

Philco Radio & Television Corp.

Model: 42-842(122)

Chassis:

Year: Pre 1945

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

Riders Volume 14 - PHILCO 14-78

Riders Volume 14 - PHILCO 14-79, 80

Riders Volume 14 - PHILCO 14-81

MODEL 42-842(122)

MODELS 42-842, 42-843, PHILCO RADIO & TELEVISION CORP.
42-844

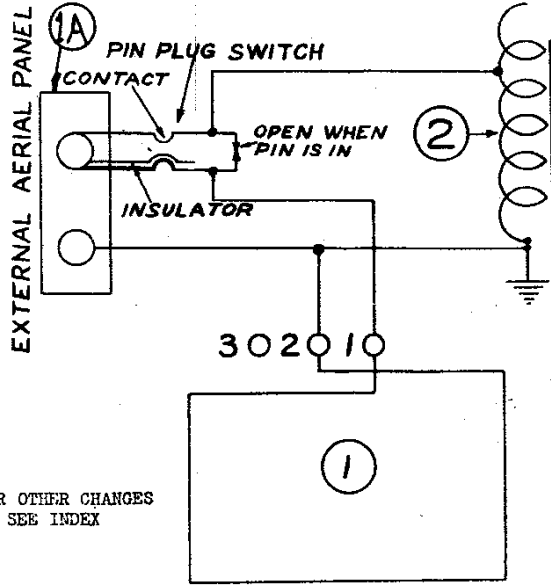
MODELS 42-853, 42-854

PRODUCTION CHANGES

Model 42-842, Code 122 is similar to code 121 with the exception of the external aerial input panel, auxiliary plug-in loop aerial, cabinet and several parts. The schematic diagram, aligning instructions and specifications in service bulletin 391 for 42-842, code 121 applies to 42-842, code 122 with the parts and aerial panel change shown below. The Philco auxiliary plug-in loop aerial part No. 45-2935 should be used with this model when an outside aerial is required. This loop aerial is a low impedance type.

REPLACEMENT PARTS—MODEL 42-842, CODE 122.

SCHEM. No.	DESCRIPTION	PART No.	DESCRIPTION	PART No.	SCHEM. No.	DESCRIPTION	PART No.				
1.	Loop Aerial Screw (Loop Mts.)	76-1429	50. Condenser (.05 mfd., 400 volts)	30-451A	1.	Screw	W-453				
1A.	External Loop Terminal Socket	W-2075	51. Resistor (500 ohms)	33-16833B		Washers	W-848				
2.	Aerial Transformer Core	27-8183	52. Battery Cable	41-3378		Dial Pointer	27-8668				
3.	Mica Condenser (250 mmfd.)	32-3022	MISCELLANEOUS PARTS					27-8978			
4.	Tuning Condenser Rubber Grommet (Mts.)	28-5062								Socket	27-8174
	Spacers (Mts.)	68-125187								Socket	27-8174
	Spacers (Drive Cord)	27-4596								Grommet (Mtg. Socket)	54-4965
	Tuning Shaft "W" Washer	23-2806								Adapter Plug	56-2112
	Drive Cord	56-6132								Screw (Chassis Mts.)	W-2650
5.	Mica Condenser (800 mmfd.)	28-3995								Washer (Chassis Mts.)	W-410
6.	Condenser (.85 mfd., 200 volts)	31-2380								External Low Impedance Loop Aerial	45-2935
7.	Oscillator Transformer Iron Core	65-180137									
8.	Resistor (150,000 ohms)	30-451B									
9.	Resistor (2.2 megohms)	32-3655									
10.	Mica Condenser (100 mmfd.)	17-2325									
11.	Resistor (4.7 megohms)	33-415339									
12.	Condenser (.03 mfd., 200 volts)	33-322339									
13.	Oscillator Choke	60-116157									
14.	Filament Choke	33-547339									
15.	1st I. F. Transformer Pinout (Mts.)	30-4519									
16.	Resistor (27,000 ohms)	32-3645									
17.	Condenser (.2 mfd.)	32-3652									
18.	Condenser (.85 mfd., 200 volts)	32-3220									
19.	Condenser (.85 mfd., 200 volts)	W-1949									
20.	Resistor (1,500 ohms)	33-322339									
21.	Resistor (1 megohm)	36-4307									
22.	Condenser (.05 mfd., 200 volts)	30-4519									
23.	Condenser (.2 mfd.)	33-218339									
24.	Resistor (4.7 megohms)	33-516339									
25.	2nd I. F. Transformer Pinout (Mts.)	30-4519									
26.	3rd I. F. Transformer Pinout (Mts.)	32-3631									
27.	Condenser (.85 mfd., 200 volts)	W-1949									
28.	Resistor (1,000 ohms)	30-4519									
29.	Resistor (1,000 ohms)	33-218339									
30.	Volume Control Pinout (Mts.)	33-218339									
30A.	Switch	33-3436									
31.	Resistor (1,000 ohms)	W-2127									
32.	Resistor (1,000 ohms)	(Part of 30)									
33.	Condenser (.004 mfd., 400 volts)	33-218339									
34.	Resistor (4.7 megohms)	30-4576									
35.	Condenser (.85 mfd., 400 volts)	33-547339									
36.	Mica Condenser (100 mmfd.)	30-4574									
37.	Resistor (1 megohm)	60-116157									
38.	Resistor (2.2 megohms)	33-415339									
39.	Condenser (.882 mfd., 1,000 volts)	33-322339									
40.	Output Transformer	30-4509									
41.	Cone Assembly (for Speaker 36-1548)	37-4169									
42.	Condenser (.05 mfd., 200 volts)	36-4201									
43.	Battery Plug and Cable	30-4519									
44.	Automatic Power Change Over Switch Spacer	41-3570									
45.	Condenser (.2 mfd.) & Choke Assy.	42-1650									
46.	Resistor (1,500 ohms)	57-9194									
47.	Electrolytic Condenser	74-1227									
48.	Resistor (1,500 ohms)	33-218339									
49.	Resistor (1,000 ohms)	30-2881									
		36-1452									
		33-218339									
		33-3424									



