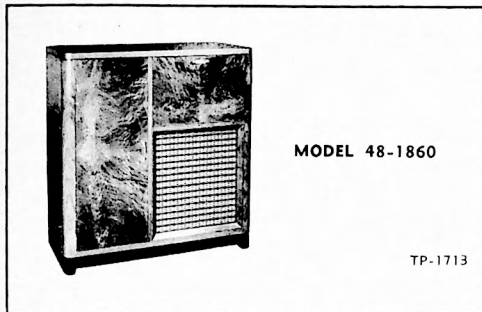
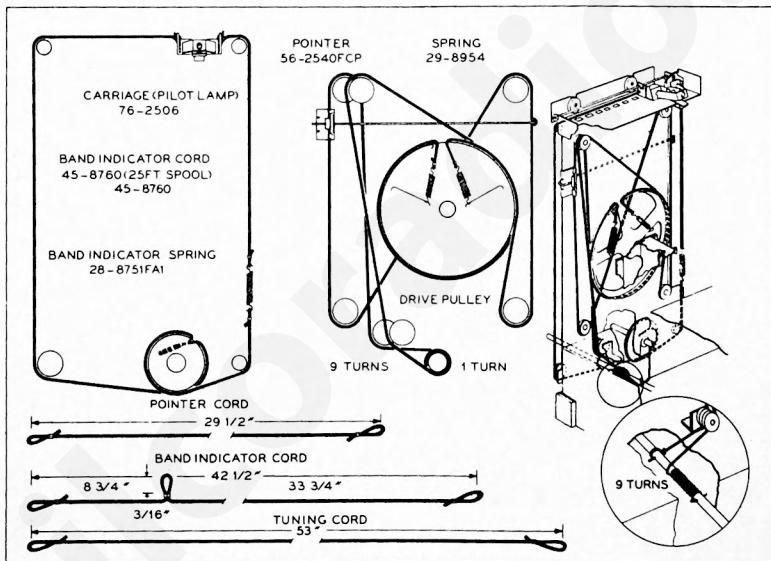


# PHILCO-TROPIC RADIO-PHONOGRAPH MODEL 48-1860

## SPECIFICATIONS



CABINET	Console, wood, walnut finish (for sets using D-10 record changer)
CIRCUIT	Eight-tube superheterodyne
FREQUENCY RANGES	
Broadcast (BC)	540—1750 kc.
Short wave 1 (SW1)	2.3—7.3 mc.
Short wave 2 (SW2)	7.2—22.0 mc.
Band spread 1 (31M)	9.4—9.9 mc.
Band spread 2 (25M)	11.4—12.0 mc.
Band spread 3 (19M)	14.8—15.6 mc.
Band spread 4 (16M)	17.3—18.2 mc.
Band spread 5 (13M)	20.9—21.9 mc.
AUDIO OUTPUT	9 watts
OPERATING VOLTAGES	95—125 volts or 190—250 volts, 50/60 cycles, a.c. only (for line-frequency conversion information, see CIRCUIT DESCRIPTION)
POWER CONSUMPTION	
Radio	.85 watts
Phonograph	.30 watts
AERIAL	Philco Aerial, Part No. 45-1469
INTERMEDIATE FREQUENCY	455 kc.
PHILCO TUBES (8)	7A7 (2), 7J7, 7C6, 7N7, 6V6GT (2), 80
PHONOGRAPH	Philco Automatic Record Changer Model M-4 or Model D-10 (for service information, see PR-1522)



TP-4785E

## 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  
I—pilot lamp  
L—choke or coil  
LS—loud-speaker

R—resistor  
S—switch  
T—transformer  
WS—wafer switch

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.

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.

