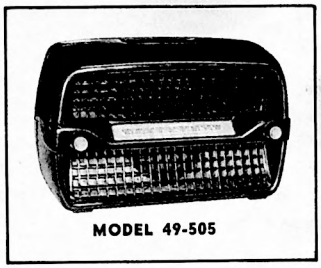
PHILCO RADIO MODEL 49-505



MODEL 49-505

SPECIFICATIONS

CABINET .....Plastic (walnut)
CIRCUIT .....Five-tube superheterodyne
FREQUENCY RANGE.....540—1620 kc.
OPERATING VOLTAGE.....105—120 volts, a.c. or d.c.
POWER CONSUMPTION.....30 watts
AERIAL.....Loop fastened to cabinet; connection also provided for outside aerial
INTERMEDIATE FREQUENCY.....455 kc.
PHILCO TUBES (5).....7A8, 14A7, 14B6, 50A5, 35Y4

TP-5960

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, detector, and a-v-c circuits.
400-series components are in Section 4—the r-f and converter circuits.

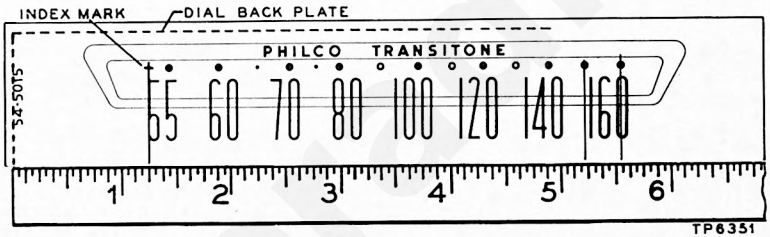


Figure 1. Calibration Measurements for Dial Backplate

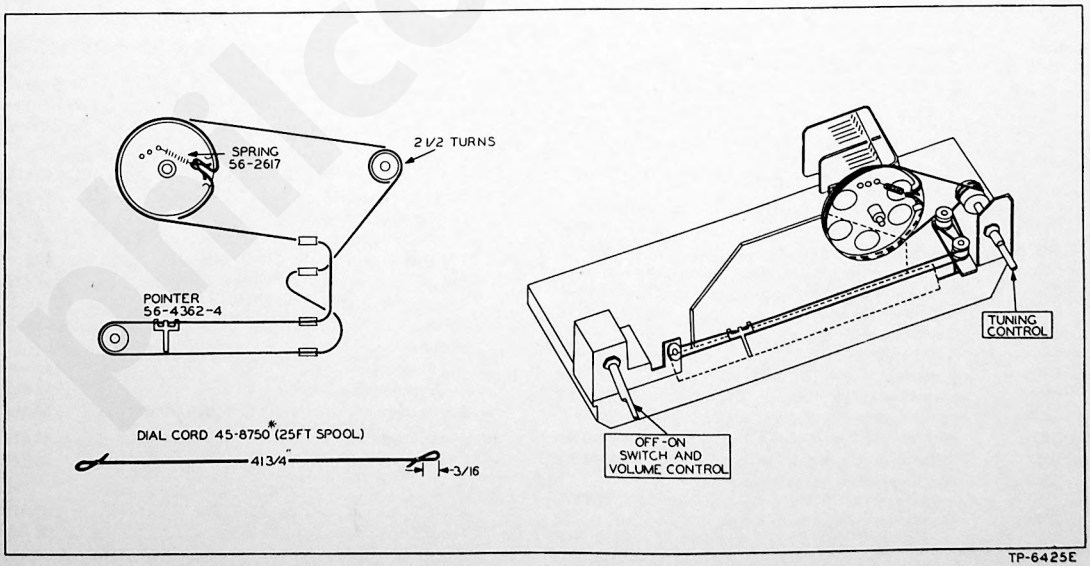


Figure 2. Drive-Cord Installation Details

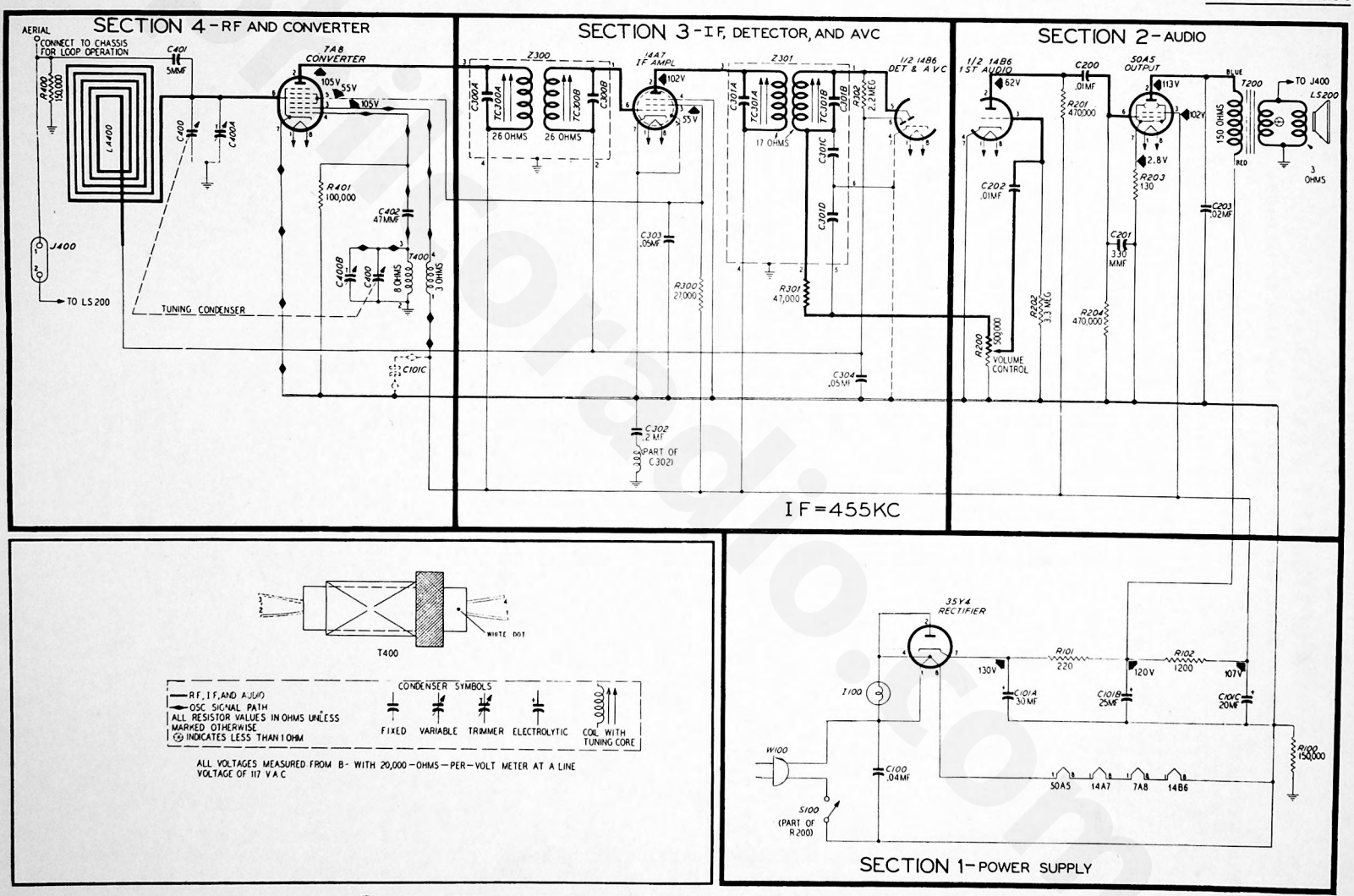


Figure 3. Philco Radio Model 49-505, Sectionalized Schematic Diagram.

ALIGNMENT PROCEDURE

TURN ON THE RADIO, AND SET THE VOLUME CONTROL TO MAXIMUM

SIGNAL GENERATOR—Connect as indicated in chart. Use modulated output.

OUTPUT LEVEL—During alignment, adjust signal-generator output to hold output-meter indication below 1.25 volts.

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 6 of 7A8.	455 kc.	540 kc.	Adjust tuning cores, in order given, for maximum output.	TC301B—2nd i-f sec. TC301A—2nd i-f pri. TC300B—1st i-f sec. TC300A—1st i-f pri.
2	Radiating loop (see note below).	1600 kc.	1600 kc.	Adjust for maximum.	C400B—osc.
3	Same as step 2.	1500 kc.	1500 kc.	Adjust for maximum.	C400A—aerial

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; see figure 1.

OUTPUT METER—Connect to left (output) terminal of J400 and chassis.

