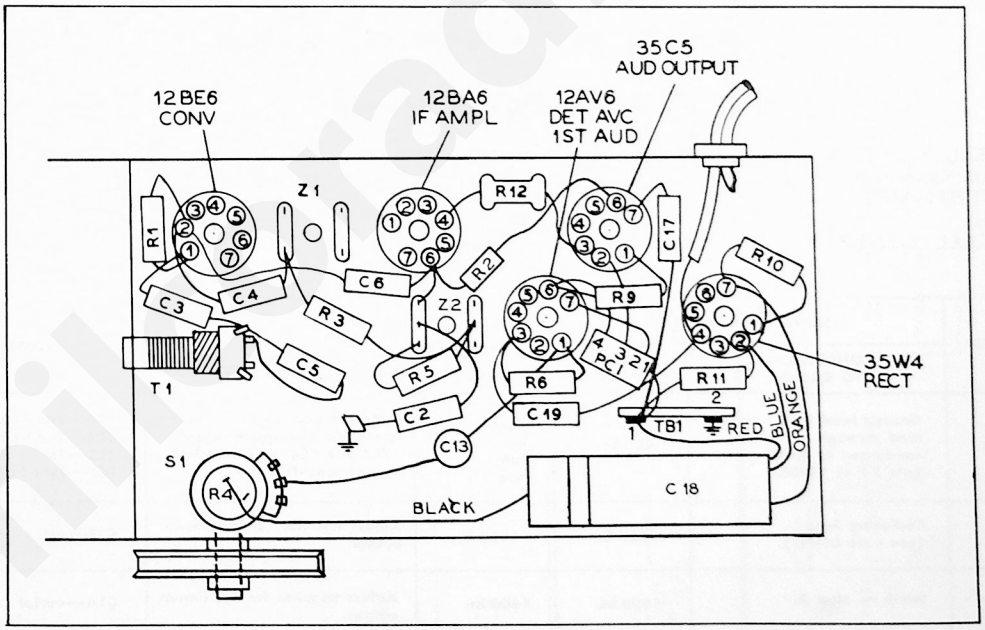
PHILCO RADIO MODEL 53-560

SPECIFICATIONS

CABINET MODEL 53-560	Molded plastic
CIRCUIT	Four-tube superheterodyne (plus rectifier)
FREQUENCY RANGE	Standard broadcast, 540 kc.-1620 kc.
AUDIO OUTPUT	1 watt
OPERATING VOLTAGE	105-120 volts, a.c. or d.c.
POWER CONSUMPTION	30 watts
AERIAL	High-impedance loop
INTERMEDIATE FREQUENCY	455 kc.
PHILCO TUBES	12BE6 converter, 12BA6 i-f amplifier, 12AV6 det.-a.v.c.-1st audio, 35C5 output, 35W4 rectifier



TP2-1397

Figure 1. Base View, Showing Symbolized Chassis

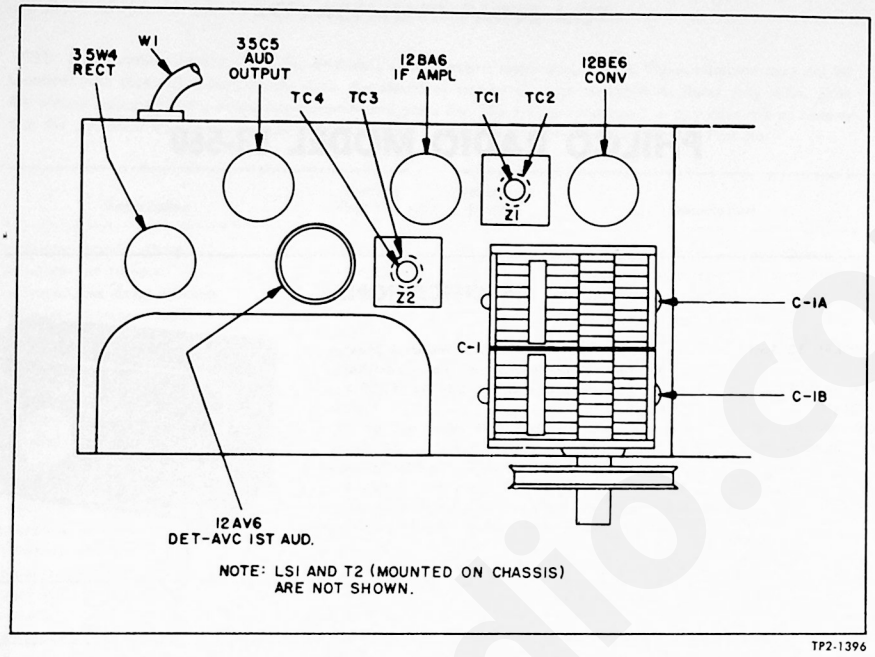


Figure 2. Top View, Showing Trimmer Locations

ALIGNMENT PROCEDURE

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

OUTPUT METER—Connect across voice-coil terminals.

