

# Models 42-124T, Code 121; 42-125K, Code 121; 42-126T, Code 121

## SPECIFICATIONS

### MODELS 42-124T, 42-125K

Models 42-124T and 42-125K are similar in design with the exception of the cabinets, speaker and loop aerial. Model 42-124T is assembled in a table type cabinet and Model 42-125K in a console cabinet (Floor Model). The loop aerial in Model 42-125K is rotatable from the front of the cabinet. **Circuit Description:** Five (5) tube battery operated superheterodyne circuit with two tuning bands covering 540 to 1720 K.C. and 5.7 to 15.5 M.C.; Tone Control; Bass compensation in the volume control circuit; Automatic Volume Control; Pentode Audio Output stage; two I. F. amplifier stages; High output permanent magnet speaker; Loop Aerial; Low current drain Philco LOKTAL Farm Radio Tubes; "ON-OFF" indicator, and a glass dial scale.

**INTERMEDIATE FREQUENCY:** 455 K.C.

**AUDIO OUTPUT:** 180 Milliwatts

**BATTERY REQUIRED:** Philco Type P-60D11L.

**BATTERY CURRENT DRAIN:** "A" Filament 1.5 Volts, 300 ma.  
"B" Plate 90 Volts, 12 ma.

**PHILCO TUBES USED:** XX8, converter; 1LN5, 1st I. F. amplifier; 1LN5, 2nd I. F. amplifier; 1LH4, 2nd detector, 1st audio, and a 1LB4, audio output.

**CABINET DIMENSIONS:**

	Height	Width	Depth
Model 42-124	13 $\frac{1}{2}$ "	18 $\frac{1}{8}$ "	8 $\frac{1}{2}$ "
Model 42-125	38"	27"	10 $\frac{3}{4}$ "

### MODEL 42-126

**CIRCUIT DESCRIPTION:** Model 42-126 is a six (6) tube battery operated superheterodyne circuit with two tuning bands covering 540 to 1720 K.C. and 5.7 to 15.5 M.C.; Six (6) push buttons for automatically tuning in six stations; tone control; bass compensation in the volume control circuit; automatic volume control; pentode audio output stage; two I. F. amplifier stages; high output permanent magnet speaker; loop aerial and provisions for an outside aerial; low current drain Philco LOKTAL Farm Radio tubes; "ON-OFF" indicator; a glass dial scale and assembled in a table type cabinet.

**INTERMEDIATE FREQUENCY:** 455 K.C.

**AUDIO OUTPUT:** 180 Ma.

**BATTERY REQUIRED:** Philco Type P-60D11L.

**BATTERY CURRENT DRAIN:** "A" (Filament) 1.5 Volts, 300 ma.  
"B" (Plate) 90 Volts, 12 ma.

**PHILCO TUBES USED:** 1LE3, oscillator; 1LE3, converter; 1LN5, 1st I. F. amplifier; 1LN5, 2nd I. F. amplifier; 1LH4, 2nd detector, 1st audio, and a 1LB4, audio output.

**CABINET DIMENSIONS:**

	Height	Width	Depth
	13 $\frac{3}{4}$ "	20 $\frac{1}{4}$ "	10"

## AERIAL AND GROUND

Under ordinary receiving conditions the loop aerial in these models has ample pickup for reception of Broadcast Stations. Unusual receiving conditions, however, may necessitate the use of an external aerial for maximum performance. When an outdoor aerial is required, the Philco Farm Radio Aerial, Part No. 40-6383, is recommended. To connect the outdoor aerial remove the wire and lug from underneath the screw adjacent to the terminal panel at the rear of the chassis. Attach the aerial lead-in wire to this wire.

A good ground connection is also necessary when using an outdoor aerial. The ground wire can be connected to the chassis screw adjacent to the loop terminal panel. The ground wire should be attached to a water pipe, radiator pipe or a four-foot metal pipe driven into moist earth.

## INSTALLING BATTERY IN MODELS 42-124, 42-126

A space is provided underneath the chassis for a battery. When installing the battery it should be inserted so that the battery socket is in the upper right hand corner, viewing the radio from the rear. Push battery forward gently until it strikes battery retaining blocks.

