Philco Radio & Television Corp.

	Model: 98	**Chassis:**	**Year:** Pre October 1937
	Power:	**Circuit:**	**IF:**
	Tubes:		
	Bands:		

Resources
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MODEL 98
Chassis, Parts

PHILCO RADIO & TELEV. CORP.

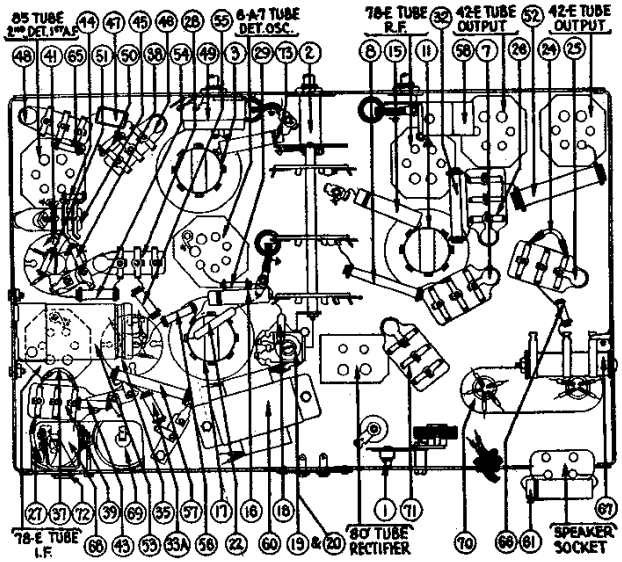


Fig. 3. Bottom View of Chassis

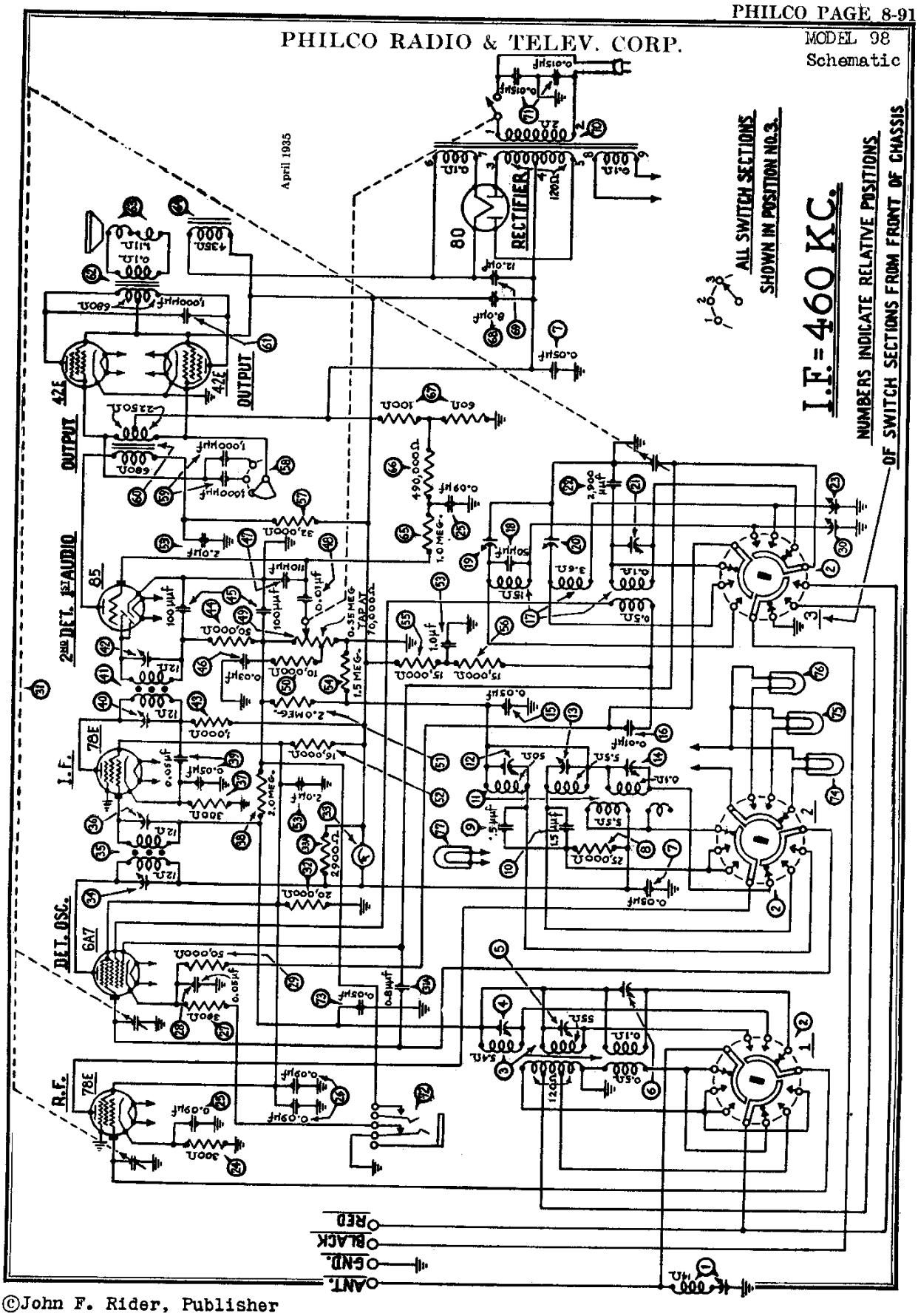
	Description	Part No.
①	Wavetrap	38-6718
②	Waveband Switch	42-1106
③	Ant. Transformer	32-1664
④	Compensating Condenser (Ant., Medium Wave)	Part of ③
⑤	Compensating Condenser (Ant., Long Wave)	Part of ③
⑥	Compensating Condenser (Ant., Short Wave)	Part of ③
⑦	Condenser (.05 Mfd. Twin Bakelite Block)	3615-DG
⑧	Resistor (25000 ohms) (Red, Green, Orange)	3656
⑨	Condenser (.0000015 Mfd.)	Part of ⑪
⑩	Condenser (.0000015 Mfd.)	Part of ⑪
⑪	R.F. Transformer	32-1666
⑫	Compensating Condenser (R.F. Long Wave)	Part of ⑪
