

MODEL 40-756---PHILCO-TROPIC

SPECIFICATIONS

TYPE CIRCUIT: Model 40-756, 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.

POWER SUPPLY: 100-130 or 200-260 volt, A. C. or D. C. current. 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 25L6EG, Pentode Audio Output; BKU126D, Ballast Tube; and 25Z5, Rectifier.

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, 14 1/2". Width, 20". Depth, 9 3/4".

ALIGNING COMPENSATING CONDENSERS EQUIPMENT REQUIRED

(1) **Signal Generator.** In order to properly adjust this receiver, a calibrated signal generator such as Philco Model 077 A. C. or Model 177 battery operated are required. These signal generators cover a frequency range of 115 to 36,000 K. C.

(2) **Indicating Device.** To obtain maximum signal strength and accurate adjustment of the padders a vacuum tube

voltmeter and circuit tester such as Philco Models 027 and 028 is recommended. These testers also contain an audio output meter which may be used as an indicating device.

(3) **Aligning Tools.** Fiber handle screw driver, Philco Part No. 45-2610.

CONNECTING ALIGNING INSTRUMENTS

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:

1. Connect the negative (—) terminal of the vacuum tube voltmeter through a 2 megohm resistor to any point in the circuit where the A. V. C. voltage can be read.

2. Connect the positive (+) terminal to the chassis ground terminal.

Audio Output Meter: If this type of meter is used as an aligning indicator it should be connected to the plate of one of the 25L6EG tubes and chassis ground. Adjust the meter for the 0 to 30 volt A. C. scale.

After connecting the aligning meter, adjust the compensators in the order as shown in the tabulation below. Locations of the compensators are shown in Fig. 1. If the output meter pointer goes off scale when adjusting the compensators reduce the strength of the signal from the generator.

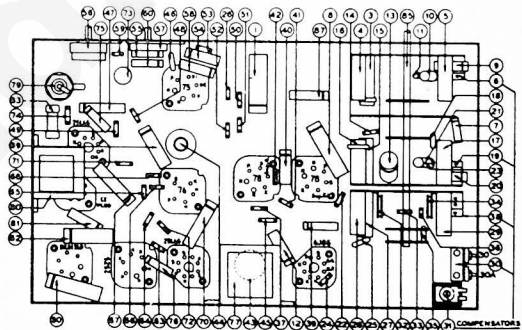


FIG. 1. PART LOCATIONS, UNDERSIDE OF CHASSIS.

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.	455 K. C.	580 K. C.	Vol. Max. Tone Treble Range Switch "Brdcat"	44A, 44B, 43A, 43B	
2	Ant. & Grnd.	200 mmfd.	1500 K. C.	1500 K. C.	Vol. Max. Range Switch "Brdcat"	30, 26B, 26A	Note B
3	Ant. & Grnd.	200 mmfd.	580 K. C.	580 K. C.	Vol. Max.	31	Roll Gang Repeat Operation 2
4	Ant. & Grnd.	400 ohms	6.0 M. C.	6.0 M. C.	Vol. Max. Tone Treble Range Switch "S.W.1"	30A	Roll Gang
5	Ant. & Grnd.	400 ohms	21 M. C.	21 M. C.	Vol. Max. Tone Treble Range Switch "S.W.1"	38, 19, 6	Note C

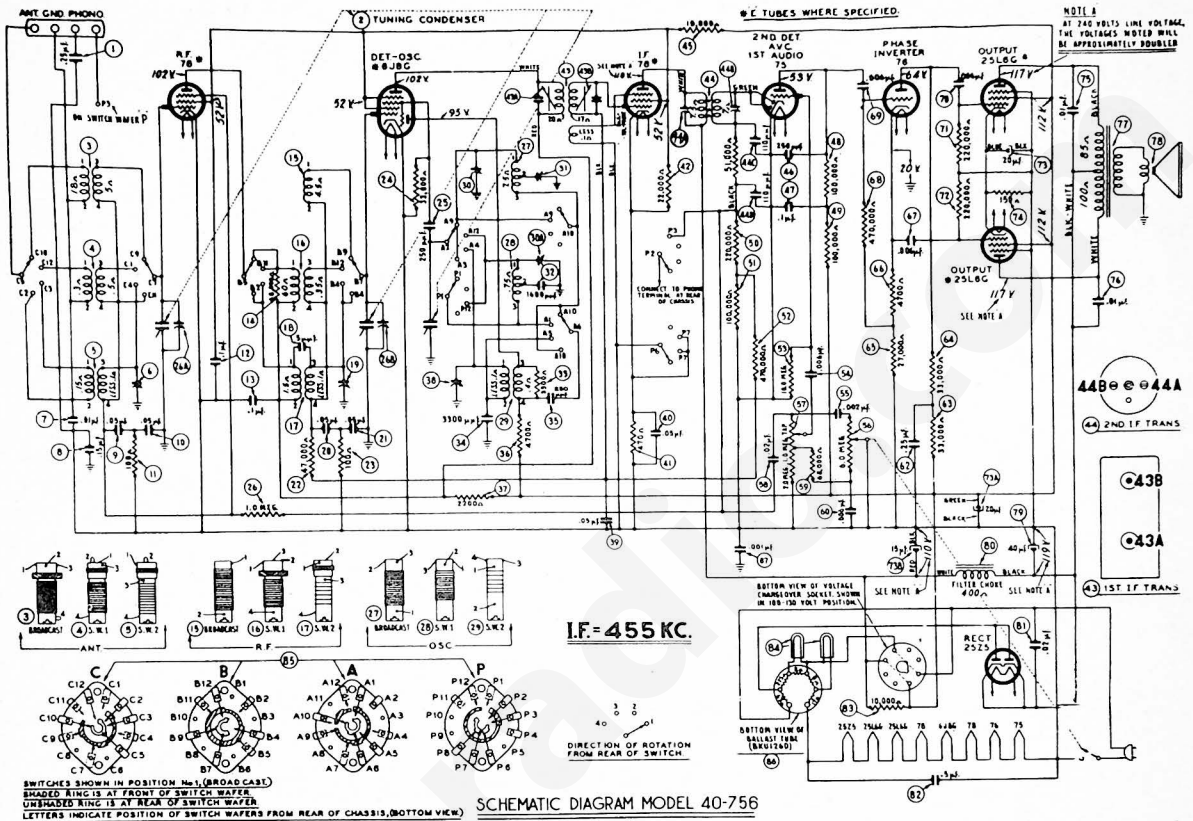
NOTE A—The "Dummy Antenna" consists of a condenser or resistance connected in series with the signal generator output lead (high side). Use the capacity or resistance as specified in each step of the above procedure.

