

PARTS LIST AND SERVICE INFORMATION FOR PHILCO-TROPIC RADIO MODEL 3022 CODES 121 and 122

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 radio will be unchanged. 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, .0022 μ f.	45-3505-54*	R8	Resistor, bias, 470,000 ohms	66-4478340*
C2	Condenser, fixed trimmer, SW2, 18 μ f.	62 018300001*	R9	Resistor, grid return, 10 megohms	66-6108340*
C3	Condenser, fixed trimmer, SW1, 12 μ f.	62-012309021*	R10	Resistor, plate load, 470,000 ohms	66-4478340*
C4	Condenser, tuning gang, 2-section	31-2758	R11	Resistor, special surge limiting	33-1343-3
C4A	Condenser, trimmer, SW2 aerial	Part of C4	R12	Resistor, grid return, 470,000 ohms	66-4478340*
C4B	Condenser, trimmer, SW2 osc.	Part of C4	R13	Resistor, cathode bias, 120 ohms, Code 121	66-1128340*
C5	Condenser, d-c blocking, 100 μ f.	62-110001001*	R14	Resistor, filter, 1000 ohms, 1 watt, Code 121	66-2104340*
C6	Condenser, line filter, .047 μ f.	45-3505-62	R15	Resistor, filter, 150 ohms, 1 watt, Code 121	66-1154351*
C7	Condenser assembly, trimmer, 3-section	31-6477-9	R16	Resistor, filament dropping (230 volt), 500 ohms	33-1334 16
C7A	Condenser, series padder, BC osc.	Part of C7	R17	Resistor, osc. load, 15,000 ohms	66-3158340*
C7B	Condenser, BC osc.	Part of C7	R18	Resistor, output bias, 1 megohm, Code 122	66-5108340
C7C	Condenser, trimmer, SW1 osc.	Part of C7	R19	Resistor, output bias, 330,000 ohms, Code 122	66-4338340
C8	Condenser, tracking, SW1, 2200 μ f.	60-20225014*	R20	Resistor, osc. load, 10,000 ohms	66-3108340*
C9	Condenser, fixed trimmer, SW2, 18 μ f.	62 018300001*	S1	Switch, off-on	Part of R6
C10	Condenser, d-c blocking, 56 μ f.	62-056409001*	T1	Transformer, aerial, SW1 and SW2	32-4204-3
C11	Condenser, neutralizing, 2.2 μ f.	30-1221-6	T2	Transformer, aerial, BC	32-4495
C12	Condenser, screen by-pass, .047 μ f.	45-3505-28*	T3	Transformer, oscillator, BC, SW1, and SW2	32-4246-1
C13	Condenser, a-v-c filter, .047 μ f.	45-3505-28*	T4	Transformer, output	Part of LS1
C14	Condenser, bias filter, 470 μ f.	62-147001001*	TC1	Tuning core, 1st i-f primary	Part of Z1
C15	Condenser, coupling, .0068 μ f.	45-3505-40*	TC2	Tuning core, 1st i-f secondary	Part of Z1
C16	Condenser, d-c blocking, .0068 μ f.	45-3505-40*	TC3	Tuning core, 2nd i-f primary	Part of Z2
C17	Condenser, electrolytic, 4-section, Code 121	30-2570-20	TC4	Tuning core, 2nd i-f secondary	Part of Z2
C17A	Condenser, filter, 40 μ f., 200v	Part of C17	W1	Line cord and plug assembly	41-3865
C17B	Condenser, filter, 30 μ f., 200v	Part of C17	WS	Water switch, band change, 1-section	42-1945
C17C	Condenser, filter, 20 μ f., 200v	Part of C17	Z1	Transformer, 1st i-f	32-4377
C17D	Condenser, cathode by-pass, 10 μ f., 25v	Part of C17	Z2	Transformer, 2nd i-f	32-4378
C17	Condenser, electrolytic, 2-section, Code 122	30-2584-5			
C17A	Condenser, filter, 20 μ f., 200v	Part of C17			
C17B	Condenser, filter, 20 μ f., 200v	Part of C17			
C18	Condenser, plate by-pass, 220 μ f.	62-122001001*			
C19	Condenser, tone compensation, .01 μ f.	45-3505-41*			
C20	Condenser, r-f filter, 220 μ f., Code 122	62-122001001			
C21	Condenser, filter, 30 μ f., Code 122	30-2417-20			
C22	Condenser, bias filter, .1 μ f., Code 122	30-4668-30			
I1	Pilot lamp	34-2605*			
J1	Socket, male, a.c.	27-6240-3			
J2	Socket	27-6252-11			
LS1	Speaker, p-m 4", Code 121	36-1614-7			
LS1	Speaker, EM, 4", Code 122	36-1643			
P1	Plug, shorting	27-4785-8			
R1	Resistor, BC aerial primary loading, 15,000 ohms	66-3158340*			
R2	Resistor, grid return, 1 megohm	66-5108340*			
R3	Resistor, grid return, 33,000 ohms	66-3338340*			
R4	Resistor, screen dropping, 4700 ohms	62-2478340*			
R5	Resistor, cathode bias, 220 ohms	66-1228340*			
R6	Resistor, VOLUME control, 500,000 ohms	33-5566-28			
R7	Resistor, diode load, 2.2 megohms	66-5228340*			

