

PHILCO

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Service Bulletin — No. 130

Model 15 Series

The Philco Radio of the 15 series is an eleven-tube superheterodyne, employing the high efficiency 6.3-volt filament tubes, automatic volume control, superpower push-pull pentode output, and twin electro-dynamic speakers. Philco shadow tuning and the combination distance switch and power switch on the control panel are additional features. The intermediate frequency used in adjusting the superheterodyne circuit of the 15 series is 175 kilocycles. The total power consumption is approximately 115 watts.

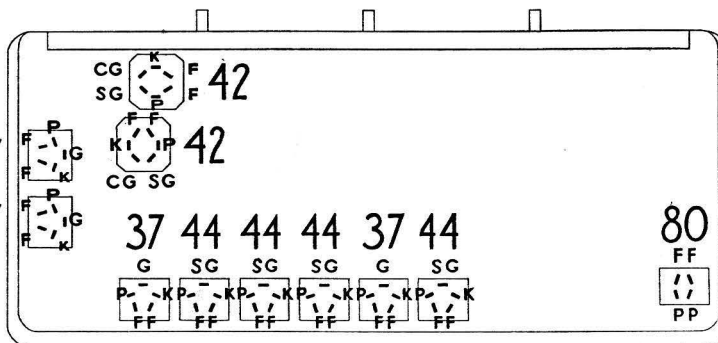


Fig. 1—Tube Sockets, Under Side of Chassis

F Filament SG Screen Grid K Cathode
P Plate CG Control Grid

Caution: Never connect the chassis to the power supply unless the speakers are connected and all tubes are in place.

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

Type	Tube Circuit	Filament Volts F to F	Plate Volts P to K	Screen Grid Volts SG to K	Control Grid Volts CG to K	Cathode Volts K to F
44	R. F.	6.3	165	55	15.	30
44	1st Det.	6.3	250	90	.85	10
37	Osc.	6.3	60	...	15.	10
44	1st I. F.	6.3	250	90	.85	10
44	2nd I. F.	6.3	275	90	3.3	10
37	Det.-Rect.	6.3	02	10
37	1st Audio	6.3	754	10
37	2nd Audio	6.3	1002	10
42	P. P. Output	6.3	255	270	15	15
42	P. P. Output	6.3	255	270	15	15
80	Rectifier	5.0	320/Plate			

*All of the above readings were taken from the under side of the chassis using test prods and leads with a suitable A. C. volt meter for filament voltages and a high resistance multi-range D. C. voltmeter for all other readings. Volume control at maximum and station selector turned to low frequency end. Power switch in middle position.

Table 2—Power Transformer Data

Terminals on Figs. 3 and 4	A. C. Volts	Circuit
1-2	105 to 125	Primary
3-5	6.3	Filament
6-7	5.0	Filament of 80
8-10	720	Plates of 80
4	...	Center Tap of 3-5
9	...	Center Tap of 8-10

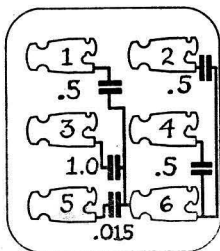


Fig. 2—Internal Connections Filter Condenser—50-60 Cycles

Table 3—Resistor Data

No. on Figs. 3 & 4	Power (Watts)	Resistance (ohms)	Terminals	COLOR		
				Body	Tip	Dot
66	..	50	1-2	Long	Tubular	
			2-3			
			3-4			
36	.5	1000	...	Brown	Black	Red
45 55	.5	5000	...	Green	Black	Red
1 52	.5	10,000	...	Green	Black	Orange
32	1.	13,000	...	Brown	Orange	Orange
50	.5	25,000	...	Red	Green	Orange
21	.5	51,000	...	Green	Brown	Orange
40	.5	99,000	...	White	White	Orange
10	.5	160,000	...	Brown	Blue	Yellow
67	.5	240,000	...	Red	Yellow	Yellow
9 43a 54	.5	490,000	...	Yellow	White	Yellow
28 47	.5	1,000,000	...	Brown	Black	Green
51			Brown	Green	Green	
17	.5	1,500,000	...	Brown	Green	Green
25	.5	2,000,000	...	Red	Black	Green

