

Philco Radio & Television Corp.

Model: 59

Chassis:

Year: Pre October 1937

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

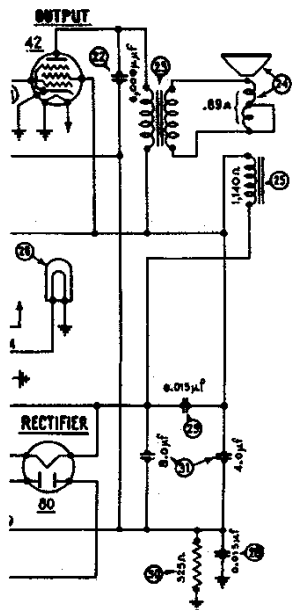
[Riders Volume 8 - CHANGES 8-2](#)

[Riders Volume 5 - PHILCO 5-29](#)

[Riders Volume 5 - PHILCO 5-30](#)

Philco 59

The schematic, furnished by the manufacturer and shown on page 5-30 of *Rider's Volume V*, has an error in the field coil circuit, Part No. 25. Compare



Partial schematic of Philco 59, showing correct wiring of the field coil, Part No. 25.

the partial schematic shown here with the one mentioned above and you will see the difference in the connections to the field coil.

Philco 37-33

Starting with Run No. 3, the filament wiring of the 1D5G i-f. tube was reversed, thus improving operation of the set. In Fig. 1 on page 7-16 of *Rider's Volume VII*, the left-hand filament terminal of this tube is marked "2 volts." This terminal is now grounded to the chassis.

Referring to Fig. 3 on the same page, resistor No. 8 has been removed from the r-f. terminal panel and connected directly from the oscillator grid contact on the 1D7G socket to ground. This change improved the sensitivity in the center of the broadcast band.

Philco 630

The schematic of this receiver shown on page 6-31 of *Rider's Volume VI* indicates a 1d-coil resistance of 1140 ohms. This is incorrect and should be 640 ohms. Please make this change in your Volume VI.

Philco 65

The schematic of this receiver was published on the following pages of *Rider's Volume I*: page 1-16 of the revised edition and page *459 of the early edition; and on page 1638 of the *Rider-Combination Manual*. At the time of publication the values of the parts were unobtainable and these are now given in the list below. The first column is the identifying number used on the schematic; the second column is the part number; and the third column is the value.

Schematic Number	Part Number	Value
1	3524	10,000 ohms
5	3292A	.1 mf. — 250 ohms
6	3584A	.05 mf. — 250 ohms
13	3583	.5 mf.
14	3525	32,000 ohms
21	3422	200 "
22	3526	5,000 "
23	3518	4,000 "
24	3512	2700 ohms (700,2000)
25	3528	2,000 ohms
26	3628	6 "
27	3292B	.05 mf. 00-250 ohms
29	2850	3200 "

Philco 645

The schematic of this set will be found on page 7-109 of *Rider's Volume VII*. Several changes have been made, as follows:

Starting with Run No. 3, the 51,000-ohm resistor, No. 16, has been removed. A 32,000-ohm resistor, ½ watt, Part No. 33-332334, has been connected from the oscillator grid of the 6A7 to the suppressor grid of the 78 r-f. tube. The 0.05-mf. condenser, No. 61, has been removed. The 25,000-ohm resistor, No. 60, has been replaced with one having a value of 240,000 ohms, ¼ watt, Part No. 33-424143.

A 0.06-mf. condenser, Part No. 30-4114, has been connected from the —C end of the B.C. resistor, No. 64, to the junction of the 1-megohm and 490,000-ohm resistors, Nos. 66 and 67.

The filament voltage of the 80 rectifier is shown as 6.3 volts in Fig. 3 on page 7-108 of *Rider's Volume VII*. This should be 5.0 volts.

Beginning with Run No. 4, the green and yellow leads of the a-f. input transformer, No. 52, were reversed to reduce hum.

Philco 651

The leads of the i-f. transformer should be separated as widely as possible from each other, in order to reduce the possibilities of i-f. oscillation.

This means, too, that the leads from one of these transformers should be as far as possible from the leads of the other.

The -B lead from the suppressor plate terminal of the 78 r-f. tube to the wiring panel mounted on the 0.05-mf. condenser, No. 72, should be run close to the baseboard and away from the wave trap coil. This should eliminate motor-boating at 540 kc.

For schematic, see page 7-111, *Rider's Volume VII*.

Philco 655

In the paragraph titled "Police" of the alignment instructions on page 7-116 of *Rider's Volume VII*, it reads that the detector trimmer No. 11 should be adjusted for maximum output. This should be trimmer No. 12 to conform with the layout of Fig. 4 at the top of the page.

