Model 602

Specifications

TYPE CIRCUIT: Superheterodyne with pentode output.
POWER SUPPLY: 115 V., 25 or 60 cycle A.C., D.C.
TUBES USED: 1 type 6A7, Osc. Det., 1 type 78 I.F. Amplifier,
1 type 75, 2nd Det. 1st Audio, 1 type 43 output, 1 type 2525,
rectifier.
FREQUENCY RANGE: 530-1800 K.C.
INTERMEDIATE FREQUENCY: 460 K.C.
CURRENT CONSUMPTION: 55 watts.
SPEAKER: B-4.
POWER OUTPUT: ¼ watt.

Adjusting Compensating Condensers

Adjustment of compensating condensers in Model 602 requires
an accurate signal generator covering I.F., and standard-wave frequencies. The PHILCO Model 088 All-Wave Signal Generator,
having a continuous range of from 100 to 20,000 K.C., is ideal for this purpose.

An output meter is also needed, PHILCO Model 025 Circuit Tester includes a high grade output meter.
Philo No. 3164 fibre wrench and No. 27-7059 fibre-handled screwdriver complete the equipment needed for making these adjustments. The locations of the various compensating condensers are shown in Fig. 4. Connect the output meter to the plate and cathode contacts of the type 43 power tube (using the adapters provided with the “025”) and set it at the 0-30 volt range.

INTERMEDIATE FREQUENCY: Turn the condenser gang all the way in (maximum capacity) and set the volume control of set at maximum (clockwise). Connect the 088 signal generator antenna lead to the grid of the 78 I.F. tube through a .00025 mfd. condenser and the ground lead to the ground post of the set. Set the 088 signal generator attenuator for approximately ¼ scale reading on output meter. Adjust condensers @ and @ for maximum output meter reading.

Remove the 088 signal generator antenna lead from the grid of the 78 and connect it to the grid of the 6A7, adjust condensers @ and @ for maximum output meter reading.

WAVE TRAP: Connect the 088 signal generator antenna lead to the aerial post of set. Adjust condenser @a for minimum output meter reading.

STANDARD and POLICE: Turn the condenser gang all the way out (minimum capacity) and place a .006” (six thousandth inch) gauge between the stator and rotor plates. Turn the condenser gang in until the correct spacing (.006”) is had between the rotor and stator plates. The pointer on the front of the cabinet should be set at 1800 K.C. to coincide with this condenser gang setting.

With the condenser gang set in this manner, set the 088 signal generator at 1800 K.C. and adjust condensers @a and @a for maximum output meter reading.

Set the condenser gang and 088 signal generator at 600 K.C. and adjust condenser @c for maximum output meter reading.

Care should be taken to adjust the 088 signal generator attenuator for approximately ¼ scale output meter reading for each stage before attempting to adjust condensators.

Fig. 1. Transformer Terminal Code

Fig. 2. Tube Sockets as Viewed from Bottom
(Measured from Socket Terminal to B—)

Fig. 3. Base View

Fig. 4. Location of Compensators
## Replacement Parts for Model 602

### Schematic Number | Part and Description | Part No. | Price
---|---|---|---
1 | Wave Trap Coil | 32-2007 | .50
2 | Wave Trap Compensater | 32-2007 | .50
3 | Condenser (.001 Mf. Tubular) | 33-4201 | .20
4 | Condenser (.05 Mf. Mica) | 33-3610 | .20
5 | Ant. Transformer | 33-2003 | 1.40
6 | Compensater (Osc. 1800 Kc) | 33-2041 | 1.20
7 | Osc. Transformer | 33-3794 | .95
8 | Compensater (Ant. 1800 Kc) | 33-3200 | .95
9 | Condenser (35 mnf. Mica) | 33-3144 | .20
10 | Compensater (Osc. Series) | 33-4000 | .35
11 | Resistor (490 ohm, 1/2 watt) | 33-24555 | .20
12 | Condenser (.02 Mf. Bakelite) | 33-3155 | .15
13 | Resistor (110,000, 1/2 watt) | 33-42334 | .20
14 | Condenser (.25-.05-.05-.05-.05-.15 mfd.) | 33-4430 | 1.00
15 | Elec. Condenser (16-16-10 mfd.) | 33-2148 | 1.20
16 | Filter choke | 33-3144 | .93
17 | Elec. Condenser (16 mfd.) | Part of 15
18 | Resistor (51,000 ohm, 1/2 watt) | 33-35115 | .20
19 | Condenser (.05 mfd.) | Part of 16
20 | Resistor (15,000 ohm, 1/4 watt) | 33-31513 | .20
21 | Resistor (200 ohm wirewound) | 7217 | .20
22 | Condenser (.03 Mf. Bakelite) | 83.10-0US | .35
23 | Compensater (1st I.F. Pri.) | Part of 8
24 | 1st I.F. Transformer | 32-2005 | 1.50
25 | Compensater (1st I.F. Sec.) | Part of 24

