Philco Radio & Television Corp.

	Model: 42-360	**Chassis:**	**Year:** Pre 1945
	Power:	**Circuit:**	**IF:**
	Tubes:		
	Bands:		

Resources
Riders 14 (XIV) PHILCO 14-31
Riders 14 (XIV) PHILCO 14-45
Riders 14 (XIV) PHILCO 14-46
Riders 14 (XIV) PHILCO 14-142

ALIGNING R. F. AND I. F. COMPENSATORS

The following procedure is used for all models:

EQUIPMENT REQUIRED

1. **SIGNAL GENERATOR:** Covering the frequency range of the receiver, such as Philco Model 070.
2. **ALIGNING INDICATOR:** Either a vacuum tube voltmeter or an audio output meter may be used as an aligning indicator. Philco Models 027 and 028 circuit testers contain both these meters.
3. **TOOLS:** Philco Fiber Screw Driver, Part No. 45-2610.

CONNECTING ALIGNING INSTRUMENTS

Audio Output Meter: If this type of aligning meter is used, connect it to the voice coil terminals of the speaker or from the plate of the 35A5 tube to the chassis. Adjust the meter for the 0 to 10 volt scale.

Vacuum Tube Voltmeter: To use the vacuum tube voltmeter as an aligning indicator, make the following connections: Attach the negative (—) terminal of the voltmeter to any point in the circuit where the A. V. C. voltage can be obtained. Connect the positive (+) terminal of the vacuum tube voltmeter to the chassis.

Signal Generator: When adjusting the I. F. padders, the high side of the signal generator is connected through a .1 mfd. condenser to the antenna section of the tuning condenser. Connect the ground or low side of the generator to the chassis.

When aligning the R. F. padders a loop is made from a few turns of wire and connected to the signal generator output terminals; the signal generator is then placed close to the loop of the radio.

The receiver can be adjusted in the cabinet or removed from the cabinet.

In order to adjust the radio outside of the cabinet the dial scale should be removed from the cabinet and placed on the dial background plate. The dial scale can be held in position by clips or rubber bands. The loop aerial should also be placed in approximately the same position around or near the chassis as when assembled.

After connecting the aligning instruments adjust the compensators as shown in the tabulation below. Locations of the compensators are shown in the schematic diagram of each model.

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

PROCEDURE—MODELS 42-323; 42-327; 42-340; 42-360

Operations in Order	SIGNAL GENERATOR		RECEIVER						Special Instructions
	Output Connections to Radio	Dial Setting	Dial Setting	Control Setting	Adjust Compensators in Order — Models 42-323	42-327	42-340	42-360	
1	Aerial Section Tuning Condenser	455 KC	540 KC	Vol. Max. Band Switch Brdcst.	22A 22B 27A 23A	24A 24B 29A 35A	15A 15B 18A 32A	25A 25B 29A 37A	
2	Loop (See above Instructions)	1720 KC	1720 KC	"	8B	8B	7	14A	Note A
3	"	1500 KC	1500 KC	"	8A	8A	23	4	
4	"	580 KC	580 KC	"	15	15	23B	4A	Roll Tuning Condenser Note B
5	Repeat Operation 2								
6	"	15.5 MC	15.5 MC	Band Switch S. W.	15A 3	15A 3	7A 23A	14 12	Note C

