

PHILCO-TROPIC .. Models 39-711 and 39-751

Specifications

The Philco-Tropic radio is particularly recommended for locations where super reception of short wave is necessary and where the radio and the cabinet are exposed to extreme conditions. The receiver is especially constructed to withstand decay, spoilage and deterioration caused by extreme conditions of humidity, heat, salt air and cold; and to stand up under the most severe tropic weather conditions.

Model 39-711

TYPE CIRCUIT: Model 39-711, code 121, is a six (6) tube A.C. or D.C. operated receiver employing a superheterodyne circuit with three tuning ranges for reception of Standard, Police and Shortwave Broadcast Stations. Connections are also provided for attaching a high impedance Electric Phonograph pick-up. In addition other features of design are: Automatic Volume Control; Three Point Tone Control; Bass Compensation; and special compensation for reducing frequency drift to a minimum.

POWER SUPPLY: 100-130 or 200-260 volts A.C. or D.C. The voltage ranges are selected by inserting the changeover plug as indicated on top of the chassis.

POWER CONSUMPTION: 86 watts at 240 V.
43 watts at 120 V.

TUNING RANGES: 530 to 1720 K.C.; 2.3 to 7.4 M.C.; 7.3 to 22 M.C.
I. F. FREQUENCY: 470 K.C.

PHILCO TUBES: 6J8EG, Converter-Oscillator; 78E, I.F. Amplifier; 75, Second Detector, First Audio and A.V.C.; 25L6G, Audio Output; 25Z5, Rectifier; BKU126B, Ballast.

AERIAL AND GROUND: To obtain maximum performance from this receiver, the Philco Safety Aerial, Part No. 40-6370 should be used and a good ground connection to the nearest water pipe or any other good source.

CABINET DIMENSIONS:

	Height	Width	Depth
T	12 $\frac{1}{2}$ %	16 $\frac{1}{2}$ %	9 $\frac{1}{2}$ %
XX	14 $\frac{1}{2}$ %	38 $\frac{1}{2}$ %	27 $\frac{1}{2}$ %

MODEL 39-711

Condenser Part No. 30-1119, 250 mfd. added from suppressor grid of the 6J8EG tube to ground to prevent regeneration at 15 to 22 M.C.

The chassis is heavily plated, making it impervious to salt air, rust and corrosion.

The various parts, such as coils, condensers, chokes and transformers, are treated with special wax that will withstand very high temperatures. In addition the wax is treated with chemicals which repel rodents and insects.

The cabinet is treated with a special sealing compound which protects it against moisture and heat.

Model 39-751

TYPE CIRCUIT: Model 39-751, code 121, is an eight (8) tube A.C. or D.C. operated receiver employing a superheterodyne circuit with three tuning ranges for reception of Standard, Police and Shortwave Broadcast Stations. Connections are also provided for attaching a high impedance Electric Phonograph pick-up. Other features of design are: Automatic Volume Control; Continuously Variable Tone Control; Bass Compensation; Push-Pull Pentode Audio Output; and special compensation for reducing frequency drift to a minimum.

POWER SUPPLY: 100-130 or 200-260 volt. A.C. or D.C. The voltage ranges are selected by inserting the changeover plug as indicated on top of the chassis.

POWER CONSUMPTION: 50 watts at 120 volts.
100 watts at 240 volts.

TUNING RANGES: 530 to 1720 K.C.; 2.3 to 7.4 M.C.; 7.3 to 22 M.C.
I. F. FREQUENCY: 470 K.C.

PHILCO TUBES: 78E, R.F. amplifier; 6J8EG, Converter-Oscillator; 78E, I.F. Amplifier; 75, Second Detector, First Audio and A.V.C.; 76, Phase Inverter; two 25L6G Pentode Audio Output; BKU126D, Ballast Tube; and 25Z5, Rectifier.

AERIAL AND GROUND: Same as Model 39-711.

CABINET DIMENSIONS:

	Height	Width	Depth
T	14 $\frac{1}{2}$ %	20 $\frac{1}{2}$ %	8 $\frac{1}{2}$ %
XX	38 $\frac{1}{2}$ %	27 $\frac{1}{2}$ %	11 $\frac{1}{2}$ %

MODEL 39-751

Run 2 To prevent instability at 530 K.C. a 70000 ohm resistor, Part No. 33-370399 was connected in parallel with the primary R.F. transformer (16).

