

# MODEL 40-2710---PHILCO-TROPIC

## SPECIFICATIONS

**TYPE CIRCUIT:** Model 40-2710, code 121, is a six (6) tube A. C. or D. C. operated radio employing a superheterodyne circuit with three tuning ranges for reception of Standard, Long Wave and Shortwave Broadcast Stations. In addition other features of design are: Automatic Volume Control, Bass Compensation and a pentode audio output stage.

**POWER SUPPLY:** 100-130 or 200-260 v. Its A. C. or D. C. To operate the receiver on 200-260 volts A. C. or D. C. requires the use of a Ballast resistor, Part No. 33-3377 which can be obtained from your distributor. The Ballast resistor is inserted in the socket provided on the top of the chassis.

**POWER CONSUMPTION:** 120 volts, 35 watts; 240 volts, 70 watts.

**TUNING RANGES:**

530 to 1720 K. C.      150 to 390 K. C.      7.2 to 24 M. C.

**I. F. FREQUENCY:** 455 K. C.

**AUDIO OUTPUT:** 1 watt.

**PHILCO TUBES:** 7A8E, Converter-Oscillator; 7B7E, I. F. Amplifier; 7C6, Second Detector, First Audio and A. V. C.; 35A5E, Audio Output; 35Z3, Rectifier.

**AERIAL:** To obtain maximum performance from this receiver the Philco Safety Aerial, Part No. 40-6370, should be used.

**CABINET DIMENSIONS:**

Height, 8".      Width, 11 $\frac{3}{4}$ ".      Depth, 6 $\frac{1}{4}$ ".

## ALIGNING COMPENSATING CONDENSERS EQUIPMENT REQUIRED

**Signal Generator:** In order to properly adjust the various R. F. and I. F. padders of this receiver, a calibrated signal generator such as Philco Model 077 A. C. operated or Model 177 battery operated is required. These signal generators cover a frequency range of 510 to 36000 K. C.

**Aligning Indicating Device:** A Vacuum Tube Voltmeter or Audio Output Meter, such as Philco Models 027 and 028, is

required. If the Vacuum Tube Voltmeter is used, an adaptor, Philco Part No. 45-2767, is necessary in order to connect to the A. V. C. circuit of the receiver. Procedures for connecting these instruments are listed below.

**Aligning Tools:** Fiber handle screwdriver, Philco Part No. 15-2610 and Aligning Wrench, Part No. 7696.

## CONNECTING ALIGNING INSTRUMENTS

**Signal Generator:** The signal generator is connected to the receiver as indicated in the tabulations below under "Output Connections to Receiver." A dummy antenna is also required. This is listed under column, "Dummy Antenna, Note A."

**Vacuum Tube Voltmeters:** To use the vacuum tube voltmeter as an aligning indicator it should be connected to the A. V. C. circuit with the Philco aligning adaptor, Part No. 45-2767, as follows:

Remove the 7C6 tube from its socket and insert the aligning adaptor in the socket, then replace the tube in the adaptor. Connect the negative terminal of the vacuum tube voltmeter to the light colored wire which protrudes from the side of the adaptor. Attach the positive terminal of the voltmeter to the black wire.

**Audio Output Meter:** If this type of meter is used as an aligning indicator, it should be connected to the plate and screen terminals of the 35A5 tube. Adjust the meter for the 0 to 30 volt A. C. scale.

After connecting the aligning meter, adjust the compensators in the order as shown in the tabulation below. Locations of the compensators are shown in Fig. 2. If the output meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

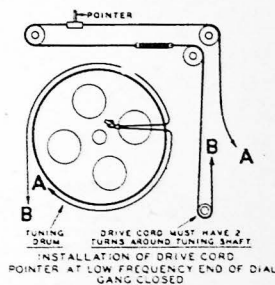


FIG. 1. DIAL CALIBRATION.

Operations in Order	SIGNAL GENERATOR			RECEIVER			SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dummy Antenna Note A	Dial Setting	Dial Setting	Control Settings	Adjust Compensators	
1	Antenna	.1 mfd.	455 K. C.	580 K. C.	Vol. Max. Range Switch "Brdst"	23A, 19A, 19B	
2	Ant. & Grnd.	400 ohms	21 M. C.	21 M. C.	Range Switch "S.W."	41B, 41A	Notes B-C
3	Ant. & Grnd.	200 mmfd.	1500 K. C.	1500 K. C.	Range Switch "Brdst"	14A	
4	Ant. & Grnd.	200 mmfd.	580 K. C.	580 K. C.	Range Switch "Brdst"	15A (Nut)	Roll Gang
5	Ant. & Grnd.	200 mmfd.	1500 K. C.	1500 K. C.	Range Switch "Brdst"	14A	
6	Ant. & Grnd.	200 mmfd.	300 K. C.	300 K. C.	Range Switch "L.W."	14	
7	Ant. & Grnd.	200 mmfd.	175 K. C.	175 K. C.	Range Switch "L.W."	15 (Screw)	
8	Ant. & Grnd.	200 mmfd.	300 K. C.	300 K. C.	Range Switch "L.W."	14	

**NOTE A** — The "Dummy Antenna" consists of a condenser or resistance connected in series with the signal generator output lead (high side). Use the capacity or resistance as specified in each step of the above procedure.

**NOTE B** — **DIAL CALIBRATION:** In order to adjust the receiver correctly the dial must be aligned to track properly with the tuning condenser. To adjust the dial, proceed as follows: With the tuning condenser closed (maximum capacity), set the dial pointer on the first mark on the left edge (low frequency end) of the broadcast scale.

**NOTE C** — When adjusting compensator (41B) be sure to tune in the fundamental signal (21 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 20.090 M. C.