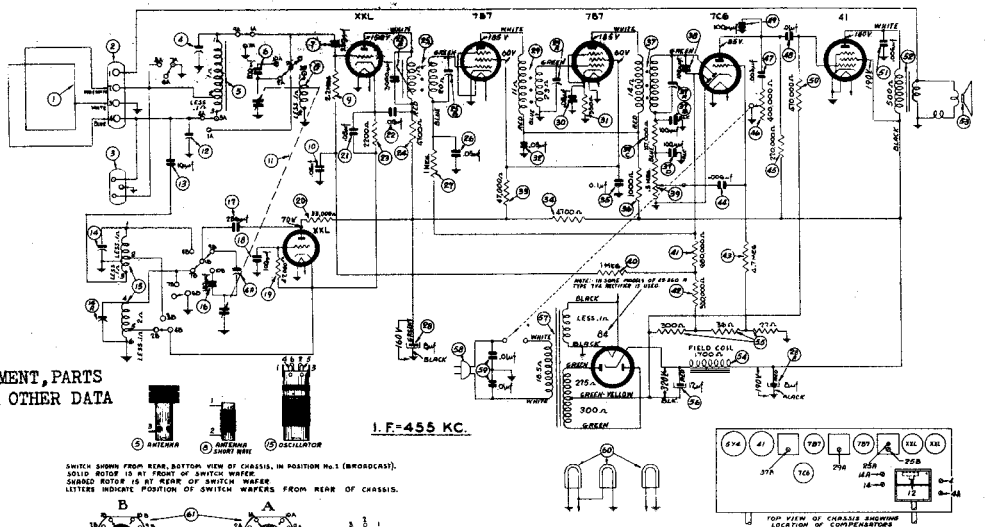
PROCEDURE—MODELS 42-345; 42-365

Operations in Order	SIGNAL GENERATOR		RECEIVER				Special Instructions
	Output Connections to Radio	Dial Setting	Dial Setting	Control Setting	Adjust Compensators in Order — Models 42-345	42-365	
1	Aerial Section Tuning Condenser	455 KC	540 KC	Vol. Max. Band Switch "Brdcst."	29A 29B 32A 34A	29A 29B 32A 41A	
2	Loop (See above Instructions)	1720 KC	1720 KC	"	15	6B	Note A
3	"	1500 KC	1500 KC	"	9	13	
4	"	580 KC	580 KC	"	9B	13A	Roll Tuning Condenser Note B
5	Repeat Operation 2						
6	"	6.7 MC	6.7 MC	Band Switch "Police"	15A	6A	
7	"	15.5 MC	15.5 MC	Band Switch S. W.	15B Osc. 5A Aer.	6 Osc. 4	Note C

NOTE A.—Adjusting Dial Pointer: In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser. To do this, proceed as follows: Turn the tuning condenser to the maximum capacity position (plates fully meshed). With the condenser in this position, set the tuning pointer on the first mark below 540 KC.

NOTE B.—When adjusting the low frequency compensator (Broadcast) or the aerial padders 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.

NOTE C.—Turn tuning condenser until pointer is on 15.5 MC mark, then adjust oscillator compensator to maximum on the second signal peak from the tight position (compensator closed). The Short Wave Aerial padder should then be "rolled" to maximum on the 15 MC signal. See Note B.



SCHEMATIC DIAGRAM MODEL 42-360

The D. C. voltages indicated at the tube elements in the above diagram were measured with a 1000 ohms per volt voltmeter. Philco Model 027. Line voltage, 117 volts A. C. No signal being received—range switch broadcast.

MODEL 42-360, CODE 121

Circuit Description: Model 42-360, Code 121, is a seven (7) tube superheterodyne radio with two tuning bands covering Standard, Police and Shortwave broadcast stations and operates on alternating current (A. C.). In addition, this model incorporates a Philco low impedance loop aerial which is built into the cabinet; provisions for an external aerial; Philco LOKTAL tubes, including the XXL noise reducing converter tube; two intermediate frequency stages; continuously variable tone control; automatic volume control; pentode audio output stage and a 10-inch dynamic speaker.

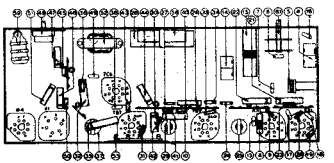
Intermediate Frequency: 455 KC.

Tuning Band Frequencies: 540 to 1720 KC; 9 to 15.5 MC.

Audio Output: 2 watts.

Power Supply: 115 volts, 60 cycles A. C.

