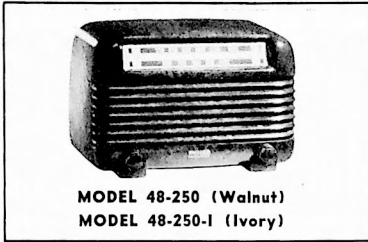


# PHILCO RADIO MODELS 48-250 AND 48-250-I



## 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, 50B5, 35Y4

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:

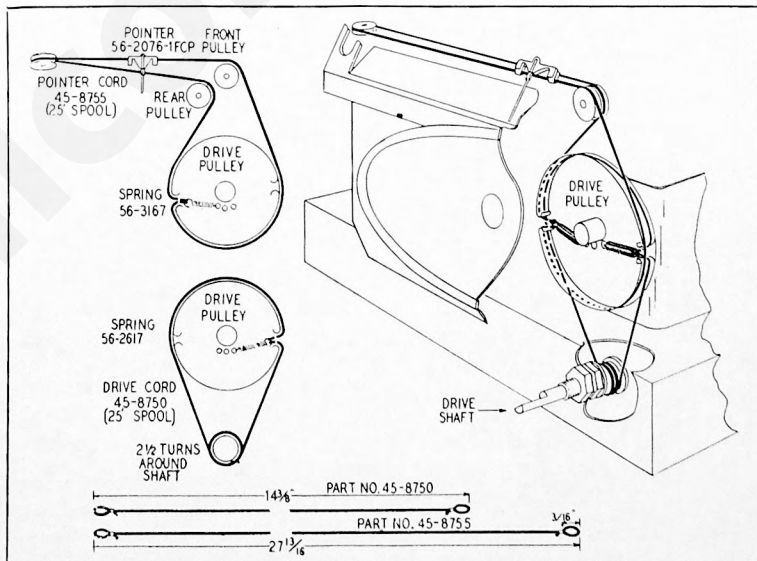
100-series components are in Section 1—the power supply.

200-series components are in Section 2—the audio circuits.

300-series components are in Section 3—the i-f amplifier, detector, and a-v-c circuits.

400-series components are in Section 4—the aerial, r-f, and oscillator circuits.

A suffix letter identifies the part as a non-replaceable component of the assembly which bears an identical number without a suffix letter, and with perhaps a different prefix letter.



**FIGURE 1. DRIVE-CORD INSTALLATION DETAILS**

TP-1985

# 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 .05 mf. condenser to pin #6 of 7A8	455 kc.	540 kc.	Turn C300B (copper screw) fully tight, then adjust trimmers, in order given, for maximum output.	C301E C301A C300E C300A
2	Radiating loop (see note below).	1600 kc.	1600 kc.	Adjust for maximum.	C400E
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) lug and center (chassis) lug of terminal panel, shown in figure 3.

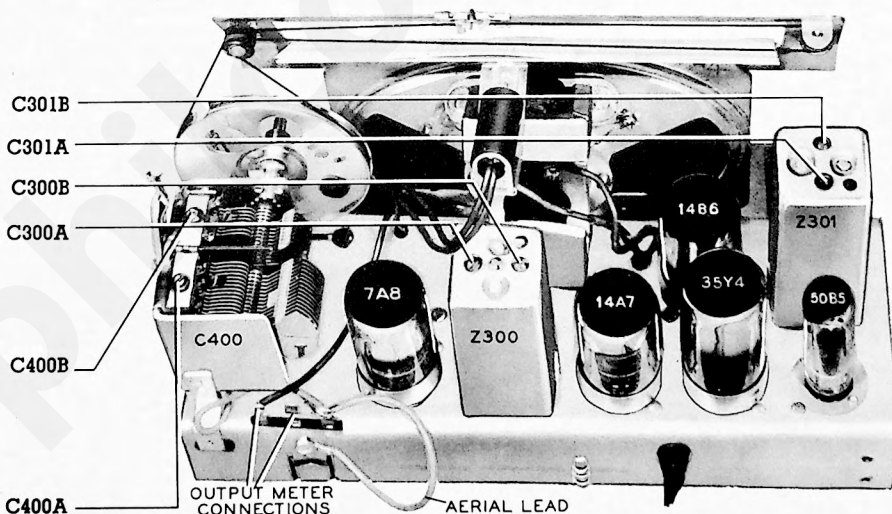


FIGURE 3. TOP VIEW, SHOWING TRIMMER LOCATIONS

TP-3629



## 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

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

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*
LS200	Speaker	36-1615
R200	Volume control, .5 megohm	45-5007*
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

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 B300B	32-3968
Z301	Transformer, 2nd i-f, including C301A, C301B, C301C, C301D, and R301	32-3674*

### SECTION 4

C400	Condenser, tuning, 2-section	31-2527-2
C400A:	Condenser, trimmer	Part of C400
C400B:	Condenser, trimmer	Part of C400

### SECTION 4 (Continued)

Reference Symbol	Description	Service Part No.
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	32-3880

## MISCELLANEOUS

Description	Service Part No.
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#### Cabinet

Model 48-250 (less scale)	10524P
Model 48-250-I (less scale)	10524R

#### Cabinet Hardware

##### Back

Model 48-250	27-9817
Model 48-250-I	27-9870

##### Knob assembly

Model 48-250	54-4052
Model 48-250-I	27-4805

##### Scale, dial

Model 48-250	27-5907
Model 48-250-I	27-5908

##### Scale strap

	56-2059FA3
Screw	1W23129FA3
Stud, back mounting	W2235FA9

#### Dial Backplate and Associated Hardware

Cord, drive (pointer)	45-8755
Cord, drive (gang)	45-8750
Diffusing panel, Model 48-250-I	54-4343
Light reflector, Model 48-250	27-9816-1*
Pointer	56-2076-1FCP
Pulley	11W29740
Rubber band	54-4064
Screw and lock washer	1W32228FA3
Spring	
Gang drive cord	56-2617
Pointer drive cord	56-3167
Spring clip, diffusing screen, Model 48-250-I	56-3587

Panel, wiring	76-2148
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Panel, wiring	12W45654
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Pilot-lamp assembly	76-2142
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Shaft, assembly	31-2663
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#### Socket, tube

Loktal	27-6138*
Miniature	27-6226

**REVISIONS TO 48-250 AND 48-250-I, CODE 126  
SERVICE MANUAL**

Symbol Reference	Description	Service Part No.
<b>Parts List Corrections</b>		
Z301	Transformer, 2nd i-f .....	32-3952
	Pilot-lamp assembly .....	76-1981

**PRODUCTION CHANGES**

NOTE: No changes were made in Code 126.

**Code 121, Run 1**

Output tube, type 50B5, was replaced by a type 50A5 tube.  
 Rectifier tube, type 35Y4, was replaced by a type 35Z5 tube.  
 Miniature tube socket was removed, and an octal tube socket was added .....

27-6174\*

**Code 121, Run 2**

C400      Condenser, tuning, was changed .....

31-2727-1

**Code 121, Run 3**

T400      Transformer, oscillator, was changed .....

To facilitate this change, the oscillator circuit wiring and condenser C401 were repositioned.

32-4263

**Code 122, Run 1**

C101      Condenser, electrolytic, was replaced with a dual 20-mf. type .....

R101      Resistor, filter, was removed.

R102      Resistor, filter, was removed.

LS200    Speaker, was changed to an electrodynamic type .....

The 500-ohm speaker field was used to replace R101 and R102 filter resistors.

30-2547\*

36-2547\*