PHILCO . . . . . Model 37-93

SERVICE BULLETIN No. 275 *for members of*
RADIO MANUFACTURERS SERVICE
A PHILCO Service Plan

Electrical Specifications

Type of Circuit: Superheterodyne, with pentode audio output circuit.
Dial Tuning Mechanism: Vernier, 5 to 1 ratio.

Power Supply:	**Voltage**	**Frequency**	**Consumption**
	115	50 to 60 cycles	50 watts
	115	25 to 60 cycles	50 watts
	110/220	50 to 60 cycles	50 watts

Intermediate Frequency: 470 K. C.
Undistorted Output: 3 watts.
Philco Tubes Used: Five; one 6A8G, one 6F6G, one 6K7G, one 5Y4G, one 6R7G.
Tuning Range: 530 to 1720 K. C.
Speaker: SB2.

Alignment of Compensators

EQUIPMENT REQUIRED: (1) Signal generator; Philco Model 088 (fundamental frequency 110 to 20,000 K. C.) is the correct instrument for this purpose; (2) output meter, PHILCO MODEL (025) CIRCUIT TESTER incorporates a Sensitive output meter and is recommended; (3) Fibre handle screwdriver (Philco Part No. 27-7059); (4) Fibre wrench Part No. 3164.

OUTPUT METER: The 025 Output Meter is connected to the plate and cathode terminals of the (6F6G) tube. Adjust the meter to use the (0-30) Volt Scale.

INTERMEDIATE FREQUENCY CIRCUIT

1. Set controls as follows:
   a. Volume control maximum
   b. Receiver Dial 580 K. C.
   c. Signal generator 470 K. C.

2. Connect the signal generator output lead through a .1 mfd. condenser to the 6A8G Grid and adjust the Compensators as follows for maximum output (14S), (14P), (9S), and (9P).

RADIO FREQUENCY CIRCUIT

Tuning Range: 520 to 1720 K. C.

1. Connect the signal generator output lead through a 200 mmfd. condenser to the Ant. terminal of the receiver and the generator ground to the chassis.
2. Adjust compensators as follows for maximum output.

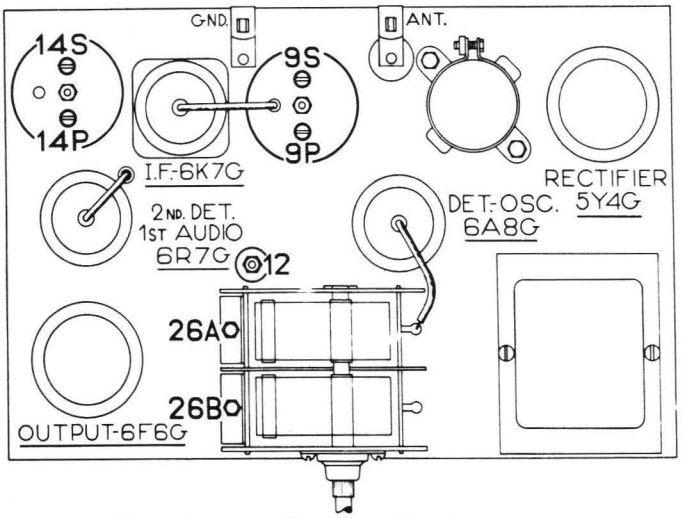

Fig. 2. Locations of R. F. and I. F. Compensators

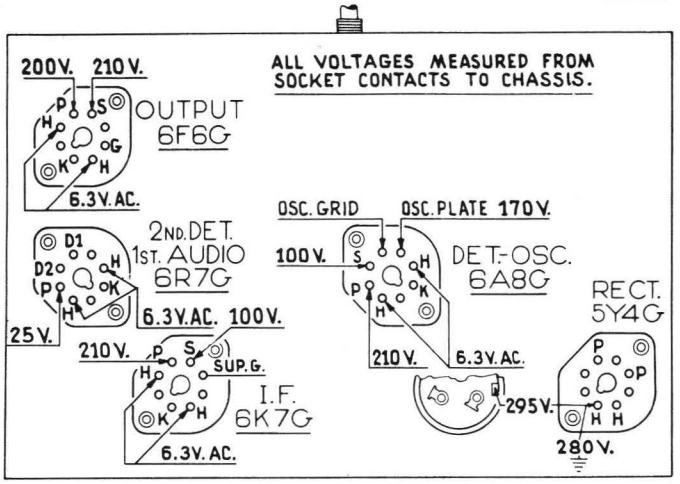

Fig. 1. View of Sockets from Underside Chassis

The voltages indicated by arrows were measured with a **Philco 025 Circuit Tester** which contains a voltmeter having a resistance of 1000 ohms per volt. Volume Control at minimum, range switch in broadcast position, line voltage 115 A. C.