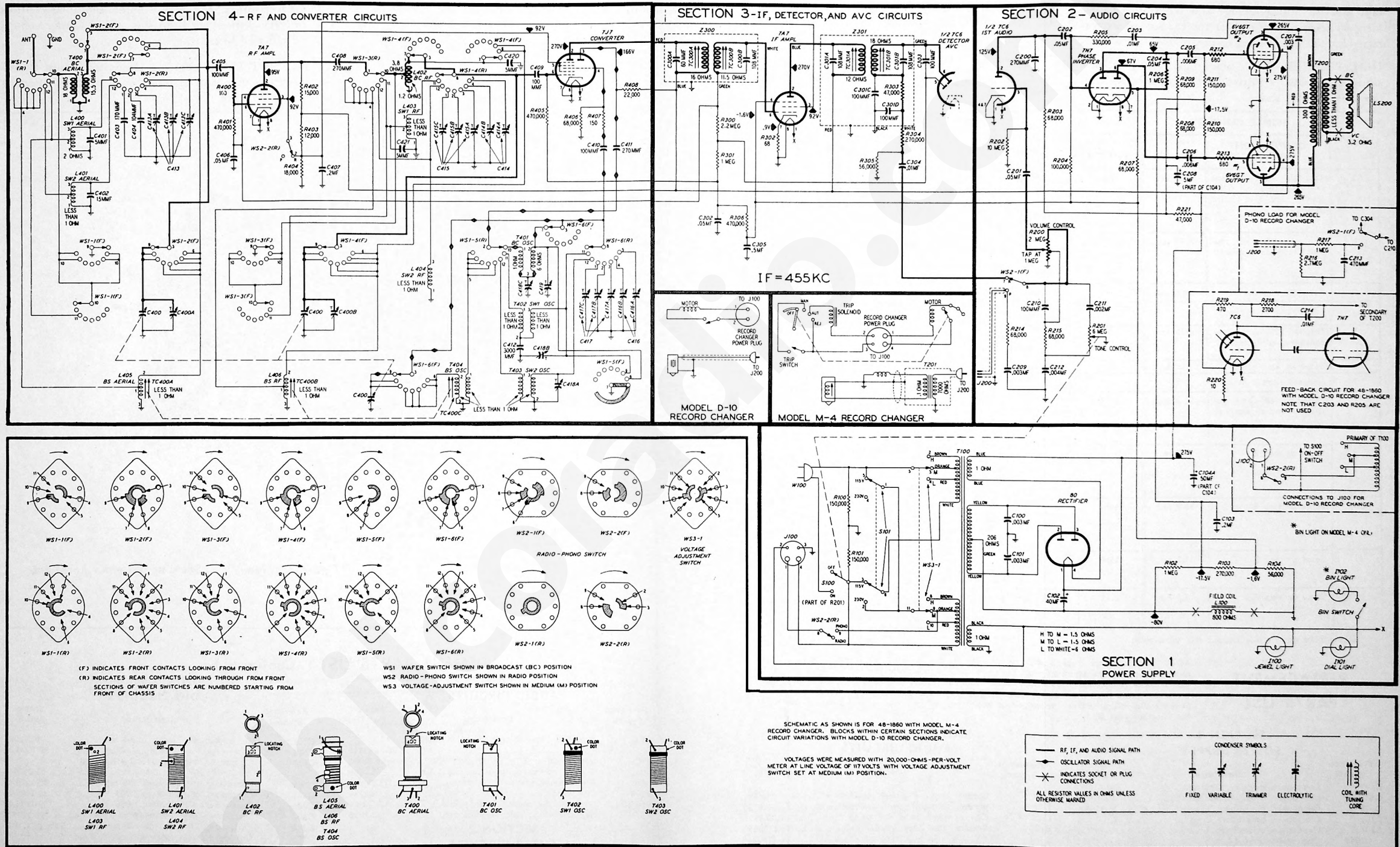


Figure 2 Philco-Tropic Radio-Phonograph Model 48-1860, Sectionalized Schematic Diagram,



**CAUTION:** Before turning on the power, make certain that the voltage-change and the voltage-adjustment switches on the rear of the chassis are set correctly for the line voltage in use.

**DIAL POINTER**—With tuning gang fully meshed, adjust dial pointer on drive cord to coincide with index mark on dial scale.

**BAND-SPREAD TUNING CORES**—With tuning control turned fully counterclockwise, loosen clamp on tuning-core shaft assembly, and adjust tuning-core shaft until oscillator tuning core TC400C is flush with rear end of oscillator-coil form. Antenna tuning core TC400A and r-f tuning core TC400B should now extend approximately 1/16" beyond their coil forms. If these cores extend more or less than 1/16" make a compromise setting of tuning-core shaft for best tracking and calibration possible. Then tighten clamp; avoid excessive tightening, or backlash may result.

