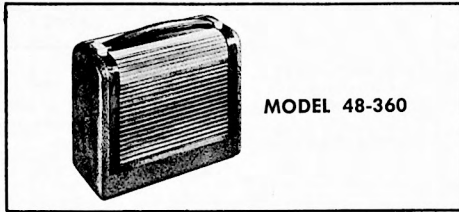


PHILCO RADIO, MODEL 48-360



MODEL 48-360

SPECIFICATIONS

CABINET Fabrikoid finish, wood trim
 CIRCUIT Six-tube superheterodyne

FREQUENCY RANGE 540—1600 kc.
 AUDIO OUTPUT 160 milliwatts
 OPERATING VOLTAGES .. Battery: "B," 90 volts;
 "A," 9 volts. A.c./d.c.:
 105—120 volts
 POWER CONSUMPTION .. Battery: "B," 12 ma. at
 90 volts; "A," 50 ma. at
 9 volts. A.c./d.c.: 25 watts
 AERIAL .. Built-in loop; terminal also provided for
 external aerial
 INTERMEDIATE FREQUENCY 265 kc.
 PHILCO TUBES (6) .. 1T4 (2), 1R5, 1U5, 3LF4,
 117Z3
 BATTERY TYPE Philco P-841A

TP-1594

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.

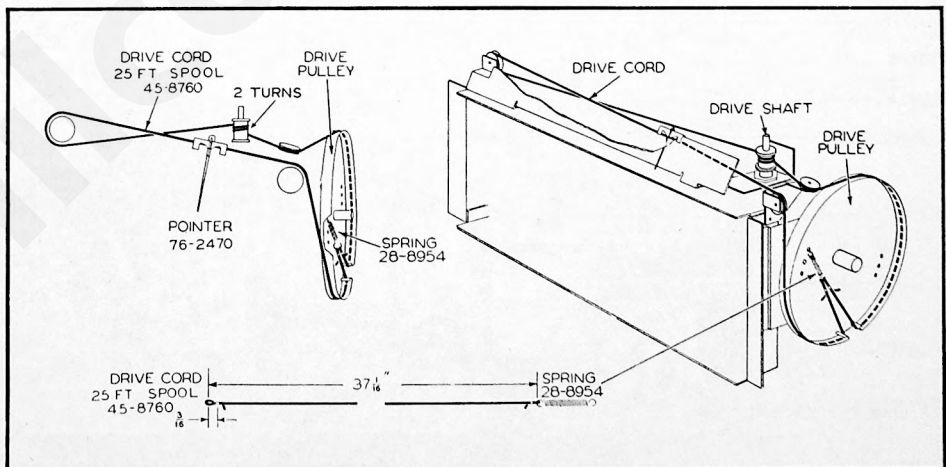


Figure 1. Drive-Cord Installation Details

TP-708

ALIGNMENT PROCEDURE

THE ALIGNMENT SHOULD BE MADE WITH THE RADIO INSTALLED IN THE CABINET AND THE LOOP CONNECTED

DIAL—Turn tuning condensers to full-mesh position. Set dial pointer to coincide with index mark at low-frequency end of dial.

OUTPUT METER—Connect between chassis and voice-coil terminal on output transformer, T200.

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTIONS TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Ground lead to lug on T400 (see figure 3); output lead to ext. aerial lug.	265 kc.	Set at index mark.	Turn C300B fully tight, then adjust trimmers, in order given, for maximum output.	C301B C301A C300A C300B
2	Radiating loop (see Note below).	1600 kc.	1600 kc.	Adjust for maximum.	C400C
3	Same as step 2.	580 kc.	580 kc.	Adjust for maximum while rocking tuning control.	C410
4	Same as step 2.	1600 kc.	1600 kc.	Adjust for maximum.	C400C
5	Same as step 2.	1500 kc.	1500 kc.	Adjust for maximum.	C400B
6	Same as step 2.	1500 kc.	1500 kc.	Adjust for maximum.	C400A
7	Repeat steps 3, 4, 5, and 6 until no further improvement is obtained.				

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.

SIGNAL GENERATOR (modulated)—Connect as indicated in chart.

OUTPUT LEVEL—During alignment, adjust signal-generator output to maintain output-meter indication below .4 volt.

