

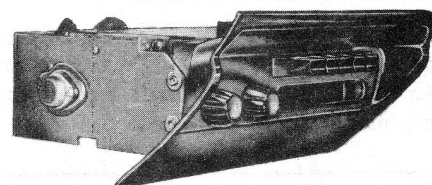
SERVICE MANUAL

MODEL P-5801

PHILCO
Factory-Supervised
Service

SPECIFICATIONS

CIRCUIT	4-tube superheterodyne (plus transistor)
FREQUENCY	540 kc. to 1605 kc.
AUDIO OUTPUT	2 watts
PUSH BUTTONS	5 station selectors
POWER INPUT	2 amp. at 13.2 volts, d.c.
AERIAL	Vertical whip, fender mounting (40 μ f. series, 40 μ f. shunt)
INTERMEDIATE FREQUENCY	262.5 kc.
PHILCO TUBES USED	12BL6, r-f ampl.; 12AD6, converter; 12BL6, i-f ampl.; 12DW8, 2nd det., a.v.c., 1st audio, audio driver
PHILCO TRANSISTOR	AR10, audio output



TP6-1900

Figure 1. Philco Model P-5801 (Chryco-845C)

IMPORTANT: When connecting radio to "A" supply, either in car or on test bench, polarity must be observed. "A+" lead is positive, "A—" is chassis ground.

