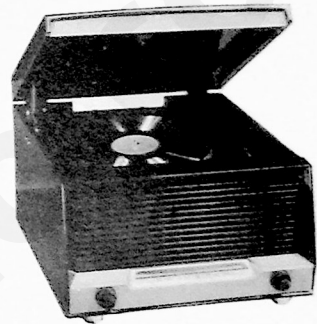


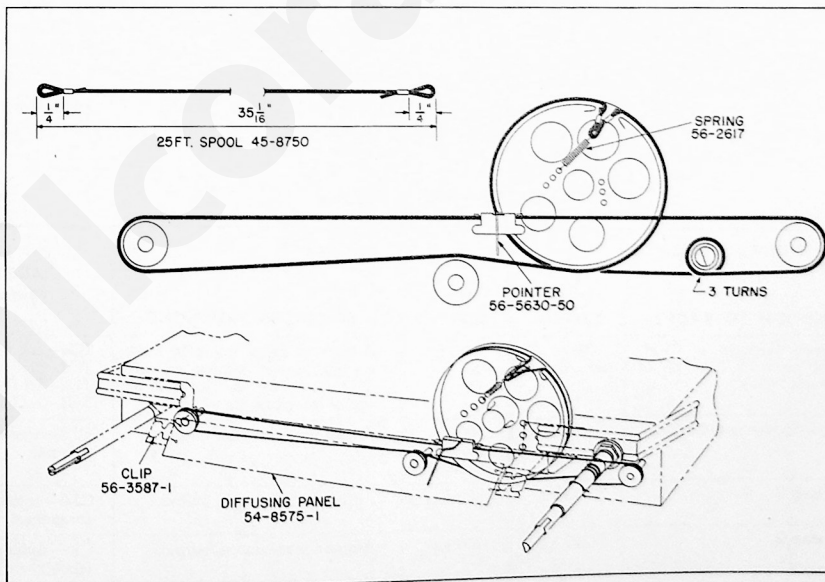
PHILCO RADIO-PHONOGRAPH MODEL 53-1350

SPECIFICATIONS

CABINET	Molded plastic
CIRCUIT	Four-tube superheterodyne plus rectifier
FREQUENCY RANGES	
Broadcast	540-1620 kc.
Special Services	1700-3400 kc.
AUDIO OUTPUT	3 watts
OPERATING VOLTAGE	105-120 volts, 60 cycles, a.c.
POWER CONSUMPTION	
Radio	35 watts
Phonograph	60 watts
INTERMEDIATE FREQUENCY	455 kc.
ANTENNA	Built-in high-impedance loop; provision for external antenna
PHILCO TUBES	7A8 converter; 7B7 i-f amplifier; 7C6 detector-a.v.c.-1st audio; 3SL6GT output; 50Y7GT rectifier
PHONOGRAPH	Philco Model M-24 All-Speed Automatic Record Changer



