PHILCO

REG. U.S. PAT. OFF

Service Bulletin—No. 154

Model 81

The Philco Radio Model 81 is a four tube superheterodyne receiver combining Standard broadcast and police reception and employs the new Philco high efficiency tubes with pentode output and electro dynamic speaker. The same superheterodyne circuit is used for Standard broadcast and police reception. The intermediate frequency for tuning the I. F. transformer is 460 kilocycles. The power consumption of the Model 81 is 46 watts.

Table 1—Tube Socket Data*
Power Line Voltage 115 Volts

Circuit	Det. Osc.	2nd Det.	Output	Rectifier
Type Tube	77	77	42	80
Filament Volts–F to K	6.3	6.3	6.3	5.0
Plate Volts–P to K	240	75	240	425
Screen Grid Volts–SG to K	85	40	250	..
Control Grid Volts–CG to K	5.6	.6	2.3	..
Cathode Volts–K to F	24.5	16	16.2	..

Table 2—Power Transformer Data

Terminal	A. C. Volts	Circuit	Color
1–2	105–125	Primary	White
3–5	6.3	Filament	Black
6–7	5.0	Filament of 80	Blue
8–10	630	Plates of 80	Yellow
4	..	Center Tap of 3-5	Black-Yellow Tracer
9	..	Center Tap of 8-10	Yellow-Green Tracer

*All of the above readings were taken from the underside of the chassis, using test prods and leads with a suitable A. C. voltmeter for filament voltages and a high resistance multirange D. C. voltmeter for all other readings. Volume control at maximum and station selector turned to low frequency end. Readings taken with a radio set tester and plug in adapter will not be satisfactory.

