

Philco Radio & Television Corp.

Model: 650

Chassis:

Year: Pre October 1936

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

[Riders Volume 6 - PHILCO 6-37](#)

[Riders Volume 6 - PHILCO 6-38](#)

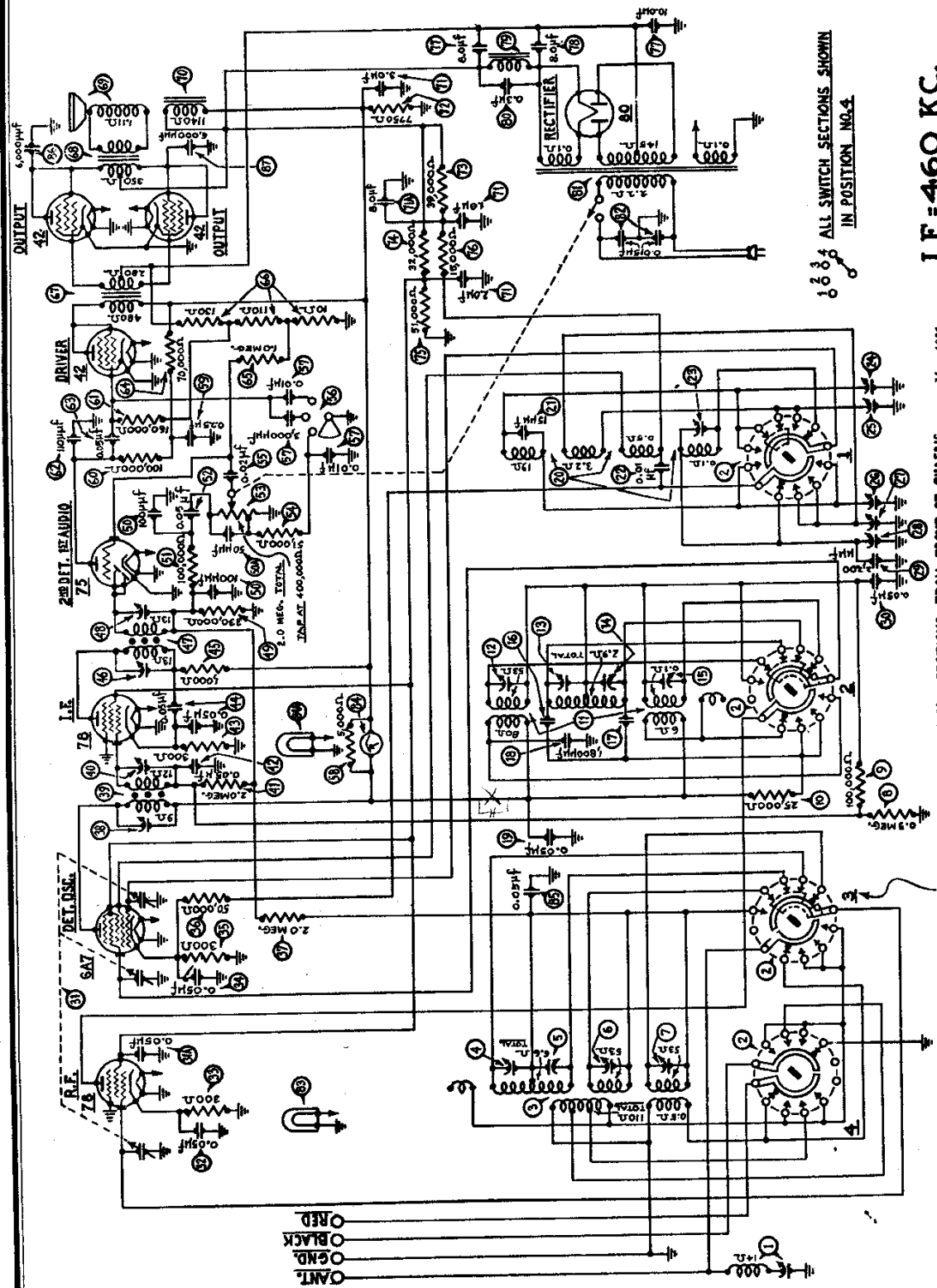
[Riders Volume 6 - PHILCO 6-39](#)

[Riders Volume 7 - PHILCO 7-149](#)

[Riders Volume 7 - PHILCO 7-150](#)

PHILCO RADIO & TELEV. CORP.

MODEL 650
Schematic



I.F. = 460 KC.

May, 1935

NUMBERS INDICATE RELATIVE POSITIONS OF SWITCH SECTIONS FROM FRONT OF CHASSIS

Fig. 2. Schematic Diagram of Model 650

MODEL 650

**Alignment, Trimmers PHILCO RADIO & TELEV. CORP.
Voltage, Data**

Adjusting Compensating Condensers

Adjustment of compensating condensers in Model 650 requires an accurate signal generator covering long-wave, standard wave, police, and short-wave frequencies. The PHILCO Model 088 All-Wave Signal Generator, having a continuous range of from 100 to 20000 K.C., is ideal for this purpose.