This model can also be operated on 115 volts, 25 cycle A. C. by changing the power transformer as indicated in the parts list.



PART LOCATIONS, UNDERSIDE OF CHASSIS, MODEL 42-360

MODEL 42-360
MODEL 42-365

PHILCO RADIO & TELEV. CORP.

REPLACEMENT PARTS—Model 42-360

Sch. No.	Description	Part No.
1.	Loop Aerial	76-1271
	Spring Washer	28-4188
	Sleeve	28-2606
	Sleeve	66-1545
	Screw (Loop Mtg.)	W-288
	Washer (3 required)	W-442
	Washer (1 required)	W-425
2.	Terminal Panel	38-9870
3.	External Aerial Socket	27-6145
	Mtg. Rivet	W-207
4.	Compensator (Broadcast Aerial)	31-6365
4A.	Compensator (Oscillator—Brdcst.—560KC) (Part of 4)	
	Mtg. Rivet	W-239
5.	Aerial Transformer (Brdcst. Band)	32-3728
	Mtg. Clip	28-5002
6.	Mica Condenser (200 mmfd)	30-1205
7.	Mica Condenser (250 mmfd)	60-125157
8.	Aerial Transformer (S. W. Band)	32-3768
	Mtg. Clip	28-5002
9.	Resistor (2.2 megohms)	33-252239
10.	Condenser (.05 mfd. 200 volts)	30-4519
11.	Tuning Condenser	31-2481
	Tuning Shaft	66-6141
	"C" Washer	28-2042
	Drive Drum	38-9853
	Drive Cord (Pointer)	31-2597
	Drive Cord (Tuning Cond.)	31-2400
	Insulating Bushing	27-9437
	Grounding Spring	27-9438
	Mtg. Grommet	27-4596
	Mtg. Sleeve	28-3006
	Spring (Cond. Drive Cord)	28-8751
	Spring (Pointer Drive Cord)	28-8963
	Screw (Mtg. Cond.)	W-3902
12.	Compensator (S. W. Aerial)	31-6364
13.	Mica Condenser (10 mmfd)	60-010337
14.	Compensator (Oscillator—S. W.)	31-6364
14A.	Compensator (Oscillator—Broadcast) (Part of 14)	
	Mtg. Rivet	W-239
15.	Oscillator Transformer	32-3727
	Mtg. Clip	28-5003
16.	Mica Condenser (182 mmfd)	30-1206
17.	Mica Condenser (250 mmfd)	60-125157
18.	Mica Condenser (100 mmfd)	60-110157
19.	Resistor (47,000 ohms)	33-347239
20.	Resistor (33,000 ohms)	33-333239
21.	Condenser (.05 mfd, 200 volts)	30-4519
22.	Condenser (.05 mfd, 400 volts)	30-4515
23.	Resistor (2200 ohms)	33-222239
24.	Resistor (4700 ohms)	33-247239
25.	1st I. F. Transformer	32-3465
25A.	Primary Compensator (Part of 25)	
25B.	Secondary Compensator (Part of 25)	
	Mtg. Nut	W-1949
26.	Condenser (.05 mfd. 200 volts)	30-4519
27.	Resistor (1 megohm)	33-510339
28.	Electrolytic Condenser (3-8 mfd, 400 volts)	30-2476
29.	2nd I. F. Transformer	32-3629
29A.	Secondary Compensator (Part of 29)	
	Mtg. Nut	W-1949
30.	Condenser (.05 mfd. 200 volts)	30-4519
31.	Resistor (330 ohms)	33-133236
32.	Condenser (.05 mfd, 400 volts)	30-4515
33.	Resistor (47,000 ohms)	33-347239
34.	Resistor (4700 ohms)	33-247239
35.	Condenser (.1 mfd. 400 volts)	30-4527
36.	Resistor (1000 ohms)	33-210239
37.	3rd I. F. Transformer	32-3645
37A.	Secondary Compensator (Part of 37)	
37B.	Condenser (100 mmfd) (Part of 37;	
37C.	Resistor (47,000 ohms) (Part of 37)	
37D.	Condenser (100 mmfd) (Part of 37)	
	Mtg. Nut	W-1949
38.	Condenser (100 mmfd)	60-110157
39.	Volume Control	33-5451
	Mtg. Nut	W-2157
40.	Resistor (1 megohm)	33-510339
41.	Resistor (680,000 ohms)	33-468339
42.	Resistor (330,000 ohms)	33-433239
43.	Resistor (4.7 megohms)	33-547239
44.	Condenser (.006 mfd, 400 volts)	30-4531
45.	Resistor (220,000 ohms)	33-422239
46.	Tone Control	33-5463
	Mtg. Nut	W-2157
47.	Condenser (.002 mfd, 400 volts)	30-4522
48.	Condenser (.01 mfd, 400 volts)	30-4572
49.	Mica Condenser (100 mmfd)	60-110157
50.	Resistor (470,000 ohms)	33-447339
51.	Condenser (.006 mfd, 400 volts)	30-4531
52.	Output Transformer	32-3116
53.	Speaker	36-1513-2 or 36-1513-4
	Cone Assembly (For Speaker 36-1513-2)	36-4164
	Cone Assembly (For Speaker 36-1513-4)	36-4167
	Cable (Speaker)	41-3542
	Mtg. Nut (Speaker)	W-124
54.	Field Coil (Replace Speaker)	36-1515
55.	Bias Resistor (27-36-300 ohms)	33-3392
56.	Electrolytic Condenser (12 mfd, 400 volts)	30-2471
57.	Power Transformer (115 volts, 60 cycle)	32-3117
	Power Transformer (115 volts, 25 cycle)	
58.	Power Cord	L-3120
59.	Filter Condenser (Power Line)	3902-DG
60.	Pilot Lamps (Dial)	54-2064
	Pilot Lamps (Indicator)	54-3003
	Socket Assembly (Pilot Lamp Dial)	76-1216
	Socket Assembly (Indicator Pilot Lamp)	76-1272
61.	Band Switch	42-1672
	Mtg. Nut	W-2157
	Miscellaneous Parts	
	Bezel (Cabinet)	54-4194
	Mtg. Screw	W-3971
	Cabinet	19542-C
	Dial	27-5794
	Pointer	56-1356
	Spring Fastener	56-6127
	Knob	54-4196
	Indicator Arm and Link Assembly	76-1272
	Rubber Corners (Chassis)	54-4015
	Rubber Grommet (Chassis Mtg.)	27-4571
	Screw (Chassis Mtg.)	W-1245
	Socket (5 prong)	27-6156
	Socket (6 prong)	27-6177
	Mtg. Rivet	W-239
	Washer (Chassis Mtg.)	28-5114

