

PHILCO-TROPIC RADIO MODEL 3001

SPECIFICATIONS

CABINET	Brown bakelite, table model
CIRCUIT	5-tube, 2-band superheterodyne
FREQUENCY RANGES	
Standard Broadcast	540—1600 kc.
Short Wave	4.7—18 mc.
AUDIO OUTPUT	1.2 watts at 117 volts 1.8 watts at 234 volts
INTERMEDIATE FREQUENCY	455 kc.
OPERATING VOLTAGES	105—125 volts or 220—250 volts, 50 or 60 cycles, a.c. or d.c.
POWER CONSUMPTION	25 watts at 117 volts 54 watts at 234 volts
AERIAL	100-foot, conventional L-type, such as Philco Part No. 45-1494
PHILCO TUBES	14Q7 converter, 7B7 i-f amplifier, 14B6 detector and 1st audio, 50A5 audio output, 35Y4 rectifier

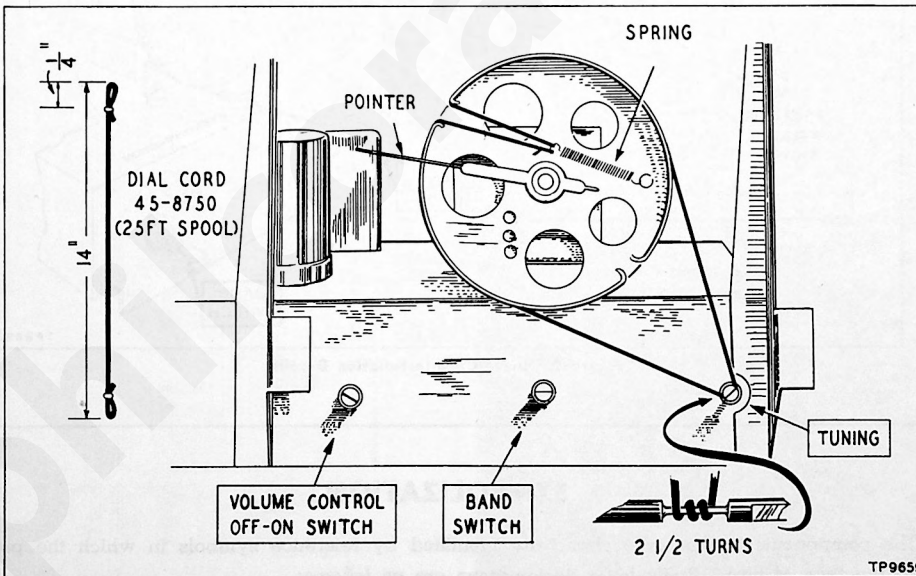


Figure 1. Drive-Cord-Installation Details

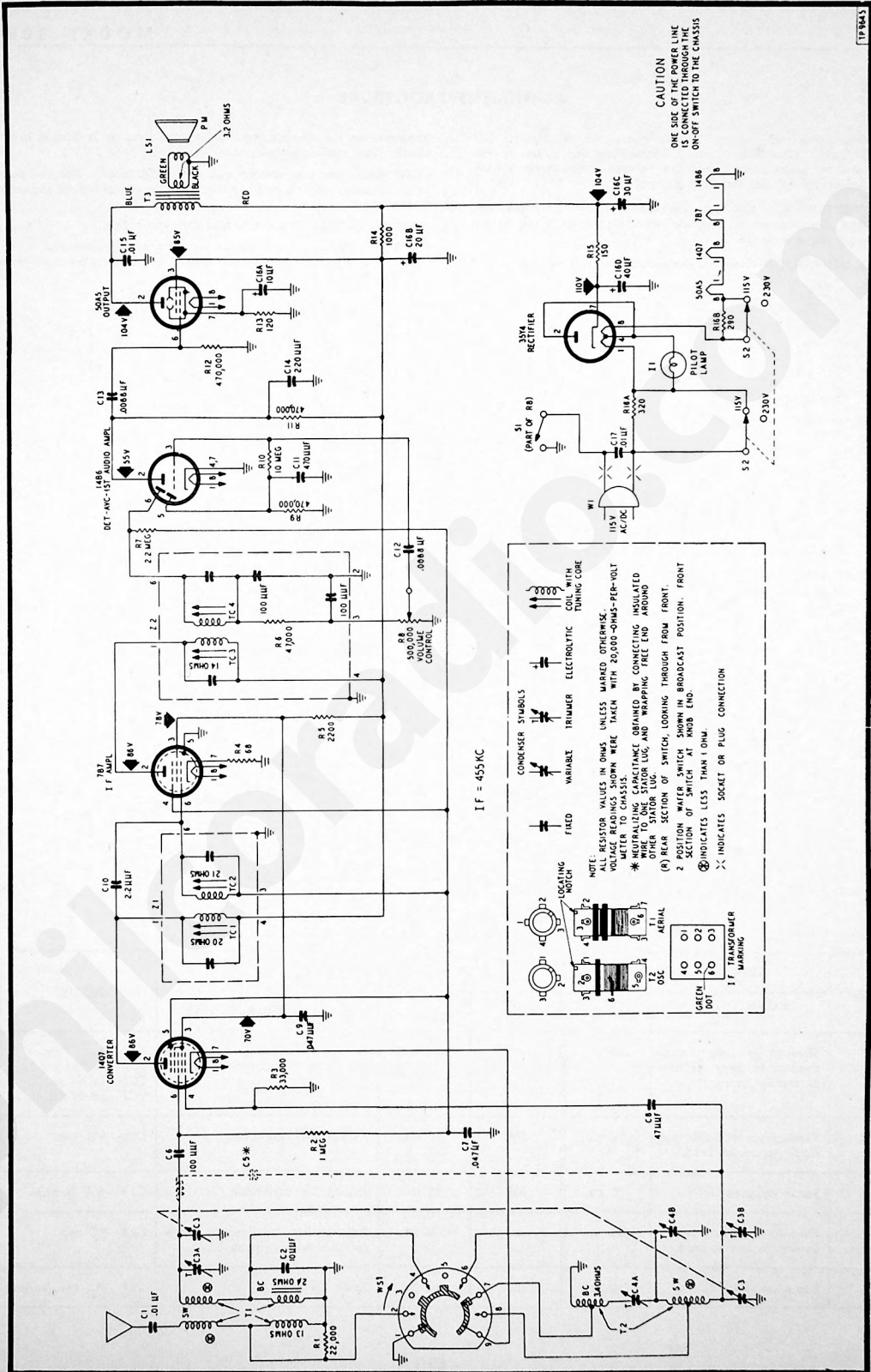


Figure 2. Philco-Tropic Radio Model 3001, Schematic Diagram

ALIGNMENT PROCEDURE

CAUTION: One side of the line is connected to chassis; DO NOT GROUND CHASSIS. Before connecting the radio to the power source, make certain that the voltage change-over switch (S2) is correctly set for the line voltage.

DIAL POINTER—With the tuning-condenser plates fully meshed, adjust the dial pointer to coincide with the index mark below 4.8 mc. on the SW scale.

SIGNAL GENERATOR—Connect the ground lead of an AM signal

generator to the chassis, and the output lead as indicated in the chart. Use modulated output.

CONTROLS—Set the volume control to maximum. Set the band switch, tuning control, and signal-generator frequency as indicated in the chart.

OUTPUT METER—Connect across the voice coil.

