

Model 37-84, Code-122

General Specifications

TYPE CIRCUIT: Superheterodyne with Pentode output.
POWER SUPPLY: 115 V., 60 cycle A.C.
TUBES USED: 1 type 6J7G, Det. Osc., 1 type 6J7G 2nd detector—first audio, 1 type 6F6G output, 1 type 5Y4G Rectifier.
FREQUENCY RANGE: 540-1700 K.C.
INTERMEDIATE FREQUENCY: 470 K.C.
POWER CONSUMPTION: 45 watts.
SPEAKER: SB.
POWER OUTPUT: 1/2 watt.

Adjusting Compensating Condensers

To accurately adjust the compensating condensers in the Model 37-84 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 output meter to the plate and cathode contacts of the 6F6G power tube, and adjust it to use the 0-30 volt range.

When adjusting each circuit, care should be taken to have the signal generator attenuator set to approximately 1/4 scale reading on output meter.

Intermediate Frequency Circuit

1. Turn gang condenser to maximum capacity (counter-clockwise) and set the volume control of the receiver in the maximum position (clockwise).
2. Connect the 088 signal generator output lead through a .1 mfd. condenser, to the grid of the 6J7G Detector-oscillator tube and the generator ground to the chassis.
3. Turn the sensitivity control D to maximum capacity position (clockwise), and then release 1 1/2 turns (counter-clockwise).
4. Set signal generator at 470 K.C. and adjust compensators P and S for maximum reading on the output meter. Then turn sensitivity control D clockwise until a hiss (oscillation) is heard. Now turn sensitivity control D counter-clockwise until the hiss ceases, then continue for 1/4 turn more.

TUBE SOCKET VOLTAGES

(Measured from Tube Contact to Chassis)

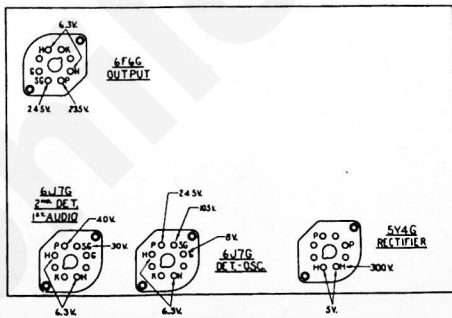


Fig. 2. Tubes as viewed from underside of Chassis

The voltages at the points indicated by the arrows above were obtained with a Philco type 025 Circuit Tester which contains a high resistance (1000 ohms per volt) voltmeter.

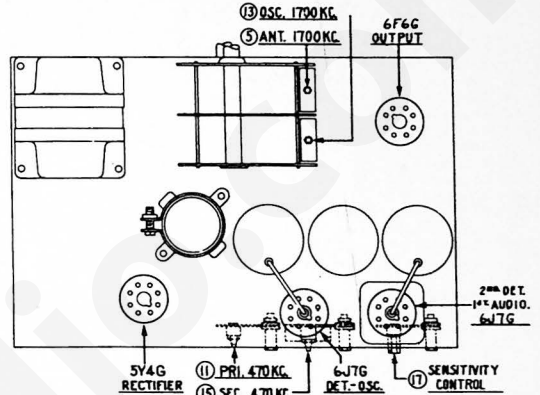


Fig. 1. Locations of Compensating Condensers

Radio Frequency Circuit

1. Turn the gang condenser to the minimum capacity position (extreme clockwise) and place a .006" (six-thousandths inch) gauge between the stator and rotor plates. Now turn the gang counter-clockwise until stator and rotor plates touch gauge.
2. Remove gauge from gang condenser. Now place signal generator output lead through a 100 mmfd. condenser to the aerial post of the receiver. Set signal generator at 850 K.C., (using second harmonic, 1700 K.C.). Adjust compensators O osc., and A ant., for maximum reading on output meter.
3. Turn signal generator to 1400 K.C. and adjust gang condenser for maximum output. Then adjust compensator C for maximum reading on output meter.
4. After the above adjustments are completed, the dial pointer is checked for calibration by turning signal generator to 1000 K.C. Then tune receiver for maximum signal. The dial pointer should then indicate 1000 K.C.