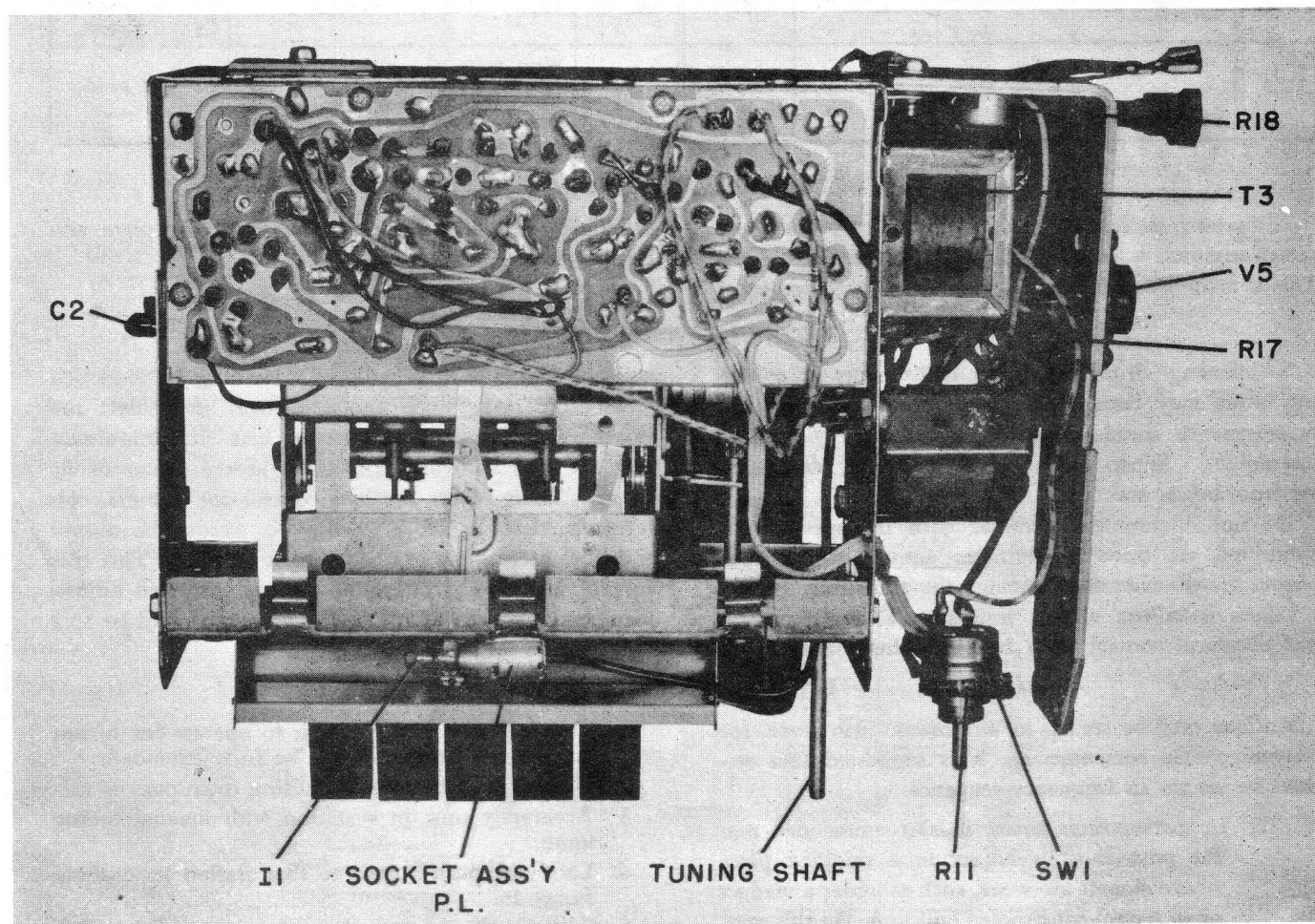


Figure 2. Bottom View of Philco Model P-5801, Showing Location of Parts

TP7-1140

ALIGNMENT PROCEDURE

GENERAL—The tube side cover must be removed in order to perform the alignment procedure. Allow the set and test equipment to warm up for fifteen minutes before starting the alignment procedure. Make sure that all plugs and cables are connected to their proper receptacles.

OUTPUT INDICATOR—Connect the output indicator (an oscilloscope or a 1000-ohm-per-volt, a-c voltmeter) across the voice-coil terminals.

SIGNAL GENERATOR—Use an AM r-f signal generator with 30% modulation. Connect the ground lead to the chassis, and the output lead as indicated in the alignment chart.

OUTPUT LEVEL—Attenuate the signal-generator output throughout the procedure to hold the output indication below 1 volt.

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

DUMMY ANTENNA—When making the r-f and antenna tuning adjustments, connect the signal-generator output lead through a 40- μ f. condenser to the antenna receptacle, and connect another 40- μ f. condenser from the antenna receptacle to the chassis.

ALIGNMENT CHART					
SIGNAL GENERATOR			RADIO		
STEP	CONNECTION TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	ADJUST
1	Through a .047 μ f. condenser to mixer grid, pin 7, of 12AD6.	262.5 kc.	1605 kc.	Adjust in order given for maximum output.	T2 (top) — 2nd i-f secondary T2 (bottom) — 2nd i-f primary
2	Same as step 1.	262.5 kc.	1605 kc.	Same as step 1.	T1 (top) — 1st i-f secondary T1 (bottom) — 1st i-f primary
3	Through dummy antenna to J1 (antenna socket).	1605 kc.	1605 kc.	Adjust for maximum output.	C7—osc. padder C2—ant. padder C5—r-f padder
4				With radio and antenna installed in car, adjust for maximum output, using a weak station near 1200 kc.	C2—ant. padder

CIRCUIT DESCRIPTION

All power to this receiver, including the plate and screen circuits, is supplied directly by the car battery. This is made possible by utilizing newly developed tubes

especially designed to operate at very low plate and screen voltages.

SERVICING PRECAUTIONS

A-C leakage from measuring instruments or soldering irons may damage the transistor. All transistor measurements should be made with a battery-operated instrument. When soldering is necessary, disconnect set from power source.

Do not operate this receiver with the speaker disconnected, as transient voltages across an unloaded output transformer may damage the transistor.

When installing a new transistor, a good physical and electrical contact must be established between the

collector and the heat radiator; care must be exercised when soldering, since excessive heat may melt the internal junctions. To adjust the bias, first make sure that the bias control, R18, is set at the center of its range. Then adjust the bias control for 550-ma. collector current, or for .95 volt, d-c., across the output transformer primary, with no input signal. (This bias control is "HOT" to ground — use insulated adjustment tool). The battery supply voltage should be 13.2 volts.

