

# MODELS 40-115 and 40-124, Code 121

## SPECIFICATIONS

### MODEL 40-115, CODE 121

**TYPE OF CIRCUIT:** Model 40-115 is a six tube AC-DC operated superheterodyne receiver with two tuning ranges covering standard Broadcast and Police frequencies. In addition other features of design are: R. F. Stage, Beam Pentode Audio Output, Automatic Volume Control and Philco Loktal Tubes.

**POWER SUPPLY:** 115 Volts, AC or DC.

**TUNING RANGES:** 540 to 1600 K. C., 1.5 to 3.3 M. C.

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

**PHILCO TUBES USED:** 7C7, R. F.; 7A8, Converter; 7B7, I. F.; 7C6, 2nd Detector, A. V. C. 1st Audio; 35A5, Audio Output; and 35Z3, Rectifier.

**AUDIO OUTPUT:** 1 Watt.

**CABINET DIMENSIONS:** Height, 7 3/4". Width, 12 3/4". Depth, 5 3/4".

### MODEL 40-124, CODE 121

**TYPE OF CIRCUIT:** Model 40-124 is a six tube AC-DC operated superheterodyne receiver using Electric Pushbutton tuning in addition to manual tuning. Other features of design are: Two Tuning Ranges, R. F. Stage, Beam Pentode Audio Output, Automatic Volume Control, and Philco Loktal Tubes.

Five broadcast stations can be automatically tuned in by electric pushbutton tuning. One pushbutton is also provided for selecting dial tuning. The procedure for adjusting the pushbuttons to stations is covered in the instructions on page 9.

**POWER SUPPLY:** 115 Volts, AC or DC.

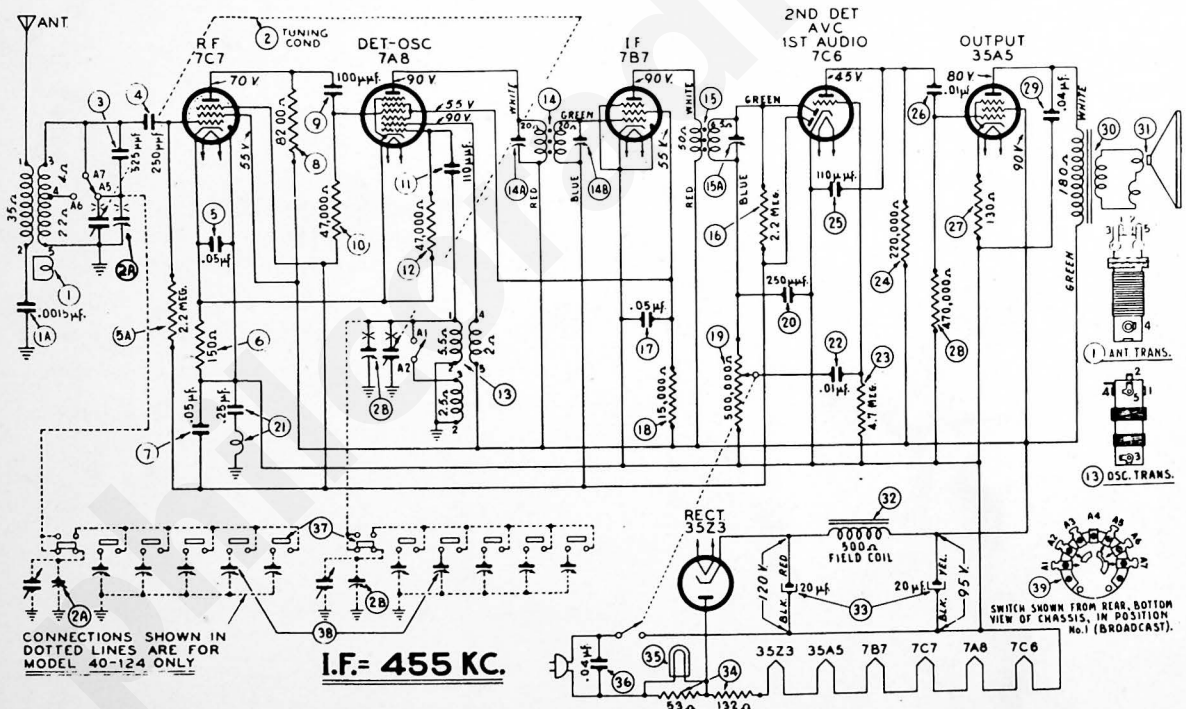
**TUNING RANGES:** 540 to 1600 K. C., 1.5 to 3.3 M. C.