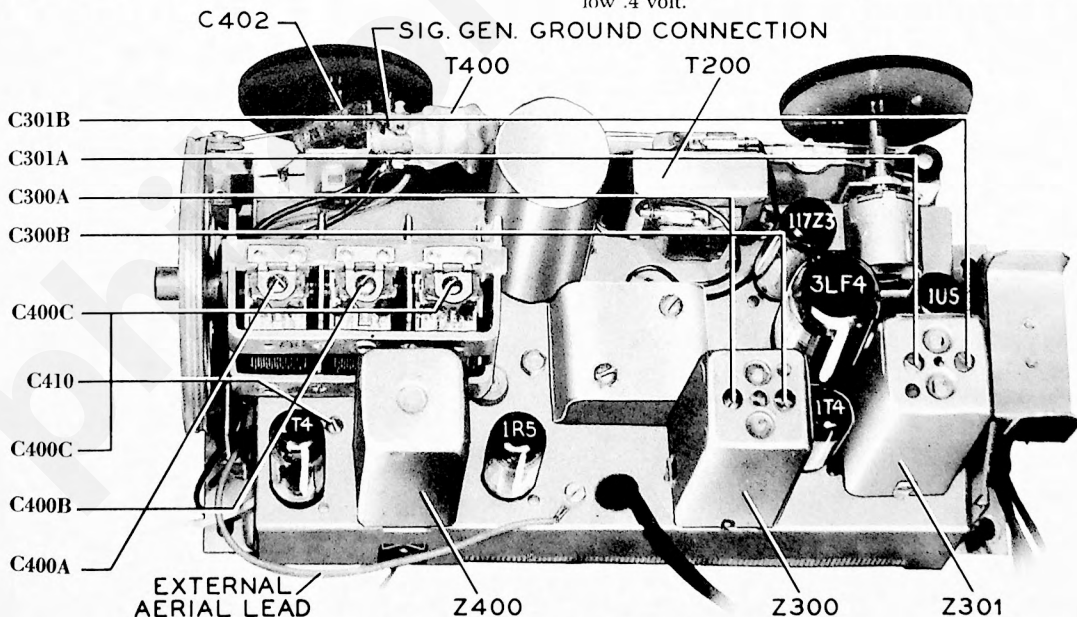


Figure 3. Top View, Showing Trimmer Locations

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

Reference Symbol	Description	Service Part No.
C100	Condenser, electrolytic, 4-section	30-2560
C100A	Condenser, filter, 30 mf.	Part of C100
C100B	Condenser, filter, 10 mf.	Part of C100
C100C	Condenser, filter, 30 mf.	Part of C100
C100D	Condenser, bias-resistor by-pass, 30 mf.	Part of C100
C101	Condenser, line filter, .04 mf.	30-4119
C102	Condenser, by-pass, .01 mf.	61-0120*
PL100	Plug, battery cable	54-4272
R100	Resistor, 3-section	33-3431-4
R100A	Resistor, filament dropping, 60 ohms	Part of R100
R100B	Resistor, filament dropping, 875 ohms	Part of R100
R100C	Resistor, filament dropping, 875 ohms	Part of R100
R101	Resistor, plate dropping, 2200 ohms	66-2223340*
R102	Resistor, leakage, 150,000 ohms	66-4153340*
S100	Switch, change-over (code 121)	42-1553-1
S100	Switch, change-over (code 122)	42-1821
S101	Switch, on-off	Part of R200
W100	Power cord and plug (code 121)	L-3339
W100	Power cord and plug (code 122)	41-3755-17

SECTION 2

C200	Condenser, coupling, .01 mf.	61-0120*
C201	Condenser, screen by-pass, .05 mf.	61-0122*
C202	Condenser, d-c blocking, .004 mf.	61-0179*
C203	Condenser, r-f by-pass, 100 mmf.	62-110009001*
C204	Condenser, tone compensating, .004 mf.	61-0179
LS200	Speaker	36-1598
R200	Volume control, 1 megohm	33-5526
R201	Resistor, grid return, 470 ohms	66-1473340*
R202	Resistor, grid return, 270 ohms	66-1273340*
R203	Resistor, grid return, 4.7 megohms	66-5473340*
R204	Resistor, screen dropping, 2.7 megohms	66-5273340*
R205	Resistor, plate load, 1.2 megohms	66-5123340*
R206	Resistor, grid return, 2.2 megohms	66-5223340*
R207	Resistor, bias, 680 ohms	66-1683340*
T200	Output transformer	32-8259

