

Model 37-602

Specifications

TYPE CIRCUIT: Superheterodyne with pentode output.
POWER SUPPLY: 115 V., 25 or 60 cycle, A. C.; D. C.
TUBES USED: 1 type 6A8G, Osc. Det., 1 type 6K7G I.F. Amplifier, 1 type 6Q7G, 2nd Det. 1st audio, 1 type 25A6G output, 1 type 25Z6G rectifier.
FREQUENCY RANGE: 530-1800 K.C.
INTERMEDIATE FREQUENCY: 470 K.C.
CURRENT CONSUMPTION: 55 watts.
SPEAKER: B-4.
POWER OUTPUT: 3/4 watt.

Adjusting Compensating Condensers

To accurately adjust the compensating condensers in the Model 37-602 receiver, it is necessary to use a signal generator of high stability on all frequencies such as the **PHILCO Model 088 Signal Generator**. This instrument has a continuous frequency range from 110 to 20,000 K.C., and is designed to meet every requirement of the serviceman.

An output meter is also needed,—**PHILCO Model 025 Circuit Tester** includes a very sensitive output meter.

Convenient tools to use in adjusting the compensators are the **PHILCO No. 3164 Fibre Wrench** and **No. 27-7059 Fibre Handled Screw-driver**.

The locations of the various compensating condensers are shown in Fig. 1. Connect the various output meter to the plate and cathode contacts of the (25A6G) power tube and adjust it to use the 0-30 volt range.

Intermediate Frequency Circuit

1. Turn the gang condenser to the maximum capacity position (extreme clockwise) and set the Volume Control of the receiver at the maximum position (extreme clockwise).

2. Connect the signal generator output lead through a .1 mfd. condenser to the grid of the 6K7G tube, and the generator ground lead to any point of chassis.

3. Set the signal generator at 470 K.C. and adjust ① and ② for maximum reading on the output meter.

4. Remove signal generator output lead and .1 mfd. condenser, from the grid of 6K7G and connect it to the grid of 6A8G. Now adjust compensators ③ and ④ for maximum reading on the output meter.

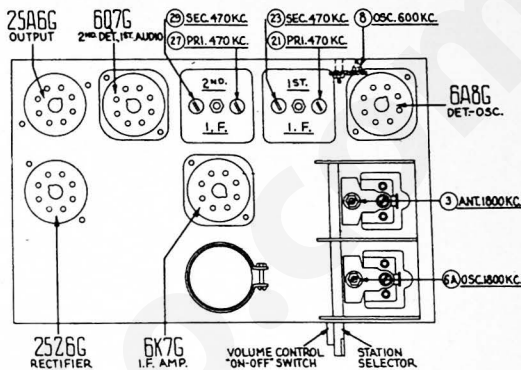


Fig. 1. Location of Compensators

Radio Frequency Circuit

1. Remove the signal generator output lead from the 6A8G tube and connect it to the aerial lead of the receiver through a 100 mmfd. condenser. Turn the gang condenser to the minimum capacity position (extreme counter clockwise) and place a .006" (six thousandth inch) gauge between the stator and rotor plates. Now turn the gang clockwise until stator and rotor plates touch gauge.

2. Remove gauge from gang condenser. Now set signal generator at 900 K.C. (using second harmonic 1800 K.C.) adjust compensators ①A and ② for maximum reading on the output meter.

3. Turn the signal generator and receiver gang condenser to 600 K.C., and adjust compensator ③. In doing so, the gang condenser must be rolled slightly above and below the 600 K.C. signal until the maximum reading is indicated on the output meter.

4. Turn the gang condenser to 1800 K.C. and signal generator to 900 K.C., (using second harmonic of signal generator 1800 K.C.), readjust compensator ①A for maximum reading on output meter. Set gang as given in paragraph 1, for this adjustment.

5. Turn the gang condenser and signal generator to 1400 K.C., readjust compensator ③ for maximum reading on output meter. After the above adjustments are completed and receiver is placed in the cabinet, the dial pointer is properly placed by turning the signal generator to 1000 K.C. Then tune receiver for maximum signal. The dial pointer is then placed on gang shaft, so that it indicates 1000 K.C. on dial.

