

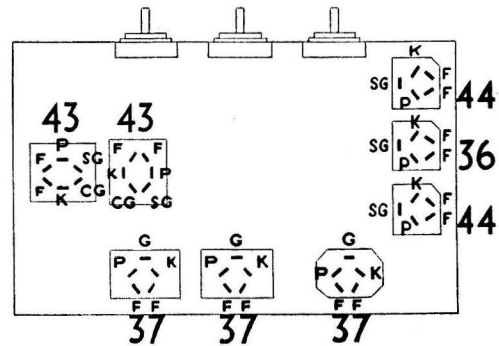
# PHILCO

REG. U.S. PAT. OFF.

## Service Bulletin—No. 131

### Model 47 Series

The Philco Radio of the 47 series is an eight tube direct current (D.C.) superheterodyne, employing the high-efficiency 6.3 volt filament tubes, automatic volume control, and superpower push-pull pentode output. The chassis is made for operation on 115 volts D.C. and 230 volts D.C. The complete instrument is made in two different types, one known as the 121 code, employing a single dynamic speaker, and the other known as the 221 code employing twin dynamic speakers. These code numbers appear on the radio chassis as a part of the model number. Chassis of one code are not interchangeable with those of another. On the 230 volt models, a ballast lamp type 4 in series with one side of the power line is used on the single speaker models and a type 5 on the twin speaker models. The intermediate frequency used in adjusting the superheterodyne circuit of the 47 series is 260 kilocycles. The power consumption of the 115 volt models is 45 watts; that of the 230 volt models is 90 watts.



F = Filament      SG = Screen Grid      K = Cathode  
 P = Plate          CG = Control Grid  
 Tube Sockets

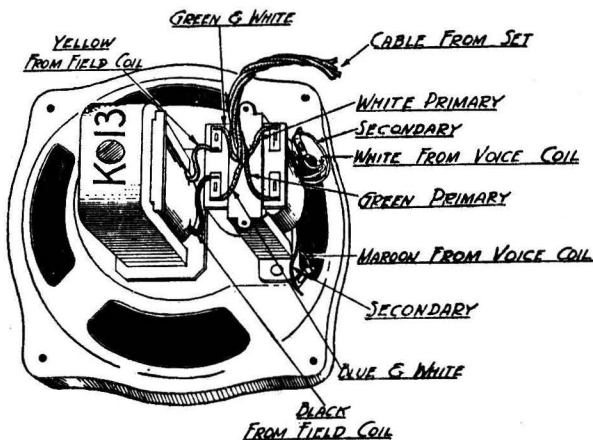
**Table 1—Tube Socket Data\*—D.C. Line Voltage 115 Volts**

Tube		Filament	Plate	Screen Grid	Control Grid	Cathode
Type	Circuit	Volts F to F	Volts P to K	Volts SG to K	Volts CG to K	Volts K to F
44	R. F.	6.3	100	100	.4	40
36	Det.-Osc.	6.3	100	65	5.0	30
44	I. F.	6.3	100	100	.4	25
37	Det.-Rect.	6.3	0	....	.2	22
37	1st Audio	6.3	75	....	.4	2.
37	2nd Audio	6.3	90	....	.4	10
43	Push-Pull Output	25.	110	112	10.	80
43		25.	110	112	10.	80
4	Ballast (121) 230 Volts	110	....	....	....	....
5	Ballast (221) 230 Volts	110	....	....	....	....

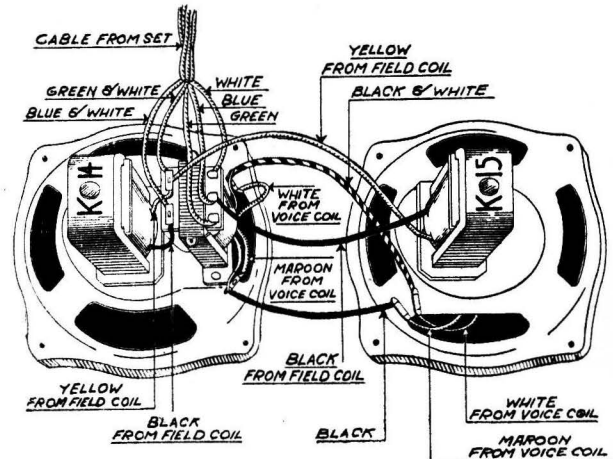
\*All readings were taken from the under side of the chassis, using test prods and leads with a suitable high resistance multi-range D.C. voltmeter for all readings. Volume control at maximum and station selector turned to low frequency end.

