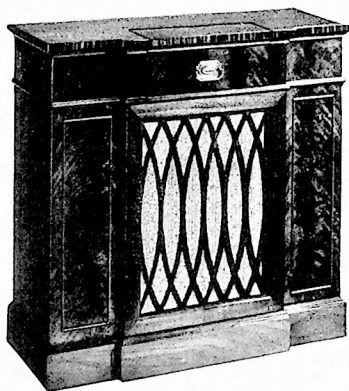
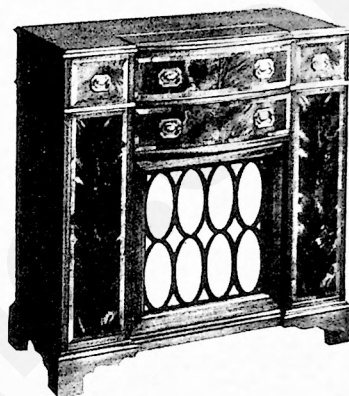


PHILCO RADIO-PHONOGRAPH MODELS 48-1274 and 48-1276



TP-1400

MODEL 48-1274



TP-1401

MODEL 48-1276

SPECIFICATIONS

CABINET	
Model 48-1274	Wood, mahogany or walnut finish
Model 48-1276	Wood, mahogany finish
CIRCUIT	
Sixteen-tube superheterodyne	
FREQUENCY RANGES	
Broadcast	540—1720 kc.
Short Wave	9.25—15.5 mc.
Frequency Modulation	88—108 mc.
AUDIO OUTPUT	
15 watts	
PUSH BUTTONS	
Ten: One for power OFF; one for phono operation; three for manual-tuning band selection (BC, SW, or FM); five for automatic (motor-driven) station and band selection (BC or FM)	
OPERATING VOLTAGE	
105—125 volts, 60 cycles, a.c.	
POWER CONSUMPTION	
Radio	175 watts
Phonograph	20 watts
AERIALS	
Built-in loop for broadcast and short wave; cabinet dipole for FM; provision for external aerial	
INTERMEDIATE FREQUENCIES	
AM	455 kc.
FM	9.1 mc.
PHILCO TUBES (16)	
6AU6, 7E5, 7H7(2), 7B7, 7F8, FM1000, 6J5GT(3), 7E6, 6L6GA(2), 7F7, 7E7, 5U4G	
PHONOGRAPH	
Philco Automatic Record Changer, Model M-4 (for service information, see manual PR-1522)	
MOTOR-DRIVEN TUNING MECHANISM	
Philco Electromechanical Push-Button Tuner (for service information, see Page 550)	

AM ALIGNMENT PROCEDURE

CAUTION: Do not turn on the power with the speaker disconnected, or the radio may be damaged.

When the complete AM and FM alignments are to be made, the AM alignment should be made first; if AM alignment is not required, the FM alignment alone may be made. Before starting the alignment, allow the radio to warm up for about 15 minutes.

DIAL POINTER: With the tuning-condenser plates fully meshed, adjust the pointer to coincide with the index mark at the low-frequency end of the scale. See CALIBRATING DIAL BACKPLATE.

RADIO CONTROLS: Set the volume control to maximum. Turn the bass control fully counterclockwise, and the treble control fully clockwise.

AM R-F SIGNAL GENERATOR: Connect the ground lead to the radio chassis, and the output lead as indicated in the chart. Use modulated output.

OUTPUT METER: Connect between terminal 4 (voice-coil connection) of the aerial terminal panel and the chassis.

OUTPUT LEVEL: During the alignment, the input signal must be attenuated to hold the output-meter reading below 1.5 volts.

BAND PUSH BUTTONS, RADIO DIAL, AND SIGNAL-GENERATOR DIAL: Set as indicated in the chart.

FM ALIGNMENT PROCEDURE

MAKE AM ALIGNMENT FIRST

Follow the instructions preliminary to the AM alignment chart, except for the band selection; depress the FM push button. Use an AM r-f signal generator, with or without modulation, as indicated in the chart.

FM ALIGNMENT NOTES

1. When pin 2 of the FM1000 tube is shorted to the chassis, the detector oscillator is made inoperative, and the circuit is converted to an AM detector.

2. Make the loading network by connecting a 4700-ohm resistor and a .1-mf. condenser in series. Attach an alligator clip to each free end of the network. This network, when connected across the primary or secondary of an overcoupled i-f transformer, loads the circuit so that the transformer coupling is effectively below the critical value; the unloaded winding may then be correctly tuned to the center intermediate frequency.

3. The top of trimmer, C303B, can be reached only from the top of the shield can. Slide a length of flattened solder or wire down between the ceramic form and the edge of the trimmer plate. Attach the loading network between this connection and the chassis.

4. It is essential that the output of the generator be kept below the level at which the detector oscillator locks in, or an erroneous zero beat will be obtained. When a single very sharp zero-beat point is obtained, the adjustment is correct.

5. The use of a signal generator for steps 10 to 16, inclusive, is recommended only if the available generator is sufficiently accurate to insure correct frequency settings; otherwise, an alternate procedure employing FM broadcast-station signals instead of a signal generator is recommended. For adjustments at the high-frequency end of the band, use the station nearest 105 mc.; for the low-frequency adjustments, use the station nearest 92 mc. If the circuits are greatly misaligned, it may be necessary to adjust the trimmers and coils for maximum noise at each end of the band before station signals can be heard.

6. Check circuit resonance with a tuning wand. If the brass end, when placed in or near the coil, increases the output-meter reading, spread the coil turns; if the powdered-iron end increases the reading, compress the turns. If both ends cause a decrease in output, the coil is correctly tuned. Do not change the coils excessively, since only a small adjustment is required at these frequencies.

7. To feed signals from the signal generator into the aerial circuit of the radio, make two simple dipole aeriels. Each aerial may consist of two 30-inch lengths of rubber-covered wire. Connect one dipole aerial to terminals 1 and 2 on the FM aerial socket. Connect the other to the signal-generator leads. Arrange the two aeriels several feet apart.

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	PB—push-button switch	T —transformer
I—pilot lamp	LS—loud-speaker	R—resistor	WS—wafer switch
L—choke or coil	MO—motor	S—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.

AM ALIGNMENT CHART

SETTING PUSH BUTTONS

NOTE: Before setting the push buttons, allow the radio to warm up for about 15 minutes.

1. Depress the BC push button, and rotate the tuning control until the Allen setscrew in the main camshaft is accessible from the rear of the chassis, as shown in figure 1.

2. Loosen the setscrew four turns.

CAUTION: Remove the wrench before proceeding with the next step.

3. Determine the dial positions of the desired stations (both FM and broadcast) in order, from left to right, and place the station tabs of these stations, in the same order, in the station-selector buttons.

4. Position the push-rod extension spring of the station-selector button so that it will engage the correct rocker bar (upper bar for broadcast, and lower bar for FM).

5. Depress the button for the band of the station to be set up on the left-hand station-selector button. Manually tune the radio to this station, and, while holding the manual-tuning control, depress the station-selector button.

6. After the tuning motor stops, operate the set-up switch (see figure 1); hold the set-up switch closed until the motor stalls, then release it.

7. Set the remaining four station-selector buttons, from left to right, in the same manner.

8. Depress the BC button, and again rotate the tuning control until the Allen setscrew is accessible; tighten the setscrew and remove the wrench.

