

MODELS 40-215 and 40-217

WIRELESS REMOTE CONTROL

SPECIFICATIONS

Models 40-215, code 121, and 40-217, code 121, are twelve (12) tube super-heterodyne radios employing Philco Wireless Remote Control and a Built-in Super-Aerial System. Three tuning ranges are also provided for reception of standard, Police and Short Wave Broadcast stations. These models are also designed to receive the sound of a television program, tuned in by Philco Television Sets and can be set up for use with a Wireless Record Player.

The Wireless Remote Control will automatically tune in eight (8) broadcast stations, increase and decrease volume and turning off the radio without any connections between the set and the control unit.

The Built-in Super-Aerial System eliminates an outside aerial and ground. Included in the Built-in Super Aerial System is a statically shielded loop for broadcast band reception and a short wave broadcast loop. The feature of the built-in broadcast band statically shielded loop, is that it may be turned to the position in which it picks up a minimum amount of interference, or if interference is not present, the loop may be set in the position where best reception is obtained.

In addition, other features of design are: automatic volume control, continuously variable tone control, bass compensation, and degenerated push-pull pentode audio output. Outside aerial

connections are also provided for remote localities where station signal strength is exceptionally weak.

POWER SUPPLY: 115 volts, 60 cycles.

This model can also be operated on a 115 volt, 25 cycle power supply, changing the power transformers and several parts as indicated on the replacement parts on page 79.

FREQUENCY TUNING RANGES: 540 to 1520 K. C. 1.4 to 3.6 M. C. 6.0 to 18 M. C.

INTERMEDIATE FREQUENCY: 470 K. C.

PHILCO TUBES USED: Receiver — 1222, R. F. Amplifier: 6J8G, Detector Oscillator: 75 L. F. Amplifier: 6Q7G, 2nd Detector, A. V. C., 1st Audio; two 42, Push-Pull Audio Output; 80, Rectifier.

Control Frequency Amplifier — 78, 6J7G, 6H6G, 2A4G.
Wireless Remote Control — Type 30 tube.

AUDIO OUTPUT: 7 Watts.

CABINET DIMENSIONS:

| | Height | Width | Depth |
|--------------|---------|-------|---------|
| Model 40-215 | 38" | 30" | 15 1/2" |
| Model 40-217 | 38 1/4" | 35" | 14 1/4" |

The procedure for adjusting the Wireless Remote Control for reception of stations will be found on page 70.

ALIGNING OF COMPENSATING CONDENSERS EQUIPMENT REQUIRED

(1) **Signal Generator.** In order to properly adjust this receiver a calibrated signal generator such as Philco Model 077 is required. This signal generator covers a frequency range of 540 to 36,000 K. C.

(2) **Aligning Indicating Device.** To obtain maximum signal strength and accurate adjustment of the padders a vacuum

tube voltmeter and circuit tester such as Philco Models 027 and 028 is recommended. These testers also contain an audio output meter which may be used as an indicating device.

(3) **Aligning Tools.** Fiber handle screw driver, Philco Part No. 45-2510.

CONNECTING ALIGNING INSTRUMENTS

Vacuum Tube Voltmeter: To use the vacuum tube voltmeter as an aligning indicator it should be connected to the A. V. C. circuit as follows:

1. Connect the negative (—) terminal of the voltmeter through a 2 meg. resistor to the grid of the 75 L. F. tube. The resistor must be connected directly to the grid of the tube and the voltmeter wire attached to the resistor.

2. Connect the positive (+) terminal to the chassis ground terminal.

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 one of the 42 tubes. Adjust the meter for the 0 to 30 volt A. C. scale.

After connecting the aligning meter, adjust the R. F. and I. F. compensators in the order as shown in the tabulation

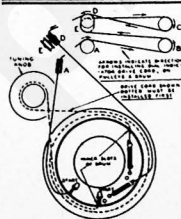
below. Locations of the compensators are shown in Fig. 5, page 80. If the output meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

Signal Generator: When adjusting the I. F. padders, the high side of the signal generator is connected through a .1 mfd. condenser to the grid of the tubes. 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 antenna is made from a few turns of wire and connected to the signal generator output terminals; the loop is then placed two or three feet from the loop in the cabinet. Do not remove the receiver loop from the cabinet. It is necessary when adjusting the padders, that the receiver be left in the cabinet.