MISCELLANEOUS	
Description	Service Part No.
Adapter, a.c., Continental	L-3275
Cabinet	10796-2
Baffle and cloth assembly	40-7923
Drive cord (25 ft. spool)	45-8750*
Knob, band switch	54-4774-3
Knob, OFF-ON VOLUME	54-4774-2
Knob, tuning	54-4774
Plate, electrolytic-condenser mounting, Code 121	56-1643-1FA22
Plate, electrolytic-condenser mounting, Code 122	27-9508-2
Pointer	56-5630-23
Scale backplate assembly	76-6256
Scale	54-5089-3
Scale mtg. clip	56-7808FE11
Socket assembly, pilot lamp	27-6233-53*
Socket, Loktal (4 required)	27-8207
Socket, octal (1 required)	27-8174
Spring, drive cord	28-8751-2
Tuning-shaft assembly	31-2738-7

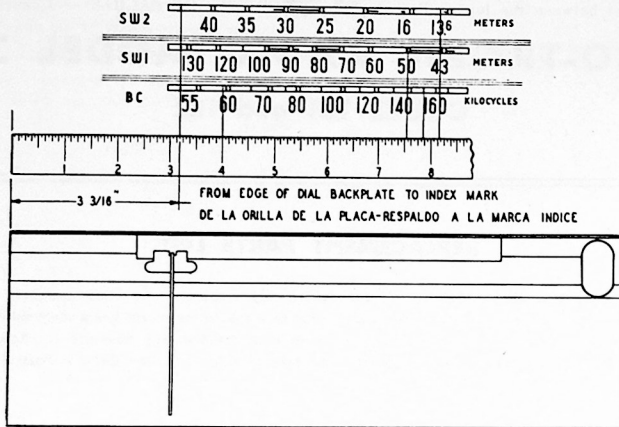
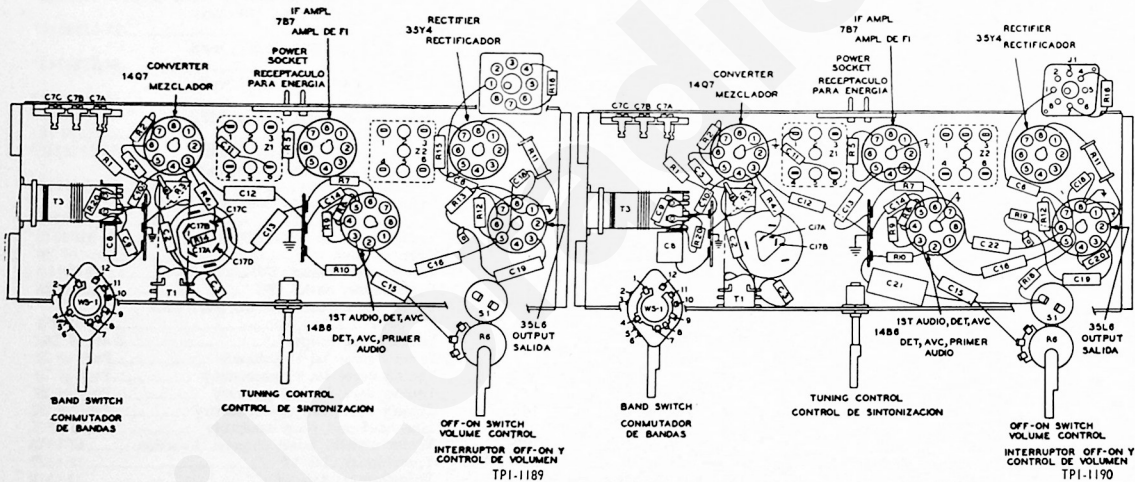


Figure 1. Dial-Calibration Measurements
 Figura 1. Medidas para la Calibración del Cuadrante

TPO-1238



Code 121 Chassis
 Clave 121 Chasis

Code 122 Chassis
 Clave 122 Chasis

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

ALIGNMENT

DIAL POINTER — With the tuning-condenser plates fully meshed, adjust the dial pointer to coincide with the index mark in the left-hand corner of the dial (just to the left of the "55" mark).

