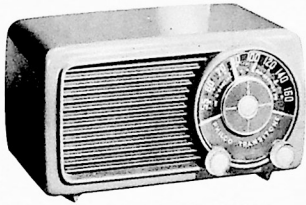
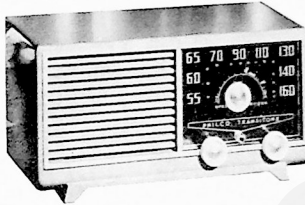


# PHILCO HOME RADIO

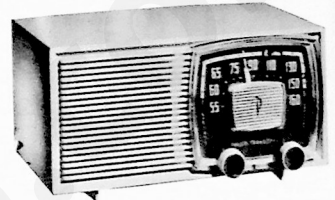
## MODELS 53-561, 53-562 AND 53-564



MODEL 53-561



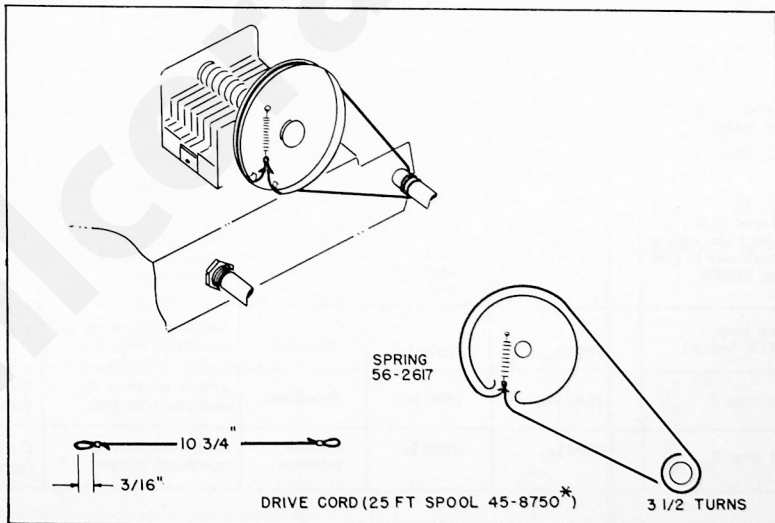
MODEL 53-562



MODEL 53-564

### SPECIFICATIONS

CABINET .....	Molded plastic	OPERATING VOLTAGE .....	105 to 120 volts, a.c. or d.c.
CIRCUIT .....	Four-tube superheterodyne (plus rectifier)	POWER CONSUMPTION .....	30 watts
FREQUENCY RANGE		AERIAL .....	High-impedance loop
Standard Broadcast .....	540 kc. to 1620 kc.	INTERMEDIATE FREQUENCY .....	455 kc.
Special Services .....	1700 kc. to 3400 kc.	PHILCO TUBES .....	12BE6 converter, 12BA6 i-f amplifier, 12AV6 det.-a.v.c.-1st audio, 35C5 output, 35W4 rectifier
AUDIO OUTPUT .....	1 watt		



TP2-1405

Figure 1. Dial-Cord Installation Details

## ALIGNMENT PROCEDURE

**RADIO CONTROLS**—Set volume control to maximum. Set tuning control and band switch, SW1, as indicated in chart.

**OUTPUT METER**—Connect across voice-coil terminals.

**SIGNAL GENERATOR**—Connect generator and set fre-

quency as indicated in chart. Use modulated output.