RECEIVER CIRCUIT ADJUSTMENTS — Models 40-215, 40-217

| Operation | SIGNAL GENERATOR | | RECEIVER | | | SPECIAL INSTRUCTIONS |
|-----------|--------------------------------|--------------|--------------|-------------------------------------|---------------------|---------------------------------|
| | Output Connections to Receiver | Dial Setting | Dial Setting | Control Setting | Adjust Compensators | |
| 1 | 75 L. F. Grid | 470 K. C. | 580 K. C. | Vol. Max. Range Switch "Brdcst" | 41A, 41B | Turn Out 38B Full |
| 2 | 6J8G Det. Osc. Grid | 470 K. C. | 580 K. C. | Vol. Max. Range Switch "Brdcst" | 38A, 38C, 38B | Note A |
| 3 | Use Loop on Generator | 18.0 M. C. | 18.0 M. C. | Vol. Max. Range Switch "Short Wave" | 29B, 2A | Note C, Note D 2A on SW Loop |
| 4 | Use Loop on Generator | 1500 K. C. | 1500 K. C. | Vol. Max. Range Switch "Brdcst" | 29, 8A | Note A |
| 5 | Use Loop on Generator | 580 K. C. | 580 K. C. | Vol. Max. Range Switch "Brdcst" | 30 | Rollgang |
| 6 | Use Loop on Generator | 1500 K. C. | 1500 K. C. | Vol. Max. Range Switch "Brdcst" | 29 | |
| 7 | Use Loop on Generator | 3.5 M. C. | 3.5 M. C. | Vol. Max. Range Switch "Police" | 29A, 8 | Note B |



NOTE A — 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 extreme left index line at the low frequency end of the broadcast scale. The arrangement of the drive cable and dial pointer is shown in Fig. 1.

NOTE B — See page 80 for Wireless Remote Control Amplifier adjustments.

NOTE C — If two peaks (signals) are observed on the aligning meter when adjusting the oscillator padder No. 29B, tune the padder to the second peak from the maximum capacity position (screw all the way in).

NOTE D — If two peaks (signals) are observed on the aligning meter when adjusting the loop padder 2A, tune the padder to the first peak signal from the maximum capacity position (screw all the way in). When adjusting the padders to this first peak roll the tuning condenser (rock) slightly back and forth to obtain the maximum readings on the aligning meter.

← FIG. 1. DIAL POINTER AND CABLE ARRANGEMENT.

MODELS 40-215 and 40-217

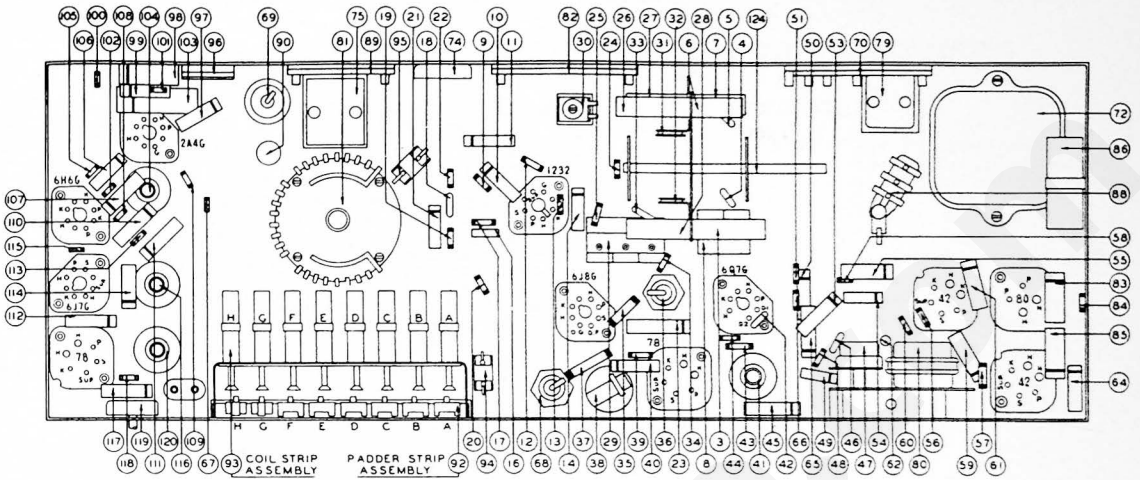


FIG. 2. REPLACEMENT PARTS, UNDERSIDE OF CHASSIS.

