

## Philco Radio & Television Corp.

**Model:** B710

**Chassis:**

**Year:** Pre 1955

**Power:**

**Circuit:**

**IF:**

**Tubes:**

**Bands:**

### Resources

[Riders Volume 23 - PHILCO 23-165](#)

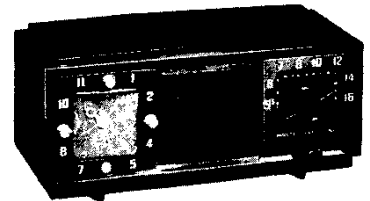
[Riders Volume 23 - PHILCO 23-166](#)

[Riders Volume 23 - PHILCO 23-167](#)

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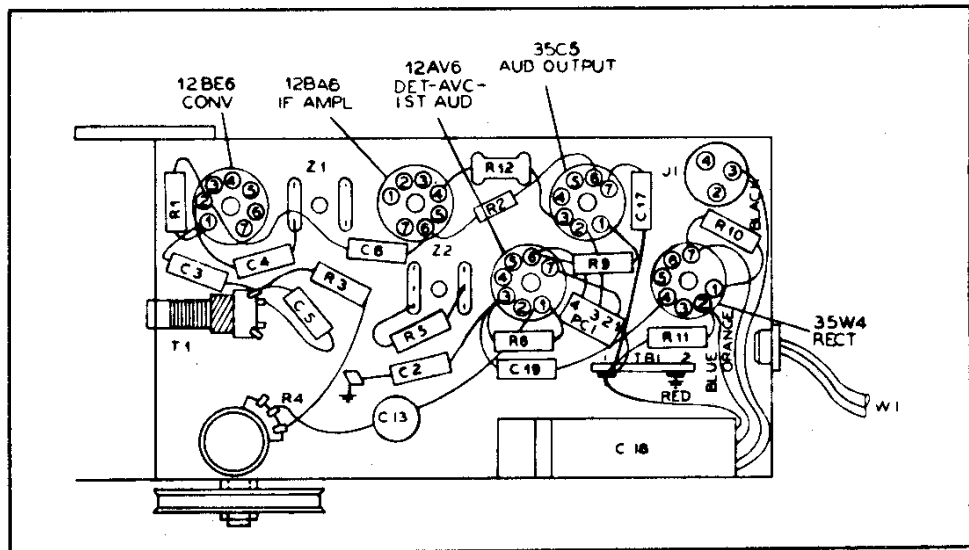
### SPECIFICATIONS

CABINET ..... Molded phenolic  
 CIRCUIT ..... Four-tube superheterodyne (plus rectifier)  
 FREQUENCY RANGE ..... 540—1620 kc.  
 AUDIO OUTPUT ..... 1 watt  
 OPERATING VOLTAGE ..... 117 volts, a.c.  
 POWER CONSUMPTION ..... 30 watts  
 ANTENNA ..... High-impedance loop  
 INTERMEDIATE FREQUENCY ..... 455 kc.  
 PHILCO TUBES...12BE6, converter; 12BA6, i-f amplifier;  
 12AV6, det.—a.v.c.—1st audio; 35C5,  
 output; 35W4, rectifier



MODEL B710

NOTE: The antenna is mounted on the cabinet back.  
 When removing the cabinet back, use care to avoid breaking the antenna leads.



