

PHILCO SERVICE

HOME RADIO



PHILCO RADIO MODEL 87

SPECIFICATIONS

CABINET Bakelite Table Model
CIRCUIT 5-tube 2-Band Superheterodyne
FREQUENCY RANGE
BROADCAST 540 kc.—1600 kc.
Short Wave 4.7 mc.—18 mc.
AUDIO OUTPUT 1.2 watts
OPERATING VOLTAGE 105-120 Volts AC-DC
POWER CONSUMPTION 25 Watts—117 Volts
INTERMEDIATE FREQUENCY 460 kc.
AERIAL 100 foot conventional L-type,
such as Philco Part 45-1494
PHILCO TUBES 14Q7, TB7, 14B6, 50A5, 35Y4

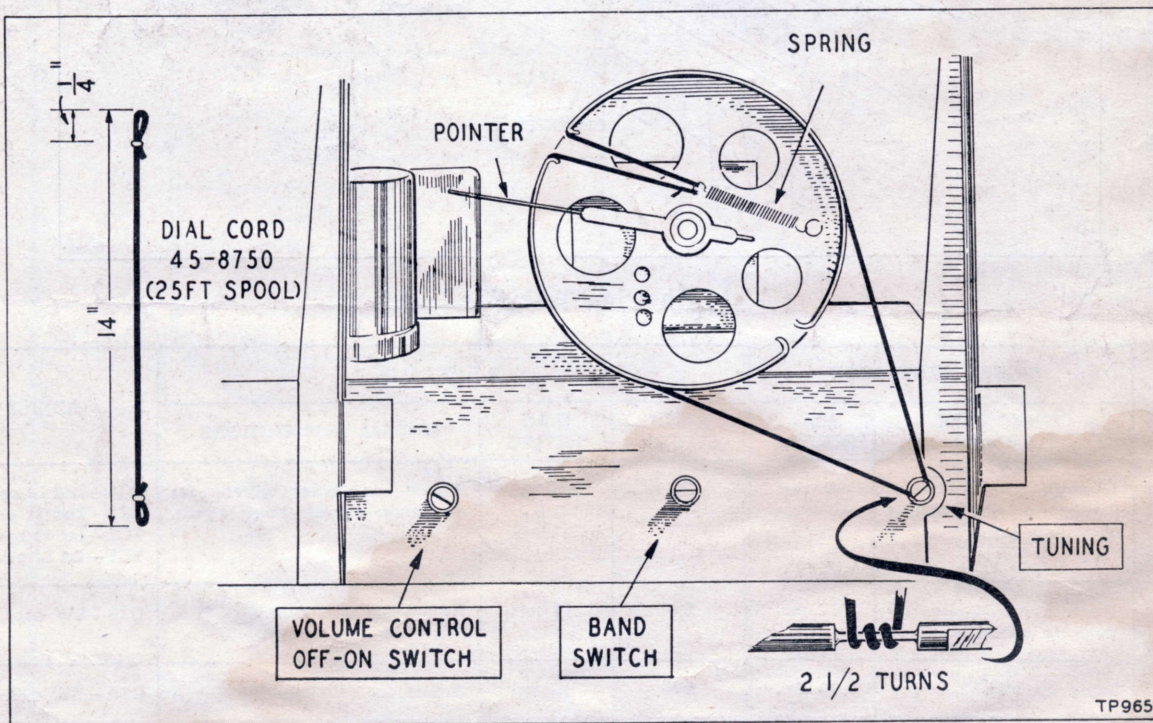
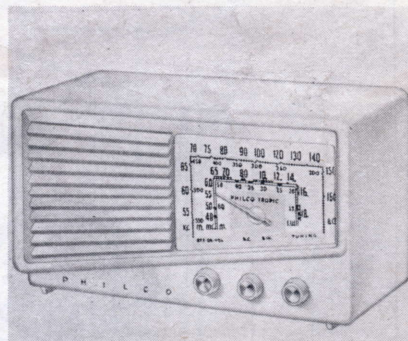


Figure 1. Drive-Cord-Installation Details

PHILCO CORPORATION

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ALIGNMENT PROCEDURE

CAUTION: One side of the line is connected to chassis; **DO NOT GROUND CHASSIS.**