SETTING PUSH BUTTONS

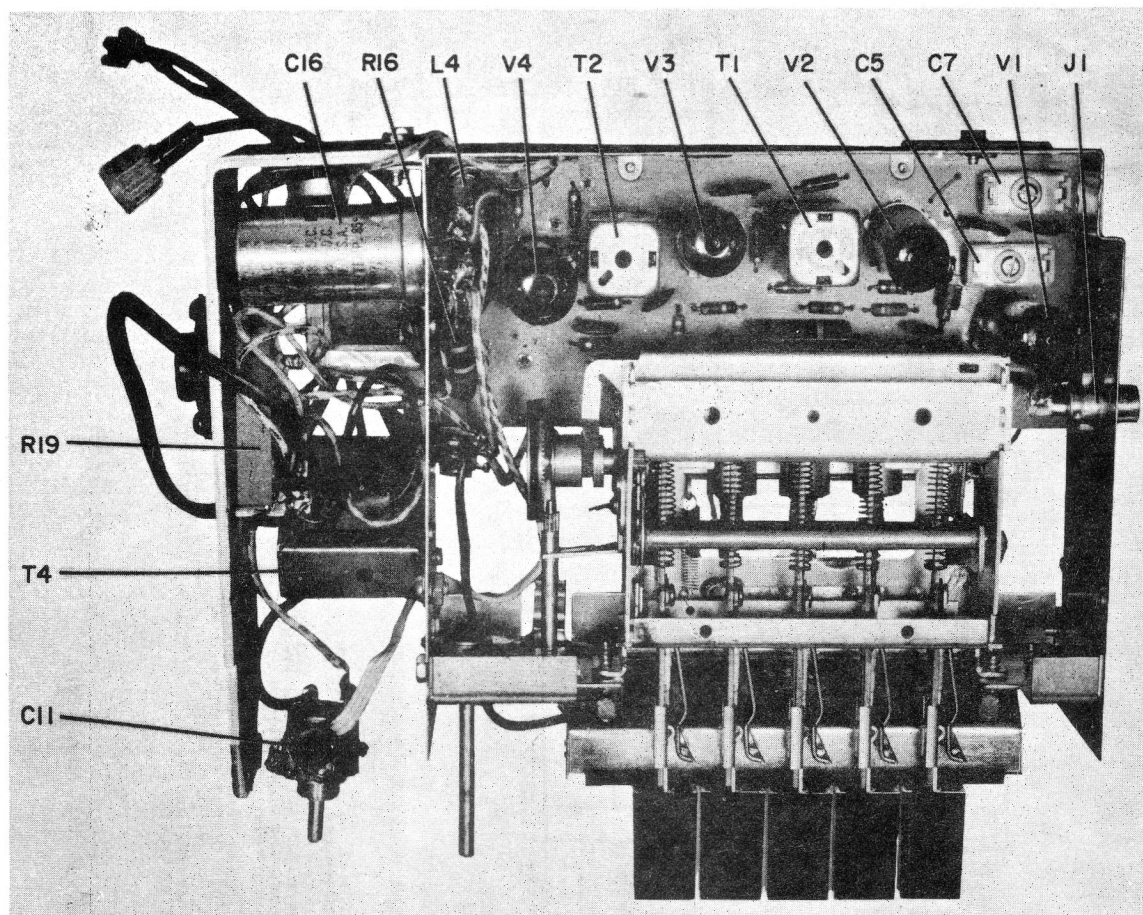
Stations may be set up in any order. However, for convenience in remembering, it is suggested that stations be set up in frequency sequence.

NOTE: In metropolitan areas, it is recommended that the push buttons be set in a shielded place where signals are weak, such as under a viaduct or in a steel-constructed building. In this way, accuracy of adjustment is assured.

1. Turn radio on and allow it to operate for fifteen minutes. Antenna should be fully extended.
2. Unlock push buttons by pulling them out.
3. Accurately tune in a station with manual tuning knob.
4. Lock one push button to that station by pushing firmly in.
5. Repeat above procedure for remaining push buttons.

