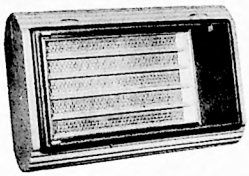
PHILCO RADIO MODEL 49-603



MODEL 49-603

SPECIFICATIONS

CABINET ..... Easel style

CIRCUIT ..... Five-tube superheterodyne

FREQUENCY RANGE ..... 540—1620 kc.

AUDIO OUTPUT ..... .8 watt

OPERATING VOLTAGE ..... 105—120 volts, a.c. or d.c.

POWER CONSUMPTION ..... 30 watts

AERIAL ..... Built-in high-impedance loop

INTERMEDIATE FREQUENCY ..... 455 kc.

PHILCO TUBES (5) 12BE6, 12BA6, 12AT6, 50B5, 35W4

TP-5855A

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, line filter, .047 mf.	61-0179*
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
R100	Resistor, filter, 220 ohms	66-1224340*
R101	Resistor, filter, 1200 ohms	66-2123340*
R102	Resistor, leakage, 150,000 ohms	66-4153340*
S100	Switch, power on-off	Part of R200
W100	Line cord	L2183*

SECTION 2
AUDIO CIRCUITS

C200	Condenser, d-c blocking, .01 mf.	61-0120*
C201	Condenser, d-c blocking, .01 mf.	61-0120*
C202	Condenser, parasitic suppressor, 220 mmf.	30-1224-20*
C203	Condenser, tone compensation, .022 mf.	61-0108*
LS200	Loud-speaker, permanent-magnet type	36-1627-4
R200	Volume control, 500,000 ohms	33-5538-42*
R201	Resistor, plate dropping, 470,000 ohms	66-4473340*
R202	Resistor, grid return, 3.3 megohms	66-5333340*
R203	Resistor, grid return, 470,000 ohms	66-4473340*
R204	Resistor, bias, 130 ohms	66-1123340*
T200	Transformer, output	Part of LS200

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

C300	Condenser, screen by-pass, .047 mf.	61-0179*
C301	Condenser, special i-f by-pass, .1 mf.	30-4644-1
C302	Condenser, r-f by-pass, .047 mf.	61-0179*
R300	Resistor, bias, 220 ohms	66-1223340*
R301	Resistor, screen dropping, 6800 ohms	66-2863340*
R302	Resistor, a-v-c filter, 2.2 megohms	66-5223340*
R303	Resistor, diode load, 47,000 ohms	66-3473340*
Z300	Transformer, 1st i-f	32-4160-6
Z301	Transformer, 2nd i-f	32-4240

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

Reference Symbol	Description	Service Part No.

SECTION 4
R-F AND CONVERTER CIRCUITS

C400	Condenser, tuning gang (122)	31-2735-1
	Condenser, tuning gang (121)	31-2735
C400A	Condenser, r-f tracking	Part of C400
C400B	Condenser, oscillator tracking	Part of C400
C401	Condenser, blocking, 220 mmf.	30-1224-1*
C402	Condenser, isolating, 47 mmf.	30-1224-2*
C403	Condenser, r-f by-pass, 10 mmf.	30-1224-26*
LA400	Loop, aerial	32-4325
L400	Coil, loading	32-4007-2
R400	Resistor, grid return, 1 megohm	66-5103340*
R401	Resistor, oscillator grid, 22,000 ohms	66-3223340*
T400	Transformer, oscillator	32-4326

MISCELLANEOUS

Description	Service Part No.
Back-panel assembly	76-4229-1
Button-and-spring assembly	76-4322
Button-and-spring assembly	76-4322-1
Cabinet (complete)	76-4355
Baffle-and-cloth assembly	40-7662
Front-panel assembly	76-4228-1
Hinge assembly	45-6450
Screw	W2537-5FA3
Socket, miniature	27-6203
Spring, aerial ground	56-6872
Wiring panel	38-5083-10
Dial drum (122)	54-4669
Knob, volume (code 121)	54-4642-1
Knob and dial assembly (tuning and dial) (121)	76-4315-1
Knob, volume (122)	54-4642-1
Knob, tuning (122)	54-4668
Plastic case less leather	10729A
Scale, dial (122)	54-5034
Scale, dial (121)	54-5034