## INSTALLING BATTERY IN MODEL 42-125

Stand battery on end so that it rests on shelf in corner of cabinet opposite loop. Push battery forward until it fits in space between speaker baffle and cabinet side.

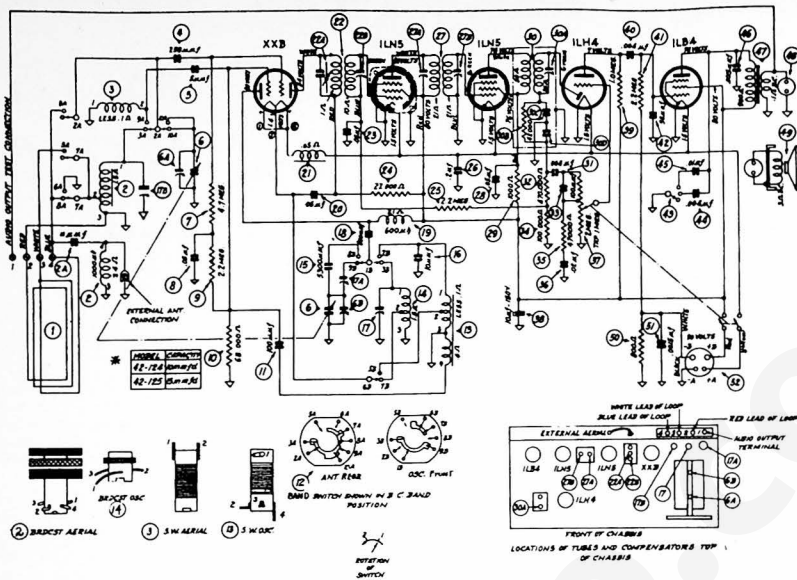
## SETTING AND OPERATING ELECTRIC PUSH-BUTTONS, MODEL 42-126

Select six of your most dependable broadcast stations and remove their call letters from the station call letter tab sheets supplied. Place the call letters in the windows above the buttons, making sure that each button covers the frequency of the station for which it is to be used. The frequencies of these stations may be found by consulting any station list. The frequency range of the buttons and the corresponding padder is as follows:

PADDER SCREW (right to left view from rear)	Circuit	BUTTONS (left to right view from front)	Freq. Range
1	Ant. } Osc. }	1	540-1030 K.C.
2	Ant. } Osc. }	2	650-1100 K.C.
3	Ant. } Osc. }		
4	Ant. } Osc. }	3	650-1100 K.C.
5	Ant. } Osc. }		
6	Ant. } Osc. }	4	740-1240 K.C.
7	Ant. } Osc. }		
8	Ant. } Osc. }	5	1160-1600 K.C.
9	Ant. } Osc. }		
10	Ant. } Osc. }	6	1160-1600 K.C.
11	Ant. } Osc. }		
12	Ant. } Osc. }		

The left-hand button, looking at the front of the cabinet, corresponds to the two right-hand padder screws, looking at the rear, and covers the lowest frequency range.

With the control in "BDCST" position, tune in the station whose call letters appear above the left-hand button. Then depress the left-hand button, turn the knob to "PB" position and tune in this station by rotating the No. 2 "Osc" screw. (NOTE: Inherent characteristics of these padders may cause some of them to cover a lower range than required to cover the broadcast band. This may cause the radio to howl or flutter when a station button is depressed. To correct this, loosen the "ANT" padder corresponding to the depressed station button). Turn the "OSC" screw slowly and listen carefully or the station may be passed without noticing it. After the "OSC" screw has been adjusted for maximum volume, the corresponding "ANT" screw should be adjusted for maximum. For some stations, it may be necessary to readjust the "OSC" screw after the "ANT" screw has been set. Switching from "BDCST" to "PB" will enable you to make sure you have the correct station tuned in accurately. When the first station has been set, the same procedure should be followed for the remaining buttons, first tuning in the desired station by means of the "Dial Tuning" control.



