

PARTS LIST AND SERVICE INFORMATION

PHILCO-TROPIC RADIO MODEL 3214

REPLACEMENT PARTS LIST

Reference Symbol	Description	Service Part No.	Reference Symbol	Description	Service Part No.
C1	Condenser, fixed trimmer, 10 μ f.	62-01009021	R6	Resistor, voltage divider, 470 ohms	66-1478340
C2	Condenser, assembly, trimmer 5-section	30-6414-9	R7	Resistor, voltage divider, 470 ohms	66-1478340
C2A	Condenser, trimmer, SW2 aerial, 2-15 μ f.	Part of C2	R8	Resistor, plate load, 15,000 ohms	66-3158340
C2B	Condenser, trimmer, SW1 aerial, 2-15 μ f.	Part of C2	R9	Resistor, grid return, 2.2 megohms	66-5228546
C2C	Condenser, trimmer, SW1 osc., 2-15 μ f.	Part of C2	R10	Resistor, i-f screen load, 10,000 ohms	66-3108340
C2D	Condenser, trimmer, BC osc. (shunt), 3-30 μ f.	Part of C2	R11	Resistor, a-v-c load, 4.7 megohms	66-5478340
C2E	Condenser, trimmer, BC osc. (series), 350-650 μ f.	Part of C2	R12	Volume control, off-on, 1 megohm	33-5566-35
C3	Condenser, d-c blocking, 100 μ f.	62-110009021	R13	Resistor, leakage, 150,000 ohms	66-4158340
C4	Condenser, d-c blocking, .01 μ f.	45-3505-41	R14	Resistor, i-f screen load, 4.7 megohms	66-5478340
C5	Condenser, tuning, 2-section	31-2763	R15	Resistor, grid return, 4.7 megohms	66-5478340
C5A	Condenser, trimmer, SW2 osc.	Part of C5	R16	Resistor, grid return, 2.2 megohms	66-5223546
C6	Condenser, d-c blocking, .01 μ f.	45-3505-41	R17	Resistor, filament shunt, 220 ohms	66-1228340
C7	Condenser, SW tracker, 2200 μ f.	60-20225314	R18	Resistor, B + filter, 680 ohms	66-1688340
C8	Condenser, d-c blocking, 100 μ f.	62-110009021	R19	Resistor, plate load, 680,000 ohms	66-4688340
C9	Condenser, SW2 tracker, 3900 μ f.	60-20395314	R20	Resistor, plate dropping, 220,000 ohms	66-4228340
C10	Condenser, B + by-pass, 56 μ f.	62-056009021	R21	Resistor, B + filter, 680 ohms	66-1688340
C11	Condenser, screen by-pass, .05 μ f.	45-3505-28	R22	Resistor, current limiting	33-3431-8
C12	Condenser, a-v-c filter, .047 μ f.	45-3505-28	R22A	Resistor, current limiting, 1000 ohms, 3 watts	Part of R22
C13	Condenser, filament by-pass, .1 μ f.	61-0113	R22B	Resistor, current limiting, 1000 ohms, 3 watts	Part of R22
C14	Condenser, d-c blocking, 220 μ f.	62-122001021	R23	Resistor, B + filter, 150 ohms, 3 watts	33-1334-15
C15	Condenser, screen by-pass, .05 μ f.	45-3505-28	R24	Resistor, filament by-pass, 560 ohms	66-1568340
C16	Condenser, filament by-pass, .1 μ f.	61-0113	R25	Resistor, a-v-c bleeder, 4.7 megohms	66-5478340
C17	Condenser, plate by-pass, .05 μ f.	45-3505-28	R26	Resistor, a-v-c load, 4.7 megohms	66-5478340
C18	Condenser, ceramic, 4-section	30-1237	S2	Switch, voltage change	42-1899-1