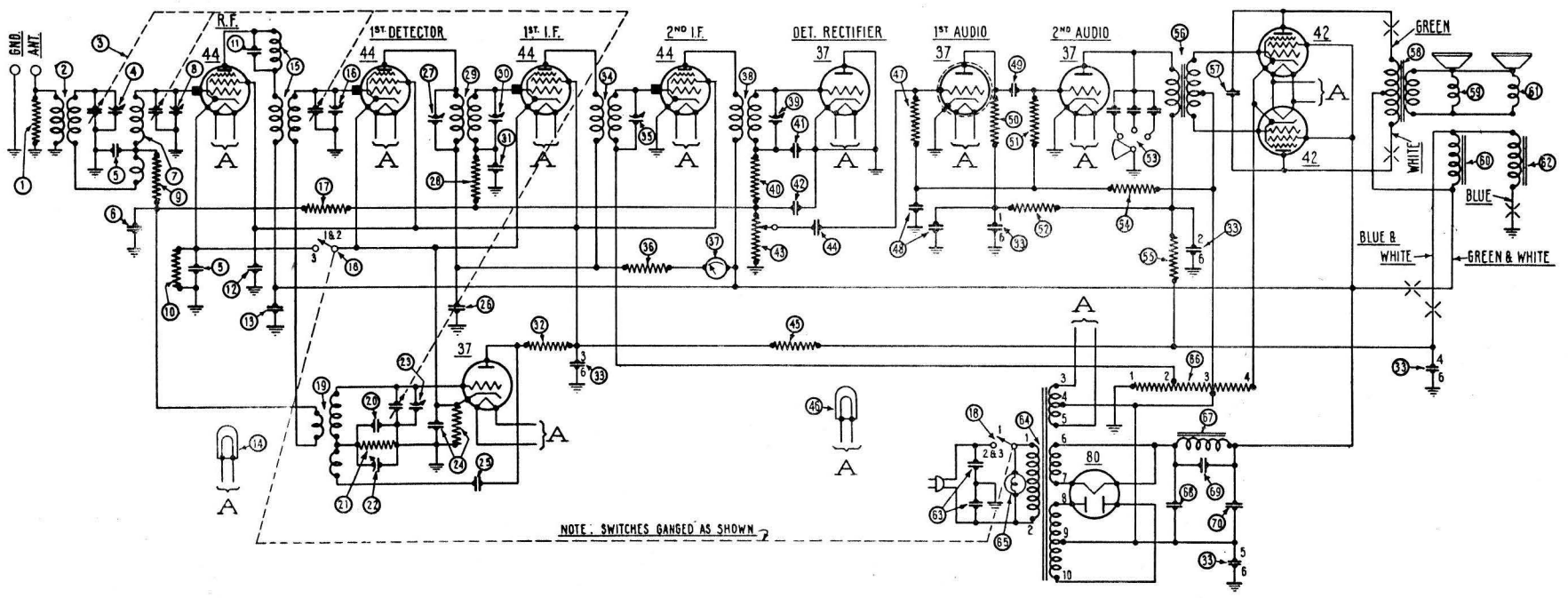


Fig. 3—Schematic Wiring Diagram

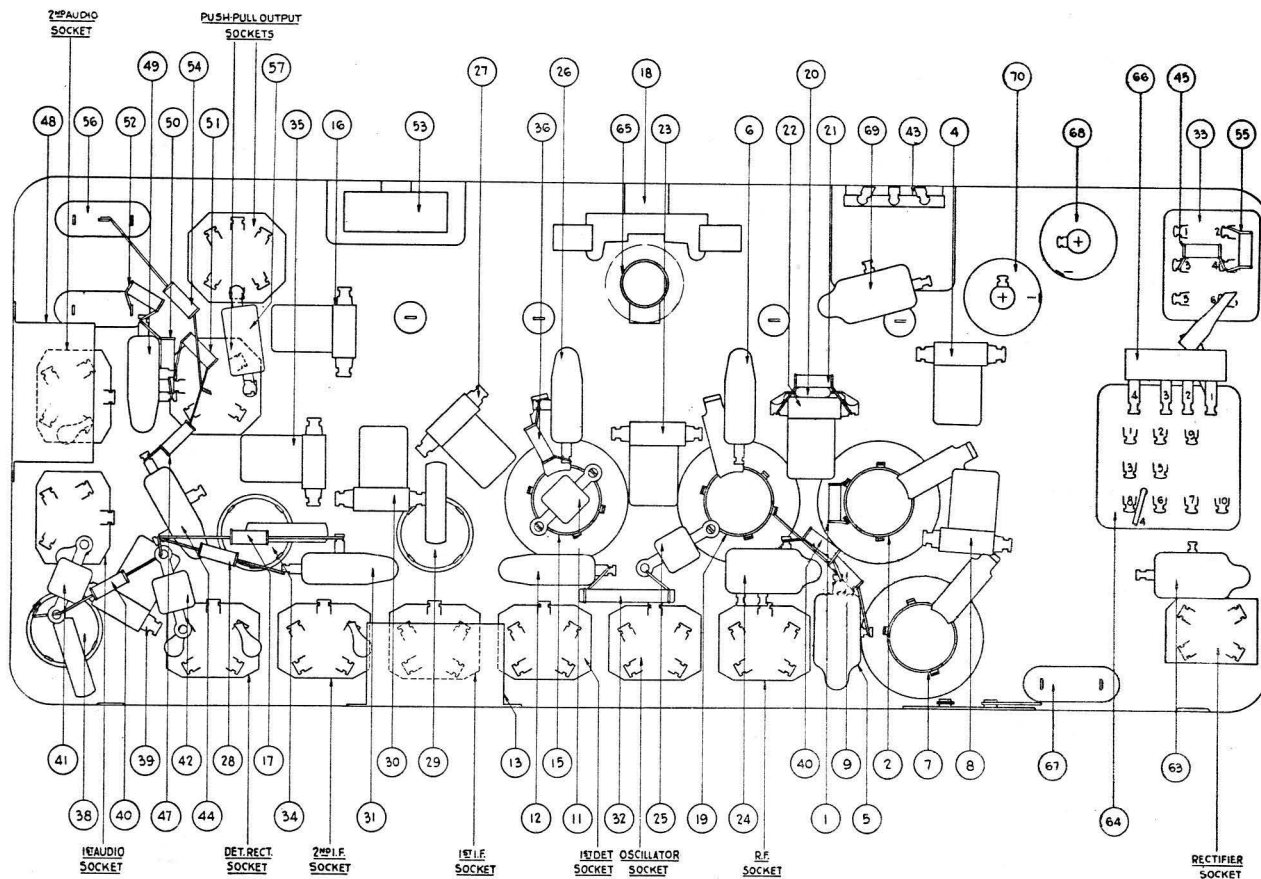


Fig. 4—Parts Diagram

Adjustment of Model 15 Series

These receivers are accurately adjusted at the factory prior to shipment. Under normal conditions it will never be necessary to re-adjust the compensating condensers. If for any reason such adjustment should be required, it should not be attempted without first receiving the proper instruction and equipment from your distributor. The Philco Model 095 Oscillator has been especially designed for use in this work and will be found the most in expensive and most reliable for the purpose.

