

PHILCO RADIO MODELS 49-900-E AND 49-900-I



MODEL 49-900-E (Ebony)
MODEL 49-900-I (Ivory)

SPECIFICATIONS

CABINET

Model 49-900-E Plastic, ebony

Model 49-900-I Plastic, ivory
 CIRCUIT 6-tube superheterodyne
 FREQUENCY RANGE 540—1620 kc.
 AUDIO OUTPUT 1 watt
 OPERATING VOLTAGE 105—120 volts, a.c. or d.c.
 POWER CONSUMPTION 30 watts
 AERIAL Built-in loop; terminal also provided for external aerial
 INTERMEDIATE FREQUENCY 455 kc.
 PHILCO TUBES (6) 14AF7, 7B7 (2), 7C6, 50L6GT, 35Y4

TP-3184A

SYMBOLIZATION

The components in the radio circuit are symbolized according to the types of parts and the sections of the radio in which the parts are located. The prefix letter of the symbol designates the type of part, as follows:

C—condenser	LA—loop aerial	S—switch
I—pilot lamp	LS—loud-speaker	T—transformer
L—choke or coil	R—resistor	Z—electrical assembly

The number of the symbol designates the section in which the part is located, as follows:

- 100-series components are in Section 1—the power supply.
- 200-series components are in Section 2—the audio circuits.
- 300-series components are in Section 3—the i-f, detector, and a-v-c circuits.
- 400-series components are in Section 4—the r-f and converter circuits.