**OUTPUT LEVEL**—During alignment, adjust signal-generator output to hold output-meter reading below 1.25 volts.

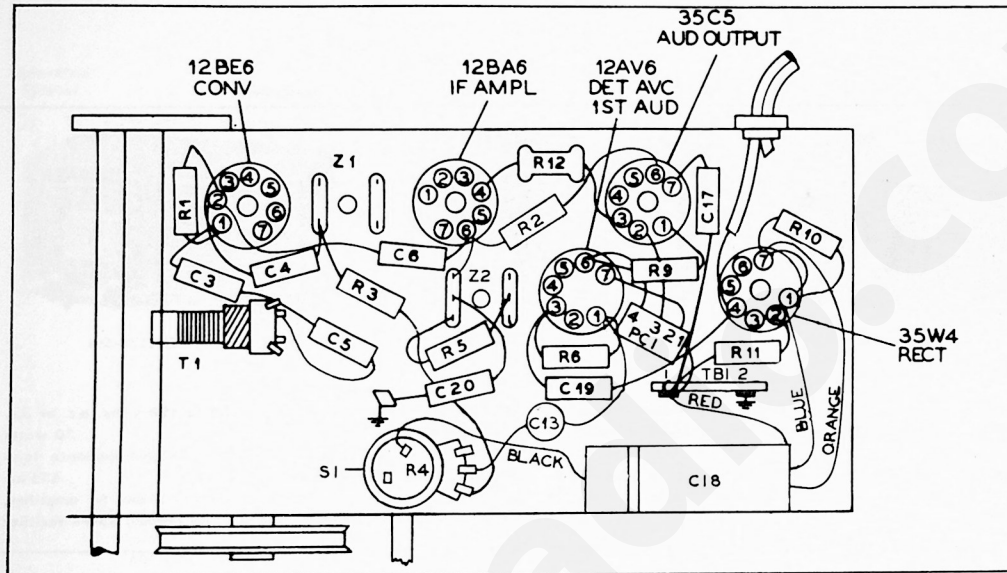


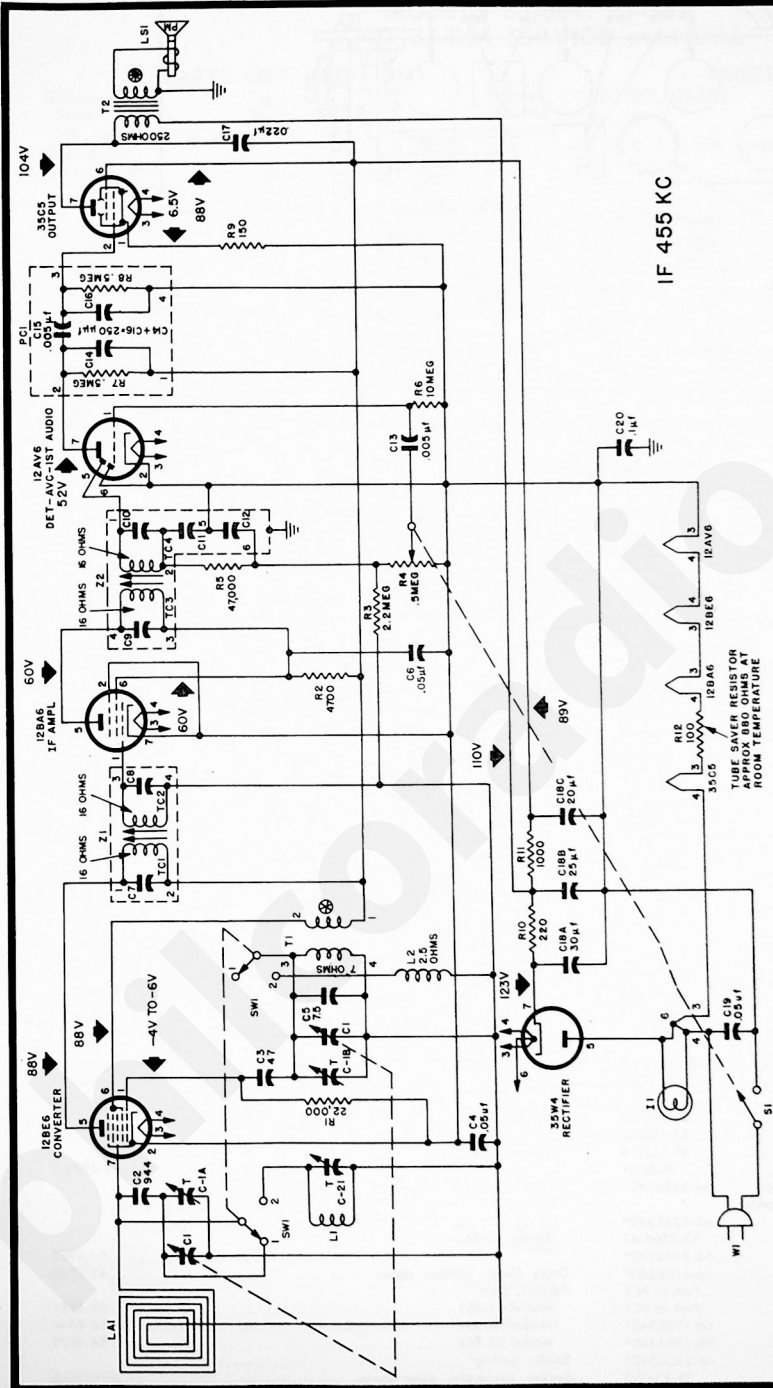
Figure 2. Base View, Showing Symbolized Chassis