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

**PHILCO TUBES USED:** 7C7, R. F.; 7A8, Converter; 7B7, I. F.; 7C6, 2nd Detector, A. V. C. 1st Audio; 35A5, Audio Output; and 35Z3, Rectifier.

**AUDIO OUTPUT:** 1 Watt.

**CABINET DIMENSIONS:** Height, 7 3/4". Width, 12 3/4". Depth, 5 3/4".



SCHMATIC DIAGRAM MODELS 40-115 & 40-124

# MODELS 40-115, Code 121; and 40-124, Codes 121-122

## REPLACEMENT PARTS

### Models 40-115 and 40-124, Code 121

SCHE. No.	DESCRIPTION	PART No.
1	Antenna Transformer (Model 40-115).....	32-3303
1	Antenna Transformer (Model 40-124).....	32-3321
1A	Tubular Condenser (.0015 mfd.).....	30-4555
2	Tuning Condenser (Model 40-115).....	31-2425
2	Tuning Condenser (Model 40-124).....	31-2426
3	Mica Condenser (.525 mmfd.).....	30-1142
4	Mica Condenser (.250 mmfd.).....	61-0033
5	Tubular Condenser (.05 mfd.).....	30-4519
5A	Resistor (2.2 meg., ½ watt).....	33-522339
6	Resistor (150 ohms, ½ watt).....	33-115336
7	Tubular Condenser (.05 mfd.).....	30-4519
8	Resistor (8200 ohms, ½ watt).....	33-282339
9	Mica Condenser (.100 mmfd.).....	30-1128
10	Resistor (47,000 ohms, ½ watt).....	33-347339
11	Mica Condenser (.110 mmfd.).....	30-1130
12	Resistor (47,000 ohms, ½ watt).....	33-347339
13	Oscillator Trans. (Model 40-115).....	32-3255
14	Oscillator Trans. (Model 40-124).....	32-3256
15	1st I. F. Transformer Assembly.....	32-3237
15	2nd I. F. Transformer Assembly.....	32-3238
16	Resistor (2.2 meg., ½ watt).....	33-522339
17	Tubular Condenser (.05 mfd.).....	30-4519
18	Resistor (15,000 ohms, ½ watt).....	33-315339
19	Volume Control and On-Off Switch.....	33-5305
20	Mica Condenser (.250 mmfd.).....	30-1074
21	Choke and Condenser Assembly (.25 mfd.).....	38-9956
22	Tubular Condenser (.01 mfd.).....	30-4479
23	Resistor (4.7 meg., ½ watt).....	33-547339
24	Resistor (220,000 ohms, ½ watt).....	33-422339
25	Mica Condenser (.110 mmfd.).....	30-1130
26	Tubular Condenser (.01 mfd.).....	30-4572
27	Resistor (130 ohms, ½ watt).....	33-113336
28	Resistor (470,000 ohms, ½ watt).....	33-447339
29	Tubular Condenser (.04 mfd.).....	30-4119
30	Output Transformer (Speaker Part No. 36-1469-1).....	32-8047
30	(Speaker Part No. 36-1469-9).....	32-8044
31	Cone and Voice Coil Assembly (Speaker Part No. 36-1469-1).....	36-4115
31	(Speaker Part No. 36-1469-9).....	36-4113
32	Field Coil (Replace Speaker Part No. 36-1469).....	
33	Electrolytic Condenser (20-20 mfd.).....	30-2403
34	Filament Resistor.....	33-3375
35	Pilot Lamp.....	34-2068
36	Tubular Condenser (.04 mfd.).....	30-4119

