

Model 37-641—Code 121

Electrical Specifications

Type of Circuit: Superheterodyne, with push-pull pentode audio output.
Power Supply: 115 volts, A. C. or D. C.
Power Consumption: 60 watts.
Power Output: 1.4 watts.
Philco Tubes Used: Seven. One 6A8G; one 6Q7G; one 25Z6G; two 6K7G; two 25A6G.
Tuning Ranges: Three. Range 1—530 to 1720 K. C.; Range 2—2.3 to 7.4 M. C.; Range 3—7.35 to 22 M. C.
Tone Control: Three Point.
Speaker: "B" Cabinet KR-18. "X" and "MX" Cabinets HR-13.

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 screw driver (Philco Part No. 27-7059); (4) Special variable condenser (Philco Part No. 45-2325).
OUTPUT METER—The 025 Output Meter is connected between the plate and cathode prongs of one of the 25A6G tubes. Then adjust the meter to use the (0-30) volt scale.

INTERMEDIATE FREQUENCY CIRCUIT

- Set controls as follows:
- Range Switch position one (broadcast).
 - Volume control maximum.
 - Connect the 088 signal generator output lead through a .1 mfd. condenser to the control grid of the 6A8G tube and the ground connection of the output lead to the chassis.
 - Receiver dial at 580 K. C.
 - Signal generator 470 K. C.
 - Adjust compensators (38P), (38S), (35P), (35S).

RADIO FREQUENCY CIRCUIT

- Tuning Range 7.35 to 22 M. C.**
- Connect signal generator output lead with the .1 mfd. condenser to terminal No. 1 and the ground lead to terminal No. 3. Terminals 2 and 3 must be connected with the shorting link provided on the aerial panel.
 - Adjust compensators as follows:
- | Range Switch | Signal Generator | Receiver Dial | Compensators In Order |
|--------------|------------------|---------------|---|
| 3 | 18 M. C. | 18 M. C. | (18B) check image at 17.06 M. C. on receiver dial. (See note B) |
| 3 | 18 M. C. | 18 M. C. | (11B), (2B) use shunt condenser on (18B) (See Note A) |
| 3 | 18 M. C. | 18 M. C. | (18B) |

Tuning Range 2.3 to 7.4 M. C.

- | Range Switch | Signal Generator | Receiver Dial | Compensators In Order |
|--------------|------------------|---------------|-----------------------|
| 2 | 7 M. C. | 7 M. C. | (18A) |
| 2 | 6 M. C. | 6 M. C. | (11A), (2A) |

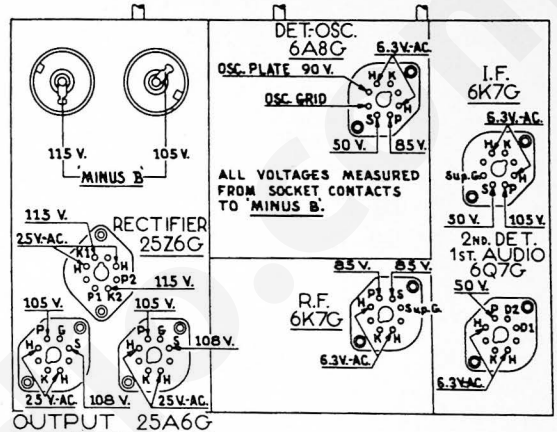


Fig. 1—Socket Voltages—Underside of Chassis View

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.

Tuning Range 530 to 1720 K. C.

Range Switch	Signal Generator	Receiver Dial	Compensators In Order
1	1600 K. C.	1600 K. C.	(18), (11), (2)
1	580 K. C.	580 K. C.	(20) roll gang
1	1600 K. C.	1600 K. C.	(18)
1	1500 K. C.	1600 K. C.	(11), (2)

NOTE "A"—To eliminate the effect of the R. F. compensator detuning the Osc. circuit, a variable tuning condenser, Philco Part No. 45-2325 is connected from the oscillator compensator to ground when designated in the padding instruction above. Tune the added condenser from the minimum capacity position until the second harmonic of the receiver oscillator beats against the signal from the generator, resulting in a maximum indication on the output meter. Then adjust compensators as noted for maximum output.

