

PHILCO HOME RADIO MODEL 53-565



MODEL 53-565

SPECIFICATIONS

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

Note: The antenna is mounted on the cabinet back. When removing the cabinet back, use care to avoid breaking the antenna leads.

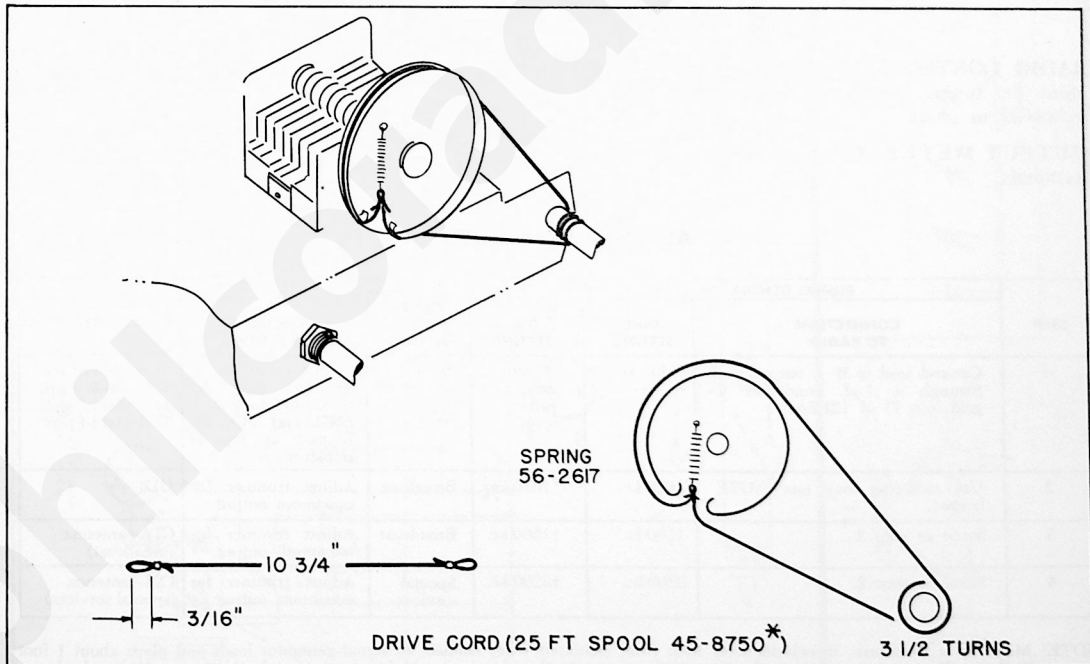
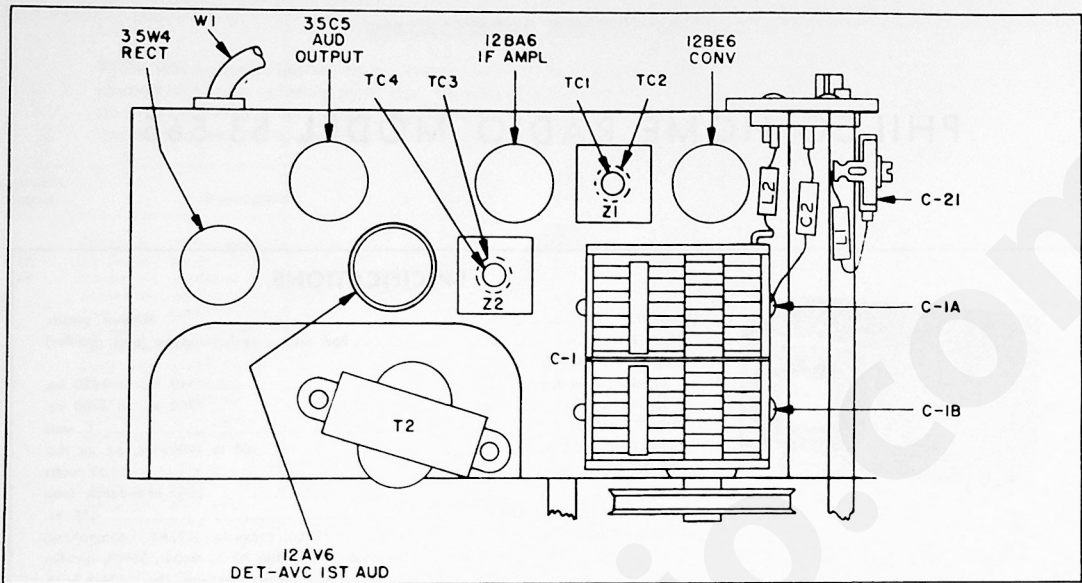


Figure 1. Dial-Cord Installation Details

TP2-1405



TP2-1407

Figure 2. Top View, Showing Tuning Adjustments

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 frequency as indicated in chart. Use modulated output.