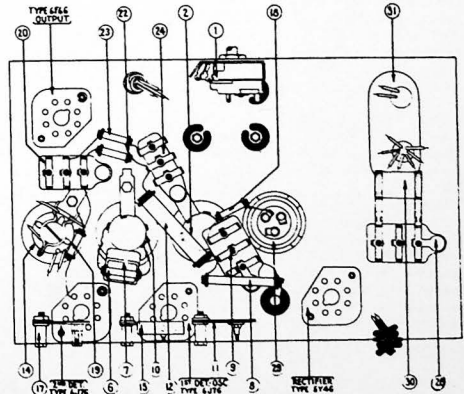


Fig. 3. Base view of Chassis

Replacement Parts for Model 37-84

No. On Figs.	Description	Part No.	List Price	No. On Figs.	Description	Part No.	List Price
①	Volume Control and On-off Switch.....	33-5055	1.45	⊕	Condenser (Electrolytic 4-.8. mfd.).....	30-2013	1.95
②	Antenna Transformer.....	32-1310	.40	⊕	Resistor (Wire Wound 325 ohms).....	7465	.15
③	Condenser—Capacity obtained by twisting end of two leads together.....			⊕	Power Transformer (50-60 cycle 115).....	32-7180	3.60
④	Tuning Condenser Assembly.....	31-1122	4.00		Power Transformer (25 cycle 115).....	7422	...
⑤	Compensator (Antenna).....	Part of ④		⊕	Pilot Lamp.....	6608	.09
⑥	Resistor (6000 ohms, ½ watt).....	33-260339	.20		Eight Prong Socket Rectifier.....	27-6053	.11
⑦	Condenser (.0014 mfd. Mica).....	7007	.30		Seven Prong Socket.....	27-6057	.11
⑧	Resistor (13,000 ohms, ½ watt).....	33-313439	.20		Tube Shield.....	28-2726	.10
⑨	Condenser (Double .09-.09 mfd. Bakelite).....	4989-DG	.40		Tube Shield Cap.....	28-2727	.02
⑩	Oscillator Transformer.....	32-1311	.40		Knob.....	27-4282	.10
⑪	Compensator (I. F. Primary).....	04000A	.15		Pointer.....	27-7933	.01
⑫	Resistor (16,000 ohms, 3 watt).....	33-316639	.30		AC Cord and Plug.....	L-2183	.00
⑬	Compensator (Osc. 1700 K.C.).....	Part of ④			Speaker Cord.....	L-1474	.15
⑭	I.F. Transformer.....	32-1313	1.05		Base Shield Plate.....	27-7452	.10
⑮	Compensator (I.F. Sec.).....	0-4000Y	.15		Chassis Mounting Screw.....	W-490-A	2.75C
⑯	Resistor (4 meg. inside (14)).....	35-540339	.20		Chassis Mounting Washer.....	W-315-A	.50C
⑰	Sensitivity Control.....	0-4000	...		Output Transformer Shield.....	36-3025	.08
⑱	Resistor (1 meg., ½ watt).....	33-510339	.20		Dial.....	27-5210	1.50C
⑲	Resistor (10,000 ohms, ½ watt).....	33-310339	.20		R.F. Shield Assembly.....	38-5483	.50
Ⓜ	Condenser (.015-.001 mfd. Bakelite).....	7762-EU	.25		Speaker Mounting Screw.....	W-1604	...
Ⓝ	Eliminated by Production Changes.....				Speaker Mounting Nut.....	W-124-A	...
Ⓞ	Resistor (24,000 ohms, ½ watt).....	33-424339	.20		Speaker SB.....	36-1073	...
Ⓟ	Resistor (490,000 ohms, ½ watt).....	33-449339	.20		Baffle Silk Assembly.....	40-5961	...
Ⓠ	Condenser (.006 mfd. Bakelite).....	7625-SU	.25		Spacer Padder Assem.....	3098	...
Ⓡ	Output Transformer.....	32-7019	.85		Screw Padder Assem.....	W-614 FA-3	...
Ⓢ	Voice Coil and Cone Assembly.....	36-3157	...		Nut Padder Assem.....	W-95 FA-3	...
Ⓣ	Field Coil and Pot Assembly.....	36-3243	1.70		Felt Washer Tuning Knob.....	27-7807	...
Ⓤ	Condenser (.015-.015 mfd. Bakelite).....	7762-EU	.40		Pilot Lamp Assem.....	38-7578	...

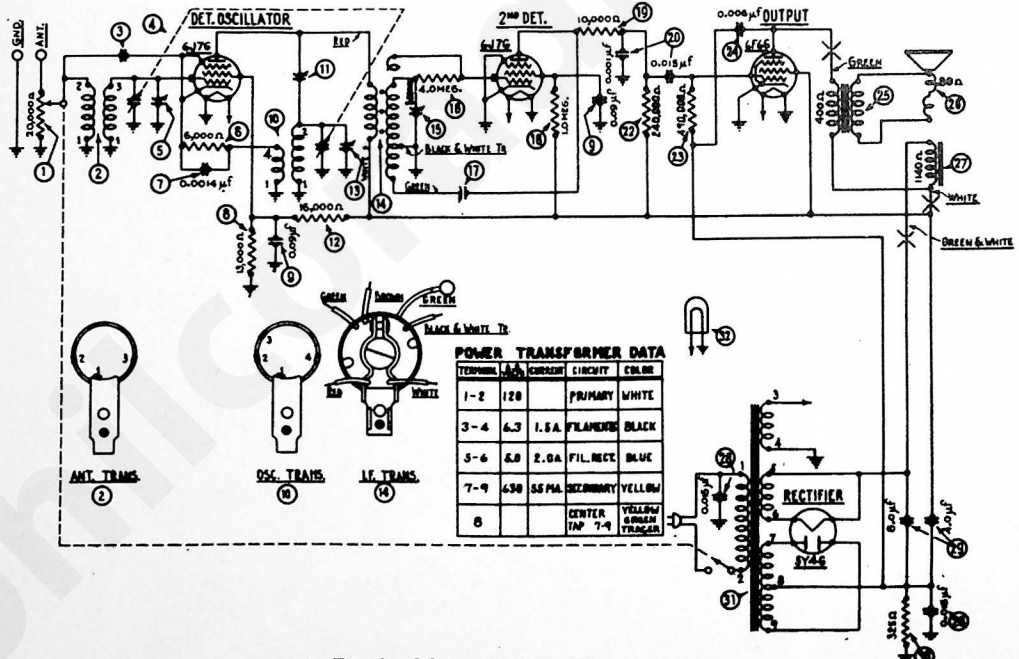


Fig. 4. Schematic Wiring Diagram

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