PHILCO RADIO MODELS 50-925, Code 123, and 50-926

AM ALIGNMENT PROCEDURE

Make alignment with loop aerial connected to radio. The AM alignment shonld be complated before the FM alignment is made.

DIAL POINTER — With tuning-condenser plates fully meshed, adjust pointer to coincide with index mark at low-frequency end of scale.

RADIO CONTROLS — Sat volume control to maximum, set band switch for broadcast reception, and set tuning control as indicated in chart.

OUTPUT METER — Connect across voice-coil terminals.

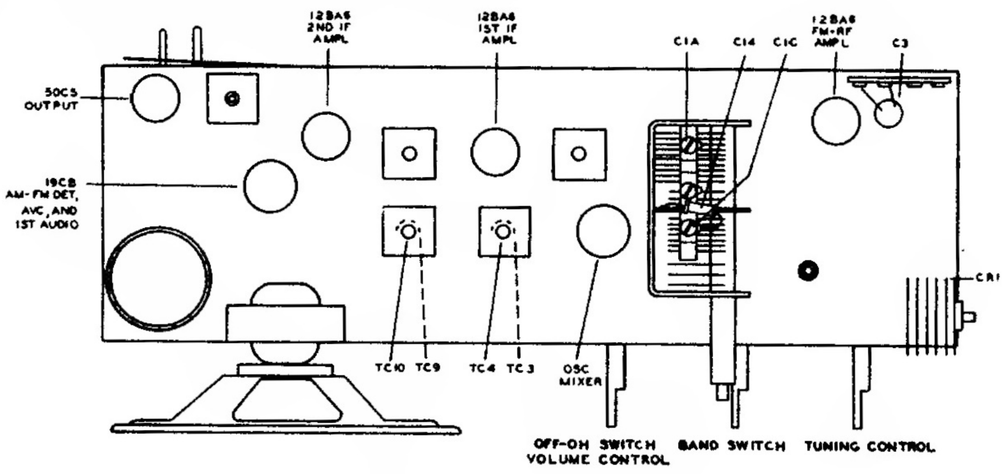
SIGNAL GENERATOR — Use AM r-f signal generator, with modulated output. Connect generator and sat frequency as indicated in chart.

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

AM ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTION TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Ground lead to chassis. Output lead through a .1-μf. condenser to mixer grid (pin 7) of 12AT7.	455 kc.	540 kc. (gang fully meshed)	Adjust for maximum output.	TC10—2nd AM i-f sec. TC9—2nd AM i-f pri. TC4—1st AM i-f sec. TC3—1st AM i-f pri.
2	Radiating loop. (See note below.)	1600 kc.	1600 kc.	Adjust for maximum output.	C1C—osc. trimmer
3	Same as step 2.	1500 kc.	1600 kc.	Adjust for maximum output.	C1A—aerial trimmer

RADIATING LOOP: Make up a six-to-eight-turn, 8-inch-diameter loop from insulated wire; connect to generator terminals, and place near radio loop aerial. Radio loop aerial must be connected.



Top View, Showing AM Trimmer Locations

FM ALIGNMENT PROCEDURE

Make AM alignment first.

RADIO CONTROLS — Set volume control to maximum, set band switch for FM reception, and set tuning control as indicatad in chart.

OUTPUT METER — Connect across voice-coil terminals. (This meter is used only for step 3.)

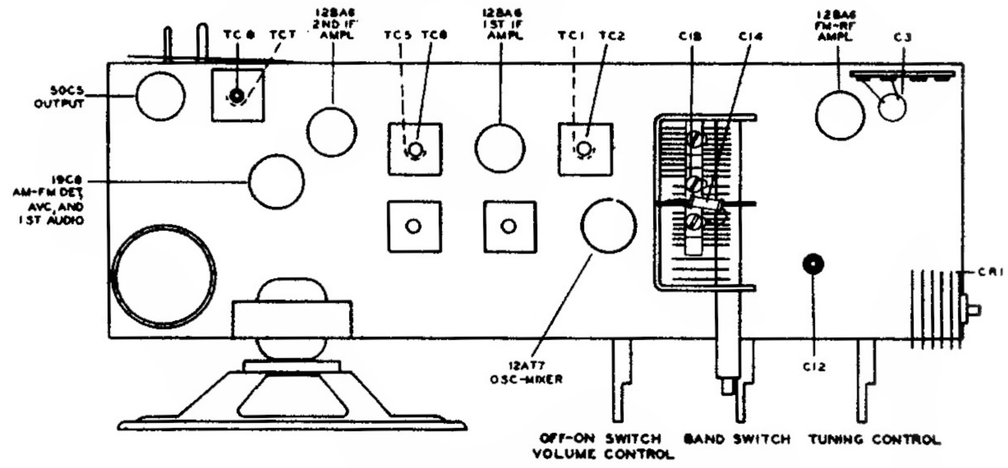
D-C VOLTMETER — Connect negative lead of d-c voltmeter (resistance of at least 20,000 ohms per volt) to pin 2 of 19C8 tube, and positive lead to chassis. Use 0—10-volt range.

