

PHILCO Models 39-117, 39-118, 39-119

SPECIFICATIONS

Model 39-117, Codes 121-122

TYPE OF CIRCUIT: A.C. operated; super-heterodyne circuit, covering standard broadcast and police stations (540 K.C. to 1720 K.C.). In addition other features of design are: Electric Push-Button Tuning; Automatic Volume Control; and pentode audio output.

Codes 121 and 122 chassis of this model are similar with the exception of Speaker and Cabinet.

This receiver is designed to operate from a "Philco Utility Aerial," Part No. 45-2450. This aerial system should be used to obtain maximum performance from the receiver.

POWER SUPPLY: Voltage—115 volts. Frequency—50-60 cycles. Power Consumption—40 watts.

INTERMEDIATE FREQUENCY: 470 K.C.

TUNING RANGE: 540 to 1720 K.C.

AUDIO OUTPUT: 2 watts.

PHILCO TUBES USED: Five tubes: 1-6A7, 1st detector and oscillator; 1-78, I.F.; 1-75, 2nd detector, Automatic Volume Control, and 1st audio; 1-41, Output; and 1-84, Rectifier.

TUNING MECHANISM: Pulley and cable drive for Manual tuning. Six Electric Push-Buttons for Automatic Tuning. Five push-buttons are used for stations and one for manual tuning. The procedure for adjusting and operating the Electric Push-Buttons will be found in the instructions supplied with each set.

CABINETS: Code 121 chassis in type "T" cabinet. Code 122 chassis in type "F" cabinet.

Model 39-118, Codes 121-122

TYPE OF CIRCUIT: A.C. D.C. operated; super-heterodyne circuit, covering standard broadcast and police stations (540 K.C. to 1720 K.C.). In addition other features of design are: Electric Push-Button Tuning; Automatic Volume Control; and pentode audio output.

Codes 121 and 122 chassis of this model are similar with the exception of Speaker and Cabinet.

The receiver is designed to operate from a "Philco Utility Aerial," Part No. 45-2450. This aerial system should be used to obtain maximum performance from the receiver.

POWER SUPPLY: Voltage—115 volts. A.C. or D.C. Power Consumption—55 watts.

INTERMEDIATE FREQUENCY: 470 K.C.

TUNING RANGE: 540 to 1720 K.C.

PHILCO TUBES USED: 1-6A7, 1st detector and oscillator; 1-78, I.F.; 1-75, 2nd detector, Automatic Volume Control and 1st audio; 1-43, Output; 1-25Z5, Rectifier; and 1-BKV51DJ, ballast tube.

TUNING MECHANISM: Pulley and cable drive for Manual tuning. Six Electric Push-Buttons for Automatic Tuning. Five push-buttons are used for stations and one for manual tuning. The procedure for adjusting and operating the Electric Push-Buttons will be found in the instructions supplied with each set.

CABINETS: Code 121 chassis in type "T" cabinet. Code 122 chassis in type "F" cabinet.

Model 39-119, Codes 121-122

TYPE OF CIRCUIT: A.C. operated; super-heterodyne circuit with two tuning ranges, covering standard broadcast (540 K.C. to 1720 K.C.) and short wave (5.5 M.C. to 18.0 M.C.) frequencies. In addition other features of design are: Electric Push-Button Tuning; Automatic Volume Control; and pentode output.

Codes 121 and 122 chassis of this model are similar with the exception of Speaker and Cabinet.

The receiver is designed to operate from a "Philco Utility Aerial," Part No. 45-2450. This aerial system should be used to obtain maximum performance from the receiver.

POWER SUPPLY: Voltage—115 volts. Frequency—50-60 cycles. Power Consumption—40 watts.

INTERMEDIATE FREQUENCY: 470 K.C.

TUNING RANGES: 540 K.C. to 1720 K.C.; 5.5 M.C. to 18.0 M.C.

AUDIO OUTPUT: 2 watts.

PHILCO TUBES USED: Five tubes: 1-6A7, 1st detector and oscillator; 1-78, I.F.; 1-75, 2nd detector, Automatic Volume Control, and 1st audio; 1-41, Output; and 1-84, Rectifier.

