

PHILCO RADIO MODELS 51-930, 51-931 AND 51-932

SPECIFICATIONS

CABINET

- Model 51-930 Molded plastic, mahogany and gray, wide-angle dial
 Model 51-931 Molded plastic, ivory, wide-angle dial
 Model 51-932 Molded plastic, maroon, wide-angle dial

CIRCUIT 6-tube superheterodyne

FREQUENCY RANGE 540—1620 kc.

AUDIO OUTPUT 1 watt

OPERATING VOLTAGE 105—120 volts, a.c. or d.c.

POWER CONSUMPTION 30 watts

AERIAL Built-in, high-impedance loop; provision for connection of external aerial

INTERMEDIATE FREQUENCY 455 kc.

PHILCO TUBES (6) 7B7 r-f ampl., 7A8 converter,
 7B7 i-f ampl., 14B6 det.—1st audio—
 a.v.c., 35L6GT output, 35Z5GT rectifier

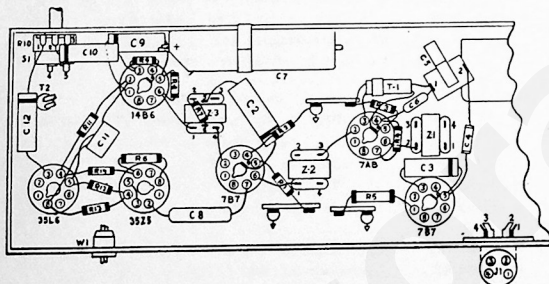


Figure 1. Symbolized Chassis, Showing Parts Placement

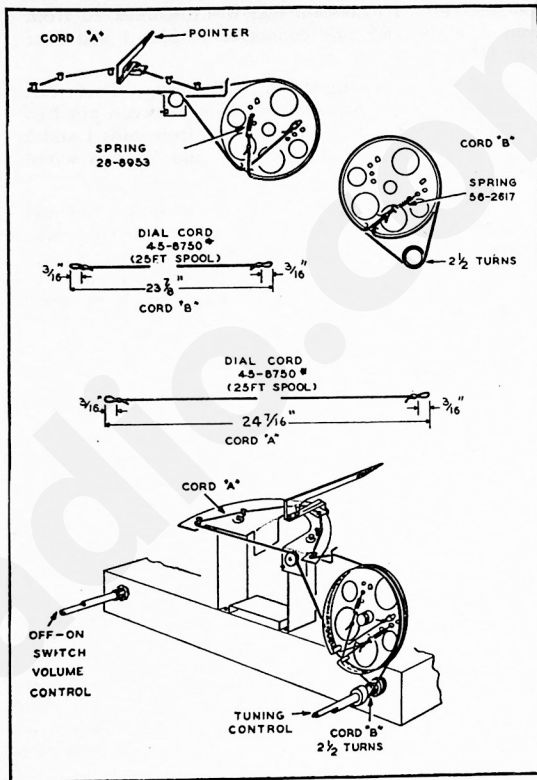


Figure 2. Dial-Cord Installation Details

ALIGNMENT PROCEDURE

DIAL POINTER: Turn tuning condenser to full-mesh position. Adjust pointer so that center of pointer carriage coincides with first scribe line from the left.

OUTPUT METER: Connect across speaker voice coil.
SIGNAL GENERATOR: Connect as indicated in chart. Use modulated output.

ALIGNMENT PROCEDURE (Cont.)

OUTPUT LEVEL: During alignment, attenuate signal-generator output to maintain an output-meter indication of 1.25 volts.

VOLUME CONTROL: Set to maximum.

CRITICAL DRESS: The green lead from the osc. section of C1 to C5 must be dressed away from the chassis, with all excess under the chassis.

ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTION TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Through a .1- μ f. condenser to stator of r-f section of gang. Ground lead to B-.	455 kc.	Gang fully meshed	Adjust, in order given, for maximum output.	TC5—2nd i-f sec. TC4—2nd i-f pri. TC3—1st i-f sec. TC2—1st i-f pri.
2	Radiating loop. (See note below.)			Preset 1/2 turn from tight.	C5—osc. series
3	Same as step 2.	1620 kc.	1620 kc.	Adjust for maximum.	C1B—osc. shunt
4	Same as step 2.	1500 kc.	1500 kc.	Adjust for maximum.	C1C—r-f C1A—aerial
5	Same as step 2.	580 kc.	580 kc.	Adjust for maximum while rocking tuning control.	C5—osc. series TC1—r-f core
6	Repeat steps 3 and 4.				