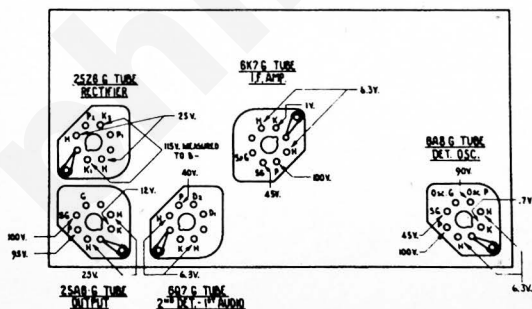


Fig. 2. Tube Sockets as viewed from underside of chassis. (Voltages measured from socket contacts to B—)

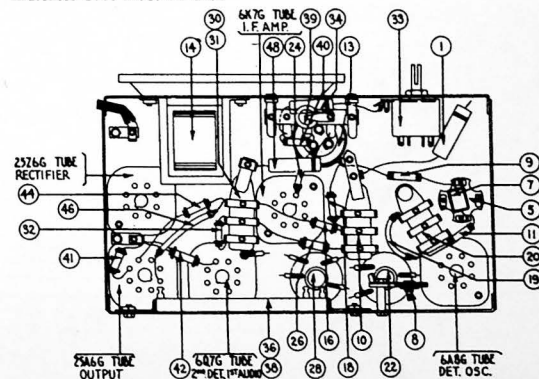


Fig. 3. Base View

Replacement Parts for Model 37-602

Schematic Number	Part and Description	Part No.	Price List	Schematic Number	Part and Description	Part No.	Price List	Schematic Number	Part and Description	Part No.	Price List
①	Condenser (.001 Mf. Tubular)	30-4201	.20	①	Condenser (.05 mf.)	Part of ⑩		⑩	Field Coil Assy.	36-3040	2.40
②	Condenser (35 mmf. Mica)	30-1044	.20	②	Resistor (2.0 meg. ¼ watt)	33-520339	.20	⑪	Volume Control Mtg. Nut.	W-684-A	1.25C
③	Compensator (Ant. 1800 Kc.)			③	Compensator (2nd I.F. Pri.)	Part of ⑩		⑫	B.C. Resistor Mtg. Screw	W-650-A	.40C
④	Ant. Transformer	32-2140	1.40	④	2nd I.F. Transformer	32-2006	1.50	⑬	B.C. Resistor Mtg. Nut.	W-95-A	.30C
⑤	Osc. Transformer	32-2041	1.20	⑤	Compensator (2nd I.F. Sec.)	Part of ⑩		⑭	Tube Shield Base	28-3893	.03
⑥	Tuning Condenser	31-1794	3.00	⑥	Condenser (.00011 mf. twin)	8035-01D	.25	⑮	Tube Shield Body	28-2726	.10
⑦	Compensator (Osc. 1800 Kc.)			⑦	Condenser (.00011 mf.)	Part of ⑩		⑯	Chassis Mtg. Screw	W-1656-A	.75C
⑧	Condenser (35 mmf. Mica)	30-1044	.20	⑧	Resistor (51,000 ohm. ¼ watt)	33-351339	.20	⑰	Chassis Mtg. Washer	W-124-A	.35C
⑨	Compensator (Osc. Series)			⑨	Volume Control (.05 meg.)	33-5145	1.45	⑱	Chassis Mtg. Washer	W-151-A	.15C
⑩	Resistor (600 Kc.)	04000S	.35	⑩	Condenser (.01 mf. Tubular)	30-4145	.20	⑲	Chassis Mtg. Washer	W-291-A	.40C
⑪	Resistor (490 ohm. ½ watt)	33-249339	.20	⑪	Condenser (.05 mf.)	Part of ⑩		⑳	Speaker Baffle	40-5951	...
⑫	Condenser (.05 Mf. Bakelite)	3615-OSU	.35	⑫	Resistor (133-15 ohm)	33-3235	.55	㉑	Dial	27-5193	...
⑬	Resistor (120,000, ¼ watt)	33-412339	.20	⑬	Pilot Lamp	34-2068	.16	㉒	Pointer	28-3789	...
⑭	Condenser			⑭	Resistor (15 ohm)	Part of ⑩		㉓	Shield Bottom Assy.	27-8182	.02
⑮	(.25-.05-.05-.05-.15-.01 mf.)	30-4410	1.00	⑮	Bias Cell	41-8009	.20	㉔	Tube Socket (2-prong)	27-6057	.11
⑯	Elec. Condenser (16-16-10 mf.)	30-2148	3.20	⑯	Resistor (1.0 meg. ¼ watt)	33-510339	.20	㉕	Tube Socket (5-prong)	27-6053	.11
⑰	Filter Choke	32-7544	.95	⑰	Resistor (70,000 ohm. ¼ watt)	33-370339	.20	㉖	Knob (Volume, On-Off)	27-4309	.10
⑱	Elec. Condenser (16 mf.)	Part of ⑩		⑱	Resistor (240,000 ohm. ¼ watt)	33-424339	.20	㉗	Knob (Station Selector)	27-4308	.10
⑲	Resistor (51,000 ohm. ¼ watt)	33-351339	.20	⑲	Condenser (.15 mf.)	Part of ⑩		㉘	Elec. Condenser Support	6440	.05
⑳	Condenser (.05 mf.)	Part of ⑩		⑳	Resistor (490,000 ohm. ¼ watt)	33-449339	.20	㉙	Elec. Condenser Insulator	27-7836	.06
㉑	Resistor (15,000 ohm. ¼ watt)	33-315339	.20	㉑	Condenser (.01 mf.)	Part of ⑩		㉚	Pilot Lamp Bracket Assy.	38-7513	.50
㉒	Resistor (300 ohm wirewound)	33-3010	.20	㉒	Resistor (400 ohm wirewound)	Part of ⑩		㉛	Ant. Coil Bracket	28-3546	.03
㉓	Elec. Condenser (16 mf.)	3318-OSU	.35	㉓	Elec. Condenser (10 mf.)	33-3122	.25	㉜	Ant. Coil Assy.	38-7436	.15
㉔	Compensator (1st I.F. Pri.)	Part of ⑩		㉔	Condenser (.02 mf. Tubular)	30-4113	.20	㉝	Speaker B4	36-1194	6.00
㉕	1st I.F. Transformer	32-2005	1.50	㉕	Output Transformer	32-7566	1.10	㉞	A.C. Cord Assm.	1-2183	.40
㉖	Compensator (1st I.F. Sec.)	Part of ⑩		㉖	Voice Coil Cone Assy.	36-3029	.60	㉟	Aerial Lead Assm.	38-5144	.30
㉗	Resistor (300 ohm wirewound)	33-3010	.20								