C18A	Condenser, d-c blocking, .001 μ f.	Part of C18	T1	Transformer, aerial, SW1, SW2	32-4520
C18B	Condenser, screen by-pass, .01 μ f.	Part of C18	T2	Transformer, oscillator	32-4521
C18C	Condenser, d-c blocking, .002 μ f.	Part of C18	T3	Transformer, output	32-8524
C18D	Condenser, r-f by-pass, 220 μ f.	Part of C18	TC1	Tuning core, 1st i-f primary	Part of Z1
C19	Condenser, tone compensation, .002 μ f.	61-0062	TC2	Tuning core, 1st i-f secondary	Part of Z1
C20	Condenser, i-f filter, .1 μ f.	61-0113	TC3	Tuning core, 2nd i-f primary	Part of Z2
C21	Condenser, r-f by-pass, 470 μ f.	62-147001021	TC4	Tuning core, 2nd i-f secondary	Part of Z2
C22	Condenser, electrolytic, 4-section	30-2568-53	W1	Line cord	L-2183
C22A	Condenser, filter, 60 μ f.	Part of C22	W2	Battery cable	41-3712-6
C22B	Condenser, filter, 30 μ f.	Part of C22	WS	Wafer switch, band-change, 1-section	42-1965
C22C	Condenser, filter, 100 μ f.	Part of C22	Z1	Transformer, 1st i-f	32-4377
C22D	Condenser, filament by-pass, 100 μ f.	Part of C22	Z2	Transformer, 2nd i-f	32-4378
C23	Condenser, line by-pass, .047 μ f.	45-3505-62	MISCELLANEOUS		
C24	Condenser, filament by-pass, .1 μ f.	61-0113	Description		
C25	Condenser, a-v-c by-pass, .047 μ f.	45-3505-28	Cabinet Parts		
C26	Condenser, B + by-pass, .01 μ f.	45-3505-41	Clip, back fastener (2 req.)		
C27	Condenser, a-v-c by-pass, 220 μ f.	62-122001021	Feet (4 req.)		
C28	Condenser, i-f filter, .1 μ f.	45-3505-47	Hinge assembly, LH		
C29	Condenser, filament by-pass, .1 μ f.	61-0113	Hinge assembly, RH		
C30	Condenser, electrolytic, 25 μ f.	30-2417-9	Handle assembly		
C31	Condenser, aerial coupler, .002 μ f.	61-0062	Clamp, electrolytic mounting		
C32	Condenser, audio by-pass, 470 μ f.	62-147001021	Clip, oscillator		
C33	Condenser, trimmer, BC aerial, 2-15 μ f.	31-6473-25	Clip, SW aerial		
CR1	Selenium rectifier	34-8003-2	Dial cord, 25-foot spool		
J1	Socket, line	27-6273	Dial backplate assembly		
LA1	Loop aerial, Magnecor (BC aerial)	76-6982	Dial pointer		
LA2	Rod aerial, telescoping (SW aerial)	76-6988	Dial pointer, rail assembly		
LS1	Speaker, 5-inch, p-m	36-1625-8 or 36-1625-13	Dial scale		
P1	Plug, shorting	54-4878	Grommet, speaker mounting (4 req.)		
P2	Plug, battery	Part of W2	Grommet, tuning-condenser mounting (4 req.)		
R1	Resistor, grid return, 1 megohm	66-5108340	Knob, band switch		
R2	Resistor, SW2 osc. suppressor, 47 ohms	66-0478350	Knob, tuning		
R3	Resistor, osc. plate load, 6800 ohms	66-2688340	Knob, volume-off-on		
R4	Resistor, grid return, 220,000 ohms	66-4228340	Socket, miniature (4 req.)		
R5	Resistor, screen dropping, 22,000 ohms	66-3228340	Socket, octal (1 req.)		
			Spring, drive cord mounting		
			Tuning-shaft assembly		