⑬	Compensating Condenser (R.F. Medium Wave)	Part of ⑪
⑭	Compensating Condenser (R.F. Short Wave)	Part of ⑪
⑮	Condenser (.05 Mfd. Tubular)	30-4020
⑯	Condenser (.01 Mfd. Tubular)	30-4169
⑰	Oscillator Transformer	32-1665
⑱	Condenser (.00005 Mfd. Mica)	30-1029
⑲	Compensating Condenser (Osc., Long Wave Series)	31-6044
⑳	Compensating Condenser (Osc., Medium Series)	
㉑	Compensating Condenser (Osc., Short Wave)	Part of ⑰
㉒	Condenser (.0029 Mfd. Mica)	30-1054
㉓	Compensating Condenser (Osc., Medium H.F. End)	Part of ⑰
㉔	Resistor (300 ohms Flexible) (Orange, Black, Brown)	33-3010
㉕	Condenser (.09 Mfd. Twin Bakelite Block)	4989-DG
㉖	Condenser (.09 Mfd. Twin Bakelite Block)	4989-DG
㉗	Resistor (300 ohms Flex.) (Orange, Black, Brown)	33-3010
㉘	Condenser (.05 Mfd. Bakelite Block)	3615-SG
㉙	Resistor (50000 ohms) (Green, Brown, Orange)	6098