TUNING MECHANISM: Pulley and cable drive for Manual Tuning. Six push-buttons for Automatic Tuning. Five push-buttons are used for stations and one for manual tuning. The procedure for adjusting and operating the Electric Push-Buttons will be found in the instructions supplied with each set.

CABINETS: Code 121 chassis in type "T" cabinet. Code 122 chassis in type "F" cabinet.

Alignment of Compensators

EQUIPMENT REQUIRED:

(1) Signal Generator: Philco Model 077 Signal Generator, which has a fundamental frequency range from 115 to 36,000 K.C., is the correct instrument for this purpose.

(2) Output Meter: Philco Model 027 Vacuum Tube Voltmeter and Circuit Tester incorporates a sensitive output meter and is recommended.

(3) Philco Fiber Handle Screw Driver, Part No. 27-7059, and Fiber Wrench, Part No. 3164.

(4) Philco Set Transformer, Part No. 32-2763

OUTPUT METER:

Two indicating devices for aligning of the receiver can be used; either an audio output meter or a vacuum tube voltmeter. The method of connecting the audio output meter is given in the next paragraph. The procedure for connecting the vacuum tube voltmeter as an aligning indicator will be found on Page 5. Where greater accuracy of the various tuned circuits is desired, the vacuum tube voltmeter is recommended as an aligning device.

The Philco 027 Output Meter is connected to the plate and cathode terminals of the type 41 tube in Model 39-117 and 119 and type 43 tube in Model 39-118. Set the meter to use the 0-30 volt scale.

Procedure—Model 39-117

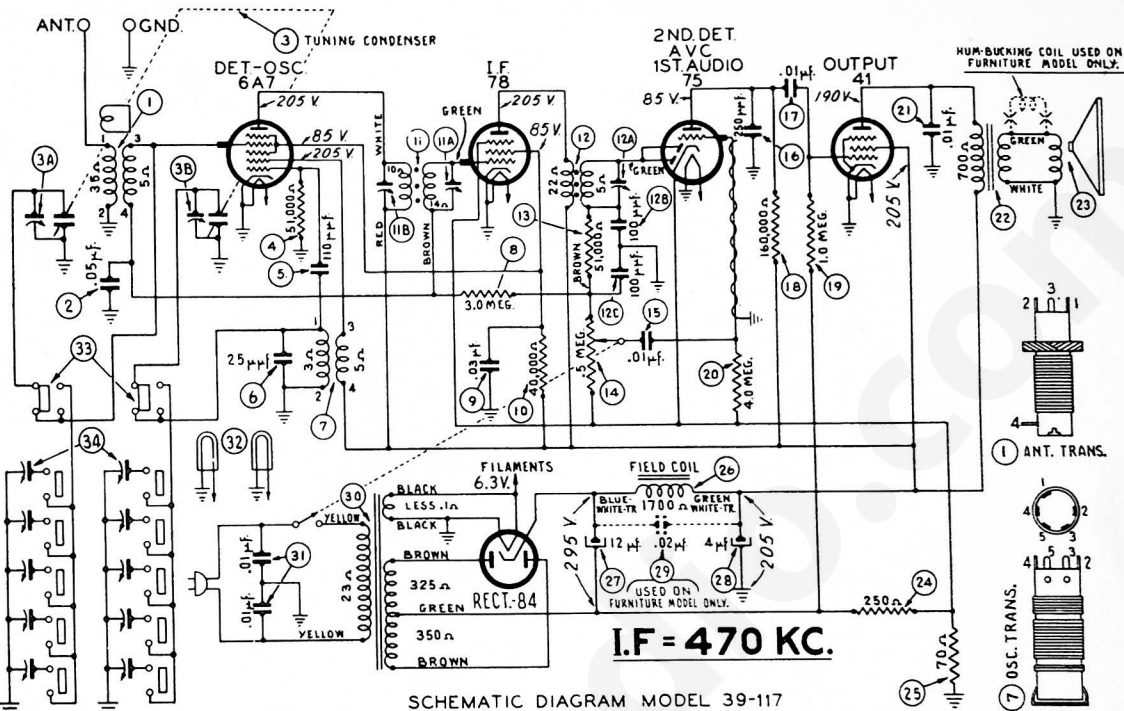
Operations in Order	SIGNAL GENERATOR			RECEIVER			Special Instructions
	Output Connections to Receiver	Dummy Antenna (Note A)	Dial Setting	Dial Setting	Control Settings	Adjust Compensators in Order	
1	6A7 Grid	.1 mf.	470 K.C.	580 K.C.	Vol. Cont. (Max.)	12A, 11A, 11B	Push "In" Manual Button
2	Ant. Ter.	200 mmf.	1550 K.C.	1550 K.C.	Vol. Cont. (Max.)	3B, 3A	See Note B