Alignment of Compensators

EQUIPMENT REQUIRED:

- (1) Signal Generator; Philco Model 077.
- (2) Output Meter, Philco Model 027 Circuit Tester.
- (3) Philco Fiber Handle Screw Driver, Part No. 27-7059 and Fiber Wrench, Part No. 3164.

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.

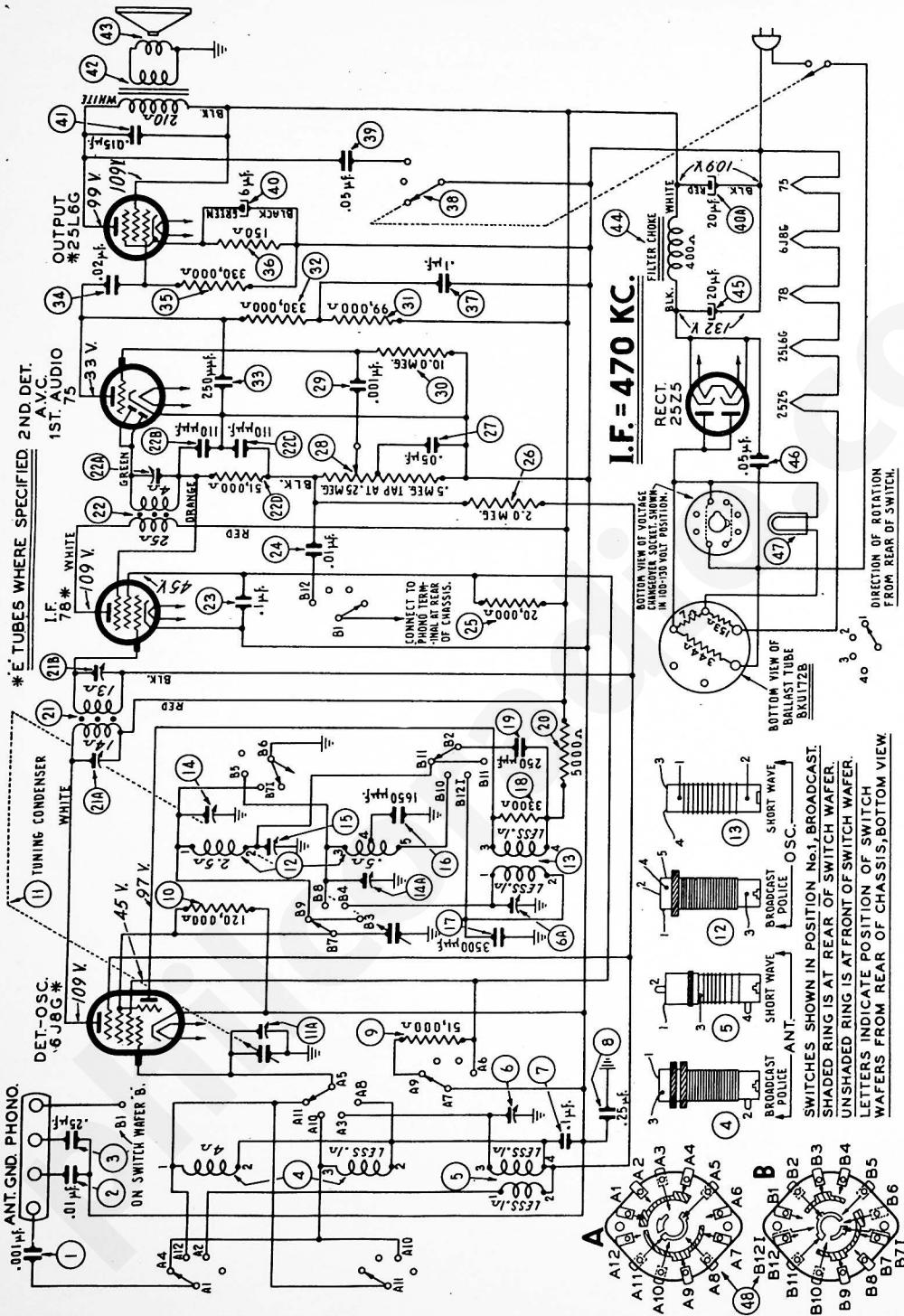
The Philco 027 Output Meter is connected to the plate and cathode terminals of the type 25L6G tube (use one tube in Model 39-751) and adjusted for the 0 to 30 V.A.C. scale. After connecting the output meter, adjust the compensators in the order as shown in the tabulation below. Locations of the compensators are shown in Fig. 3, Model 39-711, and Fig. 4, Model 39-751. If the output meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