STEP	SIGNAL GENERATOR		RADIO			ADJUST
	CONNECTION TO RADIO	DIAL SETTING	BAND	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Through .1-mf. condenser to stator of ant. section of tuning gang.	455 kc.	BC	1700 kc.	Adjust trimmers, in order given, for maximum output. Do not repeat adjustments.	C303C — 4th i-f pri. C302C — 3rd i-f sec. TC302A — 3rd i-f pri. C301C — 2nd i-f sec. TC301A — 2nd i-f pri. C300C — 1st i-f sec. TC300A — 1st i-f pri.
2	Radiating loop (See note below.)	15 mc.	SW	15 mc.	Adjust for maximum. (Image should be heard with generator tuned to 14.1 mc.)	C420C — S-w osc.
3	Same as step 2.	15 mc.	SW	15 mc.	Adjust for maximum while rocking tuning control.	C420A — S-w r.f. C401B — S-w aerial
4	Same as step 2.	1720 kc.	BC	1720 kc.	Adjust for maximum.	C434 — Bc. osc. (shunt)
5	Same as step 2.	580 kc.	BC	580 kc.	Adjust for maximum.	C433 — Bc. osc. (series)
6	Same as step 2.	1500 kc.	BC	1500 kc.	Adjust for maximum.	C420B — Bc. r.f.
7	Same as step 2.	1500 kc.	BC	1500 kc.	Adjust for maximum.	C401A — Bc. aerial
8	Repeat steps 4, 5, 6, and 7 until no further increase is obtained.					

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

FM ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTION TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	To control grid (pin 5) of 7E5 (through hole in side of r-f chassis).	9.1 mc. (Mod. on)	Tuning gang fully closed.	Connect jumper between pin 2 (oscillator grid) of FM1000 and chassis (see note 1). Connect loading network (see note 2) between top of trimmer C303B and chassis (see note 3). Adjust for maximum.	C303A — 4th i-f pri.
2	Same as step 1.	9.1 mc. (Mod. on)	Same as step 1.	Connect loading network between pin 2 (blue lead) of 7H7 third i.f. and chassis. Adjust for maximum.	C303B — 4th i-f sec.
3	Same as step 1.	9.1 mc. (Mod. on)	Same as step 1.	Connect loading network between pin 6 (green lead) of 7H7 third i.f. and chassis. Adjust for maximum.	C302A — 3rd i-f pri.
4	Same as step 1.	9.1 mc. (Mod. on)	Same as step 1.	Connect loading network between pin 2 (blue lead) of 7B7 second i.f. and chassis. Adjust for maximum.	C302B — 3rd i-f sec.
5	Same as step 1.	9.1 mc. (Mod. on)	Same as step 1.	Connect loading network between pin 6 (green lead) of 7B7 second i.f. and chassis. Adjust for maximum.	C301A — 2nd i-f pri.
6	Same as step 1.	9.1 mc. (Mod. on)	Same as step 1.	Connect loading network between pin 2 (blue lead) of 7H7 first i.f. and chassis. Adjust for maximum.	C301B — 2nd i-f sec.
7	Same as step 1.	9.1 mc. (Mod. on)	Same as step 1.	Leave loading network connected as in step 6. Adjust for maximum.	C300B — 1st i-f sec. C300A — 1st i-f pri.
8	To control grid (pin 6) of 7H7 third i.f.	9.1 mc. (Mod. off)	Same as step 1.	Remove loading network, and remove jumper from pin 2 of FM1000 and chassis. Connect jumper between pin 4 (blue lead) of FM1000 and test point H (Section 3). Adjust for zero beat.	C304A — Det. osc.
9	Same as step 8.	9.1 mc. (Mod. off)	Same as step 1.	Remove jumper used in step 8. Adjust for zero beat (see note 4).	TC304A — Det. plate
10	To terminal 2 of J400 (see note 5).	105 mc. (Mod. on)	105 mc.	Connect jumper between pin 2 of FM1000 and chassis. Adjust for maximum.	C415 — H-f osc.
11	Same as step 10.	105 mc. (Mod. on)	105 mc.	Same as step 10.	C429 — Freq. double
12	Same as step 10.	92 mc. (Mod. on)	92 mc.	Adjust coil L409 for maximum (see note 6).	Freq.-doubler tracking
13	Repeat steps 10 and 11 until no further increase is obtained.				
14	Same as step 10.	105 mc. (Mod. on)	105 mc.	Adjust for maximum while rocking tuning control.	C412 — R.f.
15	See note 7.	105 mc. (Mod. on)	105 mc.	Adjust for maximum.	C402 — Aerial
16	Same as step 13.	92 mc. (Mod. on)	92 mc.	Adjust coils L405 and L401 for maximum (see note 6).	R-f and aerial tracking
17	Repeat steps 14, 15, and 16 until no further increase is obtained.				

FIGURE 1. TOP VIEW

FIGURE 2. TOP VIEW



AM ALIGNMENT CHART

MODELS 48-1274 and 48-1276

RADIO			ADJUST
BAND	DIAL SETTING	SPECIAL INSTRUCTIONS	
BC	1700 kc.	Adjust trimmers, in order given, for maximum output. Do not repeat adjustments.	C303C — 4th i-f pri. C302C — 3rd i-f sec. TC302A — 3rd i-f pri. C301C — 2nd i-f sec. TC301A — 2nd i-f pri. C300C — 1st i-f sec. TC300A — 1st i-f pri.
SW	15 mc.	Adjust for maximum. (Image should be heard with generator tuned to 14.1 mc.)	C420C — S-w osc.
SW	15 mc.	Adjust for maximum while rocking tuning control.	C420A — S-w r.f. C401B — S-w aerial
BC	1720 kc.	Adjust for maximum.	C434 — Bc. osc. (shunt)
BC	580 kc.	Adjust for maximum.	C433 — Bc. osc. (series)
BC	1500 kc.	Adjust for maximum.	C420B — Bc. r.f.
BC	1500 kc.	Adjust for maximum.	C401A — Bc. aerial

