



Philco Radio & Television Corp.

	Model: 37-624	Chassis:	Year: Pre October 1937
	Power:	Circuit:	IF:
	Tubes:		
	Bands:		
Resources			
Riders 8 (VIII) PHILCO 8-23			
Riders 8 (VIII) PHILCO 8-24			

PHILCO RADIO & TELEV. CORP.

MODEL 37-624
Schematic, Parts

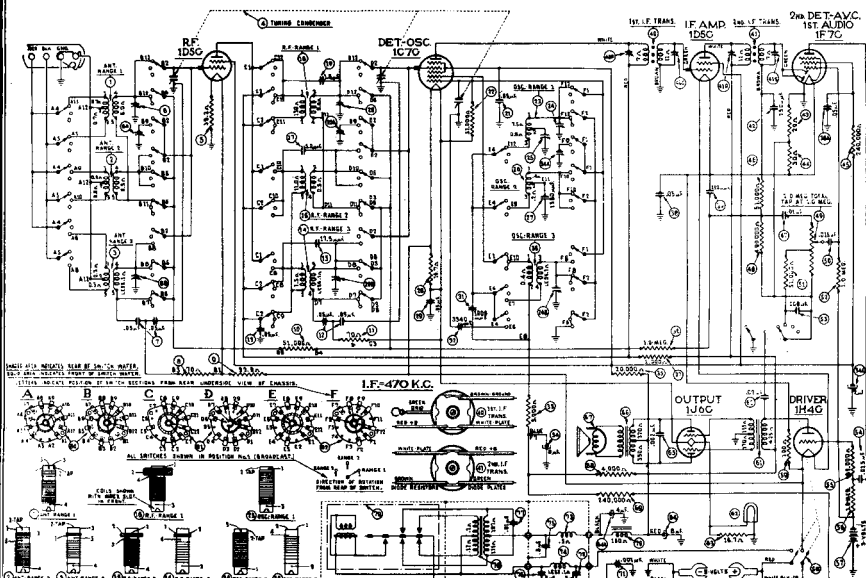


Fig. 5—Schematic Diagram

October 7th, 1936

Replacement Parts—Model 37-624

Schem. No.	Description	Part No.	List Price	Schem. No.	Description	Part No.	List Price	Schem. No.	Description	Part No.	List Price
1	Antenna Transformer (530-1720 K.C.)	32-2108	\$1.60	43	Resistor (20 ohms flexible)	33-3043	\$0.25	Set Screw	W-1641	\$0.02	
2	Antenna Transformer (2.3 to 7.4 M.C.)	32-2119	1.20	44	Resistor (30 ohms flexible)	33-3119	.25	Knob Tuning	27-4330	.10	
3	Antenna Transformer (7.35 to 22 M.C.)	32-2120	1.50	45	Resistor (24000 ohms, 1/2 watt)	33-24330	.20	Knob Tuning	27-4331	.10	
4	Tuning Condenser	31-1818	5.00	46	Resistor (51000 ohms, 1/2 watt)	33-51330	.20	Volume Drive Assembly	31-1871	.75	
5	Compensator (33.3 ohm flexible)	33-3233	.20	47	Condenser (.01 mfd. tubular)	30-1124	.25	Knob Range Switch	27-4332	.10	
6	Compensator (three sections)	31-4092	.60	48	Resistor (40000 ohms, 1/2 watt)	33-40330	.20	Knob Tune and Volume	27-4332	.10	
7	Condenser (.05 mfd. dual tubular)	30-4394	.35	49	Volume Control	33-5165	1.00	Mask	27-5168	.30	
8	Resistor (70 ohms, 1/2 watt)	33-70330	.20	50	Condenser (.015 mfd. tubular)	30-4358	.20	Mask Arm and Link Assembly	31-1940	.15	
9	Resistor (33.3 ohms flexible)	33-3233	.20	51	Resistor (3100 ohms, 1/2 watt)	33-31330	.20	Shaft Coupling and Set Screw	31-1941	.10	
10	Resistor (5100 ohms, 1/2 watt)	33-51330	.20	52	Resistor (1.0 megohms, 1/2 watt)	33-51330	.20	Felt Washer	27-5390	.30	Per C
11	Resistor (70 ohms, 1/2 watt)	33-70330	.20	53	Condenser (.008 mfd. tubular)	30-4112	.20	Snaf Fastener	28-4279	.75	Per C
12	Condenser (.05 mfd. dual tubular)	30-4394	.35	54	Condenser (.015 mfd. single bakelite)	3700-SU	.35	Mask Guide and Lamp Support	38-7844	.15	
13	Condenser (.05 mfd. tubular)	30-4129	.20	55	Resistor (60000 ohms, 1/2 watt)	33-60330	.20	Indicator Bracket Assembly	38-7612	.30	
14	R. F. Transformer (7.35 to 22 M.C.)	30-4124	.20	56	Resistor (1.0 megohms, 1/2 watt)	33-510344	.20	Volume Control Shaft	38-8069	.60	
15	Condenser (.175 mmfd. mica)	30-1070	.20	57	Bias Coil	41-8009	.30	Retaining Clip	28-4304	.10	
16	R. F. Transformer (2.3 to 7.4 M.C.)	32-2108	.75	58	Power Switch and Tone Control	42-1242	1.00	Shaft Spring	28-4117	.30	Per C
17	Condenser (.5 mmfd. mica)	30-1077	.20	59	Resistor (10 ohms flexible)	33-3187	.20	Socket 7 Prong	27-4057	.11	