**SCHEMATIC DIAGRAM MODEL 42-124, 42-125**

FIG. 1 — SCHEMATIC DIAGRAM, MODELS 42-124, 42-125

**REPLACEMENT PARTS — MODELS 42-124, 42-125**

Schem. No.	Description	Part No.	Schem. No.	Description	Part No.	Schem. No.	Description	Part No.
1.	Loop Aerial (42-124)	76-1252	30B.	Resistor (42,000 ohms) . . . . . part of 30	33-342339	<b>MISCELLANEOUS PARTS</b>		
	Mtg. Screw	W-2071	30C.	Condenser (100 mmfd.) . . . . . part of 30-30A				
	Loop Aerial (42-125)	76-1320	31.	Condenser (100 mmfd., 600 volts)	33-447339	Mtg. Screw	W-2073	
	Shaft	76-1319	32.	Resistor (470,000 ohms)	60-110157	Bezel (42-124)	54-4090	
	Shaft Retainer	56-2268	33.	Resistor (100,000 ohms)	33-410337	Dealectomania	27-9336	
	Washer	97-0128	34.	Resistor (100,000 ohms)	33-347339	Cabinet (42-124)	10547A	
	Screw (Retainer)	W-2002	35.	Resistor (.02 mfd., 100 volts)	61-0154	Cabinet (42-125)	10963B	
	Screw (Shaft Assembly)	31-2588	36.	Volume Control	W-2157	Dial Scale	27-3731	
	Loop Drive Cord	32-3731	37.	Electrolytic Condenser (10 mfd.)	30-2396	Dial Gacking Card	27-9075	
2.	Aerial Transformer (Broadcast)	28-5002	38.	Resistor (1 megohm)	33-510339	Dial Pointer	56-2159	
2A.	Mica Condenser (10 mmfd., Model 42-124)	60-010137	39.	Condenser (.004 mfd., 600 volts)	30-4623	Spring Fastener	56-6161	
	Mica Condenser (15 mmfd., Model 42-125)	60-015137	40.	Resistor (2.2 megohms)	33-522339	Knobs (42-124)	54-4101	
3.	Aerial Transformer (Short Wave, Model 42-124)	32-3729	41.	Mica Condenser (50 mmfd.)	60-030157	Indicator (On-Off)	54-4105	
	Aerial Transformer (Short Wave, Model 42-125)	32-3760	42.	Tone Control Switch	42-1574	Grommet (Indicator)	56-2179	
4.	Mica Condenser (.250 mmfd.)	60-125157	43.	Nut	W-2157	Drive Cord	31-2563	
5.	Mica Condenser (5 mmfd.)	60-005157	44.	Condenser (.004 mfd., 200 volts)	61-0128	Operating Arm (Indicator)	56-2183	
6.	Tuning Condenser	31-2561	45.	Condenser (.01 mfd., 400 volts)	61-0100	Transfer Lever Arm	56-2164	
	Grommet (Mtg. Cond.)	54-4020	46.	Output Transformer	30-4621	Spring Washer	56-1866	
	Screw	W-523	47.	Mtg. Rivet	32-8175	Stud	56-6143	
	Spacer	28-5665	48.	Speaker Socket	97-0065	Pulley (Pointer & Indicator)	27-4901	
	Spring (Pointer Drive Cord)	28-8953	49.	Speaker (Model 42-125)	36-1488-3	Socket (Tubes)	28-6994	
	Spring (Cond. Drive Cord)	28-8954		Cone Assembly (for Speaker)	36-4129	Rivet	27-6177	
	Washer (Mtg. Cond.)	W-151		Mtg. Nut	W-124	Rubber Washer (Mtg. Socket)	27-4112	
	Drive Cord (Pointer)	31-2562		Speaker (Model 42-124)	36-1545	Rubber Grommet (Mtg. Socket)	27-4707	
	Drive Cord (Tuning Cond.)	31-2560		Cone Assembly (for 36-1545-3 Speaker Model 42-124)	W-523	Adapter Plate (Mtg. Socket, 1st 2nd I. F.)	56-2112	
	Drive Pully	31-2559		Speaker Cable	36-4208	Rivet (Mtg. Adapter Plate)	W-492	
	Drive Cord (4.7 megohms)	33-547339		Battery Cable and Plug	41-3305	Screw (Chassis Mtg.)	W-2030	
7.	Resistor (.05 mfd., 200 volts)	30-4519	50.	Resistor (800 ohms)	33-180336	Terminal Panel (Aerial)	38-8570	
8.	Resistor (2.2 megohms)	33-522339	51.	Condenser (.0015 mfd., 600 volts)	30-4621	Rivet	W-207	
9.	Resistor (68,000 ohms)	33-368339	52.	Battery Cable and Plug	41-3305	Terminal Panel	38-9117	
10.	Mica Condenser (100 mmfd.)	60-110157				Terminal Panel	38-8523	
11.	Band Switch	42-1680				Washer (Chassis Mtg.)	W-410	
12.	Mtg. Nut	W-2157						
13.	Oscillator Transformer (S.W.)	32-3728						
14.	Oscillator Transformer (Broadcast)	28-5002						
15.	Mtg. Clip	32-3730						
16.	Mica Condenser (.300 mmfd.)	28-5002						
17.	Mica Condenser (10 mmfd.)	60-010137						
17A.	Compensator (1700 K.C.)	31-6430						
17B.	Compensator (Osc. 500 K.C.) part of 17							
18.	Mica Condenser (800 mmfd.) 8	60-180157						
19.	Oscillator Pilot Choke	32-3615						
20.	Condenser (.05 mfd., 200 volts)	61-0101						
21.	Filament Choke	32-3732						
22.	1st I. F. Transformer	32-3737						
23.	Mtg. Nut	W-1949						
22A.	Primary Compensator . . . . . part of 22							
22B.	Secondary Compensator . . . . . part of 22							
23.	Condenser (.05 mfd., 200 volts)	30-4519						
24.	Resistor (27,000 ohms)	33-327339						
25.	Resistor (2.2 megohms)	33-522339						
26.	Condenser (.2 mfd., 200 volts)	30-4587						
27.	2nd I. F. Transformer	32-3621						
28.	Mtg. Nut	W-1949						
27A.	Primary Compensator . . . . . part of 27							
27B.	Secondary Compensator . . . . . part of 27							
28.	Condenser (.05 mfd., 200 volts)	61-0101						
29.	Resistor (1,000 ohms)	33-210336						
30.	Third I. F. Transformer	32-3733						
31.	Mtg. Nut	W-1949						
30A.	Secondary Compensator . . . . . part of 30							