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

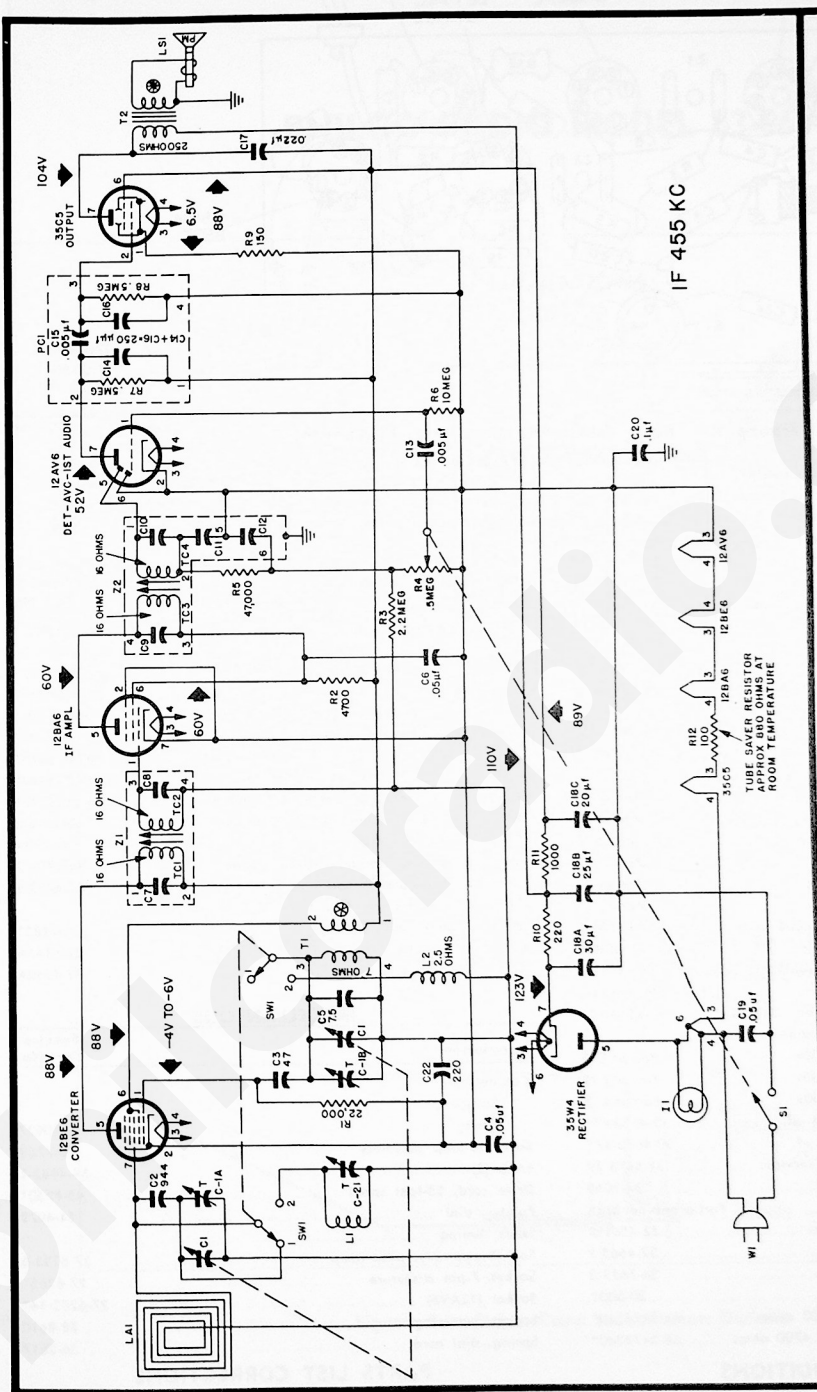
ALIGNMENT CHART

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- μ 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	Use radiating loop (see NOTE below).	1620 kc.	*1620 kc.	Broadcast	Adjust trimmer for maximum output.	C1B—osc.
3	Same as step 2.	1500 kc.	†1500 kc.	Broadcast	Adjust trimmer for maximum output.	C1A—antenna (broadcast)
4	Same as step 2.	3200 kc.	†3200 kc.	Special services	Adjust trimmer for maximum output.	C21—antenna (special services)

NOTE: Make up a 6–8 turn, 6-inch-diameter loop from insulated wire; connect to signal-generator leads and place about 1 foot from radio loop. The position of the radio loop with respect to the chassis should be approximately the same as when both are mounted in the cabinet.

* To set the tuning gang to 1620 kc., fully open the gang and insert a .006-inch nonmetallic shim between the heel of the rotor and the top of the stator plates. Close the gang sufficiently to hold the shim in place, and then remove the shim without disturbing the gang setting.

† To set the tuning gang to this frequency, put the chassis into the cabinet, tune the dial until it indicates the proper frequency on the dial scale, and then remove the chassis from the cabinet without disturbing the gang setting.



IF 455 KC

NOTES:
 VOLTAGES MEASURED WITH A 20000 OHMS-PER-VOLT
 VOLTMETER BETWEEN POINTS INDICATED AND B MINUS,
 AT A LINE VOLTAGE OF 117 V AC
 OSCILLATOR GRID VOLTAGE MEASURED ACROSS R1, WITH A 100000
 OHM ISOLATING RESISTOR IN SERIES WITH METER
 ALL RESISTOR VALUES ARE IN OHMS UNLESS OTHERWISE MARKED
 VALUES IN μ M UNLESS OTHERWISE MARKED
 SW1 SHOWN IN STANDARD BROADCAST POSITION