USE OF BATTERIES OTHER THAN P-357

If a Philco Battery Pack Type P-357 is not available, this set can be operated on two 45-volt "B" batteries (Philco Type P-200 or equivalent) and two 4½ volt "A" batteries (Philco Type P-100 or equivalent). To use these batteries, two plugs

USO DE OTRAS BATERIAS QUE NO SEAN LA P-357

Si no hay disponible una Batería Philco Núm. P-357, este radio puede hacerse funcionar con dos baterías "B" de 45 voltios (Tipo Philco P-200 o su equivalente) y dos baterías "A" de 4½ voltios (Tipo Philco P-100 o su equivalente). Para usar estas baterías, se requieren dos clavijas Parte Núm.

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Part No. 27-4785-27 and two plugs Part No. 27-4785-28 are required. Remove the plug from the battery cable on the set, and connect the battery-cable wires and the new plugs as shown in figure 1.

27-4785-27 y dos clavijas Parte Núm. 27-4785-28. Remuévase la clavija del cable de batería del radio, y conéctense las nuevas clavijas y los alambres del cable de batería como se muestra en la figura 1.

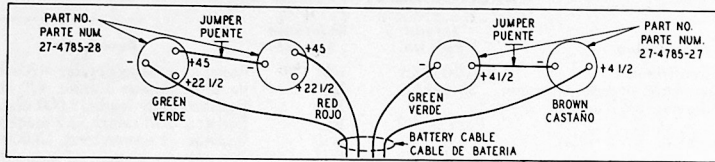


FIGURE 1. BATTERY-PLUG CONNECTIONS
FIGURA 1. CONEXIONES DE LAS CLAVIJAS DE BATERIA

TPI-1833

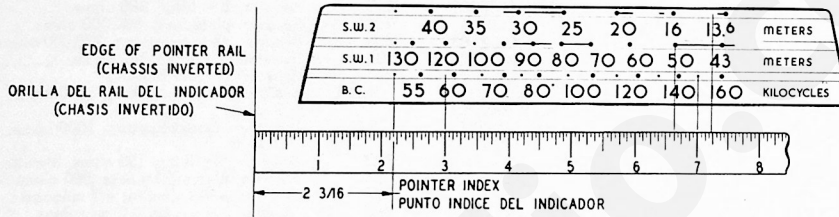


FIGURE 2. DIAL-CALIBRATION MEASUREMENTS
FIGURA 2. MEDIDAS PARA LA CALIBRACION DEL CUADRANTE

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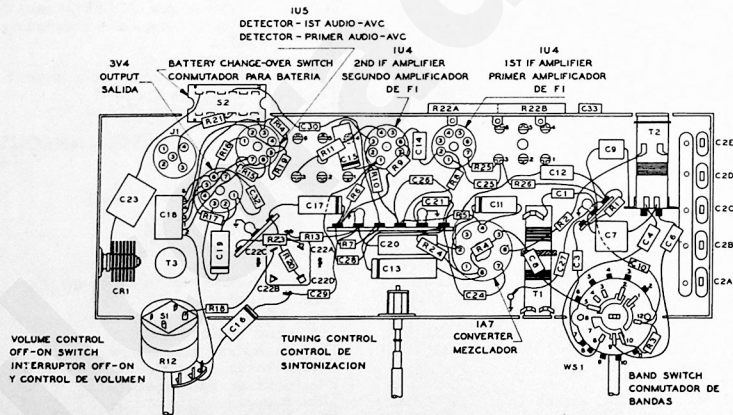


FIGURE 3. SYMBOLIZED CHASSIS, SHOWING PARTS PLACEMENT
FIGURA 3. VISTA DEL CHASIS, MOSTRANDO LA UBICACION DE LAS PIEZAS

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ALIGNMENT PROCEDURE

DIAL POINTER—With the tuning condenser fully meshed, adjust the dial pointer to coincide with the index mark just to the left of "55" (BC). See figure 2.

SIGNAL GENERATOR—Connect the ground lead to the chassis, and the output lead as indicated in the chart. Use modulated output.

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

ALINEAMIENTO

INDICADOR DEL CUADRANTE—Con el condensador de sintonización completamente cerrado (capacidad máxima), ajústese el indicador de modo que coincida con la marca índice que está a la izquierda del "55" (BC). Véase la figura 2.

GENERADOR DE SEÑALES—Conéctese el cable de tierra al chasis, y el cable de salida como se indica en la tabla. Use salida modulada.

CONTROLES DEL RADIO—Gírese 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.

ALIGNMENT PROCEDURE (Cont.)

OUTPUT METER—Connect across the speaker voice-coil terminals.

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

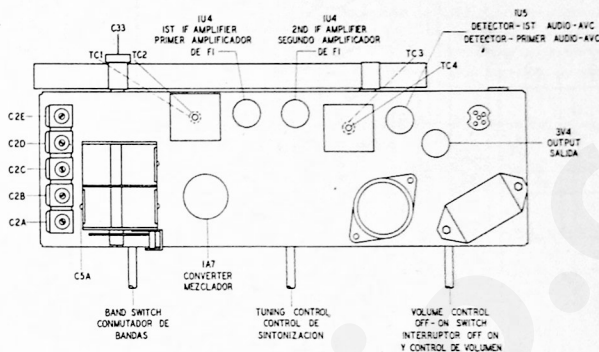
NOTE: Allow 15 minutes for the radio and signal generator to warm up before starting alignment.

ALINEAMIENTO (Cont.)

MEDIDOR DE SALIDA—Conéctese a los terminales de la bobina de voz.

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

NOTA—Permitáse que el radio y el generador de señales se calienten durante 15 minutos antes de comenzar el alineamiento.