REPLACEMENT PARTS—Model 42-365

Sch. No.	Description	Part No.
1.	Loop Aerial	76-1205
	Sleeve (Mtg. Loop)	28-2606
	Sleeve (Mtg. Loop)	66-1545
	Spring Washer	28-4188
	Screw (Loop Mtg.)	W-288
	Washer (Loop Mtg.)	W-425
2.	Terminal Panel (Loop Aerial)	38-9870
3.	External Aerial Socket	27-6145
	Mtg. Rivet	W-207
4.	Compensator (S. W. Aerial)	31-6364
5.	Mica Condenser (10 mmfd)	60-010337
6.	Compensator (Oscillator—S. W.)	31-6364
6A.	Compensator (Oscillator—Police) (Part of 6)	
6B.	Compensator (Oscillator—Broadcast) (Part of 6)	
7.	Oscillator Transformer (Broadcast—S. W.)	32-3764
	Mtg. Clip	28-5002
8.	Oscillator Transformer (Police)	32-3767
	Mtg. Clip	28-5002
9.	Aerial Transformer	32-3765
	Mtg. Clip	28-5002
10.	Mica Condenser (10 mmfd)	60-010337
11.	Silver Mica Condenser (210 mmfd)	30-1210
12.	Mica Condenser (250 mmfd)	60-125157
13.	Compensator (Aerial—Broadcast)	31-6401
13A.	Compensator (Oscillator—580 KC) (Part of 14)	
14.	Resistor (2.2 megohms)	33-522239
15.	Condenser (.05 mfd, 200 volts)	30-4519
16.	Condenser (.05 mfd, 200 volts)	30-4519
17.	Mica Condenser (250 mmfd)	60-125157
18.	Mica Condenser (100 mmfd)	60-110157
19.	Mica Condenser (182 mmfd)	30-1206
20.	Tuning Condenser	31-2481
	Drive Drum	38-9853
	Drive Cord (Pointer)	31-2597
	Drive Cord (Tuning Cond.)	31-2400
	Drive Shaft	66-6141
	"C" Washer	28-2042
	Insulating Bushing	27-9437
	Grounding Spring	27-9438
	Grommet (Mtg. Cond.)	27-4596
	Rubber Grommet (Tuning Cond.)	27-9435
	Spring (Cond. Drive Cord)	28-8751
	Spring (Pointer Drive Cord)	28-8963
	Sleeve (Mtg. Tuning Cond.)	28-3006
21.	Push-Button and Power Switch Assembly	42-1627
	Mtg. Sleeve	28-5006
	Mtg. Screw	W-4230
	Mtg. Grommet	27-4596
22.	Push-Button Compensator Assembly	31-6377
23.	Mica Condenser (100 mmfd)	60-110157
24.	Resistor (47,000 ohms)	33-347239
25.	Resistor (33,000 ohms)	33-333239
26.	Resistor (2200 ohms)	33-222239
27.	Resistor (4700 ohms)	33-247239
28.	Condenser (.05 mfd, 400 volts)	30-4515
29.	1st I. F. Transformer	32-3465
	Mtg. Nut	W-1949
29A.	Primary Compensator (Part of 29)	
29B.	Secondary Compensator (Part of 29)	
30.	Condenser (.05 mfd, 200 volts)	30-4519
31.	Resistor (1 megohm)	33-510339
32.	2nd I. F. Transformer	32-3629
	Mtg. Nut	W-1949
32A.	Secondary Compensator (Part of 32)	
33.	Condenser (.05 mfd, 200 volts)	30-4519
34.	Resistor (330 ohms)	33-133236
