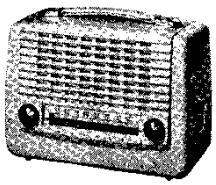
Philco Radio & Television Corp.

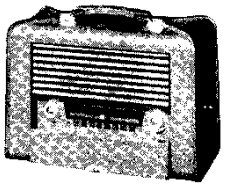
Model: 53-658	Chassis:	Year: Pre 1955
Power:	Circuit:	IF:
Tubes:		
Bands:		

Resources

- Riders Volume 23 - PHILCO 23-47
- Riders Volume 23 - PHILCO 23-48
- Riders Volume 23 - PHILCO 23-49
- Riders Volume 23 - PHILCO 23-50



MODEL 53-656



MODEL 53-658

SPECIFICATIONS

CABINET
53-656 ..... Molded plastic
53-658 ..... Covered, wooden

CIRCUIT ..... Five-tube superheterodyne (plus selenium rectifier)

FREQUENCY RANGES
Standard broadcast ..... 550—1600 kc.
Special services ..... 1700—3400 kc.

AUDIO OUTPUT ..... 160 milliwatts

OPERATING VOLTAGES ..... 117 volts, a.c. or d.c.; or 9-volt "A" battery and 90-volt "B" battery

POWER CONSUMPTION
A-c or d-c operation ..... 15 watts
Battery operation ..... 55 ma. at 9 volts, and 15 ma. at 90 volts

AERIAL ..... Magnecor high-impedance loop; provision for connecting external aerial

INTERMEDIATE FREQUENCY ..... 265 kc.

PHILCO TUBES ..... 1T4 r-f amplifier, 1R5 converter, 1U4 i-f amplifier, 1U5 det.—a.v.c.—1st audio 3V4 output

BATTERY TYPE ..... Philco P-274

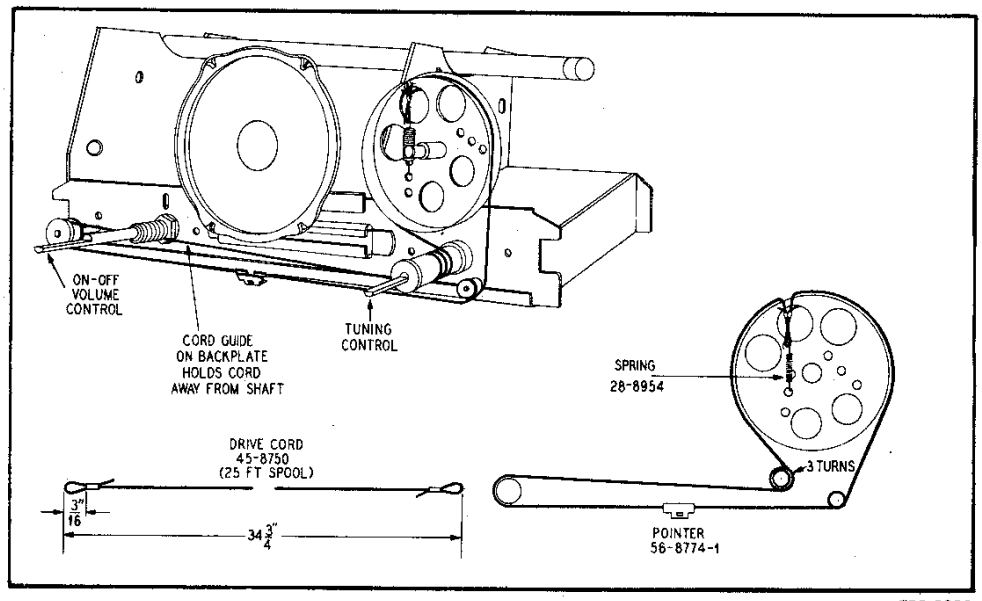


Figure 1. Drive-Cord Installation Details

ALIGNMENT PROCEDURE

POINTER—Set pointer to coincide with first index mark from left side of dial backplate (looking at front of dial backplate).