Procedure—Model 39-118

1	6A7 Grid	.1 mfd.	470 K.C.	580 K.C.	Vol. Cont. (Max.)	12A, 11A, 11B	See Note C
2	Ant. and Gnd.	200 mmf.	1550 K.C.	1550 K.C.	Vol. Cont. (Max.)	3B, 3A	See Note B See Note D

Procedure—Model 39-119

1	6A7 Grid	.1 mfd.	470 K.C.	580 K.C.	Vol. Max.	14A, 13B, 13A	Note B
2	Ant. and Gnd.	200 mmf.	18 M.C.	18 M.C.	Vol. Max.	4B	
3	Ant. and Gnd.	200 mmf.	1550 K.C.	1550 K.C.	Vol. Max.	8, 4A	Roll Tuning Condenser
4	Ant. and Gnd.	200 mmf.	580 K.C.	580 K.C.	Vol. Max.	8A	
5	Ant. and Gnd.	200 mmf.	1550 K.C.	1550 K.C.	Vol. Max.	8, 4A	



REPLACEMENT PARTS—MODEL 39-117, CODE 121-122

Schem. No.	Description	Part No.
1	Ant. Trans.	32-3039
2	Tubular Cond. (.05 mfd.)	30-4519
3	Tuning Cond. Assy.	31-2362
4	Resistor (51,000 ohms, 1 watt)	33-351439
5	Mica Cond. (110 mmfd.)	30-1031
6	Silver Mica Cond. (25 mmfd.)	30-1112
7	Osc. Trans.	32-3040
8	Resistor (3.0 meg., 1 watt)	33-530439
9	Tubular Cond. (.03 mfd.)	30-4449
10	Resistor (40,000 ohms, 1 watt)	33-340439
11	1st I. F. Trans. Assy.	32-3075
12	2nd I. F. Trans. Assy.	32-2944
13	Resistor (51,000 ohms, 1 watt)	33-351439
14	Volume Control & On-Off switch.	33-5278
15	Tubular Cond. (.01 mfd.)	30-4479
16	Mica Cond. (250 mmfd.)	30-1032
17	Tubular Cond. (.01 mfd.)	30-4572
18	Resistor (160,000 ohms, 1 watt)	33-416439
19	Resistor (1.0 meg., 1 watt)	33-510439
20	Resistor (4.0 meg., 1 watt)	33-540439

Schem. No.	Description	Part No.
21	Tubular Cond. (.01 mfd.)	30-4572
22	Output Trans.	32-7980
23	Cone & Voice Coil Assy. For Speaker (Pt. No. 36-1426-1)	36-4083
	(Pt. No. 36-1426-3)	36-4085
	Cone & Voice Coil Assy. for Speaker (Pt. No. 36-1440-3)	36-4086
24	Resistor (250 ohms wirewound)	33-125431
25	Resistor (70 ohms, 1 watt)	33-070439
26	*Field Coil for Speaker (Pt. No. 36-1426)	
	*Field Coil for Speaker (Pt. No. 36-1440)	
27	Electro. Cond. (.12 mfd.)	30-2319
28	Electro. Cond. (.4 mfd.)	30-2236
29	Tubular Cond. (.02 mfd.)	30-4215
30	Power Trans. (115 volts, 50-60 cycles)	32-7974
31	Bakelite Cond. (.01 mfd.—.01 mfd.)	S903 DG
32	Pilot Lamps	34-2064
33	Push button switch	42-1484
34	Padder strip	31-6292