RADIATING LOOP: Make up a 6—8 turn, 6-inch-diameter loop from insulated wire; connect to signal-generator leads and place near radio loop aerial. The loop aerial must be connected to the radio.

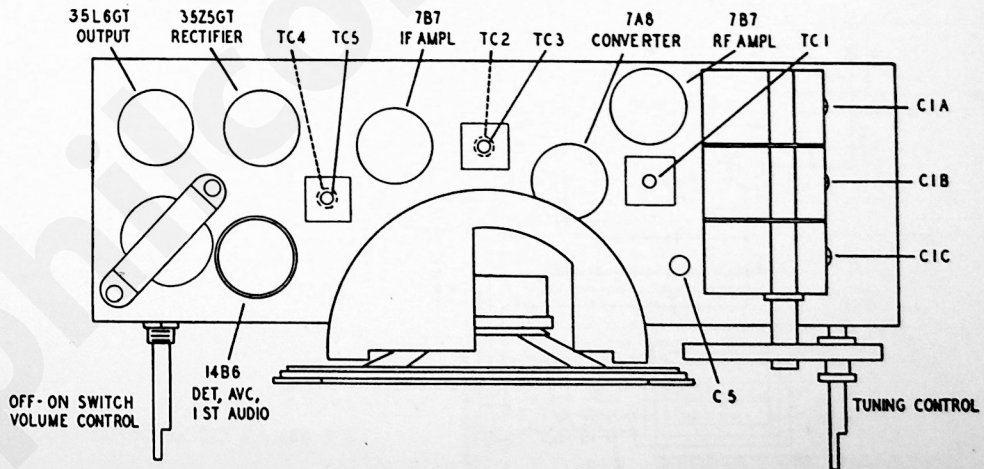


Figure 3. Top View. Showing Trimmer Locations

REPLACEMENT PARTS LIST

NOTE: Part numbers marked with 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 either unchanged or improved. When ordering replacements, use only the "Service Part No."

MISCELLANEOUS

Reference Symbol	Description	Service Part No.
C1	Condenser, tuning, 3-section	31-2748-1
C1A	Condenser, trimmer, aerial	Part of C1
C1B	Condenser, trimmer, osc.	Part of C1
C1C	Condenser, trimmer, r-f	Part of C1
C2	Condenser, by-pass, .1 μ f.	61-0113*
C3	Condenser, by-pass, .05 μ f.	61-0122*
C4	Condenser, fixed trimmer, temperature comp., 13 μ f.	30-1224-68
C5	Condenser, padder, osc. series	31-6473-17
C6	Condenser, d-c blocking, 47 μ f.	60-00475417
C7	Condenser, electrolytic, 3-section	30-2575-27
C7A	Condenser, filter, 30 μ f., 150v	Part of C7
C7B	Condenser, filter, 40 μ f., 150v	Part of C7
C7C	Condenser, filter, 40 μ f., 150v	Part of C7
C8	Condenser, line by-pass, .047 μ f.	45-3505-45
C9	Condenser, a-v-c filter, .05 μ f.	61-0122*
C10	Condenser, d-c blocking, .01 μ f.	61-0120*
C11	Condenser, dual ceramic	30-1239-4
C11A	Condenser, d-c blocking, .007 μ f.	Part of C11
C11B	Condenser, by-pass, 220 μ f.	Part of C11
C12	Condenser, tone compensation, .02 μ f.	61-0108*
I1	Pilot lamp, 6-8v	34-2676
J1	Jack, aerial input	27-6214-1
LA1	Loop aerial, 50-930	32-4052-39
LA1	Loop aerial, 50-931 or 50-932	32-4052-40
LS1	Speaker, p-m, 4 in. x 6 in., oval	36-1633-3
P1	Loop-aerial plug	27-4788
R1	Resistor, a-v-c load, 2.2 megohms	66-5228340*
R2	Resistor, leakage, 150,000 ohms	66-4158340*
R3	Resistor, drooping, 22,000 ohms	66-3228340*
R4	Resistor, grid return, 100,000 ohms	66-4108340*
R5	Resistor, filament drooping, 100 ohms	33-1343-3
R6	Resistor, filter, 220 ohms, 1w	66-1224340*
R7	Resistor, i-f filter, 47,000 ohms	66-3478340*
R8	Resistor, diode load, 2.2 megohms	66-5228340*
R9	Resistor, grid return, 3.3 megohms	66-5338340*
R10	Volume control, 500,000 ohms, with off-on switch	33-5566-13
R11	Resistor, plate load, 470,000 ohms	66-4478340*
R12	Resistor, grid return, 470,000 ohms	66-4478340*
R13	Resistor, cathode bias, 130 ohms	66-1128340*
R14	Resistor, filter, 1200 ohms, 1 watt	66-2124340*
S1	Switch, off-on	Part of R10
T1	Transformer, oscillator	32-4263-3
T2	Transformer, output	32-8210-3
W1	Line cord	L-2183*
Z1	Transformer, r-f	32-4399-2A
Z2	Transformer, 1st i-f	32-4160A
Z3	Transformer, 2nd i-f	32-4240-3A