### Schematic Number | Part and Description | Part No. | Price
---|---|---|---
26 | Resistor (330 ohm wirewound) | 33-3010 | .20
27 | Condenser (.05 mfd.) | Part of 8
28 | Resistor (2000 ohm, 1/4 watt) | 33-32014 | .20
29 | Compensater (2nd I.F. Pri.) | Part of 26
30 | 2nd I.F. Transformer | 33-22006 | 1.50
31 | Compensater (2nd I.F. Sec.) | Part of 28
32 | Condenser (.00111 mf. twin) | 603.410C | .25
33 | Condenser (.00011 mf.) | Part of 31
34 | Resistor (51,000 ohm, 1/2 watt) | 33-3114 | .20
35 | Volume Control (10,5 meg.) | 33-3143 | 1.45
36 | Condenser (.01 mfd. Tubular) | 33-4145 | .20
37 | Condenser (.05 mfd.) | Part of 34
38 | B.C. Resistor (183-.13 ohm) | 33-3225 | .25
39 | Pilot Lamp | 24-2008 | .16
40 | Resistor (15 ohm) | 41-8809 | .20
41 | Resistor (10,000 ohm, 1/4 watt) | 33-31014 | .20
42 | Resistor (25,000 ohm, 1/4 watt) | 33-379133 | .20
43 | Resistor (240,000 ohm, 1/4 watt) | 33-424143 | .20
44 | Condenser (.15 mfd.) | Part of 37
45 | Resistor (499,000 ohm, 1/4 watt) | 33-449143 | .20
46 | Condenser (.01 mfd.) | Part of 36
47 | Resistor (400 ohm wirewound) | 7217 | .20
48 | Resistor (400 ohm wirewound) | (Flexible) | 33-3122 | .25
49 | Elec. Condenser (110 mfd.) | Part of 49
50 | Condenser (.01 mfd. Tubular) | 30-4469 | .20
51 | Output Transformer | 33-3786 | .20
52 | Tube Shield Base | 28-2725 | .03
53 | Tube Shield Body | 28-2726 | .10
54 | Chassis Mfg. Nut | 7-125 | .15
55 | Chassis Mfg. Washer | 7-410 | .15
56 | Chassis Mfg. Washer | 7-291 | .40
57 | Speaker Baffle | 45-5890 | ... 
58 | Dial | 27-5188 | ... 
59 | Pointer | 27-8236 | ... 
60 | Shield Bottom Assy | 29-3603 | ... 
61 | Shield Bottom Insulator | 28-7185 | .02
62 | Tube Socket (6-prong) | 27-6536 | .11
63 | Tube Socket (7-prong) | 27-6817 | .11
64 | Knob (Volume, On-Off) | 27-4273 | .10
65 | Knob (Station Selector) | 27-4102 | ... 
66 | Elec. Condenser Support | 6440 | .05
67 | Elec. Condenser Insulator | 27-7816 | .06
68 | Pilot Lamp Bracket Assy | 38-7513 | .15
69 | Ant. Coil Mfg. Bracket | 38-3546 | .03
70 | Bias Cell Assy | 38-7416 | .15
71 | Coupling (For Tuning Knob) | 38-6426 | .15

**Fig. 5. Schematic Wiring Diagram**

### Additional Information

- **Parts Subject to Change Without Notice**

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**PHILCO**

Parts and Service Division

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