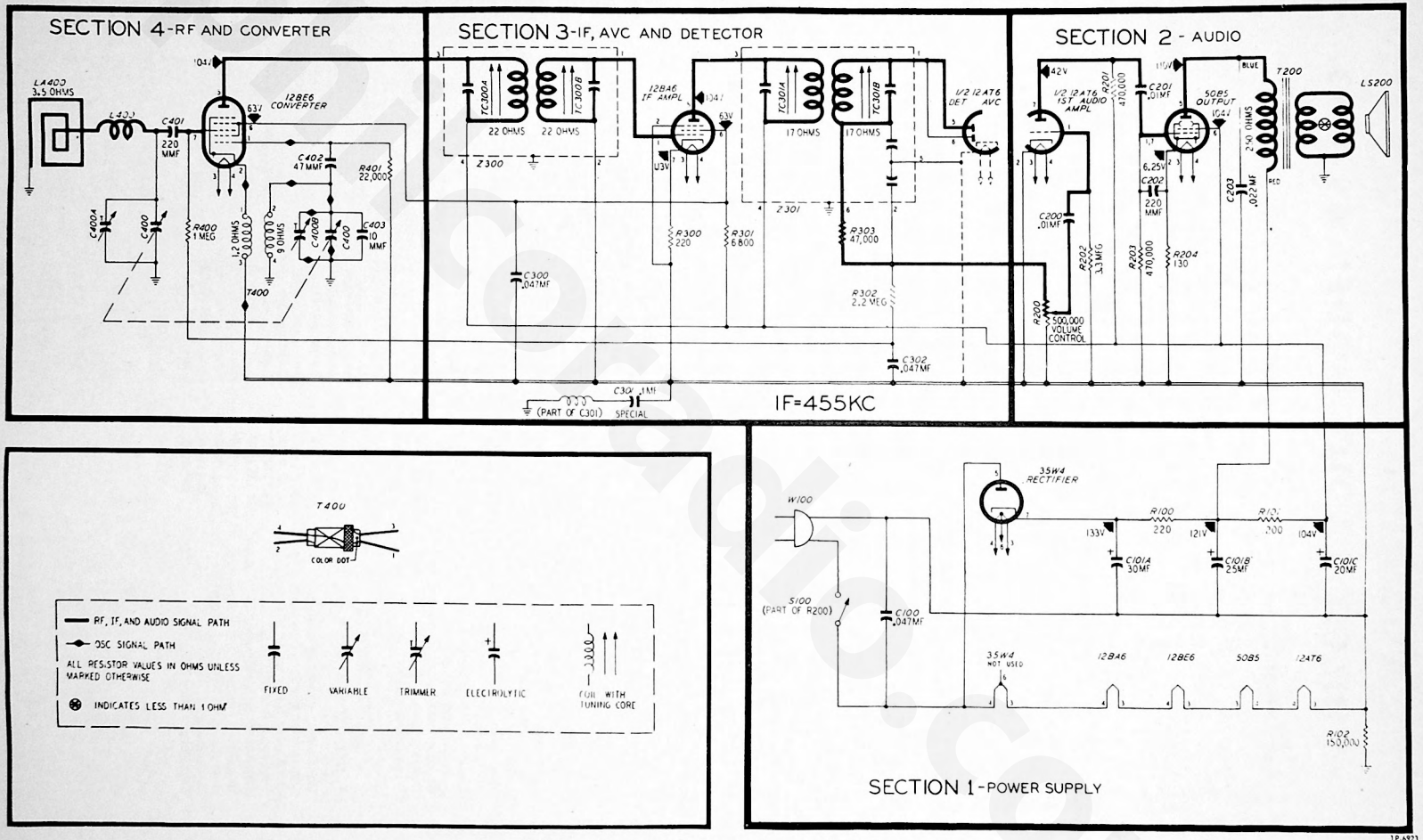


Figure 1. Philco Radio Model 49-603, Sectionalized Schematic Diagram.

ALIGNMENT PROCEDURE

SIGNAL GENERATOR — Use r-f signal generator, with modulated output. Connect generator and set frequency as indicated in chart.

OUTPUT LEVEL — During alignment, signal-generator output must be attenuated to hold output-meter reading below 1.25 volts.

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTION TO RADIO	DIAL	DIAL	SPECIAL INSTRUCTIONS	
1	Through .1-mf. condenser to aerial loop.	455 kc.	Tuning condenser fully meshed.	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 trimmer for maximum output.	C400B—Osc.
3	Same as step 2.	1500 kc.	1500 kc.	Adjust trimmer for maximum output.	C400A—Aerial

RADIATING LOOP: Make up a 6—8 turn, 6-inch-diameter loop, using insulated wire; connect to signal-generator leads and place near radio loop aerial. Radio loop aerial must be connected to radio.

RADIO CONTROLS — Set volume control to maximum. Set tuning control as indicated in chart.

OUTPUT METER — Connect to left-hand terminal on wiring panel and to chassis.

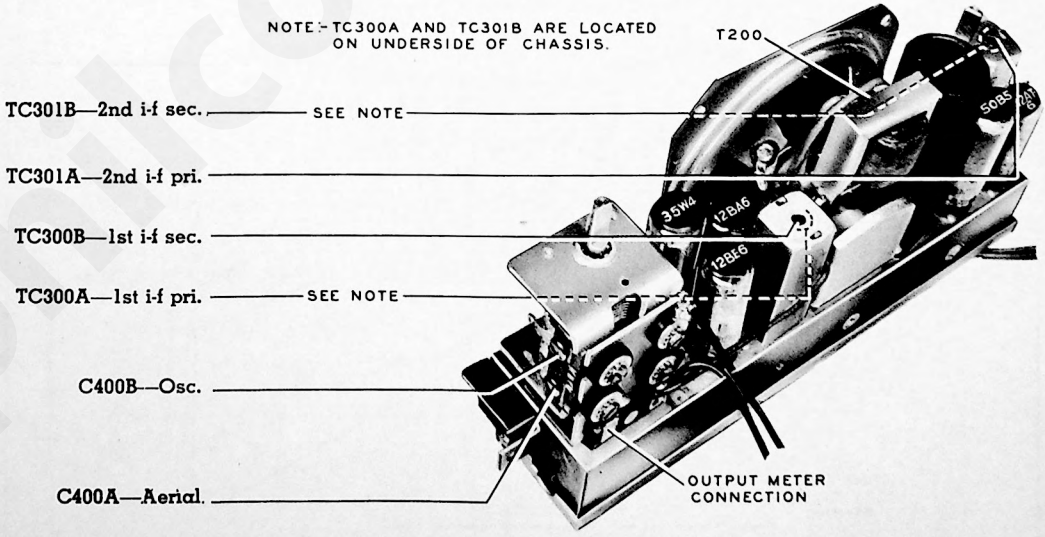


Figure 2. Top View, Showing Trimmer Locations