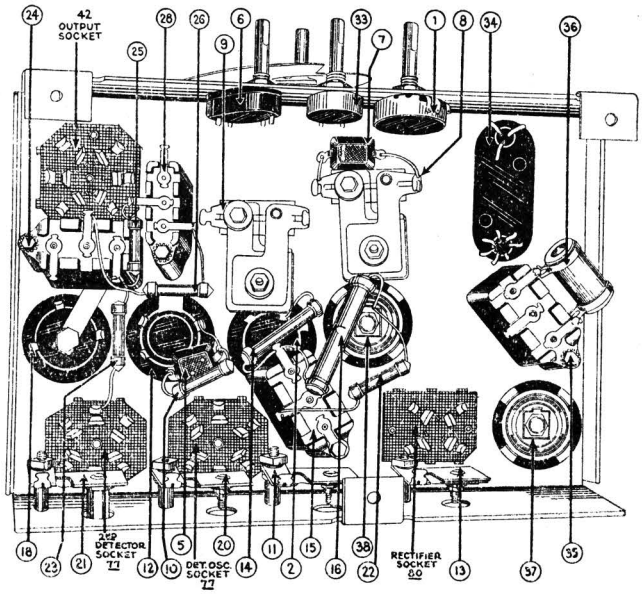

Fig. 1—Parts Diagram

77 Sockets

42 Socket

80 Socket

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

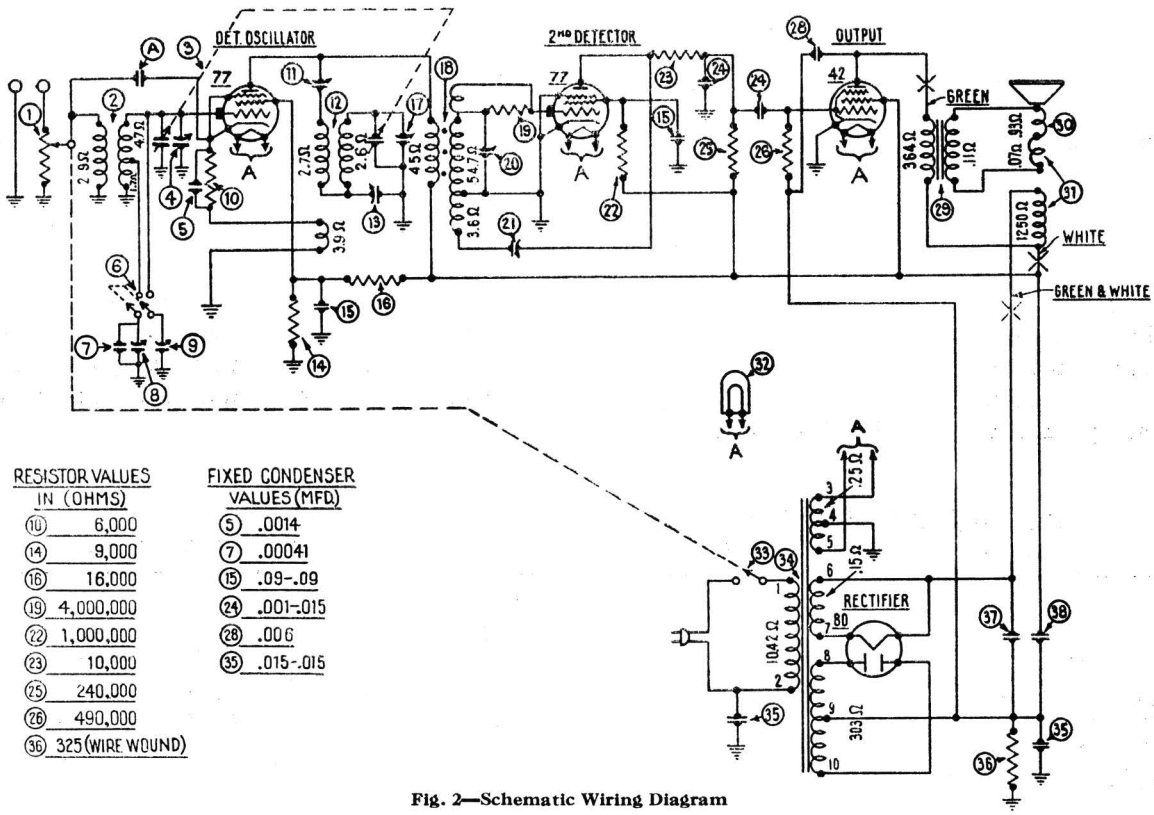

Fig. 2—Schematic Wiring Diagram

Note Ⓐ—This capacity obtained by pair twisted wires.

REPLACEMENT PARTS MODEL 81

No. on Figs.	Description	Part No.	List Price
①	Volume Control*	33-5002	.75
②	Antenna Transformer	32-1030	.50
③	Tuning Cond. Assembly	31-1006	
④	Compensating Condenser (Part of ③)		
⑤	Cond. (Red and Black)	7007	.25
⑥	Frequency Switch	42-1000	
⑦	Cond. (Orange and Yellow)	30-1000	.20
⑧	Compensating Condenser	04000-S	.25
⑨	Compensating Condenser	04000-X	.16
⑩	Resistor (Blue-Black-Red)	7352	.25
⑪	Compensating Condenser (I.F. Primary)	04000-A	.12
⑫	Oscillator Coil	32-1031	.75
⑬	Compensating Condenser (Low Frequency)	04000-S	.25
⑭	Resistor (White-Black-Red)	7501	.25
⑮	Condenser	4989-B	.22
⑯	Resistor (Brown-Blue-Orange)	7500	.40
⑰	Compensating Condenser (Part of ③)		
⑱	I.F. Transformer	06100	1.25
⑲	Resistor (Mounted on I.F. Transformer)	6010	.25
⑳	Compensating Condenser (I.F. Secondary)	04000-D	.10
㉑	Compensating Condenser	04000	.16
㉒	Resistor (Brown-Black-Green)	4409	.25
㉓	Resistor (Brown-Black-Orange)	4412	.25
㉔	Condenser (Double)	7762-B	.20
㉕	Resistor (Red-Yellow-Yellow)	4410	.25
㉖	Resistor (Yellow-White-Yellow)	4517	.25
㉘	Condenser	7625-B	.12
㉙	Output Transformer	2660	1.25
㉚	Voice Coil and Cone Assembly	02861	.60
㉛	Speaker Field and Bucking Coil (with Pot)	02667	2.00
㉜	Pilot Light	6608	.14
㉝	"On-Off" Switch*	6416-W	.40
㉞	Power Transformer—50-60 Cycles	7421	2.75
	Power Transformer—25-40 Cycles	7422	4.00
	Power Transformer—50-60 Cycles, 250 Volts	7423	2.75
㉟	Condenser (Double)	3793-R	.25
㊱	Resistor (Wire Wound)	7465	.12
㊲	Electrolytic Condenser (8 Mfd.)	7558	1.25
㊳	Electrolytic Condenser (4 Mfd.)	7467	1.25
	Bezel	7417	
	Tube Shield	7172	.12
	Knob (Large)	03063	.08
	Knob (Small)	03064	.06
	Knob Spring	5262	.35 per C
	Grid Clip	4897	.30 per C
	Four Prong Socket Assembly	5026	.08
	Six Prong Socket Assembly	6417	.10
	Chassis Mounting Screw	W-567	2.40 per C
	Chassis Mounting Washer	W-315	.40 per C
	Pilot Lamp Shield	5760	

*On later production (run No. 3 and above, rubber stamped in a star on back of chassis) volume control ① and on-off switch ㉝ was combined. This new volume control and on-off switch is Part Number 7439.

PHILCO RADIO & TELEVISION CORPORATION
Service Department

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