An output meter is also needed. PHILCO Model 025 Circuit Tester includes a high grade output meter.

Philco No. 3164 fibre wrench and No. 27-7059 fibre-handled screwdriver complete the equipment needed for making these adjustments. The locations of the various compensating condensers is shown in Fig. 2. Connect the output meter to the plate contacts of the 42 output tubes (using the adapters provided with the "025") and set it at the 0-30 volt range.

I.F.—Set the Signal Generator at 460 K.C., and attach its antenna lead to the grid cap of the 6A7 tube on the Model 650 (having removed the grid clip from the tube). Connect the ground terminal of the Signal Generator to the ground terminal of the set. Turn on the set, turn the waveband switch to second position (standard) and set dial at 55. Now with the fibre screwdriver, adjust condensers ④ and ⑤ (2d I.F.) and then ③ and ② (1st I.F.) until maximum reading is obtained in the output meter. Turn down the "attenuator" on the signal generator if the output meter needle goes off the scale.

WAVE TRAP—Connect the Signal Generator antenna and ground leads to the antenna and ground posts of the set. Replace the grid clip on the 6A7 tube cap. With the signal generator operating at 460 K.C. and the set controls adjusted as for I.F., adjust wavetrap ① until the minimum reading is obtained in the out-put meter.

SHORTWAVE—Turn waveband switch to position 4 (extreme right). Set signal generator at 18 megacycles and dial of set at 18.0 (top scale). Now adjust the oscillator, R.F., and Antenna compensators in turn, for maximum reading. These are ②, ③ and ⑦ respectively.

Turn the dial to 6.0 M.C., set the signal generator at 6.0 M.C., and adjust condenser ⑥ for maximum reading. This compensator is located underneath the chassis and reached from underneath. (See Fig. 3).

STANDARD WAVE—Turn waveband switch to position 2 (standard broadcast), set signal generator at 1500 and dial of set at 150. Now adjust the oscillator, R.F., and antenna "Standard" condensers. These are ②, ③ and ⑥ respectively.

Now turn the dial to 60, set signal generator at 600 and adjust condenser ⑦ (oscillator standard-series) (nut) for maximum reading.

POLICE BAND—Turn waveband switch to position 3 from left (police band); set dial at 2.4 and signal generator at 2400 K.C. Adjust condensers ④ and ⑤ for maximum reading. (Antenna and R.F. Police.)

LONG WAVE (Weather) BAND—Turn waveband switch to position 1 (left) (Longwave). Set dial at 35 and signal generator at 350 K.C. Adjust condensers ②, ③ and ⑥ (oscillator, R.F., and Antenna Longwave) for maximum reading.

Turn dial to 17, signal generator to 170 and adjust condenser ⑥ (longwave series) (screw) for maximum reading.

**Tube Socket Voltages (Line Voltage 115)
Measured to Ground**

Tube	78 R.F.	6A7 Det. Osc.	78 I.F.	75 2d Det.	42 Driver	42 Out-put
Point P	55	200	200	115	200	300
SG	90	90	90	...	200	300
K	2.2	2.3	2.6	...	...	...

6A7: G₁ & G₂ = 155

Above voltages were obtained by using a PHILCO type 025 Circuit Tester (or 048A All-purpose Tester), using test prods applied to underside of chassis. Volume control at minimum; dial at 55; waveband switch counter-clockwise (band 1). Use Fig. 1 for test points. Type K-17 speaker employed.

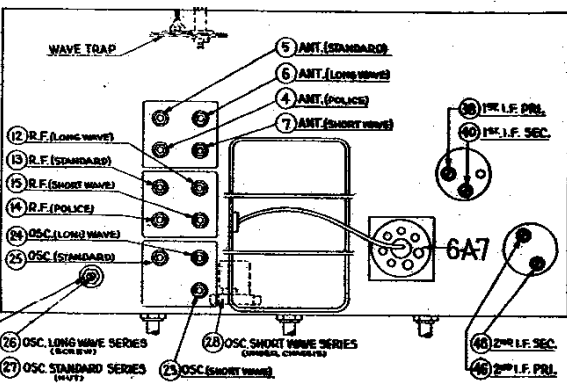


Fig. 2. Locations of Compensating Condensers

Type Circuit: Superheterodyne, with preselector R.F. amplifier, and push-pull pentode output (10 watts); built in connections for Philco All-wave aerial; aerial selector built into and operated by wave-band switch.

Power Supply: Alternating Current. Voltage and frequency as specified on chassis nameplate.

Tubes Used: 1 type 78, R.F.; 1 type 6A7, Detector-Oscillator; 1 type 78, I.F.; 1 type 75, 2d Detector and 1st A.F.; 1 type 42 Driver; 2 type 42 Push-Pull Output; 1 type 80 Rectifier.