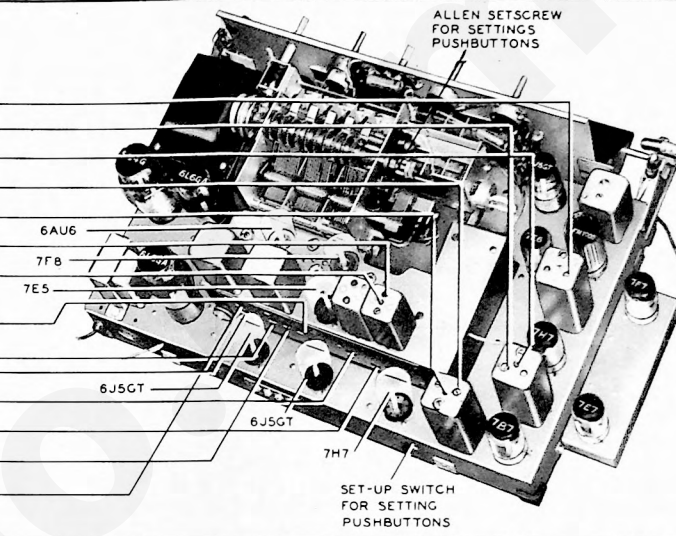


FIGURE 1. TOP VIEW, SHOWING AM TRIMMER LOCATIONS

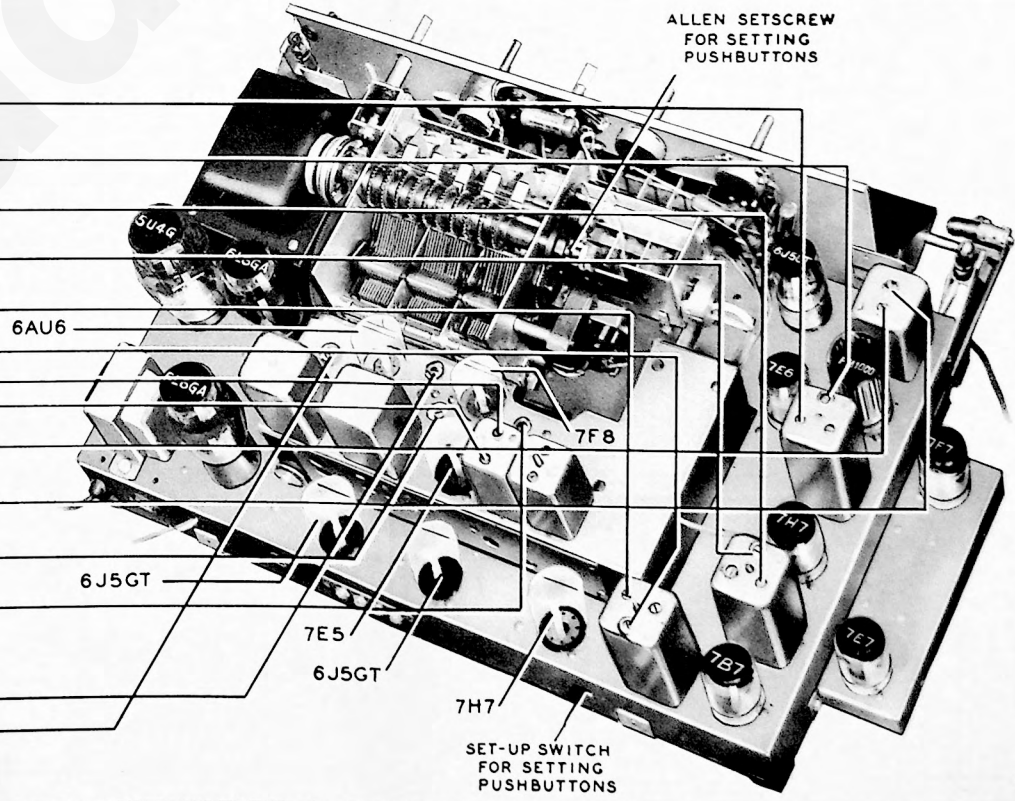
TP-3782

FM ALIGNMENT CHART

RADIO			ADJUST
DIAL SETTING	SPECIAL INSTRUCTIONS		
as step 1.	Connect jumper between pin 2 (oscillator grid) of FM1000 and chassis (see note 1). Connect loading network (see note 2) between top of trimmer C303B and chassis (see note 3). Adjust for maximum.	C303A — 4th i-f pri.	
as step 1.	Connect loading network between pin 2 (blue lead) of 7H7 third i.f. and chassis. Adjust for maximum.	C303B — 4th i-f sec.	
as step 1.	Connect loading network between pin 6 (green lead) of 7H7 third i.f. and chassis. Adjust for maximum.	C302A — 3rd i-f pri.	
as step 1.	Connect loading network between pin 2 (blue lead) of 7B7 second i.f. and chassis. Adjust for maximum.	C302B — 3rd i-f sec.	
as step 1.	Connect loading network between pin 6 (green lead) of 7B7 second i.f. and chassis. Adjust for maximum.	C301A — 2nd i-f pri.	
as step 1.	Connect loading network between pin 2 (blue lead) of 7H7 first i.f. and chassis. Adjust for maximum.	C301B — 2nd i-f sec.	
as step 1.	Leave loading network connected as in step 6. Adjust for maximum.	C300B — 1st i-f sec. C300A — 1st i-f pri.	
as step 1.	Remove loading network, and remove jumper from pin 2 of FM1000 and chassis. Connect jumper between pin 4 (blue lead) of FM1000 and test point H (Section 3). Adjust for zero beat.	C304A — Det. osc.	
as step 1.	Remove jumper used in step 8. Adjust for zero beat (see note 4).	TC304A — Det. plate	
15 mc.	Connect jumper between pin 2 of FM1000 and chassis. Adjust for maximum.	C415 — H-f osc.	
15 mc.	Same as step 10.	C429 — Freq. double	
12 mc.	Adjust coil L409 for maximum (see note 6).	Freq.-doubler tracking	
15 mc.	Adjust for maximum while rocking tuning control.	C412 — R.f.	
15 mc.	Adjust for maximum.	C402 — Aerial	
12 mc.	Adjust coils L405 and L401 for maximum (see note 6).	R-f and aerial tracking	

