

PHILCO RADIO-PHONOGRAPH MODEL 48-1253



SPECIFICATIONS

CABINETWood, walnut finish
CIRCUITFive-tube superheterodyne
FREQUENCY RANGE	...540—1600 kc.
AUDIO OUTPUT2.2 watts
OPERATING VOLTAGE	.105—120 volts, 60 cycles, a.c.
POWER CONSUMPTION	
Radio60 watts
Phonograph30 watts
AERIALBuilt-in high-impedance loop; terminal provided for external aerial
INTERMEDIATE	
FREQUENCY455 kc.
PHILCO TUBES (5)	...7A8, 7B7, 7C6, 50A5, 50X6
PHONOGRAPHPhilco Automatic Record Changer Model M-8 (for service information, see manual PR-1478)

TP-3632

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	R—resistor
I—pilot lamp	S—switch
L—choke or coil	T—transformer
LA—loop aerial	WS—wafer switch
LS—loud-speaker	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 and oscillator circuits.

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

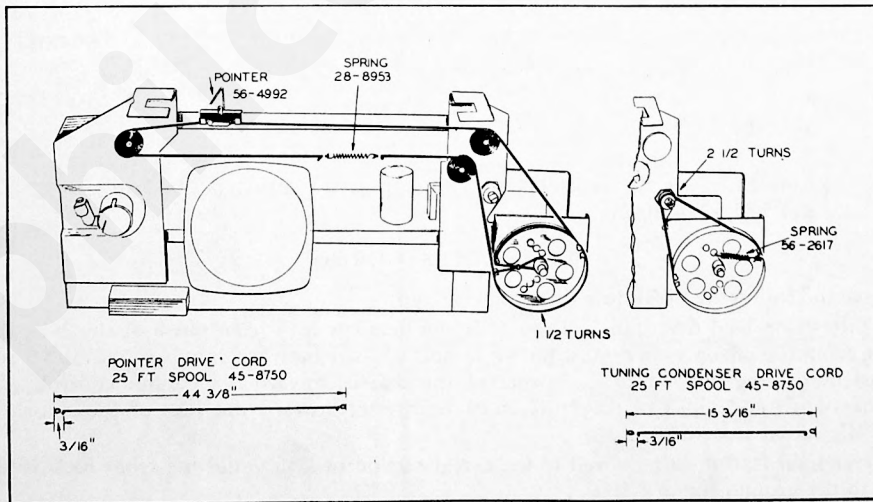


Figure 1. Drive-Cord Installation Details

TP-4091E

ALIGNMENT PROCEDURE

The radio may be aligned with the chassis in the cabinet. To connect the signal generator, it is necessary to remove the bottom plate from the chassis.

SIGNAL GENERATOR—Connect as indicated in chart.

OUTPUT LEVEL—During alignment, input signal must be attenuated to hold output-meter reading below .5 volt.

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTIONS TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1				Turn C301B (copper screw) down tight.	
2	Through .1-mf condenser to Pin #6 of 7A8	455 kc.	540 kc.	Adjust trimmers, in order given, for maximum output.	C301B C301A C300B C300A
3	Radiating loop (see note below).	1600 kc.	1600 kc.	Adjust for maximum.	C400B
4	Same as step 3.	1500 kc.	1500 kc.	Adjust for maximum.	C400A

RADIATING LOOP: Make up a coil of insulated wire consisting of 6 to 8 turns, about 6 inches in diameter. Connect coil ends to signal-generator leads, and suspend coil near radio loop.

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

OUTPUT METER—Connect between right-hand (output) lug and center (chassis) lug of terminal panel shown in figure 3.

