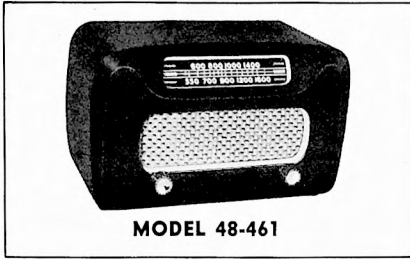


PHILCO RADIO MODEL 48-461



MODEL 48-461

SPECIFICATIONS

CABINET	Wood, mahogany finish
CIRCUIT	Six-tube superheterodyne
FREQUENCY RANGE	540—1620 kc
AUDIO OUTPUT	1 watt
OPERATING VOLTAGE	105—120 volts, a.c. or d.c.
POWER CONSUMPTION	26 watts
AERIAL	Built-in loop; terminal also provided for outside aerial
INTERMEDIATE FREQUENCY	455 kc
PHILCO TUBES (6)	14AF7, 7B7 (2), 7C6, 50A5, 35Y4

TP-3183A

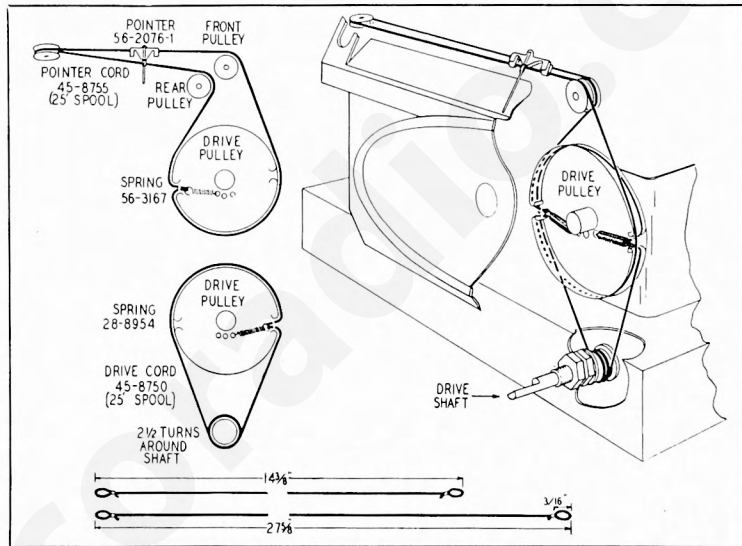


FIGURE 1. DRIVE-CORD INSTALLATION DETAILS.

TP-1985

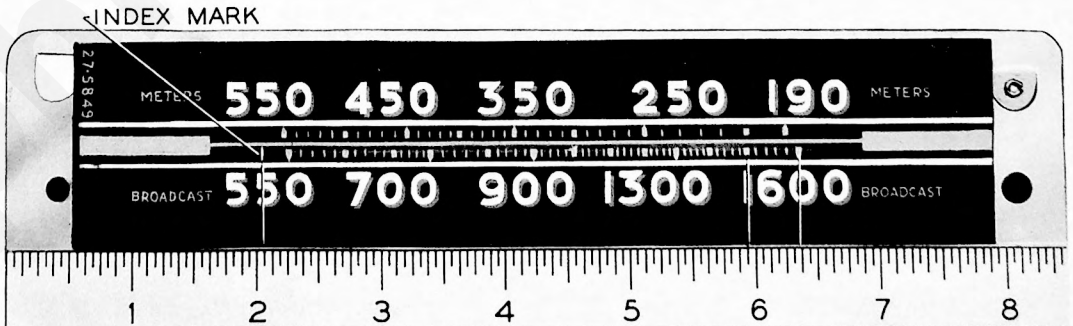


FIGURE 2. COMPOSITE DIAL AND BACKPLATE, CALIBRATION DETAILS.

TP-3489

ALIGNMENT PROCEDURE

TURN ON RADIO POWER, AND SET VOLUME CONTROL TO MAXIMUM.