Wave Bands: Four: (1) Long-wave (U.S. Weather Forecasts); (2) Standard (with some Police); (3) Police; (4) Short-wave.

Coverage of Each Band: Band 1, 145 to 390 K.C.; Band 2, 540-1720 K.C.; Band 3, 2.2 to 2.6 M.C.; Band 4, 5800-18000 K.C. (5.8 to 18.0 megacycles).

Tuning Drive: Dual planetary, ball bearing. 80 to 1 ratio for slow-speed tuning.

Tone Control: 4-position, with bass compensation effective in first position (counter-clockwise).

Intermediate Frequency: 460 K.C.

Power Consumption: 98 watts.

Speaker: 650B (Code 121); K-17, 650X, 650MX, 650-H, (Code 122); H-13.

PHILCO RADIO & TELEV. CORP.

MODEL 650
Chassis, Socket
Parts, Data

Replacement Parts—Model 650

Description	Part No.	List Price
Wave Trap.....	38-6850	\$1.10
Waveband Switch.....	42-1114	2.50
Antenna Transformer.....	32-1708	4.00
Compensating Condenser (Ant.) (Police).....	Part of ①	
Compensating Condenser (Ant.) (Standard).....	Part of ②	
Compensating Condenser (Ant.) (Longwave).....	Part of ③	
Compensating Condenser (Ant.) (Shortwave).....	Part of ④	
Resistor (.5 meg.) (Yellow-White-Yellow).....	6097	.20
Resistor (100000 ohms) (White-White-Yellow).....	6099	.20
Resistor (25000 ohms) (Red-Green-Yellow).....	3656	.20
R.F. Transformer.....	32-1709	3.75
Compensating Condenser (R.F. Longwave).....	Part of ⑪	
Compensating Condenser (R.F. Broadcast).....	Part of ⑫	
Compensating Condenser (R.F. Police).....	Part of ⑬	
Compensating Condenser (R.F. Shortwave).....	Part of ⑭	
Condenser.....	Part of ⑮	
Condenser.....	Part of ⑯	
Condenser (.0018 Mfd. Mica).....	6018	.40
Condenser (.05 Mfd. Bakelite Block).....	3615-SG	.35
Oscillator Transformer.....	32-1710	3.00
Condenser (.00015 Mfd. Mica).....	30-1030	.35
Condenser (.01 Mfd. Tubular).....	*30-4145	.25
Compensating Condenser (Osc. S.W.).....	Part of ⑳	
Compensating Condenser (Osc. Longwave).....	Part of ㉑	
Compensating Condenser (Osc. B.C. & Police).....	Part of ㉒	
Compensating Condenser (Osc. L.W. Series) Part of 31-6044.....		.50
Compensating Condenser (Osc. B.C. Series) Part of 31-6044.....		.45
Compensating Condenser (Osc. S.W. Series).....	04000-R	.45
Condenser (.0022 Mfd. Mica).....	30-1057	.40
Condenser (.05 Mfd. Tubular).....	30-4020	.35
Tuning Condenser Assembly.....	31-1555	4.50
Condenser (.05 Mfd. Bakelite Block).....	3615-SG	.35
Condenser (.05 Mfd. Tubular).....	30-4020	.35
Resistor (300 ohms) (Orange-Black-Black).....	33-3010	.20
Condenser (.05 Mfd. Tubular) (On top of chassis).....	30-4327	.20
Resistor (300 ohms Flexible) (Orange-Black-Black).....	33-3010	.20
Resistor (50000 ohms) (Green-Brown-Orange).....	6098	.20
Resistor (2 Megs.) (Red-Black-Green).....	33-1025	.20
Compensating Condenser (1st I.F. Primary).....	Part of ㉔	
1st I.F. Transformer.....	32-1711	2.00
Compensating Condenser (1st I.F. Secondary).....	Part of ㉕	
Resistor (2 Megs.) (Red-Black-Green).....	33-1025	\$0.20
Condenser (.05 Mfd. Tubular).....	30-4020	.35
Resistor (300 ohms Flexible) (Orange-Black-Black).....	33-3010	.20
Condenser (.05 Mfd. Twin Bakelite Block).....	3615-DU	.40
Resistor (1000 ohms) (Brown-Black-Red).....	5837	.20
Compensating Condenser (2d I.F. Primary).....	Part of ㉖	
2d I.F. Transformer.....	32-1712	2.00
Compensating Condenser (2d I.F. Secondary).....	Part of ㉗	
Resistor (330000 ohms) (Orange-Orange-Yellow).....	33-1200	.20
Condenser (.00011 Mfd. Twin Bakelite Block).....	8035-DG	.25
Condenser (.00005 Mfd. Mica) (Not shown Fig. 3).....	30-1079	.35
Resistor (100000 ohms) (White-White-Orange).....	6099	.20
Condenser (.05 Mfd. Tubular).....	30-4020	.35