MODEL 39-711

Operations in Order	SIGNAL GENERATOR			RECEIVER			Special Instructions
	Output Connections to Receiver	Dummy Antenna Note A	Dial Setting	Dial Setting	Control Settings	Adjust Compensators	
1	6J8EG	.1 mfd.	470 K.C.	580 K.C.	Vol. Max. Tone treble Range Sw. Brdct.	22A, 21B, 21A	
2	Ant. & Grnd.	200 mmfd.	1500 K.C.	1500 K.C.	Vol. Max. Tone treble Range Sw. Brdct.	14, 11A	Note B
3	Ant. & Grnd.	200 mmfd.	580 K.C.	580 K.C.	Vol. Max. Tone treble Range Sw. Brdct.	15	Roll gang Repeat Oper. 2
4	Ant. & Grnd.	400 ohms	7.0 M.C.	7.0 M.C.	Range Sw. Police	14A	Roll Gang
5	Ant. & Grnd.	400 ohms	20 M.C.	20 M.C.	Range Sw. S. W.	6A, 6	Note C

MODEL 39-751

Operations in Order	SIGNAL GENERATOR			RECEIVER			Special Instructions
	Output Connections to Receiver	Dummy Antenna Note A	Dial Setting	Dial Setting	Control Settings	Adjust Compensators	
1	6J8G Grid and Ground	.1 mfd.	470 K.C.	580 K.C.	Vol. Max. Tone-Treble	44B, 44A, 43B, 43A	
2	Ant. and Grd.	200 mmfd.	1500 K.C.	1500 K.C.	Vol. Max. Range Sw. Brdct.	30, 26B, 26A	Note B
3	Ant. and Grd.	200 mmfd.	580 K.C.	580 K.C.	Vol. Max.	31	Roll gang Repeat Operation 2
4	Ant. and Grd.	400 ohms	6.0 M.C.	6.0 M.C.	Vol. Max. Tone-Treble Range Sw. Police	30A	Roll gang
5	Ant. and Grd.	400 ohms	20 M.C.	20 M.C.	Vol. Max. Tone-Treble Range Sw. S. W.	33, 19, 6	Note C



SCHEMATIC DIAGRAM MODEL 39-711

NOTE A—The "Dummy Antenna" consists of a condenser or resistance 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 adjust the dial, proceed as follows:

With the tuning condenser closed (maximum capacity), set the dial pointer on the first mark on the left edge (low frequency end) of the broadcast scale.
NOTE C—When adjusting compensator (33), model 39-761 and (6A)—model 39-711 be sure to tune in the fundamental signal (20 M.C.) instead of the image signal. If the image signal is found, the compensator is set for the image frequency. The fundamental frequency is 940 K.C. below the fundamental signal, which will be 18,060 M.C.

PHILCO-TROPIC . . Models 39-711 and 39-751

Replacement Parts Model 39-711

Schem. No.	Description	Part No.
1	Tubular Cond. (.001 mfd., 1000 V.)	30-4601
2	Tubular Cond. (.01 mfd., 400 V.)	30-4572
3	Tubular Cond. (.25 mfd., 400 V.)	30-4589
4	Ant. Trans. (B.C. & Polce)	32-3141
5	Ant. Trans. (S.W.)	32-3143
6	Compensator (2 section)	31-6287
7	Tubular Cond. (.1 mfd., 200 V.)	30-4586
8	Tubular Cond. (.25 mfd., 400 V.)	30-4589
9	Resistor (51,000 ohms, 1 watt)	33-351439
10	Resistor (120,000 ohms, 1 watt)	33-412439
11	Tuning Cond.	31-2357
12	Osc. Trans. (B.C. & Polce)	32-3142
13	Osc. Trans. (S.W.)	32-3144
14	Compensator (2 section)	31-6287
15	Compensator	31-6289
16	Mica Cond. (1650 mmfd.)	5877
17	Mica Cond. (3500 mmfd.)	30-1094
18	Resistor (3300 ohms, 1 watt)	33-233439
19	Mica Cond. (2500 mmfd.)	30-1119
20	Resistor (5000 ohms, 1 watt)	33-250439
21	1st I.F. Trans. Assy.	32-3139
22	2nd I.F. Trans. Assy.	32-3140
23	Tubular Cond. (.1 mfd., 200 V.)	30-4586
24	Tubular Cond. (.01 mfd., 600 V.)	30-4581
25	Resistor (20,000 ohms, 1 watt)	33-320439
26	Resistor (2.0 meg., 1 watt)	33-351039
27	Tubular Cond. (.05 mfd., 200 V.)	30-4519
28	Volume Control (5 meg.)	33-5305
29	Tubular Cond. (.001 mfd., 200 V.)	30-4592
30	Resistor (10,000 ohms, 1 watt)	33-610439
31	Resistor (99,000 ohms, 1 watt)	33-399439
32	Resistor (330,000 ohms, 1 watt)	33-433439
33	Mica Cond. (250 mmfd.)	30-1119
34	Tubular Cond. (.02 mfd., 400 V.)	30-4584
35	Resistor (330,000 ohms, 1 watt)	33-433439
36	Resistor (150 ohms, 1 watt)	33-115439

