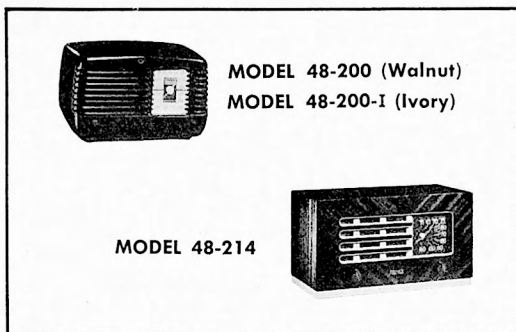


PHILCO RADIO MODELS 48-200, 48-200-I and 48-214



SPECIFICATIONS

CABINET:
Models 48-200 and 48-200-I Bakelite
Model 48-214 Wood

CIRCUIT Five-tube superheterodyne

FREQUENCY RANGE 540 to 1620 kc.

OPERATING VOLTAGE . . . 105 to 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, 50L6GT, 35Y4

PANEL LAMP,
6—8-volt, bayonet base, Part No. 34-2068

TP-2667 & TP-1354

SYMBOLIZATION AND TERMINOLOGY

All components in the radio circuits are symbolized and located as follows:

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

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

200-series components are in Section 2—the second detector, a-v-c, and audio circuits.

300-series components are in Section 3—the i-f amplifier.

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

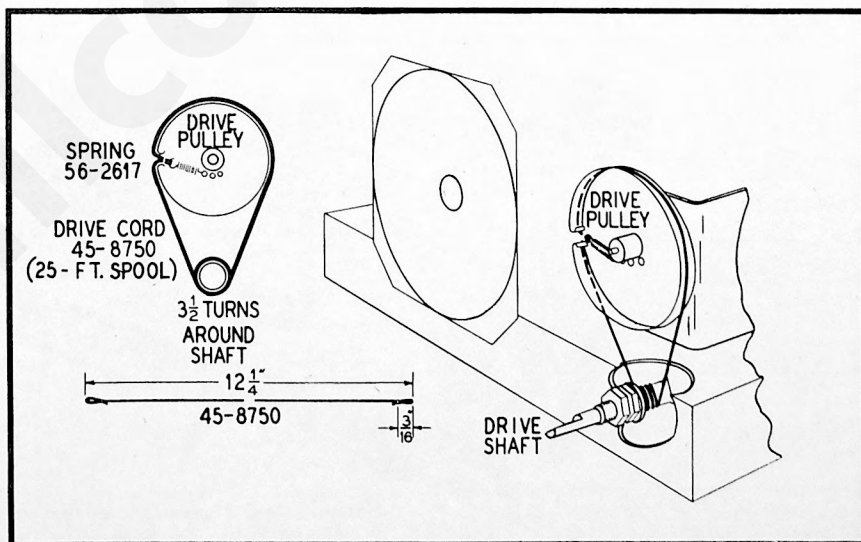


Figure 1. Drive-Cord Installation Details

TP-2698E

ALIGNMENT PROCEDURE

TURN ON THE RADIO POWER, AND SET THE VOLUME CONTROL FULL ON

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

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

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTIONS TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1				Turn C301B (copper screw) down tight.	
2	Ground lead to B-; output lead through a .1 mf. condenser to pin #6 of 7A8	455 kc.	540 kc.	Adjust trimmers, in the order given, for maximum output.	C300A C300B C301A C301B
3	Through 100-mmf. condenser to external aerial connector.	1600 kc.	1600 kc.	Disconnect external aerial lug from chassis. Adjust trimmer for maximum output.	C400B
4	Same.	1500 kc.	1500 kc.	Adjust for maximum output.	C400A

SIGNAL GENERATOR—Connect ground lead to B-; connect output lead as indicated in the chart.