Volume Control and On-Off Switch.....	33-5108	1.45
Resistor (51000 ohms) (Green-Brown-Orange).....	6098	.20
Condenser (.02 Mfd. Tubular).....	30-4113	.30
Tone Control.....	30-4343	.75
Condensers in Tone Control.....	Part of ㉘	
Resistor (5000 ohms) (Green-Black-Red).....	5310	.20
Condenser (.25 Mfd. Tubular).....	30-4134	.40
Resistor (100000 ohms) (White-White-Orange).....	6099	.20
Resistor (160000 ohms) (Brown-Blue-Yellow).....	33-1191	.20
Condenser (.00011 Mfd. Mica).....	30-1031	.35
Condenser (.05 Mfd. Bakelite Block).....	3615-SU	.35
Resistor (70000 ohms) (Violet-Black-Orange).....	5385	.20
Resistor (1 Meg.) (Brown-Black-Green).....	33-1096	.20
B.C. Resistor (Wirewound) (10 ohms, 110 ohms, 130 ohms).....	33-3137	.30
Input Transformer.....	32-7114	2.00
Output Transformer.....	32-7078	1.40
Cone and Voice Coil Assembly (H-13).....	02625	1.20
Cone and Voice Coil Assembly (K-17).....	02996	.90
Field Coil and Pot Assembly (H-13 or K-17).....	36-3104	2.70
Condenser (Electrolytic—3 Mfd., 1 Mfd., 2 Mfd.).....	30-2122	1.85
Resistor (Wirewound) (7750 ohms).....	33-3211	1.60
Resistor (39000 ohms) (Orange-White-Orange).....	33-1027	.20
Resistor (32000 ohms) (Orange-Red-Orange).....	33-1026	.35
Resistor (51000 ohms) (Green-Brown-Orange).....	4237	.20
Resistor (15000 ohms) (Brown-Green-Orange).....	6208	.20
Condenser (Electrolytic—8 Mfd., 10 Mfd.).....	30-2045	1.80
Condenser (Electrolytic—8 Mfd.).....	30-2025	1.10
Filter Choke.....	32-7115	1.80
Condenser (.3 Mfd. Bakelite Block).....	*6287-DU	.40
Power Transformer.....		
110 Volts 60 Cycles.....	32-7402	4.50
110 Volts 25 Cycles.....	32-7403	9.00
230 Volts 50 Cycles.....	32-7404	7.50
Condenser (.015 Mfd. Twin Bakelite Block).....	3793-DG	.40
Pilot Lamp (Dial).....	34-2064	.09
Shadow Tuning Meter.....	**45-2086	2.00
Pilot Lamp (Shadowmeter).....	Part of ㉙	
Condenser (.05 Mfd. Tubular).....	30-4020	.35
Condenser (.006 Mfd. Tubular).....	30-4125	.25
Condenser (.006 Mfd. Tubular).....	30-4125	.25

▲ Omitted after Run 5.
*In Model 650A (115 Volts 25 Cycles) this is part No. 04357, List .75.
†In Code 122 (650X, 650MX, 650H) this is part No. 30-2014, List 1.50.
**In Code 122 (650X, 650MX, 650H) this is part No. 45-2082.
* After Run 2, this is 30-1032 mica, List .35.

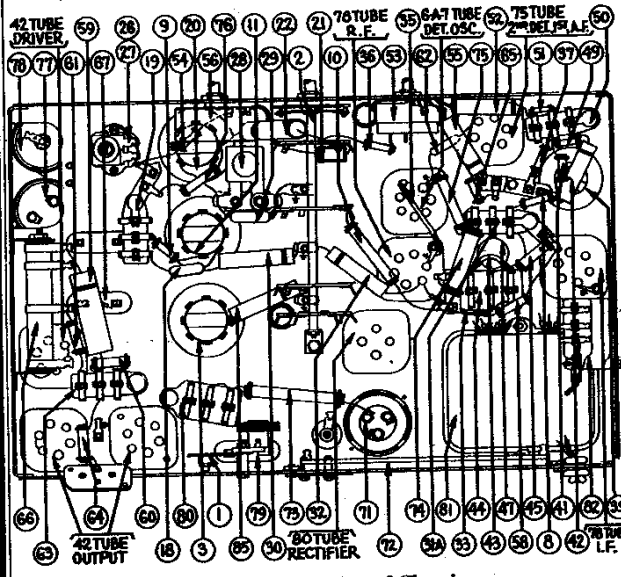


Fig. 3. Bottom View of Chassis

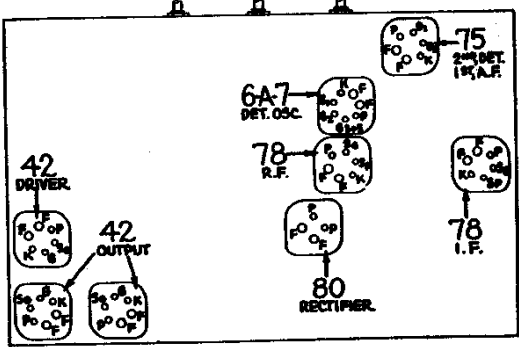


Fig. 1. Tube Sockets as viewed from bottom.