FIGURE 2. TOP VIEW, SHOWING FM TRIMMER LOCATIONS

TP-3782



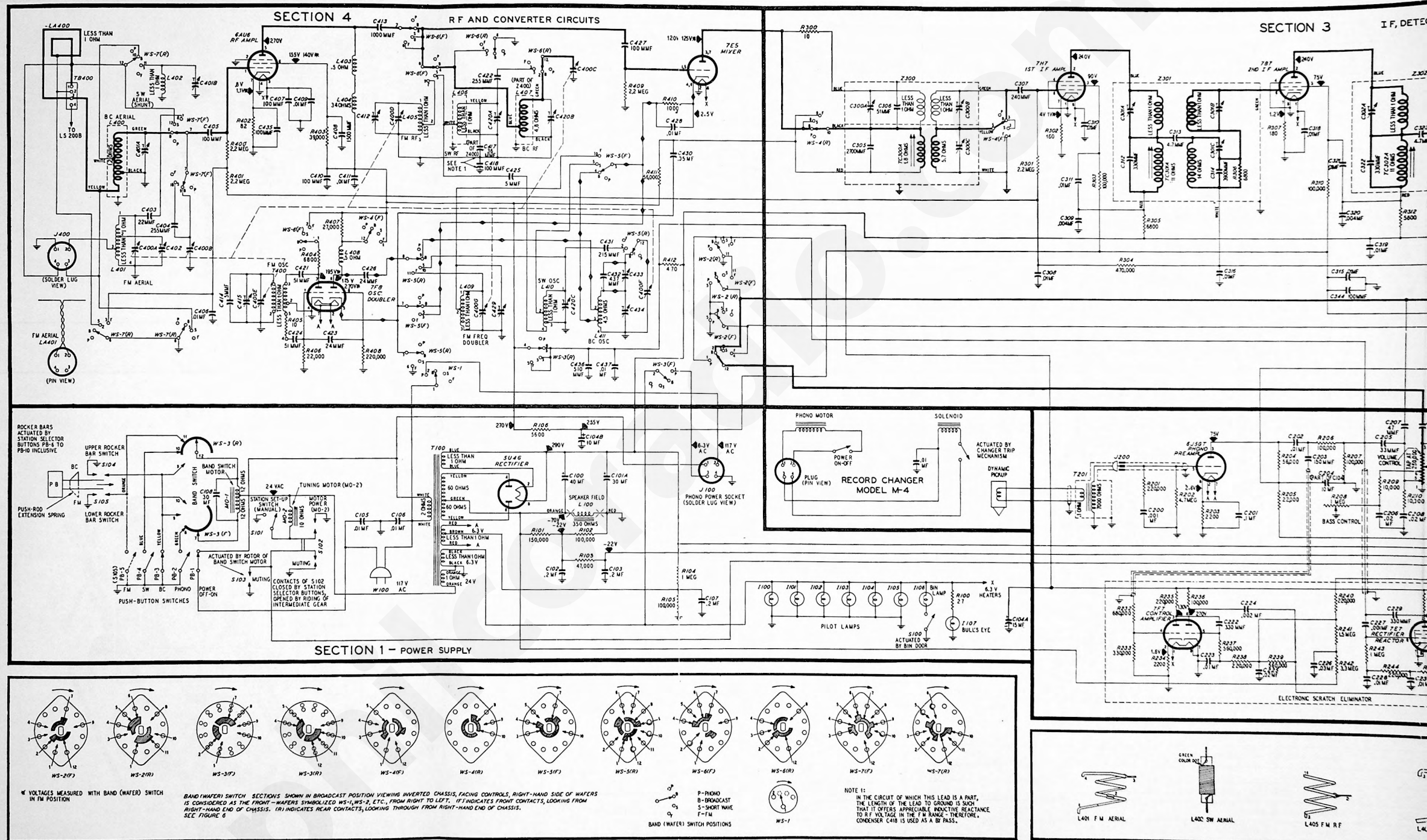


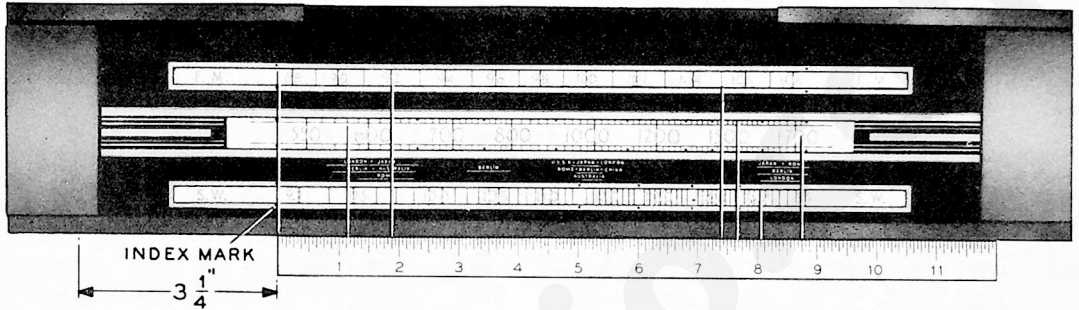
FIGURE 3. PHILCO RADIO-PHONOGRAPH MODELS 48-1274 AND 48-1276, SECTIONALIZED SCHEMATIC DIAGRAM,

MODELS 48-1274 and 48-1276

CALIBRATING DIAL BACKPLATE

With the radio out of the cabinet, dial calibration points should be located by making pencil marks on the backplate, below the pointer. Figure 4 shows the measurements for these points with respect to the left-hand edge of the backplate.

NOTE: The dial scale shown in figure 4 is for Model 48-1274. Although this scale is shorter than that for Model 48-1276, the calibration of the two scales is identical, and the relationship between the backplate and the calibration points is the same for both models.



