

PARTS LIST AND SERVICE INFORMATION

PHILCO-TROPIC MODEL 3213

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 of the equipment will either be unchanged or improved. When ordering replacements, use only the "Service Part No." DO NOT USE THE REFERENCE SYMBOL.

Reference Symbol	Description	Service Part No.	Reference Symbol	Description	Service Part No.
C1	Condenser, tuning, 2-section	31-2755	R12	Resistor, grid return, 2.2 megohms	66-5228340*
C1A	Condenser, trimmer, aerial	Part of C1	R13	Resistor, bias, 220 ohms	66-1228340
C1B	Condenser, trimmer, osc.	Part of C1	S1	Switch, band	42-1921
C2	Condenser, a-v-c isolating, 100 μ f.	62-110001021	S2	Switch, off-on bass	42-1920
C3	Condenser, d-c blocking, 100 μ f.	62-110001021	T1	Transformer, aerial	32-4457
C4	Condenser, trimmer, 3-section	31-6477-13	T2	Transformer, osc.	32-4446
C4A	Condenser, trimmer, bc. aerial	Part of C4	T3	Transformer, output	32-8323-1
C4B	Condenser, trimmer, bc. osc.	Part of C4	W1	Battery cable	41-3710
C4C	Condenser, padder, osc. series	Part of C4	Z1	Transformer, 1st i-f	32-3895-3
C5	Condenser, osc. by-pass, .0033 μ f.	45-3505-55*	Z2	Transformer, 2nd i-f	32-3897-3
C6	Condenser, filter, 40 μ f.	30-2575-4			
C7A	Condenser, trimmer, i.f.	Part of Z1			
C7B	Condenser, trimmer, i.f.	Part of Z1			
C8	Condenser, a-v-c filter, .047 μ f.	45-3505-28*			
C9	Condenser, screen by-pass, .047 μ f.	45-3505-28*			
C10	Condenser, trimmer, i.f.	Part of Z2			
C11	Condenser, d-c blocking, .0033 μ f.	45-3505-55*			
C12	Condenser, screen by-pass, .047 μ f.	45-3505-28*			
C13	Condenser, r-f by-pass, 100 μ f.	62-110001021			
C14	Condenser, d-c blocking, .0033 μ f.	45-3505-55*			
C15	Condenser, tone compensation, .047 μ f.	45-3505-28*			
C16	Condenser, tone compensation, .0033 μ f.	45-3505-55*			
LS1	Speaker, p-m	36-1825-13			
P1	Plug, battery connector	Part of W1			
R1	Resistor, a-v-c load, 470,000 ohms	66-4478340*			
R2	Resistor, neutralizing, 10 ohms	66-0108350			
R3	Resistor, grid return, 100,000 ohms	66-4108540			
R4	Resistor, osc. suppressor, 3300 ohms	66-2338340			
R5	Resistor, osc. plate load, 6800 ohms	66-2688340			
R6	Resistor, i-f screen load, 15,000 ohms	66-3158340*			
R7	Resistor, grid return, 2.2 megohms	66-5228340*			
R8	Volume control, 500,000 ohms	33-5565-20			
R9	Resistor, grid return, 10 megohms	66-6108340*			
R10	Resistor, screen load, 4.7 megohms	66-5478340*			
R11	Resistor, plate load, 1 megohm	66-3108340*			

MISCELLANEOUS	
Description	Service Part No.
Cabinet	10715-2
Back	54-7632
Fastener, back (5)	W-2235FA9
Dial scale	54-5084
Scale mounting strap (left-hand)	56-5739-2FE7
Scale mounting strap (right-hand)	56-5739-3FE7
Scale mounting rubber band (2)	54-4178
Knob, band switch and off-on-tone (2)	54-4718-10
Knob, tuning and volume (2)	54-4718-11
Clamp, electrolytic mounting	56-1466FA5
Dial-backplate assembly	76-5638
Dial cord, 25-foot spool	45-8750
Cord mounting spring, condenser drive	56-2617
Cord mounting spring, pointer drive	56-3167
Dial pointer	56-5630-20FCP
Difusing panel	54-8050
Panel mounting clip (2)	56-3587-1
Grommet, speaker mounting (2)	27-4596
Grommet, tuning-condenser mounting (4)	27-4596
Socket, miniature (4)	27-8203
Spacer, speaker mounting (2)	56-1307FA3
Tuning-shaft assembly	76-4830-3