	Description	Part No.
㉚	Compensating Condenser (Osc., Long Wave, H.F. End)	Part of ⑰
㉛	Tuning Condenser Assembly	31-1362
㉛A	Condenser (.8 Mmfd.)	Part of ㉛
㉜	Resistor (20000 ohms) (Red, Black, Orange)	6649
㉝	Shadow Tuning Meter	45-2028
㉝A	Resistor (2900 ohms) (Red, White, Red)	5309
㉞	Compensating Condenser (1st I.F. Pri.)	Part of ㉟
㉟	First I.F. Transformer	32-1631
㊱	Compensating Condenser (1st I.F. Sec.)	Part of ㉟
㊲	Resistor (300 ohms Flex.) (Orange, Black, Brown)	33-3010
㊳	Resistor (2 Megs.) (Red, Black, Green)	33-1172
㊴	Condenser (.05 Mfd. Twin Bakelite Block)	3615-DG
㊵	Compensating Condenser (2nd I.F. Pri.)	Part of ㊶
㊶	2nd I.F. Transformer	32-1632
㊷	Compensating Condenser (2nd I.F. Sec.)	Part of ㊶
㊸	Resistor (1000 ohms) (Brown, Black, Red)	5837
㊹	Resistor (50000 ohms) (Green, Brown, Orange)	6098
㊺	Condenser (.00011 Mfd. Twin Bakelite Block)	8035-DG
㊻	Condenser (.03 Mfd. Bakelite Block)	6287-P
㊼	Condenser (.00011 Mfd. Mica)	30-1031
㊽	Condenser (.01 Mfd. Bakelite Block)	3903-SU
㊾	Volume Control & On-Off Switch	33-5102
㊿	Resistor (10000 ohms) (Brown, Black, Orange)	33-1000
(51)	Resistor (2 Megs.) (Red, Black, Green)	33-1172
(52)	Resistor (16000 ohms) (Brown, Blue, Orange)	7500
(53)	Condenser (Electrolytic, 1 Mfd., 2 Mfd., 2 Mfd.)	30-2114
(54)	Resistor (1.5 Meg.) (Brown, Green, Green)	7009
(55)	Resistor (15000 ohms) (Brown, Green, Orange)	6208
(56)	Resistor (15000 ohms) (Brown, Green, Orange)	6208
(57)	Resistor (32000 ohms) (Orange, Red, Orange)	3525
(58)	Tone Control	30-4311
(59)	Condensers (in Tone Control)	Part of (58)
(60)	Input (Audio) Transformer	32-7372
(61)	Condenser (.001 Mfd. Tubular)	30-4201
(62)	Output Transformer (on Speaker)	2585
(63)	Voice Coil & Cone Assembly { K-31 / H-21 }	36-3174 / 02625
(64)	Field Coil & Pot Assembly { K-31 / H-21 }	36-3463 / 36-3461
(65)	Resistor (1 Meg.) (Brown, Black, Green)	33-1171
(66)	Resistor (490000 ohms) (Yellow, White, Yellow)	33-1169
(67)	Resistor (Wirewound Porcelain Base, 60 ohms, 100 ohms)	33-3208
(68)	Condenser (Electrolytic, 8 Mfd.)	30-2025
(69)	Condenser (Electrolytic, 12 Mfd.)	30-2117
(70)	Power Transformer { 115 volts 60 cycles / 115 volts 25 cycles / 230 volts 50 cycles }	32-7369 / 32-7370 / 32-7371
(71)	Condenser (.015 Mfd. Twin Bakelite Block)	3793-DG
(72)	Headphone Jack	6585
(73)	Condenser (.05 Mfd. Tubular)	30-4020
(74)	Dial Lamp (Long Wave Band)	34-2031
(75)	Dial Lamp (Medium Wave Band)	34-2031
(76)	Dial Lamp (Short Wave Band)	34-2031
(77)	Pilot Lamp for Shadow Tuning Meter	Part of (33)
	Tube Socket 4 Prong	27-6019
	Tube Socket 6 Prong	27-6020
	Tube Socket 7 Prong	27-6012
	Socket (Speaker)	27-6018
	Tube Shield Body	28-1107
	Tube Shield Base	28-1110
	Dial Assembly	31-1514
	Electric Cord & Plug	L-943A

PHILCO RADIO & TELEV. CORP.

MODEL 98
Schematic

April 1935



MODEL 98
Alignment, Voltage
Trimmers

PHILCO RADIO & TELEV. CORP.

Adjusting Compensating Condensers

The adjustment of the compensating condensers in Model 98 requires a signal generator covering the broadcast and police band, and also one capable of producing a signal on several frequencies in the short wave band. We recommend the Philco model 024 or 048A instrument for the broadcast frequencies, and the Model 091 crystal controlled short wave signal generator for the "short wave" frequencies. The location of all compensating condensers is shown in Fig. 4.

Adjustment of I. F.

1. Remove the antenna connection from the receiver, disconnect the grid clip from the first detector (type 6A7 tube), and connect the "ANT" output terminal of the Model 048A or 024 signal generator to the grid cap of this tube; connect the "GND" terminal of the signal generator to the "GND" terminal of the receiver.

2. Connect the 0 to 20 volt range of the output meter in the Model 048A or 025 tester to the plate prongs of the two output (42E) tubes or to the two bottom prongs of the speaker plug.