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

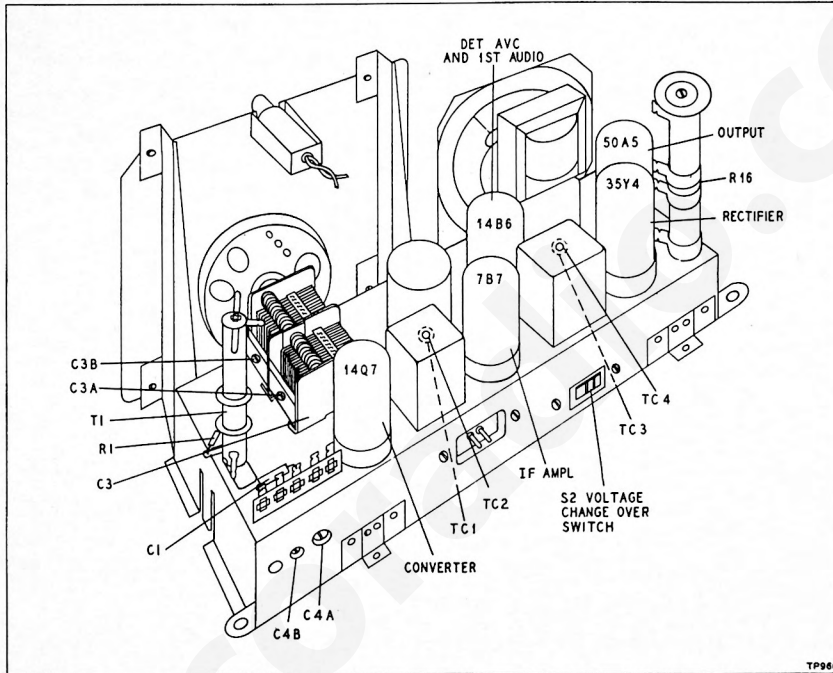


Figure 3. Top View, Showing Trimmer Locations

STEP	SIGNAL GENERATOR		RADIO			ADJUST
	CONNECTION TO RADIO	DIAL SETTING	BAND SWITCH	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Through a .05- μ f. condenser to rear section of tuning gang.	455 kc.	BC	540 kc.	Adjust, in order given, for maximum signal; then repeat.	TC4—2nd i-f sec. TC3—2nd i-f pri. TC2—1st i-f sec. TC1—1st i-f pri.
2	Through a 400-ohm resistor to aerial lead.	18 mc.	SW	18 mc.	Adjust for maximum.	C3B—SW osc.
3	Same as step 2.	18 mc.	SW	16 mc.	Adjust for maximum.	C3A—SW aerial
4	Through a 200- μ f. condenser to aerial lead.	1500 kc.	BC	1500 kc.	Adjust for maximum while rocking tuning gang.	C4B—BC osc.
5	Same as step 4.	600 kc.	BC	600 kc.	Same as step 4.	C4A—BC osc. (series)

ALINEAMIENTO

PRECAUCION: Un lado de la línea está conectado al chasis; NO SE CONECTE EL CHASIS A TIERRA. Antes de conectar el radio a la fuente de energía, asegúrese de que el conmutador para cambio de voltaje (S2) está en la posición correcta para el voltaje de línea que se va a usar.

INDICADOR DEL CUADRANTE—Con el condensador de sintonización completamente cerrado (capacidad máxima), ajústese el indicador de modo que coincida con la marca índice debajo de 4.8 mc. en la escala de onda corta (SW).

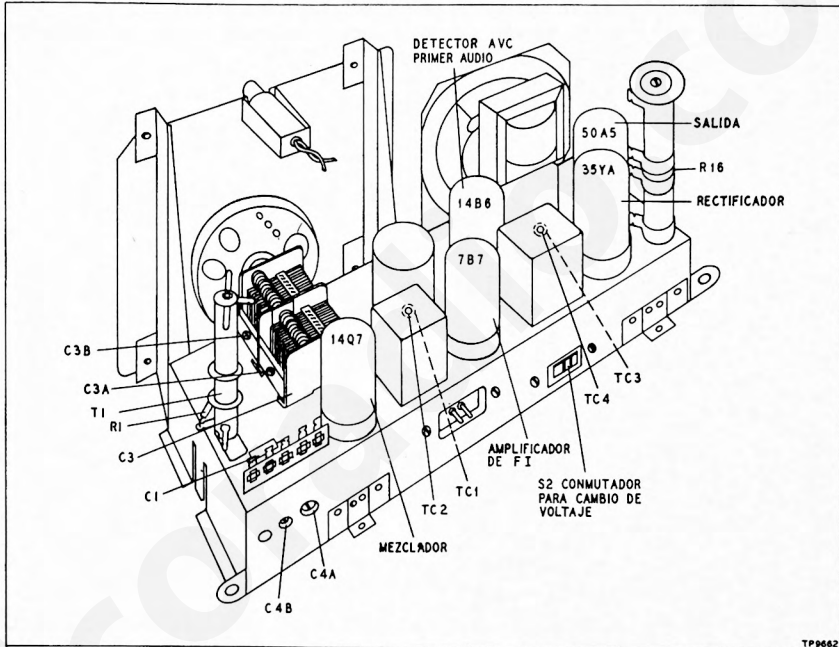
GENERADOR DE SEÑALES—Conéctese al chasis el cable de

línea de un generador de señales de AM, y el cable de salida como se indica en la tabla. Úsese salida modulada.