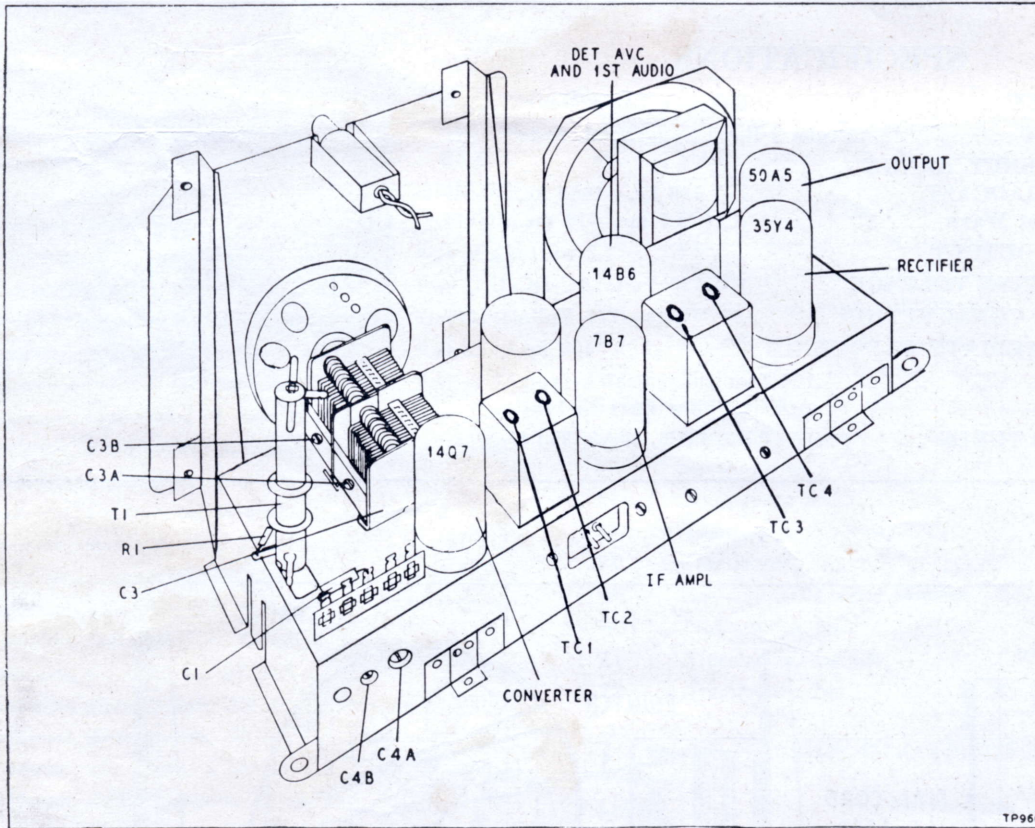
DIAL POINTER—With the tuning-condenser plates fully meshed, adjust the dial pointer to coincide with the index mark below 4.8 mc. on the SW scale.

SIGNAL GENERATOR—Connect the ground lead of an AM signal generator to the chassis, and the output lead as indicated in the chart. Use modulated output.

CONTROLS—Set the volume control to maximum. Set the band switch, tuning control, and signal-generator frequency as indicated in the chart.

OUTPUT METER—Connect across the voice coil.