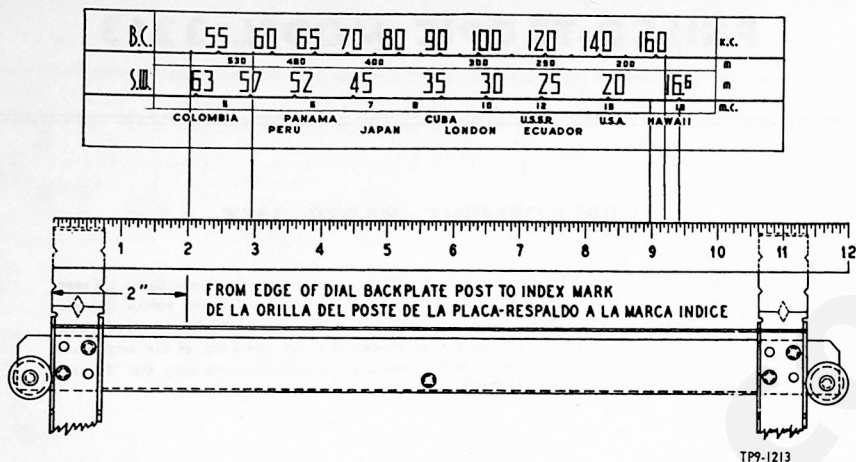


Figure 1. Dial-Calibration Measurements
Figura 1. Medidas para Calibración del Cuadrante

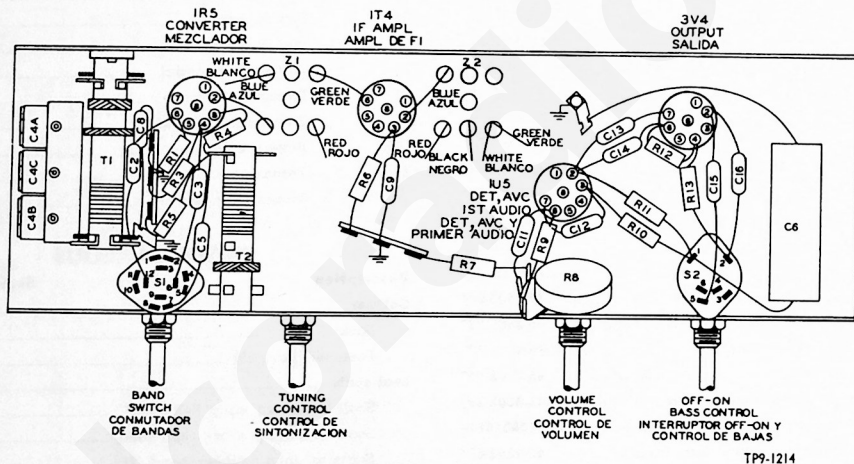


Figure 2. Symbolized Chassis, Showing Parts Placement
Figura 2. Vista del Chasis, Mostrando la Ubicación de las Partes

ALIGNMENT

OUTPUT METER: Connect between speaker voice-coil terminals.

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

DIAL POINTER: With tuning condenser fully meshed, adjust dial pointer to coincide with index mark just to the left of "55" (BC). See figure 1.

RADIO CONTROLS: Set volume control to maximum, and turn tone control fully clockwise.

OUTPUT LEVEL: During alignment, adjust signal-generator output to maintain output-meter indication below 0.8 volt.

ALINEAMIENTO

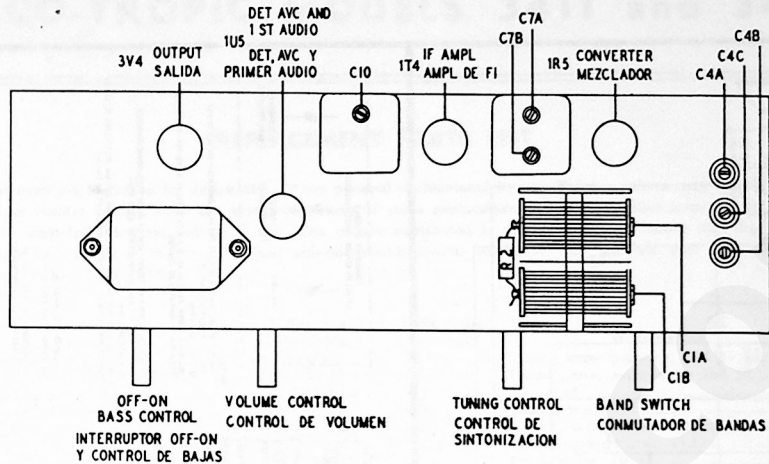
MEDIDOR DE SALIDA: Conéctese a los terminales de la bobina de voz del altoparlante.

