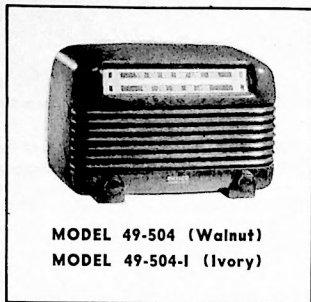


# PHILCO RADIO MODELS 49-504 AND 49-504-1



## SPECIFICATIONS

CABINET	Plastic (ivory or walnut)
CIRCUIT	Five-tube superheterodyne
FREQUENCY RANGE	540—1620 kc.
OPERATING VOLTAGE	105—120 volts, a.c. or d.c.
POWER CONSUMPTION	30 watts
AERIAL	Loop fastened to cabinet; terminal also provided for outside aerial
INTERMEDIATE FREQUENCY	455 kc.
PHILCO TUBES (5)	7A8, 14A7, 14B6, 50A5, 35Z5GT

TP-2670

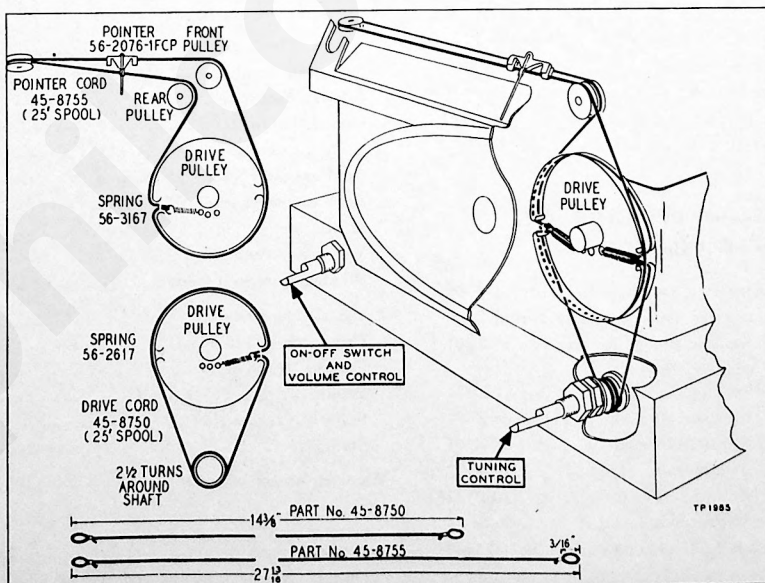
## SYMBOLIZATION

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**  
**298**

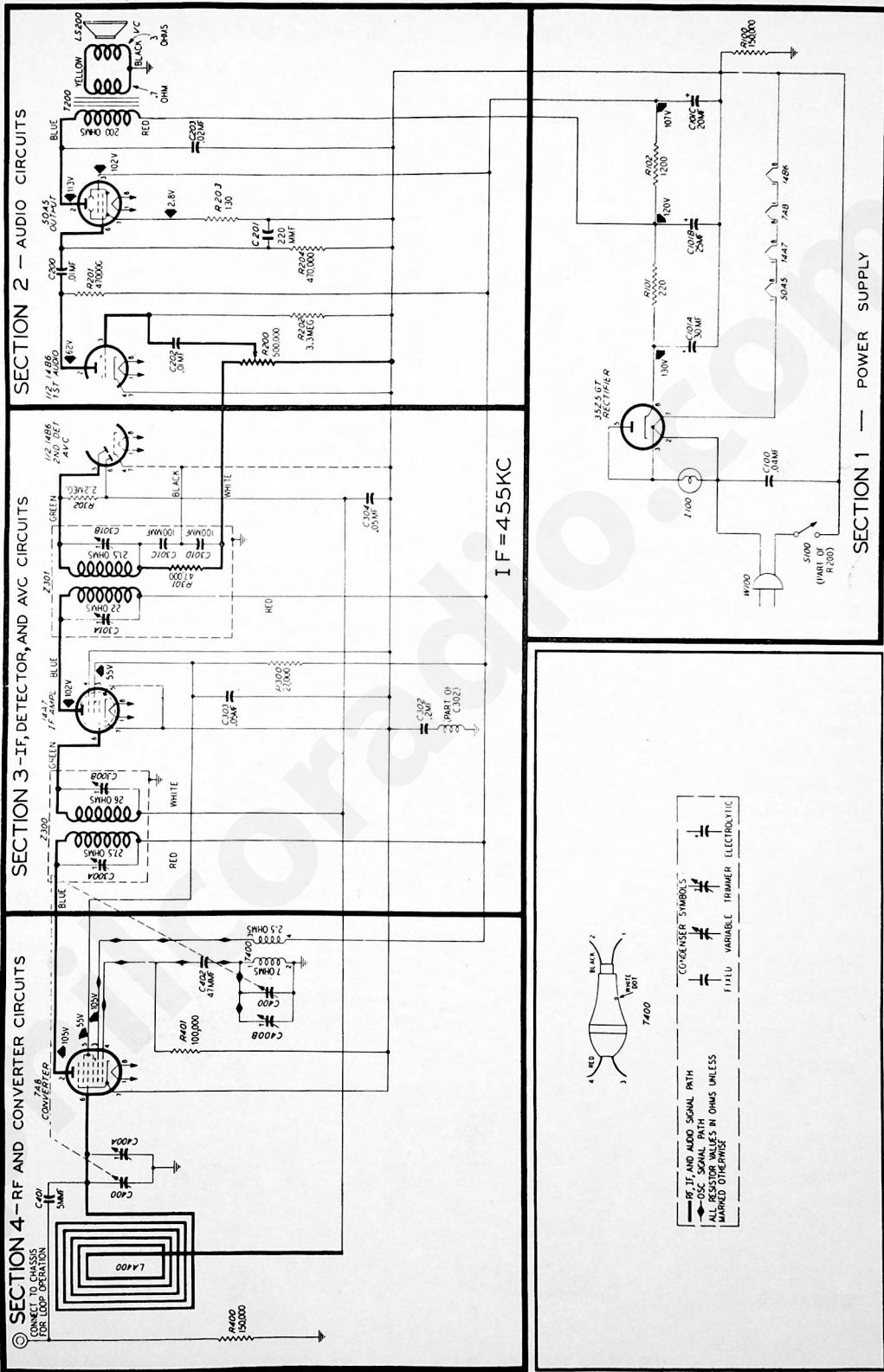


FIGURE 2. PHILCO RADIO MODELS 49-504 AND 49-504-I, SECTIONALIZED SCHEMATIC DIAGRAM.

# ALIGNMENT PROCEDURE

TURN ON THE RADIO, AND SET THE VOLUME CONTROL TO MAXIMUM.

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

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

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTIONS TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Ground lead to B-; output lead through a .1-mf. condenser to pin 6 of 7A8 converter.	455 kc.	540 kc.	Turn C300B (copper screw) fully tight, then adjust trimmers, in order given, for maximum output.	C301B C301A C300B C300A
2	Radiating loop (see note below).	1600 kc.	1600 kc.	Adjust for maximum.	C400B
3	Same as step 2.	1500 kc.	1500 kc.	Adjust for maximum.	C400A

**NOTE:** 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** — Turn tuning condensers to full-mesh position. Set dial pointer to coincide with index mark, located to the left of "550."