CONTROLES—Fijese el control de volumen al máximo. Fijense el conmutador de bandas, el control de sintonización, y la frecuencia del generador de señales como se indica en la tabla.

MEDIDOR DE SALIDA—Conéctese a través de la bobina de voz.

INTENSIDAD DE LA SALIDA—Durante el alineamiento, atenúese la salida del generador de señales de modo que la indicación en el medidor sea siempre menor de 1.25 voltios.



Vista Superior, Mostrando la Ubicación de los Compensadores

PASO	GENERADOR DE SEÑALES		RADIO			AJUSTENSE
	CONEXION AL RADIO	FRECUENCIA	CONMUT. DE BANDAS	FRECUENCIA	INSTRUCCIONES ESPECIALES	
1	A la sección posterior del cond. de sint. a través de un cond. de .05 μ f.	455 kc.	BC	540 kc.	Ajústense, en el orden dado, para salida máxima; luego repítase.	TC4—sec. 2da f-l TC3—prim. 2da f-l TC2—sec. 1ra f-l TC1—prim. 1ra f-l
2	Al cable de antena, a través de una resist. de 400 ohms.	18 mc.	SW	18 mc.	Ajústese para salida máxima.	C3B—osc. SW
3	Igual que el paso 2.	16 mc.	SW	16 mc.	Ajústese para salida máxima.	C3A—ant. SW
4	Al cable de antena, a través de un cond. de 200 μ f.	1500 kc.	BC	1500 kc.	Ajústese para salida máxima, mientras se mueve el cond. de sint. levemente de un lado a otro.	C4B—osc. BC
5	Igual que el paso 4.	600 kc.	BC	600 kc.	Igual que el paso 4.	C4A—osc. BC (serie)

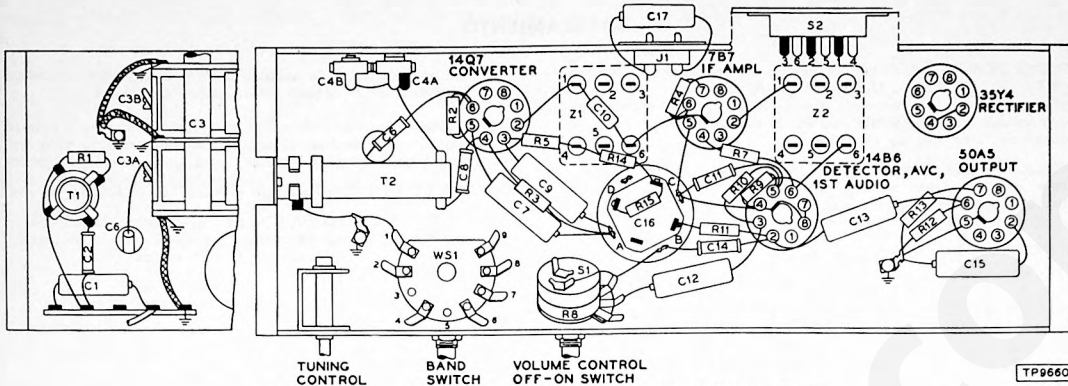


Figure 4. Symbolized Chassis, Showing Parts Placement

REPLACEMENT PARTS LIST

NOTE: Part numbers identified by an asterisk (*) are general replacement items. The 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 of the radio will be either unchanged or improved. When ordering replacements, use only the "Service Part No."