TP2-1406

STEP	SIGNAL GENERATOR		RADIO			ADJUST
	CONNECTION TO RADIO	DIAL SETTING	DIAL SETTING	BAND SWITCH SETTING	SPECIAL INSTRUCTIONS	
1	Ground lead to B-; output lead through a .1- $\mu$ f. condenser to grid (pin 7) of 12BE6.	455 kc.	Tuning gang fully open.	Broadcast	Adjust tuning cores, in order given, for maximum output. (TC1 and TC4 are located at top of transformers).	TC4—2nd i-f sec. TC3—2nd i-f pri. TC2—1st i-f sec. TC1—1st i-f pri.
2	Radiating loop (see NOTE below).	1620 kc.	$\approx$ 1620 kc.	Broadcast	Adjust trimmer for maximum output.	C1-B osc.
3	Same as step 2.	1500 kc.	1500 kc.	Broadcast	Adjust trimmer for maximum output.	C1-A aerial (broadcast).
4	Same as step 2.	3200 kc.	3200 kc.	Special services	Adjust trimmer for maximum output.	C-21—aerial (special services).

**NOTE:** Make up a 6-8 turn, 6-inch-diameter loop from insulated wire; connect to signal-generator leads and place near radio loop.

\*For proper adjustment of the oscillator trimmer, fully open the tuning gang and insert a .006-inch non-metallic shim between the heel of the rotor and the top of the stator plates. Close the tuning gang sufficiently to hold the shim in place, and then remove the shim without disturbing the gang setting.



NOTES:  
 1. ALL VOLTAGES MEASURED WITH A 20,000 OHMS-PER-VOLT VOLTMETER BETWEEN POINTS INDICATED AND B MINUS, AT A LINE VOLTAGE OF 117V AC.  
 2. OSCILLATOR GRID VOLTAGE MEASURED ACROSS R<sub>L</sub> WITH A 100,000 OHM ISOLATING RESISTOR IN SERIES WITH METER.  
 3. ALL RESISTOR VALUES ARE IN OHMS AND ALL CONDENSER VALUES IN μF UNLESS OTHERWISE MARKED.  
 4. SWI SHOWN IN STANDARD BROADCAST POSITION.