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 (38) be sure to tune in the fundamental signal (21 M. C.) instead of the image signal. If the compensator is correctly adjusted, the image signal will be found by turning dial 910 K. C. below the fundamental signal, which will be 20.090 M. C.

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Replacement Parts — Model 40-756

SCHE. No.	DESCRIPTION	PART No.	SCHE. No.	DESCRIPTION	PART No.	SCHE. No.	DESCRIPTION	PART No.
1	Tubular Condenser (.25 mfd.)	30-4589	55	Tubular Condenser (.002 mfd.)	30-4579	30-2444	Pointer	30-2444
2	Tuning Condenser	31-2386	56	Tone Control and On-Off Switch	31-5299	31-113439	Resistor (150 ohms, 1 watt)	31-113439
3	Antenna Transformer (Broadcast)	32-2588	57	Volume Control (2.0 meg.)	31-5304	30-4588	Resistor (33,000 ohms, 1/2 watt)	30-4588
4	Antenna Transformer (Short Wave 1)	32-3093	58	Tubular Condenser (.02 mfd.)	30-4584	31-327339	Resistor (33,000 ohms, 1/2 watt)	31-327339
5	Antenna Transformer (Short Wave 2)	32-2888	59	Resistor (68,000 ohms, 1/2 watt)	31-368339	30-4581	Resistor (470,000 ohms, 1/2 watt)	30-4581
6	Compensator	31-4288	60	Tubular Condenser (.006 mfd.)	30-4583	31-447339	Resistor (470,000 ohms, 1/2 watt)	31-447339
7	Tubular Condenser (.01 mfd.)	30-4572	61	Removed in first production	30-4588	30-4610	Tubular Condenser (.006 mfd.)	30-4610
8	Tubular Condenser (.15 mfd.)	30-4600	62	Tubular Condenser (.25 mfd.)	31-333339	31-422339	Resistor (220,000 ohms, 1/2 watt)	31-422339
9	Tubular Condenser (.05 mfd.)	30-4519	63	Resistor (33,000 ohms, 1/2 watt)	31-333339	72	Electrolytic Condenser (15 mfd., 300 V.)	30-2444
10	Tubular Condenser (.05 mfd.)	30-4519	64	Resistor (33,000 ohms, 1/2 watt)	31-333339	73	Resistor (150 ohms, 1 watt)	31-113439
11	Resistor (100 ohms, 1/2 watt)	33-110336	65	Resistor (33,000 ohms, 1/2 watt)	31-333339	74	Tubular Condenser (.01 mfd.)	30-4581
12	Tubular Condenser (.1 mfd.)	30-4586	66	Resistor (68,000 ohms, 1/2 watt)	31-368339	75	Tubular Condenser (.01 mfd.)	30-4581
13	Tubular Condenser (3300 mmd.)	30-4811	67	Resistor (33,000 ohms, 1/2 watt)	31-333339	76	Output Transformer	32-8072
14	Resistor (68,000 ohms, 1/2 watt)	33-368339	68	Resistor (470,000 ohms, 1/2 watt)	31-447339	77	Cone and Voice Coil Assembly	36-4107
15	R. F. Transformer (Broadcast)	32-3169	69	Tubular Condenser (.006 mfd.)	30-4610	78	Cone and Voice Coil Assembly (Speaker Part No. 36-1455-3)	36-4108
16	R. F. Transformer (Short Wave 1)	32-3099	70	Tubular Condenser (.006 mfd.)	30-4610	79	Electrolytic Condenser (40 mfd., 300 V.)	30-2373
17	R. F. Transformer (Short Wave 2)	32-3169	71	Resistor (220,000 ohms, 1/2 watt)	31-422339	80	Filter Choke	32-8029
18	Mica Condenser (250 mmd.)	30-1119	72	Resistor (220,000 ohms, 1/2 watt)	31-422339	81	Tubular Condenser (.02 mfd.)	30-4589
19	Compensator	31-4288	73	Electrolytic Condenser (15 mfd., 300 V.)	30-2444	82	Tubular Condenser (.05 mfd.)	30-4589