REPLACEMENT PARTS

| SCHÉ. No. | DESCRIPTION | PART No. | SCHÉ. No. | DESCRIPTION | PART No. | SCHÉ. No. | DESCRIPTION | PART No. |
|-----------|--|-----------|-----------|---|-----------|-----------|-------------------------------------|-----------|
| 1 | Loop Assembly (Broadcast) | 38-9882 | 84 | Resistor (150 ohms, 1/2 watt) | 33-115339 | 110 | Tubular Condenser (.05 mfd.) | 30-4123 |
| 1A | Resistor (10,000 ohms, 1/2 watt) | 33-310339 | 85 | Tubular Condenser (1 mfd.) | 30-4499 | 111 | Tubular Condenser (.05 mfd.) | 30-4123 |
| 1B | Mica Condenser (.05 mmfd.) | 61-0032 | 86 | Electrolytic Condenser (30 mfd., 30 V.) | 30-2361 | 112 | Tubular Condenser (.05 mfd.) | 31-215339 |
| 2 | Loop Assembly (Short Wave) | 38-9937 | 87 | Stepper Unit (Complete) | 38-9898 | 113 | Resistor (95,000 ohms, 1/2 watt) | 31-308339 |
| 2A | Compensator | 31-6326 | 87A | Spark Fill Assy. (Inside of Stepper Unit) | 38-9898 | 114 | Tubular Condenser (.05 mfd.) | 30-4519 |
| 3 | Short Wave Series Transformer | 32-3778 | 87B | Spark Filter Choke | 32-3276 | 115 | Tubular Condenser (.05 mfd.) | 30-4444 |
| 4 | Mica Condenser (5 mmfd.) | 61-0037 | 87C | Tubular Condenser (.05 mfd.) | 30-4444 | 116 | No. 2 Control Amplifier Transformer | 32-3087 |
| 5 | Mica Condenser (250 mmfd.) | 61-0033 | 87D | Tubular Condenser (.05 mfd.) | 30-4444 | 117 | Tubular Condenser (.05 mfd.) | 30-4519 |
| 6 | Broadcast Series Transformer | 32-3376 | 87E | Resistor (100 ohms, 1/2 watt) | 33-110339 | 118 | No. 1 Control Amplifier Transformer | 32-3087 |
| 7 | Poise Shunt Transformer | 32-3377 | 88 | Resistor (150 ohms, wirewound) | 33-3362 | 119 | Sensitivity Control (50,000 ohms) | 32-5299 |
| 8 | Compensator (2 section) | 31-6339 | 89 | Resistor (150 ohms, 1/2 watt) | 30-2387 | 120 | No. 1 Control Amplifier Transformer | 32-3087 |
| 9 | Resistor (82,000 ohms, 1/2 watt) | 30-4123 | 91 | Electrolytic Condenser (16 mfd., 150 V.) | 30-2387 | 121 | Silver Mica Cond. (155 mmfd.) | 30-1121 |
| 10 | Tubular Condenser (.05 mfd.) | 31-6339 | 92 | Pilot Lamps (Station Indicator) | 34-2064 | 122 | Compensator (Secondary Inductor) | 31-6286 |
| 11 | Tubular Condenser (.05 mfd.) | 31-6339 | 92A | Compensator Strip (Pushbuttons) | 31-6264 | 123 | Secondary Inductor (Remote Tuning) | 40-614 |
| 12 | Resistor (12 meg., 1/2 watt) | 30-4444 | 92B | Compensator No. 2 | 32-3087 | 124 | Wave Switch | 42-1850 |
| 13 | Resistor (330 ohms, 1/2 watt) | 30-4444 | 92C | Compensator No. 3 | 32-3087 | 125 | Wireless Remote Control Unit | 45-2709 |
| 14 | Tubular Condenser (.05 mfd.) | 30-4444 | 92D | Compensator No. 4 | 32-3087 | 126 | Primary Inductor | 32-3087 |
| 15 | Tuning Condenser Assembly | 31-2433 | 92E | Compensator No. 5 | 32-3087 | 127 | Silver Mica Cond. (200 mmfd.) | 30-1118 |
| 16 | Packing Transformer | 32-3772 | 92F | Compensator No. 6 | 32-3087 | 128 | Tubular Condenser (.05 mfd.) | 30-4519 |
| 17 | Resistor (10,000 ohms, 1/2 watt) | 33-110339 | 92G | Compensator No. 7 | 32-3087 | 129 | Compensator (P.r.-ma. Inductor) | 31-6286 |
