.	I. F.	2nd Det.	Output	Rectifier
Type Tube	6A7	78	75	43	25-Z-5
Filament—Total 68—Refer to Note.	Note.				
Plate Volts—P to K.....	84	84	38	84	146
Screen Grid Volts—SG to K...	K to G 3/5 65	52	..	90
Control Grid Volts—CG to K..	.15	.15	.25	.5
Cathode Volts—K to F.....	12	12	10	10

NOTE—Due to filaments in series, test with suitable A. C. voltmeter across the two points on Resistor (42) marked with an X in Fig. 3.

* All of the readings above in Table 1 were taken from the under side of chassis, using test prods and leads with a suitable A. C. voltmeter for filament voltage and a high resistance, multi-range D. C. voltmeter for all other readings. Volume control at maximum and station selector set for 550 KC. Readings taken with a radio set tester and plug-in adapter will not be satisfactory.

Table 2—Tube Socket Data*—D.C. Line Voltage 120 Volts

Circuit	Det. Osc.	I. F.	2nd Det.	Output	Rectifier
Type Tube	6A7	78	75	43	25-Z-5
Filament—Total 70—Refer to Note.	Note.				
Plate Volts—P to K.....	90	90	40	90
Screen Grid Volts—SG to K...	70	70	..	92
Control Grid Volts—CG to K..	.15	.15	.25	.5
Cathode Volts—K to F.....	7.5	7.5	10	10

NOTE—Due to filaments in series, test with suitable D. C. voltmeter across the two points on Resistor (42) marked with an X in Fig. 3.

* All of the readings above in Table 2 were taken from the under side of chassis, using test prods and leads with a suitable high resistance, multi-range D. C. voltmeter for all readings. Volume control at maximum and station selector set for 550 KC. Readings taken with a radio set tester and plug-in adapter will not be satisfactory.

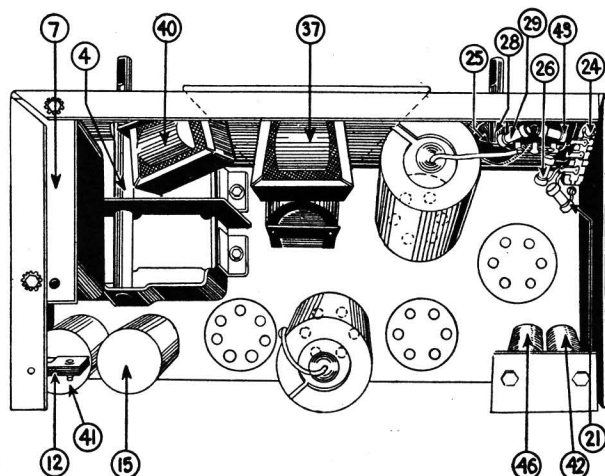


Fig. 1—Top View of Chassis Showing Parts

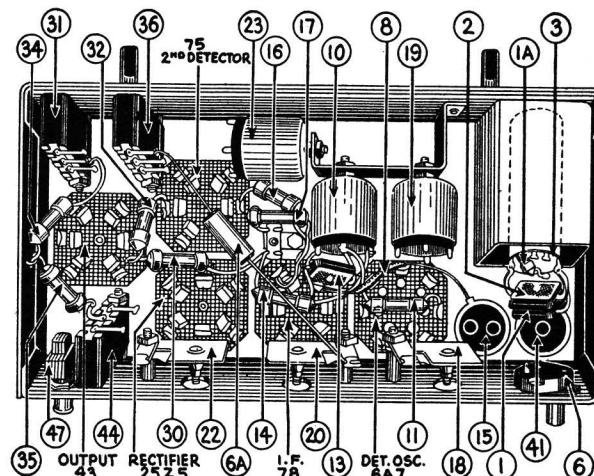


Fig. 2—Bottom View of Chassis Showing Parts



6A7 Socket



78 Socket



75 Socket



43 Socket



25-Z-5 Socket

Terminal Arrangement of Tube Sockets Viewed From Under Side of Chassis.