FIG. 2 — LOCATIONS OF PARTS, UNDERSIDE OF CHASSIS, MODELS 42-124, 42-125

## ALIGNING R. F. AND I. F. COMPENSATORS

### EQUIPMENT REQUIRED

**SIGNAL GENERATOR:** Covering the frequency bands of the radios. Philco Model 070 (A.C. operated and covering 120 K.C. to 70 M.C.) or Model 177 signal generator (battery operated and covering 115 K.C. to 36000 M.C.) are recommended.

**ALIGNING INDICATOR:** To accurately adjust the compensators, a vacuum tube volt meter similar to Philco Models 027 is required. Model 027 vacuum tube voltmeter also contains an audio output meter which may be used as an aligning indicator. The method of connecting either of these instruments is listed below.

**ALIGNING TOOLS:** Fiber handle screwdriver, Philco part No. 45-2610.

### CONNECTING ALIGNING INSTRUMENTS

Either the vacuum tube voltmeter or the audio output meter may be used as an aligning indicator when adjusting the compensators.

**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 vacuum tube voltmeter through a 2 megohm resistor to any point in the circuit where the A.V.C. voltage can be measured.
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 as follows:

Terminal No. 1 on the loop aerial terminal panel at the rear of the chassis is provided for connecting one lead of the output meter to the voice coil of the speaker. The other lead of the meter is connected to the chassis. When using these connections the lowest A.C. scale of the meter must be used. (0 to 10 volts.)

The audio output meter can also be connected to the plate and screen terminals of the output tube.

**SIGNAL GENERATOR:** When adjusting the I. F. compensator the high side of the signal generator is connected through a .1 mfd. condenser to the stator lug of the aerial tuning condenser. The ground or low side of the signal generator is connected to the chassis of the receiver.

To align the "R. F." padders a test loop aerial is made from a few turns of wire and connected to the signal generator output terminals; the signal generator and loop is then placed about one foot from the loop of the radio.

The radio must be adjusted in the cabinet with the battery and loop in place.