MODEL 53-1350



TP2-2587

Figure 1. Drive-Cord Installation Details

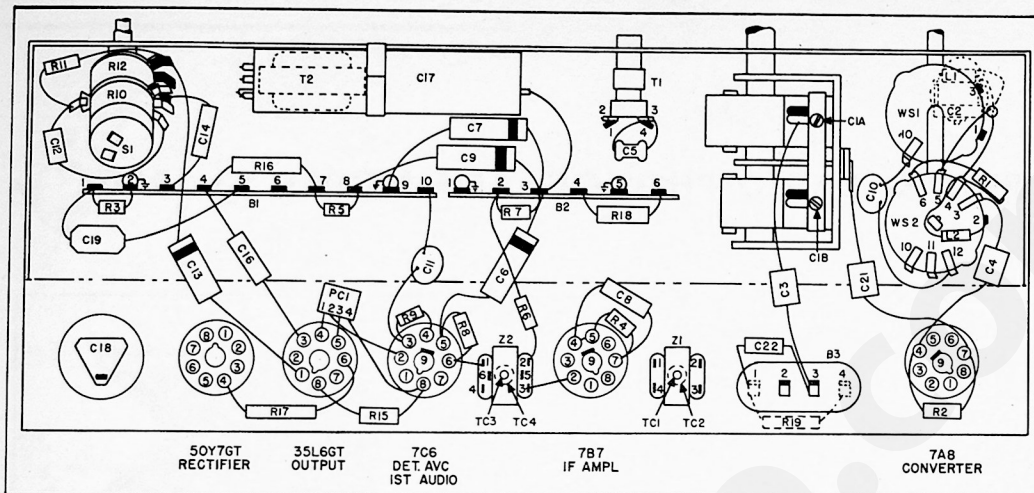


Figure 2. Base View, Showing Parts Placement and Alignment Points

ALIGNMENT PROCEDURE

GENERAL—In order to perform the alignment procedure it is necessary to remove the front of the cabinet from the back portion of the cabinet holding the record changer. This front part of the cabinet can be removed by loosening the front screws located on the bottom of the cabinet, and the screws located directly under the front of the changer lid.

DIAL POINTER—With the tuning-condenser plates fully meshed, set the dial pointer to coincide with the index mark located to the left of "55" on the dial scale.

CONTROLS—Set the volume control to maximum and the tone control to the treble position. Set the radio-phono switch to the broadcast position for the

first three steps of the procedure, and to the special services position for the last step. Set the tuning control as indicated in the chart.

OUTPUT INDICATOR—Connect the output indicator (a 1000-ohms-per-volt voltmeter or an oscilloscope) across the voice-coil terminals.

SIGNAL GENERATOR—Use an amplitude-modulated r-f generator. Connect the ground lead to B-, and the output lead as indicated in the chart.

OUTPUT LEVEL—During the alignment, attenuate the signal-generator output to maintain the output indication below 1 volt.

ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RADIO		ADJUST TRIMMER
	CONNECTION TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Output lead through a .01- μ f. condenser to grid (pin 6) of 7A8 converter tube.	455 kc. (modulated)	Gang fully open.	Adjust, in order given in next column, for maximum output. TC2 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 1 below).	1620 kc.	1620 kc. (see note 2 below).	Adjust for maximum output.	C1B—oscillator trimmer
3	Same as step 2.	1500 kc.	1500 kc.	Adjust for maximum output.	C1A—antenna trimmer (broadcast)
4	Same as step 2.	3200 kc.	3200 kc.	Adjust for maximum output.	C2—antenna trimmer (special services)

NOTE 1: Make up a 6–8 turn, 6-inch-diameter loop from insulated wire; connect to signal-generator leads, and place near radio loop.
NOTE 2: The tuning gang can be set to 1620 kc. by placing a piece of 6-mil flat shim stock between the heel of the rotor and the top of the stator plates, and moving the rotor until it holds the shim in place. Remove the shim before proceeding with the alignment.

PRODUCTION CHANGES

RUN 2

Run 2 is the same as Run 1.