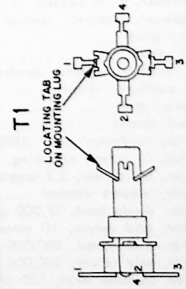
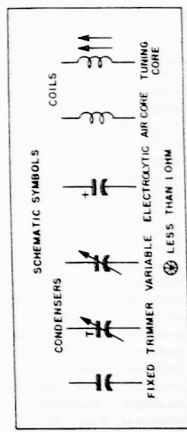


Figure 3. Philco Radio Models 53-561, 53-562, and 53-564, Schematic Diagram

REVISIONS AND ADDITIONS TO  
MODELS 53-561, 53-562,  
AND 53-564 SERVICE MANUAL

PARTS LIST ADDITIONS

Reference Symbol	Description	Service Part No.
†C22	Condenser, r-f by-pass, 220 $\mu$ f.	62-122001001
<b>Description</b>		
<b>Backplate, dial</b>		
Model 53-562		
	Sand cabinet	54-4972-3
	Spruce green cabinet	54-4972-2
<b>Cabinet</b>		
Model 53-561		
	Cherry	10925-8
	Yellow	10925-9
Model 53-562		
	Sand	10926-30
	Spruce green	10926-29
Model 53-564		
	Ebony	10927
	Ivory	10927-2
<b>Dial scale</b>		
Model 53-561		
	Maroon, ivory, light beige, and Colonial green cabinets	54-5146
	Cherry and Yellow cabinets	54-5146-1
Model 53-562		
	All color cabinets except Forest green	54-5147
	Forest green	54-5147-2
Model 53-564		
	Ebony cabinet	54-5143
	Ivory cabinet	54-5143-1
	Clip, back (2 required)	56-10008
	Fastener, back (2 required)	W2235FA9
	Shield, tube (12AV6)	56-5629FCP

†This part should also be added to the schematic diagram, connected between the a-v-c line and B<sub>1</sub>.

PARTS LIST CORRECTIONS

Reference Symbol	Description	Service Part No.
C2	Condenser, series tracker, 944 $\mu$ f.	30-1220-65
C4	Condenser, a-v-c by-pass, .047 $\mu$ f.	30-4650-45
C6	Condenser, screen by-pass, .047 $\mu$ f.	30-4650-62
C17	Condenser, tone compensation, .022 $\mu$ f.	30-4650-60
C18	Condenser, electrolytic, 3-section	45-3037
C19	Condenser, line by-pass, .047 $\mu$ f.	30-4650-45
C20	Condenser, B <sub>1</sub> to chassis, .1 $\mu$ f.	30-4650-64
LA1	Loop, aerial	Part of Cabinet Back
R2	Resistor, i-f screen dropping, 4700 ohms	66-2478340
<b>Description</b>		
<b>Cabinet</b>		
Model 53-561		
	Ivory	10925
	Colonial green	10925-10
	Maroon	10925-2
	Light beige	10925-6
Model 53-562		
	Maroon	10926-26
	Forest green	10926-27
	Tangerine	10926-28
	Ivory	10926-25
Model 53-564		
	Maroon	Not available
	Shaft, tuning	56-9807
	Socket, tube (12AV6)	27-6203-14

PRODUCTION CHANGES

MODEL 53-561

Run 2

Run 2 is the same as Run 1.

Run 2Z

A .022- $\mu$ f. condenser, Part No. 30-4650-43, was added, between B<sub>+</sub> and B<sub>-</sub>, to reduce modulation hum. This condenser was wired between pin 2 of the 12AV6 tube socket and lug 1 of terminal board TB1.

ADDITIONAL INFORMATION

REMOVAL OF CHASSIS FROM CABINET

To remove the chassis from the cabinet, proceed as follows:

1. Remove the dial cover by removing the holding screw at the bottom of the cover.
2. Remove the pilot light and socket from the pilot-light clip.
3. Remove the pointer by pulling it straight away from the cabinet. Use care to avoid bending the pointer.
4. Remove the control knobs, and remove the screws from the bottom of the cabinet. The chassis is now free. To replace the chassis in the cabinet, reverse the procedure.

To set the pointer to indicate the correct frequency, turn the tuning-control shaft until the tuning gang is fully closed. Then place the pointer on the shaft so that it falls over the index mark directly below the "55" mark.