External Aerial Socket Wiring
Model 42-842, Code 177

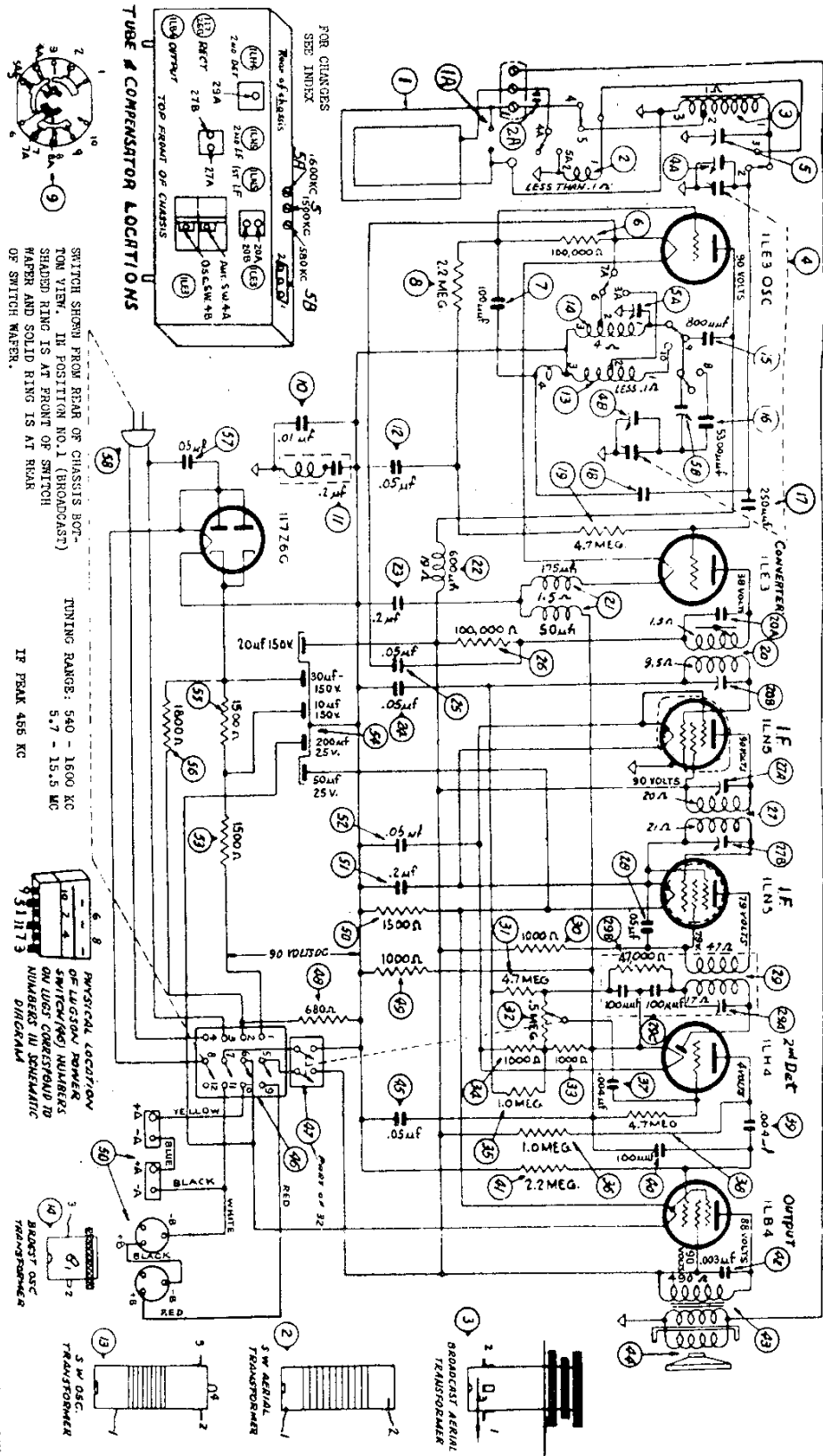
Filament Resistor Change in Models 42-842, 843, 844, 853, 854