SIGNAL GENERATOR — Use AM r-f signal generator, with modulated output. Connect ground lead to chassis. Connect output lead and set frequency as indicated in chart. Generator must have sufficient output to give reading of approximately 8.5 volts on d-c voltmeter; during alignment, generator output must be attenuated to hold meter reading at this value.

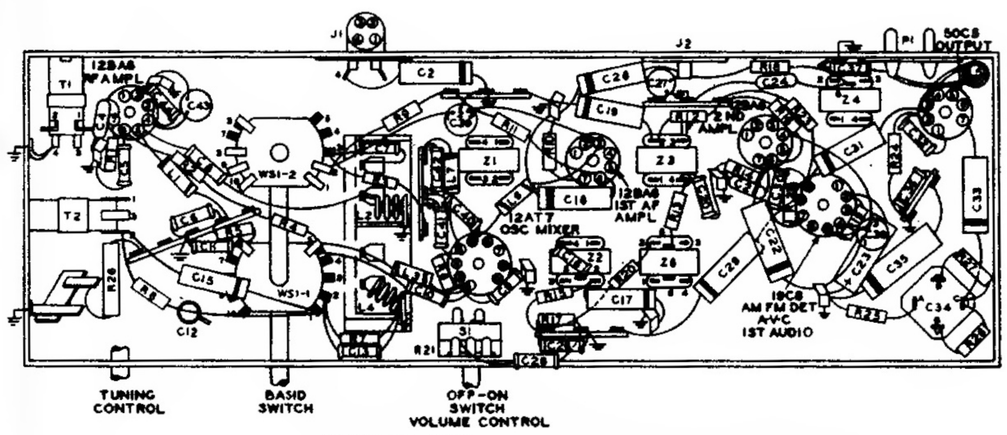
NOTE: Before starting FM alignment, allow radio and signal generator to warm up for 15 minutes.

FM ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTION TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Through a .1-μf. condenser to control grid (pin 1) of 12BA6 1st i-f ampl.	8.1 mc.	88 mc.	Adjust tuning cores for maximum reading on d-c voltmeter. Attenuate signal generator to maintain a reading of approximately 10 volts. Repeat adjustments until no further improvement is noted. After this step, do not disturb these tuning cores except as directed in step 3.	TC8—discriminator sec. TC7—discriminator pri. TC6—FM 2nd i-f sec. TC5—FM 2nd i-f pri.
2	Through a .1-μf. condenser to mixer grid (pin 7) of 12AT7.	8.1 mc.	00 mc.	Adjust tuning cores for maximum reading on d-c voltmeter. Repeat adjustments until no further improvement is noted. Do not disturb these tuning cores after this step.	TC2—FM 1st i-f sec. TC1—FM 1st i-f pri.
3	Same as step 1.	8.1 mc.	00 mc.	Adjust tuning core for minimum reading on output meter. This adjustment is critical; repeat to make certain it is correct.	TC8—discriminator sec.
4	To terminal 1 of J1.	105 mc.	105 mc.	Adjust trimmer for maximum reading on d-c voltmeter.	C12—FM osc.
S	Same as step 4.	105 mc.	105 mc.	Same as step 4.	C1B—FM r-f
B	Same as step 4.	82 mc.	82 mc.	Adjust coil for maximum reading on d-c voltmeter.	L4—osc. (tracking)
7	Same as step 4.	00 mc.	00 mc.	Same as step 8.	L2—FM r-f (tracking)
B	Same as step 4.	105 mc.	105 mc.	Same as step 4.	C12—FM osc.
B	Repeat steps 4 through B until no further improvement is noted.				