Power Transformer Data

Terminals	A.C. Volts	Current	Circuit	Color
1-2	120	.....	Primary	White
3-5	760	140 M.A.	Secondary	Yellow
6-7	5.0	2.0 A.	Fil. Rect.	Blue
8-9	6.3	3.75 A.	Filaments	Black
4	...	.....	Center Tap of 3-5	Yellow, Green Tracer

PHILCO RADIO & TELEV. CORP

MODELS 623, 623B, 623F

630, 630(121)

Changes

640(121) 640B

641, 642, 643, 650

MODEL 623 (Continued)

Approximate Date of Change	Run No.	CHANGES
..	9	<p>S. W. SECTION OF OSC. TRANSFORMER Condenser ② and Resistor ③ were removed and the wires connected to the ends of these parts were connected together. The wires between the police tap at the left of Switch Section No. 2 and the joint in the wire just above that was broken and Condenser No. 30-1049 inserted. The connection between the bottom (S. W.) primary and secondary of the Oscillator Transformer was broken and condensers ② and ③ connected between the bottom of the secondary and ground. Resistor ④ removed. The lead connected to the top of the primary disconnected and brought down to the bottom of the secondary. Resistor ⑤ also removed. A lead from the bottom of the primary was connected to the lead running from Condenser ⑥ to Resistor ⑦. The oscillator plate wire was disconnected from this lead and brought down to the top of the primary.</p> <p>BROADCAST AND POLICE SECTION OF OSC. TRANSFORMER Resistor ⑧ was disconnected from the bottom of the upper section of the Osc. Transformer and connected to the switch side of the Condenser ⑨.</p>

MODEL 623-B and 623-F

Approximate Date of Change	Run No.	CHANGES
9-1-35	..	Remove bezel glass gasket, Part No. 27-7981, and replace with Part No. 27-8036.

Model 630 (Code 121)

Approximate Date of Change	Run No.	CHANGES								
10-1-35	4	<table border="1"> <thead> <tr> <th>Old Part</th> <th>New Part</th> </tr> </thead> <tbody> <tr> <td>Resistor ② 33-1040 (1/2 watt) 4,000 ohms</td> <td>33-1031 (1/4 watt)</td> </tr> <tr> <td>Resistor ③ 6650 (1/2 watt) 20,000 ohms</td> <td>6649 (1 watt)</td> </tr> </tbody> </table>	Old Part	New Part	Resistor ② 33-1040 (1/2 watt) 4,000 ohms	33-1031 (1/4 watt)	Resistor ③ 6650 (1/2 watt) 20,000 ohms	6649 (1 watt)		
Old Part	New Part									
Resistor ② 33-1040 (1/2 watt) 4,000 ohms	33-1031 (1/4 watt)									
Resistor ③ 6650 (1/2 watt) 20,000 ohms	6649 (1 watt)									
11-1-35	7	Remove Shadowmeter Shunt Resistor ④. Part No. 33-1040 (4,000 ohms).								
		<table border="1"> <thead> <tr> <th>Part</th> <th>Schematic No.</th> <th>Old Part</th> <th>New Part</th> </tr> </thead> <tbody> <tr> <td>Shadowmeter</td> <td>⑤</td> <td>45-2086</td> <td>45-2083</td> </tr> </tbody> </table>	Part	Schematic No.	Old Part	New Part	Shadowmeter	⑤	45-2086	45-2083
Part	Schematic No.	Old Part	New Part							
Shadowmeter	⑤	45-2086	45-2083							

MODEL 630

Schematic No.	Old Part No.	New Part No.
Ant. Transformer ①	32-1699	32-1867
Det. Transformer ②	32-1636	32-1868
Osc. Transformer ③	32-1637	32-1869

MODEL 640 (Code 121)

Approximate Date of Change	Run No.	CHANGES								
8-1-35	6	Replace Resistor ⑤, Part No. 6650 (20,000 ohms) with Part No. 33-1177.								
	4	Replace speaker plug socket, No. 27-6033 with No. 27-6043.								
		Replace 1st I. F. Transformer, Part No. 32-1835 with No. 32-1917 to prevent microphonics.								
		Remove rubber bumper, No. 27-4150 to prevent microphonics.								
		Remove Bezel Light Guard No. 27-8001.								
		Part ⑥ on base view in bulletin should be 2nd I. F. Part ⑦, 1st I. F.								
		Replace Bezel Glass Gasket No. 27-7981 with No. 27-8036.								
		Add No. 27-7972 Bezel Frame Gasket.								
11-1-35	9	<table border="1"> <thead> <tr> <th>Part</th> <th>Schematic No.</th> <th>Old Part</th> <th>New Part</th> </tr> </thead> <tbody> <tr> <td>Tuning Condenser</td> <td>⑧</td> <td>31-1556</td> <td>31-1671</td> </tr> </tbody> </table>	Part	Schematic No.	Old Part	New Part	Tuning Condenser	⑧	31-1556	31-1671
Part	Schematic No.	Old Part	New Part							
Tuning Condenser	⑧	31-1556	31-1671							
		Run No. 10								
		Shadow Meter Resistor	⑨							
			45-2089							
			33-1040							
			45-2083							
			Removed							

MODEL 640-B

Approximate Date of Change	Run No.	CHANGES
9-1-35	..	Uses K31 instead of K21 Speaker.

