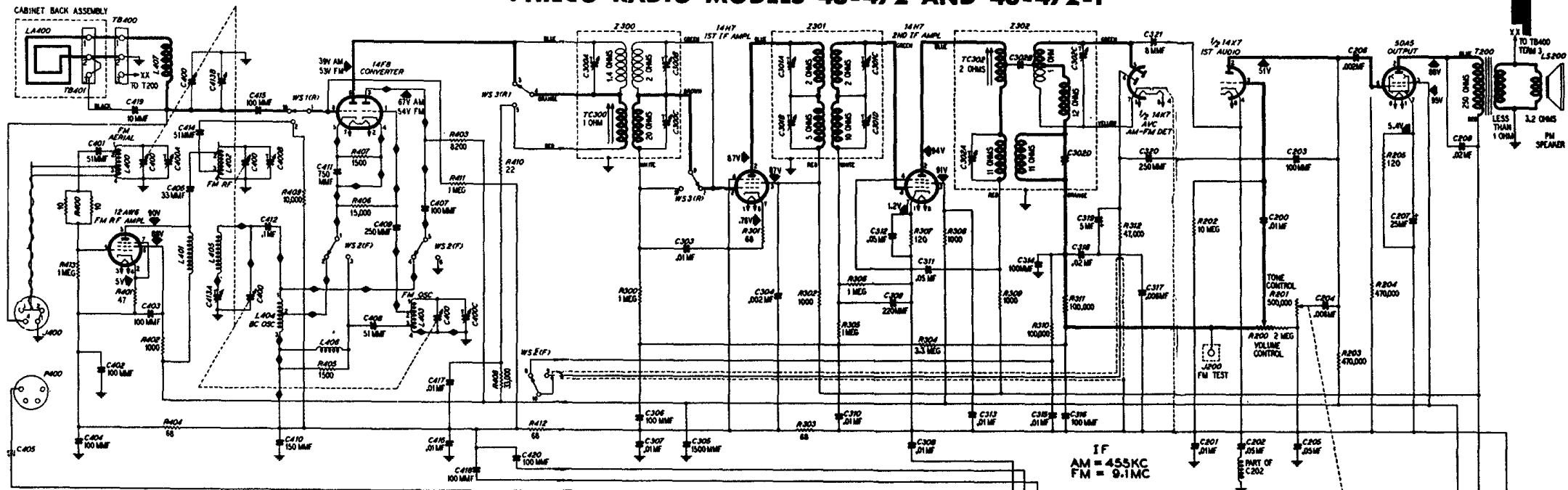


# PHILCO RADIO MODELS 48-472 AND 48-472-1



## AM ALIGNMENT PROCEDURE

Make alignment with loop connected to radio. AM alignment should be completed before making FM alignment.

**OUTPUT METER**—Connect between terminal 3 (voice-coil connection) of aerial terminal board, TB400, and chassis.

**SIGNAL GENERATOR (AM)**—Connect as indicated in chart.

**CONTROLS**—Set volume control to maximum, turn on radio power, and set tone control to counter-clockwise (treble) position. Set wafer switch to broadcast position.

**OUTPUT LEVEL**—During alignment, adjust signal-generator output to maintain output-meter indication below 1.25 volts.

**\*RADIATING LOOP** (steps 2 and 3): Make up a six-to-eight-turn, 6-inch-diameter loop, using insulated wire; connect to signal-generator leads and place near radio loop.

## FM ALIGNMENT PROCEDURE

**Make AM Alignment First.**

**OUTPUT METER** (used only in step 3)—Same connections as for AM alignment.

**D-C ALIGNMENT INDICATOR**—Connect 20,000-ohms-per-volt meter across 5-mf. condenser, C319, in FM detector circuit—negative lead to pin 6 of 14X7 tube and positive lead to B-. Use 10-volt range.

**SIGNAL GENERATOR (AM)**—Use MODULATED output for entire alignment. Generator must have sufficient output to give d-c meter reading greater than 8.5 volts. Connect generator ground to lead B-; connect output lead as indicated in chart.