TO EDGE OF DIAL BACKPLATE

FIGURE 4. DIAL-BACKPLATE CALIBRATION MEASUREMENTS

TP-4291

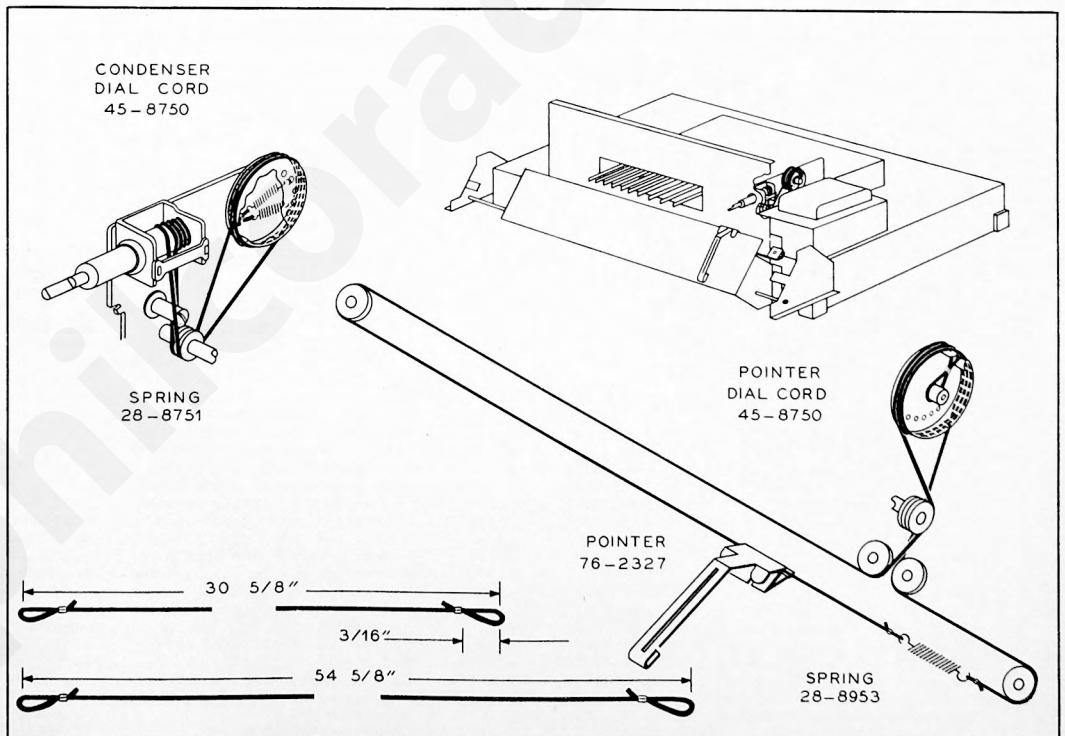


FIGURE 5. DRIVE-CORD INSTALLATION DETAILS

TP-4723E

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

Reference	Symbol	Description	Service Part No.
C100		Condenser, electrolytic, input filter, 40 mf., 450v	30-2568-20
C101		Condenser, electrolytic, 2-section	30-2570-3*
C101A		Condenser, filter, 30 mf., 450v	Part of C101
C102		Condenser, bias filter, .2 mf.	45-3500-3*
C103		Condenser, bias filter, .2 mf.	45-3500-3*
C104		Condenser, electrolytic, 2-section	30-2570-6*
C104A		Condenser, filter, 15 mf., 450v	Part of C104
C104B		Condenser, filter, 10 mf., 450v	Part of C104
C105		Condenser, line filter, .01 mf.	30-1226-1
C106		Condenser, line filter, .01 mf.	30-1226-1
C107		Condenser, by-pass, .2 mf.	45-3500-3*
C108		Condenser, a-c electrolytic, 30 mf., 30v, 60 cycles	30-2572
I100 to I105		Lamp, pilot	34-2064
I106		Lamp, bin	34-2039
I107		Lamp, bull's-eye	34-2040
I100		Socket, phono power	27-6182
L100		Coil, speaker field	Part of LS200
MO-1		Motor, band switching (part of 76-2333-1)	35-1324
MO-2		Motor, push-button tuning (part of 76-2150)	76-2428
PB-1		Push-button switch, master power off-on (part of 76-2150)	42-1789
PB-2		Push-button switch, PHONO	Part of 76-2150
PB-3		Push-button switch, BC	Part of 76-2150
PB-4		Push-button switch, SW	Part of 76-2150
PB-5		Push-button switch (rod actuating S105), FM	Part of 76-2150
PB-6 to PB-10		Push-button rod	Part of 76-2150
R100		Resistor, bull's-eye dropping, 27 ohms	66-0273340*
R101		Resistor, voltage divider, 150,000 ohms	66-4153340*
R102		Resistor, voltage divider, 100,000 ohms	66-4103340*
R103		Resistor, filter, 47,000 ohms	66-3473340*
R104		Resistor, voltage divider, 1 megohm	66-5103340*
R105		Resistor, voltage divider, 100,000 ohms	66-4103340*
R106		Resistor, filter, 5600 ohms	66-2564340*
S100		Switch, bin lamp	76-2140-2
S101		Switch, set-up	42-1702
S102		Switch, tuning motor	Part of 76-2150
S103		Switch, muting (part of 76-2333)	76-2346
S104		Switch, AM	Part of 76-2150
S105		Switch, FM	Part of 76-2150
T100		Transformer, power	32-8286
WS-3 (F, R)		Switch, wafar (part of 76-2333-1)	54-7524
W100		Power cord and plug	13351

SECTION 2 — AUDIO CIRCUITS

C200		Condenser, tone compensation, .001 mf.	45-3500-5*
C201		Condenser, cathode by-pass, .1 mf.	61-0113*
C202		Condenser, d-c blocking, .01 mf.	61-0120*
C203		Condenser, d-c blocking, 150 mmf.	60-10155407*
C204		Condenser, audio by-pass, 10 mf.	Part of C104
C205		Condenser, tone compensation, 33 mmf.	60-00365307*
C206		Condenser, tone compensation, .02 mf.	61-0108*
C207		Condenser, tone compensation, 47 mmf.	60-00515307*
C208		Condenser, tone compensation, .02 mf.	61-0108*
C209		Condenser, d-c blocking, .03 mf.	45-3500-1*
C210		Condenser, d-c blocking, .01 mf.	61-0120*
C211		Condenser, audio by-pass, .5 mf.	61-0133*
C212		Condenser, r-f by-pass, 240 mmf.	60-10245307*
C213		Condenser, audio by-pass, 10 mf., 450v	Part of C101
C214		Condenser, tone compensation, .03 mf.	45-3500-1*
C215		Condenser, d-c blocking, .003 mf.	61-0109*
C216		Condenser, d-c blocking, .006 mf.	61-0105*
C217		Condenser, d-c blocking, .006 mf.	61-0105*
C218		Condenser, d-c blocking, .006 mf.	61-0105*
C219		Condenser, tone compensation, .01 mf.	61-0120
C220		Condenser, tone compensation, .01 mf.	61-0120
C221		Condenser, frequency cross-over filter, 2 mf.	45-3030

SECTION 2 — AUDIO CIRCUITS (Continued)

Reference	Symbol	Description	Service Part No.
C222		Condenser, d-c blocking, 330 mmf.	60-10335407*
C223		Condenser, audio by-pass, .01 mf.	61-0120*
C224		Condenser, d-c blocking, .002 mf.	61-0062*
C225		Condenser, filter, .02 mf.	61-0108*
C226		Condenser, filter, .03 mf.	45-3500-1*
C227		Condenser, coupling, .001 mf.	45-3500-5*
C228		Condenser, filter, .01 mf.	61-0120*
C229		Condenser, d-c blocking, 330 mmf.	60-10335407*
C230		Condenser, filter, .01 mf.	61-0120*
J200		Jack and cable, phono input	41-3735-1
J201		Test jack	27-6180
LS200		Speaker, coaxial	36-1612
LS200A		Speaker, tweeter (part of 36-1612)	36-1612-1
LS200B		Speaker, woofer	Part of 36-1612
R200		Volume control, .5 megohm (taps at 50,000 ohms and 250,000 ohms)	33-5535-6
R201		Resistor, tone compensation, 220,000 ohms	66-4223340*
R202		Resistor, grid return, 4.7 megohms	66-5473340*
R203		Resistor, cathode bias, 2200 ohms	66-2223340*
R204		Resistor, plate load, 56,000 ohms	66-3563340*
R205		Resistor, plate decoupling, 22,000 ohms	66-3223340*
R206		Resistor, voltage divider, 100,000 ohms	66-4103340*
R207		Resistor, voltage divider, 100,000 ohms	66-4103340*
R208		Bass control, 1 megohm	33-5539-9
R209		Resistor, tone compensation, 10,000 ohms	66-3103340*
R210		Resistor, tone compensation, 10,000 ohms	66-3103340*
R211		Resistor, grid return, 1 megohm	66-5103340*
R212		Resistor, voltage divider, 680,000 ohms	66-4683340*
R213		Resistor, voltage divider, 2.2 megohms	66-5223340*
R214		Resistor, plate load, 56,000 ohms	66-3564340*
R215		Resistor, plate decoupling, 6800 ohms	66-2683340*
R216		Tweeter control (variable), 50 ohms	Part of R219
R217		Resistor, voltage dropping, 10 ohms	66-0103340*
R218		Resistor, tone comp., 2.2 megohms	66-5223340*
R219		Treble control, .5 megohm	33-5543
R220		Resistor, grid return, 1 megohm	66-5103340*
R221		Resistor, cathode bias, 1000 ohms	66-2103340*
R222		Resistor, cathode bias, 1000 ohms	66-2103340*
R223		Resistor, phase-inverter voltage divider, 1 megohm	66-5103340*
R224		Resistor, phase-inverter voltage divider, 68,000 ohms	66-3683340*
R225		Resistor, plate load, 56,000 ohms	66-3564340*
R226		Resistor, plate load, 56,000 ohms	66-3564340*
R227		Resistor, inverse-feedback voltage divider, 5600 ohms	66-2563340*
R228		Resistor, parasitic suppressor, 820 ohms	66-1823340*
R229		Resistor, parasitic suppressor, 820 ohms	66-1823340*
R230		Resistor, grid return, 330,000 ohms	66-4333340*
R231		Resistor, grid return, 330,000 ohms	66-4333340*
R232		Resistor, voltage divider, 680,000 ohms	66-4683340*
R233		Resistor, grid return, 330,000 ohms	66-4333340*
R234		Resistor, cathode bias, 2200 ohms	66-2223340*
R235		Resistor, plate load, 220,000 ohms	66-4223340*
R236		Resistor, plate load, 100,000 ohms	66-4103340*
R237		Resistor, grid return, 560,000 ohms	66-4563340*
R238		Resistor, bias filter, 220,000 ohms	66-4223340*
R239		Resistor, bias filter, 560,000 ohms	66-4563340*
R240		Resistor, bias volt. div., 220,000 ohms	66-4223340*
R241		Resistor, bias volt. div., 1.5 megohms	66-5153340*
R242		Resistor, bias decoupling, 3.3 megohms	66-5333340*
R243		Resistor, grid return, 1 megohm	66-5103340*
R244		Resistor, filter, 220,000 ohms	66-4223340*
R245		Resistor, plate load, 27,000 ohms	66-3273340*
R246		Resistor, filter, 220,000 ohms	66-4223340*
R247		Resistor, voltage divider, 33,000 ohms	66-3333340*
R248		Resistor, voltage divider, 33,000 ohms	66-3333340*
T200		Transformer, output	32-8287
T201		Transformer, phono input	32-8256
WS-2 (R)		Switch-wafar section (part of 76-2333-1)	54-7523
WS2-1		High-fidelity switch	42-1785