Miscellaneous Parts

Description	Part No.
Bezel Assy. (Dial)	40-6384
Bezel Gasket (Dial)	27-9174
Bezel (Push buttons)	36-1364
Bezel Gasket (push buttons)	37-9218
Bezel Clamp (Dial)	28-5153
Cable & Plug (Power Supply)	L-2778
Dial	27-5406
Dial Tuning Drum Assy.	31-2261
Drive Cord Assy. (Pointer)	31-2275
Drive Cord Assy. (Tuning cond)	31-2243
Clip (Mfg. Ant. Coll)	28-5002
Clip (Mfg. Osc. Coll)	28-5003
Euethoon Fin	56-1051
Euethoon Plate (extension shafts F Cabinet)	W-950
Euethoon Pin	27-4753
Knobs (Volume & Tuning)	38-9612
Pilot Lamp Socket Assy.	27-4814
Pointer (Dial)	28-5934
Push buttons (6 used)	W-1834 PGT4
Seams (bezel mfg.)	38-9640
Shaft Extensions (2 used) F cabinet only	
Spring (retaining, volume and tuning) F cabinet only	28-8915
Spring (Tuning cond cord)	28-8751
Spring (Pointer Cord)	28-8946
Socket (5 prong, Rect. tubel)	27-6035
Socket (6 prong, type 78, 75 & 41 tubes)	27-6036
Socket (7 prong, type 6A7 tube)	27-6107
*Speaker (F cabinet)	*36-1440
*Speaker (T cabinet)	*Optional 36-1426-1
Tab Kit	36-1426-3
† Replace speaker.	40-6391