**OUTPUT METER**—Connect to voice-coil lug on speaker and to chassis.

**SIGNAL GENERATOR**—Connect ground lead to chassis; connect output lead as indicated in chart. Use modulated output.

**RADIO CONTROLS**—Set radio—phono switch to radio position, and turn volume and tone controls fully clockwise. Set band switch and tuning control as indicated in chart.

**OUTPUT LEVEL**—During alignment, adjust signal-generator output to maintain output-meter indication below 1.5 volts.

STEP	SIGNAL GENERATOR		RADIO			ADJUST
	CONNECTIONS TO RADIO	FREQUENCY	BAND SWITCH	TUNING	SPECIAL INSTRUCTIONS	
1	Through .1-mf. condenser to stator of C400 (center section of tuning gang).	455 kc.	BC	C400 fully meshed	Adjust, in order given, for maximum output, then repeat.	TC301B—2nd i-f sec. TC301A—2nd i-f pri. TC300B—1st i-f sec. TC300A—1st i-f pri.
2	Through 400-ohm resistor to aerial terminal.	21 mc.	SW2	21 mc.	Adjust C418A to first peak from loose (out) position. Adjust C400B and C400A for maximum output.	C418A—SW2 osc. C400B—SW2 r-f C400A—SW2 aerial
3	Same as step 2.	5.8 mc.	SW1	5.8 mc.	Adjust for maximum output.	C418B*—SW1 osc.
4					Set 1/2 turn from tight position.	C418C—BC osc. (series)
5	Through 200-mmf. condenser to aerial terminal.	1520 kc.	BC	1520 kc.	Adjust for maximum output.	C419*—BC osc. (shunt)
6	Same as step 5.	580 kc.	BC	580 kc.	Adjust for maximum output.	C418C*—BC osc. (series)
7	Repeat steps 5, 6, and 5.					
8	Through 400-ohm resistor to aerial terminal.	21.5 mc.	13M	21.5 mc.	Adjust C416A to first peak from loose (out) position. Adjust C414A and C413C for maximum output.	C416A—13M osc. C414A—13M r-f C413C—13M aerial
9	Same as step 8.	17.8 mc.	16M	17.8 mc.	Adjust C416B to first peak from loose (out) position. Adjust C414B and C413B for maximum output.	C416B—16M osc. C414B—16M r-f C413B—16M aerial
10	Same as step 8.	15.2 mc.	19M	15.2 mc.	Adjust C417A to first peak from loose (out) position. Adjust C415A and C413A for maximum output.	C417A—19M osc. C415A—19M r-f C413A—19M aerial
11	Same as step 8.	11.7 mc.	25M	11.7 mc.	Adjust C417B to first peak from loose (out) position. Adjust C415B for maximum output.	C417B—25M osc. C415B—25M r-f
12	Same as step 8.	9.7 mc.	31M	9.7 mc.	Adjust C417C to first peak from loose (out) position. Adjust C415C for maximum output.	C417C—31M osc. C415C—31M r-f