Signal Generator	**Set Tuning Condenser**	**Compensators in Order**
1710 K. C.	1710 K. C., Note B	(26B), (26A)
580 K. C.	580 K. C.	(12), Note A
1500 K. C.	1500 K. C.	(26A)

NOTE A—First tune compensator (12) for maximum output, then vary the tuning condenser of the receiver for maximum output, about the 580 K. C. dial mark. Now turn compensator (12) slightly to the right or left and vary the receiver tuning condenser for maximum output. If the output decreases, set the compensator in the opposite direction. This procedure of first setting the compensator and then varying the tuning condenser is continued until there is no further gain in output reading.

NOTE B—Turn the tuning condenser to the minimum capacity position (extreme clockwise). Insert a .006" (six-thousandth inch) gauge between the stator and rotor plates (left side of condenser facing front). Then turn the condenser counter-clockwise until stator and rotor plate touch gauge. Remove gauge without disturbing setting of condenser and adjust compensators (26B), (26A) for maximum output on a 1710 K. C. signal.

SETTING DIAL POINTER

After compensators are adjusted. Set signal generator for 1000 K. C. and tune receiver for maximum output. Place pointer on tuning condenser shaft at the 1000 K. C. dial mark.

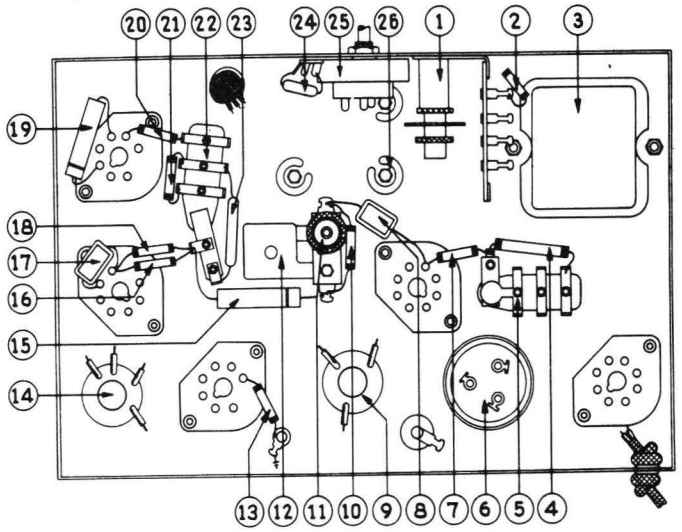

Fig. 3. Part Locations, underside of Chassis

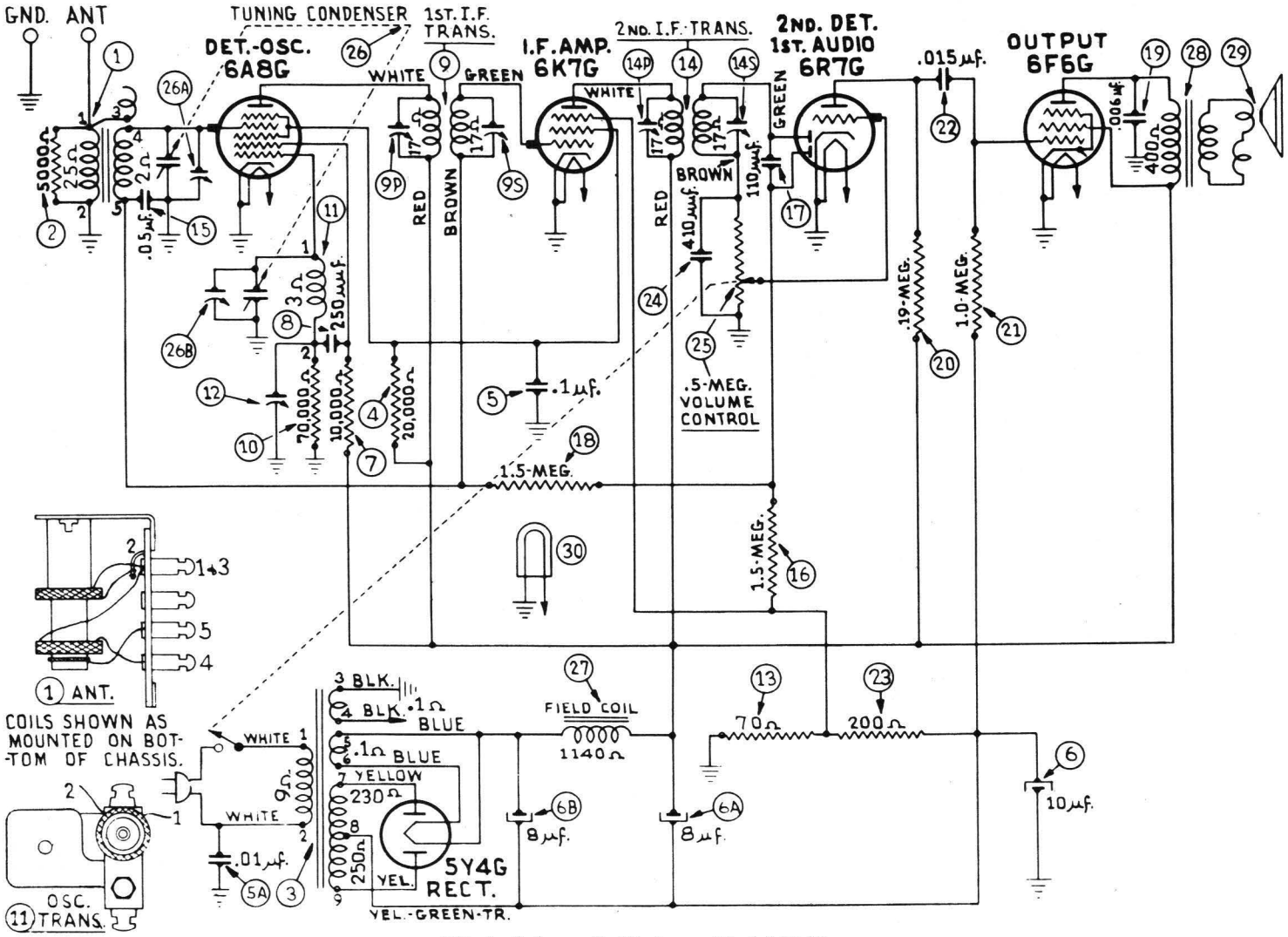

Fig. 4. Schematic Diagram, Model 37-93

Replacement Parts — Model 37-93

Schem. No.	Description	Part No.	List Price
1	Ant. Transformer	32-2329	$1.00
2	Resistor (5000 ohms)	33-250339	.20
3	Power Transformer 115 volts 50 to 60 cycles	32-7780	3.60