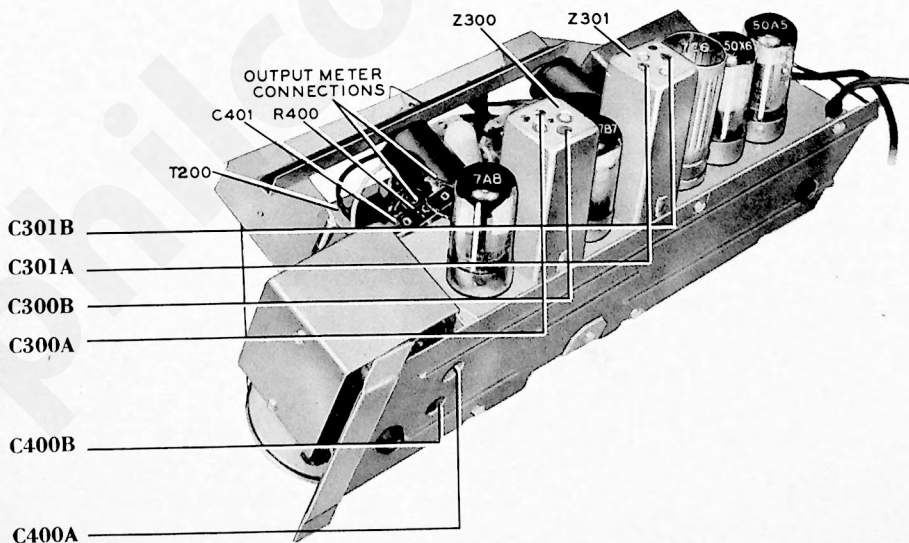


Figure 3. Chassis View, Showing Trimmer Locations

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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, .05 mf.	61-0122*
C101	Condenser, electrolytic, voltage doubler, 15 mf., 200v	30-2568-13
C102	Condenser, electrolytic, voltage doubler, 15 mf., 200 v	30-2575-11
C103	Condenser, electrolytic, 2-section	30-2568-14
C103A	Condenser, filter, 40 mf., 250v	Part of C103
C103B	Condenser, filter, 10 mf., 250v	Part of C103
I100	Pilot lamp	34-2477*
R100	Resistor, filter, 500 ohms	33-3435-3
R101	Resistor, filter, 15,000 ohms	66-3154340*
S100	Switch, off-on	Part of R200
W100	Line cord and plug	41-3755-16
WS	Wafer switch (single wafer), radio-phon	42-1824
WS-1(R)	Wafer-switch section	Part of WS

SECTION 2

C200	Condenser, d-c blocking, .006 mf.	45-3500-7*
C201	Condenser, d-c blocking, .01 mf.	61-0120*
C202	Condenser, by-pass, .2 mf.	45-3500-3*
C203	Condenser, by-pass, 220 mmf.	60-10205307*
C204	Condenser, tone compensation, .05 mf.	61-0122*
LS200	Speaker	36-1625
R200	Volume control, .5 megohm	33-5558
R201	Resistor, grid bias, 10 megohms	66-6103340*
R202	Resistor, plate load, 470,000 ohms	66-4473340*
R203	Resistor, grid return, 470,000 ohms	66-4473340*
R204	Resistor, cathode bias, 130 ohms	
T200	Transformer, output	32-8329
WS-1(R)	Wafer-switch section (see WS, Section 1)	Part of WS

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
C302	Condenser, i-f filter, 100 mmf.	60-10105407*
C303	Condenser, i-f filter, 100 mmf.	60-10105407*
R300	Resistor, i-f filter, 47,000 ohms	66-3473340*
R301	Resistor, a-v-c filter, 2.2 megohms	66-5223340*
WS-1(R)	Wafer-switch section (see WS, Section 1)	Part of WS
Z300	Transformer, 1st i-f	32-3962-3
Z301	Transformer, 2nd i-f	32-3948-11

SECTION 4

Reference Symbol	Description	Service Part No.
C400	Condenser, tuning gang	31-2727-1
C400A	Condenser, r-f trimmer	Part of C400
C400B	Condenser, oscillator trimmer	Part of C400
C401	Condenser, blocking, 5 mmf.	30-1221-5*
C402	Condenser, a-v-c filter, .05 mf.	61-0122*
C403	Condenser and choke assembly, r-f by-pass, .2 mf.	76-1161
C404	Condenser, d-c blocking, 100 mmf.	60-10105407*
C405	Condenser, screen by-pass, .05 mf.	61-0122*
LA400	Loop aerial	76-2127-5
R400	Resistor, aerial discharge, 150,000 ohms	66-4153340*
R401	Resistor, grid load, 1 megohm	66-5103340*
R402	Resistor, leakage, 120,000 ohms	66-4123340*
R403	Resistor, grid return, 120,000 ohms	66-4123340*
R404	Resistor, screen dropping, 47,000 ohms	66-3473340*
T400	Transformer, oscillator	32-4095-2

MISCELLANEOUS

Description	Service Part No.
Backplate Assembly and Hardware	
Backplate assembly	76-3228
Drive cord (25-foot spool), tuning gang	45-8750*
Drive cord (25-foot spool), pointer	45-8750*
Panel, diffusing	76-3203
Pointer, dial	56-4992
Spring, gang drive	56-2617
Spring, diffusing panel	56-4989FA3
Spring, pointer	28-8953
Cabinet and Hardware	
Baffle and cloth	40-6956
Cabinet	10584
Foot, rubber	54-4377
Hinge	45-6067
Lid support	45-6061
Scale, dial	27-5976
Scale trim, bottom	56-4998
Scale trim, top	56-4999
Strap, scale mounting	56-2068
Changer Mounting Hardware	
Grommet	54-4313
Plate, corner	56-3103
Nut	1W56643FA3
Spring	56-3043FA15
Cable, pickup	41-3735-11
Knob, radio-phon	54-4484
Knob, tuning	76-3138
Knob, volume	76-3138-1
Link assembly, radio-phon switch	76-3229
Palnut	1W29061FA3
Pilot-lamp-socket assembly	27-6233-9
Pulley and shaft	76-3204
Socket, lokal	27-6138*
Shield, tube	56-2731