18	R. F. Transformer (530 to 1720 K.C.)	32-2105	1.00	60	Condenser (.02 mfd. tubular)	30-4113	.20	Socket 5 Prong	27-4058	.11	
19	Condenser (.1 mfd. mica twisted)	38-7878	.75	61	Audio Transformer	32-7637	.20	Lube Shield	26-2728	.10	
20	Compensator (three sections)	31-4121	.75	62	Pilot Lamp	34-2150	.22	Base	28-3868	.03	
21	Condenser (.05 mfd. tubular)	30-4720	.20	63	Resistor (16.7 ohms flexible)	33-3298	.20	Bias Coil Panel Assembly	38-7275	.30	
22	Resistor (5100 ohms, 1/2 watt)	33-51330	.20	64	Resistor (100 ohms flexible)	30-4177	.20	Battery Cable	41-3207	.20	1.20
23	Oscillator Transformer (530 to 1720)	32-2120	1.00	65	Output Transformer R.R-17, H.R-12	32-5538	1.60	A Battery	116-B	.10	
24	Compensator (three sections)	31-4092	.60	66	Cone Voice Coil	38-5540	.80	Mtg. Grommet (R. F. Unit)	27-4317	.04	
25	Compensator (One Broadcaster)	31-4056	.55	67	Resistor (4000 ohms, 1/2 watt)	33-3557	1.20	Mtg. Sleeve (R. F. Unit)	28-2257	.10	Per C
26	Oscillator Transformer (2.3 to 7.4 M.C.)	32-2121	.70	68	Resistor (24000 ohms, 1/2 watt)	33-24330	.20	Mtg. Screw (R. F. Unit)	27-7907	.30	Per C
27	Condenser (1850 mmfd.)	31-6138	.40	69	Filter Choke	32-7543	1.35	Mtg. Washer (R. F. Unit)	27-4325	.02	
28	Resistor (16.7 ohm flexible)	33-3298	.20	70	Condenser (.001 mfd. tubular)	30-2021	.20	Mtg. Plate (R. F. Trans.)	27-4325	.02	
29	Condenser (.05 mfd. tubular)	30-4620	.20	71	Condenser (.5 mfd. metal case)	30-2926	.60	Mtg. Speaker (R. F. Trans.)	27-8728	.01	
30	Oscillator Transformer (7.35 to 22 M.C.)	32-2119	.70	72	Choke	32-1832	.25	Mtg. Plate (R. F. Trans.)	W-1635	.30	Per C
31	Condenser (1000 mfd. tubular)	30-4483	.60	73	Choke	32-1834	.40	Mtg. Bushing (Chassis)	51-59	.04	
32	Condenser (3340 mfd. semi-fixed)	31-5137	.60	74	Condenser (.5 mfd. metal case)	30-2926	.60	Mtg. Washer Rubber (Chassis)	51-59	.04	
33	Electrolytic Condenser Blue 8 mfd. Plain 2 mfd.)	30-2171	2.00	75	Power Transformer	32-7682	2.20				
34	Resistor (20000 ohms, 1/2 watt)	33-20329	.20	76	Vibrator	41-3222	5.25				
35	Resistor (1.0 megohms, 1/2 watt)	33-51330	.20	77	Range Switch (Ant.)	42-1242	1.20				
36	Resistor (1000 ohms, 1/2 watt)	33-1039	.20	78	Range Switch (R. F.)	42-1242	1.20				
37	Condenser (.05 mfd. dual bakelite)	498-B-DG	.40	79	Range Switch (R. F.)	42-1242	1.20				
38	Condenser (.10 mfd. dual bakelite)	30-1031	.20	80	Range Switch (R. F.)	42-1242	1.20				
39	1st I. F. Transformer	32-2101	.20	81	Pilot Lamp Assembly	28-7575	.45				
40	2nd I. F. Transformer	32-2102	.20	82	Dial	27-5214	.50				
41	Condenser (.500 mmfd. mica)	30-1032	.25	83	Clamp	28-2837	.10				