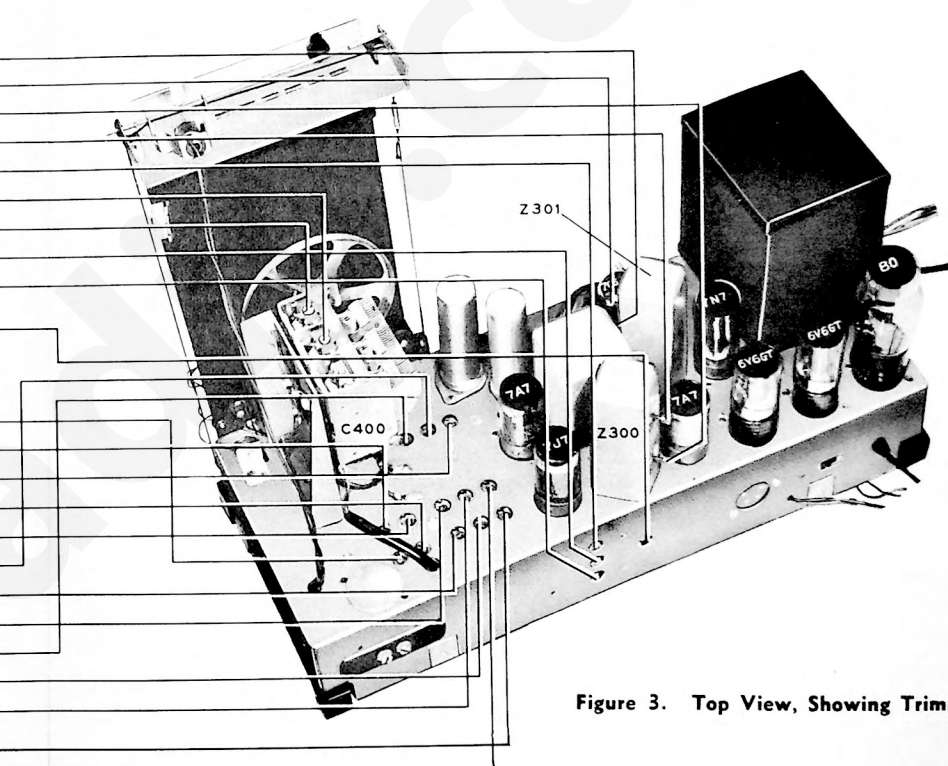


Figure 3. Top View, Showing Trimmer Locations

TP-4319

\* Rock tuning gang while making this adjustment.

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			SECTION 2 (Continued) AUDIO CIRCUITS		
Reference Symbol	Description	Service Part No.	Reference Symbol	Description	Service Part No.
C100	Condenser, by-pass, .003 mf.	61-0109*	J100	Socket, changer power (48-1860 with M-4)	27-6182
C101	Condenser, by-pass, .003 mf.	61-0109*	J100	Socket, changer power (48-1860 with D-10)	27-6200
C102	Condenser, electrolytic, filter, 40 mf., 450v.	30-2568-5	L100	Coil, speaker, field, 800 ohms	Part of 36-1611
C103	Condenser, bias filter, 2 mf.		R100	Resistor, line filter, 150,000 ohms	66-4153340
C104	Condenser, electrolytic, 2-section	30-2570-5	R101	Resistor, line filter, 150,000 ohms	66-4153340
C104A	Condenser, filter, 50 mf., 450v	Part of C104	R102	Resistor, bias voltage divider, 1 meg-ohm	66-5103340
C208	Condenser (see Section 2)	Part of C104	R103	Resistor, bias voltage divider, 270,000 ohms	66-4273340
I100	Lamp, jewel	34-2040			
I101	Lamp, dial	34-2064			
I102	Lamp, bin (48-1860 with M-4)	34-2039			

REPLACEMENT PARTS LIST (Continued)  
SECTION 2  
AUDIO CIRCUITS

SECTION 2 (Continued)  
AUDIO CIRCUITS

Reference Symbol	Description	Service Part No.	Reference Symbol	Description	Service Part No.
R104	Resistor, bias voltage divider, 56,000 ohms	66-3563340	C201	Condenser, d-c blocking, .05 mf.	30-1226
S100	Switch, off-on	Part of R201	C202	Condenser, d-c blocking, .05 mf.	30-1226-4
S101	Switch, voltage-change	42-1569	C203	Condenser, degenerative feedback, .01 mf. (48-1860 with M-4)	61-0120*
T100	Transformer, power	32-8246-1	C204	Condenser, d-c blocking, .05 mf.	30-1226-4
W100	Line cord	L3246	C205	Condenser, d-c blocking, .006 mf.	30-1226-2
WS2-2(R)	Switch-wafer section, radio-phono	Part of 42-1749-1	C206	Condenser, d-c blocking, .006 mf.	30-1226-2
WS3-1	Wafer switch, voltage-adjustment	42-1730	C207	Condenser, tone compensation, .003 mf.	61-0109*
			C208	Condenser, filter, 5 mf., 200v	Part of C104
			C209	Condenser, tone compensation, .003 mf. (48-1860 with M-4)	61-0109*
			C210	Condenser, tone compensation, 100 mmf.	60-10105417*
			C211	Condenser, tone compensation, .002 mf.	61-0062*