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.	Reference Symbol	Description	Service Part No.
C1	Condenser, tuning gang	31-2751-9	R15	Resistor, cathode bias, 180 ohms, 1 watt	66-1184340*
C1A	Condenser, trimmer, antenna	Part of C1	R16	Resistor, filter, 5000 ohms, 7 watts	33-1335-95
C1B	Condenser, trimmer, oscillator	Part of C1	R17	Resistor, filter, 270 ohms, 7 watts	33-1335-91
C2	Condenser, trimmer, special services antenna	31-6473-31	R18	Resistor, tube saver, 100 ohms	33-1343-3
C3	Condenser, series tracker, 725 μ f.	30-1220-69	R19	Resistor, aerial loading, 150,000 ohms	66-4158340*
C4	Condenser, d-c blocking, 47 μ f.	60-00475420	S1	Switch, off-on	Part of R10
C5	Condenser, fixed trimmer, 7.5 μ f.	30-1224-65	T1	Transformer, oscillator	32-4453-2
C6	Condenser, a-v-c by-pass, .1 μ f.	30-4650-47*	T2	Transformer, output	32-8242-9
C7	Condenser, by-pass, .1 μ f.	30-4650-47*	W1	Line cord	L-2183*
C8	Condenser, cathode by-pass, .05 μ f.	30-4650-45*	WS	Wafer switch, 2-section	42-1989
C9	Condenser, screen by-pass, .1 μ f.	30-4650-47*	Z1	Transformer, 1st i-f	32-4160A
C10	Condenser, d-c blocking, .005 μ f.	30-1238-1*	Z2	Transformer, 2nd i-f	32-4240A
C11	Condenser, d-c blocking, .005 μ f.	30-1238-1*			
C12	Condenser, high-frequency compensation, 47 μ f.	60-00475420			
C13	Condenser, bass compensation, .0047 μ f.	30-4650-56*			
C14	Condenser, tone, .0047 μ f.	30-4650-56*			
C15	Condenser, d-c blocking, .005 μ f.	Part of PC1			
C16	Condenser, tone compensation, .0047 μ f.	30-4650-56			
C17	Condenser, electrolytic, 4-section	30-2575-32			
C17A	Condenser, cathode by-pass, 25 μ f., 50v	Part of C17			
C17B	Condenser, filter, 40 μ f., 150v	Part of C17			
C17C	Condenser, filter, 40 μ f., 250v	Part of C17			
C17D	Condenser, filter, 40 μ f., 250v	Part of C17			
C18	Condenser, voltage doubling, 20 μ f., 200v	30-2568-22			
C19	Condenser, line by-pass, .04 μ f.	30-1226-17*			
C20	Condenser, phono isolation, .01 μ f.	30-4650-58*			
C21	Condenser, a-v-c decoupling, 220 μ f.	62-122001001*			
C22	Condenser, aerial blocking, 5 μ f.	30-1221-5			
I1	Lamp, pilot	34-2064*			
L1	Coil, antenna, special services	32-4561-5			
L2	Coil, oscillator shunt	32-4562-1			
LA1	Loop assembly, antenna	76-2127-13			
LS1	Speaker	36-1639			
PC1	Printed circuit, d-c blocking	30-6001			
R1	Resistor, grid return, 470,000 ohms	66-4478340*			
R2	Resistor, grid leak, 100,000 ohms	66-4108340*			
R3	Resistor, B- to chassis, 150,000 ohms	66-4158340*			
R4	Resistor, cathode bias, 180 ohms	66-1188340*			
R5	Resistor, screen dropping, 27,000 ohms	66-3278340*			
R6	Resistor, i-f filter, 47,000 ohms	66-3478340*			
R7	Resistor, diode return, 470,000 ohms	66-4478340*			
R8	Resistor, diode load, 2.2 megohms	66-5228340*			
R9	Resistor, grid leak, 10 megohms	66-6108340*			
R10	Volume control, 2 megohms (with off-on switch and tone control)	33-5563-55			
R11	Resistor, bass compensation, 68,000 ohms	66-3688340*			
R12	Tone control, 5 megohms	Part of R10			
R13	Resistor, plate load, 500,000 ohms	Part of PC1			
R14	Resistor, grid leak, 500,000 ohms	Part of PC1			

MISCELLANEOUS

Description	Service Part No.
Cabinet	10949
Bottom cover	54-8255-1
Hinge (2)	56-6603
Lid	54-4990
Lid support	56-6604
Binder post	56-6296
Changer Mounting Hardware	
Sleeve, rubber (3)	54-7798
Speed nut (3)	W-2554
Spring, mounting, top (3)	56-7059FA9
Spring, mounting, bottom (3)	56-7059-1FCF
Dial scale	54-5156
Drive cord, 25 ft. spool	45-8750*
Foot, rubber (4)	54-4579
Gasket, speaker	54-8089
Knob, off-on-volume	54-4842-8
Knob, radio-phono	54-4842-9
Knob, tuning	54-4841
Knob, tone	54-4841-10
Lead assembly, antenna	76-1472
Mounting foot (4)	56-7778-1
Mount, rubber (3)	27-4596
Panel, diffusing	54-8575-1
Clip, diffusing panel (2)	56-3587-1
Pilot-lamp socket assembly	76-1179-7
Fastener, pilot-lamp shield (2)	W2235-1FA9
Pointer	56-5630-50
Rail assembly, pointer	76-7906
Spring, pointer drive	56-2617*
Socket, Loktal (3)	27-6207*
Socket, octal (2)	27-6174*
Spring, hairpin	56-6552
Tuning shaft	56-8370-1