In Fig. 1, the designations of the r-f. transformers on page 7-114 should be changed as follows: 15-A, oscillator, to 16; 9, antenna, to 3; and 14, detector, to 10. To correct the lead designations of the oscillator transformer, No. 16 on the schematic, change No. 3 to 7; 7 to 5; 5 to 4; and 4 to 3.

Another error in the manufacturer's data was in the tube layout shown on the top of page 7-115 of *Rider's Volume VII*. The second detector is a 75, not an 85. The designation on the schematic on this same page is correct. Please make these changes in your Volume VII.

Beginning with Run No. 2, the 51,000-ohm resistor, No. 14, was removed and a 32,000-ohm resistor, Part No. 33-332334, ½ watt, was connected from the oscillator grid of the 6A7 to the suppressor of the 78 r-f. tube.

Philco I-F. Peaks

In certain localities it has been found advisable to align certain two- and three-gang Philco sets at some other i-f. peak than the one for which they were designed, i.e., 470 kc. This change has been found necessary because of some interference that is peculiar to these localities: Portland, Maine; Miami, Fla.; New Haven, Conn.; San Diego, Cal.; about one third of northern Long Island; Newark and southern New Jersey.

Therefore, if you are operating in any of these places and are bothered by code interference, align either of the two type sets mentioned above at 456 kc., 465 kc., or 480 kc. The i-f. peaks just mentioned are to be used depending on the location and type of interference.

PHILCO RADIO & TELEV. CORP.

MODEL 59
Alignment Data
Voltage, Layouts

Model 59

Philco Model 59 is a four-tube superheterodyne receiver operating on alternating current, capable of receiving standard broadcasts, and police calls on the first (lowest) police range. The tubes are as follows: Type 77 detector-oscillator, type 77 second detector, type 42 output and type 80 rectifier. The intermediate frequency is 460 K.C. The power consumption of model 59 is 52 watts.

Tube Socket Data—Line 115 Volts

Circuit	Det. Osc.	2nd Det.	Out-put	Recti-fer
Type Tube	77	77	42	80
Filament Volts—F to F.....	6.3	6.3	6.3	4.8
Plate Volts—P to K.....	235	45	235	300
Screen Grid Volts—SG to K.....	110	25	250	....
Control Grid Volts—CG to K.....	10.5	.25	.25	....
Cathode Volts—K to F.....	25	15	15	....

Power Transformer Data

Terminal	A. C. Volts	Circuit	Color
1-2	105-125	Primary	White
3-5	6.3	Filament	Black
6-7	5.0	Filament of 80	Blue
8-10	580	Plates of 80	Yellow
4	....	Center Tap of 3-5	Black-Yellow Tracer
9	....	Center Tap of 8-10	Yellow-Green Tracer

*All of the above readings were taken from the underside of the chassis, using test prods and leads with a suitable A. C. voltmeter for filament voltages and a high resistance multirange D. C. voltmeter for all other readings. Volume control at maximum and station selector turned to low frequency end. Readings taken with a plug-in adapter will NOT be satisfactory. The Philco Model 048 All-Purpose Set Tester is recommended for all tests of Model 59.

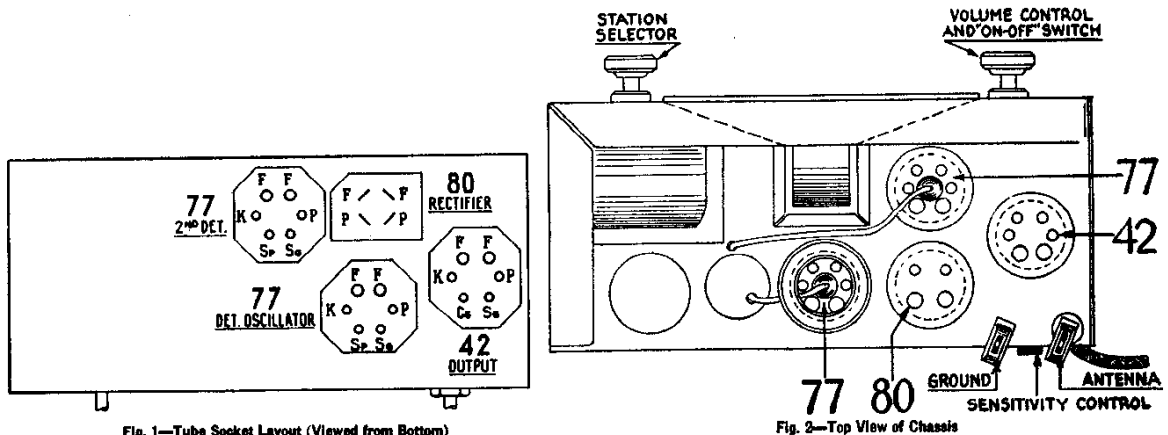


Fig. 1—Tube Socket Layout (Viewed from Bottom)

Fig. 2—Top View of Chassis

Adjusting Compensating Condensers

In Model 59 the I. F. primary and secondary condensers and the "regeneration" compensating condenser are located at the rear of chassis and accessible from the rear; the "ANT" and "OSC H. F." are located on the side of the tuning condenser gang.