Reference Symbol	Description	Service Part No.	Reference Symbol	Description	Service Part No.
C1	Condenser, aerial coupling, .01 μ f.	30-4650-41	R7	Resistor, a-v-c filter, 2.2 megohms	66-5228340*
C2	Condenser, fixed trimmer, 10 μ f.	62-010300021	R8	Volume control, (with off-on switch)	
C3	Condenser, tuning gang	31-2746		500,000 ohms	33-5566-9
C3A	Condenser, trimmer, aerial	Part of C3	R9	Resistor, bias, 470,000 ohms	66-4478340*
C3B	Condenser, trimmer, oscillator	Part of C3	R10	Resistor, grid return, 10 megohms	66-6108340*
C4	Condenser assembly, trimmer, 2-section	31-6476-20	R11	Resistor, plate load, 470,000 ohms	66-4478340*
C4A	Condenser, padder, BC oscillator	Part of C4	R12	Resistor, grid return, 470,000 ohms	66-4478340*
C4B	Condenser, trimmer, SW oscillator	Part of C4	R13	Resistor, cathode bias, 120 ohms	66-1128340*
C5	Condenser, neutralizing (2 turns of wire)		R14	Resistor, filter, 1000 ohms	66-2108340*
C6	Condenser, d-c blocking, 100 μ f.	62-110009001*	R15	Resistor, filter, 150 ohms	66-1158340*
C7	Condenser, a-v-c filter, .047 μ f.	30-4650-28	R16	Resistor, line dropping, 2-section	33-3440-1
C8	Condenser, d-c blocking, 47 μ f.	30-1224-2*	R16A	Resistor, 320 ohms	Part of R16
C9	Condenser, screen by-pass, .047 μ f.	30-4650-28	R16B	Resistor, 290 ohms	Part of R16
C10	Condenser, neutralizing, 2.2 μ f.	30-1221-6	S1	Switch, off-on	Part of R8
C11	Condenser, bias filter, 470 μ f.	62-147001001*	S2	Switch, voltage change-over	42-1569
C12	Condenser, audio coupling, .0068 μ f.	30-4650-40	T1	Transformer, aerial	32-4191-1
C13	Condenser, d-c blocking, .0068 μ f.	30-4650-40	T2	Transformer, oscillator	32-4192
C14	Condenser, plate by-pass, 220 μ f.	62-122001021	T3	Transformer, output	Part of LS1
C15	Condenser, plate by-pass, .01 μ f.	30-4650-41	W1	Line-cord-and-bracket assembly	76-4285
C16	Condenser, electrolytic, 4-section	30-2568-12	WS1	Water switch, band	42-1806-2
C16A	Condenser, cathode by-pass, 10 μ f., 25v	Part of C16	Z1	Transformer, 1st i-f	32-4377
C16B	Condenser, filter, 20 μ f., 200v	Part of C16	Z2	Transformer, 2nd i-f	32-4378
C16C	Condenser, filter, 30 μ f., 200v	Part of C16			
C16D	Condenser, filter, 40 μ f., 200v	Part of C16			
C17	Condenser, line filter, .01 μ f.	30-4650-58			
I1	Pilot lamp, 6.3v	34-2192			
LS1	Speaker	36-1627			
R1	Resistor, BC aerial-coil loading, 22,000 ohms	66-3228340*			
R2	Resistor, grid return, 1 megohm	66-5108340*			
R3	Resistor, grid return, 33,000 ohms	66-338340*			
R4	Resistor, cathode bias, 68 ohms	66-0688350*			
R5	Resistor, screen dropping, 2200 ohms	66-2228340			
R6	Resistor, i-f filter, 47,000 ohms (Part of Z2)	66-3478340*			

MISCELLANEOUS

Description	Service Part No.
Cabinet	10714-1
Baffle-and-cloth assembly	40-7535
Fastener, spring (6)	56-5862
Back	54-7800
Window, acetate	54-4595
Continental adapter, a.c.	I-3275
Dial scale	54-5062
Drive cord (25-foot spool)	45-8750*
Drive-shaft assembly	76-4830
Knob, SW-BC	54-4609-1
Knob, off-on-volume and tuning	54-4609-2
Pointer	56-7043FCP
Socket, Loktal (5)	27-6177
Socket, male, a.c.	27-6240
Socket assembly, pilot lamp	76-1179
Spring, gang drive	56-2617