NOTE "B"—To accurately adjust the compensator to the fundamental and not the image signal, turn the oscillator compensator to the maximum capacity position clockwise. Then slowly turn the compensators counter-clockwise until a second maximum peak is obtained on the output meter. The first peak is the image signal and the receiver must not be adjusted to it. If the above procedure is correctly performed, the image signal will be found 940 K. C. below the frequency being used on any high frequency band.



Fig. 2—I. F. Compensators

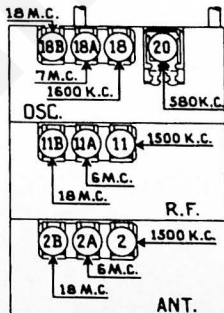


Fig. 3—R. F. Compensators

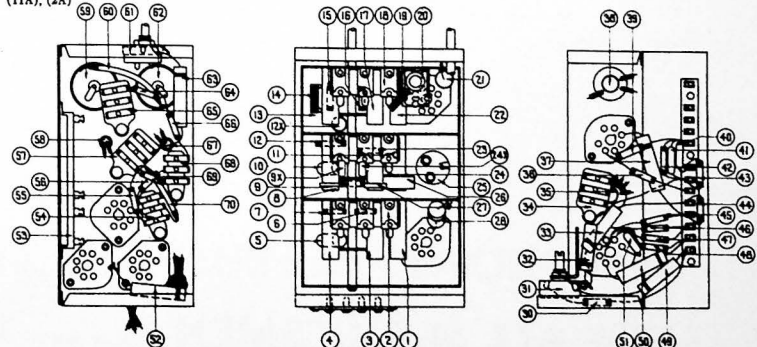


Fig. 4—View of Parts from Underside of Chassis

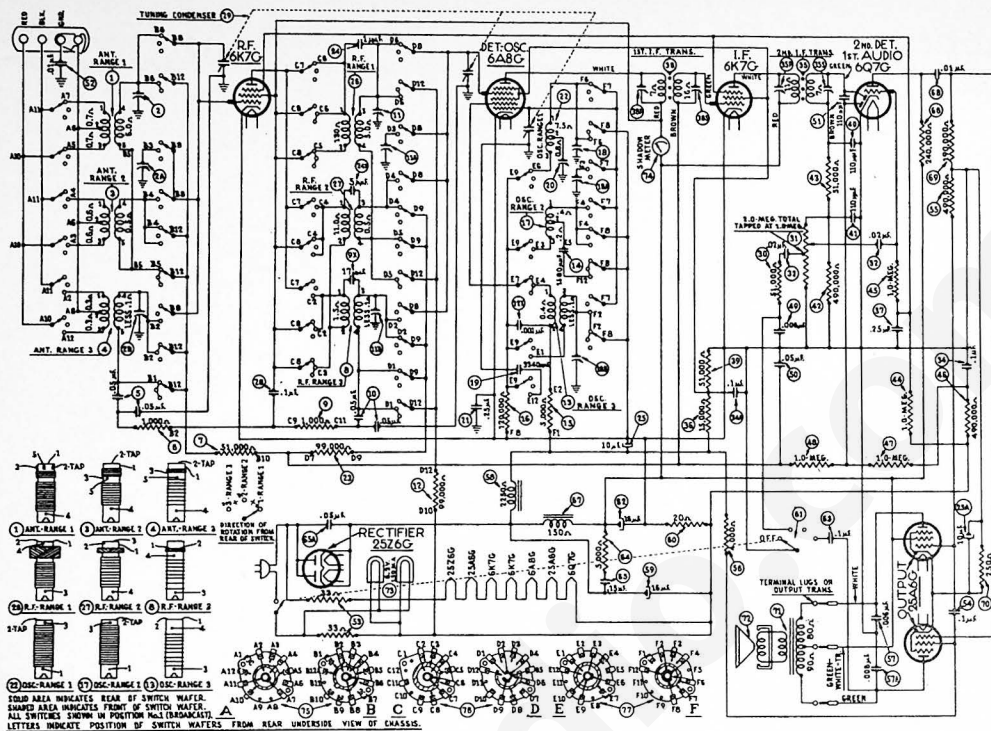


Fig. 5—Schematic Diagram 37-641

Replacement Parts—Model 37-641

Schem. No.	Description	Part No.	List Price	Schem. No.	Description	Part No.	List Price	Schem. No.	Description	Part No.	List Price
1	Antenna Transformer (Range 1).....	32-2108	\$1.60	47	Resistor (1 megohm, 1/2 watt).....	33-510339	\$0.20	Insulator (Electrolytic Cond. Power Unit).....	27-7194		\$0.01
2	Compensator (three section).....	31-6092	.60	48	Resistor (1 megohm, 1/2 watt).....	33-510339	.20	Insulator (Electrolytic Cond. Power Unit).....	27-8653		.30
3	Antenna Transformer (Range 2).....	32-2119	1.20	49	Condenser (.006 mfd. tubular).....	30-4125	.20	Mask.....	27-5198		.30
4	Antenna Transformer (Range 3).....	32-2109	1.20	50	Condenser (.05 mfd. tubular).....	30-4090	.20	Mask Arm and Link Assembly.....	31-1959		.30
5	Condenser (Dual Tubular, .05 mfd.).....	30-4459	.20	51	Condenser (10 mfd. mica).....	30-1031	.20	Mask Guide and Pilot Lamp Bracket.....	38-7844		.15
6	Resistor (1000 ohms, 1/2 watt).....	33-210339	.20	52	Condenser (.01 mfd. tubular).....	30-4145	.20	Mask Washer (Rubber, chassis).....	27-8318		.50
7	Resistor (51,000 ohms, 1/2 watt).....	33-351339	.20	53	Resistor (33 ohms, two section).....	33-3294	.20	Mtg. Grommet.....	27-4317		.07
8	R. F. Transformer (Range 3).....	32-2126	.70	54	Condenser (1 mfd. bakelite).....	4989-SU	.35	Mtg. Washer (Rubber, Tuning Condenser).....	27-4325		.02
9	Resistor (1000 ohms, 1/2 watt).....	33-210339	.20	55	Resistor (490,000 ohms, 1/2 watt).....	33-243339	.30	Mtg. Sleeve.....	28-2257		.01