After connecting the aligning instruments, adjust the compensators in the order as shown in the tabulations below. Locations of the compensators are shown on the schematic diagram.

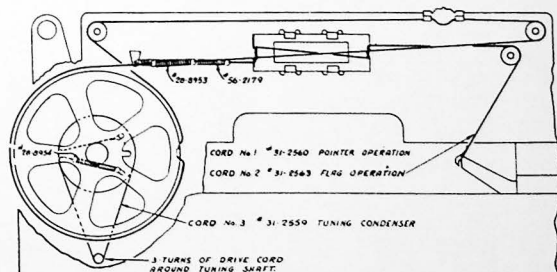
If the output meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

Operations in Order	SIGNAL GENERATOR		RECEIVER				Special Instructions
	Output Connections	Dial Setting	Dial Setting	Control Settings	Adjusting Compensators		
					42-124	42-125	
1	Aerial Tuning Condenser Stator Lug	455 K.C.	580 K.C.	Col. Max. Band Switch Broadcast	30A 27A, 27B 22A, 22B	32A 26A, 26B 25A, 25B	
2	Test Loop Aerial	15 M.C.	15 M.C. Note A & B	Vol. Max. Band Switch S.W.	6B, 6A	6B, 6A	Note A Note B Note C
3	Test Loop Aerial	1700 K.C.	1700 K.C.	Band Switch Broadcast	17	17	
4	Test Loop Aerial	1500 K.C.	1500 K.C.	Band Switch Broadcast	17B	17B	
5	Test Loop Aerial	580 K.C.	580 K.C.	Band Switch Broadcast	17A	17A	Note C
6	Test Loop Aerial	1700 K.C.	1700 K.C.	Band Switch Broadcast	17	17	

**NOTE A.**—Dial calibration: Before adjusting the R. F. compensators the dial pointer must be adjusted to track properly with the tuning scale. To adjust the pointer proceed as follows: With the tuning condenser in the closed position (maximum capacity) set the pointer to the center of the low frequency index line below 540 K.C. Arrangement of the tuning drive cords is shown on this page.

**NOTE B.**—When adjusting compensator (6B) two signal peaks may be observed on the output meter. One of these peaks is the fundamental signal (15 M.C.) and the other the image signal. The compensator should be adjusted to the fundamental signal, 15 M.C. If the compensator is correctly adjusted, the image signal will be observed on the output meter by leaving the radio dial at 15 M.C., and turning the signal generator dial to 19,090 M.C.

**NOTE C.**—When adjusting the low frequency compensator (17A) or the aerial padder (6A) of the high frequency tuning range; the receiver Tuning Condenser must be adjusted (rolled) as follows: First, tune the compensator for maximum output, then vary the tuning condenser of the receiver for maximum output. Now turn the compensator slightly to the right or left and again vary the receiver tuning condenser for maximum output. This procedure of first setting the compensator and then varying the tuning condenser is continued until maximum output reading is obtained.



INSTALLATION OF DRIVE CORDS. POINTER AT LOW FREQUENCY END OF DIAL, GANG CLOSED. VIEW SHOWN FROM REAR OF CHASSIS.