35.	Condenser (.05 mfd, 400 volts)	30-4515
36.	Resistor (47,000 ohms)	33-347239
37.	Electrolytic Condenser (3-8 mfd)	30-2476
37A.	Electrolytic Condenser (8 mfd) (Part of 37)	
	Mtg. Clamp	56-1452
38.	Resistor (4700 ohms)	33-247239
39.	Condenser (.01 mfd, 400 volts)	30-4572
40.	Resistor (1000 ohms)	33-210239
41.	3rd I. F. Transformer	32-3630
	Mtg. Nut	W-1949
41A.	Secondary Compensator (Part of 41)	
41B.	Condenser (100 mmfd) (Part of 41)	
41C.	Resistor (47,000 ohms) (Part of 41)	33-347239
41D.	Condenser (100 mmfd) (Part of 41)	
42.	Mica Condenser (100 mmfd)	60-110157
43.	Volume Control	33-5451
	Mtg. Nut	W-2157
44.	Resistor (1 megohm)	33-510339
45.	Resistor (680,000 ohms)	33-468339
46.	Resistor (330,000 ohms)	33-433239
47.	Resistor (4.7 megohms)	33-547239
48.	Condenser (.006 mfd, 400 volts)	30-4531
49.	Resistor (220,000 ohms)	33-422239
50.	Tone Control	33-5463
	Mtg. Nut	W-2157
51.	Resistor (470,000 ohms)	33-447239
52.	Condenser (.002 mfd, 400 volts)	30-4522
53.	Condenser (100 mmfd)	60-110157
54.	Condenser (.01 mfd, 400 volts)	30-4572
55.	Condenser (.006 mfd, 400 volts)	30-4531
56.	Output Transformer	32-3116
57.	Speaker	36-1513-2 or 36-1513-4
	Cone Assembly (For Speaker 36-1513-2)	36-4164
	Cone Assembly (For Speaker 36-1513-4)	36-4166
	Mtg. Nut	W-124
	Cable (Speaker)	41-3542
58.	Bias Resistor (27-36-300 ohms)	33-3392
	Mtg. Rivet	W-239
59.	Field Coil (Replace Speaker 36-1513)	
60.	Electrolytic Condenser (12 mfd 400 volts)	30-2471
	Mtg. Clamp	56-1452
61.	Power Transformer (115 volts, 60 cycles)	32-3117
	Power Transformer (115 volts, 25 cycles)	
62.	Power Line Filter Condenser	3902-DG
63.	Pilot Lamp (Dial)	54-2064
	Pilot Lamp (Indicator)	54-3003
	Socket Assembly (Dial Light)	76-1216
	Socket Assembly (Indicator Light	76-1272
	Shield	56-2194
64.	Band Switch	42-1683
	Mtg. Nut	W-2157
	Miscellaneous Parts	
	Cord (Power)	L-3120
	Cabinet	19563A
	Dial	27-5751
	Pointer	56-1356
	Escutcheon (Push-Button)	54-3283
	Mtg. Screw	W-3971
	Knob (Tuning, Volume, Tone)	54-4195
	Knob (Push-Button)	54-4196
	Indicator Arm and Link Assembly	76-1272
	Rubber Corners (Chassis)	54-4015
	Rubber Grommet (Chassis Mtg.)	27-4571
	Screw (Chassis Mtg.)	W-1245
	Socket (5 prong)	27-6156
	Socket (6 prong)	27-6161
	Socket (Loktal)	27-6177
	Mtg. Rivets	W-239
	Tab Kit S	40-8699
	Tab (Off-On)	27-5728
	Tab Cover	54-4216
	Washer	28-5114