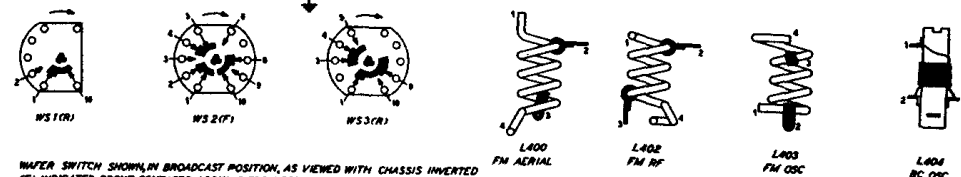
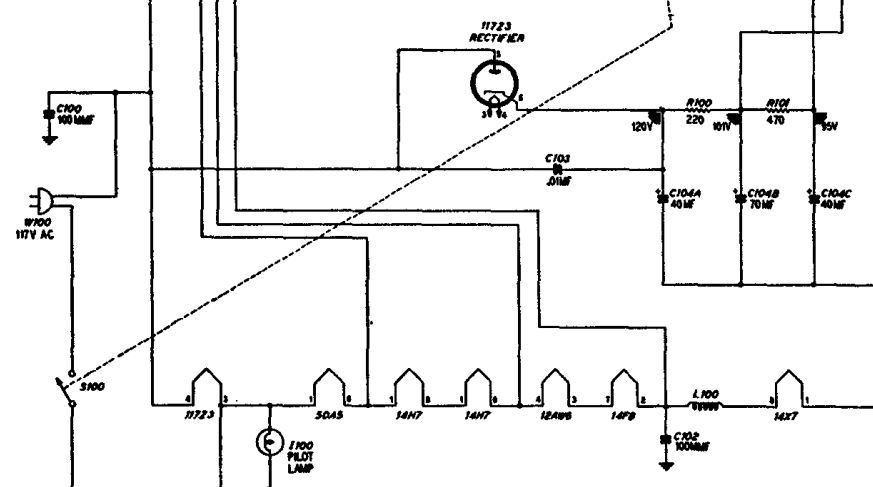
**CONTROLS**—Same settings as for AM alignment, except wafer switch, which should be set to FM position. Allow radio and generator to warm up for 15 minutes before starting alignment.

**ADJUSTING R-F COILS:** In steps 7, 8, and 9, the resonance of the circuits using coils L400, L402, and L403 may be checked by the use of a powdered-iron tuning core, such as Part No. 56-6100. If the signal strength (meter reading) increases when the iron end is inserted in the coil, compress the turns slightly. If the signal strength increases when the brass end is inserted, spread the turns. If the signal strength decreases when either the brass or iron end is inserted, no adjustment of the coil is necessary. Do not spread or compress turns excessively, since only a small change is required at these frequencies.

Oscillator coil, L403: Adjust coil for maximum meter reading.

R-f coil, L402: Adjust coil for maximum meter reading while rocking tuning control.

Aerial coil, L400: Adjust coil for maximum meter reading.



WAFER SWITCH SHOWN IN BROADCAST POSITION, AS VIEWED WITH CHASSIS INVERTED  
(F) INDICATES FRONT CONTACTS, LOOKING FROM FRONT  
(R) INDICATES REAR CONTACTS, LOOKING THROUGH FROM FRONT  
FRONT OF WAFERS 1 AND 3, REAR OF WAFER 2, NOT USED FOR SWITCHING BANDS

## AM ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTIONS TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Ground lead to B-; output lead through .1-mf. condenser to terminal 1 of TB401.	455 kc.	540 kc.	Adjust trimmers ONCE ONLY, in the order given, for maximum output.	C302A C301D C300C TC300
2	Radiating loop (see note *).	1600 kc.	1600 kc.	Adjust for maximum.	C413A
3	Same as step 2.	1500 kc.	1500 kc.	Adjust for maximum.	C413B