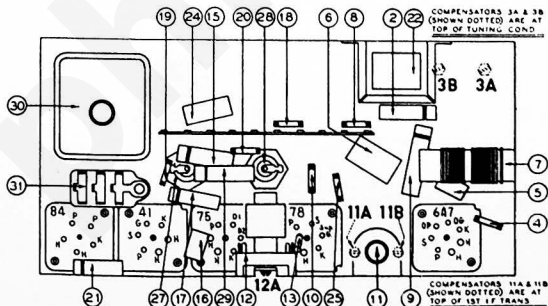


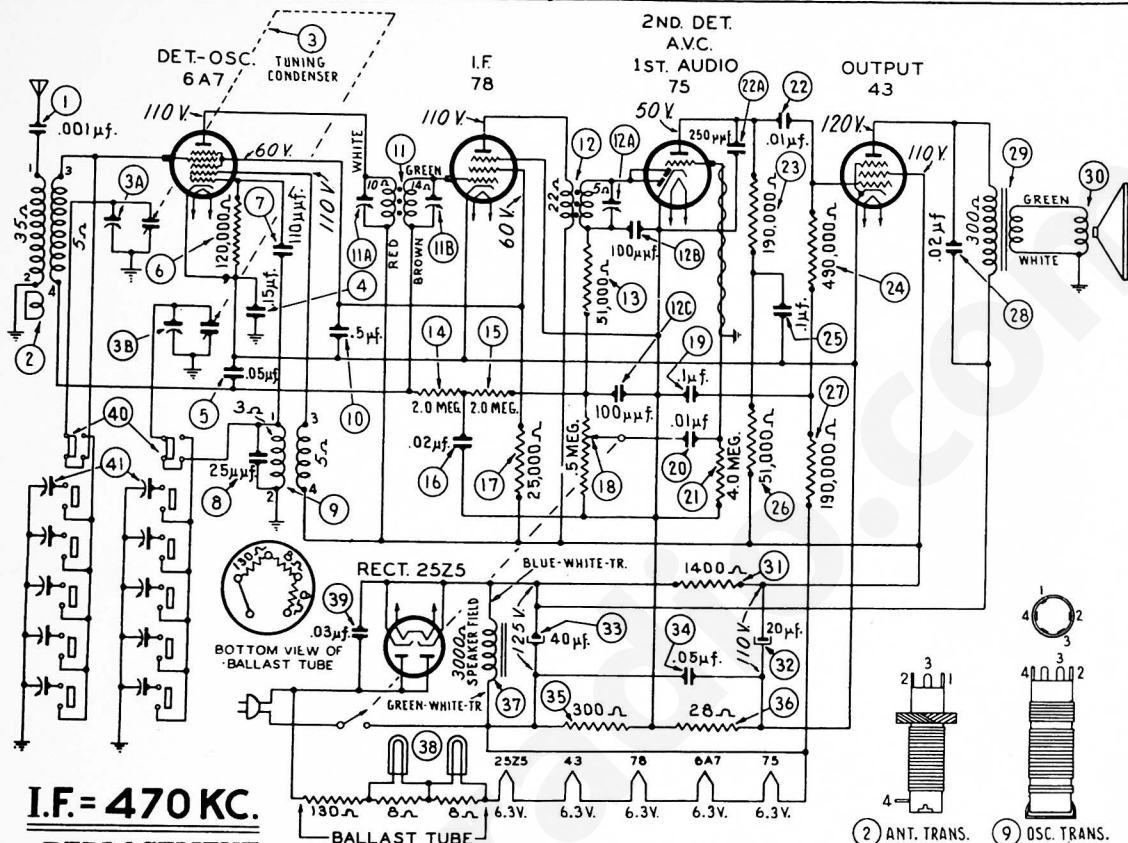
Fig. 1—Part Locations, Model 39-117

NOTE A—The "Dummy Antenna" consists of a condenser or resistance connected in series with the signal generator output lead (left 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 on the first index line at the low frequency end of the scale (540 K.C.).

* Several speakers on these models have the same part number with the exception of a -1, -2, etc., following the part number. These speakers are interchangeable. The cone assembly, however, cannot be interchanged. When ordering cones, be sure to order correct cone part number as indicated in each parts list.

PHILCO Model 39-118 Codes 121 & 122



I.F. = 470 KC.
REPLACEMENT PARTS

SCHMATIC DIAGRAM MODEL 39-118
VOLTAGES MEASURED FROM SOCKET CONTACTS TO B MINUS

Schem. No.	Description	Part No.
1	Tubular Cond. (.001 mfd.)	30-4453
2	Ant. Trans.	32-3039
3	Tuning Cond. Assy.	31-2389
4	Tubular Cond. (.15 mfd.)	30-4505
5	Tubular Cond. (.05 mfd.)	30-4319
6	Resistor (120,000 ohms, 1 watt)	33-41249
7	Mica Cond. (.110 mfd.)	30-1021
8	Silver Mica Cond. (.25 mfd.)	30-1112
9	Osc. Trans.	32-3040
10	Tubular Cond. (.5 mfd.)	30-4511
11	1st I. F. Trans. Assy.	32-3075
12	2nd I. F. Trans. Assy.	32-2944
13	Resistor (51,000 ohms, 1 watt)	33-35139
14	Resistor (2.0 megohms, 1 watt)	33-520439
15	Resistor (2.0 megohms, 1 watt)	33-520439
16	Tubular Cond. (.02 mfd.)	30-4215
17	Resistor (25,000 ohms, 1 watt)	33-325439
18	Volume Control & On-Off Switch	33-5276
19	Tubular Cond. (.1 mfd.)	30-4499
20	Tubular Cond. (.01 mfd.)	30-4572
21	Resistor (4.0 megohms, 1 watt)	33-549439
22	Tubular Cond. (.1 mfd.)	30-4572
23	Resistor (190,000 ohms, 1 watt)	33-419439