NOTES, CHANGES

PHILCO RADIO & TELEVISION CORP.

MODEL 42-360, CODE 121

To operate on 115 volts, 25 cycle A.C. current power transformer Part No. 32-8149 is used.

For operation on a 115 or 220 volt, 60 cycle A.C. power supply, use transformer Part No. 32-8094.

To improve performance aerial transformer (Brdcst Band) (5) is changed from Part No. 32-3726 to 32-3863. The lug arrangement for both coils is shown on the schematic diagram. In some later production chassis of Model 42-360 a 7Y4 rectifier tube is used in place of an 84 tube.

MODEL 42-365, CODE 121

The pointer drive cord on later production chassis was changed from Part No. 31-2597 to 31-2608. The new cord is shorter than the original one.

To operate this model on 115 volts, 25 cycle A.C. current change power transformer (61) from Part No. 32-8117 to Part No. 32-8149.

For operation on 115 or 230 volt, 60 cycle A.C. power circuits use power transformer 32-8094.

Aerial transformer (9) changed from Part No. 32-3755 to 32-3864 to improve the operating performance of the receiver.

MODEL 42-380, CODE 121

To operate this model on 115 volt, 25 cycle A.C. current replace power transformer (62) Part No. 32-8177 with Part No. 32-8195.

For operation on a 220 volt 60 cycle A.C. current power transformer Part No. 32-8212 is required.

In later production models the aerial transformer (3) Part No. 32-3746 was changed to Part No. 32-3869 to increase the sensitivity.

Tuning shaft changed from Part No. 56-6152FA3 to 56-6193CP.

MODEL 42-390, CODE 121

To increase the sensitivity the aerial transformer (5) was changed from Part No. 32-3790 to Part No. 32-3870.