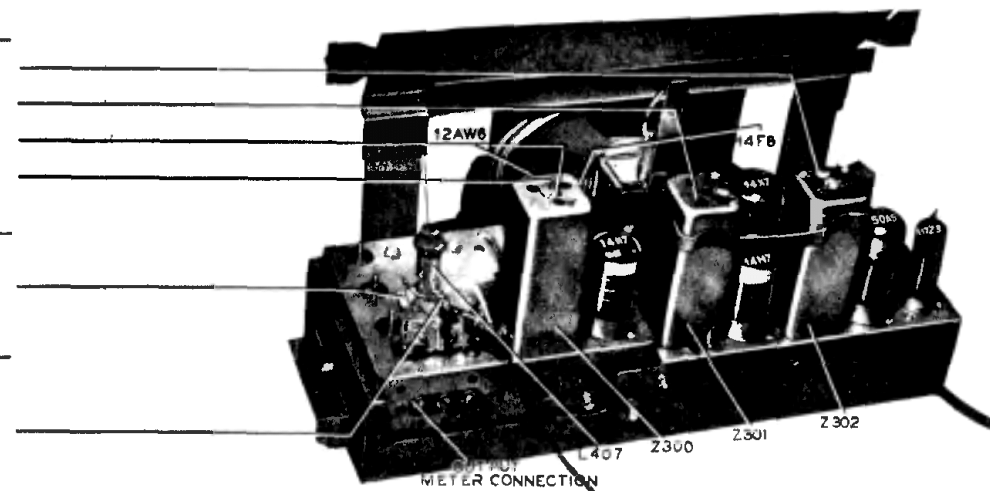


Figure 8. Top View, Showing AM Trimmer Locations

## FM ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTIONS TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Through .1-mf. condenser to pin 1 of 12AW6 tube (test point E).	9.1 mc.	88 mc.	Adjust for maximum d-c meter reading; attenuate signal to maintain approximately 10-volt reading. Repeat until no further improvement is noted. After this step, do not touch any of these trimmers except C302C (in step 3).	C302C TC302 C301C C301A
2	Through .1-mf. condenser to pin 8 of 14F8 tube (test point C).	9.1 mc.	88 mc.	Adjust for maximum d-c meter reading; attenuate signal to maintain approximately 10-volt reading. Repeat until no further improvement is noted. After this step, do not touch these trimmers.	C300B C300A
3	Same as step 2.	9.1 mc.	88 mc.	Double-check adjustment of C302C to make certain that minimum audio output is obtained. This is a critical adjustment; turn trimmer very slowly.	C302C
4	To pin 3 of J400.	105 mc.	105 mc.	Maximum d-c meter reading. This is the oscillator high-frequency trimmer adjustment.	C400C
5	Same as step 4.	105 mc.	105 mc.	Adjust for maximum while rocking tuning control.	C400B
6	Same as step 4.	105 mc.	105 mc.	Adjust for maximum.	C400A
7	Same as step 4.	92 mc.	92 mc.	Adjust L403 (see ADJUSTING R-F COILS).	
8	Same as step 4.	92 mc.	92 mc.	Adjust L402 (see ADJUSTING R-F COILS).	
9	Same as step 4.	92 mc.	92 mc.	Adjust L400 (see ADJUSTING R-F COILS).	
10	Repeat steps 4 through 9 until no further increase is obtained.				

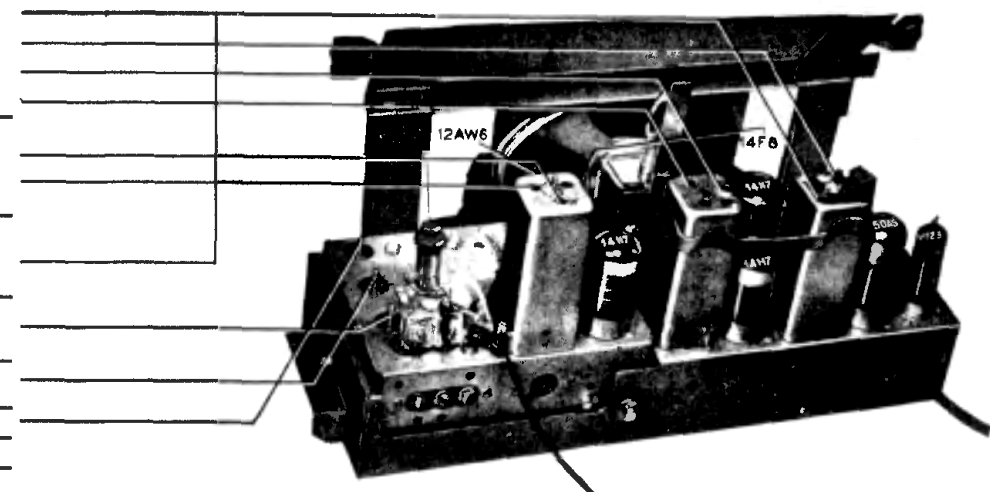


Figure 9. Top View, Showing FM Trimmer Locations