Schem. No.	Description	Part No.
24	Resistor (490,000 ohms, 1 watt)	33-449439
25	Tubular Cond. (.1 mfd.)	30-4499
26	Resistor (51,000 ohms, 1 watt)	33-35139
27	Resistor (190,000 ohms, 1 watt)	33-419439
28	Tubular Cond. (.02 mfd.)	30-4516
29	Output Trans.	32-7986
30	Cone & Voice Coil Assy. Speaker Part No. 38-1444-1 Speaker Part No. 38-1444-3	*36-4083 *36-4085
31	Resistor (1400 ohms, 1 watt)	*36-4086
32	Electro. Cond. (.20 mfd.)	33-214439
33	Electro. Cond. (.40 mfd.)	30-2245
34	Tubular Cond. (.05 mfd.)	30-2332
35	Resistor (300 ohms) (wirewound)	30-4444
36	Resistor (128 ohms, 1 watt)	33-120431
37	*Field Coil for Speaker, Part No. 38-1444 *Field Coil for Speaker, Part No. 38-1445	*32-028439
38	Pilot Lamps	34-2068
39	Tubular Cond. (.05 mfd.)	30-4449
40	Push button switch	42-1484
41	Padder strip	31-6292

Miscellaneous Parts

Description	Part No.
Bezel Assy. (Dial)	48-5364
Bezel (Gasket) (Dial)	27-9174
Bezel (Push Buttons)	56-1364
Bezel (Gasket) (Push Buttons)	27-9218
Bezel Clamp (Dial)	28-3153
Cable & Plug (Power Supply)	L-2778
Dial Tuning Drum Assy.	27-5406
Drive Cord Assy. (Pointer)	31-2275
Drive Cord Assy. (Tuning Cond.)	31-2543
Clip (Mtg. Ant. Coil)	28-5002
Clip (Mtg. Osc. Coil)	28-5003
Escutcheon Plate (extension shafts F cabinet)	56-051
Escutcheon Pin	W-950
Knobs (Volume & Tuning)	27-4753
Pilot Lamp Socket Assy.	38-9649
Pointer	28-3034
Push Buttons (6 used)	27-4814
Screws (Hazel Mtg.)	W-1834 Fx 4
Shaft Extensions (2 used F cabinet only)	38-9640
Spring (retaining) Volume & Tuning F Cabinet	28-8015
Spring (Tuning Cond. Cord)	28-8731
Spring (Pointer Cord)	28-8946
Socket (5 prong, Ballast tube)	27-6025
Socket (6 prong, type 25Z5, 43, 75 & 78 tubes)	27-6036
Socket (7 prong, type 6A7 Tube)	27-6107
*Speaker (F cabinet)	30-1445
*Speaker (T cabinet, optional)	30-1444-1
Tab Kit	30-1441-3
† Replace speaker	40-6391

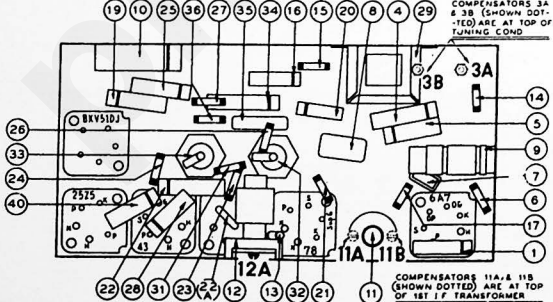
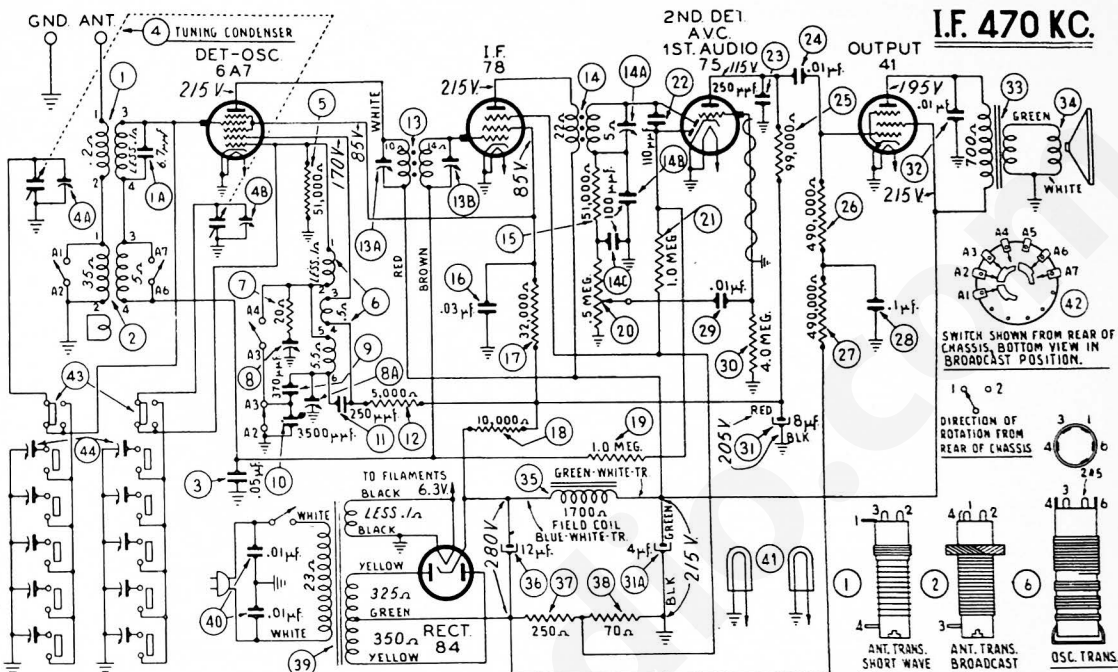