9X	Condenser (17 mfd. mica).....	30-1079	.40	56	Resistor (4,000 ohms, 1/2 watt).....	33-240339	.20	Mtg. Screw.....	W-729		.45
10	Condenser (Dual Tubular, .05 mfd.).....	30-4459	.20	57	Condenser (1006 mfd. dual).....	7625-DU	.30	Mtg. Washer.....	28-3927		.01
11	Compensator (three section).....	31-6092	.60	58	Choke.....	32-7667	1.60	Mtg. Washer.....	27-7807		.50
12	Resistor (99,000 ohms, 1/2 watt).....	33-399339	.20	59	Electrolytic Condenser (16 mfd.).....	30-2124	.75	Panel Wiring, I. F. Unit.....	38-7895		.30
12X	Condenser (.001 mfd. tubular).....	30-4453	.20	60	Resistor (28 ohms, flexible).....	33-3043	.25	Receptical Assembly Shadowmeter.....	41-3276		.11
13	Oscillator Transformer (Range 3).....	32-2110	.70	61	Tone Control and A. C. Switch.....	33-42339	.20	Socket 8 Prong.....	27-6057		.11
14	Condenser (1590 mfd.).....	31-6138	.40	62	Electrolytic Condenser (16 mfd.).....	3-2124	.75	Socket 8 Prong.....	27-6058		.11
15	Resistor (5000 ohms, 1/2 watt).....	33-250339	.20	63	Condenser (1 mfd. tubular).....	30-4455	.25	Spring (Shaft).....	38-8059		.10
16	Resistor (120,000 ohms, 1/2 watt).....	33-412339	.70	64	Resistor (5,000 ohms, 1/2 watt).....	33-250339	.20	Spring (Shadowmeter).....	28-8623		.70
17	Oscillator Transformer (Range 2).....	32-2121	.70	65	Condenser (.05, .15 mfd. bakelite).....	6287-CU	.20	Spring (Tube).....	27-8530		.01
18	Compensator Oscillator (three sections).....	31-6092	.60	66	Resistor (240,000 ohms, 1/2 watt).....	33-42339	.20	Shield (Plate) (Range Switch).....	42-1173		.50
19	Condenser (3340 mfd.).....	31-6138	.40	67	Choke.....	33-7627	.20	Shield (Tube).....	38-8278		.10
20	Compensator (Range 1 series).....	31-6056	.55	68	Condenser (.01 mfd. bakelite).....	3903-SU	.25	Spring (Thrust, dial gear).....	28-9511		.01
21	Condenser (.25 mfd. tubular).....	30-4446	.25	69	Resistor (190,000 ohms, 1/2 watt).....	33-419339	.20	Washer (Thrust, dial gear).....	28-3976		.30
22	Oscillator Transformer (Range 1).....	32-2120	1.00	70	Resistor (250 ohms, flexible).....	33-3046	.20	Washer "C" (dial gear).....	28-3904		.01
23	Resistor (99,000 ohms, 1/2 watt).....	33-399339	.20	71	Output Transformer HR-13, KR-18.....	32-7662	.80				