REPLACEMENT PARTS LIST

SECTION 3

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

Reference Symbol	Description	Service Part No.
C300A	Condenser, trimmer	Part of Z300
C300B	Condenser, trimmer	Part of Z300
C300C	Condenser, trimmer	Part of Z300
C301A	Condenser, trimmer	Part of Z301
C301B	Condenser, trimmer	Part of Z301
C301C	Condenser, trimmer	Part of Z301
C302A	Condenser, trimmer	Part of Z302
C302B	Condenser, trimmer	Part of Z302
C302C	Condenser, trimmer	Part of Z302
C303A	Condenser, trimmer	Part of Z303
C303B	Condenser, trimmer	Part of Z303
C303C	Condenser, trimmer	Part of Z303
C304A	Condenser, trimmer	Part of Z304
C305	Condenser, shunt (part of Z300), 2700 mmf.	60-20275404*
C306	Condenser, shunt (part of Z300), 51 mmf.	60-00515237*
C307	Condenser, d-c blocking, 240 mmf.	60-10245307*
C308	Condenser, a-v-c by-pass, .01 mf.	61-0120*
C309	Condenser, plate by-pass, .004 mf.	61-0179*
C310	Condenser, filament by-pass, .01 mf.	61-0120*
C311	Condenser, screen by-pass, .01 mf.	61-0120*
C312	Condenser, shunt (part of Z301), 330 mmf.	60-10335407*
C313	Condenser, d-c block (part of Z301), 4.7 mmf.	30-1224-5*
C314	Condenser, shunt (part of Z301), 3900 mmf.	60-20395404*
C315	Condenser, r-f by-pass, .01 mf.	61-0120*
C316	Condenser, a-v-c filter, .01 mf.	61-0120*
C317	Condenser, tone compensation, .003 mf.	61-0109*
C318	Condenser, filament by-pass, .01 mf.	61-0120*
C319	Condenser, r-f by-pass, .01 mf.	61-0120*
C320	Condenser, plate by-pass, .004 mf.	61-0179*
C321	Condenser, screen by-pass, .01 mf.	61-0120*
C322	Condenser, shunt (part of Z302), 330 mmf.	60-10335407*
C323	Condenser, d-c blocking (part of Z302), 4.7 mmf.	30-1224-5*
C324	Condenser, shunt (part of Z302), 3900 mmf.	60-20395404*
C325	Condenser, d-c blocking, .006 mf.	61-0105*
C326	Condenser, r-f by-pass, .05 mf.	61-0122*
C327	Condenser, cathode by-pass, .01 mf.	61-0120*
C328	Condenser, shunt (part of Z304), 15 mmf.	30-1223-3*
C329	Condenser, r-f by-pass, .01 mf.	61-0120*
C330	Condenser, screen by-pass, .01 mf.	61-0120*
C331	Condenser, plate by-pass, .004 mf.	61-0179*
C332	Condenser, r-f by-pass, 1500 mmf.	60-20155404*
C333	Condenser, r-f voltage divider (part of Z304), 93 mmf.	30-1223-6*
C334	Condenser, r-f voltage divider (part of Z304), 68 mmf.	60-00685237*
C335	Condenser, d-c blocking, 33 mmf.	60-00365307*
C336	Condenser, r-f by-pass, 100 mmf.	60-10105407*
C337	Condenser, screen by-pass, .01 mf.	61-0120*
C338	Condenser, filament by-pass, .01 mf.	61-0120*
C339	Condenser, shunt (part of Z303), 270 mmf.	30-1220-5*
C340	Condenser, r-f by-pass, 240 mmf.	60-10245307*
C341	Condenser, d-c blocking, 100 mmf.	60-10105407*
C342	Condenser, filament by-pass, .01 mf.	61-0120*
C343	Condenser, r-f by-pass, .01 mf.	61-0120*
C344	Condenser, r-f by-pass, 100 mmf.	60-10105407*
L300	Choke, r-f	32-3352
R300	Resistor, parasitic suppressor, 10 ohms	66-0103340*
R301	Resistor, grid return, 2.2 megohms	66-5223340*
R302	Resistor, cathode bias, 180 ohms	66-1183340*
R303	Resistor, screen dropping, 100,000 ohms	66-4103340*
R304	Resistor, a-v-c decoupling, 470,000 ohms	66-4473340*
R305	Resistor, plate decoupling, 6800 ohms	66-2683340*
R306	Resistor, loading (part of Z301), 6800 ohms	66-2683340*
R307	Resistor, cathode bias, 180 ohms	66-1183340*
R308	Resistor, tone compensation, 220,000 ohms	66-4223340*
R309	Resistor, decoupling, 100,000 ohms	66-4103340*

SECTION 3 (Continued)

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

Reference Symbol	Description	Service Part No.
R310	Resistor, screen dropping, 100,000 ohms	66-4103340*
R311	Resistor, a-v-c filter, 330,000 ohms	66-4333340*
R312	Resistor, plate decoupling, 5600 ohms	66-2563340*
R313	Resistor, grid return, 1 megohm	66-5103340*
R314	Resistor, loading (part of Z302), 6800 ohms	66-2683340*
R315	Resistor, cathode bias, 180 ohms	66-1183340*
R316	Resistor, a-v-c diode load, 1 megohm	66-5103340*
R317	Resistor, loading (part of Z304), 5600 ohms	66-2563340*
R318	Resistor, audio load, FM detector, 47,000 ohms	66-3473340*
R319	Resistor, screen dropping, 82,000 ohms	66-3823340*
R320	Resistor, screen dropping, 56,000 ohms	66-3563340*
R321	Resistor, plate decoupling, 5600 ohms	66-2563340*
R322	Resistor, grid leak, 15,000 ohms	66-3153340*
R323	Resistor, filter, 47,000 ohms	66-3473340*
R324	Resistor, diode load, 100,000 ohms	66-4103340*
R325	Resistor, voltage divider, 560 ohms	66-1563340*
R326	Resistor, voltage divider, 47,000 ohms	66-3473340*
WS-4 (R)	Switch-wafer section (part of 76-2333-1)	54-7525
WS-2 (F)	Switch-wafer section (part of 76-2333-1)	54-7523
Z300	Transformer, 1st i-f	32-4072
Z301	Transformer, 2nd i-f	32-4060
Z302	Transformer, 3rd i-f	32-4060
Z303	Transformer, 4th i-f	32-4003-1
Z304	Transformer, FM detector	32-4004