SIGNAL GENERATOR — Connect the ground lead to the chassis, through a .01- μ f. isolating condenser, 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 frequency as indicated in the chart.

ALINEAMIENTO

INDICADOR DEL CUADRANTE — Con el condensador de sintonización completamente cerrado, ajústese el indicador del cuadrante de modo que coincida con la marca índice en la esquina izquierda del cuadrante (a la izquierda del "55").

GENERADOR DE SEÑALES — Conéctese el cable de tierra al chasis, a través de un condensador aislador de .01 μ f., y el cable de salida como se indica en la tabla. Usese salida modulada.

CONTROLES DEL RADIO — Gírese el control de volumen al máximo. Fíjense el conmutador de bandas, el control de sintonización y el generador de señales como se indica en la tabla.

OUTPUT METER — Connect between the lugs indicated on the rear of the chassis.

OUTPUT LEVEL — During alignment, the signal-generator output must be attenuated to hold the output-meter reading below 1.5 volts.

MEDIDOR DE SALIDA — Conéctese a los terminales indicados en la parte posterior del chasis.

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

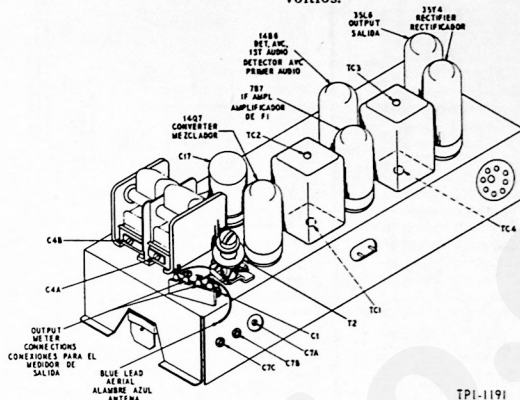


Figure 3. Top View of Chassis, Showing Trimmer Locations
 Figura 3. Vista Superior del Chasis, Mostrando la Posición de los Compensadores

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 .05 μ f. cond. to stator of aerial tuning cond. Al estator del cond. de sint., a través de un cond. de .05 μ f.	455 kc.	BC	Gang fully meshed. Cond. de sint. completamente cerrado.	Adjust, in order given, for maximum output; then repeat. Ajust. para salida máxima en el orden dado; luego repítase.	TC4—2nd i-f sec. TC3—2nd i-f pri. TC2—1st i-f sec. TC1—1st i-f pri.
2	Through 400-ohm non-inductive resistor to aerial lead. Al alambre de antena, a través de una resist. no-inductiva de 400 ohms.	21.5 mc. (14 metros)	SW2	21.5 mc.	Adjust for maximum. Ajust. para salida máxima.	C4B—SW2 osc. C4A—SW2 aerial
3	Same as step 2. Igual que el paso 2.	6 mc. (50 metros)	SW1	Tune to signal. Sint. a la señal.	Adjust for maximum while rocking tuning control. Image should be heard when radio is tuned to 5.1 mc. Ajustése para sal. máx. mientras se mece el cond. de sint. La imagen debe oírse con el radio sint. a 5.1 mc.	C7C—SW1 osc.
4	Through 200 μ f. condenser to aerial lead. Al alambre de antena, a través de un cond. de 200 μ f.	1500 kc.	BC	Tune to signal. Sint. a la señal.	Adjust for maximum while rocking tuning control. Ajust. para sal. máx. mientras se mece el cond. de sint.	C7B—BC osc. (shunt)
5	Same as step 4. Igual que el paso 4.	580 kc.	BC	Tune to signal. Sint. a la señal.	Adjust for maximum while rocking tuning control. Ajust. para sal. máx. mientras se mece el cond. de sint.	C7A—BC osc. (series)
6	Repeat steps 4, 5, and 4 until no further improvement is obtained. Repítanse los pasos 4, 5, y 4 hasta que no se obtenga mejoría alguna.					