24	Condenser (Lug and wire twisted).....	38-7878	.04	72	Cone and Voice Coil HR-13.....	32-7662	.80				
24X	Condenser (5 mfd. mica).....	30-1077	.40	73	Cone and Voice Coil KR-18.....	36-3540	.80				
26	Electrolytic Condenser (10 mfd., Dual).....	30-2125	1.20	74	Pilot and Shadowmeter Lamps.....	34-2068	.12				
27	R. F. Transformer (Range 1).....	32-2105	1.00	74	Shadowmeter.....	45-2308					
27	R. F. Transformer (Range 2).....	32-2106	.70	75	Range Switch (Ant.).....	42-1243	1.20				
28	Condenser (.1 mfd. tubular).....	30-4122	.20	76	Range Switch (R. F.).....	42-1244	1.20				
29	Tuning Condenser.....	31-6138	4.50	77	Range Switch (One).....	42-1246	1.20				
30	Resistor (51,000 ohms, 1/2 watt).....	33-351339	.20		Bushing Spacer (Mtg. Chassis).....	27-4360	.04				
31	Volume Control.....	33-5166	1.00		Bracket Indicator and Lens Assembly.....	38-7912	.30				
32	Condenser (.02 mfd. tubular).....	30-4113	.20		Cable (Power).....	L-2183	.40				
33	Condenser (.02 mfd. tubular).....	30-4113	.20		Cable (Speaker).....	41-3246	.40				
34	Condenser (.1 mfd. dual bakelite).....	6287-DU	1.80		Cljp. Volume Control Shaft.....	28-4394	.01				
35	2nd I. F. Transformer.....	32-2102	4.50		Hub.....	27-5214	.50				
36	Resistor (15,000 ohms, 1/2 watt).....	33-351339	.20		Clamp.....	28-7187	.12				
37	Condenser (.25 mfd. tubular).....	30-4446	.25		Clamp.....	28-2837	.10				
38	1st I. F. Transformer.....	32-2100	1.80		Gear (Dial).....	28-7185	.10				
39	Resistor (51,000 ohms, 1/2 watt).....	33-351339	.20		Gear (Drive).....	31-1884	.25				
40	Condenser (110 mfd. mica).....	30-1031	.20		Guard (Scale).....	27-4324	.02				
41	Condenser (110 mfd. mica).....	30-1031	.20		Knob (Tuning).....	27-4330	.10				
42	Resistor (490,000 ohms, 1/2 watt).....	33-449339	.20		Knob (Vernier).....	27-4331	.10				
43	Resistor (51,000 ohms, 1/2 watt).....	33-351339	.20		Knob (Tone, Volume).....	27-4332	.10				
44	Resistor (1 megohm, 1/2 watt).....	33-510339	.20		Knob (Range Switch).....	27-4328	.10				
45	Resistor (1 megohm, 1/2 watt).....	33-510339	.20		Insulator (Electrolytic Cond. Power Unit).....	27-7836	.06				
46	Resistor (490,000 ohms, 1/2 watt).....	33-449339	.20								

Price subject to Change without Notice

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