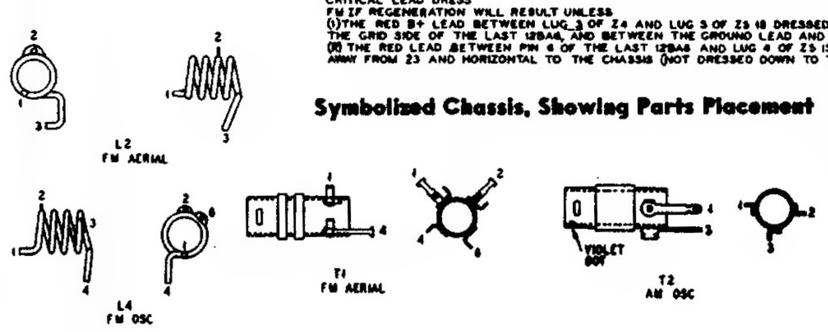


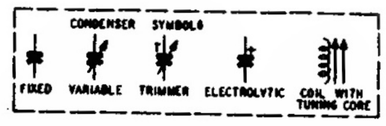
Top View, Showing FM Trimmer Locations



CRITICAL LEAD DRESS
FM IF REGENERATION WILL RESULT UNLESS
(1) THE RED B+ LEAD BETWEEN LUG 3 OF Z4 AND LUG 3 OF Z5 IS DRESSED AROUND THE GRID SIDE OF THE LAST 12BA6, AND BETWEEN THE GROUND LEAD AND THE TUBE, AND
(2) THE RED LEAD BETWEEN PIN 6 OF THE LAST 12BA6 AND LUG 6 OF Z5 IS DRESSED AWAY FROM Z3 AND HORIZONTAL TO THE CHASSIS (NOT DRESSED DOWN TO THE CHASSIS)

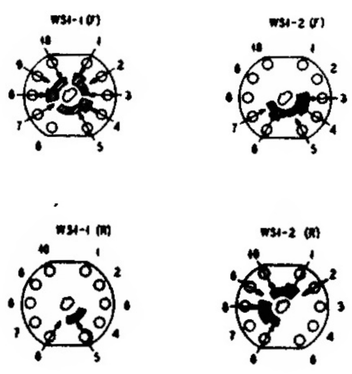
Symbolized Chassis, Showing Parts Placement