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

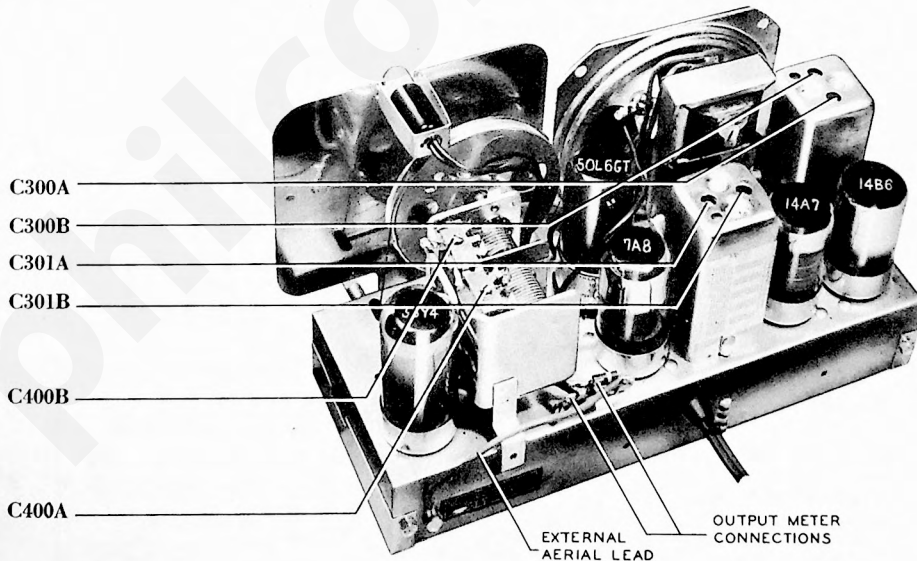


Figure 3. Chassis View, Showing Trimmer Locations

TP-3126

REPLACEMENT PARTS LIST

NOTE: Parts marked with an asterisk (*) are general replacement items, and the numbers listed may not be identical with those on factory assemblies; also, the electrical values of some replacement items furnished may differ from the values indicated in the schematic and parts list. The values substituted in any case are so chosen that the operation of the instrument will be either unchanged or improved. When ordering replacements, use only the "Service Part No." in this parts list.

SECTION 1

Symbol	Description	Service Part No.
C100	Condenser, line filter, .04 mf.	45-3500-2*
C101	Condenser, electrolytic, 3-section filter.	30-2573
C101A:	Condenser, electrolytic, 30 mf.	Part of C101
C101B:	Condenser, electrolytic, 25 mf.	Part of C101
C101C:	Condenser, electrolytic, 20 mf.	Part of C101
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.	L3363
I100	Panel lamp.	34-2068

SECTION 2

C200	Condenser, coupling, .01 mf.	61-0120*
C201	Condenser, coupling, .01 mf.	61-0120*
C202	Condenser, by-pass, 220 mmf.	60-10205307*
C203	Condenser, by-pass, .02 mf.	61-0108*
R200	Volume control (with power switch), 500,000 ohms.	33-5429
R201	Resistor, grid load, 3.3 megohms.	66-5333340*
R202	Resistor, plate load, 470,000 ohms.	66-4473340*
R203	Resistor, grid load, 470,000 ohms.	66-4473340*
R204	Resistor, bias, 130 ohms.	66-1123340*
LS200	Speaker.	36-1614
T200	Output transformer.	Part of LS200

SECTION 3

C302	Condenser, a-v-c by-pass.	
C303	Condenser, screen by-pass, .05 mf.	61-0122*
C304	Condenser, special i-f by-pass, .2 mf.	30-4644
R300	Resistor, diode load, 47,000 ohms.	Part of Z300
R301	Resistor, screen, 27,000 ohms.	66-3273340*
R302	Resistor, a-v-c, 2.2 megohms.	66-5223340*
Z300	Transformer, 2nd i-f.	32-3952
C300A:	Condenser, trimmer.	Part of Z300
C300B:	Condenser, trimmer.	Part of Z300
C300C:	Condenser, by-pass, 100 mmf.	Part of Z300
C300D:	Condenser, by-pass, 100 mmf.	Part of Z300
Z301	Transformer, 1st i-f.	32-3967
C301A:	Condenser, trimmer.	Part of Z301
C301B:	Condenser, trimmer.	Part of Z301

SECTION 4

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*
R400	Resistor, osc., grid, 100,000 ohms.	66-4103340*
R401	Resistor, aerial discharge, 150,000 ohms.	66-4153340*
T400	Transformer, oscillator.	32-3880
LA400	Loop aerial: Models 48-200, 200-I.	32-4052-5
	Model 48-214.	32-4052-6

