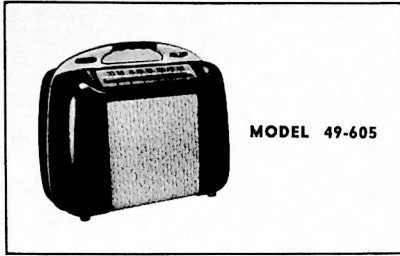


PHILCO RADIO, MODEL 49-605

SPECIFICATIONS



MODEL 49-605

CABINET	2-piece plastic, metal frame
CIRCUIT	6-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-5854A

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

LA—loop aerial
 LS—loud-speaker
 R—resistor

S—switch
 T—transformer
 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 r-f and converter circuits

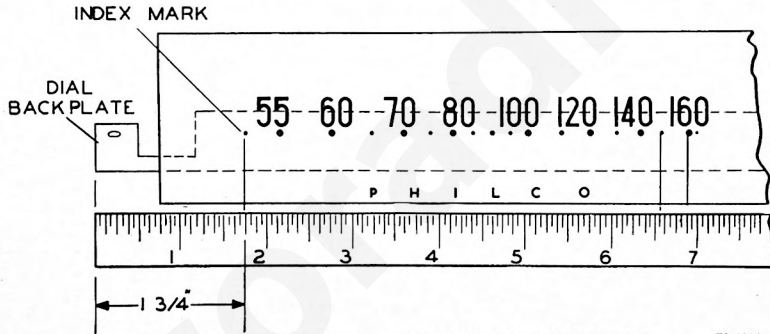


FIGURE 1. DIAL-BACKPLATE CALIBRATION MEASUREMENTS

TP-6384

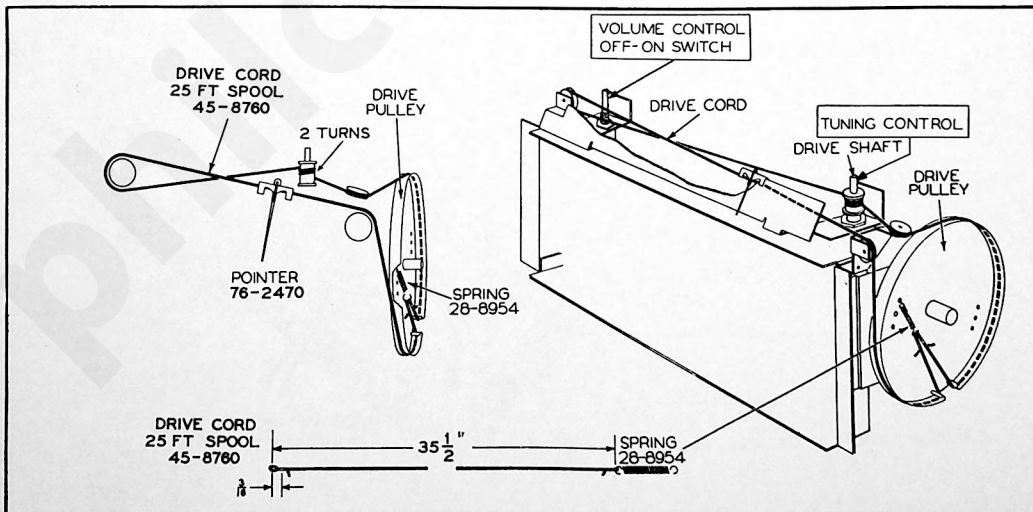


FIGURE 2. DRIVE-CORD INSTALLATION DETAILS

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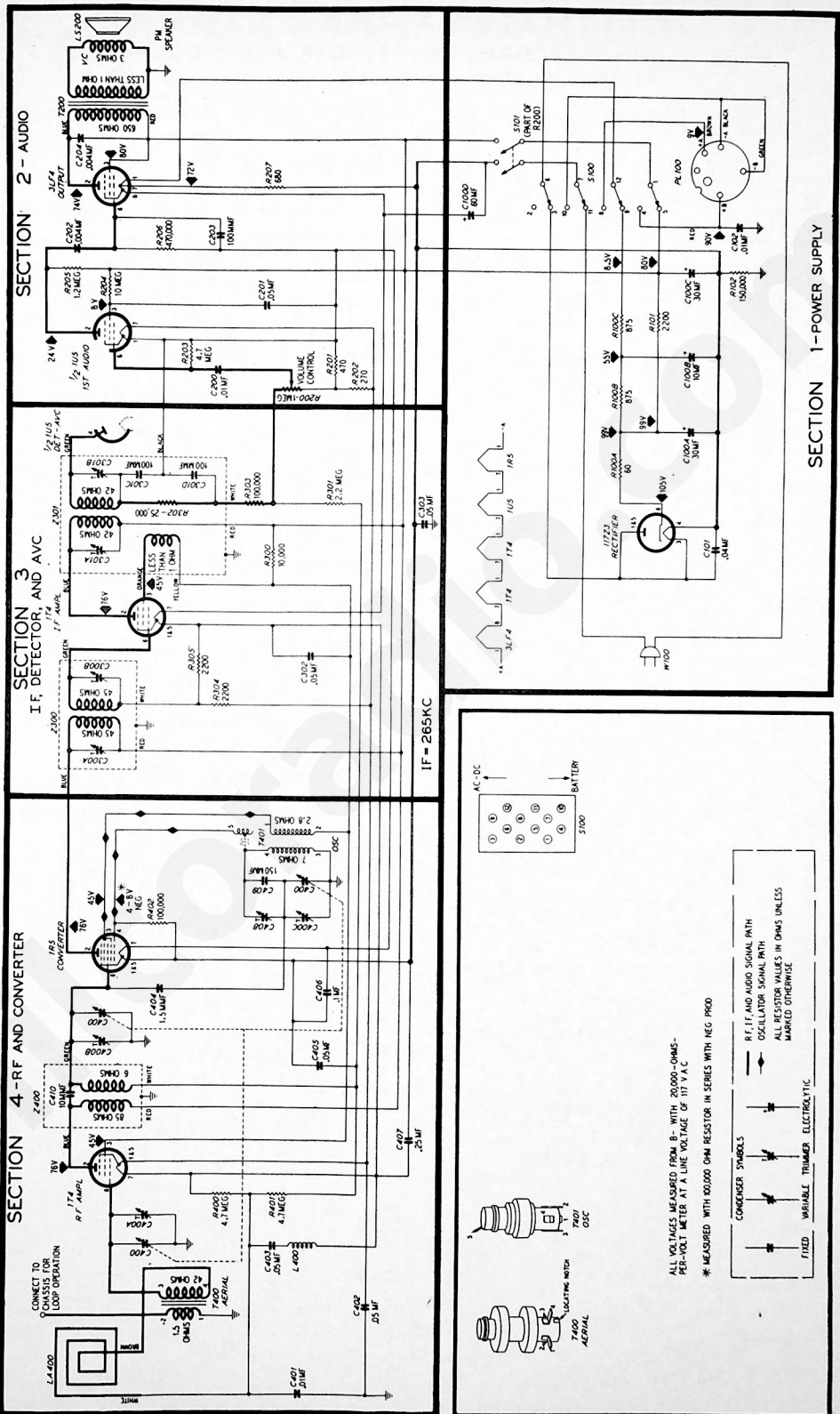


FIGURE 3. PHILCO RADIO MODEL 49-605, SECTIONALIZED SCHEMATIC DIAGRAM.

ALIGNMENT PROCEDURE

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

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

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

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTIONS TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Ground lead to lug on T400 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.	C408
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.				

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

DIAL—Turn tuning condensers to full-mesh position. Set dial pointer to coincide with index mark at low-frequency end of dial (see figure 1).