**OUTPUT METER** — Connect to left (output) plug of terminal jack and chassis, as shown in figure 3.

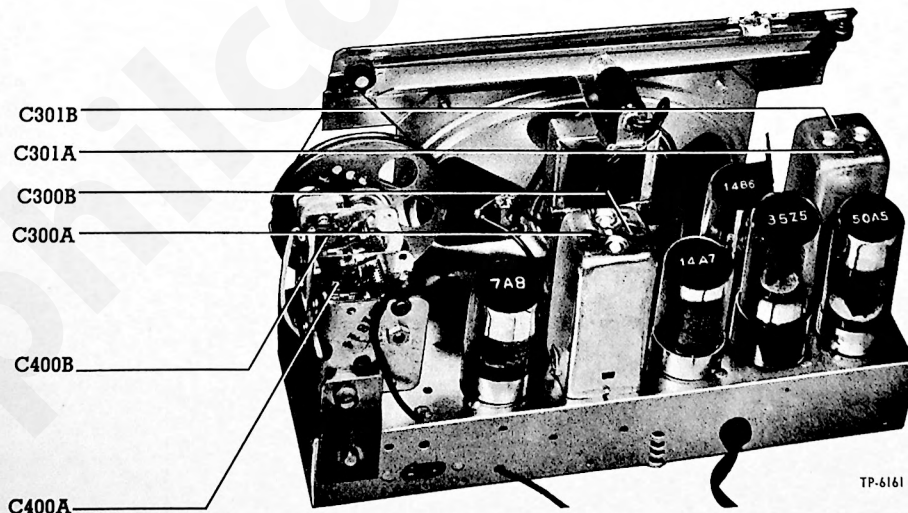


FIGURE 3. TOP VIEW, SHOWING TRIMMER LOCATIONS  
300

TP-6161

# MODELS 49-504 AND 49-504-I

## 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, line filter, .04 mf.	45-3500-2*
C101	Condenser, electrolytic, 3-section	30-2573*
C101A	Condenser, filter, 30 mf.	Part of C101
C101B	Condenser, filter, 25 mf.	Part of C101
C101C	Condenser, filter, 20 mf.	Part of C101
I100	Lamp, pilot	34-2068
R100	Resistor, leakage, 150,000 ohms	66-4153340*
R101	Resistor, filter, 220 ohms	66-1224340*
R102	Resistor, filter, 1200 ohms	66-2123340*
S100	Switch, power	Part of R200
W100	Power cord and plug	L-3199

### SECTION 2

#### AUDIO CIRCUITS

C200	Condenser, blocking, .01 mf.	61-0120*
C201	Condenser, by-pass, 220 mmf.	62-122001001*
C202	Condenser, blocking, .01 mf.	61-0120*
C203	Condenser, tone compensating, .02 mf.	61-0108*
LS700	Speaker	36-1615
R200	Volume control, .5 megohm	33-5536-46
R201	Resistor, plate load, 470,000 ohms	66-4473340*
R202	Resistor, grid load, 3.3 megohms	66-5333340*
R203	Resistor, bias, 130 ohms	66-1123340*
R204	Resistor, grid load, 470,000 ohms	66-4473340*
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, by-pass	Part of Z301
C301D	Condenser, by-pass	Part of Z301
C302	Condenser and choke assembly, i-f by-pass, .2 mf.	30-4644†
C303	Condenser, screen by-pass, .05 mf.	61-0122*
C304	Condenser, a-v-c filter, .05 mf.	61-0122*
R300	Resistor, screen dropping, 27,000 ohms	66-3273340
R301	Resistor, i-f filter, 47,000 ohms	Part of Z301
R302	Resistor, a-v-c filter, 2.2 megohms	66-5223340*
Z300	Transformer, 1st i-f, including C300A and C300B	32-3968
Z301	Transformer, 2nd i-f, including C301A, C301B, C301C, C301D, and R301	32-3948*

†No. 30-4644 special inductive capacitor, should be replaced by a .2 mfd. capacitor part No. 45-3500-3 to conform with latest run.

### SECTION 4

#### R-F AND CONVERTER CIRCUITS

Reference Symbol	Description	Service Part No.
C400	Condenser, tuning, 2-section	31-2527-2
C400A	Condenser, trimmer	Part of C400
C400B	Condenser, trimmer	Part of C400
C401	Condenser, coupling, 5 mmf.	60-90505007*
C402	Condenser, isolating, 47 mmf.	60-00515307*
LA400	Loop aerial	32-4052-4
R400	Resistor, aerial discharge, 150,000 ohms	66-4153340*
R401	Resistor, oscillator grid, 100,000 ohms	66-4103340*
T400	Transformer, oscillator	32-4263

### MISCELLANEOUS

Description	Service Part No.
<b>Cabinet</b>	
Model 49-504 (less scale)	10524P
Model 49-504-I (less scale)	10524R
<b>Cabinet Hardware</b>	
<b>Back</b>	
Model 49-504	27-9817
Model 49-504-I	27-9870
<b>Knob assembly</b>	
Model 49-504	54-4052
Model 49-504-I	27-4805
<b>Scale, dial</b>	
Model 49-504	27-5907
Model 49-504-I	27-5908
Scale strap	56-2059FA3
Screw	1W23129FA3
Stud, back mounting (4)	W2235FA9
<b>Dial Backplate and Associated Hardware</b>	
Cord, drive (pointer)	45-8755
Cord, drive (gang)	45-8750
<b>Dial-backplate assembly</b>	
Model 49-504	76-1476
Model 49-504-I	76-1192
Diffusing panel, Model 49-504-I	54-4343
Light reflector, Model 49-504	27-9816-1*
Pointer	56-2076-1
<b>Spring</b>	
Gang drive cord	56-2617
Pointer drive cord	56-3167
Spring clip, diffusing screen, Model 49-504-I	56-3587
<b>Pilot-lamp assembly</b>	76-2142
<b>Shaft, assembly</b>	31-2663
<b>Socket, tube</b>	
Loktal	27-6138*
Octal	27-6174