3. Adjust the signal generator to a frequency of 460 K.C. Place the receiver in operation with the dial turned to the low frequency end of the scale, wave band switch to center position, and with the volume control adjusted near its maximum setting. Adjust the signal generator attenuator for approximately half-scale reading of the output meter.

4. The I.F. compensating condensers are located at the tops of the I.F. coil shields (smaller square top cans) and adjusted thru hole in top. The primary is adjusted by the screw, and the secondary by the nut. Adjust condensers ㊵ and ㊷ (2d I.F.) for maximum reading in the output meter, and then condensers ㉞ and ㊱ (1st I.F.).

Adjustment of Wave-Trap

Connect the signal generator leads to the antenna and ground terminals of the receiver. Replace the grid clip on the 6A7 grid cap.

With the signal generator still in operation at 460 K.C., adjust the wave-trap ① condenser until a MINIMUM reading is obtained on the output meter. The Philco fibre wrench, part No. 3164, is used for this adjustment.

Adjustment of High and Low Frequency Compensators

1. Leaving the output meter connected to the receiver connect the Philco Model 091 signal generator to the antenna and ground terminals of the chassis and place the signal generator in operation

2. Turn the wave-band switch to the extreme right (short-wave) and adjust the station selector to 18.0 megacycles, at which point the fifth harmonic of the 3600 K.C. signal will be heard. By means of the Philco wrench, part No. 3164, adjust the oscillator S.W., R.F.S.W. and antenna S.W. compensators for maximum reading in the output meter. These are numbered ㉑, ⑭ and ⑥, respectively in figure No. 2.

3. It will now be necessary to again use the broadcast type signal generator Models 024, 048 or equivalent. Connect the output of this signal generator to the antenna and ground terminals of the chassis. Turn the waveband switch to center position and set the station selector dial at 1700 K.C. Adjust the signal generator to the same frequency. Adjust the three compensators for the H.F. end of the broadcast (medium) scale. These are ㉘, ⑬ and ④.

4. Turn the dial to 60 and set the signal generator at 600 K.C. Adjust compensator ⑳ (nut) for maximum output.

5. Turn the waveband switch to the extreme left (long-wave) and set the dial at 30 and the signal generator at 300. Adjust condensers ㉚, ⑫ and ⑤ (oscillator, R.F. and antenna) for maximum output.

6. Turn the dial to 17 and set signal generator at 170. Adjust condenser ⑲ (screw) (long-wave series) for maximum output.

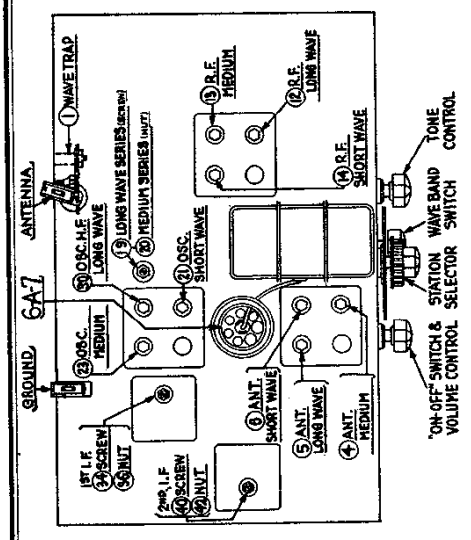


Fig. 4. Locations of Compensating Condensers

Power Transformer Data
(110 Volt 60 Cycle)

Terminals	A.C. Volts	Current	Circuit	Color
1–2	120	.....	Primary	White
3–5	710	118 M.A.	Secondary	Yellow
6–7	5.0	2.0 A.	Fil. Rect.	Blue
8–9	6.3	3.5 A.	Filaments	Black
4	...	.....	Center Tap of 3–5	Yellow, Green Tracer

Tube Socket Voltages
Measured to Ground

Tube	78E R.F.	6A7 Det. Osc.	78E I.F.	85 2d Det.	42E Output
Plate Long & Medium Wave	98	246 (4)	250 (4)	100 (4)	246 (4)
Plate Short Wave	250				
Screen Grid	92	92	92	...	257
Cathode	2.3	2.5	2.3	0	0

6A7: G_3 & G_5 = 165.

Above voltages were obtained by using a PHILCO type 025 Circuit Tester (or 048A All-purpose Tester), using test prods applied to underside of chassis. Volume control at maximum; dial at low frequency end.