TP3-832

Figure 1. Base View, Showing Parts Placement

MODEL B710

**ALIGNMENT PROCEDURE**

**RADIO CONTROLS**—Set volume control to maximum. Set tuning control as indicated in chart.

**OUTPUT METER**—Connect across voice-coil terminals.

**SIGNAL GENERATOR**—Connect generator and set frequency as indicated in chart. Use modulated output.

**OUTPUT LEVEL**—During alignment, adjust signal-generator output to hold output-meter reading below 1.25 volts.

**ALIGNMENT CHART**

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTION TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Ground lead to B-; output lead through a .1- $\mu$ f. condenser to grid (pin 7) of 12BE6.	455 kc.	Tuning gang fully open.	Adjust tuning cores, in order given, for maximum output. (TC1 and TC3 are located at top of transformers.)	TC4—2nd i-f sec. TC3—2nd i-f pri. TC2—1st i-f sec. TC1—1st i-f pri.
2	Radiating loop (see note below).	1620 kc.	1620 kc.*	Adjust trimmer for maximum output.	C1B—osc.
3	Same as step 2.	1500 kc.	1500 kc.†	Adjust trimmer for maximum output.	C1A—antenna

**NOTE:** make a 6–8 turn, 6-inch-diameter loop from insulated wire; connect to signal-generator leads, and place about 1 foot from radio loop. The position of the radio loop with respect to the chassis should be approximately the same as when both are mounted in the cabinet.

\* To set the tuning gang to 1620 kc., fully open the gang and insert a .006-inch, nonmetallic shim between the heel of the rotor and the top of the stator plates. Close the gang sufficiently to hold the shim in place, and then remove the shim without disturbing the gang setting.

† To set the radio to 1500 kc., place chassis in cabinet, attach knob to indicate previous setting of 1620 kc., and tune until pointer indicates 1500 kc. Then remove knob and take chassis from cabinet without disturbing gang setting.