| 18 | Mica Condenser (100 mmfd.) | 61-0034 | 92H | Compensator No. 8 | 32-3087 | 130 | Resistor (500 ohms, 1/2 watt) | 31-90339 |
| 19 | Resistor (4700 ohms, 1/2 watt) | 33-247339 | 92I | Compensator No. 9 | 32-3087 | 131 | Remote Control (Littery Pack) | 41-8023 |
| 20 | Resistor (1000 ohms, 1/2 watt) | 33-210339 | 92J | Compensator No. 10 | 32-3087 | 132 | Dial Unit (Pulsar) | 38-9704 |
| 21 | Tubular Condenser (.05 mfd.) | 30-4123 | 93 | Elec. Pushbutton Trans. Assy. (8 Trans.) | 32-3091 | | | |
| 22 | Resistor (47,000 ohms, 1/2 watt) | 33-347339 | 93A | Oscillator Transformer No. 1 | 32-3042 | | | |
| 23 | Tubular Condenser (.05 mfd.) | 33-333339 | 93B | Oscillator Transformer No. 2 | 32-3042 | | | |
| 24 | Resistor (33,000 ohms, 1/2 watt) | 33-333339 | 93C | Oscillator Transformer No. 3 | 32-3042 | | | |
| 25 | Resistor (27 ohms, 1/2 watt) | 30-4123 | 93D | Oscillator Transformer No. 4 | 32-3042 | | | |
| 26 | Oscillator Transformer (Broadcast) | 32-3373 | 93E | Oscillator Transformer No. 5 | 32-3042 | | | |
| 27 | Oscillator Transformer (Pulse) | 32-3374 | 93F | Oscillator Transformer No. 6 | 32-3042 | | | |
| 28 | Oscillator Transformer (Short Wave) | 32-3375 | 93G | Oscillator Transformer No. 7 | 32-3041 | | | |
| 29 | Compensator (3 section) | 31-6338 | 93H | Oscillator Transformer No. 8 | 32-3041 | | | |
| 30 | Compensator | 31-6230 | 94 | 1100-1600 K. C.—Part of 92 | | | | |
| 31 | Tracking Condenser (Poise, 1330 mmfd.) | 31-6286 | 94A | 1100-1600 K. C.—Part of 92 | | | | |
| 32 | Tracking Condenser (Short Wave, 6100 mmfd.) | 31-6341 | 94B | 1100-1600 K. C.—Part of 92 | | | | |
| 33 | Mica Condenser (.250 mmfd.) | 61-0033 | 94C | 1100-1600 K. C.—Part of 92 | | | | |
| 34 | Resistor (10,000 ohms, 1/2 watt) | 33-110339 | 94D | 1100-1600 K. C.—Part of 92 | | | | |
| 35 | Resistor (15,000 ohms, 1/2 watt) | 30-1349 | 94E | 1100-1600 K. C.—Part of 92 | | | | |
| 36 | Electrolytic Condenser (4 mfd., 250 V.) | 30-2334 | 94F | 1100-1600 K. C.—Part of 92 | | | | |
| 37 | Resistor (5000 ohms, 1/2 watt) | 32-50639 | 94G | 1100-1600 K. C.—Part of 92 | | | | |
| 38 | 1st I. F. Transformer Assembly | 30-4884 | 94H | 1100-1600 K. C.—Part of 92 | | | | |
| 39 | Resistor (390 ohms, 1/2 watt) | 33-139339 | 94I | 1100-1600 K. C.—Part of 92 | | | | |
| 40 | Tubular Condenser (.05 mfd.) | 30-4444 | 94J | 1100-1600 K. C.—Part of 92 | | | | |
| 41 | 2nd I. F. Transformer Assembly | 32-2645 | 94K | 1100-1600 K. C.—Part of 92 | | | | |
| 41A | Resistor (33,000 ohms, 1/2 watt) | 33-433339 | 94L | 1100-1600 K. C.—Part of 92 | | | | |
| 41B | Resistor (15,000 ohms, 1/2 watt) | 33-50339 | 94M | 1100-1600 K. C.—Part of 92 | | | | |
| 42 | Resistor (2.0 meg., 1/2 watt) | 33-510339 | 94N | 1100-1600 K. C.—Part of 92 | | | | |
| 43 | Resistor (1.0 meg., 1/2 watt) | 30-1029 | 94O | 1100-1600 K. C.—Part of 92 | | | | |
| 44 | Tubular Condenser (.05 mfd.) | 30-4444 | 94P | 1100-1600 K. C.—Part of 92 | | | | |