MODEL 641

Approximate Date of Change	Run No.	CHANGES						
9-1-35	..	Connect an 8,000 ohm resistor, Part No. 33-1114, across shadow meter.						
10-1-35	..	<p>Corrections in Replacement Parts List Part ⑩ .015 mf. Condenser is part of (64-A). Part ⑪ should be .03 mf. and the correct Part Number is 30-4025. Part ⑫ should be 3615-DG. Referring to bottom view of chassis, condenser marked ⑬ should be ⑭ and condenser ⑮ changed to ⑯. Capacity of sections in ⑰ is (.05 — .2 — .75 — .09 — .25). Part Number of B-C Resistor is 33-8214. List Price 25c. Price of No. 27-4225 Waveband Knob, List 10c.</p>						
11-1-35	..	<table border="1"> <thead> <tr> <th>Part</th> <th>Old Part</th> <th>New Part</th> </tr> </thead> <tbody> <tr> <td>Bezel Assembly</td> <td>40-5722</td> <td>40-5724</td> </tr> </tbody> </table>	Part	Old Part	New Part	Bezel Assembly	40-5722	40-5724
Part	Old Part	New Part						
Bezel Assembly	40-5722	40-5724						
12-1-35	2	A .00011 Mf. Condenser, Part No. 30-1031 is connected from the plate of the 85 Detector Tube to the Cathode Circuit.						

MODEL 642

Approximate Date of Change	Run No.	CHANGES																																																
9-1-35	..	<table border="1"> <thead> <tr> <th>Old Part</th> <th>New Part</th> </tr> </thead> <tbody> <tr> <td>Tone Control ①</td> <td>30-4316</td> </tr> <tr> <td></td> <td>30-4382</td> </tr> </tbody> </table>	Old Part	New Part	Tone Control ①	30-4316		30-4382																																										
Old Part	New Part																																																	
Tone Control ①	30-4316																																																	
	30-4382																																																	
12-1-35	2	The Dial and Mask Assembly were changed to the Glowing Arrow Wave Band Indicator Type.																																																
		<table border="1"> <thead> <tr> <th>Part</th> <th>Schematic No.</th> <th>Old Part No.</th> <th>New Part No.</th> </tr> </thead> <tbody> <tr> <td>Tuning Condenser</td> <td>②</td> <td>31-1526</td> <td>31-1741</td> </tr> <tr> <td>Hub and Set Screw Assembly</td> <td></td> <td>31-1650</td> <td>31-1724</td> </tr> <tr> <td>Mask Assembly</td> <td></td> <td></td> <td>27-5137</td> </tr> <tr> <td>Glowing Arrow Screen</td> <td></td> <td></td> <td>27-5166</td> </tr> <tr> <td>Screen Bracket</td> <td></td> <td></td> <td>31-1780</td> </tr> <tr> <td>Glowing Arrow Mask</td> <td></td> <td></td> <td>27-5187</td> </tr> <tr> <td>Mask Arm</td> <td></td> <td></td> <td>29-3274</td> </tr> <tr> <td>Link</td> <td></td> <td></td> <td>29-3285</td> </tr> <tr> <td>Coupling</td> <td></td> <td></td> <td>29-3586</td> </tr> <tr> <td>Pilot Lamp Assembly</td> <td></td> <td>38-7032</td> <td></td> </tr> <tr> <td>Wave Switch</td> <td>③</td> <td>42-1107</td> <td>42-1152</td> </tr> </tbody> </table>	Part	Schematic No.	Old Part No.	New Part No.	Tuning Condenser	②	31-1526	31-1741	Hub and Set Screw Assembly		31-1650	31-1724	Mask Assembly			27-5137	Glowing Arrow Screen			27-5166	Screen Bracket			31-1780	Glowing Arrow Mask			27-5187	Mask Arm			29-3274	Link			29-3285	Coupling			29-3586	Pilot Lamp Assembly		38-7032		Wave Switch	③	42-1107	42-1152
Part	Schematic No.	Old Part No.	New Part No.																																															
Tuning Condenser	②	31-1526	31-1741																																															
Hub and Set Screw Assembly		31-1650	31-1724																																															
Mask Assembly			27-5137																																															
Glowing Arrow Screen			27-5166																																															
Screen Bracket			31-1780																																															
Glowing Arrow Mask			27-5187																																															
Mask Arm			29-3274																																															
Link			29-3285																																															
Coupling			29-3586																																															
Pilot Lamp Assembly		38-7032																																																
Wave Switch	③	42-1107	42-1152																																															