SIGNAL GENERATOR—Connect signal generator and set frequency as indicated in chart. Use modulated output.

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

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTION TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Ground lead to B-; output lead through a .1-μf. condenser to grid (pin 7) of 12BE6.	455 kc.	Tuning gang fully open.	Adjust tuning cores, in order given, for maximum output. (TC1 and TC4 are located at top of transformer.)	TC4—2nd i-f sec. TC3—2nd i-f pri. TC2—1st i-f sec. TC1—1st i-f pri.
2	Radiating loop (see note below).	1620 kc.	*1620 kc.	Adjust trimmer for maximum output.	C1B—osc.
3	Same as step 2.	1500 kc.	1500 kc.	Adjust trimmer for maximum output.	C1A—aerial

RADIATING LOOP: Make up a 6–8 turn, 6-inch-diameter loop from insulated wire, connect to signal-generator leads, and place near radio loop.

***NOTE:** For proper adjustment of the oscillator trimmer, fully open the tuning gang and insert a .006-inch, non-metallic shim between the heel of the rotor and the top of the stator plates. Close the tuning gang sufficiently to hold the shim in place, and then remove the shim without disturbing the gang setting.

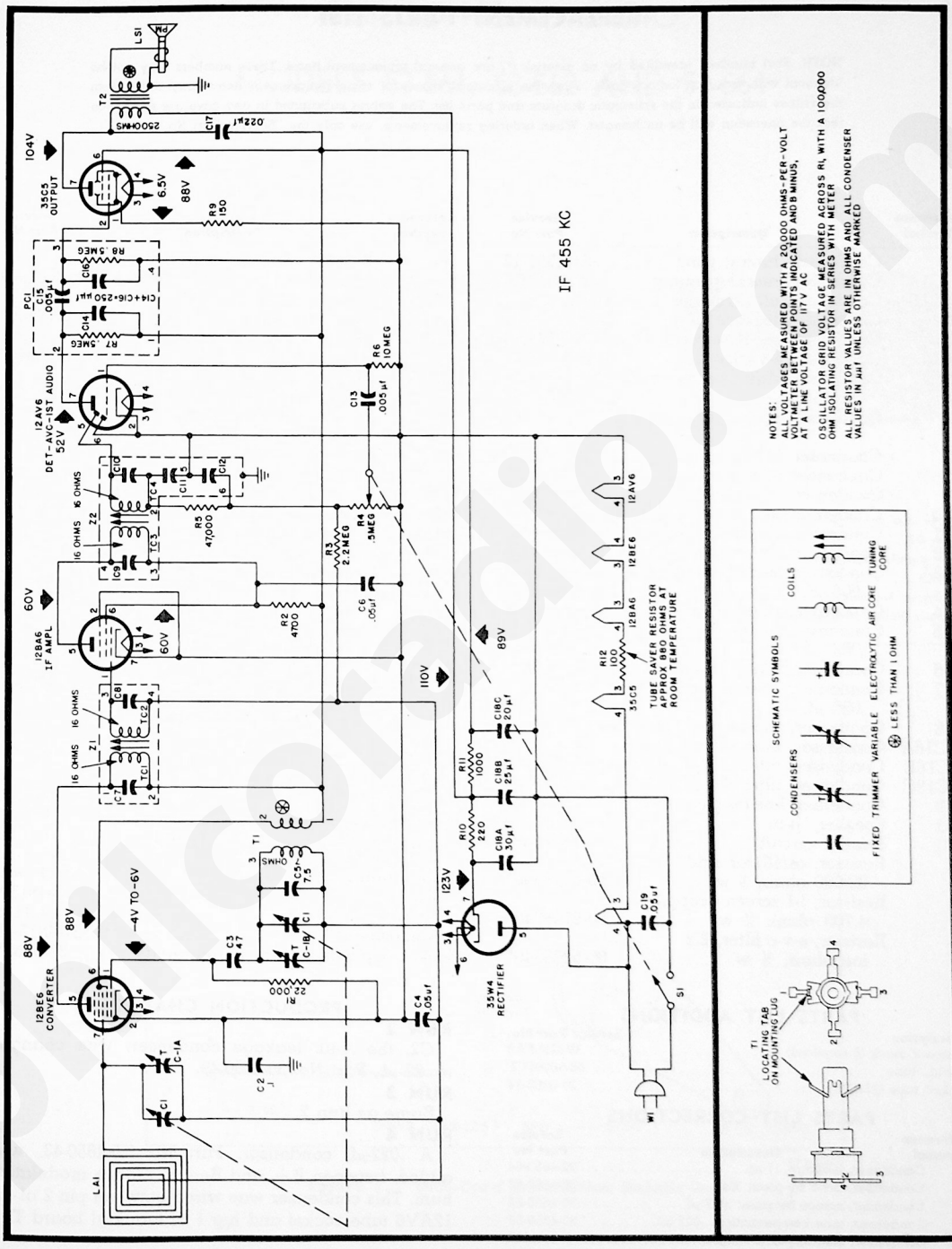


Figure 3. Philco Radio Model 53-560, Schematic Diagram

REPLACEMENT PARTS LIST

NOTE: Part numbers identified by an asterisk (*) are general replacement items. These numbers may not be identical with those on factory parts. 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 will be unchanged. When ordering replacements, use only the "Service Part No."