| 45 | Mica Condenser (50 mmfd.) | 61-0034 | 94Q | 1100-1600 K. C.—Part of 92 | | | | |
| 46 | Volume Control (2.0 meg.) | 30-1029 | 94R | 1100-1600 K. C.—Part of 92 | | | | |
| 47 | Resistor (170,000 ohms, 1/2 watt) | 33-370339 | 94S | 1100-1600 K. C.—Part of 92 | | | | |
| 48 | Tubular Condenser (.05 mfd.) | 30-4444 | 94T | 1100-1600 K. C.—Part of 92 | | | | |
| 49 | Tubular Condenser (.015 mfd.) | 30-4358 | 94U | 1100-1600 K. C.—Part of 92 | | | | |
| 50 | Resistor (1.0 meg., 1/2 watt) | 33-510339 | 94V | 1100-1600 K. C.—Part of 92 | | | | |
| 51 | Tone Control (3.0 meg.) | 33-510339 | 94W | 1100-1600 K. C.—Part of 92 | | | | |
| 52 | Tubular Condenser (.02 mfd.) | 30-4481 | 94X | 1100-1600 K. C.—Part of 92 | | | | |
| 53 | Tubular Condenser (.006 mfd.) | 30-4483 | 94Y | 1100-1600 K. C.—Part of 92 | | | | |
| 54 | Tubular Condenser (.03 mfd.) | 30-4517 | 94Z | 1100-1600 K. C.—Part of 92 | | | | |
| 55 | Resistor (60,000 ohms, 1/2 watt) | 33-10330 | | | | | | |
| 56 | Resistor (130,000 ohms, 1/2 watt) | 33-433339 | | | | | | |
| 57 | Resistor (330,000 ohms, 1/2 watt) | 33-433339 | | | | | | |
| 58 | Tubular Condenser (.01 mfd.) | 30-4501 | | | | | | |
| 59 | Tubular Condenser (.05 mfd.) | 33-10339 | | | | | | |
| 60 | Tubular Condenser (.01 mfd.) | 30-4501 | | | | | | |
| 61 | Tubular Condenser (.01 mfd.) | 30-4501 | | | | | | |
| 62 | Output Transformer | 32-7997 | | | | | | |
| 63 | Coil and V.C. Coil Assembly (Speaker Part No. 38-1450-2) | 38-4089 | | | | | | |
| 64 | Speaker Part No. 38-1450-4 | 38-4101 | | | | | | |
| 65 | Tubular Condenser (.01 mfd.) | 30-4501 | | | | | | |
| 66 | Resistor (1.0 meg., 1/2 watt) | 33-510339 | | | | | | |
| 67 | Resistor (1.0 meg., 1/2 watt) | 33-510339 | | | | | | |
| 68 | Electrolytic Condenser (25 mfd., 300 V.) | 30-2360 | | | | | | |
| 69 | Electrolytic Condenser (18 mfd., 475 V.) | 30-2360 | | | | | | |
| 70 | Resistor (Wirewound, Bias) | 30-1884 | | | | | | |
| 71 | Field Coil (Replace Spkr. Part No. 38-1450) | 32-7999 | | | | | | |
| 72 | Power Trans. (115 V., 50-60 cycles) | 32-8015 | | | | | | |
| 73 | Bypass Condenser (.05 mfd., 110 V., Plug) | 30-4374 | | | | | | |
| 74 | Choke Coil | 32-1281 | | | | | | |
| 75 | Filament Trans. (115 V., 50-60 cycles) | 32-8016 | | | | | | |
| 76 | Filament Trans. (115 V., 25-40 cycles) | 32-8016 | | | | | | |
| 77 | Pilot Lamp (Bullseye) | 34-2210 | | | | | | |
| 78 | Pilot Lamps (Dial) | 34-2064 | | | | | | |
| 79 | Motor Trans. (115 V., 50-60 cycles) | 32-7920 | | | | | | |
| 80 | Motor Trans. (115 V., 25-40 cycles) | 32-8018 | | | | | | |
| 80A | Motor Assembly (Volume Control, 60 cycles) | 33-1151 | | | | | | |
| 80B | Motor Assembly (25 cycles) | 33-1152 | | | | | | |
| 80C | Switch (Volume Control Motor) | 42-1449 | | | | | | |
| 81 | Rotary Switch (Stepper Unit) | 42-1448 | | | | | | |
| 82 | Resistor (Wirewound) | 30-4499 | | | | | | |
| 83 | Tubular Condenser (1 mfd.) | 30-4499 | | | | | | |