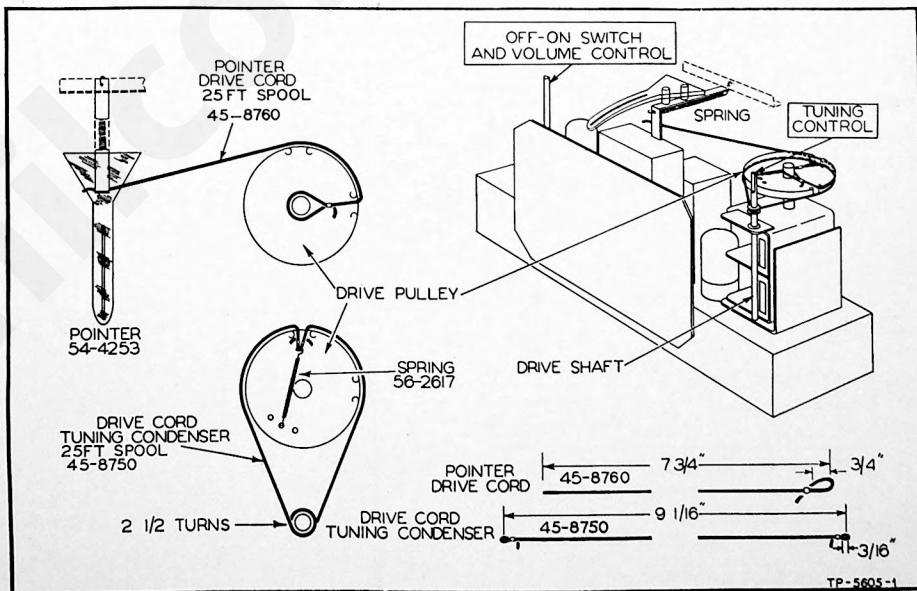


FIGURE 1. DRIVE-CORD INSTALLATION DETAILS

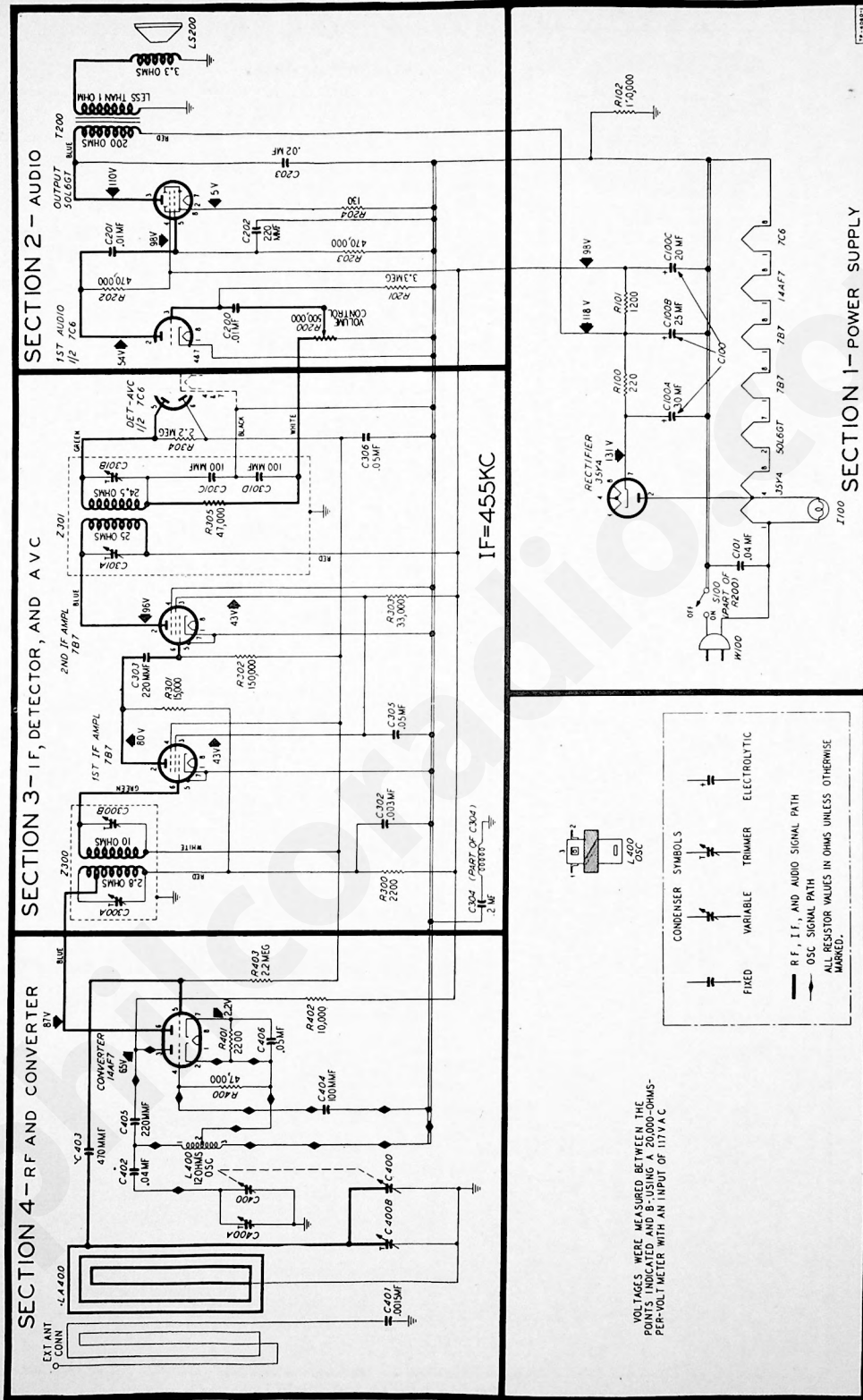


FIGURE 2. PHILCO RADIO, MODELS 49-900-E AND 49-900-I, SECTIONALIZED SCHEMATIC DIAGRAM.

ALIGNMENT PROCEDURE

SET RADIO VOLUME CONTROL TO MAXIMUM

SIGNAL GENERATOR—Connect as indicated in chart. Use modulated output.

OUTPUT LEVEL—During alignment, adjust signal-generator output to maintain an output-meter indication below 1.25 volts.

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTIONS TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1				Turn C300B down tight.	
2	Through .1-mf. condenser to mixer grid (pin 5 of 14AF7).	455 kc.	540 kc.	Adjust trimmers, in the order given for maximum output.	C301B C301A C300B C300A
3	(Chassis in cabinet). Radiating loop. (See note below.)	1600 kc.	1600 kc.	Adjust for maximum output.	C400B
4	Same as step 3.	1500 kc.	1500 kc.	Adjust for maximum output.	C400A

RADIATING LOOP: Make up a six-to-eight-turn, 6-inch-diameter loop, using insulated wire; connect to signal-generator leads and place near radio loop.

DIAL POINTER—Turn tuning condensers to full-mesh position. Adjust dial pointer to coincide with index dot, located to left of "55."

OUTPUT METER—Connect to left-hand (output) and center (chassis) lug of terminal panel, shown in Figure 3.

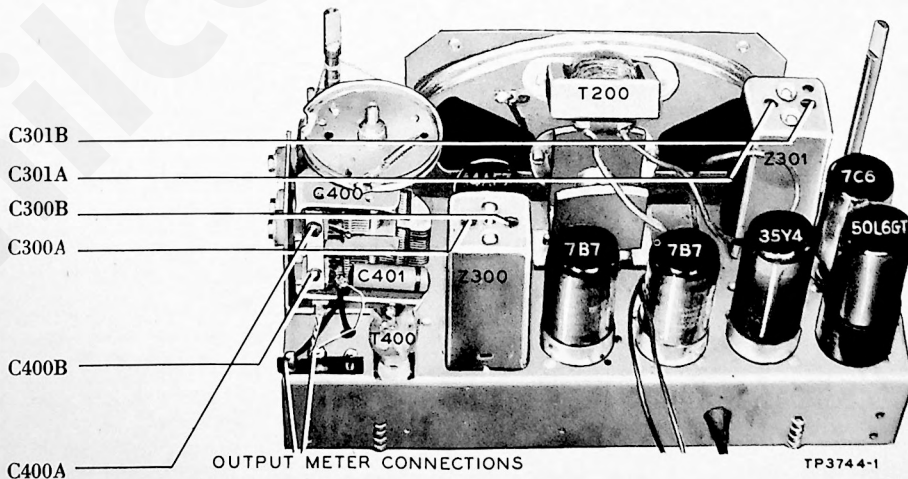


FIGURE 3. TOP VIEW, SHOWING TRIMMER LOCATIONS

REPLACEMENT PARTS LIST

NOTE

Part numbers marked with an asterisk (*) are general replacement items. These numbers may not be identical with those on factory assemblies; 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."

