Specifications

TYPE OF CIRCUIT: A.C. operated; superheterodyne circuit with two tuning ranges, covering standard broadcast (540 K.C. to 1720 K.C.) and short-wave (4.9 M. C. to 18.0 M. C.) frequencies; Automatic Volume Control; and pentode output.

The receiver is designed to operate from a “Philco Safety Aerial,” Part No. 40-6371. This aerial system should be used to obtain maximum performance from the receiver.

POWER SUPPLY: Voltage, 115 volts. Frequency, 50-60 cycles.

Power consumption 45 watts.

INTERMEDIATE FREQUENCY: 470 K.C.

TUNING RANGES: 540 K. C. to 1720 K. C.; 4.9 M. C. to 18.0 M. C.

PHILCO TUBES USED: 1-6A8G, 1st detector and oscillator; 1-78, I. F.; 1-37, 2nd detector, Automatic Volume Control; 1-75, first audio; 1-41, output; and 1-84, Rectifier.


Adjusting Push-Button Tuning to Stations

These detailed instructions have been prepared to make sure the correct procedure is followed in setting the stations on the Philco Electric Push-Button Tuning models. The work requires the use of a Philco Model 077 Station Setter and a Part No. 27-7059 Insulated Screw Driver.

(A) Select eight of the most popular stations received in the locality and remove their call letters from the call letter sheets supplied. Place the call letters in the windows above the buttons, making such that each respective button covers the frequency of the station for which it is to be used. The frequency range of the circuits are as follows:

<table>
<thead>
<tr>
<th>Circuits</th>
<th>Frequency Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 and 2</td>
<td>540 to 1030 kilocycles</td>
</tr>
<tr>
<td>3 and 4</td>
<td>670 to 1160 kilocycles</td>
</tr>
<tr>
<td>5 and 6</td>
<td>900 to 1470 kilocycles</td>
</tr>
<tr>
<td>7 and 8</td>
<td>1170 to 1600 kilocycles</td>
</tr>
</tbody>
</table>

These numbers are stamped on the unit as seen from the rear. Looking at the front of the cabinet the numbers read from left to right.

(B) Connect the aerial and ground to the “ANT” and “GND” terminals of the receiver.

(C) Turn the receiver Tuning Range Selector to position two (Manual Tuning) and tune the receiver to the station to be set on the first button.

(D) Plug the output leads of the Station Setter into the “High” and “Gnd” jacks, and turn the output controls to maximum. Turn the modulation control to “Modulation Off.” Connect the output lead of the Station Setter to the “ANT” and “GND” terminals of the receiver and tune to the frequency of the station being received. As the indicator is slowly tuned through the frequency of the station there will be two points at which a high pitched swish will be heard, one above and one below the frequency of the station. When the indicator is on the frequency of the station, minimum high pitched swish will be heard.

(E) Set the modulation control of the Station Setter for “Modulation On.” The modulated signal of the Station Setter will then be heard through the receiver.

(F) Turn the receiver Tuning Range Selector to position one (Automatic Tuning) and push in the first button. Using the Part No. 27-7059 Insulated Screw Driver, turn the number 1 “OSC” screw until the modulated signal of the Station Setter is tuned in to maximum volume. Then adjust the number 1 “ANT” screw for maximum signal.

(G) Remove the output lead of the Philco Station Setter from the “ANT” terminal of the receiver and turn its indicator off the frequency of the station. The program of the desired station will then be heard on the receiver.

(H) With the volume of the receiver low, slowly turn the number 1 “OSC” screw back and forth until maximum output is received. Repeat the same procedure for the number 1 “ANT” screw.

After setting up the first station, the same procedure given under (C) to (H) is used for the other stations.
NOTE
LETTERS INDICATE POSITION OF SWITCH WAFFERS FROM REAR OF CHASSIS. BOTTOM VIEW. ALL WAVE SWITCHES SHOWN IN POSITION No1 PUSHER BUTTON. SHADOWED AREA INDICATES RING AT FRONT OF SWITCH WAFFER.

I.F. = 470 KC.