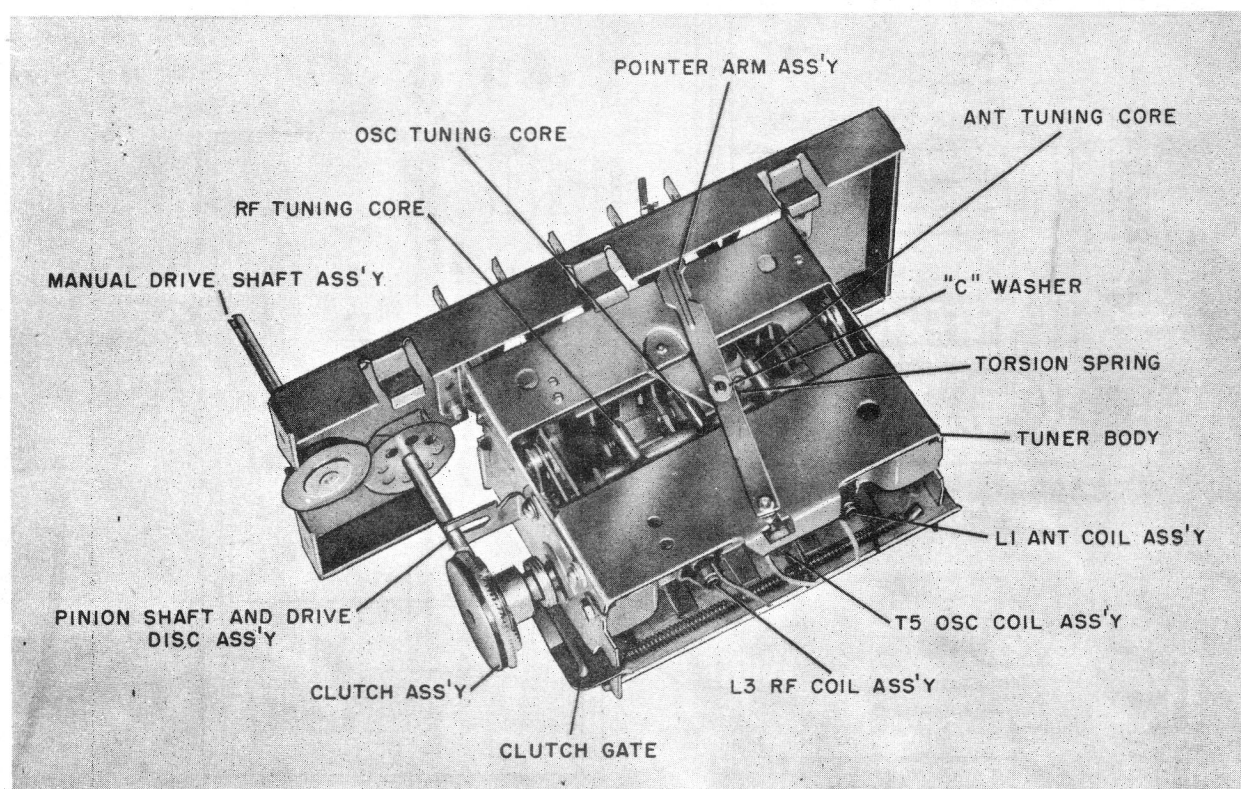


TP7-1056



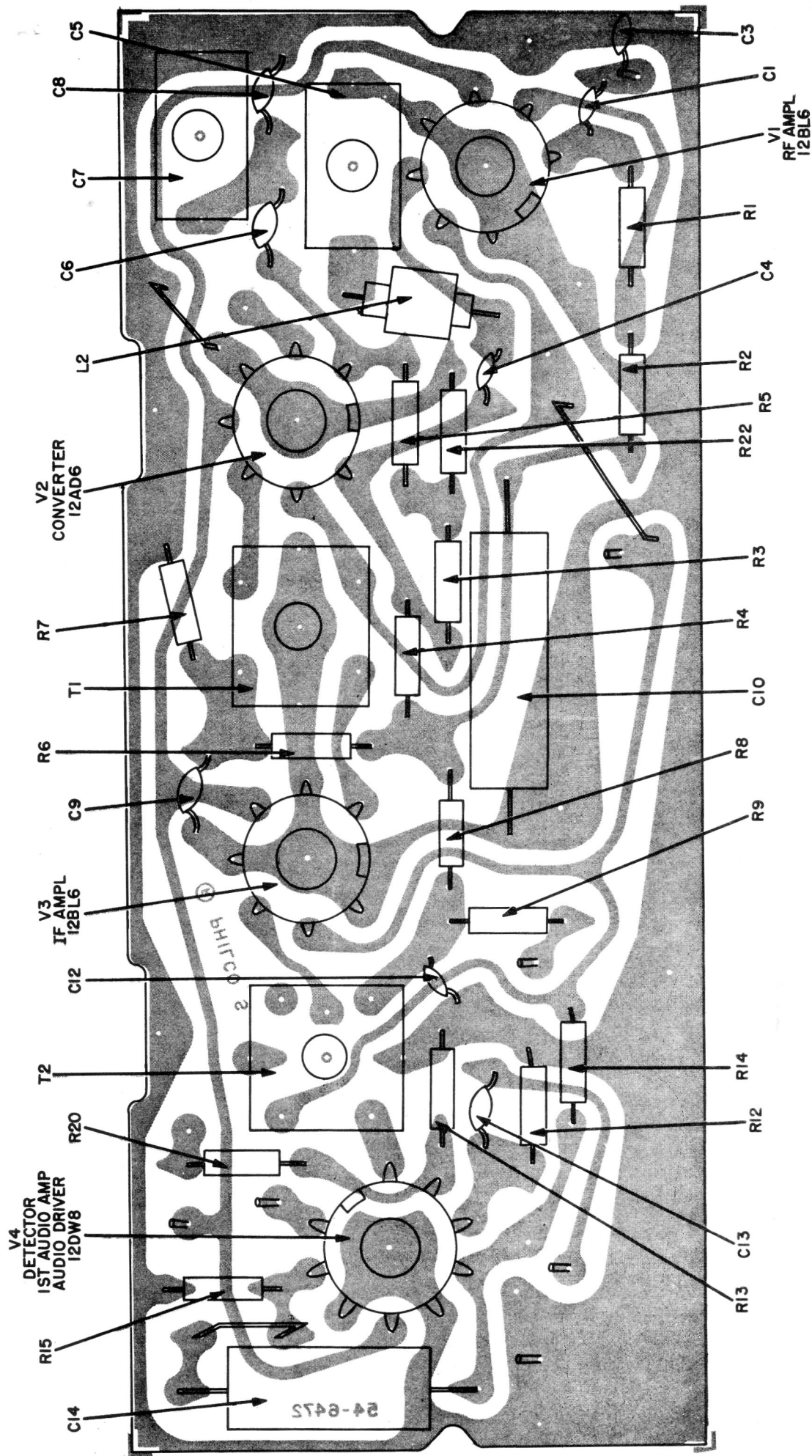
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Figure 5. Top View of Philco Model P-5801, Showing Alignment Points, Tubes and Location of Parts