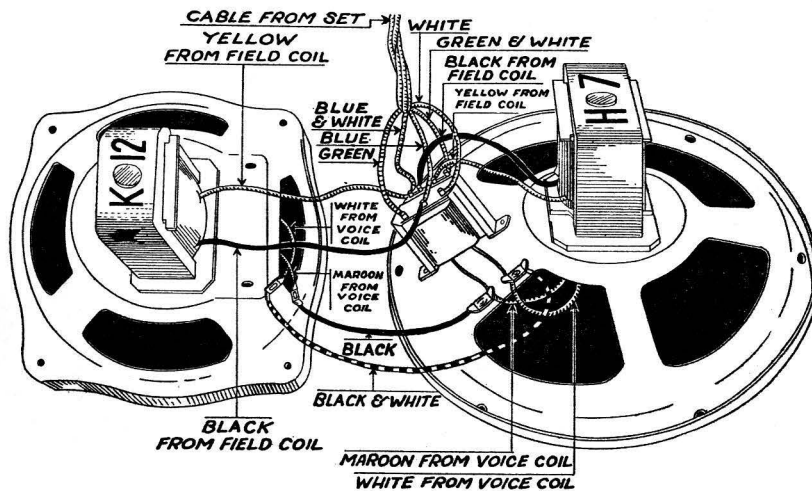


Fig. 5—Speaker Connections

REPLACEMENT PARTS MODEL 15 SERIES

No. on Figs. 1 and 2	Description	Part No.	No. on Figs. 1 and 2	Description	Part No.
①	Resistor (10,000 ohms)	4412	④③	Volume Control	7050
②	First R. F. Coil	04981	④④	Condenser (.01 mfd.)	3903-AD
③	Tuning Condenser Assembly	04941	④⑤	Resistor (5,000 ohms)	5310
④	Compensating Condenser—First Antenna	04000-E	④⑥	Pilot Light (Shadow Tuning)	6608
⑤	Condenser (.05 mfd.) Double	3615-AM	④⑦	Resistor (1,000,000 ohms)	4409
⑥	Condenser (.05 mfd.)	3615-L	④⑧	Condenser (.25 mfd. Double)	3557
⑦	Second R. F. Coil	04982	④⑨	Condenser (.01 mfd.)	3903-T
⑧	Compensating Condenser—Second Antenna	04000-E	⑤⑩	Resistor (25,000 ohms)	4516
⑨	Resistor (490,000 ohms)	4517	⑤⑪	Resistor (1,000,000 ohms)	4409
⑩	Resistor (160,000 ohms)	5331	⑤⑫	Resistor (10,000 ohms)	4412
⑪	Condenser (35 mmf.)	4990	⑤⑬	Tone Control	04787
⑫	Condenser (.09 mfd.)	4989-D	⑤⑭	Resistor (490,000 ohms)	4517
⑬	Condenser (.25 mfd.)	4264	⑤⑮	Resistor (5,000 ohms)	5310
⑭	Pilot Light	6608	⑤⑯	Input Transformer	5662
⑮	Detector Transformer	3884-V	⑤⑰	Condenser (.002 Mfd.) Blue	6853
⑯	Compensating Condenser—Detector	04000-E	⑤⑱	Output Transformer	2565
⑰	Resistor (1,500,000 ohms)	7009	⑤⑲	Voice Coil and Cone Assembly (Large) H-7	02807
⑱	Distance Switch and Power Switch	6438	⑥①	Field Coil Assembled with Pot (H-7)	02803
⑲	Oscillator Coil	04983	⑥②	Voice Coil and Cone Assembly (Small) K-12	02823
⑳	Condenser (700 mmmf.)	4520	⑥③	Field Coil Assembled with Pot (K-12)	02803
㉑	Resistor (51,000 ohms)	4518	⑥④	Condenser (.015 mfd. Double)	3793-E
㉒	Compensating Condenser—Low Fre- quency	04000-F	⑥⑤	Power Transformer (50-60 cycles)	6672
㉓	Compensating Condenser—High Fre- quency	04000-E	⑥⑥	Power Transformer (25-40 cycles)	6673
㉔	Condenser (.09 mfd. and 200 ohm Resistor)	4989-R	⑥⑦	Power Transformer (50-60 cycles, 230 volts)	6674
㉕	Condenser (110 mfd.)	4519	⑥⑧	Cabinet Lamp	6600
㉖	Condenser (.05 mmf.)	3615-J	⑥⑨	Resistor (50 ohms, 50 ohms, 205 ohms)	6700
㉗	Compensating Condenser—First I. F. Primary	04000-J	⑥⑩	Filter Choke	3422
㉘	Resistor (2,000,000 ohms)	5872	⑥⑪	Electrolytic Condenser (6 mfd.) 50-60 cycles	4916
㉙	First I. F. Transformer	03038	⑥⑫	Electrolytic Condenser (8 mfd.) 25-40 cycles	6707
㉚	Compensating Condenser—First I. F. Secondary	04000-J	⑥⑬	Condenser (.18 mfd.) 50-60 cycles	4989-K
㉛	Condenser (.05 mfd.)	3615-J	⑥⑭	Electrolytic Condenser (6 Mfd.)	4916
㉜	Resistor (13,000 ohms)	3766	⑥⑮	Electrolytic Condenser (8 Mfd.)	6709
㉝	Filter Condenser (.015, 3-.5, 1. mfd.) 50-60 cycles	03489	⑥⑯	Knob (Large)	03063
③④	Filter Condenser (.015, .5, .75, 1., 2-1 mfd.) 25-40 cycles	05302	⑥⑰	Knob (Medium)	03064
③⑤	Second I. F. Transformer	04979	⑥⑱	Knob (Small)	03437
③⑥	Compensating Condenser—Second I. F. Secondary	04000-J	⑥⑲	Knob Spring (Large)	4147
③⑦	Resistor (1,000 ohms)	5837	⑥⑳	Knob Spring (Small)	5262
③⑧	Shadow Tuning Meter	6497	⑦①	Tube Shield	04962
③⑨	Third I. F. Transformer	03345	⑦②	Grid Clips	4897
③⑩	Compensating Condenser—Third I. F. Secondary	04000-J	⑦③	Four Prong Socket	5026
④①	Resistor (99,000 ohms)	4411	⑦④	Five Prong Socket	4956
④②	Condenser (110 mmf.)	4519	⑦⑤	Six Prong Socket	6417
④③	Condenser (110 mmf.)	4519	⑦⑥	Dial Scale	4276
			⑦⑦	Bezel	6433
			⑦⑧	Pilot Bracket Complete	05016
			⑦⑨	Cabinet Lamp Socket	6584
			⑦⑩	Cabinet Lamp Socket Insulator	6605
			⑦⑪	Cone Retaining Ring	2600

Philco Radio & Television Corporation

Service Department