SCHEMATIC SYMBOLS

CONDENSERS

FIXED TRIMMER VARIABLE ELECTRETIC AIR CORE TUNING CORE

COILS

LOCATING TAB ON MOUNTING LUG

Figure 3. Philco Radio Model 53-565, Schematic Diagram

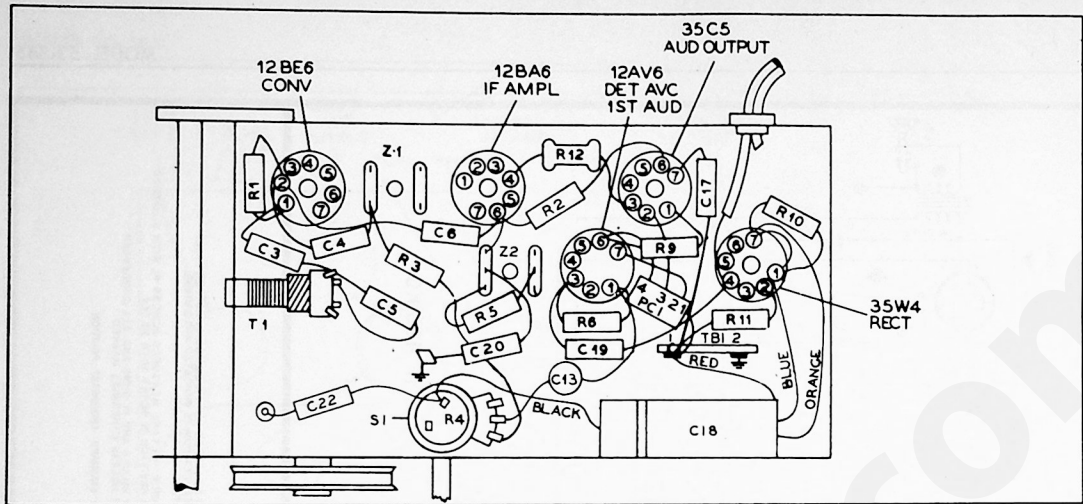


Figure 4. Base View, Showing Parts Placement
REPLACEMENT PARTS LIST

TP2-1406

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.	Reference Symbol	Description	Service Part No.
C1	Condenser, tuning gang	31-2751-14	R3	Resistor, a-v-c filter, 2.2 megohms	66-5228340*
C1A	Condenser, antenna trimmer	Part of C1	R4	Resistor, volume control	33-5566-41
C1B	Condenser, osc. trimmer	Part of C1	R5	Resistor, diode load, 47,000 ohms	66-3478340*
C2	Condenser, antenna series tracker, 944 μ f.	30-1220-65	R6	Resistor, grid return, 10 megohms	66-6108340*
C3	Condenser, oscillator grid, 47 μ f.	30-1230-4	R7	Resistor, plate load, 500,000 ohms	Part of PC1
C4	Condenser, a-v-c by-pass, .05 μ f.	30-4650-45*	R8	Resistor, grid return, 500,000 ohms	Part of PC1
C5	Condenser, drift compensation, 7.5 μ f.	30-1224-83	R9	Resistor, cathode bias, 150 ohms	66-1158340*
C6	Condenser, screen by-pass, .05 μ f.	30-4650-45*	R10	Resistor, B plus filter, 220 ohms	66-1224340*
C7	Condenser, i-f tuning	Part of Z1	R11	Resistor, B plus filter, 1000 ohms	66-2108340*
C8	Condenser, i-f tuning	Part of Z1	R12	Resistor, tube saver, 100 ohms	33-1343-3
C9	Condenser, i-f tuning	Part of Z2	S1	Switch, off-on	Part of R4
C10	Condenser, i-f tuning	Part of Z2	SW1	Switch, broadcast-special services	42-1796-2
C11	Condenser, detector filtering	Part of Z2	T1	Transformer, oscillator	32-4453-6
C12	Condenser, detector filtering	Part of Z2	T2	Transformer, output	
C13	Condenser, audio coupling, .005 μ f.	30-1238-1	W1	Line cord	L-2183*