SECTION 3

C300A	Condenser, trimmer, primary	Part of Z300
C300B	Condenser, trimmer, secondary	Part of Z300
C301A	Condenser, trimmer, primary	Part of Z301
C301B	Condenser, trimmer, secondary	Part of Z301
C301C	Condenser, i-f filter, 100 mmf.	Part of Z301
C301D	Condenser, i-f filter, 100 mmf.	Part of Z301
C302	Condenser, screen by-pass, .05 mf.	61-0122*
C303	Condenser, i-f by-pass, .1 mf.	61-0113*
R300	Resistor, screen dropping, 15,000 ohms	66-3153340*
R301	Resistor, a-v-c filter, 2.2 megohms	66-5223340*
R302	Resistor, filter, 25,000 ohms	Part of Z301
R303	Resistor, a-v-c filter, 100,000 ohms	66-4103340
Z300	Transformer, 1st i-f, including C300A and C300B	32-3970
Z301	Transformer, 2nd i-f, including C301A, C301B, C301C, and C301D	32-3971-2

SECTION 4

Reference Symbol	Description	Service Part No.
C400	Condenser, tuning, 3-section	31-2689
C400A	Condenser, aerial trimmer	Part of C400
C400B	Condenser, r-f trimmer	Part of C400
C400C	Condenser, oscillator trimmer	Part of C400
C401	Condenser, compensating, 30 mmf.	60-00305307*
C402	Condenser, aerial blocking, .0015 mf.	45-3500-6*
C403	Condenser-and choke-assembly, i-f by-pass, .01 mf.	76-2271
C404	Condenser, by-pass, .1 mf.	61-0113*
C405	Condenser, by-pass, .05 mf.	61-0122*
C406	Condenser, neutralizing, 1.5 mmf.	30-1221-3
C407	Condenser, by-pass, .05 mf.	61-0122*
C408	Condenser, by-pass, .1 mf.	61-0113*
C409	Condenser, by-pass, .25 mf.	61-0125
C410	Condenser, oscillator series padder	31-6410
C411	Condenser, tracking, 150 mmf.	60-10155407*
C412	Condenser, coupling, 10 mmf. (part of Z400)	62-010009001
LA400	Loop aerial	32-4080
L400	Choke	32-4007
R400	Resistor, grid return, 4.7 megohms	66-5473340*
R401	Resistor, a-v-c filter, 4.7 megohms	66-5473340*
T400	Aerial transformer	32-3972
T401	Oscillator transformer	32-4095-1
Z400	R-f transformer (code 121), including C412	32-3974
Z400	R-f transformer (code 122), including C412	32-4210

MISCELLANEOUS

Description	Service Part No.
Bolt, speaker mounting	W2022FA3
Cabinet (less scale)	10647F
Back, cabinet (code 122)	45-6391
Back-catch assembly	76-6182
Foot	45-6041
Grille, metal front	56-3351-1
Handle loop	56-3954
Handle shield	54-4390
Hinge (code 121)	45-6182
Scale, dial	27-5891
Scale strap	56-3846
Clip, coil mounting	28-5002FA1
Dial-backing-and-pulley assembly	76-2023
Cord, drive (25-ft. spool)	45-8760*
Pointer	76-2470
Pulley-and-bracket assembly	76-2027
Spring, drive cord	28-8954
Cover switch (volume control)	56-3209
Grommet, tuning-condenser mounting	27-4596
Knob	54-4214
Shaft and pulley	76-2028
Socket, Loktal	27-6138
Socket, miniature	27-6203
Switch-plunger assembly	
Code 121	76-2025
Code 122	76-3061

REVISIONS AND ADDITIONS TO 48-360 SERVICE MANUAL

Reference Symbol	Description	Service Part No.
Parts List Additions		
	Back, cabinet (Code 121)	45-6438
	Battery cable	41-3712-1
	Cabinet, less scale (Code 122)	10647E
	Handle	54-7557-1
	Roll-top section	45-6418
Parts List Corrections		
C101	Condenser, line filter, .04 mf.	45-3500-2
C403	Condenser-and-choke assembly, i-f by-pass (Code 121), .01 mf.	76-2271
C403	Condenser, i-f by-pass (Code 122), .01 mf.	61-0120*

PRODUCTION CHANGES

Code 121, Run 2

R204	Resistor, screen dropping, 2.7 megohms, was changed to 10 megohms	66-6108340*
R206	Resistor, grid return, 2.2 megohms, was changed to 470,000 ohms	66-4478340*
R300	Resistor, screen dropping, 15,000 ohms, was changed to 10,000 ohms	66-3108340*
R304	Resistor, 2200 ohms, was added	66-2228340*
R305	Resistor, grid return, 2200 ohms, was added	66-2228340*

The wiring of R304 and R305 is shown in the sketch below.