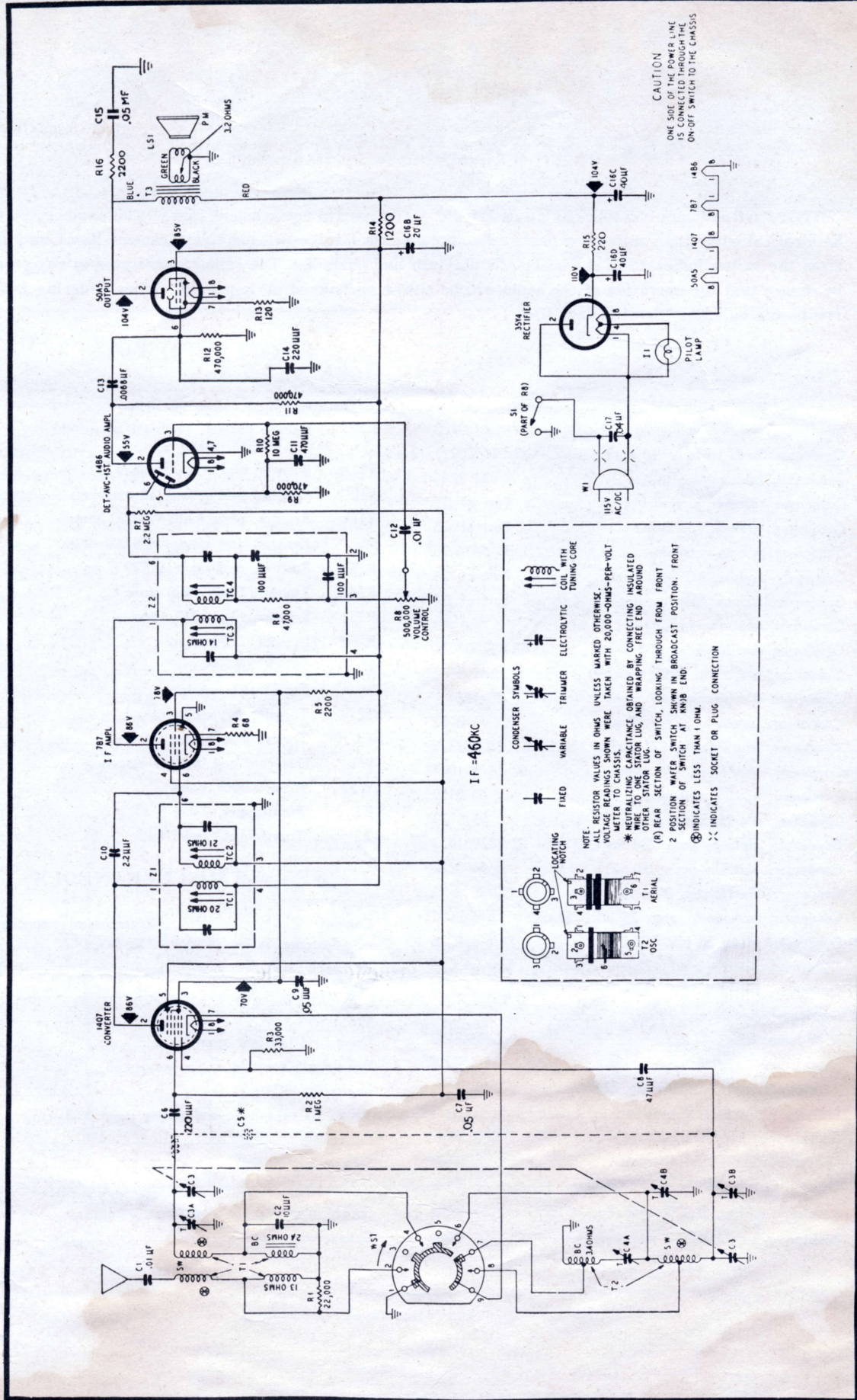
OUTPUT LEVEL—During alignment, the signal-generator output must be attenuated to hold the output reading below 1.25 volts.



Top View, Showing Trimmer Locations

STEP	SIGNAL GENERATOR		RADIO			ADJUST
	CONNECTION TO RADIO	DIAL SETTING	BAND SWITCH	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Through a .05- μ f. condenser to rear section of tuning gang.	460 kc.	BC	540 kc.	Adjust, in order given, for maximum signal; then repeat.	TC4—2nd i-f sec. TC3—2nd i-f pri. TC2—1st i-f sec. TC1—1st i-f pri.
2	Through a 400-ohm resistor to aerial lead.	18 mc.	SW	18 mc.	Adjust for maximum.	C3B—SW osc.
3	Same as step 2.	16 mc.	SW	16 mc.	Adjust for maximum.	C3A—SW aerial
4	Through a 200- μ f. condenser to aerial lead.	1500 kc.	BC	1500 kc.	Adjust for maximum while rocking tuning gang.	C4B—BC osc.
5	Same as step 4.	600 kc.	BC	600 kc.	Same as step 4.	C4A—BC osc. (series)

MODEL 87



Philco Radio Model 87 Schematic Diagram

REPLACEMENT PARTS LIST

NOTE: Part numbers identified by an asterisk (*) are general replacement items. The 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 of the radio will be either unchanged or improved. When ordering replacements, use only the "Service Part No."