Fig. 2. Schematic Diagram—Models 39-30; 39-35, Code 121
### Replacement Parts

**Schema No.** | **Description** | **Part No.**
--- | --- | ---
1 | Antenna Transformer (short wave) | 32-3027
2 | Antenna Transformer (broadcast) | 32-3028
3 | Condenser (.05 mfd., mica) | 30-4519
4 | Tuning Condenser Assembly | 31-2267
5 | Dual Padder Unit | 31-2267
6 | Oscillator Transformer | 32-3027
7 | Condenser (250 mfd., mica) | 30-1012
8 | Condenser (4500 mfd., mica) | 30-1109
9 | Resistor (50,000 ohms, ½ watt) | 31-3133
10 | Condenser (370 mfd., silver-plated mica) | 30-1110
11 | Condenser (370 mfd., silver-plated mica) | 30-1110
12 | 1st I. F. Transformer Assembly | 31-2303
13 | Condenser (.1 mfd., tubular) | 30-4415
14 | Resistor (32,000 ohms, ½ watt) | 31-2303
15 | Resistor (3000 ohms, ½ watt) | 31-2303
16 | Resistor (12,000 ohms, ½ watt) | 31-2303
17 | Electrolytic Condenser (16 mfd., 250 V.) | 30-2331
18 | Electrolytic Condenser (16 mfd., 250 V.) | 30-2331
19 | Condenser (110 mfd., mica) | 30-1031
20 | 2nd I. F. Transformer Assembly | 32-3030
21 | Resistor (51,000 ohms, ½ watt) | 33-51339
22 | Condenser (.003 mfd., tubular) | 30-4469
23 | Resistor (49,000 ohms, ½ watt) | 31-5275
24 | Volume Control (2.0 meg.) | 31-5275
25 | Resistor (32,000 ohms, ½ watt) | 33-32359
26 | Condenser (.006 mfd., tubular) | 30-4467
27 | Condenser (.05 mfd., tubular) | 30-4518
28 | Resistor (2.0 meg., ½ watt) | 31-520339
29 | Resistor (1.0 meg., ½ watt) | 31-501339
30 | Condenser (.015 mfd., tubular) | 30-4515
31 | Resistor (4.0 mgs., ½ watt) | 31-340339
32 | Resistor (750,000 ohms, ½ watt) | 33-370339
33 | Resistor (750,000 ohms, ½ watt) | 33-370339
34 | Condenser (250 mfd., mica) | 30-1032
35 | Condenser (.01 mfd., tubular) | 31-4372
36 | Output Transformer | 32-7978
37 | Cone and Voice Coil Assembly for 39-30, speaker pt. No. 36-1439-1 | 36-4091
38 | Cone and Voice Coil Assembly for 39-35, speaker pt. No. 36-1438-2 | 36-4089
39 | Condenser (.01 mfd., tubular) | 30-4449
40 | Tone Control and On-Off Switch | 42-1444
41 | Condenser (.01 mfd., 0.1 mfd., bakelite) | 3903 DG
42 | Power Transformer | 42-1444
43 | Electrolytic Condenser (5 mfd., 0.44 V.) | 30-2330
44 | *Field Coil for Speaker, part No. 36-1434 | 30-2330
45 | Resistor (300 ohms, wire wound) | 33-128431
46 | Resistor (70 ohms, ½ watt) | 30-70339

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**Schema No.** | **Description** | **Part No.**
--- | --- | ---
47 | Push-Button Switch | 42-1444
48 | Padder Strip Assembly | 31-8156
49A | Compensator, No. 1, 340 - 1030 KC | 31-8156
49B | Compensator, No. 2, 340 - 1030 KC | 31-8156
49C | Compensator, No. 3, 670 - 1160 KC | 31-8156
49D | Compensator, No. 4, 670 - 1160 KC | 31-8156
49E | Compensator, No. 5, 670 - 1700 KC | 31-8156
49F | Compensator, No. 6, 900 - 1470 KC | 31-8156
49G | Compensator, No. 7, 1170 - 1600 KC | 31-8156
49H | Compensator, No. 8, 1170 - 1600 KC | 31-8156
50 | Wave Switch | 42-1444
51 | Pilot Lamp | 34-2210
52 | Bezel Assembly | 40-6365
53 | Bezel Gasket | 27-9175
54 | Bezel Screw | W-1834
55 | Cable (Speaker) | 41-3443
56 | Cable (Power) | L-2778
57 | Dial Scale | 27-3403
58 | Dial Spring | 28-8908
59 | Dial Pointer | 28-8918
60 | Dial Drive Cord Assembly | 31-2269
61 | Dial Drive Cord Spring | 28-8913
62 | Dial Drive Drum | 31-2281
63 | Dial Tuning Shaft Assembly | 31-2280
64 | Knob Assembly | 26-3424
65 | Mounting Rubber (Chassis) | 27-4571
66 | Mounting Screw (Chassis) | W-1345
67 | Pilot Lamp Socket Assembly | 38-9607
68 | Push-Button | 27-4759
69 | Speaker (T Cabinet 39-30) optional | 36-1439-2
70 | Speaker (XX Cabinet 39-35) | 36-1438
71 | Socket (3 Prong) | 27-6035
72 | Socket (6 Prong) | 27-6036
73 | Socket (7 Prong) | 27-6036
74 | Tab Kit | 40-6392

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* Replace Speaker

† Model T Cabinet uses two optional speakers. The part numbers of the speakers are the same with the exception of a dash number (-2 or -3) following the part number. When ordering a Cone and Voice Coil Assembly, the part number as indicated must be specified.
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 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.

OUTPUT METER: The Philco 027 Output Meter is connected to the plate and cathode terminals of the type 41 tube. After connecting the Output Meter, adjust compensators in the order as given below.

<table>
<thead>
<tr>
<th>Operations</th>
<th>Signal Generator</th>
<th>Receiver</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Output Connections To Receiver</td>
<td>Dummy Antenna (Note A)</td>
<td>Dial Setting</td>
</tr>
<tr>
<td>2</td>
<td>Ant. Ter.</td>
<td>100 mmf.</td>
<td>18.0 M. C.</td>
</tr>
</tbody>
</table>

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

NOTE B—DIAL CALIBRATION: In order to adjust the receiver correctly the dial pointer must be aligned to track properly with the tuning condenser. To adjust the dial proceed as follows: With the tuning condenser closed, set the dial pointer on the extreme left index line at the low frequency end of the scale.

PHILCO RADIOS will give original Quality Performance only when Genuine Philco Replacement Parts are used.