Fig. 2 - Part Locations, Model 39-118

NOTE C—Insert the signal generator output lead into the "Med" jack and the ground lead into the "Gnd" jack of the signal generator. Connect the other end of the output lead to terminal No. 1 on the Set Transformer, Part No. 32-2768, and the cable ground to terminal No. 2. Nos. 3 and 4 terminals of Set Transformer are then connected to the chassis and 6A7 grid respectively of the receiver with short pieces of wire. Insert the 0.1 mf. in series with the No. 4 lead which connects to the grid.

NOTE D—Insert the signal generator output lead into the "Med" jack and the ground lead into the "Gnd" jack of the signal generator. Connect the other end of the output lead to terminal No. 1 of the Set Transformer, Part No. 32-2768, and the cable ground to terminal No. 2. Nos. 3 and 4 terminals of Set Transformer are then connected to the chassis and antenna lead respectively of the receiver with short pieces of wire. Insert the 100 mf. in series with the No. 4 lead which connects to the antenna lead.

PHILCO Model 39-119 Codes 121 & 122



SCHEMATIC DIAGRAM MODEL 39-119
VOLTAGES MEASURED FROM SOCKET CONTACTS TO CHASSIS

REPLACEMENT PARTS—MODEL 39-119, CODE 121-122

No.	Description	Part No.
1A	Ant. Trans. (Short Wave)	32-3162
1	Mica Cond. (.5 mmfd.)	30-1097
2	Ant. Trans. (Broadcast)	32-3161
3	Tubular Cond. (.5 mfd.)	30-1319
4	Tuning Cond. (A5)	31-2563
5	Resistor (51,000 ohms, 1 watt)	33-31439
6	Oscillator Trans.	32-3163
7	Resistor (20 ohms, 1 watt)	33-20439
8	Compensator (2 sections)	32-3074
9	Silver Mica Cond. (.70 mmfd.)	30-1110
10	Mica Cond. (.350 mmfd.)	30-1094
11	Mica Cond. (.250 mmfd.)	30-1092
12	Resistor (5,000 ohms, 1 watt)	33-250439
13	1st I. F. Trans. Assy.	32-3075
14	Resistor (51,000 ohms, 1 watt)	33-31439
15	Tubular Cond. (.03 mfd.)	30-1419
17	Resistor (32,000 ohms, 1 watt)	33-32439
18	Resistor (10,000 ohms, 1 watt)	33-310439
19	Resistor (1.0 meg., 1 watt)	33-310439
20	Volume Control and On-Off Switch	33-3276
21	Resistor (1.0 meg., 1 watt)	33-310439
22	Mica Cond. (.250 mmfd.)	30-1041
23	Mica Cond. (.250 mmfd.)	30-1041
24	Tubular Cond. (.01 mfd.)	30-1572