REVISIONS TO 48-1253 SERVICE MANUAL

**Reference
Symbol**

Description

**Service
Part No.**

Parts List Corrections

R204 Resistor, cathode bias, 130 ohms 66-1123340*

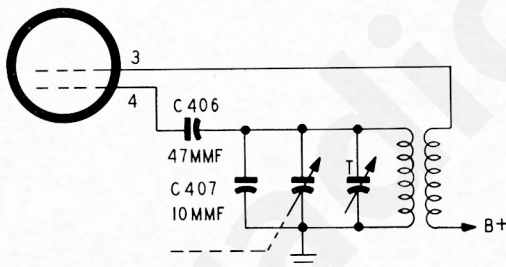
PRODUCTION CHANGES

Code 121, Run 2

T400 Transformer, oscillator, was changed 32-4190
 C406 Condenser, d-c blocking, 47 mmf., was added 60-00515307*
 C407 Condenser, temperature compensating, 10 mmf., ceramic, was added 30-1224-26

The above changes were made to improve oscillator stability. See diagram below.

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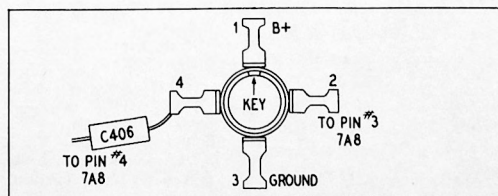


Code 121, Run 3

Z300 Transformer, 1st i-f, was changed 32-3962-3
 Z301 Transformer, 2nd i-f, was changed 32-3948-13
 T400 Transformer, oscillator, was changed 32-4190-1

The above changes were made to further improve oscillator stability, and to improve tracking and stage gain. Oscillator coil lugs are identified in drawing below.

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REVISIONS TO 48-1253 SERVICE MANUAL

NOTE: When replacing the oscillator transformer, T400, use Part No. 32-4190-1, regardless of the part number of the original transformer.

	Code 122, Run 1	
C202	Condenser, by-pass, .2 mf., was changed to .1 mf.	61-0120*
C403	Condenser-and-choke assembly, r-f by-pass, .2 mf., was changed to use .08-mf. condenser	76-3547
	The .05-mf. condenser from the radio chassis to the phono chassis was removed, and the two chassis were connected together.	
	Code 122, Run 2	
C204	Condenser, tone compensation, .05 mf., was changed to .03 mf.	61-0119
	Resistor, 330,000 ohms, was added, in series with the high side of the crystal, between the crystal and the radio-phonograph switch	66-4338340*
	The above changes were made to alter the tone compensation for the Philco low-noise pickup.	
	Lid was added	45-6398

PHILCO RADIO-PHONOGRAPH MODEL 48-1253 Code 122 (Supplement to PR-1463)

Model 48-1253, Code 122 is similar to Model 48-1253, Code 121. For service information concerning Code 122, use service manual PR-1463 with the following exceptions in the schematic diagram and the replacement parts list.

SCHEMATIC DIAGRAM

Phono Circuit

The .05-mf. condenser from the radio chassis to the phono chassis is removed, and the two chassis are wired together.

Section 2

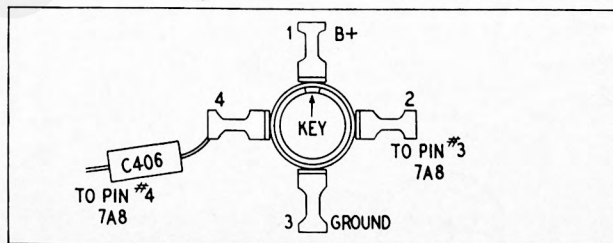
C202 is changed to .01 mf.

Section 4

C403 is changed to an .08-mf. condenser and choke.

The oscillator coil is changed. The new coil does not have the capacity winding; therefore, a 47-mmf. blocking condenser is added between the oscillator grid (pin 4 of the 7A8) and the coil. See the drawing below for coil and condenser connections.

A 10-mmf. ceramic condenser having a negative temperature coefficient is added across the oscillator section of the tuning gang.



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REPLACEMENT PARTS LIST

Section 2

C202 is .01 mf., Service Part No. 61-0120*.

Section 4

C403 is .08 mf., Service Part No. 76-3547.

C406, Condenser, d-c blocking, 47 mmf., Service Part No. 60-00515307*, is added.

C407, Condenser, temperature compensation, 10 mmf., Service Part No. 30-1224-26, is added.

T400 is Service Part No. 32-4190-1.