SECTION 4

R-F AND CONVERTER CIRCUITS

Reference Symbol	Description	Service Part No.
C400	Condenser, tuning gang (See Note, Page 15)	Part of 76-2150
C400A	Condenser, tuning-gang section	Part of C400
C400B	Condenser, tuning-gang section	Part of C400
C400C	Condenser, tuning-gang section	Part of C400
C400D	Condenser, tuning-gang section	Part of C400
C400E	Condenser, tuning-gang section	Part of C400
C400F	Condenser, tuning-gang section	Part of C400
C400G	Condenser, tuning-gang section	Part of C400
C401	Condenser, trimmer, 2-section	31-6478-3
C401A	Condenser, trimmer, bc aerial	Part of C401
C401B	Condenser, trimmer, s-w aerial	Part of C401
C402	Condenser, trimmer, FM aerial	31-6473-4
C403	Condenser, blocking, FM, 22 mmf.	62-02200901
C404	Condenser, series tracking, s-w aerial, 255 mmf.	30-1220-24
C405	Condenser, d-c blocking, 100 mmf.	60-10105407*
C406	Condenser, a-v-c by-pass, .01 mf.	61-0120*
C407	Condenser, filament by-pass, 240 mmf.	60-10245307*
C408	Condenser, screen by-pass, 1500 mmf.	30-1225-1*
C409	Condenser, filament by-pass, .01 mf.	61-0120*
C410	Condenser, plate by-pass, 100 mmf.	60-10105407*
C411	Condenser, plate by-pass, .01 mf.	61-0120*
C412	Condenser, trimmer, FM r-f	31-6473-4
C413	Condenser, d-c blocking, 1000 mmf.	30-1225*
C414	Condenser, shunt, FM osc., 5 mmf.	60-90505007*
C415	Condenser, trimmer, FM δ c.	31-6480
C416	Not used	
C417	Condenser, s-w r-f shunt, 36 mmf.	30-1224
C418	Condenser, r-f by-pass, 100 mmf.	60-10105407*
C419	Not used	
C420	Condenser, trimmer, 3-section	31-6477-1
C420A	Condenser, trimmer, s-w r-f	Part of C420
C420B	Condenser, trimmer, bc, r-f	Part of C420
C420C	Condenser, trimmer, s-w osc.	Part of C420
C421	Condenser, d-c blocking, 51 mmf.	30-1224-2
C422	Condenser, series tracking, s-w r-f, 255 mmf.	30-1220-24
C423	Condenser, d-c blocking, 24 mmf.	30-1224-4
C424	Condenser, d-c blocking, 51 mmf.	30-1224-2
C425	Condenser, neutralizing, s-w, 5 mmf.	60-90505007*
C426	Condenser, d-c blocking, 24 mmf.	30-1224-4
C427	Condenser, d-c blocking, 100 mmf.	60-10105407*
C428	Condenser, cathode by-pass, .01 mf.	61-0120*

REPLACEMENT PARTS LIST

SECTION 4 (Continued)

R-F AND CONVERTER CIRCUITS

Reference	Symbol	Description	Service Part No.
C429		Condenser, trimmer, freq. doubler	31-6473-4
C430		Condenser, r-f by-pass, .05 mf.	61-0122*
C431		Condenser, series tracking, s-w osc., 215 mmf.	30-1220-4
C432		Condenser, series-padder shunt, bc. osc., 437 mmf.	30-1220-22
C433		Condenser, series padder, bc. osc.	31-6473-4
C434		Condenser, shunt trimmer, bc. osc.	31-6480-1
C435		Condenser, cathode by-pass, 100 mmf.	60-10105407*
C436		Condenser, by-pass, 510 mmf.	60-10515307*
C437		Condenser, by-pass, .01 mf.	61-0120*
L400		Coil, bc. aerial	32-4141
L401		Coil, FM aerial	32-4235
L402		Coil, shunt, s-w aerial	32-4050-5
L403		Coil, 6AU6 plate choke, FM	32-4061
L404		Coil, 6AU6 plate choke, AM	32-4189
L405		Coil, FM r-f	32-4067
L406		Coil, s-w r-f	Part of Z400
L407		Coil, bc. r-f	Part of Z400
L408		Coil, plate choke, osc. doubler	32-4061
L409		Coil, frequency doubler	32-4071
L410		Coil, s-w osc.	32-4069
L411		Coil, bc. osc.	32-4188
LA400		Loop aerial	76-2344
LA401		FM aerial	76-2029-12
J400		Jack, FM aerial	27-6214-1
R400		Resistor, grid return, 2.2 megohms	66-5223340*
R401		Resistor, a-v-c volt. div., 2.2 megohms	66-5223340*
R402		Resistor, cathode bias, 82 ohms	66-0823340*
R403		Resistor, screen dropping, 39,000 ohms	66-3393340*
R404		Resistor, plate load, 6800 ohms	66-2683340*
R405		Resistor, parasitic suppressor, 10 ohms	66-0103340*
R406		Resistor, grid bias, 22,000 ohms	66-3223340*
R407		Resistor, plate load (AM), 27,000 ohms	66-3273340*
R408		Resistor, grid bias, 220,000 ohms	66-4223340*
R409		Resistor, grid return, 2.2 megohms	66-5223340*
R410		Resistor, cathode bias, 1000 ohms	66-2103340*
R411		Resistor, plate decoupling, 56,000 ohms	66-3563340*
R412		Resistor, filter, 470 ohms	66-3564340*
T400		Transformer, FM osc.	32-4070
TB400		Terminal panel, loop aerial	38-9870
WS-1		A-c switch, phono power off-on (part of 76-2333-1)	42-1840
WS-2 (F, R)		Switch-wafer (part of 76-2333-1)	54-7523
WS-3 (F, R)		Switch-wafer (part of 76-2333-1)	54-7524
WS-5 (F, R)		Switch-wafer (part of 76-2333-1)	54-7526
WS-6 (F, R)		Switch-wafer (part of 76-2333-1)	54-7527
WS-7 (F, R)		Switch-wafer (part of 76-2333-1)	54-7528
Z400		Transformer assembly, bc. and s-w r-f	32-4187

MISCELLANEOUS

Description	Model	Service Part No.
Bin lamp switch-and-cable assembly	48-1274, 76	76-2429-2
Bin lamp	48-1274, 76	34-2039
Cable and plug, speaker	48-1274, 76	41-3734-2
Cabinet Parts and Hardware		
Baffle, speaker	48-1274	219049
Baffle, speaker	48-1276	219048
Baffle and cloth	48-1274	40-6786
Baffle and cloth	48-1276	40-6820
Bin mechanism, l.h.	48-1274, 76	76-3223-2
Bin mechanism, r.h.	48-1274, 76	76-3223-3
Bracket, pilot lamp, l.h.	48-1274	56-3550-1FA3
Bracket, pilot lamp, r.h.	48-1274	56-3550-FA3
Bracket and cradle	48-1274	76-2188
Cabinet	48-1274 (mahogany)	10658B
Cabinet	48-1276	10657
Cabinet back	48-1274	40-6830
Cabinet back	48-1276	40-6831
Dome	48-1274, 76	45-6042
Hinge, continuous	48-1274	56-3627
Hinge, continuous	48-1276	56-3627-2
Hinge, lid separator	48-1274, 76	45-6301
Hinge, lid	48-1276	56-3837

MISCELLANEOUS (Continued)