RADIO CONTROLS—Set volume control to maximum; set broadcast-special services switch, SW1, as indicated in chart.

OUTPUT METER—Connect across voice-coil terminals.

SIGNAL GENERATOR—Use modulated output.

OUTPUT LEVEL—During alignment, adjust signal-generator output to maintain output-meter indication below .5 volt.

CRITICAL LEAD DRESS—To secure proper padding capacity, the green lead from pin 6 of the 1R5 tube to Z1 must be dressed over the wiring panel, away from the chassis. The white lead which connects the low end of the aerial (LA1) to the broadcast-special services switch (SW1), must be dressed taut between the low-end tie lug and the retaining spring.

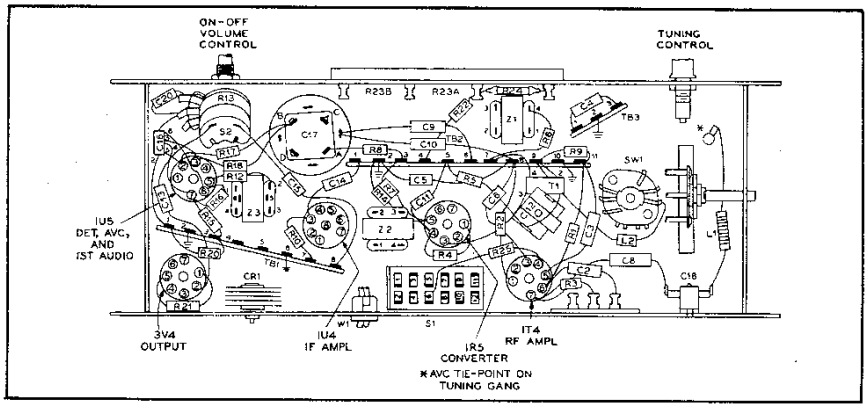


Figure 2. Top View, Showing Trimmer Locations

STEP	SIGNAL GENERATOR		RADIO		ADJUST TRIMMER
	CONNECTION TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Through a .1-μf. condenser to pin 6 of 1R5 converter.	265 kc.	1630 kc. (gang fully open)	Set broadcast-special services switch to broadcast position. Adjust, in order given, for maximum output.	TC5—2nd i-f sec. TC4—2nd i-f pri. TC2—1st i-f pri. TC3—1st i-f sec.
2	Radiating loop. See note below.	1630 kc.	*1630 kc. (gang fully open)	Adjust for maximum output. If low-frequency dial tracking is far off, make adjustments in steps 3 and 4 before making this adjustment.	C1B—osc. shunt
3	Same as step 2.	580 kc.	580 kc.	Adjust for maximum output while rocking tuning control.	C12—osc. series
4	Same as step 2.	580 kc.	580 kc.	Adjust for maximum output. This adjustment should not be made unless dial tracking is off, or sensitivity is low at low-frequency end (580 kc.).	TC1—r-f sec.
5	Same as step 2.	1500 kc.	1500 kc. (index mark at right)	Adjust, in order given, for maximum output.	C1A—r-f C19A—BC aerial
6	Repeat steps 3 and 5 until no further improvement is obtained.				
7	Same as step 2.	3000 kc.	3000 kc.	Set broadcast-special services switch to special services position. Adjust, in order given, for maximum output.	C19C—SS aerial C18—r-f
8	Same as step 2.	1900 kc.	1900 kc.	Adjust, in order given, for maximum output.	C19B—SS aerial series tracker
9	Repeat steps 7 and 8, and then repeat step 5.				

NOTE: Make up a six-to-eight-turn, 6-inch diameter loop using insulated wire; connect to signal-generator leads and place near radio loop.