SIGNAL GENERATOR — Connect 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	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Ground lead to B-; output lead through .1 mf condenser to pin #5 of 14AF7	455 kc	540 kc	Adjust trimmers once only, in order given, for maximum output.	C301B C301A C300B C300A
2	Radiating loop. (See note below.)	1600 kc	1600 kc	Adjust for maximum.	C401B
3	Radiating loop. (See note below.)	1500 kc	1500 kc	Adjust for maximum.	C401A

NOTE: Make up a six-to-eight-turn, 6-inch-diameter loop, using insulated wire; connect to the signal-generator leads and place near the radio loop.

DIAL — Alignment points should be marked on the dial backplate. Measurements for these points are shown in the composite dial-and-backplate photo, figure 2. With tuning condensers fully meshed, set dial pointer to index mark.

OUTPUT METER — Connect to terminals shown in figure 4.

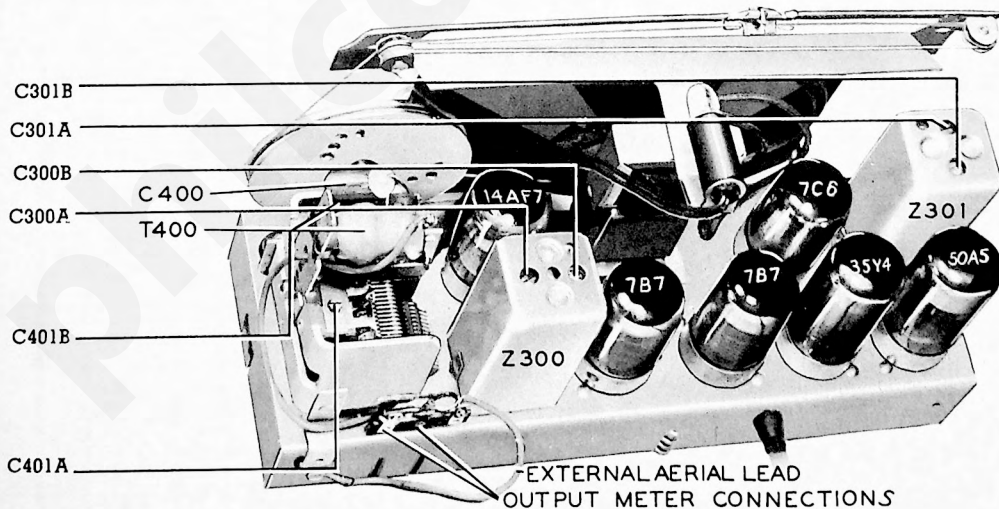


FIGURE 4. TOP VIEW, SHOWING TRIMMER LOCATIONS.

REPLACEMENT PARTS LIST

NOTE: Part numbers marked with an asterisk (*) in the following parts list 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, .04 mf, line filter	45-3500-2*
C101		Condenser, 3-section electrolytic	30-2575-10
C101A:		Condenser, 30 mf, filter	Part of C101
C101B:		Condenser, 25 mf, filter	Part of C101
C101C:		Condenser, 20 mf, filter	Part of C101
I100		Lamp, panel	34-2068
R100		Resistor, 220 ohms, power-supply filter	66-1224340
R101		Resistor, 1200 ohms, power-supply filter	66-2123340
R102		Resistor, 150,000 ohms, B- return to chassis	66-4153340*
S100		Switch, a-c power	Part of R200
W100		Cord, line	L-3199

SECTION 2

C200		Condenser, .01 mf, audio coupling	61-0120*
C201		Condenser, .01 mf, d-c blocking	61-0120*
C202		Condenser, 220 mmf, r-f by-pass	30-1220-4*
C203		Condenser, .02 mf, tone compensation	61-0168*
LS200		Loud-speaker	36-1615
R200		Volume control, .5 megohm	45-5007*
R201		Resistor, 3.3 megohms, grid return	66-5333340*
R202		Resistor, 470,000 ohms, plate load	66-4473340*
R203		Resistor, 470,000 ohms, grid return	66-4473340*
R204		Resistor, 130 ohms, cathode bias	66-1123340*
T200		Output transformer	Part of LS200