TP6-1554

Figure 6. Tuner Used in Philco Model P-5801, Showing Replacement Parts



TP7-1057

Figure 3. Printed Wiring Panel, with Component Layout

REPLACEMENT PARTS LIST — MODEL P-5801

NOTE: All Resistors are 1/2 watt, 10% unless otherwise specified.

Reference Symbol	Description	Service Part No.
C1	Condenser, antenna coupling, 7.5 uuf.	30-1263-10
C2	Condenser, variable, antenna padder	31-6533-1
C3	Condenser, antenna, 100 uuf.	30-1251-22
C4	Condenser, r-f coupling, 33 uuf.	30-1263-8
C5	Condenser, variable, r-f padder	31-6532-3
C6	Condenser, osc. coupling, 100 uuf.	30-1263-14
C7	Condenser, variable, osc. padder	31-6532-4
C8	Condenser, oscillator tank, 100 uuf., temp. comp. (N750)	30-1263-14
C9	Condenser, a-v-c filter, .01 uf	30-1262
C10	Condenser, a-v-c filter, .047 uf, 200v	30-4650-45
C11	Condenser, tone compensation, .004 uf.	30-4650-56
C12	Condenser, diode filter, 220 uuf.	30-1262-23
C13	Condenser, audio coupling .01 uf.	30-1262-6
C14	Condenser, audio coupling, .047 uf, 220v.	30-4650-45
C15	Condenser, spark plate, 300 uuf.	30-1254-1
C16	Condenser, electrolytic, 2 sections	61-0086-9
C16A	Condenser, 500 uf., 18v	Part of C16
C16B	Condenser, 200 uf., 18v	Part of C16
C17	Condenser, tone, .1 uf.	30-1238-2
C18	Condenser, tone, 100 uuf.	30-1238-11
F1	Fuse, 7.5 amp.	45-2656-53
I1	Pilot lamp, 6v	34-2064
J1	Coil, antenna tuning	Part of Tuner Assy.
L2	Choke, r-f ampl. plate, 150 mh	32-4480-24
L3	Coil, r-f tuning	Part of Tuner Assy.
L4	Choke, spark noise filter	32-4720-3
LS1	Speaker	36-1670-2
R1	Resistor, r-f grid, 150K	
R2	Resistor, a-v-c, 1K	
R3	Resistor, converter grid, 1 meg	
R4	Resistor, converter a-v-c divider, 6.8 meg	
R5	Resistor, osc. grid, 47K	
R6	Resistor, i-f ampl. a-v-c divider, 22 meg	
R7	Resistor, a-v-c filter, 10 meg	
R8	Resistor, a-v-c divider, 1.2 meg	
R9	Resistor, i-f filter, 22K	
R10	Resistor, tone compensation, 150K	
R11	Resistor, variable, volume control and tone	33-5580-17
R12	Resistor, audio grid, 10 meg	
R13	Resistor, audio cath., 10 ohms	
R14	Resistor, audio plate, 10K	
R15	Resistor, driver grid, 1 meg	
R16	Resistor, pilot lamp series dropping, 27 ohms, 2w	66-0276340
R17	Resistor, current stabilizer, .27 ohm	66-8273360
R18	Resistor, variable, transistor bias, 15 ohms	33-5591-2
R19	Resistor, transistor bias divider, 100 ohms, 10w, temp. comp.	33-1367-2
R20	Resistor, feedback, 220 ohms	66-1228340
R21	Resistor, filter, 100 ohms	66-1108340
R22	Resistor, osc. grid, 10K	66-3108340
R23	Resistor, tone, 390K	
RW1	Switch, power, off-on	Part of Volume Control
T1	Transformer, 1st i-f	32-4676-7
T2	Transformer, 2nd i-f	32-4677-7
T3	Transformer, driver	32-8787
T4	Transformer, output	32-8836-2
T5	Coil, oscillator	Part of Tuner Assy.
	Panel, printed wiring	54-8472