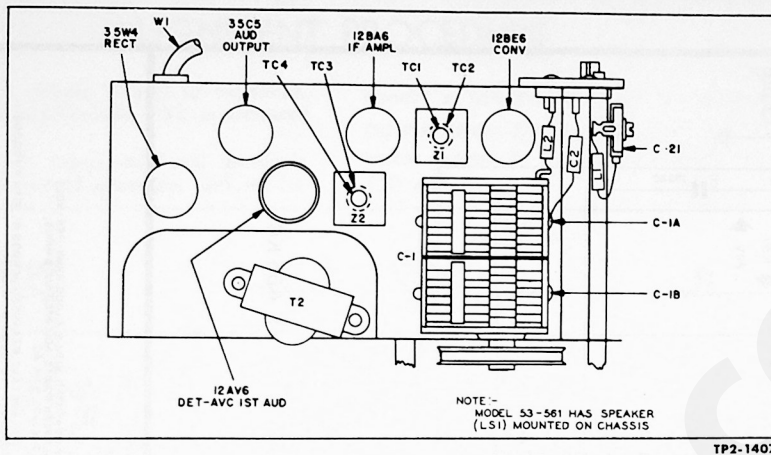


Figure 4. Top View, Showing Trimmer Locations

**REPLACEMENT PARTS LIST**

NOTE: Part numbers identified by an asterisk (\*) are general replacement items. These numbers may not be identical with those on factory parts. Also, the electrical values of some replacement items may differ from the values indicated in the schematic diagram and parts list. The values substituted in any case are so chosen that the operation will be unchanged. When ordering replacements, use only the "Service Part No."

Reference Symbol	Description	Service Part No.
C1	Condenser, tuning gang	31-2751-14
C1A	Condenser, aerial trimmer	Part of C1
C1B	Condenser, osc. trimmer	Part of C1
C2	Condenser, aerial series tracker, 944 $\mu\text{f.}$	
C3	Condenser, oscillator grid, 47 $\mu\text{f.}$	30-1230-4
C4	Condenser, a-v-c by-pass, .05 $\mu\text{f.}$	
C5	Condenser, drift compensation, 7.5 $\mu\text{f.}$	30-1224-83
C6	Condenser, screen by-pass, .05 $\mu\text{f.}$	
C7	Condenser, i-f tuning	Part of Z1
C8	Condenser, i-f tuning	Part of Z1
C9	Condenser, i-f tuning	Part of Z2
C10	Condenser, i-f tuning	Part of Z2
C11	Condenser, detector filtering	Part of Z2
C12	Condenser, detector filtering	Part of Z2
C13	Condenser, audio coupling, .005 $\mu\text{f.}$	30-1238-1
C14	Condenser, plate by-pass	Part of PC1
C15	Condenser, audio coupling, .005 $\mu\text{f.}$	Part of PC1
C16	Condenser, compensating	Part of PC1
C17	Condenser, lone compensation, .022 $\mu\text{f.}$	
C18	Condenser, electrolytic, 3-section	
C18A	Condenser, filter, 30 $\mu\text{f.}$ , 150v	Part of C18
C18B	Condenser, filter, 25 $\mu\text{f.}$ , 150v	Part of C18
C18C	Condenser, filter, 20 $\mu\text{f.}$ , 150v	Part of C18
C19	Condenser, line by-pass, .05 $\mu\text{f.}$	
C20	Condenser, B- to chassis, .1 $\mu\text{f.}$	
C21	Condenser, trimmer, special service	31-6473-29
I1	Lamp, pilot	34-2068
LA1	Loop, aerial	
L1	Coil, antenna, special services	32-4561-3
L2	Coil, oscillator shunt	32-4562-2
LS1	Speaker, p-m	36-1627-8
PC1	Printed circuit	30-6001
R1	Resistor, oscillator grid, 22000 ohms	66-3228340*
R2	Resistor, i-f screen dropping, 4700 ohms	
R3	Resistor, a-v-c filter, 2.2 megohms	66-5228340*
R4	Resistor, volume control	33-5566-41
R5	Resistor, diode load, 47,000 ohms	66-3478340*
R6	Resistor, grid return, 10 megohms	66-6108340*
R7	Resistor, plate load, 500,000 ohms	Part of PC1
R8	Resistor, grid return, 500,000 ohms	Part of PC1
R9	Resistor, cathode bias, 150 ohms	66-1158340*
R10	Resistor, B plus filter, 220 ohms	66-1224340*
R11	Resistor, B plus filter, 1000 ohms	66-2108340*
R12	Resistor, tube saver, 100 ohms	33-1343-3
S1	Switch, off-on	Part of R4
SW1	Switch, broadcast-special services	42-1796-2
T1	Transformer, oscillator	32-4453-6
T2	Transformer, output	32-8384*