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
C301C		Condenser, 100 mmf, r-f by-pass	Part of Z301
C301D		Condenser, 100 mmf, r-f by-pass	Part of Z301
C302		Condenser, .003 mf, r-f by-pass	61-0109*
C303		Condenser, 220 mmf, d-c blocking	30-1220-4*
C304		Condenser, .05 mf, r-f by-pass	61-0122*
C305			
R300		Resistor, 2200 ohms, plate load	66-2223340
R301		Resistor, 15,000 ohms, plate load	66-3153340
R302		Resistor, 470,000 ohms, grid return	66-4473340*
R303		Resistor, 33,000 ohms, screen-dropping	66-3333340*
R304		Resistor, 47,000 ohms, decoupling part of Z301	66-3473340
R305		Resistor, 2.2 megohms, diode load	66-5223340*
Z300		Transformer, 1st i-f, 455 kc, including C300A and C300B	32-4151
Z301		Transformer, 2nd i-f, 455 kc, including C301A, C301B, C301C, C301D, and R304	32-4152-1

SECTION 4

Reference	Symbol	Description	Service Part No.
C400		Condenser, .0015 mf, aerial-blocking	45-3500-6*
C401		Condenser, main tuning	31-2705-1
C401A:		Condenser, trimmer	Part of C401
C401B:		Condenser, trimmer	Part of C401
C402		Condenser, .04 mf, blocking	45-3500-2*
C403		Condenser, 470 mmf, blocking	60-10515307*
C404		Condenser, 100 mmf, osc. grid	60-10105407*
C405		Condenser, 220 mmf, blocking	30-1220-4*
C406		Condenser, .05 mf, r-f by-pass	61-0122*
C407		Condenser, .05 mf, a-v-c filter	61-0122*
C408			
LA400		Loop aerial	32-4052-9
R400		Resistor, 47,000 ohms, osc. grid	66-3473340*
R401		Resistor, 2200 ohms, cathode bias	66-2223340
R402		Resistor, 10,000 ohms, plate load	66-3103340*
R403		Resistor, 2.2 megohms, grid return	66-5223340*
T400		Transformer, aerial	32-3394
L400		Coil, oscillator	32-4153

MISCELLANEOUS

Description	Service Part No.
Aerial-lead assembly	76-1472
Cabinet, less scale	10630D
Back, cabinet	54-7401
Baffle and cloth assembly	40-6747
Dial scale	27-5845
Scale strap	56-2068
Foot, felt	W-2190
Knob	54-4228
Screw, back mtg.	1W25329FA9
Screw, loop mtg.	
Dial backplate	76-1192
Clip, spring, diffusing panel	56-3587
Cord, pointer drive (25-ft. spool)	45-8755*
Cord, tuning-condenser drive (25-ft. spool)	45-8750*
Diffusing panel	54-4343
Pointer	
Screw, backplate mtg.	1W32228FA3
Spring, pointer drive	56-3167
Drive-shaft assembly	31-2664
Panel-lamp socket assembly	76-2142
Screw, chassis mtg.	
Screw, speaker mtg.	1W32228FA3
Socket, Loktal	27-6138*
Spring, tuning-condenser drive	28-8954
Washer, chassis mtg.	1W5237FA3

REVISIONS TO 48-461 SERVICE MANUAL

Reference Symbol	Description	Service Part No.
Parts List Corrections		
C305	Condenser, special, i-f by-pass, .2 mf.	30-4644
C408	Not used.	
	Pointer	56-2076-1FCP
	Screw, chassis mtg.	1W18679FA9
	Screw, loop mtg.	1W25328FA2

PRODUCTION CHANGES

NOTE: No changes were made in Code 121.

Code 122, Run 1

T400	Transformer, aerial, was removed.	
C401	Condenser, main tuning, was changed	31-2727-1
LA400	Loop aerial was changed	32-4052-15

NOTE: The aerial circuit was modified by the three changes listed above. The new aerial circuit is shown in the sketch below.

