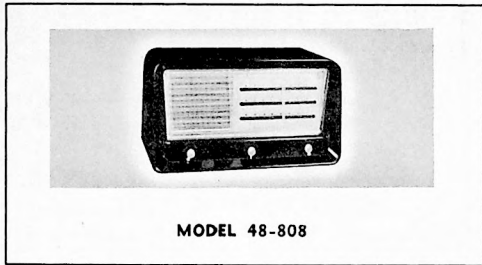


PHILCO-TROPIC RADIO MODEL 48-808



MODEL 48-808

SPECIFICATIONS

CABINET Bakelite, walnut finish
 CIRCUIT Five-tube superheterodyne

FREQUENCY RANGES

Broadcast 540—1600 kc.
 Short wave 1 (SW1) 2.3—7 mc.
 Short wave 2 (SW2) 7.0—22 mc.

AUDIO OUTPUT 1.2 watts at 115 volts;
 1.8 watts at 230 volts

OPERATING VOLTAGES . . . 105—125 volts or 210—
 250 volts, a.c. or d.c.

POWER CONSUMPTION . . . 25 watts at 115 volts;
 54 watts at 230 volts

AERIAL . . . Philco Outdoor Aerial, Part No. 45-1494

INTERMEDIATE FREQUENCY 455 kc.

PHILCO TUBES (5) . 14Q7, 7B7, 14B6, 50A5, 35Y4

TP-4122

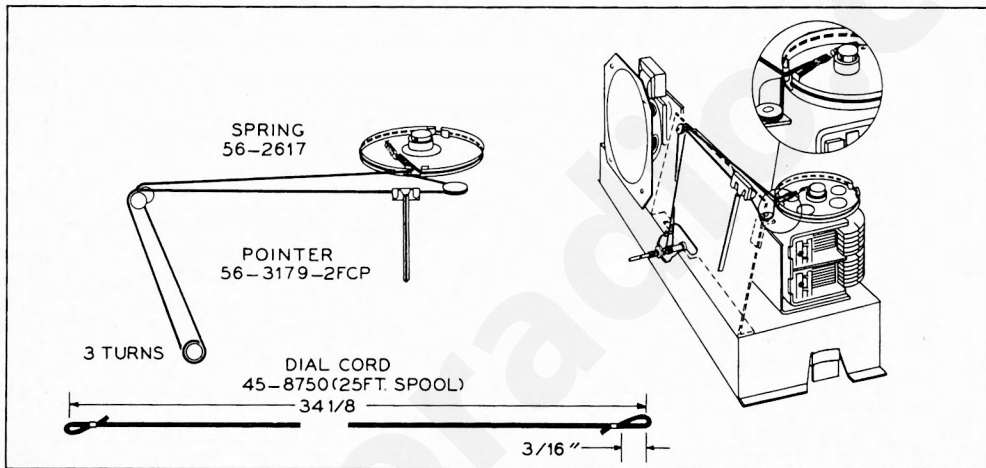


Figure 1. Drive-Cord Installation Details

TP-4782E

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 2 shows the measurements for these points with respect to the extreme left-hand edge of the backplate.

CAUTION

Unclip pilot lamp socket assembly from dial backplate before removing chassis from cabinet.