***For proper adjustment of the oscillator trimmer, fully open the tuning gang and insert a .006-inch, non-metallic shim between the heel of the rotor and the top of the stator plates. Close the tuning gang sufficiently to hold the shim in place, and then remove the shim without disturbing the gang setting.**

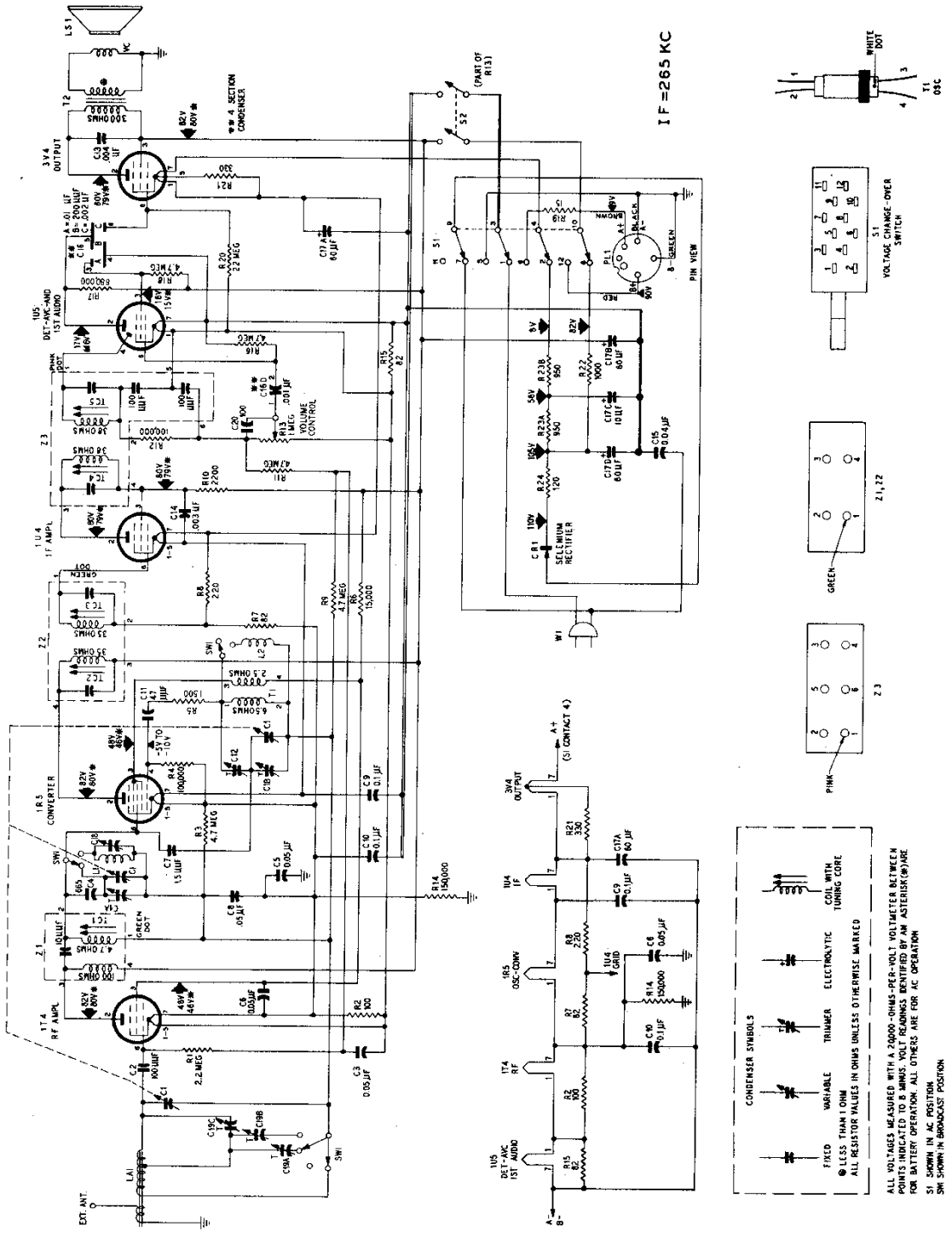
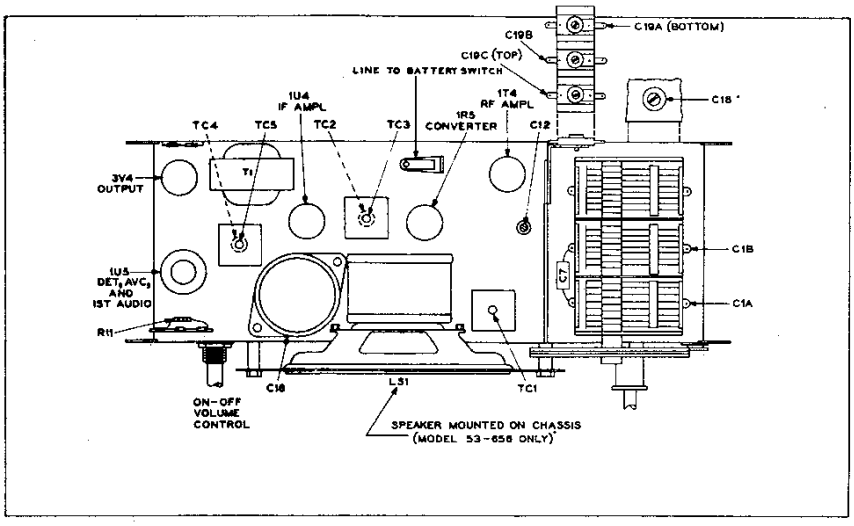