Reference Symbol	Description	Service Part No.
C1	Condenser, tuning gang	31-2751-13
C1A	Condenser, aerial trimmer	Part of C1
C1B	Condenser, osc. trimmer	Part of C1
C2	Condenser, leakage, .1 μf.	
C3	Condenser, oscillator grid, 47 μμf.	30-1230-4
C4	Condenser, a-v-c by-pass,	
C5	Condenser, drift compensation, 7.5 μμf.	30-1224-83
C6	Condenser, screen by-pass,	
C7	Condenser, i-f tuning	Part of Z1
C8	Condenser, i-f tuning	Part of Z1
C9	Condenser, i-f tuning	Part of Z2
C10	Condenser, i-f tuning	Part of Z2
C11	Condenser, detector filtering	Part of Z2
C12	Condenser, detector filtering	Part of Z2
C13	Condenser, audio coupling, .005 μf.	30-1238-1
C14	Condenser, plate by-pass	Part of PC1
C15	Condenser, audio coupling, .005 μf.	Part of PC1
C16	Condenser, plate by-pass	Part of PC1
C17	Condenser, tone compensation, .022 μf.	
C18	Condenser, electrolytic, 3-section	
C18A	Condenser, filter, 30 μf., 150v	Part of C18
C18B	Condenser, filter, 25 μf., 150v	Part of C18
C18C	Condenser, filter, 20 μf., 150v	Part of C18
C19	Condenser, line by-pass, .047 μf.	
LS1	Speaker, p-m	36-1627-8
PC1	Printed circuit	30-6001
R1	Resistor, oscillator grid, 22,000 ohms, ½ w	66-3228340*
R2	Resistor, i-f screen dropping, 4,700 ohms, ½ w	66-2748340*
R3	Resistor, a-v-c filter, 2.2 megohms, ½ w	66-5228340*
R4	Resistor, volume control, .5 megohms (with off-on switch)	33-5566-41
R5	Resistor, diode load, 47,000 ohms, ½ w	66-3478340*
R6	Resistor, grid return, 10 megohms, ½ w	66-6108340*
R7	Resistor, plate load, 500,000 ohms	Part of PC1
R8	Resistor, grid return, 500,00 ohms	Part of PC1
R9	Resistor, cathode bias, 150 ohms, ½ w	66-1158340*
R10	Resistor, B plus filter, 220 ohms, 1 w	66-1224340*
R11	Resistor, B plus filter, 1000 ohms, ½ w	66-2108340*
R12	Resistor, tube saver, 100 ohms	33-1343-3
S1	Switch, off-on	Part of R4
T1	Transformer, oscillator	32-4453-6
T2	Transformer, output	32-8384*
W1	Line cord	L-2183*
Z1	Transformer, 1st i-f	32-4161A
Z2	Transformer, 2nd i-f	32-4240A

MISCELLANEOUS

Description	Service Part No.
Cabinet, ebony	10921
Cabinet, ivory	10921-2
Cabinet, mahogany	10921-1
Cabinet back-and-loop assembly	76-7705
Drive cord, 25-foot spool	45-8750
Knob, tuning	54-4969
Ebony	27-4815-8
Ivory	54-4118
Mahogany	27-4815-10
Socket, 7-pin miniature (5 required)	27-6265*

PARTS LIST ADDITIONS

Description	Service Part No.
Fastener, back (2 required)	W2235FA9
Shield, tube	56-5629FCP
Socket, tube (12AV6)	27-6203-14

PARTS LIST CORRECTIONS

Reference Symbol	Description	Service Part No.
C2	Condenser, leakage, .1 μf.	30-4650-64
C4	Condenser, a-v-c by-pass, .047 μf.	30-4650-62
C6	Condenser, screen by-pass, .047 μf.	30-4650-62
C17	Condenser, tone compensation, .022 μf.	30-4650-60
C18	Condenser, electrolytic, 3-section	45-3037
C19	Condenser, line by-pass, .047 μf.	30-4650-45

PRODUCTION CHANGES

RUN 2

C2, the .1-uf. leakage condenser, was changed to .22 μf., Part No. 30-4650-49.

RUN 3

Same as Run 2.

RUN 4

A .022-μf. condenser, Part No. 30-4650-43, was added, between B+ and B—, to reduce modulation hum. This condenser was wired between pin 2 of the 12AV6 tube socket and lug 1 of terminal board TB1.