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

INDICADOR DEL CUADRANTE: Con el condensador de sintonización completamente cerrado, ajústese el indicador del cuadrante para que coincida con la marca índice a la izquierda del "55" (BC). Véase la figura 1.

CONTROLES DEL RADIO: Gírese el control de volumen al máximo, y el control de tono completamente hacia la derecha.

INTENSIDAD DE SALIDA: Durante el alineamiento, ajústese la salida del generador de señales de modo que la indicación en el medidor de salida sea siempre menor de 0.8 voltio.

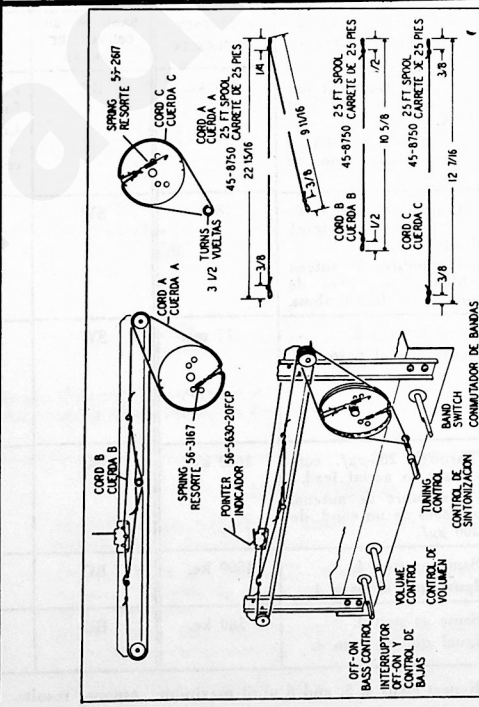
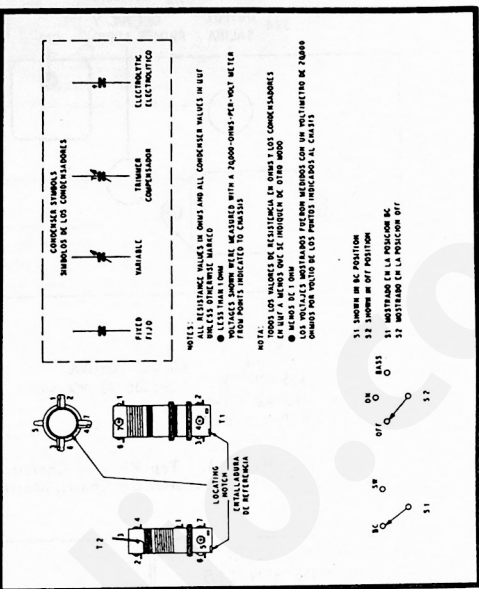
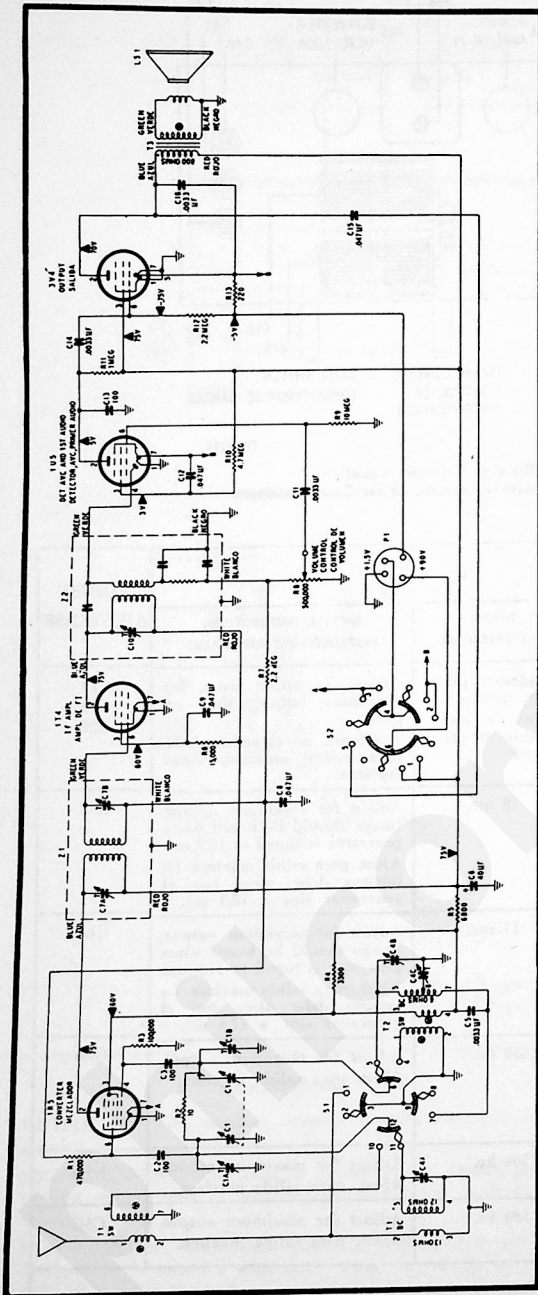