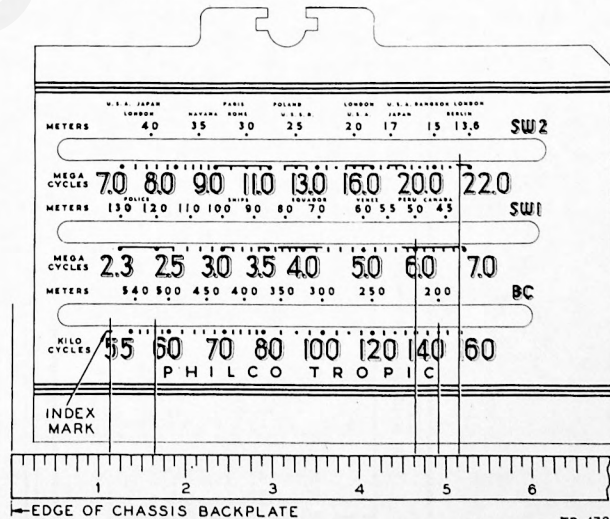


Figure 2. Dial-Backplate Calibration Measurements

TP-4782F

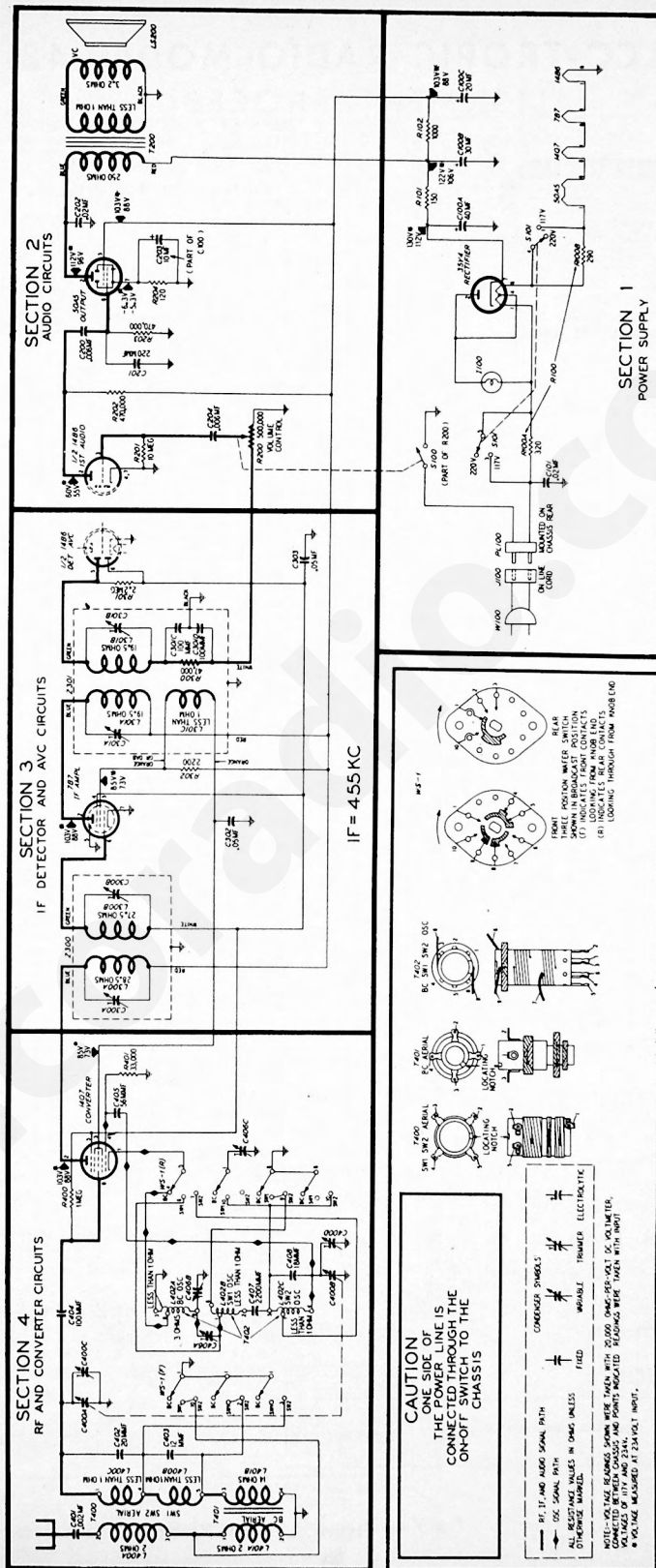


Figure 3. Philco-Tropic Radio Model 48-808, Sectionalized Schematic Diagram.

ALIGNMENT PROCEDURE

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

CONTROLS—Set radio volume control to maximum. Set band switch, radio dial, and signal-generator dial as indicated in chart.

OUTPUT LEVEL—During alignment, adjust signal-generator output to maintain output-meter indication below 1 volt.

STEP	SIGNAL GENERATOR		RADIO			ADJUST
	CONNECTIONS TO RADIO	DIAL SETTING	BAND SWITCH	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Through .1-mf. condenser to stator of aerial tuning condenser, C400A.	455 kc.	BC	580 kc.	Adjust trimmers, in order given, for maximum output.	C301B—2nd i-f sec. C301A—2nd i-f pri. C300B—1st i-f sec. C300A—1st i-f pri.
2	Through 400-ohm resistor to aerial lead.	21.5 mc.	SW2	21.5 mc.	Adjust for maximum.	C400D—SW2 osc. C400C—SW2 aerial
3	Same as step 2.	6 mc.	SW1	Tune to signal.	Adjust for maximum while rocking tuning control. Image should be heard when radio is tuned to 5.1 mc.	C406C—SW1 osc.
4					Preset padder ½ turn from tight.	C406A—BC osc. (series)
5	Through 200-mmf. condenser to aerial lead.	1500 kc.	BC	Tune to signal.	Adjust for maximum while rocking tuning control.	C406B—BC osc. (shunt)
6	Same as step 5.	580 kc.	BC	Tune to signal.	Adjust for maximum while rocking tuning control.	C406A—BC osc. (series)
7	Repeat steps 5, 6, and 5 until no further improvement is obtained.					