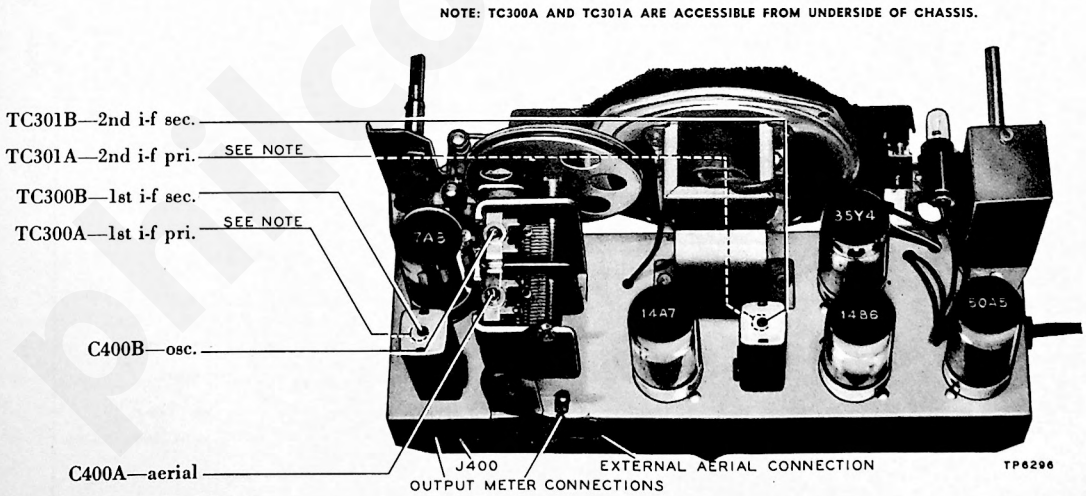


Figure 4. Top View, Showing Trimmer Locations

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

Reference Symbol	Description	Service Part No.
C100	Condenser, line filter, .04 mf	45-3500-2*
C101	Condenser, electrolytic, 3-section	30-2573*
C101A:	Condenser, filter, 30 mf	Part of C101
C101B:	Condenser, filter, 25 mf	Part of C101
C101C:	Condenser, filter, 20 mf	Part of C101
I100	Lamp, pilot	34-2068
R100	Resistor, leakage, 150,000 ohms	66-4153340*
R101	Resistor, filter, 220 ohms	66-1224340
R102	Resistor, filter, 1200 ohms	66-2124340
S100	Switch, power	Part of R200
W100	Power cord and plug	L-2183*

SECTION 2—AUDIO

C200	Condenser, blocking, .01 mf	61-0120*
C201	Condenser, by-pass, 330 mmf	62-133001001*
C202	Condenser, blocking, .01 mf	61-0120*
C203	Condenser, tone compensating, .02 mf	61-0108*
LS200	Speaker	36-1625-6
R200	Volume control, .5 megohm	33-5538-37*
R201	Resistor, plate load, 470,000 ohms	66-4473340*
R202	Resistor, grid load, 3.3 megohms	66-5333340*
R203	Resistor, bias, 130 ohms	66-1123340*
R204	Resistor, grid load, 470,000 ohms	66-4473340*
T200	Transformer, output	Part of LS200

SECTION 3—I-F, DET., AND A-V-C

C300A	Condenser, fixed trimmer	Part of Z300
C300B	Condenser, fixed trimmer	Part of Z300
C301A	Condenser, fixed trimmer	Part of Z301
C301B	Condenser, fixed trimmer	Part of Z301
C301C	Condenser, by-pass	Part of Z301
C301D	Condenser, by-pass	Part of Z301
C302	Condenser and choke assembly, i-f by-pass, .2 mf	30-4644†
C303	Condenser, screen by-pass, .05 mf	61-0122*
C304	Condenser, a-v-c filter, .05 mf	61-0122*
R300	Resistor, screen dropping, 27,000 ohms	66-3273340
R301	Resistor, i-f filter, 47,000 ohms	66-3473340*
R302	Resistor, a-v-c filter, 2.2 megohms	66-5223340*
TC300A	Tuning core	Part of Z300

SECTION 3—I-F, DET., AND A-V-C (Continued)

Reference Symbol	Description	Service Part No.
TC300B	Tuning core	Part of Z300
TC301A	Tuning core	Part of Z301
TC301B	Tuning core	Part of Z301
Z300	Transformer, 1st i-f, including TC300A, TC300B, C300A, and C300B	32-4160-6
Z301	Transformer, 2nd i-f, including TC301A, TC301B, C301A, C301B, C301C, and C301D	32-4240

SECTION 4—R-F AND CONVERTER

C400	Condenser, tuning, 2-section	31-2727-1
C400A:	Condenser, trimmer	Part of C400
C400B:	Condenser, trimmer	Part of C400
C401	Condenser, coupling, 5 mmf	30-1224-5*
C402	Condenser, isolating, 47 mmf	30-1224-2*
LA400	Loop aerial	32-4052-24
R400	Resistor, aerial discharge, 150,000 ohms	66-4153340*
R401	Resistor, oscillator grid, 100,000 ohms	66-4103340*
T400	Transformer, oscillator	32-4263

MISCELLANEOUS

Description	Service Part No.
Baffle-and-cloth assembly	40-7525
Bracket, scale	56-5698FA3
Bolt (To hold cabinet together)	56-5954-1FA9
Cabinet	10717
Cabinet, ivory	10717-1
Cover, handle	54-4596
Knob	54-4609
Pilot-lamp-socket assembly	27-6233-12
Pointer	56-4362-4FCP
Rubber mount	27-4771-1
Scale-and-backplate assembly	76-4167
Shaft assembly, drive	76-4075
Socket, tube	27-6138
Spring	56-2617
Stud, baffle	W2235-1FA9

† 30-4644 special inductive capacitor should be replaced by a .2 mfd. capacitor part #45-3500-3 to conform with latest run.