C14	Condenser, plate by-pass	Part of PC1	Z1	Transformer, 1st i-f	32-4161A
C15	Condenser, audio coupling, .005 μ f.	Part of PC1	Z2	Transformer, 2nd i-f	32-4240A
C16	Condenser, compensating	Part of PC1			
C17	Condenser, tone compensation, .022 μ f.	30-4650-43*			
C18	Condenser, electrolytic, 3-section				
C18A	Condenser, filter, 30 μ f., 150v	Part of C18			
C18B	Condenser, filter, 25 μ f., 150v	Part of C18			
C18C	Condenser, filter, 20 μ f., 150v	Part of C18			
C19	Condenser, line by-pass, .05 μ f.	30-4650-45*			
C20	Condenser, B- to chassis, .1 μ f.	30-4650-47*			
C21	Condenser, trimmer, special services	31-6473-29			
I1	Lamp, pilot	34-2068			
LA1	Loop, antenna	Part of cabinet back			
L1	Coil, antenna, special services	32-4561-3			
L2	Coil, oscillator shunt	32-4562-2			
LS1	Speaker, p-m	36-1625-3			
PC1	Printed circuit	30-6001			
R1	Resistor, oscillator grid, 22,000 ohms	66-3228340*			
R2	Resistor, i-f screen dropping, 4700 ohms	66-2478340*			

PARTS LIST ADDITIONS

Reference Symbol	Description	Service Part No.
C22	Condenser, r-f by-pass, 220 μ f.	60-10225417
Description	Service Part No.	
Fastener, back (2 required)	W2235FA9	
Shield, tube	56-5629FA3	

MISCELLANEOUS

Description	Service Part No.
Cabinet	
Spruce	
Ebony	10927
Back-and-loop assembly	76-7769
Knob (2)	54-4982-1
Drive card, 25-foot spool	45-8750*
Painter, dial	54-4979
Shaft, tuning	
Socket assembly, pilot lamp	27-6233-6
Socket, 7-pin miniature	27-6265*
Socket (12AV6)	27-6203-14*
Spring, retaining	28-8610
Spring, dial cord	56-2617

PARTS LIST CORRECTIONS

Reference Symbol	Description	Service Part No.
C18	Condenser, electrolytic, 3-section	45-3037
T2	Transformer, output	32-8384-4
Description	Service Part No.	
Cabinet		
Spruce	Not available	
Shaft, tuning	56-9807	