SCHE. No.	DESCRIPTION	PART No.
37	Pushbutton Switch (Model 40-124).....	42-1512
38	Padder Strip (Model 40-124).....	31-6312
39	Wave Switch.....	42-1505

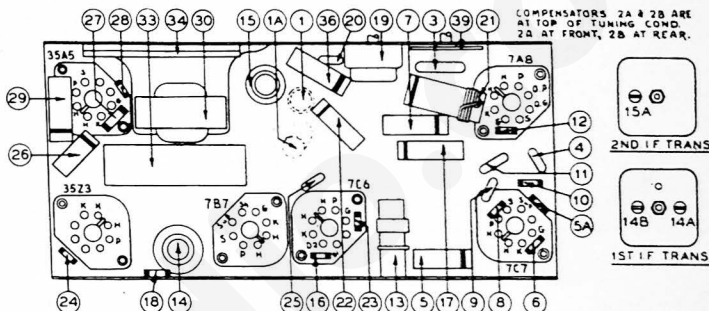
### MISCELLANEOUS PARTS

Cable and Plug (Power Supply).....	L-3199
Cabinet (Model 40-115).....	10432A
Clip (Coil Mounting).....	28-5002
Dial.....	27-5517
Drive Cord Assembly.....	31-2387
Drive Shaft Assembly.....	31-2370
Knobs (Volume, Tuning, Wave Switch).....	27-4809
Pilot Lamp Socket Assembly.....	38-9825
Pointer (Dial).....	27-4868

### MISCELLANEOUS PARTS

#### MODEL 40-124

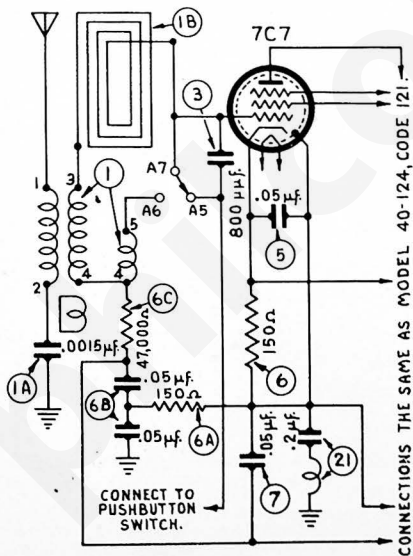
Cabinet.....	10433A
Knobs (Pushbutton).....	27-4824
Tab (Dial).....	27-5526
Tab (Television).....	27-9450
Tab Kit.....	40-6473



MODELS 40-115, 40-124 PART LOCATIONS, UNDERSIDE OF CHASSIS.

## MODEL 40-124, CODE 122

Model 40-124, Code 122, is similar to Code 121 with the addition of a loop aerial mounted inside the cabinet and several part changes in the aerial circuit. These changes are shown in the following circuit diagram and parts list. The service information on page 46, for Model 40-124, Code 121, with these changes, applies to Model 40-124, Code 122.



CONNECTIONS FOR MODEL 40-124 CODE 122.