# REPLACEMENT PARTS LIST (Continued)

## SECTION 2 (Continued) AUDIO CIRCUITS

Reference Symbol	Description	Service Part No.
C212	Condenser, tone compensation, .004 mf. ....	61-0179*
C213	Condenser, tone compensation, 470 mf. (48-1860 with D-10) .....	62-147001001*
C214	Condenser, degenerative feedback, .01 mf. (48-1860 with D-10) .....	61-0120*
J200	Socket, phono input .....	41-3735-2
LS200	Loud-speaker .....	36-1611
R200	Volume control, 2 megohms (tap at 1 megohm) .....	33-5506
R201	Tone control (with off-on switch), 6 megohms .....	33-5393*
R202	Resistor, grid return, 10 megohms .....	66-6103340*
R203	Resistor, plate load, 68,000 ohms .....	66-3683340*
R204	Resistor, grid return, 100,000 ohms .....	66-4103340*
R205	Resistor, voltage divider, (degenerative feedback), 330,000 ohms (48-1860 with M-4) .....	66-4333340*
R206	Resistor, voltage divider (phase inverter), 1 megohm .....	66-5103340*
R207	Resistor, grid return, 68,000 ohms .....	66-3683340*
R208	Resistor, plate load, 68,000 ohms .....	66-3683340*
R209	Resistor, plate load, 68,000 ohms .....	66-3683340*
R210	Resistor, grid return, 150,000 ohms .....	66-4153340*
R211	Resistor, grid return, 150,000 ohms .....	66-4153340*
R212	Resistor, parasitic suppressor, 680 ohms .....	66-1683340*
R213	Resistor, parasitic suppressor, 680 ohms .....	66-1683340*
R214	Resistor, tone compensation, 68,000 ohms (48-1860 with M-4) .....	66-3683340*
R215	Resistor, tone compensation, 68,000 ohms .....	66-3683340*
R216	Resistor, crystal compensation, 2.7 megohms (48-1860 with D-10) .....	
R217	Resistor, crystal compensation, 1 megohm (48-1860 with D-10) .....	66-5103340*
R218	Resistor, degenerative feedback, 2700 ohms (48-1860 with D-10) .....	66-2273340
R219	Resistor, voltage divider (degenerative feedback), 470 ohms (48-1860 with D-10) .....	66-1473340*
R220	Resistor, degenerative feedback, 10 ohms (48-1860 with D-10) .....	66-0103340*
R221	Resistor, decoupling, 47,000 ohms .....	66-3473340
T200	Transformer, output .....	32-8300
T201	Transformer, phono input (48-1860 with M-4) .....	32-8256
WS2-1(F)	Switch-wafer section, radio—phono .....	Part of 42-1749-1
C200	Condenser, r-f by-pass, 270 mf. ....	30-1220-5*
C201	Condenser, d-c blocking, .05 mf. ....	30-1226-4
C202	Condenser, d-c blocking, .05 mf. ....	30-1226-4
C203	Condenser, degenerative feedback, .01 mf. (48-1860 with M-4) .....	61-0120*
C204	Condenser, d-c blocking, .05 mf. ....	30-1226-4
C205	Condenser, d-c blocking, .006 mf. ....	30-1226-2