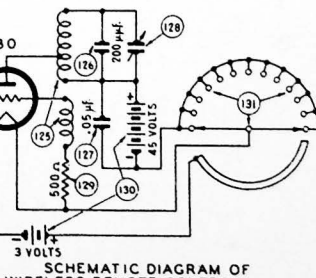


FIG. 3. SCHEMATIC DIAGRAM, WIRELESS REMOTE CONTROL.

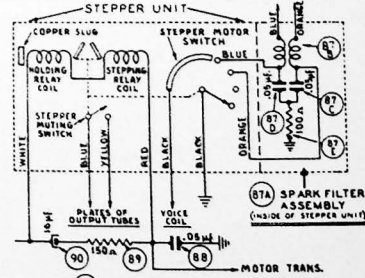


FIG. 4. WIRING OF STEPPER UNIT, WIRELESS REMOTE CONTROL.

MODELS 40-215 and 40-217

ADJUSTMENT OF WIRELESS REMOTE CONTROL CIRCUITS

ADJUSTING CONTROL FREQUENCY AMPLIFIER

The wireless remote control models are shipped with 5 different control frequencies which range from 350 to 400 K. C. These frequencies are identified by code numbers appearing on the serial number ticket and on the rear of the chassis. The code numbers and frequencies are as follows:

Code 5.....355 K. C. Code 7.....375 K. C.
Code 6.....367 K. C. Code 8.....383 K. C.
Code 9.....395 K. C.

The purpose of the different control frequencies is to prevent interaction between two or more wireless remote control models which are on the same floor or exceptionally close together. When several wireless remote control models are to be located close together, it will be necessary to use different control frequencies. These frequencies should be 20 K. C. apart. For example, if three models are to be operated at the same time and are closely situated, it will be advisable to adjust the control frequency of the first set to 355 K. C., the second set to 375 K. C., and the third set to 395 K. C.

In order to realign or change the control frequency of these models, the following equipment is required:

1. Philco Model 077 signal generator with a loop attached to the output terminal. (A few turns of wire 12 inch in diameter).
2. Philco wireless remote control aligning adapter. Part No. 45-2769.

3. Philco aligning screw driver, Part No. 45-2610.

With this apparatus the control frequency is adjusted as follows:

1. Remove the 2A4G control tube from its socket and replace with the aligning adapter. Connect the red lead of the aligning adapter to the positive terminal of the vacuum tube voltmeter. The black lead of the adapter is connected to the negative terminal of the vacuum tube voltmeter.
2. Remove the 78 control amplifier tube, its shield and the shield of the 6J7G tube. Apply power to the set and turn the range selector disc to "remote".

3. Attach the "high" side of the signal generator output through a .5 mfd. condenser to the grid of the 6J7G tube. Set the generator modulation control to "mod on" and turn the attenuator control about one-fourth on.