MODEL 643

Approximate Date of Change	Run No.	CHANGES								
9-1-35	..	Filament current reads (point) .750MA., it should read 750MA.								
		Part No. 33-5119 ④ in Model 643, Bulletin No. 226, listed at \$1.10 changed to \$1.45.								
12-1-35	..	Change Chassis Mounting Washer (rubber) listed as 27-4021 to 27-4201.								
		Pilot Lamp ⑤, Part No. 5316, should be Part No. 34-2065.								
11-1-35	3	<table border="1"> <thead> <tr> <th>Part</th> <th>Schematic No.</th> <th>Old Part</th> <th>New Part</th> </tr> </thead> <tbody> <tr> <td>Condenser</td> <td>⑥</td> <td>6359 (.006 mf.)</td> <td>30-1031 (.00011 mf.)</td> </tr> </tbody> </table>	Part	Schematic No.	Old Part	New Part	Condenser	⑥	6359 (.006 mf.)	30-1031 (.00011 mf.)
Part	Schematic No.	Old Part	New Part							
Condenser	⑥	6359 (.006 mf.)	30-1031 (.00011 mf.)							

MODEL 650

Approximate Date of Change	Run No.	CHANGES								
11-1-35	13	<table border="1"> <thead> <tr> <th>Part</th> <th>Schematic No.</th> <th>Old Part</th> <th>New Part</th> </tr> </thead> <tbody> <tr> <td>Tuning Condenser</td> <td>⑦</td> <td>31-1556</td> <td>31-1671</td> </tr> </tbody> </table>	Part	Schematic No.	Old Part	New Part	Tuning Condenser	⑦	31-1556	31-1671
Part	Schematic No.	Old Part	New Part							
Tuning Condenser	⑦	31-1556	31-1671							
		Code 121, Run No. 15.								
		Code 122, Run No. 13.								
		Shadow Meter Resistor	⑧							
			45-2086 & 45-2082							
			6096							
			45-2088							
			Removed							

MODELS 650, 660, 680(122)

Parts Catalog PHILCO RADIO & TELEV. CORP.

Changes

MODEL 650

Approximate Date of Change	Run No.	CHANGES																								
8-1-35	9	Add Part No. 27-8001 Bezel Light Guard. Part Ⓞ on base view in bulletin should be 2nd I. F., Part Ⓞ, 1st I. F. PRICE CORRECTION— Part No. 33-3211 Ⓞ resistor; correct list price is \$.65 instead of \$1.60. Part No. 30-4185 tubular condenser (used in several models) price changed from \$0.40 to \$0.25 list. Effective July 15, 1935.																								
		<table border="1"> <thead> <tr> <th>Part</th> <th>Remove</th> <th>Schematic No.</th> <th>Install</th> </tr> </thead> <tbody> <tr> <td>1st I. F. Transformer</td> <td>32-1835</td> <td>Ⓞ</td> <td>32-1917</td> </tr> <tr> <td>Condenser</td> <td>3615-DG</td> <td></td> <td>3615-DU</td> </tr> <tr> <td>Rubber Bumper</td> <td>27-4150</td> <td></td> <td></td> </tr> <tr> <td>Bezel Glass Gasket</td> <td>27-7981</td> <td></td> <td>27-8036</td> </tr> <tr> <td>Bezel Frame Gasket</td> <td></td> <td></td> <td>27-7972</td> </tr> </tbody> </table>	Part	Remove	Schematic No.	Install	1st I. F. Transformer	32-1835	Ⓞ	32-1917	Condenser	3615-DG		3615-DU	Rubber Bumper	27-4150			Bezel Glass Gasket	27-7981		27-8036	Bezel Frame Gasket			27-7972
Part	Remove	Schematic No.	Install																							
1st I. F. Transformer	32-1835	Ⓞ	32-1917																							
Condenser	3615-DG		3615-DU																							
Rubber Bumper	27-4150																									
Bezel Glass Gasket	27-7981		27-8036																							
Bezel Frame Gasket			27-7972																							
Conversion Code 121 to 123 (RX) —																										
Electrolytic Condenser	30-2025	Ⓞ	7464																							
Dial Assembly	31-1533		31-1651																							
Line Cord	L-943A																									
Antenna Power Cord			41-3104																							
Shadow Meter	45-2086	Ⓞ	45-2082																							
Tone Control	30-4343	Ⓞ	30-4378																							
By-Pass Condenser	3615-SU	Ⓞ	3615-OSU																							
By-Pass Condenser	6287-DU	Ⓞ	6287-ODU																							
By-Pass Condenser	3615-SG	Ⓞ	3615-OSG																							
By-Pass Condenser	3793-DG	Ⓞ	3793-ODU																							
By-Pass Condenser	3613-DU	Ⓞ	3615-ODU																							
By-Pass Condenser	8035-DG	Ⓞ	8035-ODG																							

9-1-35 12 Replace Part No. 30-4351 Ⓞ Tone Control with Part No. 30-4379 . 110 mmfd. condenser, Part No. 30-1081 Ⓞ removed.