Figures in black type indicate circled figures in Base View

Prices Subject to Change without Notice

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Type Circuit: Superheterodyne, using a vibrator unit operated by a 6 volt storage battery for supplying "B" power to the receiver, and a Class B audio output circuit.

Power Supply: 6 volt storage battery, Philco Type 116R

Current Drain: 1.5 A

Philco Tubes Used: 6-1D5G, R. F. Amp.; 1C7G, Det. Osc.; 1D5G, I. F. Amp.; 1F7G, 2nd Det.—1st Audio A. V. C.; 1H4G, Audio Driver; 1J6G, Output.

Frequency Ranges: Three. Range 1—530 to 1720 K. C.; Range 2—2.3 to 7.4 M. C.; Range 3—7.35 to 22 M. C.

Intermediate Frequency: 470 K. C.

Speakers: KR-17. "B" Cabinet; HR-12. "J" Cabinet.

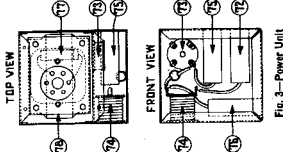


Fig. 3—Power Unit

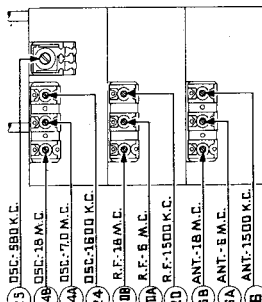


Fig. 3—R. F. Compensators

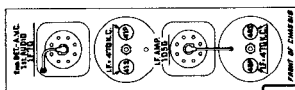


Fig. 2—1. F.

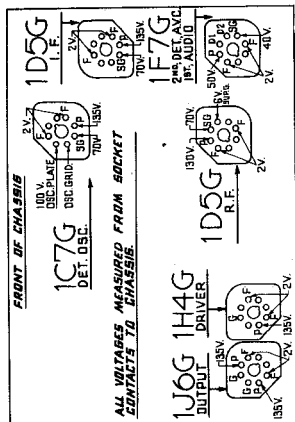


Fig. 1—Socket Voltages and R. F. Compensators

The voltages indicated by arrows were measured with a Philco 025 Circuit Tester which contains a voltmeter having a resistance of 1000 ohms per volt. Volume Control at maximum, Storage Battery fully charged.

Alignment of Compensators

EQUIPMENT REQUIRED: (1) Signal Generator: Philco Model 088 (fundamental frequency 110 to 20000 K. C.) is the correct instrument for this purpose; (2) output meter. Philco Model 025 Circuit Tester incorporates an accurate. Sensitive output meter and is recommended; (3) Fibre handle screwdriver (Philco Part No. 27-7058); (4) Special variable condenser (Philco Part No. 45-2325).

DIAL CALIBRATION: Set the tuning condenser at the maximum capacity position. Loosen the set screw of the dial hub and set dial, with the glowing indicator centered between the first and second index lines, at the low frequency end of the broadcast scale. Tighten set screw in this position.