Reference Symbol	Description	Service Part No.
C1	Condenser, aerial coupling, .01 mf.	61-0120*
C2	Condenser, fixed trimmer, 10 mmf.	62-010300021
C3	Condenser, tuning gang	31-2746
C3A	Condenser, trimmer, aerial	Part of C3
C3B	Condenser, trimmer, oscillator	Part of C3
C4	Condenser assembly, trimmer, 2-section	31-6476-20
C4A	Condenser, padder, BC oscillator	Part of C4
C4B	Condenser, trimmer, SW oscillator	Part of C4
C5	Condenser, neutralizing (2 turns of wire)	
C6	Condenser, d-c blocking, 330 mmf.	62-122001021
C7	Condenser, a-v-c filter, .05 mf.	61-0122*
C8	Condenser, d-c blocking, 47 mmf.	30-1224-2*
C9	Condenser, screen by-pass, .05 mf.	61-0122*
C10	Condenser, neutralizing, 2.2 mmf.	30-1221-6
C11	Condenser, bias filter, 470 mmf.	62-147001001*
C12	Condenser, audio coupling, .01 mf.	61-0120*
C13	Condenser, d-c blocking, .01 mf.	61-0120*
C14	Condenser, plate by-pass, 220 mmf.	62-122001021
C15	Condenser, plate by-pass, .05 mf.	61-0122*
C16	Condenser, electrolytic, 3-section	30-2568-11
C16A	Condenser, cathode by-pass, 25 mf., 25v	45-3001*
C16B	Condenser, filter, 20 mf., 200v.	Part of C16
C16C	Condenser, filter, 40 mf., 200v	Part of C16
C16D	Condenser, filter, 40 mf., 200v	Part of C16
C17	Condenser, line filter, .04 mf.	
I1	Pilot lamp, 6.3v	34-2192
LS1	Speaker	36-1627-9
R1	Resistor, BC aerial-coil loading, 22,000 ohms	1/2 Watt
R2	Resistor, grid return, 1 megohm	1/2 Watt
R3	Resistor, grid return, 33,000 ohms	1/2 Watt
R4	Resistor, cathode bias, 68 ohms	1/2 Watt
R5	Resistor, screen dropping, 2200 ohms	1/2 Watt
R6	Resistor, i-f filter, 47,000 ohms (Part of Z2)	1/2 Watt
R7	Resistor, a-v-c filter, 2.2 megohms	1/2 Watt

Reference Symbol	Description	Service Part No.
R8	Volume control, (with off-on switch) 500,000 ohms	45-5018*
R9	Resistor, bias, 470,000 ohms	1/2 Watt
R10	Resistor, grid return, 10 megohms	1/2 Watt
R11	Resistor, plate load, 470,000 ohms	1/2 Watt
R12	Resistor, grid return, 470,000 ohms	1/2 Watt
R13	Resistor, cathode bias, 120 ohms	1/2 Watt
R14	Resistor, filter, 1200 ohms	1/2 Watt
R15	Resistor, filter, 220 ohms	1 Watt
R16	Resistor, 2200 ohms	1/2 Watt
S1	Switch, off-on	Part of R8
T1	Transformer, aerial	32-4191-1
T2	Transformer, oscillator	32-4192
T3	Transformer, output	Part of LS1
W1	Line-cord-and-bracket assembly	76-4285
WS1	Wafer switch, band	42-1806-2
Z1	Transformer, 1st i-f	45-6365*
Z2	Transformer, 2nd i-f	45-6365*

MISCELLANEOUS

Description	Service Part No.
Cabinet	When ordering specify model and color
Fastener, spring (6)	56-5862
Back	54-7800
Window, acetate	54-4595
Dial scale	54-5062
Drive cord (25-foot spool)	45-8750*
Drive-shaft assembly	76-4830
Knob, SW-BC	54-4609-1
Knob, off-on volume and tuning	54-4609-2
Pointer	56-7043FCP
Socket, Loktal (5)	27-6177
Socket, male, a.c.	27-6240
Socket assembly, pilot lamp	76-1179
Spring, gang drive	Kit 45-9235)