TUNING DRIVE CORD ARRANGEMENT WHEN REPLACING

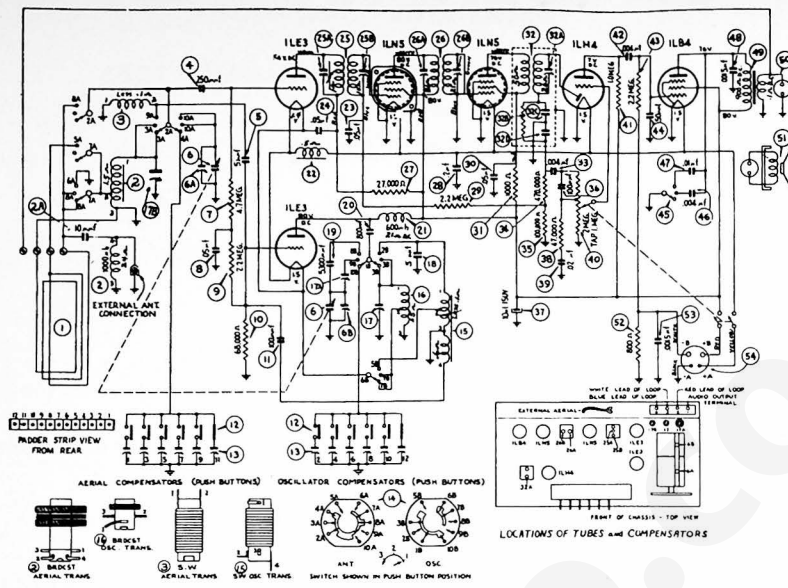


FIG. 3 — SCHEMATIC DIAGRAM, MODEL 42-126

**REPLACEMENT PARTS — MODEL 42-126**

Schem. No.	Description	Part No.	Schem. No.	Description	Part No.	Schem. No.	Description	Part No.
1.	Loop Aerial	76-1292	33.	Condenser (.004 mfd., 600 volts)	30-4623		Dial Backing Card	27-9875
2.	Mtg. Screw	W-2071	34.	Resistor (470,000 ohms)	33-437339		Dial Pointer	56-2159
2A.	Aerial Transformer (Broadcast)	32-3731	35.	Resistor (100,000 ohms)	33-410339		Mtg. Straps	55-2008
	Mtg. Clip	28-5002	36.	Mica Condenser (100 mmfd.)	60-110157		Screws	W-622
3.	Aerial Transformer (S.W.)	60-010157	37.	Electrolytic Condenser (10 mfd.)	30-2395		Escutcheon (Push Buttons)	56-2233
	Mtg. Clip	28-5002	38.	Resistor (47,000 ohms)	33-347339		Mtg. Screw	W-2071
4.	Mica Condenser (250 mmfd.)	60-123157	39.	Condenser (.02 mfd., 100 volts)	61-0154		Knob (Tuning, Volume, Tone)	54-4101
5.	Mica Condenser (5 mmfd.)	60-005157	40.	Volume Control	33-5452		Knob (Push Buttons)	54-4126
6.	Tuning Condenser	31-2561	41.	Resistor (1 megohm)	33-10339		Adapter Plate (1st I. F. Socket)	56-2112
	Drive Shaft	31-2562	42.	Condenser (.004 mfd., 600 volts)	30-4623		Rivet (Mtg. Adapter Plate)	W-492
	Drive Cord (Cond. Drive)	31-2559	43.	Output Transformer	33-522339		Rubber Washer (Socket Mtg. 1st I. F.)	27-6177
	Drive Cord (Pointer)	31-2560	44.	Mica Condenser (50 mmfd.)	60-050157		Adapter Plate (1st I. F. Socket)	56-2112
	Grommet	27-4596	45.	Tone Control Switch	42-1676		Rivet (Mtg. Socket)	W-239
	Nut (Mtg. Drive Shaft)	34-4020	46.	Condenser (.004 mfd., 200 volts)	61-0128		Rubber Washer (Socket Mtg. 1st I. F.)	27-4112
	Pulleys (Pointer)	27-4981	47.	Condenser (.01 mfd., 400 volts)	61-0100		Rubber Grommet (Socket Mtg. 1st I. F.)	27-4707
	Screw (Mtg. Cond.)	W-523	48.	Condenser (.0015 mfd., 600 volts)	30-4621		Indicator (On-Off)	56-2180
	Spacer	28-5665	49.	Output Transformer	32-8175		Drive Cord	31-2563
	Spring (Cond. Drive)	28-8954	50.	Speaker	27-6115		Operating Arm	56-2183
	Spring (Pointer Drive)	28-8953	51.	Speaker Socket	W-2071		Pulley	27-4981
	Stud (Pointer Drive)	56-6120		Mtg. Rivet	36-1545		Spring (Indicator Drive Cond.)	24-6994
7.	Resistor (4.7 megohms)	33-547339		Cone Assembly	36-4208		Spring Washer (Transfer Lever)	56-1866
8.	Condenser (.05 mfd., 200 volts)	30-4519		Speaker Cable	41-3448		Transfer Lever	56-2184
9.	Resistor (2.2 megohms)	33-522339		Mtg. Screw	W-1446		Stud (Transfer Lever)	56-6143
10.	Resistor (68,000 ohms)	33-386339	52.	Resistor (800 ohms)	33-180336		Tab Kit	40-6660
11.	Mica Condenser (100 mmfd.)	60-110157	53.	Condenser (.0015 mfd., 600 volts)	30-4621		Terminal Panel (Aerial)	38-9870
12.	Push-button Switch	42-1674	54.	Battery Cable & Plug	41-3505		Rivet	W-207
	Mtg. Grommet	27-4596					Terminal Panel (4 lugs)	38-9117
	Mtg. Spacer	28-5665					Terminal Panel (2 lugs)	28-8323
	Washer	W-151					Washer (Chassis Mtg.)	W-410
13.	Push-button Padder Strip	31-6429					Screw (Chassis Mtg.)	W-2030
	Washer	W-152						
	Screw	W-1974						
14.	Band Switch	42-1674						
15.	Oscillator Transformer (S. W.)	32-3728						
16.	Oscillator Transformer (Brdcat.)	32-3730						
17.	Compensator (Osc. 1700 K.C.)	31-6430						
17A.	Compensator (Osc. 500 K.C.)	part of 17						
17B.	Compensator (Osc. 1500 K.C.)	part of 17						
18.	Mtg. Rivets	W-239						
19.	Mica Condenser (5 mmfd.)	60-005137						
20.	Mica Condenser (5300 mmfd.)	60-253124						
21.	Mica Condenser (800 mmfd.)	60-180157						
22.	Oscillator Plate Choke	32-381						
23.	Filament Choke	32-3732						
24.	Condenser (.05 mfd., 200 volts)	20-61010						
25.	Condenser (.05 mfd., 200 volts)	61-0101						
25A.	1st I. F. Transformer	32-3737						
25B.	Mtg. Nut	W-1949						
25C.	Primary Compensator	part of 25						
25D.	Secondary Compensator	part of 25						
26.	2nd I. F. Transformer	32-3621						
27.	Mtg. Nut	W-1949						
28.	Resistor (27,000 ohms)	33-327339						
29.	Condenser (.2 mfd., 200 volts)	30-4587						
30.	Resistor (4.2 megohms)	33-522339						
31.	Condenser (.05 mfd., 200 volts)	61-0101						
32.	Resistor (1,000 ohms)	33-210336						
32A.	3rd I. F. Transformer	32-3733						
32B.	Mtg. Nut	W-1949						
32C.	Secondary Compensator	part of 32						
32D.	Resistor (42,000 ohms)	part of 32						
32E.	Condenser	part of Compensator 32A						
32F.	Condenser	part of Compensator 32A						