Reference Symbol	Description	Service Part No.
W1	Line cord	L-2183*
Z1	Transformer, 1st i-f	32-4161A
Z2	Transformer, 2nd i-f	32-4240A

**MISCELLANEOUS**

Description	Service Part No.
Cabinet	
Model 53-561	
Ivory	
Colonial green	
Maroon	
Light beige	
Model 53-562	
Maroon	
Forest green	
Tangerine	
Ivory	
Model 53-564	
Maroon	
Back-and-Loop Assembly	
Model 53-561	76-7718
Model 53-562	76-7759
Model 53-564	76-7769
Knob (2)	
Model 53-561	54-4980-1
Model 53-562	
Model 53-564	54-4773-3
Model 53-564	
Drive Cord, 25-foot spool	54-4982
Painter, Dial	45-8750
Model 53-561	54-4981
Model 53-562	56-9834
Model 53-564	54-4979
Shaft, tuning	
Socket assembly, pilot lamp	27-6233-6
Socket, 7-pin miniature	27-6265
Socket	
Spring, retaining	28-8610
Spring	56-2617

REVISIONS AND ADDITIONS TO  
MODEL 23 SET 23-242  
AND 2300 SERVICE MANUAL

PRODUCTION CHANGES

REVISED 11-15-51

1. The chassis was changed from the 23-242 to the 23-242A chassis. This change was made to provide for a more compact chassis and to provide for a more efficient chassis. The chassis was changed from the 23-242 to the 23-242A chassis. This change was made to provide for a more compact chassis and to provide for a more efficient chassis.

ADDITIONAL INFORMATION

GENERAL CHASSIS INFORMATION

The chassis is designed to be used in a rack mount. The chassis is designed to be used in a rack mount. The chassis is designed to be used in a rack mount. The chassis is designed to be used in a rack mount.

PARTS LIST ADDITIONS

REVISED 11-15-51

1. The chassis was changed from the 23-242 to the 23-242A chassis. This change was made to provide for a more compact chassis and to provide for a more efficient chassis. The chassis was changed from the 23-242 to the 23-242A chassis. This change was made to provide for a more compact chassis and to provide for a more efficient chassis.

LAST LIST CORRECTIONS

1. The chassis was changed from the 23-242 to the 23-242A chassis. This change was made to provide for a more compact chassis and to provide for a more efficient chassis. The chassis was changed from the 23-242 to the 23-242A chassis. This change was made to provide for a more compact chassis and to provide for a more efficient chassis.

2. The chassis was changed from the 23-242 to the 23-242A chassis. This change was made to provide for a more compact chassis and to provide for a more efficient chassis. The chassis was changed from the 23-242 to the 23-242A chassis. This change was made to provide for a more compact chassis and to provide for a more efficient chassis.

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4. The chassis was changed from the 23-242 to the 23-242A chassis. This change was made to provide for a more compact chassis and to provide for a more efficient chassis. The chassis was changed from the 23-242 to the 23-242A chassis. This change was made to provide for a more compact chassis and to provide for a more efficient chassis.