CAUTION: Before turning on the radio, make certain that the voltage change-over switch, located on the rear of the chassis, is correctly set for the line voltage.

DIAL POINTER—With tuning gang fully meshed, set pointer to coincide with index mark at low-frequency end of dial, to the left of "55."

OUTPUT METER—Connect to speaker voice-coil terminals.

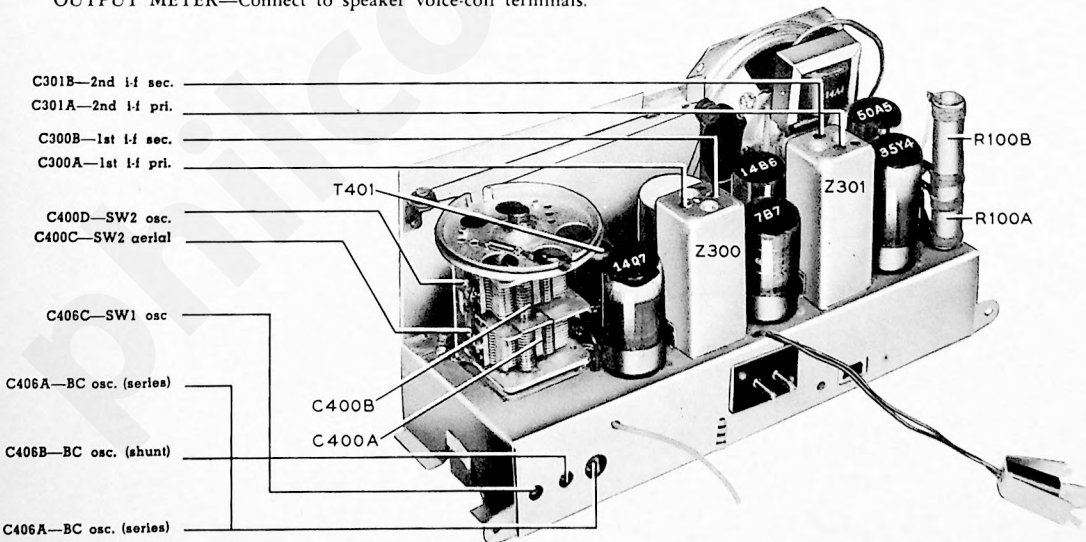


Figure 4. Top View, Showing Trimmer Locations

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 | LS—loud-speaker | T—transformer |
| I—pilot lamp | R—resistor | WS—wafer switch |
| L—choke or coil | 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.