Referring to Fig. 3, the I. F. primary and secondary condensers ③ and ④ should be adjusted first. Use an accurate signal generator such as the Philco Model 024. Remove the grid cap clip from the detector-oscillator tube and connect the antenna lead from the signal generator to the cap of this tube. Connect the ground lead from the signal generator to the ground terminal of the set. Connect the primary terminals of the output transformer to an output meter. Set the frequency switch of the signal generator at 460 K.C. (the I. F. of model 59), and turn the switches of the set and signal generator on. Turn volume control full on. Turn the dial pointer on the set to 600, and then adjust the I. F. compensating condensers ③ and ④ by means of a fibre wrench so that maximum reading is obtained in the output meter. If the needle goes off scale, adjust the attenuator on the signal generator so that a lower reading is obtained.

Next adjust the ANT. and OSC. H. F. (high frequency) con-

densers ① and ② located on the tuning condenser gang. To adjust these condensers it is necessary to remove the chassis from the cabinet, necessitating removing back plate, base screws, knobs and pointers. Replace the grid clip on the 77 tube and connect the antenna and ground leads of the signal generator direct to the antenna and ground terminals of the set. Set the signal generator switch at 1400, turn the tuning condenser shaft until the rotary plates barely start to mesh with the stationary ones. Tune in the 1400 K.C. signal here and adjust condensers ① and ② for maximum output meter reading. When replacing the dial pointer, be sure it is mounted exactly as it was removed.

Finally adjust the regeneration condenser ⑤. With the set connected to an antenna, turn the station selector to receive a station at about 130 on the dial. With a screw driver turn the small fibre hex-head screw (which operates the regeneration condenser) located at rear of chassis below antenna and ground terminals, clockwise until the set squeals or oscillates. Then turn the hex-screw ¼ of a turn back until the squealing stops. Tune in other stations on different points on the scale to make sure that the squealing is eliminated. It will be necessary to readjust this condenser if a different type 77 tube is used for second detector.

MODEL 59
Schematic
Chassis, Parts List

PHILCO RADIO & TELEV. CORP.