4. The control frequency to which the control amplifier is tuned can now be determined by tuning the signal generator between 350 and 400 K. C. When the signal generator is tuned to the control frequency, the vacuum tube voltmeter will show maximum deflection. If this frequency is to be used, leave the signal generator at this point or turn the indicator to any other frequency desired between 350 and 400 K. C.

5. After the control frequency has been found or changed, compensators (104A), (104B), are adjusted for maximum indication on the vacuum tube voltmeter.

6. After adjusting this circuit, replace the 78 tube and shields in their sockets and remove the signal generator lead from the grid of the 6J7G tube.

7. Place the small loop mentioned above into the "high" and "ground" of the signal generator output terminals and place the signal generator near the secondary inductor loop in the bottom of the cabinet. When doing this, do not disturb the setting of the signal generator indicator. Turn the sensitivity control located on the right rear of the chassis toward the position marked "extreme" then adjust compensators (116A), (120A), for maximum reading on the vacuum tube voltmeter.

8. Next adjust the secondary inductor loop compensator (122) located in the bottom of the cabinet. This compensator is encased in a cardboard container that is attached to one corner of a loop. Extreme care should be used in adjusting the compensator to the exact point of resonance as the secondary inductor is a very sharply tuned circuit.

9. If the vacuum tube voltmeter pointer goes off scale when adjusting the compensators, turn the attenuator control of the signal generator toward the "off" position. After these compensators are adjusted to maximum, the control amplifier is tuned to the frequency selected.

ADJUSTING WIRELESS REMOTE CONTROL UNIT

The wireless remote control unit is now adjusted to the control frequency of the amplifier as follows:

1. Turn off the signal generator, then dial any one of the stations indicated on the remote control unit by pulling the selector to the stop position; release the selector and at the same time press the stop down and hold it in this position.

2. Now bring the wireless remote control unit close to the receiver. Using a padding wrench, Philco Part No. 3164, tune the compensator (128) Fig. 5, located on the bottom of the remote control unit until a maximum voltage reading is indicated on the vacuum tube voltmeter. When tuning this compensator, it should be done very slowly so as not to pass over the frequency to which the control amplifier is tuned.

3. After adjusting the compensator with the sensitivity control on the receiver in the "extreme" position, the remote control unit is adjusted for maximum sensitivity by setting the sensitivity control in the "near" position and placing the remote control unit a few feet away from the receiver. The compensator (128) Fig. 5, is then adjusted again for maximum voltage reading of the vacuum tube voltmeter.

4. After making these adjustments, remove the aligning adapter from the socket and replace the 2A4G tube. The wireless remote control unit should now be adjusted to the same frequency as the control frequency in the receiver.

PRODUCTION CHANGES

When operating Models 40-215 and 40-217 on a 115 volt, 25 cycle, power supply, the volume control motor assembly, motor condenser and wave switch link must be changed in addition to the parts shown in the Replacement Parts list page 79. These changes are as follows:—

| | |
|-----------|--|
| Sche. No. | 115 Volt 25 Cycle Part No. |
| 80 | Motor Assembly (Volume Control)32-1152 |
| 86 | Motor Condenser30-2377 |
| | Wave Switch Link Assembly56-1295 |

In addition a resistor, Part No. 33-3368, is connected in series with the choke coil (96) and the stepper unit coil.

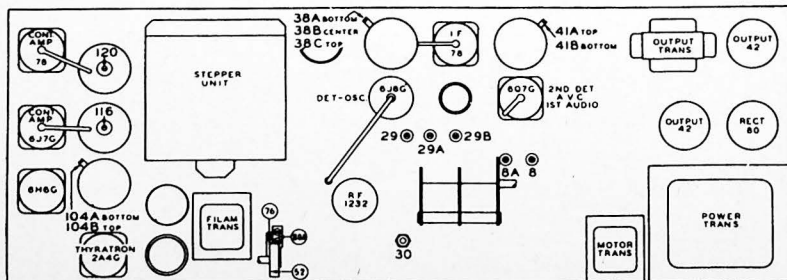


FIG. 5. LOCATIONS OF ALIGNING COMPENSATORS, MODELS 40-215, 40-217.