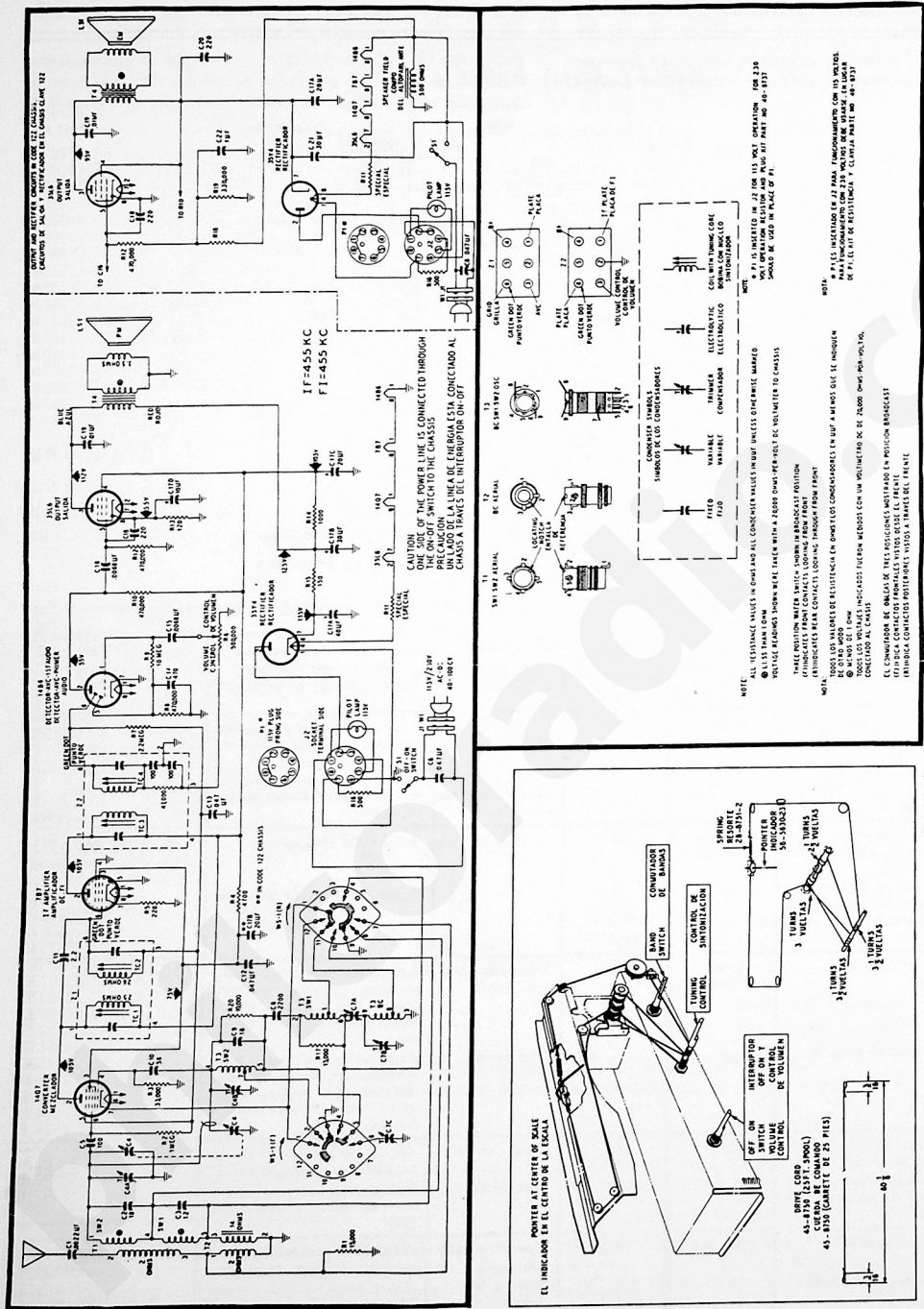


Figure 4. Philco-Tropic Radio Model 3022, Schematic Diagram

Figura 4. Radio Philco-Tropic Modelo 3022, Diagrama Esquemático

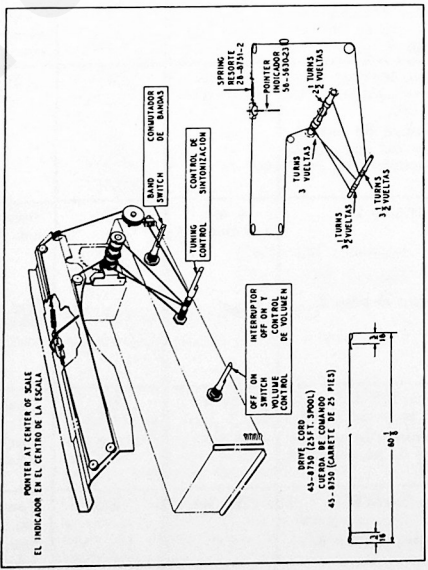


Figure 5. Drive-Cord Installation Details

Figura 5. Detalles Sobre la Instalación de la Cuerda de Comando