Description	Service Part No.
Cabinet, 50-930 (mahogany)	10770-2
Cabinet, 50-930 (gray)	10770-3
Back	318-3020
Fastener, bac. (4)	W-2235FA9
Backplate, ornamental, mahogany cabinet	56-7426FCP
Backplate, ornamental, gray cabinet	56-7426-1FCP
Fastener, backplate mtg.	W-2235-1FA9
Baffle and cloth assy.	40-7892
Fastener, baffle mtg. (4)	W-2235-2FA9
Bezel, metal	56-7427
Speed nut, bezel mtg. (2)	1W60196FE7
Dial scale, mahogany cabinet	54-5070-3
Dial scale, gray cabinet	54-5070-4
Clip, scale mtg.	
Knob, mahogany cabinet (2)	54-4718-4
Knob, gray cabinet (2)	54-4718-7
Pointer	76-5341-1
Cabinet, 50-931	76-5378
Back	318-3021
Fastener, back (4)	W-2235FA9
Backplate, ornamental	56-7434-1
Fastener, backplate mtg.	W-2235-1FA9
Baffle, cardboard	54-7922
Fastener, baffle mtg. (4)	W-2235-2FA9
Dial scale	54-5071
Clip, dial mtg.	
Knob (2)	54-4718-5
Pointer	76-5341-4
Cabinet, 50-932	10772
Back	318-3022
Fastener, back (4)	W-2235FA9
Backplate, ornamental	56-7435
Fastener, backplate mtg.	W-2235-1FA9
Baffle, cardboard	54-7919
Fastener, baffle mtg. (4)	W-2235-2FA9
Bezel, metal	56-7436
Speed nut, bezel mtg.	1W60196FE7
Dial scale	54-5072
Clip, dial mtg. (2)	56-7572
Knob	54-4718-3
Pointer	76-5341-3
Backplate, pulley-and-clip assembly	76-5233
Clamp, electrolytic mtg.	56-1466FA5
Dial cord, 25-foot spool	45-8750*
Spring, gang drive	56-2617
Spring, pointer drive	28-8953
Drive shaft	76-3671-6
Bushing, drive shaft	27-9437
Spring, hairpin, drive shaft (2)	57-1468FA3
Panel wiring, external aerial	38-9837
Panel wiring, 4-lug	38-9161-1
Plug, aerial, 4-pin	27-4788
Rubber mount, gang mtg. (4)	27-4771-1
Shield, tube, 14B6	
Socket, Loktal	27-6207
Socket, octal	27-6174
Socket assembly, pilot lamp	27-6233-6

CORRECTIONS TO PARTS LIST

Description	Service Part No.
Cabinet, 51-931	
Clip, dial mounting	56-7808FE7
Clip, scale mounting	56-7886FE7
Shield, 14B6 tube	56-1566FA2

PRODUCTION CHANGES

Code 122, Run 1

The 35Z5GT rectifier tube was replaced by a 35Y4, with the necessary wiring changes.