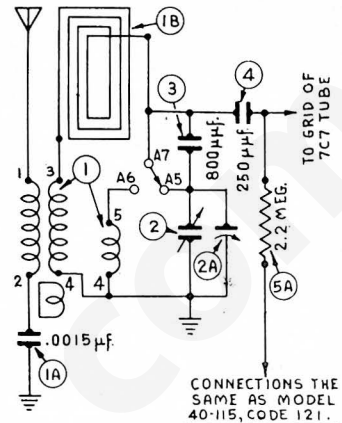
SCHEMATIC NUMBER	DESCRIPTION	PART No. CODE 122
1	Antenna Transformer.....	32-3404
1A	Tubular Condenser (.0015 mfd.).....	30-4555
1B	Loop Assembly.....	32-3411
2	Tuning Condenser.....	31-2450
3	Mica Condenser (800 mmfd.).....	30-1135
4	Not used.	
5	Tubular Condenser (.05 mfd.).....	30-4519
6	Resistor (150 ohm, ½ watt).....	33-115336
6A	Resistor (150 ohm, ½ watt).....	33-115336
6B	Tubular Condenser (.05, .05 mfd.).....	30-4522
6C	Resistor (47,000 ohms, ½ watt).....	33-347339
7	Tubular Condenser (.05 mfd.).....	30-4519
21	Choke and Condenser Assembly (.2 mfd.).....	76-1034

# MODELS 40-115, Codes 121-122; and 40-124, Codes 121-122

## MODEL 40-115, CODE 122

Model 40-115, Code 122, is similar to Code 121 with the addition of a loop aerial mounted inside the cabinet and several part changes in the aerial circuit. These changes are shown in the following circuit diagram and parts list. The service information on page 46, for Model 40-115, Code 121, with these changes, applies to Model 40-115, Code 122.

SCHEMATIC NUMBER	DESCRIPTION	PART No. CODE 122
1	Antenna Transformer	32-3404
1A	Tubular Condenser (.0015 mfd.)	30-4555
1B	Loop Assembly	32-3405
2	Tuning Condenser	31-2450
3	Mica Condenser (800 mmfd.)	30-1135
	Cabinet	10432B



CONNECTIONS FOR MODEL 40-115 CODE 122.

## ALIGNMENT OF COMPENSATORS Models 40-115, 40-124 EQUIPMENT REQUIRED

**Signal Generator:** Philco Model 077, covering a frequency range of 115 K. C. to 36 M. C.

**Aligning Indicator:** A vacuum tube voltmeter or audio output meter such as contained in Philco Models 027 and 028 circuit

testers. Either of these meters can be used to align the receiver and are connected as given below.

**Tools:** Aligning screw driver, Part No. 45-2610.

### CONNECTING THE ALIGNING METERS

**Audio Output Meter:** The audio output meter is connected to the plate and screen terminals of the 35A5 tube. Adjust the meter for the 0 to 30 volt A. C. scale.

**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: Connect the negative (—) terminal of the voltmeter through a 2 meg. resistor to any point in the A. V. C.

circuit where voltage can be obtained. The positive (+) terminal of the vacuum tube voltmeter is connected to the negative (—) side of the high voltage supply (cathode of the 7C6 tube).

After connecting the aligning meter, adjust the compensators in the order as shown in the tabulation below.

Operations in Order	SIGNAL GENERATOR			RECEIVER			SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dummy Antenna	Dial Setting	Dial Setting	Control Settings	Adjust Padders	
1	7A8 Grid	Note A .004	465 K. C.	580 K. C.	Vol. Max. Range Switch "Brdcst"	15A, 14A, 14B	Manual Pushbutton "IN" Model 40-124
2	Aerial	100 mmfd.	1580 K. C.	1580 K. C.	Range Switch "Brdcst"	(2B)	Note B, Note C
3	Aerial	100 mmfd.	1500 K. C.	1500 K. C.	Range Switch "Brdcst"	(2A)	

**NOTE A**—The "Dummy Antenna" consists of a condenser 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 do this, proceed as follows: Turn the tuning condenser to the maximum capacity position (plates fully meshed). With the condenser in this position, the tuning pointer is set horizontal at the low frequency end of the scale (530 K. C.).

**NOTE C**—Compensators 2A and 2B are on top of the Tuning Condenser. 2A at the front, 2B at the rear.