MISCELLANEOUS

Description	Service Part No.
Cabinet	
Model 48-200.	10542D
Model 48-200-I.	10542E
Model 48-214.	10621
Cabinet Hardware	
Back	
Model 48-200.	27-9879
Model 48-200-I.	27-9922
Model 48-214.	54-7080
Foot, felt.	W2190
Knob	
Model 48-200.	27-4820
Model 48-200-I.	54-4118
Model 48-214.	54-4154
Window, acetate	
Models 48-200, 200-I.	54-4088
Model 48-214.	54-4212
Clip, coil mounting.	28-5002FA1
Dial-Scale Hardware	
Cord, drive (25-ft. spool).	45-8750
Pointer	
Models 48-200, 200-I.	
Model 48-214.	54-4148-2
Scale, dial	
Model 48-200.	
Model 48-200-I.	
Model 48-214.	27-5839
Screw, scale mounting.	1W19674FA3
Spring, drive cord.	56-2617
Washer, scale mounting.	2W54094
Panel, terminal, loop aerial.	76-2148
Panel, lamp assembly.	
Shaft, drive assembly.	31-2718
Socket, Loktal.	27-6138*
Socket, octal.	27-6174*

**REVISIONS TO 48-200, 48-200-1, AND 48-214
SERVICE MANUAL**

Reference Symbol	Description	Service Part No.
Parts List Corrections		
C302	Condenser, a-v-c by-pass, .05 mf.	61-0122*
	Panel-lamp assembly	76-1280
	Pointer, Models 48-200 and 48-200-I	27-4891-1
	Scale, dial	
	Model 48-200	27-5965
	Model 48-200-I	27-5965-1

PRODUCTION CHANGES

NOTE: First production of these models was called Code 125.

Code 125, Run 2

C100	Condenser, line filter, and associated wiring was physically changed to reduce parasitic oscillation of the 50L6GT tube	45-3500-2*
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Code 121, Run 1

Type 35Y4 rectifier tube was replaced by a type 35Z5GT tube.
Type 50L6GT output tube was replaced by a type 50A5 tube.

Code 121, Run 2

C400	Condenser, main tuning, was changed	31-2727-1
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Code 122, Run 1

	Condenser, 100 mmf., was added, between the aerial loop and pin 6 of the 7A8 mixer tube	30-1227-7
T400	Transformer, oscillator, was changed	32-4263
C304	Condenser was changed to .1 mf.	30-4644-1
	Resistor, 1 megohm, was added, between pin 6 of the 7A8 mixer tube and the a-v-c bus	66-5108540
	Loop LA400 was removed from the a-v-c bus, and connected to ground.	

PHILCO RADIO MODEL 48-206, CODE 125; MODELS 48-206, 48-225, AND 48-230, ALL CODE 121; MODELS 48-225, CODE 122, AND 48-230, CODE 122

Supplement to Service Manual for Models 48-200, 48-200-I and 48-214

MODEL 48-206, CODE 125

This model is electrically identical to Models 48-200, 48-200-I, and 48-214 given in the Service Manual; however the cabinet parts of Models 48-206 are different, and these differences are listed in the chart below.

NOTE: No production changes were made in Code 125.

MODELS 48-206, 48-225, AND 48-230, ALL CODE 121

These models are electrically identical to the Code 125 models listed in the Service Manual, except for the following:

1. The type 35Y4 rectifier tube was replaced by a type 35Z5GT tube.
2. The type 50L6GT output tube was replaced by a type 50A5 tube.

The cabinet parts of these models differ in the following respects:

DESCRIPTION	MODEL			
	48-225	48-230	48-206(B)	48-206(M)
Cabinet	10689	10690		
Cabinet Hardware				
Back	76-3324	76-3325	54-7431	54-7431
Grille, metal	56-5000FCP			
Grille, plastic		54-4506		
Knob	27-4815-2	54-4486-1	54-4375	54-4375
Window, acetate	54-4503	54-4504		
Window				27-5616
Dial-Scale Hardware				
Pointer	54-4502-1	54-4505	54-7375-1	54-4148-1
Scale, dial	27-5977	27-5978	27-5953	27-5953
Baffle	54-7453	54-7453		

MODELS 48-225, CODE 122, AND 48-230, CODE 122

These models are similar to Code 121 of the same models (above), except as follows:

1. A 100-mmf. condenser, Part No. 30-1227-7, was added, between the aerial loop and the grid, pin 6, of the 7A8 mixer tube.
2. The end of loop LA400 which was connected to the a-v-c bus was removed, and connected to ground.
3. A 1-megohm resistor, Part No. 66-5108540, was added, between the grid, pin 6, of the 7A8 mixer tube and the a-v-c bus.
4. Condenser C304, .2 mf., was changed to .1 mf., Part No. 30-4644-1.
5. Oscillator transformer was changed to Part No. 32-4263.