**Table 2—Resistor Data**

No. on Figs. 3 and 4	Resistance (Ohms)	Color		
		Body	Tip	Dot
39	70 & 16		Round Tubular	
45	5,000	Green	Black	Red
15	8,000	Gray	Black	Red
1	10,000	Brown	Black	Orange
22	25,000	Red	Green	Orange
26	70,000	Violet	Black	Orange
31	99,000	White	White	Orange
6	1,000,000	Brown	Black	Green



**Fig. 1—Single Speaker Connections—121 Code.**



**Fig. 2—Twin Speaker Connections—221 Code**

**MODEL 47 SERIES**

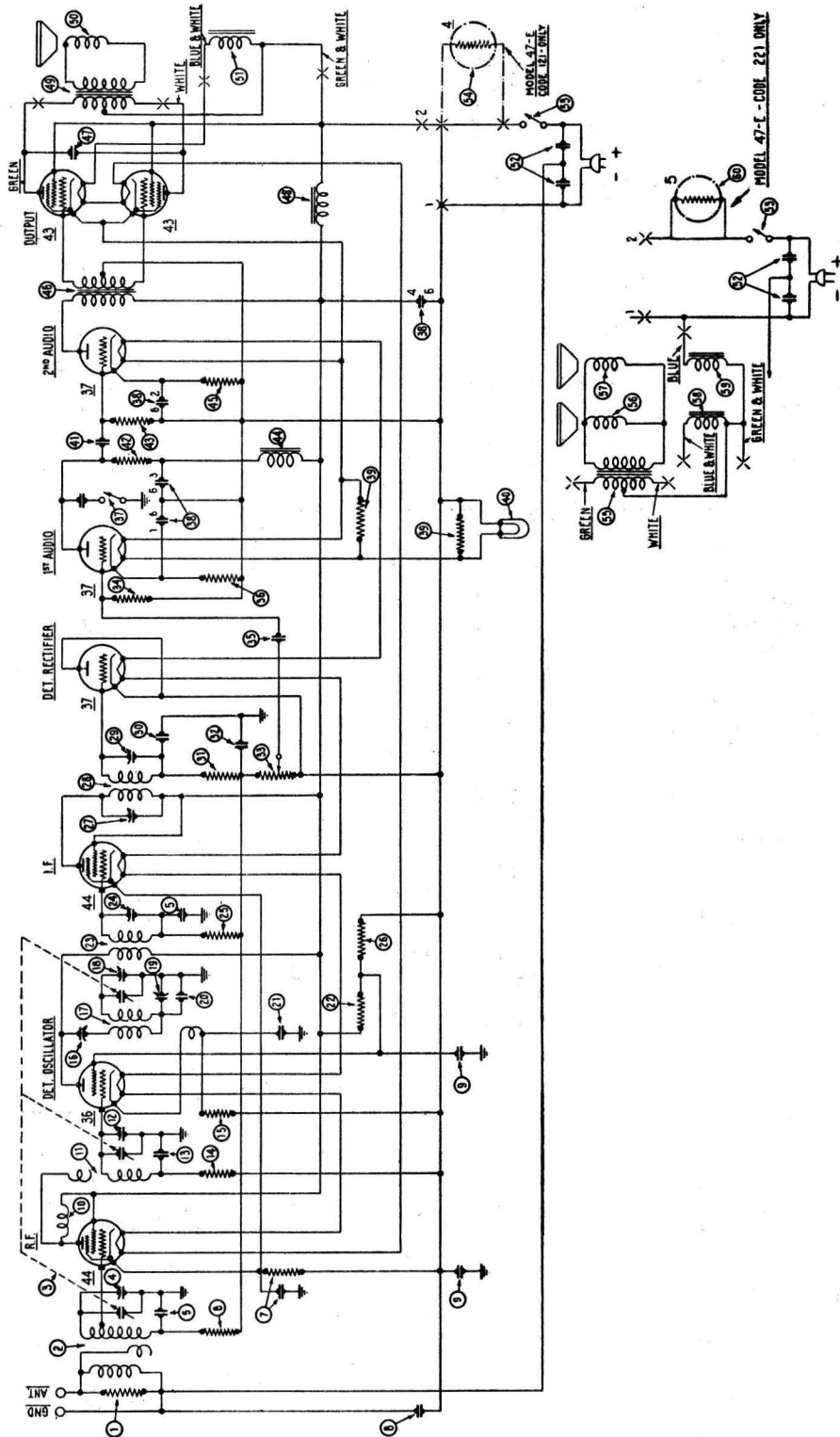


Fig. 3—Schematic Wiring Diagram

**MODEL 47 SERIES**

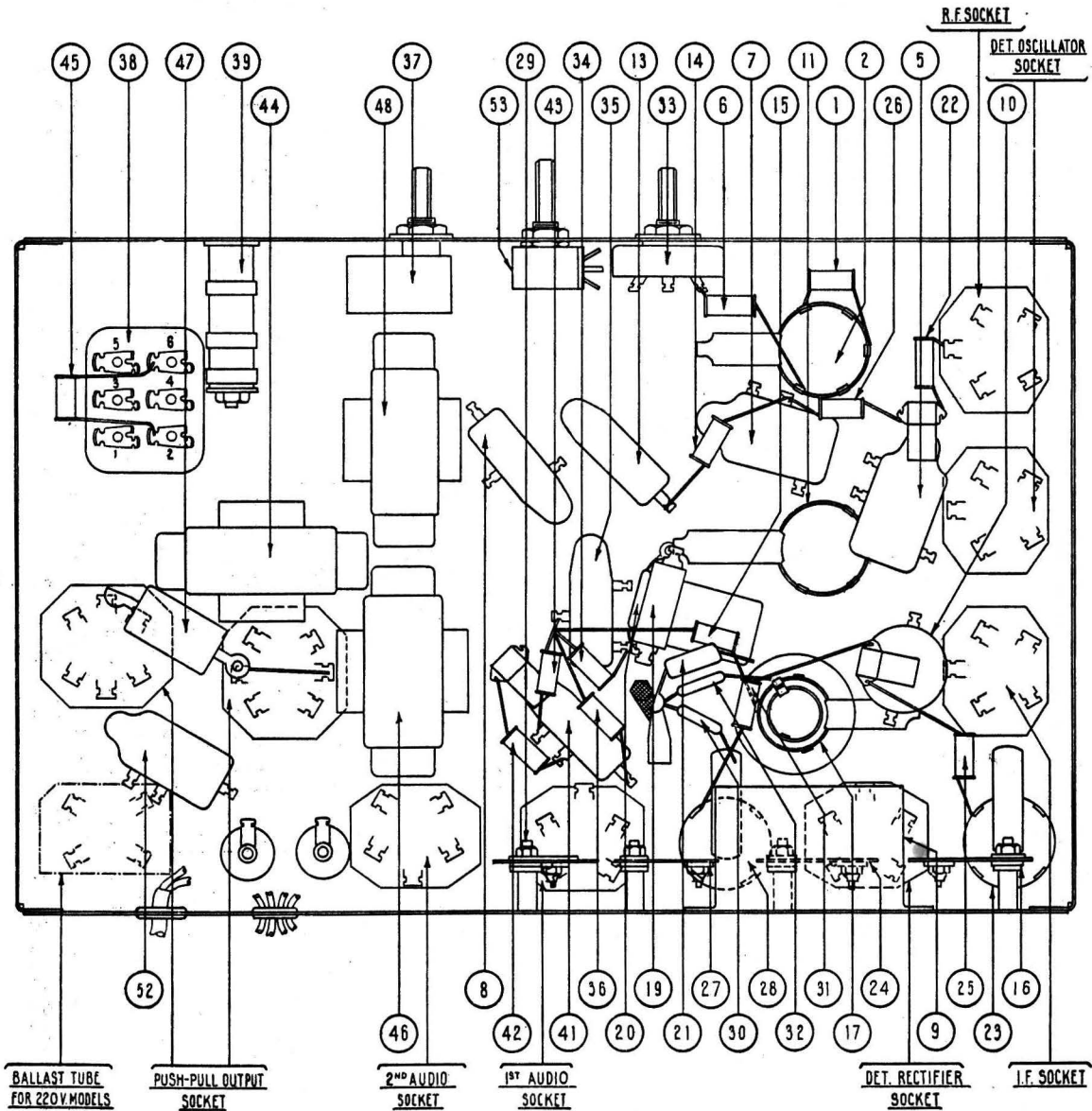


Fig. 4—Parts Diagram

**Adjusting Model 47**

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 inexpensive and most reliable for the purpose.