## SECTION 2 (Continued) AUDIO CIRCUITS

Reference Symbol	Description	Service Part No.
C206	Condenser, d-c blocking, .006 mf. ....	30-1226-2
C207	Condenser, tone compensation, .003 mf. ....	61-0109*
C208	Condenser, filter, 5 mf., 200v .....	Part of C104
C209	Condenser, tone compensation, .003 mf. (48-1860 with M-4) .....	61-0109*
C210	Condenser, tone compensation, 100 mf. ....	60-10105417*
C211	Condenser, tone compensation, .002 mf. ....	61-0062*
C212	Condenser, tone compensation, .004 mf. ....	61-0179*
C213	Condenser, tone compensation, 470 mf. (48-1860 with D-10) .....	62-147001001*
C214	Condenser, degenerative feedback, .01 mf. (48-1860 with D-10) .....	61-0120*
J200	Socket, phono input .....	41-3735-2
LS200	Loud-speaker .....	36-1611
R200	Volume control, 2 megohms (tap at 1 megohm) .....	33-5506
R201	Tone control (with off-on switch), 6 megohms .....	33-5393*
R202	Resistor, grid return, 10 megohms .....	66-6103340*
R203	Resistor, plate load, 68,000 ohms .....	66-3683340*
R204	Resistor, grid return, 100,000 ohms .....	66-4103340*
R205	Resistor, voltage divider, (degenerative feedback), 330,000 ohms (48-1860 with M-4) .....	66-4333340*
R206	Resistor, voltage divider (phase inverter), 1 megohm .....	66-5103340*
R207	Resistor, grid return, 68,000 ohms .....	66-3683340*
R208	Resistor, plate load, 68,000 ohms .....	66-3683340*
R209	Resistor, plate load, 68,000 ohms .....	66-3683340*
R210	Resistor, grid return, 150,000 ohms .....	66-4153340*
R211	Resistor, grid return, 150,000 ohms .....	66-4153340*
R212	Resistor, parasitic suppressor, 680 ohms .....	66-1683340*
R213	Resistor, parasitic suppressor, 680 ohms .....	66-1683340*
R214	Resistor, tone compensation, 68,000 ohms (48-1860 with M-4) .....	66-3683340*
R216	Resistor, crystal compensation, 2.7 megohms (48-1860 with D-10) .....	
R217	Resistor, crystal compensation, 1 megohm (48-1860 with D-10) .....	66-5103340*
R218	Resistor, degenerative feedback, 2700 ohms (48-1860 with D-10) .....	66-2273340
R219	Resistor, voltage divider (degenerative feedback), 470 ohms (48-1860 with D-10) .....	66-1473340*
R220	Resistor, degenerative feedback, 10 ohms (48-1860 with D-10) .....	66-0103340*
R221	Resistor, decoupling, 47,000 ohms .....	66-3473340
T200	Transformer, output .....	32-8300
T201	Transformer, phono input (48-1860 with M-4) .....	32-8256
WS2-1(F)	Switch-wafer section, radio—phono .....	Part of 42-1749-1

REPLACEMENT PARTS LIST

SECTION 3

I-F, DETECTOR, AND A-V-C CIRCUITS

Reference Symbol	Description	Service Part No.
C300A	Condenser, fixed trimmer, 60 mmf.	Part of Z300
C300B	Condenser, fixed trimmer, 108 mmf.	Part of Z300
C301A	Condenser, fixed trimmer, 108 mmf.	Part of Z301
C301B	Condenser, fixed trimmer, 108 mmf.	Part of Z301
C301C	Condenser, filter, 100 mmf. (part of Z301)	60-10105407*
C301D	Condenser, filter, 100 mmf. (part of Z301)	60-10105407*
C302	Condenser, a-v-c filter, .05 mf.	30-1226
C303	Condenser, d-c blocking, 100 mmf.	60-10105407*
C304	Condenser, d-c blocking, .01 mf.	61-0120*
C305	Condenser, by-pass, 5 mf.	61-0133*
R300	Resistor, a-v-c filter, 2.2 megohms	66-5223340*
R301	Resistor, a-v-c diode load, 1 megohm	66-5103340*
R302	Resistor, cathode bias, 68 ohms	66-0683340
R303	Resistor, filter, 47,000 ohms (part of Z301)	66-3473430
R304	Resistor, diode load, 270,000 ohms	66-4273340*
R305	Resistor, diode load, 56,000 ohms	66-3563340*
R306	Resistor, a-v-c diode load, 470,000 ohms	66-4473340*
TC300A	Tuning core	Part of Z300
TC300B	Tuning core	Part of Z300
TC301A	Tuning core	Part of Z301
TC301B	Tuning core	Part of Z301
Z300	Transformer, 1st i-f, including C300A, C300B, TC300A, and TC300B	32-3980
Z301	Transformer, 2nd i-f, including C301A, C301B, C301C, C301D, R303, TC301A, and TC301B	32-3981