Replacement Parts Model 39-751

Schem. No.	Description	Part No.
1	Tubular Cond. (.25 mfd.)	30-4589
2	Tubular Cond. (.01 mfd.)	30-4572
3	Ant. Trans. (B.C.)	32-2588
4	Ant. Trans. (S.W. 1)	32-3093
5	Ant. Trans. (S.W. 2)	32-2885
6	Compensator	31-6288
7	Tubular Cond. (.01 mfd.)	30-4572
8	Tubular Cond. (.15 mfd.)	30-4600
9	Tubular Cond. (.05 mfd.)	30-4519
10	Tubular Cond. (.05 mfd.)	30-4519
11	Resistor (100 ohms, 1 watt)	33-110439
12	Tubular Cond. (.1 mfd.)	30-4586
13	Tubular Cond. (.1 mfd.)	30-4586
14	Resistor (1.5 megohm)	33-515439
15	R.F. Trans. (Brdcat.)	32-3099
16	R.F. Trans. (S.W. 1)	32-3099
17	R.F. Trans. (S.W. 2)	32-3165
18	Mica Cond. (5 mmfd.)	30-1120
19	Compensator	31-6288
20	Tubular Cond. (.05 mfd.)	30-4519
21	Resistor (51,000 ohms, 1 watt)	33-351439
22	Resistor (100 ohms, 1 watt)	33-110439
23	Resistor (32,000 ohms, 1 watt)	33-323439
24	Mica Cond. (250 mmfd.)	30-1119
25	Osc. Trans. (Brdcat.)	32-2120
26	Osc. Trans. (S.W. 1)	32-3094
27	Osc. Trans. (S.W. 2)	32-3162
28	2 Section Compensator	31-6287
29	Compensator	31-6289
30	Semi-Fixed Condenser (1605 mmfd.)	31-6282
31	Compensator	31-6288
32	Semi-Fixed Condenser (3300 mmfd.)	31-6283
33	Mica Cond. (250 mmfd.)	30-1119
34	Resistor (5,000 ohms, 1 watt)	33-250439
35	Resistor (120,000 ohms, 1 watt)	33-412439
36	Tubular Cond. (.05 mfd.)	30-4519
37	Resistor (600 ohms, 1 watt)	33-160439
38	Tubular Cond. (.05 mfd.)	30-4519
39	Resistor (20,000 ohms, 1 watt)	33-320439
40	Tubular Cond. (.05 mfd.)	30-4519
41	Tubular Cond. (.001 mfd.)	30-4592
42	Iteistor (20,000 ohms, 1 watt)	33-320439
43	1st I.F. Trans. Assy.	32-3138
44	2nd I.F. Trans. Assy.	32-3139
45	Resistor (10,000 ohms, 1 watt)	33-310439
46	Mica Cond. (250 mmfd.)	30-1119
47	Tubular Cond. (.1 mfd.)	30-4586
48	Resistor (120,000 ohms, 1 watt)	33-412439
49	Resistor (99,000 ohms, 1 watt)	33-399439
50	Resistor (240,000 ohms, 1 watt)	33-424439
51	Resistor (120,000 ohms, 1 watt)	33-412439
52	Resistor (4,000 ohms, 1 watt)	33-230439
53	Resistor (10.0 meg., 1 watt)	33-810439
54	Tubular Cond. (.086 mfd.)	30-4583
55	Tubular Cond. (.01 mfd.)	30-4581
56	Tone Control (4.0 meg.)	33-5329
57	Tubular Cond. (.02 mfd.)	30-4584
58	Mica Cond. (110 mmfd.)	30-1128
59	Volume Control	33-5304
60	Resistor (70,000 ohms, 1 watt)	33-370439
61	Tubular Cond. (.006 mfd.)	30-4582
62	Tubular Cond. (.25 mfd.)	30-4589
63	Resistor (32,000 ohms, 1 watt)	33-323439
64	Resistor (2,000 ohms, 1 watt)	33-250439
65	Resistor (25,000 ohms, 1 watt)	33-325439
66	Resistor (5,000 ohms, 1 watt)	33-250439
67	Tubular Cond. (.001 mfd.)	30-4592
68	Resistor (490,000 ohms, 1 watt)	33-490439
69	Tubular Cond. (.01 mfd.)	30-4581