INTERMEDIATE FREQUENCY CIRCUIT

Frequency 470 K. C.

1. Connect the 088 Signal Generator output lead through a .1 mfd. condenser to the control grid of the 1C7G tube, and the ground connection of the Generator to the chassis. Turn the Volume Control to maximum volume position.
2. Set the range switch in position No. 1 (Broadcast), then rotate the tuning condenser of the receiver to approximately 580 K. C. and adjust the signal generator for 470 K. G.
3. Adjust compensators (41S) 2nd I. F. Sec., (41P) 2nd I. F. Pri., (40S) 1st I. F. Sec., and (40P) 1st I. F. Pri. for maximum reading on the output meter.

RADIO FREQUENCY CIRCUIT

Tuning Range (7.35) to (22.0) M. C.

1. Remove the signal generator output lead from the grid of the 1C7G tube and connect it through a 1 mfd. condenser to terminal No. 1 on aerial input panel and the generator ground lead to terminal No. 3, rear of chassis. Terminals 2 and 3 must be connected by the shorting link.
2. Set the range switch in position No. 3. Turn the receiver and signal generator dials to 18 M.C. Now adjust compensator (24B) by turning the screw (clockwise) to the maximum capacity position, then slowly turning it (counter-clockwise) until a second peak signal is reached and the signal is again at its maximum. The compensator is now properly adjusted and should be used. **Note**—In adjusting some receivers only one peak will be observed, therefore, tune the compensator to maximum on this peak. If the above procedure is correctly performed, the image will be removed. The compensator is the signal generator attenuator and turning the receiver dial to this frequency mark on the dial.
3. The antenna and R. F. Compensators (6B) and (26B) are now adjusted by connecting a variable condenser of approximately 350 mmfd. Philco Part A-52925 across the oscillator section of the receiver. Turn the receiver and signal generator dials to 18 M.C., tune the added condenser from the maximum capacity point until the second harmonic of the receiver oscillator beats against the signal from the generator thereby bringing in the signal. The added condenser is now properly adjusted. The compensator is now properly adjusted. Now remove the external condenser and readjust compensator (24B) for maximum output.

Tuning Range (2.3) to (7.4) M. C.

1. Set range switch in position 2. Rotate signal generator and receiver dials to 7.0 M. C. Now adjust compensator (24A) for maximum output.
2. Turn the signal generator and receiver dials to 6.0 M. C. and adjust compensators (20A) R. F. and (6A) Ant. for maximum output.

Tuning Range (530) to (1720) K. C.

1. Set range switch in position No. 1 (Broadcast). Rotate the signal generator and receiver dials to 1800 K. C. Now adjust compensators (24) Osc., (20) R. F. and (8) Ant. for maximum output.
2. Rotate the signal generator and receiver dials to 580 K. C. Compensator (25) Osc. series is now adjusted for maximum output as follows:

First turn compensator (28) for maximum output, then vary the tuning condenser of the receiver for maximum output about the 580 K. C. dial mark. Now turn compensator (28) slightly to the right or left and vary the receiver tuning condenser for maximum output. If the out reading increases, turn compensator (28) in the same direction a trifle more, and again vary the tuning condenser for maximum output. If the output decreases, set the compensator in the opposite direction. This procedure is first setting the compensator and then varying the tuning condenser is continued until there is no further gain in output reading.

3. Readjust compensator (24) for maximum output, by turning the signal generator and receiver dials to 1500 K. C.
4. Turn the signal generator and receiver dials to 1500 K. C. and adjust compensators (20) R. F. and (6) Ant. for maximum output.

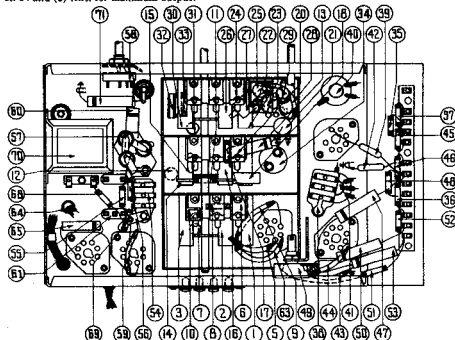


Fig. 4—Parts Locations—Underside of Chassis

October 7th, 1936