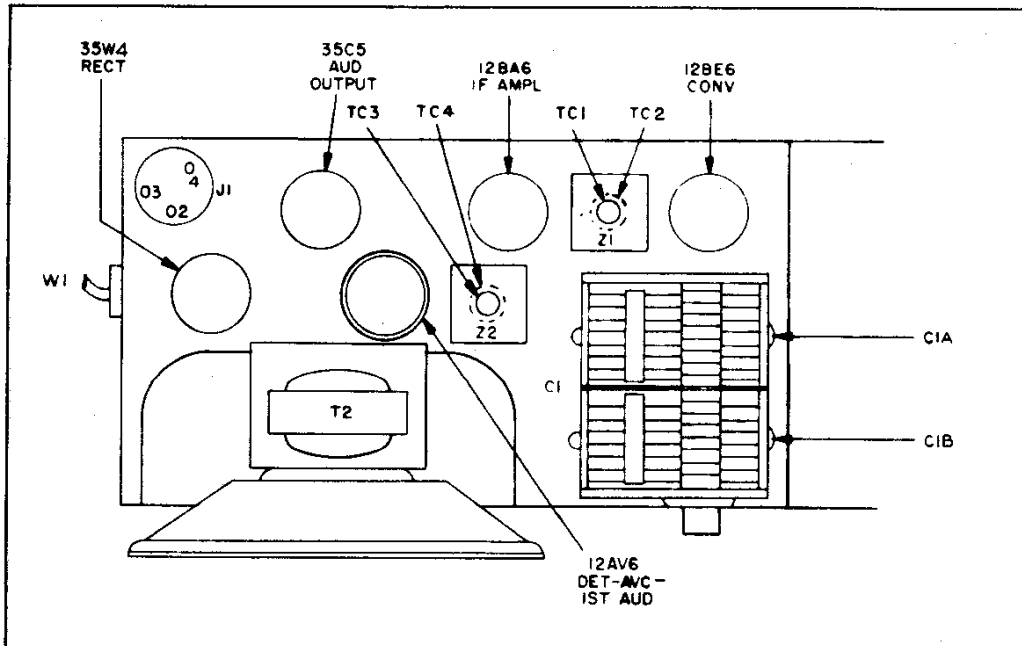
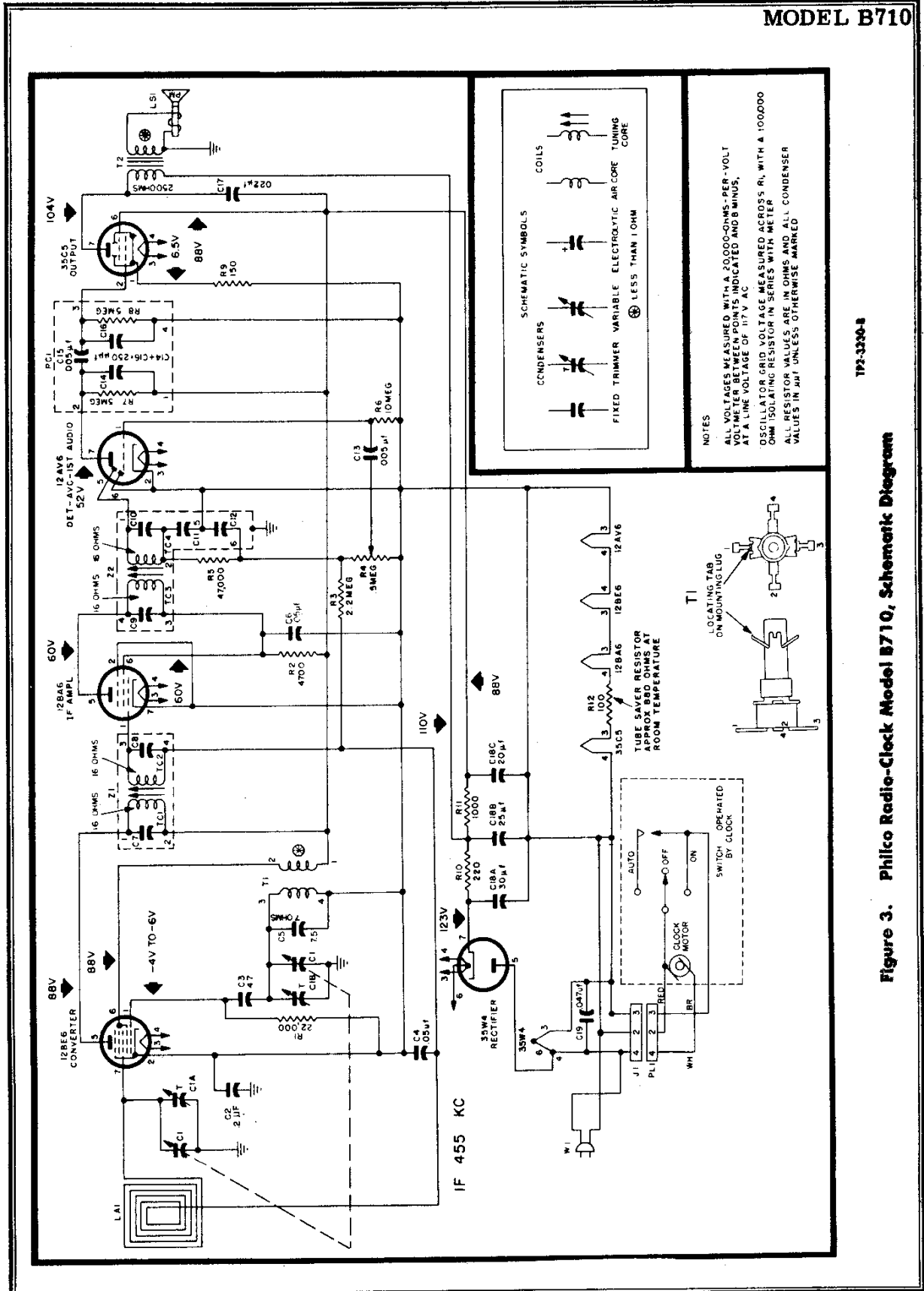


Figure 2. Top View, Showing Tuning Adjustments

TP3-830



1P2-3290-B

Figure 3. Philco Radio-Clock Model B710, Schematic Diagram

MODEL B710

**PARTS LIST**

NOTE: Part numbers identified by an asterisk (\*) are general replacement items. These numbers may not be identical with those on factory parts. Also, the electrical values of some replacement items may differ from the values indicated in the schematic diagram and parts list. The values substituted in any case are so chosen that the operation will be unchanged. When ordering replacements, use only the "Service Part No."