### REPLACEMENT PARTS MODEL 47

No. on Figs. 3 and 4	Description	Part No.	No. on Figs. 3 and 4	Description	Part No.
①	Resistor (10,000 ohms) . . . . .	4412	③⑥	Resistor (10,000 ohms) . . . . .	4412
②	R. F. Transformer . . . . .	04339	③⑦	Tone Control . . . . .	04757
③	Tuning Condenser Assembly . . . . .	05098	③⑧	Filter Condenser Bank . . . . .	05003
④	Compensating Condenser—R. F. —Part of Tuning Condenser Assembly		③⑨	Resistor—Wire wound (70 ohms and 16 ohms) . . . . .	6716
⑤	Condenser (.05 Mfd. Double) . . . . .	3615-AF	④⑩	Pilot Light . . . . .	6608
⑥	Resistor (1,000,000 ohms) . . . . .	4409	④⑪	Condenser (.01 Mfd.) . . . . .	3093-T
⑦	Condenser (.18 Mfd. & 200 ohm resistor) . . . . .	4989-S	④⑫	Resistor (25,000 ohms) . . . . .	4516
⑧	Condenser (.05 Mfd.) . . . . .	3615-H	④⑬	Resistor (1,000,000) . . . . .	4409
⑨	Condenser (.25 Mfd. Double) . . . . .	05109	④⑭	Filter Choke (High Resistance) . . . . .	5314
⑩	R. F. Choke . . . . .	03103	④⑮	Resistor (5,000 ohms) . . . . .	5310
⑪	Detector Transformer . . . . .	05093	④⑯	Input Transformer . . . . .	6064
⑫	Compensating Condenser—De- tector—Part of Tuning Con- denser Assembly		④⑰	Condenser (.002 Mfd.) Blue . . . . .	4059
⑬	Condenser (.05 Mfd.) . . . . .	3615-L	④⑱	Filter Choke . . . . .	6712
⑭	Resistor (1,000,000 ohms) . . . . .	4409	④⑲	Output Transformer — Single Speaker (K-13) . . . . .	2550
⑮	Resistor (8,000 ohms) . . . . .	5838	⑤①	Voice Coil and Cone Assembly . . . . .	02823
⑯	Compensating Condenser — 1st I. F. Primary . . . . .	04000-M	⑤②	Speaker Field Assembled with Pot (K-13) . . . . .	02745
⑰	Oscillator Coil . . . . .	04186	⑤③	Condenser (.015 Mfd. Double) . . . . .	3793-M
⑱	Compensating Condenser—High Frequency—Part of Tuning Condenser Assembly		⑤④	On-off Switch . . . . .	6498
⑲	Compensating Condenser—Low Frequency . . . . .	04000-F	⑤⑤	Ballast Lamp No. 4—Single Speaker . . . . .	6739
⑳	Condenser (410 Mmf.) Yellow and Orange . . . . .	5120	⑤⑥	Output Transformer — Twin Speaker (K-14, K-15) . . . . .	2544
㉑	Condenser (700 Mmf.) White and Yellow . . . . .	5863	⑤⑦	Voice Coil and Cone Assembly . . . . .	02823
㉒	Resistor (25,000 ohms) . . . . .	4516	⑤⑧	Voice Coil and Cone Assembly . . . . .	02823
㉓	First I. F. Transformer . . . . .	05094	⑤⑨	Speaker Field Assembled with Pot (K-14) . . . . .	02745
㉔	Compensating Condenser—1st I. F. secondary . . . . .	04000-A	⑤⑩	Speaker Field Assembled with Pot (K-15) . . . . .	02744
㉕	Resistor (1,000,000 ohms) . . . . .	4409	⑤⑪	Ballast Lamp No. 5 — Twin Speaker . . . . .	6740
㉖	Resistor (70,000 ohms) . . . . .	5385		Tube Shield . . . . .	05058
㉗	Compensating Condenser—2nd I. F. Primary . . . . .	04000-A		Knob (large) . . . . .	03063
㉘	Second I. F. Transformer . . . . .	05095		Knob (medium) . . . . .	03064
㉙	Compensating Condenser—2nd I. F. Secondary . . . . .	04000-A		Knob (small) . . . . .	03437
㉚	Condenser (110 Mmf.) Blue and Golden Yellow . . . . .	4519		Knob Spring (large) . . . . .	5262
㉛	Resistor (99,000 ohms) . . . . .	4411		Knob Spring (small) . . . . .	4147
㉜	Condenser (110 Mmf.) Blue and Golden Yellow . . . . .	4519		Grid Clip . . . . .	4897
㉝	Volume Control . . . . .	6499		Four Prong Socket Assembly . . . . .	5026
㉞	Resistor (1,000,000 ohms) . . . . .	4409		Five Prong Socket Assembly . . . . .	4956
㉟	Condenser (.01 Mfd.) . . . . .	3903-G		Six Prong Socket Assembly . . . . .	6417
				Dial Complete . . . . .	04832
				Bezel . . . . .	6435
				Chassis Mounting Screw . . . . .	W-468
				Mounting Washer . . . . .	W-315
				Rubber Washer . . . . .	5189
				Mounting Clamp . . . . .	6440
				Cone Retaining Ring . . . . .	2600

## PHILCO RADIO & TELEVISION CORPORATION

### Service Department