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

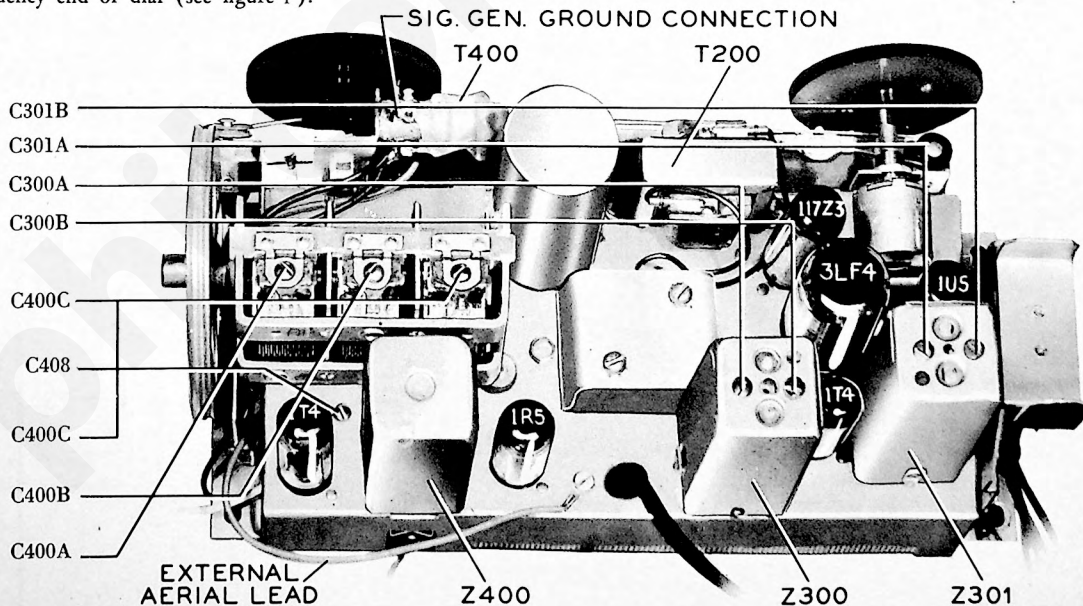


FIGURE 4. TOP VIEW, SHOWING TRIMMER LOCATIONS

TP-3627-1

REPLACEMENT PARTS LIST

NOTE: An asterisk (*) indicates a general replacement item. The part numbers of these items may not be identical with those on factory parts; also, the electrical values of some replacement items may differ from the values given 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 CIRCUIT

Reference Symbol	Description	Service Part No.
C100	Condenser, electrolytic, 4-section	30-2560-4
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, 60 mf.	Part of C100
C101	Condenser, line filter, .04 mf.	45-3500-2*
C102	Condenser, by-pass, .01 mf.	61-0120*
PL100	Battery cable and plug	41-3712-1
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	42-1821
S101	Switch, on-off	Part of R200
W100	Power cord and plug	41-3755-17

SECTION 2 AUDIO CIRCUITS

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 (with on-off switch), 1 megohm	33-5538-43
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, 10 megohms	66-6103340*
R205	Resistor, plate load, 1.2 megohms	66-5123340*
R206	Resistor, grid return, 470,000 ohms	66-4473340*
R207	Resistor, bias, 680 ohms	66-1683340*
T200	Output transformer	32-8259

SECTION 3 I-F, DETECTOR, AND A-V-C CIRCUITS

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, .05 mf.	61-0122*
R300	Resistor, screen dropping, 10,000 ohms	66-3103340*
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*
R304	Resistor, grid return, 2200 ohms	66-2223340*
R305	Resistor, grid return, 2200 ohms	66-2223340*
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 R-F AND CONVERTER CIRCUITS

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, i-f by-pass, .01 mf.	61-0120*
C402	Condenser, by-pass, .05 mf.	61-0122*
C403	Condenser, by-pass, .05 mf.	61-0122*
C404	Condenser, neutralizing, 1.5 mmf.	30-1221-3
C405	Condenser, by-pass, .05 mf.	61-0122*
C406	Condenser, by-pass, .1 mf.	61-0113*
C407	Condenser, by-pass, .25 mf.	61-0125
C408	Condenser, oscillator series padder	31-6410
C409	Condenser, tracking, 150 mmf.	60-10155407*
C410	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*
R402	Resistor, osc. grid leak, 100,000 ohms	66-4103340
T400	Aerial transformer	32-3972
T401	Oscillator transformer	32-4095-1
Z400	R-f transformer, including C410	32-4210

MISCELLANEOUS

Description	Service Part No.
Cabinet (whole)	10726A
Cabinet back half	54-4626-1
Cabinet front half	54-4625-1
Back catch assembly	76-2273
Casting, frame	56-5835
Foot, rubber	54-4650
Grille	56-6365
Fasteners	W-2543FE7
Handle, plastic	54-4646
Hinge	56-6419
Clip, coil mounting	28-5002FCP
Dial backplate	76-4117
Cord, drive (25-ft. spool)	45-8750*
Pointer	56-5630-4FCP
Pulley-and-bracket assembly	76-2027
Scale, dial, plastic	54-5031
Spring, drive cord	28-8954
Cover switch (volume control)	56-5834-FA3
Grommet, tuning-condenser mounting (3 required)	27-4596
Knob (2 required)	54-4627
Shaft and pulley	76-2028
Socket, Loktal	27-6138
Socket, miniature	27-6226
Switch-plunger assembly	76-3061
Drive pin, handle mtg.	1W44182FA15