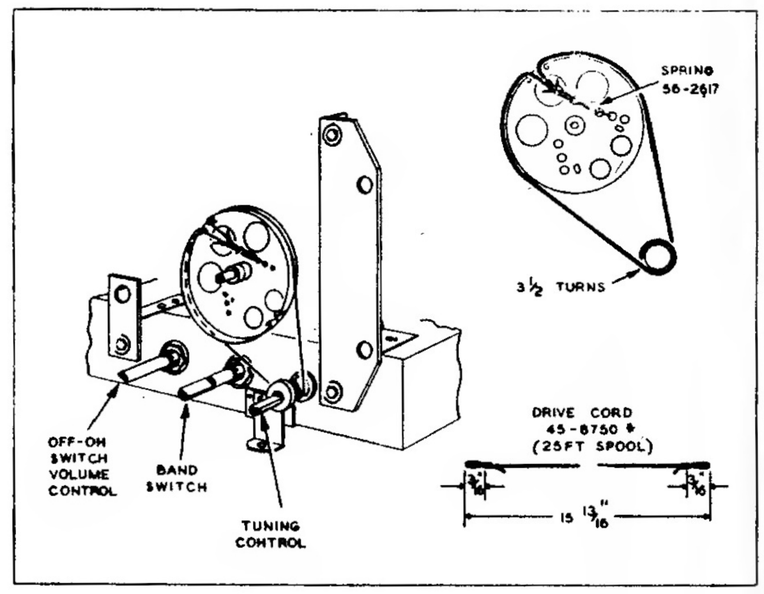




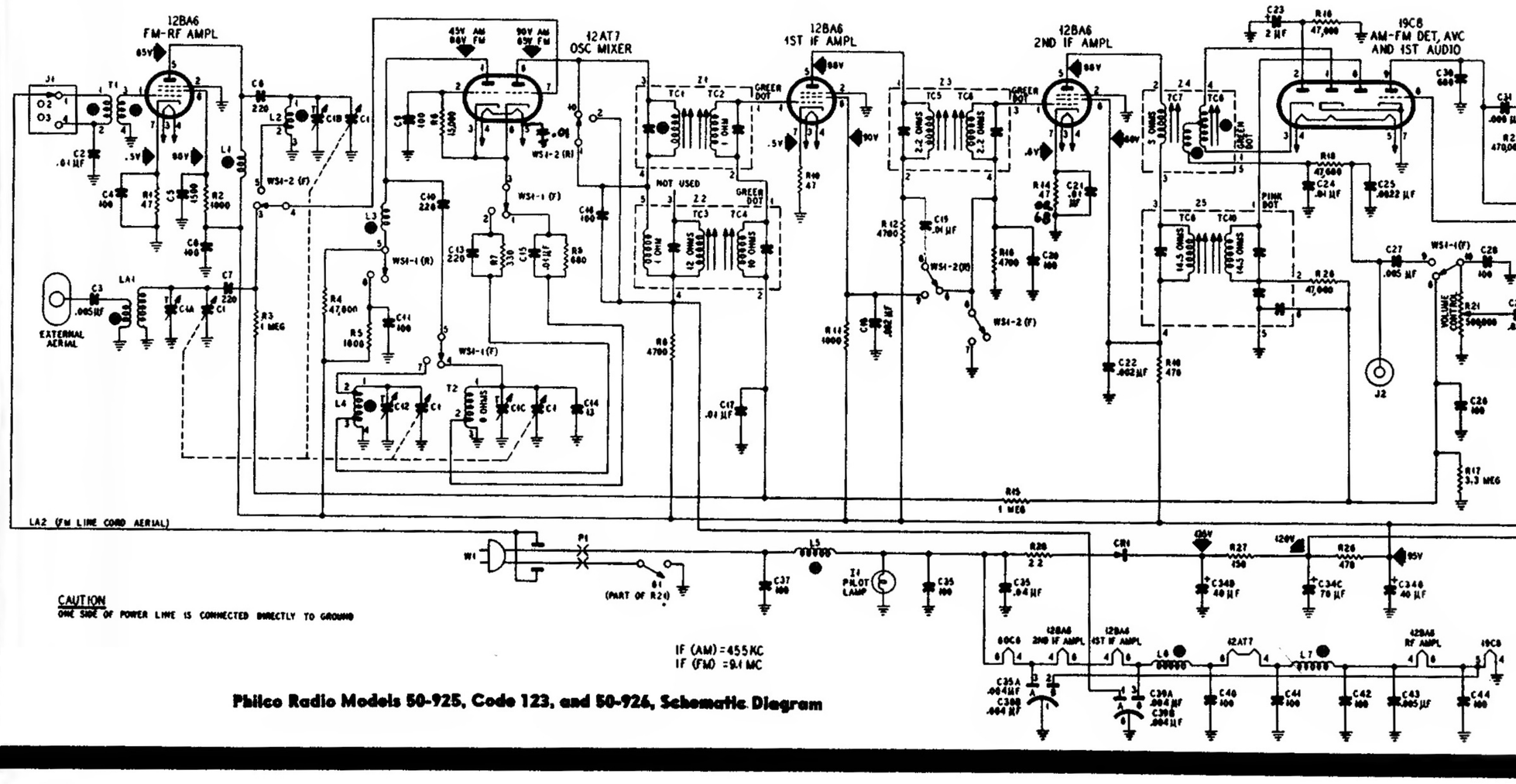
ALL RESISTOR VALUES IN OHMS AND ALL CONDENSER VALUES IN MMF UNLESS MARKED OTHERWISE
VOLTAGE READINGS WERE MEASURED WITH A 20,000-OHMS-PER-VOLT METER FROM POINTS INDICATED TO GROUND, AT A LINE VOLTAGE OF 117VAC
● INDICATES LESS THAN 1 OHM

WS1 2 POSITION WAFER SWITCH SHOWN IN BROADCAST POSITION
SECTIONS OF SWITCH NUMBERED WS1-1 AND WS1-2 FROM FRONT TO REAR
(F) INDICATES FRONT CONTACTS LOOKING FROM KNOB END
(R) INDICATES REAR CONTACTS LOOKING THROUGH FROM KNOB END





Dial-Cord Installation Details



Philco Radio Models 50-925, Code 123, and 50-926, Schematic Diagram

Further runs of these models had a few minor variations in circuits and parts used.