20	Tubular Condenser (.08 mfd.)	30-4519	74	Resistor (150 ohms, 1 watt)	31-113439	83	Resistor (10,000 ohms, 1/2 watt)	31-422339
21	Tubular Condenser (.08 mfd.)	30-4519	75	Tubular Condenser (.01 mfd.)	30-4581	84	Pilot Lamps	34-2068E
22	Resistor (47,000 ohms, 1/2 watt)	33-327339	76	Output Transformer	32-8072	85	Wave Switch	42-1474
23	Resistor (100 ohms, 1/2 watt)	33-110336	77	Cone and Voice Coil Assembly	36-4107	86	Ballast Tube (6X126D)	34-2226
24	Resistor (33,000 ohms, 1/2 watt)	31-333339	78	Cone and Voice Coil Assembly (Speaker Part No. 36-1455-3)	36-4108	87	Tubular Condenser (.001 mfd.)	30-4592
25	Mica Condenser (250 mmd.)	30-1119	79	Electrolytic Condenser (40 mfd., 300 V.)	30-2373			
26	Resistor (1.0 meg., 1/2 watt)	33-110339	80	Filter Choke	32-8029			
27	Oscillator Transformer (Broadcast)	32-3094	81	Tubular Condenser (.02 mfd.)	30-4589			
28	Oscillator Transformer (Short Wave 1)	32-2888	82	Tubular Condenser (.05 mfd.)	30-4589			
29	Oscillator Transformer (Short Wave 2)	32-2888	83	Resistor (10,000 ohms, 1/2 watt)	31-422339			
30	Compensator (2 section)	31-4287	84	Pilot Lamps	34-2068E			
31	Compensator (1800 mmd.)	31-4289	85	Wave Switch	42-1474			
32	Resistor (3300 ohms, 1/2 watt)	33-233339	86	Ballast Tube (6X126D)	34-2226			
33	Tracking Condenser (3300 mmd.)	30-4811	87	Tubular Condenser (.001 mfd.)	30-4592			
34	Mica Condenser (250 mmd.)	30-1119						
35	Resistor (4700 ohms, 1/2 watt)	33-222339						
36	Resistor (2200 ohms, 1/2 watt)	33-222339						
37	Compensator	31-4288						
38	Tubular Condenser (.05 mfd.)	30-4519						
39	Tubular Condenser (.05 mfd.)	30-4519						
40	Resistor (100,000 ohms, 1/2 watt)	33-447339						
41	Resistor (22,000 ohms, 1/2 watt)	33-322339						
42	2nd I. F. Transformer Assembly	32-3132						
43	1st I. F. Transformer Assembly	32-3133						
44	Resistor (10,000 ohms, 1/2 watt)	33-110339						
45	Mica Condenser (250 mmd.)	30-1119						
46	Tubular Condenser (.1 mfd.)	30-4888						
47	Resistor (100,000 ohms, 1/2 watt)	33-447339						
48	Resistor (100,000 ohms, 1/2 watt)	33-447339						
49	Resistor (220,000 ohms, 1/2 watt)	33-422339						
50	Resistor (95,000 ohms, 1/2 watt)	33-422339						
51	Resistor (470,000 ohms, 1/2 watt)	33-447339						
52	Resistor (110 mfd.)	30-4883						
53	Resistor (110 mfd.)	30-4883						
54	Tubular Condenser (.006 mfd.)	30-4583						

MISCELLANEOUS PARTS

Base	96-1322
Cabinet (40-756T)	10418A
Cabinet (40-756XX)	10420A
Cable and Plug (Power Supply)	27-8127
Dial	27-5544
Drive Cord	27-2324
Bracket (Dial Mounting)	27-2324
Knob (Tuning)	27-4330
Knob (Volume and Wave Switch)	27-4332
Knob (Tone Control)	27-4332
Pointer (Dial)	30-2444
Pilot Lamp Socket Assembly	36-8918
Screws (Base 110339)	W-2071
Socket (Type 78 tube)	27-6035

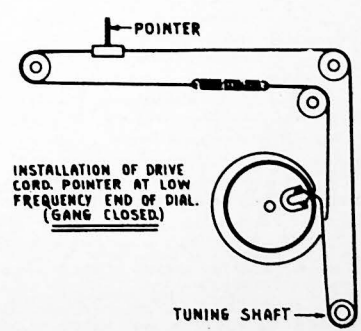


FIG. 2. TUNING DRIVE CORD AND POINTER ARRANGEMENT.