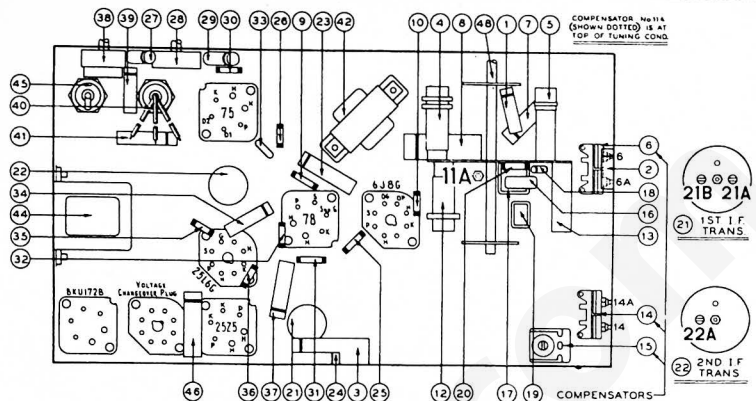


Fig. 3—Part Locations, Model 39-711, Underside of Chassis

Miscellaneous Parts

Schem. No.	Description	Part No.
37	Tubular Cond. (.1 mfd., 200 V.)	30-4586
38	Tone Control Switch	42-1481
39	Tubular Cond. (.05 mfd., 400 V.)	40-4518
40	Electrolytic Cond. (6 mfd., 25 V.)	30-2380
	(20 mfd., 150 V.)	30-2380
41	Tubular Cond. (.015 mfd., 400 V.)	30-4515
42	Output Trans.	32-8023
43	Cone & Voice Coil Assy.	5-64110
44	Filter Choke	32-8029
45	Electrolytic Cond. (20 mfd., 150 V.)	30-2245
46	Tubular Cond. (.05 mfd., 600 V.)	30-4600
47	Pilot Lamp	34-2068
48	Wave Switch	42-1480

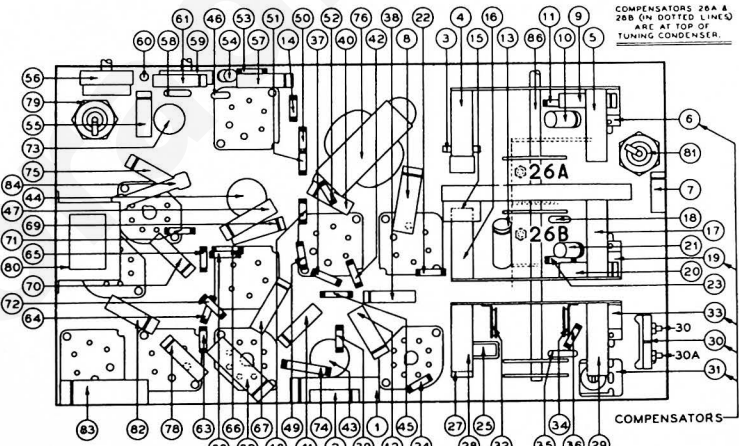


Fig. 4—Part Locations, Model 39-751, Underside of Chassis

Miscellaneous Parts

Schem. No.	Description	Part No.
37	Tubular Cond. (.1 mfd., 200 V.)	30-4586
38	Tone Control Switch	42-1481
39	Tubular Cond. (.05 mfd., 400 V.)	40-4518
40	Electrolytic Cond. (6 mfd., 25 V.)	30-2380
	(20 mfd., 150 V.)	30-2380
41	Tubular Cond. (.015 mfd., 400 V.)	30-4515
42	Output Trans.	32-8023
43	Cone & Voice Coil Assy.	5-64110
44	Filter Choke	32-8029
45	Electrolytic Cond. (20 mfd., 150 V.)	30-2245
46	Tubular Cond. (.05 mfd., 600 V.)	30-4600
47	Pilot Lamp	34-2068
48	Wave Switch	42-1480