No.	Description	Part No.
25	Resistor (99,000 ohms, 1 watt)	33-399439
26	Resistor (490,000 ohms, 1 watt)	33-419439
27	Resistor (490,000 ohms, 1 watt)	33-419439
28	Tubular Cond. (1 mfd.)	30-1419
29	Tubular Cond. (.01 mfd.)	30-1479
30	Resistor (4.0 meg., 1 watt)	33-510439
31	Electrolytic Cond. (1-5 mfd.)	30-3233
32	Tubular Cond. (.01 mfd.)	30-1572
33	Output Trans.	32-7900
*34	Cone & Voice Coil Assy. Speaker Part No. 36-1426-1	*36-1083
	Speaker Part No. 36-1126-3	*36-1085
	Cone & Voice Coil Assy. Speaker Part No. 36-1449	*36-1086
35	*Field Coil (Speaker Part No. 36-1426)	
	*Field Coil (Speaker Part No. 36-1449)	
36	Electrolytic Cond. (.8 mfd.)	30-2319
37	Resistor (250 ohms, wirewound)	33-125131
38	Resistor (70 ohms, 1 watt)	33-070139
39	Power Trans. (115 volts, 50-60 cycles)	32-7971
40	Rectifier Cond. (.01-.01 mfd.)	30-03 DW
41	Pilot Lamp	31-2064
42	Wave Switch	42-1419
43	Push Button	42-1484
44	Padder Strip	31-6292

Miscellaneous Parts

Description	Part No.
Bezel Assembly (Dial)	40-6264
Bezel (Dial)	27-9174
Bezel (Push Button)	30-1361
Bezel (Gasket Push Button)	27-9218
Bezel (Clamp Push Button)	28-5152
Cable & Plug (Power Supply)	L-2778
Dial	27-5180
Dial Tuning Drum Assy.	31-2281
Drive Cord Assy. (Pointer operation)	31-2273
Drive Cord Assy. (Tuning Cond.)	31-2343
Clip (Mtc. Ant. Coils)	28-3002
Clip (Mtc. Osc. Coil)	28-3003
Escutcheon Plate (extension shafts F cabinet)	W-1051
Escutcheon Pin	W-550
Knobs (Volume & Tuning)	27-1733
Knob (Wave Switch)	27-1734
Pilot Lamp Socket Assembly	36-5612
Pointer (Dial)	28-2924
Push Button	27-1811
Screws (Bezel Mtg.)	W-1834 P&A
Shaft Extensions (Volume, Tuning and Wave Switch)	36-9610
Spring (Tuning Cond. Cord)	28-8731
Spring (Pointer Cord)	28-8946
Speaker (T cabinet, code 121—optional)	*36-1426-3
Speaker (F cabinet—code 122)	*36-1149-3
Spring, Retaining (Volume Shaft)	28-8915
Socket (2 prong, Rect. tube)	27-6035
Socket (6 prong, type 78, 73 and 41 tubes)	27-6036
Socket (7 prong, type 6A7 tube)	27-6107
Tab (Manual)	27-5186
Tab Kit	40-6291
* Replace speaker	

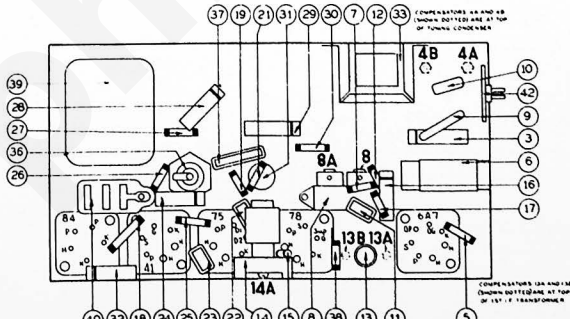


Fig. 3—Part Locations, Model 39-119

PRODUCTION CHANGES
MODEL 39-119EZ, CODE 121-122
(39) Power Trans. 110/220 V., 60 cycle 32-8005