TUNER ASSEMBLY

NOTE: The complete tuner assembly may be either Philco Part No. 76-11349-1 or 76-11349-2. Most of the replacement parts are not interchangeable.

L1	Coil assembly, antenna tuning	
	For tuner assembly 76-11349-1	32-4730-7
	For tuner assembly 76-11349-2	32-4730-16
L3	Coil assembly, r-f tuning	
	For tuner assembly 76-11349-1	32-4730-8
	For tuner assembly 76-11349-2	32-4730-17
T5	Coil assembly, oscillator tuning	
	For tuner assembly 76-11349-1	32-4730-9
	For tuner assembly 76-11349-2	32-4730-18
	Clutch assembly	
	For tuner assembly 76-11349-1	76-11514-3
	For tuner assembly 76-11349-2	76-11514-4
	Clutch facing	
	For tuner assembly 76-11349-1	54-6536-1
	For tuner assembly 76-11349-2	54-6536-2
	Clutch gate	
	For tuner assembly 76-11349-1	28-11451-2
	For tuner assembly 76-11349-2	28-11451-3
	Front plate	28-11756
	Gate spring	28-11901
	Manual drive shaft assembly	
	For tuner assembly 76-11349-1	76-11435-1
	For tuner assembly 76-11349-2	76-11435-2
	Pinion shaft and drive disc assembly	
	For tuner assembly 76-11349-1	76-11436-1
	For tuner assembly 76-11349-2	76-11436-2
	Pointer arm assembly	
	For tuner assembly 76-11349-1	76-11513-5
	For tuner assembly 76-11349-2	76-11513-6
	Push button, station selector	54-6351-1
	Spring, torsion	
	For tuner assembly 76-11349-1	28-10520
	For tuner assembly 76-11349-2	28-10592
	Tuning coil, antenna and r-f	
	For tuner assembly 76-11349-1	28-10522
	For tuner assembly 76-11349-2	28-10591
	Tuning core, oscillator	
	For tuner assembly 76-11349-1	28-10522-1
	For tuner assembly 76-11349-2	28-10591-2
	Tuner body	
	For tuner assembly 76-11349-1	76-11515-3
	For tuner assembly 76-11349-2	76-11515-4
	Washer, "C" type	
	For tuner assembly 76-11349-1	28-10523
	For tuner assembly 76-11349-2	28-10593

MISCELLANEOUS

Bezel	28-11669-1
Dial scale	28-11758
Fuse	45-2656-53
Lead, fuse	41-4244-2
Lead, "A"	41-4244-3
Knob, tuning and volume	27-4687-24
Knob, tone	28-11675-1
Nut, volume control mounting	28-10337
Socket, antenna	57-1243FA3
Socket, 7-pin	27-6309-1
Socket, 9-pin	27-6309-2
Socket assembly, pilot lamp	76-2142-13
Window, glass	54-6343