In the above listed models, complaints may be received of a complete set of tubes testing weak. Replacement of the tubes restores normal operation for only a short time after which the same condition re-occurs.

The condition is caused by the overheating of the series filament resistor shown as No. 49 in Service Bulletin No. 391 and as No. 56 in Service Bulletin No. 388. When the overheating takes place, the resistor breaks down, its resistance value decreases, thus allowing an increased filament current to the tubes with resulting damage to the filaments.

An entirely new replacement resistor is available — Part No. 33-3424. This resistor is considerably longer than the one now in the set and is equipped with a protecting cover. The resistor is mounted vertically over one of the original holes in the chassis with a suitable drive screw. The tab on the cover is soldered to the chassis. The longer leads which are required for the installation and which should be fireproof, and not ordinary rubber covered, are brought down through the large hole in the chassis. The other large hole should be plugged up with a spring button, such as Philco Part No. W2232.

Although the Service Bulletin parts listing calls for resistor No. 33-218339, the number of the resistor which has been used is 33-3410. If a replacement is necessary, however, the new resistor No. 33-3424 should be used.



TUBE & COMPENSATOR LOCATIONS

SWITCH SHOWN FROM REAR OF CHASSIS BOTTOM VIEW. IN POSITION NO. 1 (BROADCAST) SHADED RING IS AT FRONT OF SWITCH WAFER AND SOLID RING IS AT REAR OF SWITCH WAFER.