	Power Transformer 110/220 volts 50 to 60 cycles	32-7782	4.00
4	Resistor (20,000 ohms, 1 watt)	33-320439	.20
5	Condenser (.01, .1 mfd. Dual Bakelite)	4989FG	
6	Elect. Cond. (8, 8, 10 mfd.)	30-2073	3.15
7	Resistor (10,000 ohms ½ watt)	33-310339	.20
8	Condenser (250 mmfd. mica)	30-1032	.25
9	1st I. F. Transformer Assembly	32-2457	
10	Resistor (70,000 ohms, ½ watt)	33-370339	.20
11	Oscillator Trans. Assembly	32-2330	.90
12	Compensator (osc. series)	Part of (11)	
13	Resistor (70 ohms ½ watt)	33-070339	.20
14	2nd I. F. Transformer Assembly	32-2459	
15	Condenser (.05 mfd. tubular)	30-4444	.20
16	Resistor (1.5 ohms, ½ watt)	33-515339	.20
17	Condenser (110 mmfd. mica)	33-1031	.20
18	Resistor (1.5 ohms, ½ watt)	33-515339	.20
19	Condenser (.006 mfd. tubular)	30-4445	.20
20	Resistor (190,000 ohms, ½ watt)	33-419339	.20
21	Resistor (1 megohm, ½ watt)	33-510339	.20
22	Condenser (.015 mfd. Bakelite)	3793SU	.35
23	Resistor (200 ohms Bakelite)	33-1210	.20
24	Condenser (410 mmfd. mica)	30-1000	$0.25
25	Volume Control	33-5193	1.45
26	Tuning Condenser	31-1932	2.75
27	Field Coil Assembly	36-3243	2.40
28	Output Trans.	32-7019	.85
29	Cone and Voice Coil Assembly	36-3014	1.00
	Cabinet	10227B	
	Cable A. C.	L-2183	.40
	Cable (Speaker)	L-2610	.20
	Dial Scale	27-5280	.15
	Dial Pointer	27-7933	.01
	Knob (Tuning and Volume)	27-4282	.10
	Mtg. Bolt	40-5790	
	Shield (1st I. F.)	38-7763	.20
	Shield (2nd I. F.)	38-8146	
	Shield (Tube)	28-2726	.10
	Socket (8 prong)	27-6058	.11
	Socket (7 prong)	27-6057	.11
	Speaker SB2	36-1127	5.75
	Terminal Panel, (R. F. Trans.)		
	Vernier Drive Assembly	45-2171	
	Washer Felt	27-7807	.50 C

CABINET PARTS

Baffle & Silk Assembly	40-5988	.30