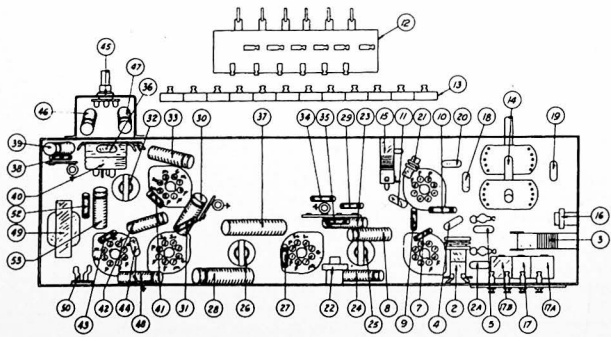


FIG. 4 — LOCATION OF PARTS, UNDERSIDE OF CHASSIS, MODEL 42-126

### **Failure To Operate On Low Frequency End of Broadcast Band Models 42-124, 125, 126**

Some complaints may be received on the above models that the sets will not operate on the low end of the broadcast band when the "A" battery voltage goes below 1.2 volts.

In some cases the condition can be corrected simply by replacing the oscillator tube. In other cases, however, it will be necessary to change the oscillator coil, using a new coil, Part No. 32-3879. In addition, the grid resistor No. 10 in the wiring diagram of Service Bulletin No. 390 should be shunted with a 220,000 ohm resistor, such as Philco Part No. 33-422339.

After the oscillator coil has been replaced, it is necessary to repad the receiver according to service instructions. Should any difficulty be experienced in padding the high frequency end of the broadcast band, the lead from the high frequency broadcast padder to the wave switch should be dressed away from the sub-base.

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