Part	Old Part	New Part
Resistor Ⓞ	5385 (70,000 ohms)	33-1115
Resistor Ⓞ	6208 (15,000 ohms)	33-1177
Resistor Ⓞ	5310 (5,000 ohms)	6096
Resistor Ⓞ	5837 (1,000 ohms)	33-1028
	Wiring Panel	38-6151

These changes made to reduce hum.

MODEL 660

Approximate Date of Change	Run No.	CHANGES
9-1-35	8	Remove rubber bumper, Part No. 31-1706, (to prevent microphonics). E. C. Resistors Ⓞ, Part No. 33-2020, in Bulletin No. 223, should be 33-3020. Compensating Condenser No. Ⓞ in Fig. 2 is labelled "standard." it should be "police"; also Condenser No. Ⓞ is labelled "police" and should be "standard."

Part	Old Part	New Part
Tone Control (Code 121)	30-4343	30-4378
2nd I. F. Transformer Ⓞ	32-1734	32-1865
Tone Control (Code 122)	30-4351	30-4379

11-1-35 .. Shadow meter shunt resistor (2000 ohms) Part Ⓞ, Part No. 6984, removed.
Reverse Numbers Ⓞ and Ⓞ shown in Fig. 2.

Part	Schematic No.	Old Part	New Part
Condenser	5	Ⓞ 30-4123 (.05 mf.)	30-4170 (.1 mf.)
Tuning Condenser	3	Ⓞ 31-1706	31-1883
Dial Hub Assembly		31-1575	31-1724

12-1-35 .. September Change Notices indicated a change of the 2nd I. F. Transformer Ⓞ. The Part Number of the new Transformer is 32-1865 and the corresponding Compensating Condenser Number is 31-6087.

MODEL 680 (Code 122)

Approximate Date of Change	Run No.	CHANGES
11-1-35	4	240,000 ohm resistor, Part No. 33-1097, added, connected from wiper arm (center terminal) to bottom terminal of bass control. The correct Part Number (163) on Parts List is 30-4113. Part No. of Large (H Type) Acoustic Clarifier is 36-1158.
12-1-35	5	Shadow Meter (120), Part No. 45-2088 is replaced with No. 45-2083. Shunt Resistor (121), Part No. 7352 (6,000 ohms) removed.
	6	Sensitivity Control (85), Part No. 33-5124 is replaced with Part No. 33-5144. The correct number and price for Input Transformer (157) is 32-7447 at \$3.00.

U-7 SPEAKER

9-1-35 .. The correct cone assembly number for the type U-7 speaker is 36-3381.

CORRECTIONS IN 1936 PHILCO PARTS CATALOG

- Tubular Paper Condenser 30-4346 should be 30-4336, working voltage, 1000.
- Tubular Condenser Kit (page 18), Part No. 45-1100 should be 45-1139.
- Tuning Condenser 31-1039 should be 31-1106, list \$5.30.
- Tuning Condenser 31-1006 should be 31-1005, list \$4.00.
- Potentiometer, Part No. 33-5511 should be 33-5111.
- I. F. Amplifier Kit, Part No. 38-6685 should be 33-7453, list \$6.15.
- I. F. Amplifier Kit complete should be Part No. 40-5814, list \$8.81.
- Headphones only should be Part No. 45-2098 instead of 8303.
- Filter Choke (in short-wave section) should be Part No. 5643 instead of 5465.
- Power Amplifier Output Transformer 32-7055 should be 32-7255, list \$15.00 instead of \$4.50.
- Heavy Duty Resistor, Part No. 33-3134 should be 33-3176.
- Heavy Duty Resistor, Part No. 33-3135 should be 33-3175.
- Knobs, Part No. 24-4051 should be 27-4051.
- Cones, replacement for K-13 and K-17 speakers should be 36-3159, list \$0.80 instead of 02996 (list \$0.90).
- Field Coil, S-15 Speaker should be 36-3519 instead of 36-3579.

PRICE CORRECTIONS IN 1936 CATALOG

	Price Listed	Correct Price
30-2073 Elec. Cond. _____	\$5.75	\$3.15
30-2077 Elec. Cond. _____	3.15	5.75
4234 Power Trans. _____	7.50	7.00
3868 Power Trans. _____	7.50	9.00
32-7067 Amp. Power Trans. _____	30.00	34.00
32-7032 Amp. Power Trans. _____	36.00	35.00
38-6057 Vibrator _____	6.00	5.00
L-1640 Wire _____ (per 100 feet)	2.50	2.00
907-000 Wire _____ (per 100 feet)	1.50	1.85