**SECTION 1
POWER SUPPLY**

Reference	Symbol	Description	Service Part No.
C100		Condenser, electrolytic, 3-section	30-2570-14
C100A		Condenser, filter, 30 mf.	Part of C100
C100B		Condenser, filter, 25 mf.	Part of C100
C100C		Condenser, filter, 20 mf.	Part of C100
C101		Condenser, line filter, .04 mf.	45-3500-2
I100		Panel lamp	34-2068
R100		Resistor, filter, 220 ohms	66-1224340*
R101		Resistor, filter, 1200 ohms	66-2123340*
R102		Resistor, leakage, 150,000 ohms	66-4153340*
S100		Switch, a-c power	Part of R200
W100		Power cord and plug	L2183*

**SECTION 2
AUDIO CIRCUITS**

C200		Condenser, coupling, .01 mf.	61-0120*
C201		Condenser, coupling, .01 mf.	61-0120*
C202		Condenser, by-pass, 220 mmf.	62-122001001*
C203		Condenser, plate, .02 mf.	61-0108*
LS200		Loud-speaker	36-1615
R200		Volume control (with a-c power switch), 500,000 ohms	33-5491
R201		Resistor, grid load, 3.3 megohms	66-5333340*
R202		Resistor, plate load, 470,000 ohms	66-4473340*
R203		Resistor, grid leak, 470,000 ohms	66-4473340*
R204		Resistor, bias, 130 ohms	66-1123340*
T200		Transformer, output	Part of LS200

**SECTION 3
I-F, DETECTOR, AND A-V-C CIRCUITS**

C300A		Condenser, trimmer	Part of Z300
C300B		Condenser, trimmer	Part of Z300
C301A		Condenser, trimmer	Part of Z301
C301B		Condenser, trimmer	Part of Z301
C301C		Condenser, i-f by-pass	Part of Z301
C301D		Condenser, i-f by-pass	Part of Z301
C302		Condenser, by-pass, .003 mf.	61-0109*
C303		Condenser, coupling, 220 mmf.	62-122001001*
C304		Condenser-and-choke assembly, .2 mf.	30-4644
C305		Condenser, screen by-pass, .05 mf.	61-0122*
C306		Condenser, a-v-c by-pass, .05 mf.	61-0122*
R300		Resistor, droppng, 2200 ohms	66-2223340*
R301		Resistor, plate load, 15,000 ohms	66-3153340*
R302		Resistor, grid load, 150,000 ohms	66-4153340*
R303		Resistor, screen, 33,000 ohms	66-3333340*
R304		Resistor, a-v-c, 2.2 megohms	66-5223340*
R305		Resistor, diode load, 47,000 ohms (part of Z301)	66-3473340*

**SECTION 3 (Continued)
I-F, DETECTOR, AND A-V-C CIRCUITS**

Reference	Symbol	Description	Service Part No.
Z300		Transformer, 1st i-f, including C300A and C300B	32-4151
Z301		Transformer, 2nd i-f, including R305, C301A, C301B, C301C and C301D	32-4152

**SECTION 4
R-F AND CONVERTER CIRCUITS**

C400		Condenser, tuning, 2-section	31-2727
C400A		Condenser, trimmer	Part of C400
C400B		Condenser, trimmer	Part of C400
C401		Condenser, series blocking, .0015 mf.	45-3500-6*
C402		Condenser, isolating, .04 mf.	45-3500-2*
C403		Condenser, coupling, 470 mmf.	62-147001001*
C404		Condenser, osc. grid, 100 mmf.	62-110009001
C405		Condenser, osc. plate, 220 mmf.	62-122001001*
C406		Condenser, by-pass, .05 mf.	61-0122*
L400		Coil, oscillator	32-4153
LA400		Loop aerial	32-4052-14
R400		Resistor, oscillator grid, 47,000 ohms	66-3473340*
R401		Resistor, bias, 2200 ohms	66-2223340*
R402		Resistor, droppng, 10,000 ohms	66-3103340*
R403		Resistor, grid, 2.2 megohms	66-5223340*

MISCELLANEOUS

Description	Service Part No.
Cabinet (less scale)	
49-900-E	10629D
49-900-I	10629C
Back, Cabinet	
49-900-E	54-7096
49-900-I	54-7097
Clip, scale mounting	56-3290
Fastener, cabinet back	56-2726FA9
Pointer	54-4253
Pointer bracket and arm assembly	76-1654-2
Spring, pointer bracket	56-3059
Scale, dial	
49-900-E	27-5916-2
49-900-I	27-5916-2
Cord, pointer drive (25-ft. spool)	45-8760*
Cord, tuning-condenser drive (25-ft. spool)	45-8750*
Knob	
49-900-E	54-4218-1
49-900-I	54-4218
Socket assembly, pilot lamp	76-1981
Socket, loktal	27-6138*
Socket, octal	27-6174*
Spring, tuning-condenser drive cord	56-2617
Shaft, tuning	56-3031FA11
Bushing	27-9437
Retaining spring	57-1468FA3