SECTION 4

R-F AND CONVERTER CIRCUITS

Reference Symbol	Description	Service Part No.
C400	Condenser, tuning gang	31-2535
C400A	Condenser, trimmer, SW2 aerial	Part of C400
C400B	Condenser, trimmer, SW2 r-f	Part of C400
C401	Condenser, fixed trimmer (SW1 aerial), 5 mmf.	60-90505007*
C402	Condenser, fixed trimmer (SW2 aerial), 5 mmf.	60-90505007*
C403	Condenser, fixed trimmer (31M aerial), silvered mica, 170 mmf.	30-1220-2
C404	Condenser, fixed trimmer (25M aerial), silvered mica, 104 mmf.	30-1220
C405	Condenser, d-c blocking, 100 mmf.	60-10105407*
C406	Condenser, a-v-c filter, .05 mf.	30-1226
C407	Condenser, by-pass, 2 mf.	45-3500-3*
C408	Condenser, silvered mica, d-c blocking, 270 mmf.	30-1220-5*
C409	Condenser, d-c blocking, 100 mmf.	60-10105407*
C410	Condenser, d-c blocking, 100 mmf.	60-10105407*
C411	Condenser, d-c blocking, 270 mmf.	30-1220-5*
C412	Condenser, series tracking, 3000 mmf.	60-203053004*
C413	Condenser, trimmer, 3-section	31-6414
C413A	Condenser, trimmer, 19M aerial	Part of C413
C413B	Condenser, trimmer, 16M aerial	Part of C413
C413C	Condenser, trimmer, 13M aerial	Part of C413
C414	Condenser, trimmer, 2-section	31-6415
C414A	Condenser, trimmer, 13M r-f	Part of C414
C414B	Condenser, trimmer, 16M r-f	Part of C414
C415	Condenser, trimmer, 3-section	31-6414
C415A	Condenser, trimmer, 19M r-f	Part of C415
C415B	Condenser, trimmer, 25M r-f	Part of C415
C415C	Condenser, trimmer, 31M r-f	Part of C415
C416	Condenser, trimmer, 2-section	31-6415
C416A	Condenser, trimmer, 13M osc.	Part of C416
C416B	Condenser, trimmer, 16M osc.	Part of C416
C417	Condenser, trimmer, 3-section	31-6414
C417A	Condenser, trimmer, 19M osc.	Part of C417
C417B	Condenser, trimmer, 25M osc.	Part of C417
C417C	Condenser, trimmer, 31M osc.	Part of C417
C418	Condenser, trimmer, 3-section	31-6414
C418A	Condenser, trimmer, SW2 osc.	Part of C418
C418B	Condenser, trimmer, SW1 osc.	Part of C418
C418C	Condenser, trimmer, BC osc. (series)	Part of C418
C419	Condenser, trimmer, BC osc. (shunt)	31-6308
L400	Coil, SW1 aerial	32-3864
L401	Coil, SW2 aerial	32-3867

SECTION 4 (Continued)

R-F AND CONVERTER CIRCUITS

Reference Symbol	Description	Service Part No.
L402	Coil, BC r-f	32-3862
L403	Coil, SW1 r-f	32-3865
L404	Coil, SW2 r-f	32-3868
L405	Coil, 13M—31M aerial	32-3870
L406	Coil, 13M—31M r-f	32-3872
R400	Resistor, parasitic suppressor, 100 ohms	66-103340*
R401	Resistor, grid return, 470,000 ohms	66-4473340*
R402	Resistor, plate load, 15,000 ohms	66-3154340
R403	Resistor, voltage divider, 12,000 ohms	66-3125340
R404	Resistor, voltage divider, 18,000 ohms	66-3184340
R405	Resistor, grid return, 470,000 ohms	66-4473340*
R406	Resistor, grid return, 68,000 ohms	66-3683340
R407	Resistor, stabilization, 150 ohms	66-1153340*
R408	Resistor, shunt feed, 22,000 ohms	66-3223340
T400	Transformer, BC aerial	32-3661
T401	Transformer, BC osc.	32-3663
T402	Transformer, SW1 osc.	32-3666
T403	Transformer, SW2 osc.	32-3669
T404	Transformer, 13M—31M osc.	32-3671
TC400	Tuning-core assembly	76-1281
TC400A	Tuning core, 13M—31M aerial	Part of TC400
TC400B	Tuning core, 13M—31M r-f	Part of TC400
TC400C	Tuning core, 13M—31M osc.	Part of TC400
WS1-1(F)	Switch-wafer section	Part of 42-1747
WS1-1(R)	Switch-wafer section	Part of 42-1747
WS1-2(F)	Switch-wafer section	Part of 42-1747
WS1-2(R)	Switch-wafer section	Part of 42-1747
WS1-3(F)	Switch-wafer section	Part of 42-1747
WS1-3(R)	Switch-wafer section	Part of 42-1747
WS1-4(F)	Switch-wafer section	Part of 42-1747
WS1-4(R)	Switch-wafer section	Part of 42-1747
WS1-5(F)	Switch-wafer section	Part of 42-1747
WS1-5(R)	Switch-wafer section	Part of 42-1747
WS1-6(F)	Switch-wafer section	Part of 42-1747
WS1-6(R)	Switch-wafer section	Part of 42-1747
WS2-2(R)	Switch-wafer section	Part of 42-1749-1