TPI-1830-1

FIGURE 4. TOP VIEW OF CHASSIS, SHOWING TRIMMER LOCATIONS
FIGURA 4. VISTA SUPERIOR DEL CHASIS, MOSTRANDO LA POSICION DE LOS COMPENSADORES

STEP PASO	SIGNAL GENERATOR GENERADOR DE SEÑALES		RADIO			ADJUST AJUSTENSE
	CONNECTION TO RADIO CONEXION AL RADIO	DIAL SETTING FRECUENCIA	BAND SWITCH CONMUT. DE BANDAS	DIAL SETTING FRECUENCIA	SPECIAL INSTRUCTIONS INSTRUCCIONES ESPECIALES	
1	Through a .05- μ f. condenser to grid cap of the 1A7. Al capacitor de grilla del 1A7, a través de un cond. de .05 μ f.	445 kc.	BC	Gang fully meshed. Cond. de sint. cerrado.	Adjust, in order given, for maximum output. Ajustense, en el orden dado, para salida máxima.	TC4—2nd i-f sec. TC3—2nd i-f pri. TC2—1st i-f sec. TC1—1st i-f pri.
2	Through a 30- μ f. condenser to external aerial lead. Al cable de antena exterior, a través de un cond. de 30 μ f.	21 mc. or 14.3 meters	SW2	21 mc. or 14.3 meters	Same as step 1. Igual que el paso 1.	C5A—SW2 osc. C2A—SW2 ant.
3	Same as step 2. Igual que el paso 2.	6 mc. or 50 meters	SW1	6 mc. or 50 meters	Same as step 1. Igual que el paso 1.	C2C—SW1 osc. C2B—SW1 ant.
4	Through a 2000 ohm resistor to external aerial lead. Al cable de antena exterior, a través de una resist. de 2000 ohmios.	1500 kc.	BC	1500 kc.	Same as step 1. Igual que el paso 1.	C2D—BC osc. (shunt) C33—BC ant.
5	Same as step 4. Igual que el paso 4.	580 kc.	BC	580 kc.	Adjust for maximum while rocking gang. Ajustese para salida máxima mientras se mueve el cond. de sint. levemente de un lado a otro.	C2E—BC osc. (series)
6	Repeat steps 4, 5, and 4 until no further improvement is found. Repítanse los pasos 4, 5, y 4 hasta que no se note mejoría alguna.					

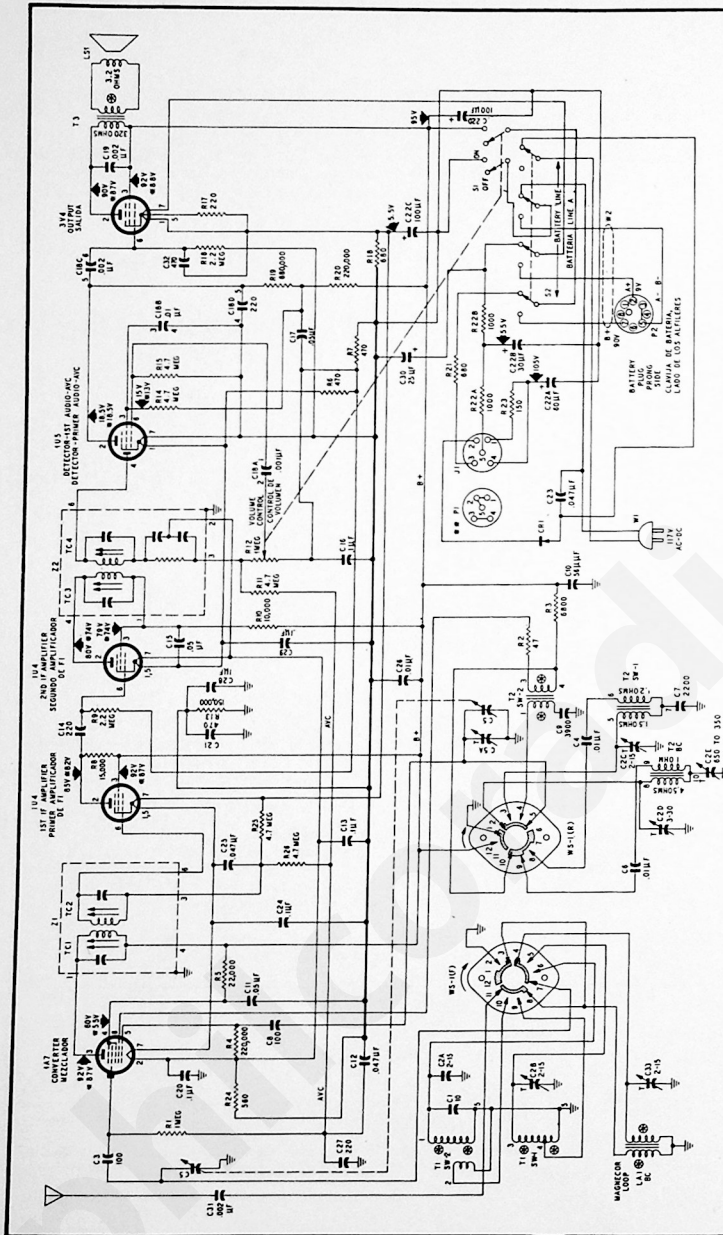


FIGURE 5. PHILCO-TROPIC RADIO MODEL 3214, SCHEMATIC DIAGRAM
 FIGURA 5. RADIO PHILCO-TROPIC MODELO 3214, DIAGRAMA ESQUEMATICO