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

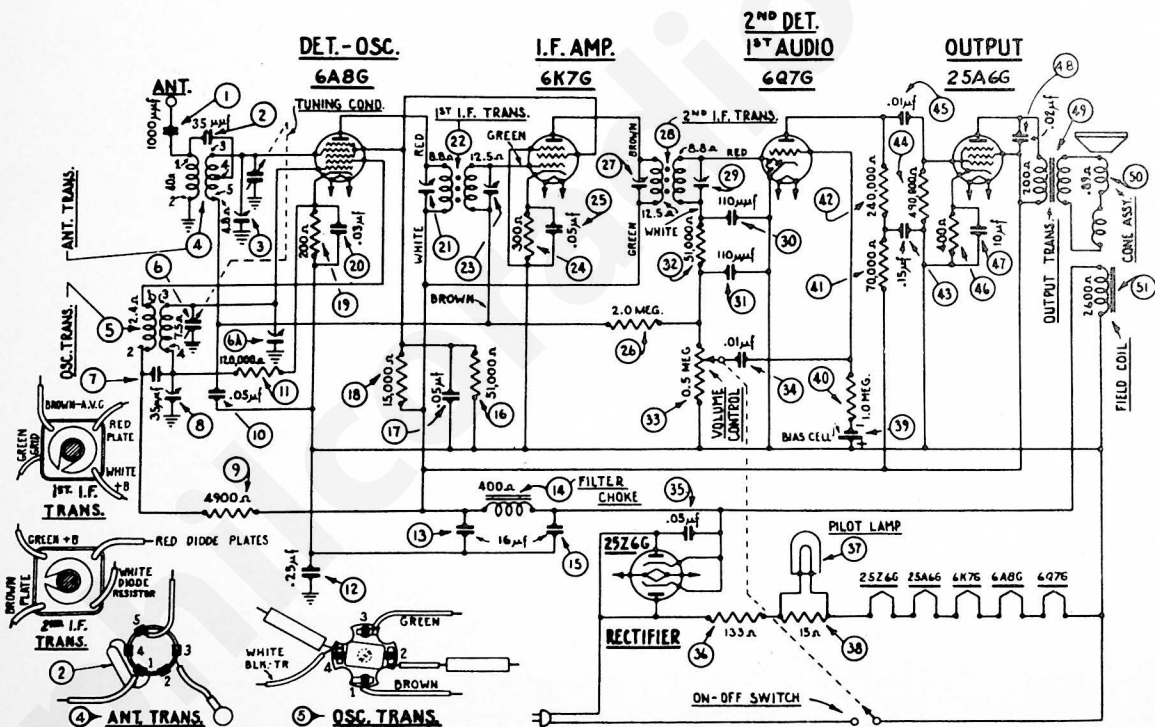


Fig. 4. Schematic Wiring Diagram

PHILCO
Parts and Service Division