Reference Symbol	Description	Service Part No.	Reference Symbol	Description	Service Part No.
C1	Condenser, tuning gang	31-2751-13	R3	Resistor, a-v-c filter, 2.2 megohms	66-5228340*
C1A	Condenser, r-f trimmer	Part of C1	R4	Resistor, volume control, .5 megohm	33-5565
C1B	Condenser, oscillator trimmer	Part of C1	R5	Resistor, diode load, 47,000 ohms	66-3478340*
C2	Condenser, B- to chassis, .2 $\mu$ f.	30-4650-49	R6	Resistor, grid return, 10 megohms	66-6108340
C3	Condenser, oscillator grid, 47 $\mu$ f.	30-1230-4	R7	Resistor, plate load, 500,000 ohms	Part of PC1
C4	Condenser, a-v-c by-pass, .05 $\mu$ f.	30-4650-45*	R8	Resistor, grid return, 500,000 ohms	Part of PC1
C5	Condenser, drift compensation, 7.5 $\mu$ f.	30-1224-83	R9	Resistor, cathode bias, 150 ohms	66-1158340*
C6	Condenser, screen by-pass, .05 $\mu$ f.	30-4650-45*	R10	Resistor, B plus filter, 220 ohms, 1 watt	66-1224340*
C7	Condenser, i-f tuning	Part of Z1	R11	Resistor, B plus filter, 1000 ohms	66-2108340*
C8	Condenser, i-f tuning	Part of Z1	R12	Resistor, tube saver, 100 ohms	33-1343-3
C9	Condenser, i-f tuning	Part of Z2	T1	Transformer, oscillator	33-4453-6
C10	Condenser, i-f tuning	Part of Z2	T2	Transformer, output	Part of LS1
C11	Condenser, detector filtering	Part of Z2	W1	Line cord	L2183*
C12	Condenser, detector filtering	Part of Z2	Z1	Transformer, 1st i-f	32-4161A
C13	Condenser, audio coupling, .005 $\mu$ f.	30-1238-1	Z2	Transformer, 2nd i-f	32-4240A
C14	Condenser, plate by-pass	Part of PC1			
C15	Condenser, audio coupling, .005 $\mu$ f.	Part of PC1			
C16	Condenser, compensating	Part of PC1			
C17	Condenser, tone compensation, .022 $\mu$ f.	30-4650-43*			
C18	Condenser, electrolytic, 3-section	45-3037			
C18A	Condenser, filter, 30 $\mu$ f., 150v	Part of C18			
C18B	Condenser, filter, 25 $\mu$ f., 150v	Part of C18			
C18C	Condenser, filter, 20 $\mu$ f., 150v	Part of C18			
C19	Condenser, line by-pass, .05 $\mu$ f.	30-4650-45*			
J1	Jack clock	27-6273			
LA1	Loop	Part of cabinet back			
LS1	Speaker ass'y., p-m	36-1627-23			
PC1	Printed circuit	30-6001			
PL1	Plug, clock assembly	54-4878-2			
R1	Resistor, oscillator grid, 22,000 ohms	66-3228340*			
R2	Resistor, i-f screen dropping, 4700 ohms	66-2478340*			

MISCELLANEOUS	
Description	Service Part No.
Cabinet	10924-11
Knobs	
Clock (3 required)	54-4983-6
Station selector	54-4978-5
Off-on	54-4815-8
Clock	41-2041-4
Back-and-loop assembly	76-7757-3
Shield, tube	56-5629FA3
Socket, miniature (4 required)	27-6265*
Socket, miniature (12AV6)	27-6203-14
Window, radio dial	54-4977-5