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Figure 3. Top View of Chassis, Showing Trimmer Locations
 Figura 3. Vista Superior del Chasis, Mostrando la Posición de los Condensadores

STEP PASO	SIGNAL GENERATOR GENERADOR DE SEÑALES		RADIO			ADJUST AJUSTENSE
	CONNECTIONS TO RADIO CONEXIONES AL RADIO	FREQUENCY FRECUENCIA	BAND SWITCH CONMUT. DE BANDAS	TUNING SINTONIZACION	SPECIAL INSTRUCTIONS INSTRUCCIONES ESPECIALES	
1	Through .05- μ f. condenser to stator section of C1A. Al estator de C1A, a través de un cond. de .05 μ f.	455 kc.	BC	Condenser plates fully meshed. Cond. de sint. completamente cerrado.	Adjust, in order given, for maximum output, then repeat. Ajustense en el orden dado, para salida máxima, luego repítase.	C10 C7A C7B
2	Through 400-ohm resistor to aerial (white) lead. Al alambre de antena (blanco) a través de una resist. de 400 ohms.	18 mc.	SW	18 mc.	Adjust for maximum output. Image should be heard when generator is tuned to 18.9 mc. Ajust. para salida máxima. La imagen debe oírse con el generador sint. a 18.9 mc.	C1B
3	Same as step 2. Igual que el paso 2.	17 mc.	SW	17 mc.	Adjust for maximum output. Image should be heard when generator is tuned to 17.9 mc. Ajust. para salida máxima. La imagen debe oírse con el generador sint. a 17.9 mc.	C1A*
4	Through 200- μ f. condenser to aerial lead. Al alambre de antena, a través de un cond. de 200 μ f.	1650 kc.	BC	1650 kc.	Adjust for maximum output. Ajust. para salida máxima.	C4B
5	Same as step 4. Igual que el paso 4.	1500 kc.	BC	1500 kc.	Adjust for maximum output. Ajust. para salida máxima.	C4A
6	Same as step 4. Igual que el paso 4.	580 kc.	BC	580 kc.	Adjust for maximum output. Ajust. para salida máxima.	C4C
7	Repeat steps 4, 5, and 6 until maximum response results. Repítanse los pasos 4, 5, y 6 hasta que se obtenga respuesta máxima.					

*Rock tuning gang while adjusting this trimmer.
 Muevase el condensador de sintonización levemente de un lado a otro mientras se ajusta este compensador.



TP9-1216

TP9-1217

Figure 4. Philco-Tropic Model 3213, Schematic Diagram
 Figura 4. Philco-Tropic Modelo 3213, Diagrama Esquemático

Figure 5. Drive-Cord Installation Details
 Figure 5. Detalles Sobre la Instalación de la Cuerda de la Cuerda de Mando