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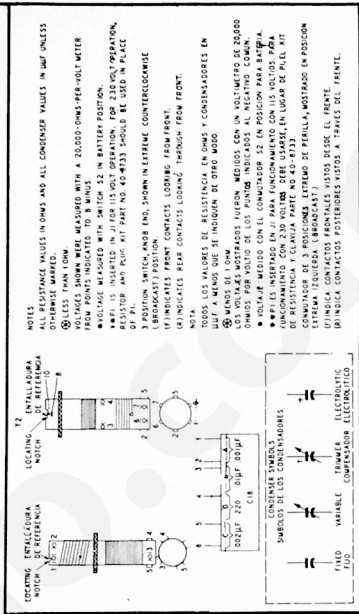


FIGURE 6. DRIVE-CORD INSTALLATION DETAILS

FIGURA 6. DETALLES SOBRE LA INSTALACION DE LA CUERDA DE MANDO

TPI-1828-1

INSTALLATION OF VOLTAGE ADAPTER ON PHILCO RADIO MODEL 3214

The adapter kit, Part No. 40-8733, is designed to be used with Philco Portable Radio Model 3214, for operation on 230 volts, a.c. or d.c. The kit consists of the following parts:

One voltage adapter
Two sheet-metal mounting screws

To install the adapter, proceed as follows:

1. Be sure that the radio is disconnected from the power receptacle.
2. Remove the rear cover from the cabinet.
3. Remove the shorting plug shown at A by pulling downward.
4. Be sure that the 115-230 volt switch is set toward the 230-volt position, then plug the 5-prong adapter plug into the receptacle at A.
5. Mount the adapter as shown at B, using the two screws furnished in the kit. After the adapter installation is made, the radio may be operated from either a 115-volt or a 230-volt source if the switch is set in the proper position.

CAUTION

Serious damage to the radio will result if it is connected to a 230-volt power source with the switch in the 115-volt position.

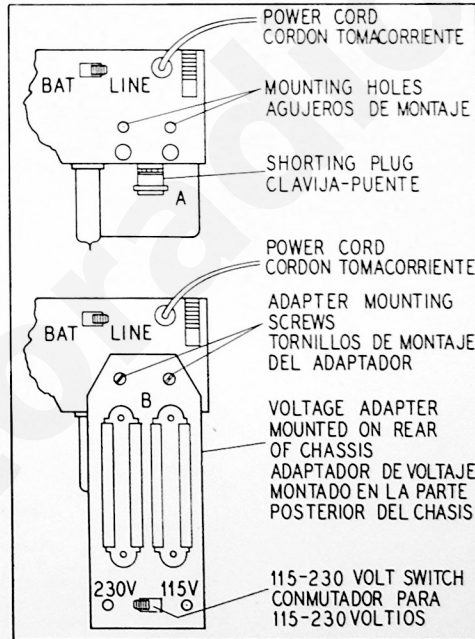
INSTALACION DEL ADAPTADOR DE VOLTAJE EN EL RADIO PHILCO MODELO 3214

El adaptador, Parte Núm. 40-8733, ha sido diseñado para uso con el radio portátil Philco, Modelo 3214, para funcionamiento con 230 voltios, corriente alterna o continua. El adaptador se compone de las siguientes piezas:

Un adaptador de voltaje
Dos tornillos de montaje

Para instalar el adaptador, prosígase como sigue:

1. Asegúrese de que el radio está desconectado del receptáculo de pared.
2. Quítese la cubierta posterior del gabinete.
3. Quítese la clavija-puente mostrada en A, tirando de ella hacia abajo.



4. Asegúrese de que el conmutador de 115-230 voltios está en la posición para 230 voltios, y luego insértese la clavija de cinco alfileres del adaptador en el receptáculo en A.
5. Móntese el adaptador como se ve en B, usando los dos tornillos suministrados. Después de instalado el adaptador puede hacerse funcionar el radio con una fuente de 115 voltios ó 230 voltios si el conmutador es colocado en la posición debida.

PRECAUCION

Pueden ocasionarse daños de consideración al radio si se conecta éste a una fuente de 230 voltios con el conmutador en la posición para 115 voltios.

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