MISCELLANEOUS

Description	Service Part No.
Bracket-and-pulley assembly	76-1511
Cable, speaker	41-3687
Cable-and-switch assembly, bin light (48-1860 with M-4)	76-2746-1
Switch, bin light (48-1860 with M-4)	42-1702
Carriage-and-spring assembly (pilot lamp)	76-2506
Clip, coil mounting	28-5002FA1
Dial Scale and Hardware	
Clamp, dial	56-2137FA15
Cord, drive (25-ft. spool)	45-8760
Dial-plate assembly	76-1511
Dial-scale assembly	76-1730
Idler-pulley assembly (small)	76-1243
Idler-pulley assembly (large)	76-2051
Pointer	56-2540FCP
Spring, indicator	28-8751FA1
Spring, drive cord	28-8954
Disc, rubber (coupling assembly)	27-4272
Drive shaft and bearing	76-1731
Drum assembly, tuning	76-1244FA33
Drum assembly, band indicator	76-1246FA33
Frame-cover assembly	76-2341
Grommet, rubber (corner)	27-4584
Jewel	54-4304
Jewel-light assembly	41-3737-2
Knob	54-4248
Motor, phono, 50-cycle (48-1860 with D-10)	35-1304-4
Motor, phono, 60-cycle (48-1860 with D-10)	35-1304-2
Motor, phono, 50/60-cycle (48-1860 with M-4; conversion spring required for 50 cycles)	35-1312
Pilot-lamp-socket assembly	76-1236
Plug, adapter	56-2540FCP
Rod, pilot lamp	56-2133
Screw, core carrier and speed nut	97-0054FA3
Shield, tube	56-1566FA5
Socket, Loktal	27-6128*
Socket, octal	27-6058*
Socket, 4-prong	27-6153*
Speednut, core carrier	
Spring, conversion (for 50 cycles)	56-3629



**REVISIONS AND ADDITIONS TO 48-1860  
SERVICE MANUAL**

<b>Reference Symbol</b>	<b>Description</b>	<b>Service Part No.</b>
<b>Parts List Additions</b>		
C420	Condenser, fixed trimmer, BC r-f, 5 mmf. ....	30-1224-5
C421	Condenser, fixed trimmer, SW1 r-f, 5 mmf. ....	30-1224-5
	Bin mechanism, l.h. ....	76-3223-5
	Bin mechanism, r.h. ....	76-3223-6
<b>Parts List Corrections</b>		
R216	Resistor, crystal compensation, 2.7 megohms (48-1860 with D-10) .....	66-5273340*
C402	Condenser, fixed trimmer (SW2 aerial), 15 mmf. ....	30-1223-3
	Speednut, core carrier .....	56-2151FA5

**PRODUCTION CHANGES**

NOTE: No production changes were made in Code 121.

**Model 48-1860 (D-10), Code 122, Run 1**

R216	Resistor, crystal compensation, 2.7 megohms, was changed to 3.3 megohms .....	66-5338340*
R217	Resistor, crystal compensation, 1 megohm, was changed to 470,000 ohms .....	66-4478340*

The above changes were made to accommodate the Philco low-noise pickup.