Figure 3. Philco Radio Models 53-656 and 53-658, Schematic Diagram



TP2-1394

Figure 4. Bottom View, Showing Symbolized Chassis

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 will be either unchanged or improved. When ordering replacements, use only the "Service Part No."

Reference Symbol	Description	Service Part No.
C1	Condenser, tuning gang, 3-section	31-2748-5
C1A	Condenser, r-f trimmer	Part of C1
C1B	Condenser, osc. trimmer	Part of C1
C2	Condenser, d-c blocking, 100 μμf.	62-110009001*
C3	Condenser, bias filter, .05 μf.	61-0122*
C4	Condenser, converter tracking, 665 μμf.	30-1220-66
C5	Condenser, filament by-pass .05 μf.	61-0122*
C6	Condenser, screen by-pass, .05 μf.	61-0122*
C7	Condenser, neutralization, 1.5 μμf.	30-1221-3
C8	Condenser, a-v-c filter, .05 μf.	61-0122*
C9	Condenser, filament by-pass, .1 μf.	61-0113*
C10	Condenser, filament by-pass, .1 μf.	61-0113*
C11	Condenser, d-c blocking, 47 μμf.	60-00475420
C12	Condenser, osc. series padder, 700 to 900 μμf.	31-6473-28
C13	Condenser, tone compensation .004 μf.	61-0179
C14	Condenser, screen neutralizing .003 μf.	45-3505-61
C15	Condenser, line by-pass, .04 μf.	45-3500-2*
C16	Condenser, ceramic, 4-section	30-1237
C16A	Condenser, screen by-pass, .01 μf.	Part of C16
C16B	Condenser, by-pass, 200 μμf.	Part of C16
C16C	Condenser, d-c blocking .002 μf.	Part of C16
C16D	Condenser, d-c blocking, .001 μf.	Part of C16
C17	Condenser, electrolytic, 4-section	30-2568-58
C17A	Condenser, filament by-pass, 60 μf.	Part of C17
C17B	Condenser, filter, 60 μf.	Part of C17
C17C	Condenser, filter, 10 μf.	Part of C17
C17D	Condenser, filter, 60 μf.	Part of C17
C18	Condenser, SS hi-frequency r-f trimmer	31-6476-27
C19	Condenser, aerial trimmer, 3-section	31-6477-16
C19A	Condenser, BC hi-frequency	Part of C19
C19B	Condenser, SS low-frequency	Part of C19
C19C	Condenser, SS hi-frequency	Part of C19
C20	Condenser, compensating, high-frequency, 100 μμf.	62-110009001*
CR1	Selenium rectifier	34-8003*
L2	Coil, oscillator shunt	32-4562
LA1	Coil, aerial	32-4565
LS1	Speaker, 5-inch	56-1623
PL1	Plug-and-cable assembly, battery	41-3712-5
R1	Resistor, grid return, 2.2 megohms	66-5228340*
R2	Resistor, current limiting, 100 ohms	66-1108340*
R3	Resistor, grid return, 4.7 megohms	66-5478340*
R4	Resistor, grid return, 100,000 ohms	66-4108340*
R5	Resistor, oscillator coupling, 1500 ohms	66-2158340*
R6	Resistor, dropping, 15,000 ohms	66-3158340*
R7	Resistor, grid return, 82 ohms	66-0828340*
R8	Resistor, grid return, 220 ohms	66-1228340*
R9	Resistor, a-v-c filter, 4.7 megohms	66-5478340*
R10	Resistor, neutralization, 2200 ohms	66-2228340*
R11	Resistor, a-v-c filter, 4.7 megohms	66-5478340*
R12	Resistor, 1-f filter, 100,000 ohms	66-4108340*
R13	Resistor, volume control, 1 megohm	45-5001-21
R14	Resistor, leakage, 150,000 ohms	66-4158340*
R15	Resistor, current limiting, 82 ohms	66-0828340*
R16	Resistor, grid return, 4.7 megohms	66-5478340*