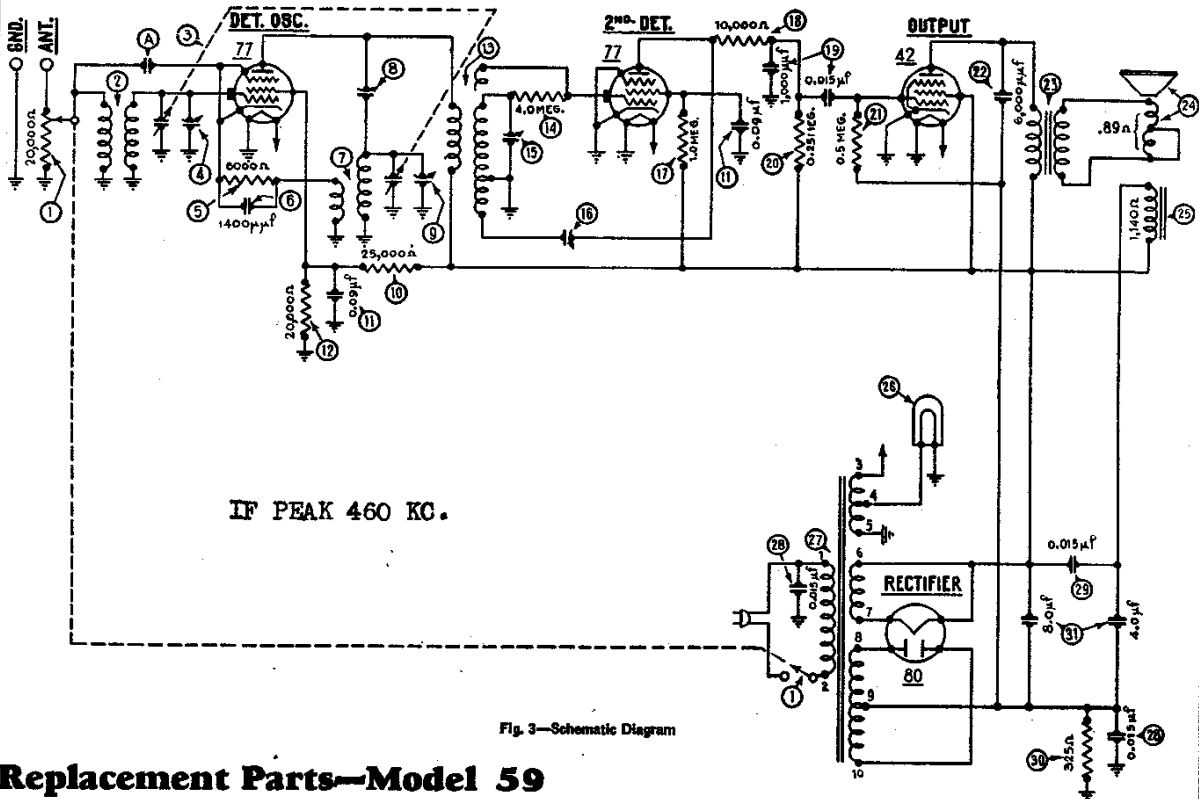


Fig. 3—Schematic Diagram

Replacement Parts—Model 59

No. on Diagram	Item	Part No.	List Price
1	Volume Control and On-Off Switch.....	33-5057	\$1.40
2	Antenna Transformer.....	32-1388	.45
3	Tuning Condenser Assembly.....	31-1190	2.75
4	Compensating Condenser—Ant.....	Part of 3	.....
5	Resistor (6,000 ohms—Blue-Black-Red).....	7352	.25
6	Condenser (.0014 Mfd.—Mica).....	7007	.35
7	Oscillator Transformer.....	32-1389	.40
8	Compensating Condenser (I. F. Primary).....	04000-A	.15
9	Compensating Condenser (Osc. H. F.).....	Part of 3	.....
10	Resistor (25,000 ohms—Red-Green-Orange).....	3656	.25
11	Condenser (.09 twin—Black Bakelite).....	4989-C	.40
12	Resistor (20,000 ohms—Red-Black-Orange).....	6650	.25
13	I. F. Transformer.....	32-1155	1.20
14	Resistor (4 Megohms—Yellow-Black-Green).....	6010	.25
15	Compensating Condenser (I. F. Secondary).....	04000-D	.15
16	Compensating Condenser (Regeneration).....	04000	.20
17	Resistor (1 Megohm—Brown-Black-Green).....	33-1095	.25
18	Resistor (10,000 ohms—Brown-Black-Orange).....	33-1000	.25
19	Condenser (.015-.0001 Mfd. Block type).....	7762-B	.30
20	Resistor (250,000 ohms—Red-Yellow-Yellow).....	33-1097	.25
21	Resistor (500,000 ohms—Yellow-White-Yellow).....	6097	.25
22	Condenser (.006 Mfd. Block type).....	7625-E	.25
23	Output Transformer.....	32-7041	.95
24	Voice Coil and Cone Assembly.....	36-3029	.75
25	Field Coil and Pot Assembly.....	36-3081	1.75
26	Pilot Lamp.....	6608	.11
27	Power Transformer.....	32-7084	3.15
28	Condenser (.015 Mfd. Twin).....	3793-R	.40
29	Condenser (.015 Mfd.).....	See Note A below	.....
30	Resistor (Wire wound 325 ohms).....	7495	.15
31	Condenser (Electrolytic 8.0—4.0 Mfd.).....	30-9013	1.05
32	Tube Shield.....	28-1107	.10
33	Four Prong Tube Socket.....	7544	.10
34	Six Prong Tube Socket.....	7547	.11
35	A. C. Cord and Plug.....	L-943A	.60
36	Dial Scale.....	27-5023	.15

*Does not show in Fig. 4.

Note A: Condenser 29 not used in production.

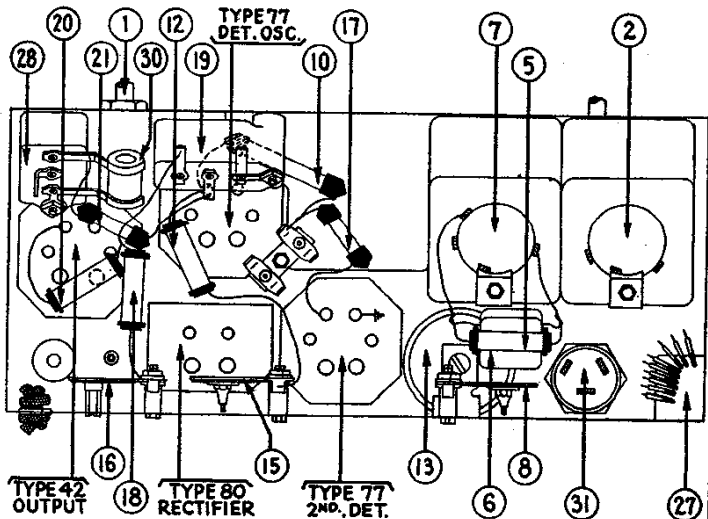


Fig. 4—Base View