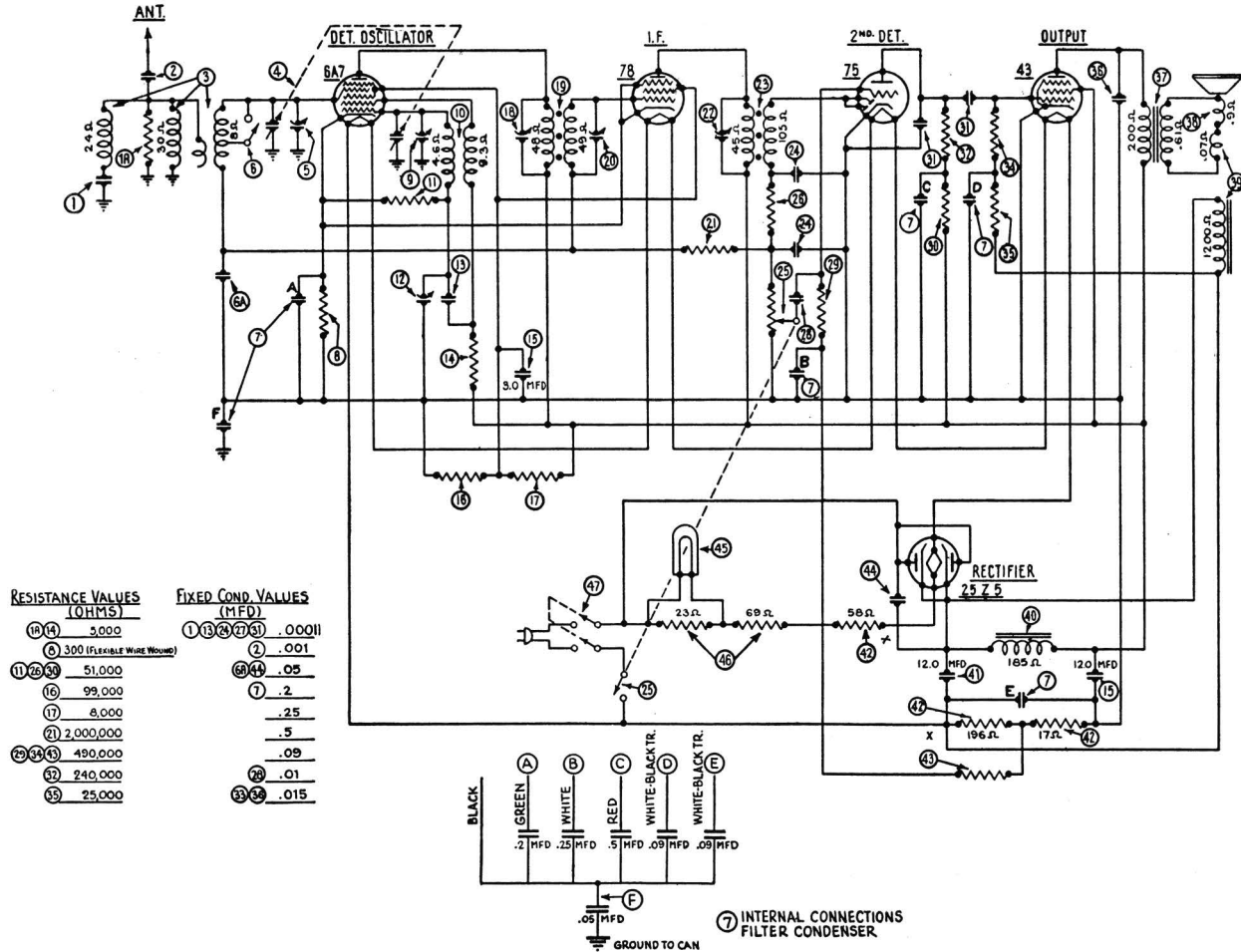


Fig. 3—Schematic Wiring Diagram

REPLACEMENT PARTS FOR MODEL 54

No. on Figs.	Description	Part No.	List Price	No. on Figs.	Description	Part No.	List Price
1	Condenser	30-1005	.16	24	Condenser (Double)	8035-G	.20
1a	Resistor (Green-Black-Red)	6096	.20	25	Volume Control and "On-Off" Switch	33-5010	1.00
2	Condenser	5215	.20	26	Resistor (Green-Brown-Orange)	4518	.20
3	Antenna Transformer Assembly	32-1117	1.25	28	Condenser	3903AM	.20
4	Tuning Condenser Assembly	31-1027	1.75	29	Resistor (Yellow-White-Yellow)	6097	.20
5	Compensating Condenser (Part of 4)			30	Resistor (Green-Brown-Orange)	4518	.20
6	Wave Band Switch	42-1027	.50	31	Condenser (Double)	8035-F	.18
6a	Condenser	30-4020	.12	32	Resistor (Red-Yellow-Yellow)	4410	.20
7	Filter Condenser (Block)	30-4023	1.00	34	Resistor (Yellow-White-Yellow)	4517	.20
8	Resistor (Flexible)	33-3010	.15	35	Resistor (Red-Green-Orange)	4516	.20
9	Compensating Condenser (High Frequency 1400) Part of 4			36	Condenser	3793-Y	.16
10	Oscillator Coil	32-1118	1.00	37	Output Transformer	32-7020	.80
11	Resistor (Green-Brown-Orange)	4518	.20	38	Voice Coil and Cone Assembly	36-3029	
12	Compensating Condenser (Low Freq.)	04000-B	.19	39	Field Coil and Pot Assembly	36-3040	1.60
13	Condenser	4519	.18	40	Filter Choke	32-7036	.75
14	Resistor (Green-Black-Red)	5310	.20	41	Electrolytic Condenser	30-2001	1.25
15	Electrolytic Condenser (Double)	30-2002	1.00	42	Resistor (Wire Wound)	33-3012	.25
16	Resistor (White-White-Orange)	4411	.20	43	Resistor (Yellow-White-Yellow)	6097	.20
17	Resistor (Gray-Black-Red)	5838	.20	44	Condenser	3615-B	.30
18	Compensating Cond. (1st I. F. Primary)	04000-A	.14	45	Pilot Lamp	4567	.11
19	1st I. F. Transformer	32-1115	.65	46	Resistor (Wire Wound)	33-3011	.25
20	Compensating Condenser (1st I. F. Secondary)	04000-A	.14	47	Safety Switch	42-1026	1.00
21	Resistor (Red-Black-Green)	5872	.20		Tube Shield	28-1130	.10
22	Compensating Cond. (2nd I. F. Primary)	04000-A	.14		Six Prong Socket	7547	.10
23	2nd I. F. Transformer	32-1116	.75		Seven Prong Socket	27-6005	.10
					Tuning Scale	27-5008	.12
					Volume Control Scale	27-5010	.12

PHILCO RADIO & TELEVISION CORPORATION