Reference Symbol	Description	Service Part No.
R17	Resistor, plate load, 680,000 ohms	66-4688340*
R18	Resistor, screen dropping, 4.7 megohms	66-5478340*
R19	Resistor, filament, 15 ohms	66-0153346
R20	Resistor, grid return, 2.2 megohms	66-5228340*
R21	Resistor, current limiting, 330 ohms	66-1338340*
R22	Resistor, filter, 1000 ohms	66-2108340*
R23	Resistor, wire-wound, 2-section	33-3431-7
R23A	Resistor, filament dropping, 950 ohms	Part of R23
R23B	Resistor, filament dropping, 950 ohms	Part of R23
R24	Resistor, wire-wound, current limiting, 120 ohms	33-1334-14
S1	Switch, change-over	42-1899
S2	Switch, on-off	Part of R13
SW1	Band switch	42-1986
T1	Transformer, oscillator	32-4263-6
T2	Transformer, output	32-8528
W1	Line cord	L2182
Z1	Transformer, r-f	32-4399-6A
Z2	Transformer, 1st i-f	32-4160-2A
Z3	Transformer, 2nd i-f	32-4240-6A

MISCELLANEOUS

MODEL 53-656

Description	Service Part No.
Cabinet, light beige	10883-4
Back	54-4903
Clip, back (2)	56-3807-3
Handle assembly	76-7719
Scale	54-5148
Knob (2)	54-4773-1
Knob (1)	54-4816-1

MODEL 53-658

Cabinet	10919
Handle assembly	76-7681
Scale	54-5149
Knob, door	56-9812
Knob (2)	54-4527-36
Knob	54-4816-5
Back catch	76-2273
Foot (4)	56-8765
Hinge	56-9815
Strike, bolt	56-9811
Strike, catch	56-9814

MODELS 53-656 and 53-658

Dial-backplate assembly	76-7720
Drive cord, 25-ft. spool	45-8750*
Pointer	56-8774-1
Spring, drive cord	28-8954
Shaft-and-pulley assembly	76-7637
Mount, rubber (3)	27-4596
Spring, retaining	57-1868FA11
Shield, 1U5 tube	56-5629FA3
Socket (3)	27-6203
Socket, 1U5 tube (1)	27-6203-22
Socket, 3V4 tube (1)	27-6203-12