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 4 R-F AND CONVERTER CIRCUITS		
Reference Symbol	Description	Service Part No.	Reference Symbol	Description	Service Part No.
C100	Condenser, electrolytic, 4-section	30 2568-12	C400	Condenser, tuning gang, 2-section	31-2722-3
C100A	Condenser, filter, 40 mf., 200v	Part of C100	C400A	Condenser, tuning-gang section, aerial	Part of C400
C100B	Condenser, filter, 30 mf., 200v	Part of C100	C400B	Condenser, tuning-gang section, oscillator	Part of C400
C100C	Condenser, filter, 20 mf., 200v	Part of C100	C400C	Condenser, trimmer, SW2 aerial	Part of C400
C101	Condenser, line filter, .02 mf.	61-0108*	C400D	Condenser, trimmer, SW2 osc.	Part of C400
I100	Pilot lamp	34-2068	C401	Condenser, blocking, .002 mf.	61-0062
R100	Resistor, dropping, 2 section	33-3440-1	C402	Condenser, SW2 aerial tracking, 20 mmf.	60-00205307*
R100A	Resistor, line dropping, 320 ohms	Part of R100	C403	Condenser, SW1 aerial loading, 12 mmf.	60-00105407*
R100B	Resistor, filament dropping, 290 ohms	Part of R100	C404	Condenser, blocking, 100 mmf.	60-10105407*
R101	Resistor, filter, 150 ohms	66-1154340	C405	Condenser, blocking, 56 mmf.	60-00515307*
R102	Resistor, filter, 1000 ohms	66-2104340	C405A	Condenser, trimmer assembly, 3-section	31-6477-9
S100	Switch, on-off	Part of R200	C406A	Condenser, padder (series), BC osc.	Part of C406
S101	Switch, voltage change-over	42-1569	C406B	Condenser, trimmer (shunt), BC osc.	Part of C406
W100	Line cord and standard plug	L2183	C406C	Condenser, trimmer, SW1 osc.	Part of C406
PL100	Plug, male, line cord	54-4426	C407	Condenser, SW1 series tracking, 2200 mmf.	60-20205304*
J100	Socket assembly, female, line cord	27-6717	C408	Condenser, SW2 osc. loading, 18 mmf.	60-00205307*
	Socket, female	56-4346-1	L400A	Transformer, primary, SW1.2 aerial	Part of T400
	Shell, female socket		L400B	Transformer, secondary, SW2 aerial	Part of T400
SECTION 2 AUDIO CIRCUITS			L400C	Transformer, secondary, SW1 aerial	Part of T400
C200	Condenser, d-c blocking, .006 mf.	30-1226-2	L401A	Transformer, primary, BC aerial	Part of T401
C201	Condenser, r-f by-pass, 220 mmf.	62-122001001	L401B	Transformer, secondary, BC aerial	Part of T401
C202	Condenser, tone compensation, 02 mf.	61-0108*	L402A	Oscillator winding, BC	Part of T402
C203	Condenser, cathode by-pass, 10 mf.	Part of C100	L402B	Oscillator winding, SW1	Part of T402
C204	Condenser, d-c blocking, .006 mf.	30-1226-2	L402C	Oscillator winding, SW2	Part of T402
LS200	Speaker, p-m dynamic	36-1627	R400	Resistor, grid return, 1 megohm	66-5103340*
R200	Volume control (with on-off switch), 500,000 ohms	33-5538-26	R401	Resistor, grid return, 33,000 ohms	66-3333340*
R201	Resistor, grid return, 10 megohms	66-6103340*	T400	Transformer, SW1.2 aerial	32-4705
R202	Resistor, plate load, 470,000 ohms	66-4473340*	T401	Transformer, BC aerial	32-4204-1
R203	Resistor, grid return, 470,000 ohms	66-4473340*	T402	Transformer, BC, SW1.2 osc.	32-4246
R204	Resistor, cathode bias, 120 ohms	66-1123340	WS1(F)	Switch-wafer section	Part of 42-1828†
T200	Transformer, output	Part of LS200	WS1(R)	Switch-wafer section	Part of 42-1828†
SECTION 3 I-F, DETECTOR, AND A-V-C CIRCUITS			MISCELLANEOUS		
C300A	Condenser, trimmer	Part of Z300	Description		Service Part No.
C300B	Condenser, trimmer	Part of Z300	Cabinet		10693
C301A	Condenser, trimmer	Part of Z301	Back		54-7492
C301B	Condenser, trimmer	Part of Z301	Cord, drive (25-ft. spool)		45-8750*
C301C	Condenser, i-f filter, 100 mmf.	Part of Z301	Front-plate-and-grille assembly		
C301D	Condenser, i-f filter, 100 mmf.	Part of Z301	Knob, on-off-volume		54-4527
C302	Condenser, screen by-pass, .05 mf.	61-0122*	Knob, tuning		54-4527-1
C303	Condenser, a-v-c filter, .05 mf.	30-1226	Knob, band switch		54-4527-2
L300A	Transformer, primary, 1st i-f	Part of Z300	Pointer		56-3179-2FCP
L300B	Transformer, secondary, 1st i-f	Part of Z300	Scale backplate assembly		76-3377
L301A	Transformer, primary, 2nd i-f	Part of Z301	Shaft, tuning		76-1299-2
L301B	Transformer, secondary, 2nd i-f	Part of Z301	Socket assembly, pilot lamp		76-1179
L301C	Transformer, feed-back winding, 2nd i-f	Part of Z301	Socket, Loktal		27-6997
R300	Resistor, i-f filter, 47,000 ohms (part of Z301)	66-3473340*	Spring drive cord		56-2617
R301	Resistor, a-v-c filter, 2.2 megohms	66-5223340*			
R302	Resistor, screen dropping, 2200 ohms	66-2223340			
Z300	Transformer, 1st i-f	32-3976			
Z301	Transformer, 2nd i-f	32-3948-14			

REVISIONS AND ADDITIONS TO 48-808
SERVICE MANUAL

Reference Symbol	Description	Service Part No.
Parts List Additions		
R402	Resistor, aerial loading, 15,000 ohms	66-3158340*
Parts List Corrections		
	Front-plate-and-grille assembly (including scale and baffle)	76-3375

PRODUCTION CHANGES

NOTE: Run 2 was first production.

Run 3

Condenser C100 was rotated 180°.