TUNING RANGE: 540 - 1600 KC
5.7 - 15.5 MC
IF PEAK 456 KC

PHYSICAL LOCATION OF ALGON NUMBERS SWITCH/RES NUMBERS ON LIST CORRESPOND TO NUMBERS IN SCHEMATIC DIAGRAM

Part No.	Description	Part No.	Description
1	1.600KC 500K 5B	31	Resistor (500 ohms, 200 watts)
2	1.600KC 500K 5B	32	Resistor (100,000 ohms)
3	1.600KC 500K 5B	33	Resistor (100,000 ohms)
4	1.600KC 500K 5B	34	Resistor (100,000 ohms)
5	1.600KC 500K 5B	35	Resistor (100,000 ohms)
6	1.600KC 500K 5B	36	Resistor (100,000 ohms)
7	1.600KC 500K 5B	37	Resistor (100,000 ohms)
8	1.600KC 500K 5B	38	Resistor (100,000 ohms)
9	1.600KC 500K 5B	39	Resistor (100,000 ohms)
10	1.600KC 500K 5B	40	Resistor (100,000 ohms)
11	1.600KC 500K 5B	41	Resistor (100,000 ohms)
12	1.600KC 500K 5B	42	Resistor (100,000 ohms)
13	1.600KC 500K 5B	43	Resistor (100,000 ohms)
14	1.600KC 500K 5B	44	Resistor (100,000 ohms)
15	1.600KC 500K 5B	45	Resistor (100,000 ohms)
16	1.600KC 500K 5B	46	Resistor (100,000 ohms)
17	1.600KC 500K 5B	47	Resistor (100,000 ohms)
18	1.600KC 500K 5B	48	Resistor (100,000 ohms)
19	1.600KC 500K 5B	49	Resistor (100,000 ohms)
20	1.600KC 500K 5B	50	Resistor (100,000 ohms)
21	1.600KC 500K 5B	51	Resistor (100,000 ohms)
22	1.600KC 500K 5B	52	Resistor (100,000 ohms)
23	1.600KC 500K 5B	53	Resistor (100,000 ohms)
24	1.600KC 500K 5B	54	Resistor (100,000 ohms)
25	1.600KC 500K 5B	55	Resistor (100,000 ohms)
26	1.600KC 500K 5B	56	Resistor (100,000 ohms)
27	1.600KC 500K 5B	57	Resistor (100,000 ohms)
28	1.600KC 500K 5B	58	Resistor (100,000 ohms)
29	1.600KC 500K 5B	59	Resistor (100,000 ohms)
30	1.600KC 500K 5B	60	Resistor (100,000 ohms)
31	1.600KC 500K 5B	61	Resistor (100,000 ohms)
32	1.600KC 500K 5B	62	Resistor (100,000 ohms)
33	1.600KC 500K 5B	63	Resistor (100,000 ohms)
34	1.600KC 500K 5B	64	Resistor (100,000 ohms)
35	1.600KC 500K 5B	65	Resistor (100,000 ohms)
36	1.600KC 500K 5B	66	Resistor (100,000 ohms)
37	1.600KC 500K 5B	67	Resistor (100,000 ohms)
38	1.600KC 500K 5B	68	Resistor (100,000 ohms)
39	1.600KC 500K 5B	69	Resistor (100,000 ohms)
40	1.600KC 500K 5B	70	Resistor (100,000 ohms)
41	1.600KC 500K 5B	71	Resistor (100,000 ohms)
42	1.600KC 500K 5B	72	Resistor (100,000 ohms)
43	1.600KC 500K 5B	73	Resistor (100,000 ohms)
44	1.600KC 500K 5B	74	Resistor (100,000 ohms)
45	1.600KC 500K 5B	75	Resistor (100,000 ohms)
46	1.600KC 500K 5B	76	Resistor (100,000 ohms)
47	1.600KC 500K 5B	77	Resistor (100,000 ohms)
48	1.600KC 500K 5B	78	Resistor (100,000 ohms)
49	1.600KC 500K 5B	79	Resistor (100,000 ohms)
50	1.600KC 500K 5B	80	Resistor (100,000 ohms)
51	1.600KC 500K 5B	81	Resistor (100,000 ohms)
52	1.600KC 500K 5B	82	Resistor (100,000 ohms)
53	1.600KC 500K 5B	83	Resistor (100,000 ohms)
54	1.600KC 500K 5B	84	Resistor (100,000 ohms)
55	1.600KC 500K 5B	85	Resistor (100,000 ohms)
56	1.600KC 500K 5B	86	Resistor (100,000 ohms)
57	1.600KC 500K 5B	87	Resistor (100,000 ohms)
58	1.600KC 500K 5B	88	Resistor (100,000 ohms)
59	1.600KC 500K 5B	89	Resistor (100,000 ohms)
60	1.600KC 500K 5B	90	Resistor (100,000 ohms)
61	1.600KC 500K 5B	91	Resistor (100,000 ohms)
62	1.600KC 500K 5B	92	Resistor (100,000 ohms)
63	1.600KC 500K 5B	93	Resistor (100,000 ohms)
64	1.600KC 500K 5B	94	Resistor (100,000 ohms)
65	1.600KC 500K 5B	95	Resistor (100,000 ohms)
66	1.600KC 500K 5B	96	Resistor (100,000 ohms)
67	1.600KC 500K 5B	97	Resistor (100,000 ohms)
68	1.600KC 500K 5B	98	Resistor (100,000 ohms)
69	1.600KC 500K 5B	99	Resistor (100,000 ohms)
70	1.600KC 500K 5B	100	Resistor (100,000 ohms)

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PHILCO RADIO & TELEVISION CORP.

