ALIGNING R. F. AND I. F. COMPENSATORS

MODELS 41-81, 41-83, 41-84, 41-85 AND PT-89

Philco Models 41-81, 41-83, 41-84, 41-85, PT-89

Equipment Required

1. SIGNAL GENERATOR, such as PHILCO Model 070 A. C. operated or Model 177 battery operated. These signal generators cover a frequency range from 115 to 36,000 K. C.

2. INDICATING DEVICE: To obtain maximum signal strength and accurate adjustment of the padders a vacuum tube voltmeter similar to PHILCO Models 027 and 028 is recommended. These instruments also contain an audio output meter which may be used as an indicating device. The method of connecting either of these instruments is listed below.

3. ALIGNING TOOLS: Fiber handle screwdriver. PHILCO Part No. 45-2610.

Connecting the Aligning Meters

AUDIO OUTPUT METER: If an audio output meter is used, connect it across the plate and screen terminals of the output tubes. Adjust the meters to use the 0 to 10 scale.

VACUUM TUBE VOLTMETER: If a vacuum tube voltmeter is used as an aligning indicator, the negative (—) terminal is connected to the A.V.C. circuit of the receiver through a 2 megohm resistor. The positive (+) terminal is connected to the chassis or ground.

SIGNAL GENERATOR: When adjusting the "I.F." padders the high side of the signal generator is connected through a .1 mfd. condenser to the loop tuning condenser stator lug which connects to the grid of the first detector oscillator tube. The ground or low side of the signal generator is connected to the chassis of the receiver.

When aligning the R.F. padders a loop aerial is made from a few turns of wire and connected to the signal generator output terminals. The signal generator is then placed a few feet from the set. The loop aerial of the receiver should be assembled in the cabinet, together with the battery when adjusting the R.F. padders.

In order to adjust the "R.F." padders correctly on Model PT-89, the carrying strap which contains the loop should be held in an upright position.

The R.F. and I.F. compensators locations on these models are shown in Figs. A, B, C, D.

NOTE A: DIAL CALIBRATION: Before adjusting the R.F. padders the dial must be aligned to track properly with the tuning condenser. To adjust the dial proceed as follows: With the tuning condenser in the closed position (maximum capacity) set the dial pointer on the small dot below 550 K.C.

NOTE B: When adjusting compensator be sure to tune in the fundamental signal (15 M.C.) instead of the image signal. If the compensator is correctly adjusted, the image signal will be found by turning dial 910 K.C. below the fundamental signal, which will be 14.090 M.C.

Locations of Compensators
Models 41-81, 41-83

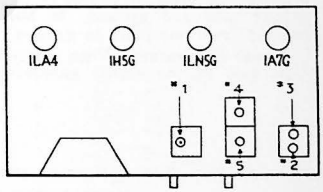


FIG. A

Models 41-81, 41-83, 41-84, Codes 121 and 122; PT-89

The Model 41-84 receiver may be adjusted when operated by battery or 115 V. A.C.-D.C. power.

Operations in Order	Signal Generator		Receiver			Special Instruction
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting	Adjust Compensators	
1.	See Paragraph on Signal Generator above	455 K.C.	540 K.C.	Vol. Max.	#1, #2, #3	See Figs. A, B, D for padder locations
2.	Use Loop on Generator as above	1500 K.C.	1500 K.C.	Vol. Max.	#4 Osc. #5 Aerial	Note A

Locations of Compensators
Model 41-84

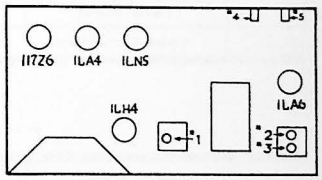
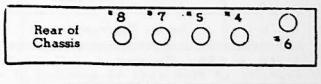


FIG. B

Locations of Compensators
Model 41-85



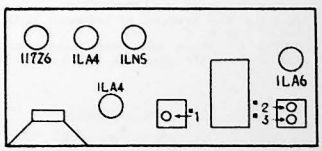


FIG. C

Procedure Model 41-85

This receiver may be adjusted when operated by Batteries or 115 A.C.-D.C. power.

1. —	Stator plate lug loop tuning condenser	455 K.C.	540 K.C.	Vol. Max.	#1, #2, #3 See Fig. C for padder location
2. —	Loop on Generator	1500 K.C.	1500 K.C.	Range Switch "Broadcast" Vol. Max.	#4 Osc. #5 Aerial Note A
3. —	Loop on Generator	580 K.C.	580 K.C.	Range Switch "Broadcast" Vol. Max.	#6 Nut
4. —		Recheck	operation	No. "2"	
5. —	Loop on Generator	15 M.C.	15 M.C.	Range Switch Short Wave	#7 Osc. #8 Aerial Note B Correct Peak

Locations of Compensators
Model PT-89

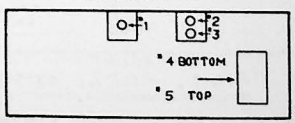


FIG. D