Description	Model	Service Part No.
Hinge, pivot (2 req.)	48-1274, 76	45-6036
Lamp bracket	48-1274, 75	56-2332
Plate, high fidelity	48-1274, 76	56-4403FA30
Pull, door, brass	48-1274	56-3927
Pull, door, brass (2 req.)	48-1276	56-3928
Pull, door, brass (4 req.)	48-1276	56-3972
Chassis Mfg. Hardware		
Grounding spring	48-1274, 76	57-2140
Foot, rubber	48-1274, 76	54-4040
Dial Backplate and Hardware		
Backplate-and-pulley assembly	48-1274, 76	76-2326
Collar and pulley	48-1274, 76	76-2343
Dial backplate	48-1274, 76	56-3544
Drive cord, pointer (25-ft. spool)	48-1274, 76	45-8750*
Drive cord, tuning condenser (25-ft. spool)	48-1274, 76	45-8750*
Light conductor (plexiglass)	48-1274, 76	54-7279
Pointer	48-1274, 76	76-2327
Spring, pointer drive	48-1274, 76	28-8553
Spring, tuning condenser drive	48-1274, 76	28-8751
Dial Scale and Hardware		
Dial-scale-and-rubber-shim assembly	48-1274 (mahogany)	76-3202
Dial-scale-and-rubber-shim assembly	48-1274 (walnut)	76-3202-1
Dial-scale-and-rubber-shim assembly	48-1276	76-3202-2
Scale bracket	48-1274, 76	56-3833
Scale bracket	48-1274, 76	56-3832
Knob	48-1274 (mahogany), 76	54-4329
Knob, high-fidelity	48-1274 (mahogany), 76	54-4338
Knob, push button	48-1274, 76	54-4292-1
Lamp brace (pilot)	48-1276	56-3628FA3
Lamp-socket assembly, pilot	48-1274, 76	76-2109-3
Lamp-socket assembly, telltale	48-1274, 76	41-3737-1
Mfg. frame	48-1276	76-2198
Pilot-lamp assembly	48-1274, 76	76-2109-3
Push-button cap	48-1274, 76	54-4294
Socket, loktal (1 req.)	48-1274, 76	27-6207-1
Socket, loktal (8 req.)	48-1274, 76	27-6138
Socket, octal	48-1274, 76	27-6174
Socket, miniature	48-1274, 76	27-6203-1
Shield, 6AU6 tube	48-1274, 76	56-3978-1FA3
Shield, pilot lamp	48-1274, 76	56-3549
Tab, OFF	48-1274, 76	54-4317-1
Tab, BC	48-1274, 76	54-4317-2
Tab, SW	48-1274, 76	54-4317-3
Tab, FM	48-1274, 76	54-4317-4
Tab, PHONO	48-1274, 76	54-4317-5
Tab kit (station call letters)	48-1274, 76	40-6943
Telltale jewel	48-1274, 76	54-4304
Tuner assembly (Philco Electromechanical)		
Push-Button Tuner	48-1274, 76	76-2150
Wrench, push-button setting	48-1274, 76	W2524

NOTE: Tuning-condenser gang is not separately replaceable. Order "Tuner assembly (Philco Electromechanical Push-Button Tuner), 76-2150."

PHILCO

AUTOMATIC BAND SELECTOR

Description	Service Part No.
A-c switch (WS-1), phono power	42-1840
Gear-and-switch assembly	76-2333-1
Gear-and-pinion assembly (input)	76-2348
Gear-and-pinion assembly (intermediate)	76-2350
Switch wafer WS-2, (F, R)	54-7523
Switch wafer WS-3, (F, R)	54-7524
Switch wafer WS-4, (F, R)	54-7525
Switch wafer WS-5, (F, R)	54-7526
Switch wafer WS-6, (F, R)	54-7527
Switch wafer WS-7, (F, R)	54-7528
Motor	35-1324
Muting-switch assembly (S103)	76-2346
Pinion-and-clutch-dog assembly	76-2349
Washer, felt	27-4109-1
Washer, fibre	11W46211

REVISIONS AND ADDITIONS TO 48-1274 AND 48-1276 SERVICE MANUAL

Reference Symbol	Description	Service Part No.
Parts List Additions		
	Cabinet top, 48-1274M	45-6429
	Cabinet top, 48-1276	45-6433
	Escutcheon, high fidelity, 48-1276	56-4403FA30
	Instrument panel, 48-1274M	45-6428
	Instrument panel, 48-1276	45-6432
	Tilt front, 48-1274M	45-6427
	Tilt front, 48-1276	45-6431
	Two-section lid, 48-1274M	45-6426
	Two-section lid, 48-1276	45-6430
Parts List Corrections		
C108	Condenser, a-c electrolytic, 30 mf., 30v, 60 cycles	30-2355-2
MO-2	Motor, push-button tuning (part of 76-2150)	35-1336
C407	Condenser, filament by-pass, 100 mmf.	62-110009001*
C426	Condenser, d-c blocking, 51 mmf.	30-1224-2
LA401	FM aerial	76-2029-12 or 76-2381-3
R412	Resistor, filter, 470 ohms	66-1474340
	Bin mechanism, l.h. 48-1274,76	76-3223-7
	Bin mechanism, r.h. 48-1274,76	76-3223-8
	NOTE: Above listed bin mechanisms are not interchangeable with those previously listed in the Service Manual. When replacing the old mechanisms with these parts, replace both l.h. and r.h. sides at the same time.	
	Cabinet, 48-1276	10657A
	Dial scale and rubber shim assembly for 48-1274W is no longer a replaceable item.	
	Push-button cap, 48-1274,76	54-4294
	NOTE: The above push-button cap is available only in clear plastic. When replacing caps for radios using the amber type, order a complete set.	

Reference Symbol	Service Part No.
---------------------	---------------------

PRODUCTION CHANGES

Main Chassis, Run 2

R100	Resistor, bull's-eye dropping, was changed to 10 ohms	66-0104340
R107	Lamp, bull's-eye, was changed	34-2039
R313	Resistor, grid return, was changed to 22,000 ohms	66-3228540
	Bin lamp switch-and-cable assembly was changed	41-3831
	Pilot-lamp assembly was changed	41-3830

Main Chassis, Run 3

	Resistor, 220,000 ohms, was added, between R309 and pin 4 of WS-2(F)	66-4228540
	Condenser, .003 mf., was added, between R309 and pin 4 of WS-2(F)	30-4582

C426	R-F Chassis, Run 2 Condenser, d-c blocking, was changed to 51 mmf. 30-1224-2 NOTE: Those r-f chassis marked with a solid block after Run 2 (example 2) were converted, and conform with Run 3 r-f chassis.
	R-F Chassis, Run 3 Condenser, .006 mf., was added, between low side of 1st i-f secondary and ground 30-4591
	R-F Chassis, Run 4 Condenser, 30 mf., was wired across C108 30-2572
C205	R-F Chassis, Run 5 Condenser, was physically changed, and is now located in the r-f chassis.

SERVICE NOTES ON MODELS
48-1274 AND 48-1276

Chassis Mounting Bolts

It is important that all of the chassis mounting bolts be loosened when the chassis is installed, to allow it to float freely on the rubber grommets. Failure to do this may cause the Electromechanical Tuner to jam.

Burned-Out R412

There have been reports of burned-out R412. The cause has been traced to sluggish operation of the band switch, which shorts B+ to ground during the switch change cycle. To correct this condition, remove the grounded end of the black wire located between lug 4 of WS-4(F) and ground (ground point near pin 3 of the 7H7 first i-f-amplifier tube), and connect it to the unused lug, number 2, of WS-4(R). Then connect a .006-mf. condenser, Part No. 30-4591, from this lug to the original ground point. This change has been made in production on the r-f chassis, and was identified as Run 3.