MODELS 42-842, 42-843,
42-844

MODELS 42-853, 42-854

CONNECTING ALIGNING INSTRUMENTS

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. Terminal No. 1 on the rear of the chassis which connects to the speaker is also provided for connecting the audio output meter. If this terminal is used, the lowest scale of the meter should be used when aligning.

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 tube. The ground or low side of the signal generator is connected to the chassis of the receiver.

When aligning the R. F. padders of the portable models 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.

MODELS 42-842, 42-843, 42-844

These models may be adjusted when operated by battery or 115 volts A.C.-D.C. power.

Operations In Order	SIGNAL GENERATOR		RECEIVER			SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting	Adjust Compensators	
1	See Paragraph on Signal Generator above	465 K.C.	540 K.C.	Vol. Max.	26A, 25A, 25B, 15A, 15B	Note A
2	Use Loop on Generator as above	1500 K.C.	1500 K.C.	Vol. Max.	4B, 4A	
3	Use Loop on Generator as above	580 K.C.	580 K.C.	Vol. Max.	7A, Note B	Roll Tuning Condenser to Max.
4	Use Loop on Generator as above	Repeat Operation 2	Repeat Operation 2	Repeat Operation 2		

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 540 K.C.

NOTE B— Roll tuning condenser as compensator 7A is being adjusted until maximum output is indicated on output meter.

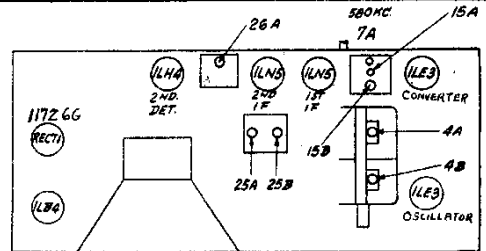


FIG. 1. LOCATIONS OF COMPENSATORS.

MODELS 42-853, 42-854

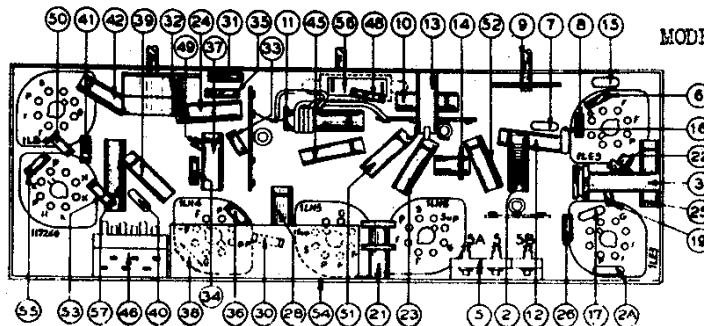
These models may be adjusted when operated by battery or 115 volts A.C.-D.C. power.

Operations In Order	SIGNAL GENERATOR		RECEIVER			SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting	Adjust Compensators	
1.	See paragraph on Signal Generator above	465 K.C.	540 K.C.	Vol. Max. Band—Broadcast	20A, 20B, 27A, 27B, 29A	Note A
2.	Loop on Generator	15 mc.	15 mc.	Band—S.W.	4B, 4A	Note B
3.	Loop on Generator	1600 K.C.	1600 K.C.	Band—Broadcast	5A	
4.	Loop on Generator	1500 K.C.	1500 K.C.	Band—Broadcast	5	Note C
5.	Loop on Generator	580 K.C.	580 K.C.	Band—Broadcast	5B	Roll Tuning Condenser
	Repeat operation 3					

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 540 K.C.

NOTE B: When adjusting the S. W. oscillator compensator be sure to tune in the fundamental signal (15 mc.) instead of the image signal. If the compensator is correctly adjusted, the image signal will be found by turning the signal generator dial 910 mc. below the fundamental signal which will be 14,090 mc.

NOTE C: To adjust the aerial compensator (5) to maximum, first set signal generator to 1500 K.C., then tune in this signal on the radio. The aerial compensator is then adjusted to maximum output.



MODELS 42-853, 42-854

LOCATION OF PARTS, UNDERSIDE OF CHASSIS