Push-button knobs changed from Part No. 54-4111 to 54-4144.

To operate this model on a 115 volt 25 cycle A.C. power supply change the power transformer from Part No. 32-8177 to 32-8195.

For operation on 220 volts, 60 cycle current, power transformer 32-8212 is required.

Tuning shaft changed from Part No. 56-6152FA3 to 56-6193CP.

Beginning with chassis marked run 2, the power transformer (90) Part No. 32-8177 is changed to Part No. 32-8222.

MODEL 42-395, CODE 121

A few early production chassis of this model used speaker Part No. 36-1515-4 (cone assembly 36-4181) and speaker Part No. 36-1515-2 (cone assembly 36-4173).

All later production models use speaker Part No. 36-1530 (cone assembly 36-4181) as list in the Service Bulletin.

To operate on 115 volts, 25 cycle current change the power transformer from Part No. 32-8192 to Part No. 32-8209.

For operation on 220 volts, 60 cycle current, use power transformer Part No. 32-8213.

The broadcast aerial transformer (3) Part No. 32-3790 was changed to Part No. 32-3870 on later production chassis to increase the sensitivity.

Tuning shaft changed from Part No. 56-6164 to 56-6195CP.

To improve the I.F. filtering of the plate voltage supply, condenser (47) was changed from .05 mfd. Part No. 30-4518 to .2 mfd. Part No. 30-4594.

MODEL 42-400, CODE 121

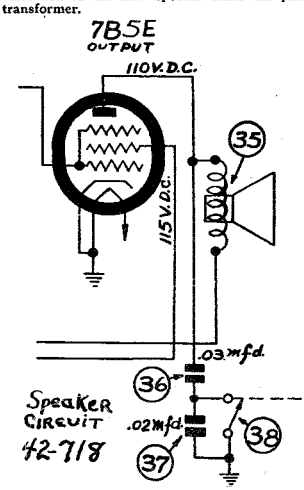
Condenser (59D) which is mounted in the fourth I.F. transformer is Part No. 60-150227. This number is not shown in the parts list.

MODEL 42-718, CODE 121

Beginning with run 2. the speaker (35) was changed from Part No. 36-1520-4 to Part No. 36-1576. The new speaker is a permanic type and the wiring is different from that shown on the diagram for speaker Part No. 36-1520-4. The wiring for the new speaker is shown below.

Output transformer (34) Part No. 32-8106 is also removed when the permanic speaker Part No. 36-1576 is installed.

The voice coil in the new speaker takes the place of the output transformer.



MODEL 42-730, CODE 121

To prevent moisture from affecting circuits, condensers (44), (48) and (51) changed from Part No. 30-4591 to Part No. 30-4610. Values remain the same.

MODEL 42-760, CODE 121

Beginning with chassis marked run 2, the band switch (85) was changed from 42-1660 to 42-1711.

MODEL 42-761, CODE 121

Beginning with chassis marked run 4 condenser (13) Part No. 30-4586 .1 mfd., 200 volts changed to .1 mfd., 400 volts Part No. 30-4527.

Correction: Dial scale pointer Part No. should be 56-2134 instead of 56-1234 as shown in the parts list.

MODEL 42-762, CODE 121

Beginning with chassis marked run 3, the speaker of this model was changed from permanent magnet type Part No. 36-1508-3 to electro-dynamic type Part No. 36-1568. Speaker cable for the new speaker is Part No. 41-3535.

The voice coil of the electro-dynamic speaker is connected as shown in the Service Bulletin. The field coil of the speaker is connected to the + positive and (—) negative wiring of the 6 volt storage battery.

MODEL 42-788, CODE 121

To improve operating conditions in humid climates the part numbers of the following condensers were changed. Values remain the same:

Schematic No.	Description	Original Part No.	New Part No.
54	CONDENSER (.01 mfd.) 400 volts	30-4572	30-4598 (1000 volts)

Continued on next page