

## MANTEL CLOCK RADIO MODEL C-51

ANTIQUE WALNUT, WALNUT OR MAHOAGANY



Fig. 1. MODEL C-51

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### TO REMOVE CHASSIS FROM CABINET

1. Remove all knobs by pulling in the outward direction.
2. Remove the cabinet back.
3. Remove the three self-tapping screws from the cabinet bottom that secure the chassis.

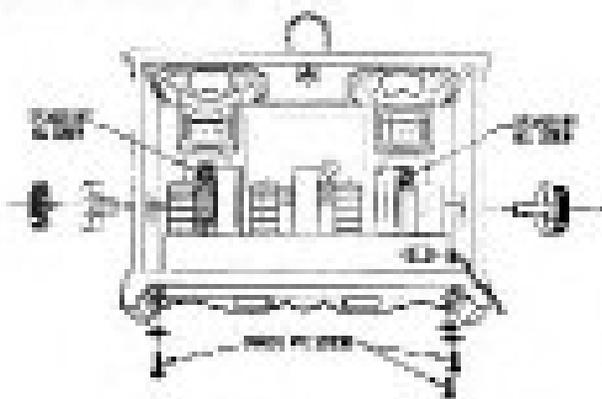


Fig. 2. Chassis Removal

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4. Loosen the two screws that secure the speaker brackets and lower both speakers about one-half inch and set out the chassis.

### NOTE

When replacing the chassis be sure to fit the face of both speakers tightly against the inside of the cabinet top. If any of the speaker wiring was removed be sure the connections are restored exactly to the original wiring.

### SPECIFICATIONS

Antenna	.....	Push-in, loop
Appliance Outlet Rating	.....	500 watts peak
Circuit	.....	Inductively coupled (CF Frequency 455 KC)
Clock	.....	Telephone coil starting type
Frequency Coverage	.....	530-2000 KC
Overall Dimensions	.....	Approximately 17" W. x 9" H. x 4 1/4" D.
Power Rating	.....	100-120 volts, standard cycle AC only
Speaker	.....	Two 3" speakers series connected; voice coil impedance 12 ohms (each speaker)
Tuner	.....	10 markings 1 centimeter

\* Check that cycle corresponds with cycle indicated on back cover of manual for clock operation.

### OPERATION OF RADIO & CLOCK

#### A. TO OPERATE THE RADIO AND OUTLET MANUALLY

1. Press the small left-hand knob in and set at "OFF." Allow about one minute for the tubes to warm up.
2. Turn the VOLUME control (large knob at left side of cabinet) toward you to increase volume and then face in the desired station with the TUNING control (large dark brown knob at right side of cabinet).
3. After the station has been manually tuned in, press the VOLUME control as desired. To turn the radio and outlet off, simply set the small left-hand knob at "OFF."



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Fig. 3. Clock Face Showing Controls

#### B. TO HAVE THE RADIO AND OUTLET TURN ON AUTOMATICALLY AT A LATER TIME

1. Pull out the small left-hand knob and set at "OFF."
2. Allow about one minute for the tubes to warm up and then adjust the VOLUME and TUNING controls as desired in Step 2 of Section A.
3. Pull out the small right-hand knob and turn until the "OFF" face is opposite the time you wish the radio and outlet to turn on automatically. If alarm "buzz" feature is desired, leave knob out; if not desired, press knob in. (See Step 5.)
4. Set small left-hand knob at "OFF." The radio and outlet are now set to turn on automatically at the time to which the "OFF" knob is set.
5. If small right-hand knob was left in "off" position, the alarm will start to "buzz" 15 minutes after the radio and outlet have on. To turn off the alarm, press small right-hand knob in.
6. To turn off the radio and outlet, simply press the small left-hand knob in.

**C. TO HAVE THE RADIO AND OUTLET TURN OFF AUTOMATICALLY AT A LATER TIME UP TO ONE HOUR**

1. Press the small left-hand knob in and set at "SLEEP" (see also alarm operation. Clock pointer facing directly upward). If you wish to have the radio and outlet turn off sooner than one hour set the knob at some point between the "OFF" and "SLEEP" positions rather than all the way. For example for 15 minutes operation rotate the knob to the intermediate position. For 20 minutes operation rotate the knob to the halfway position, etc.
2. Allow about one minute for the tubes to warm up and then adjust the VOLUME and TUNING controls as outlined in Step 2 of Section A on Page 1.
3. The radio and outlet will remain on for the desired length of time and then turn off automatically.

**D. TO HAVE THE RADIO AND OUTLET TURN OFF AUTOMATICALLY AFTER ONE HOUR AND THEN TURN ON AUTOMATICALLY AT A LATER TIME**

1. Pull out the small left-hand knob and set at "SLEEP" (clock's pointer facing directly upward).
2. Allow about one minute for the tubes to warm up and then adjust the VOLUME and TUNING controls as outlined in Step 2 of Section A on Page 1.

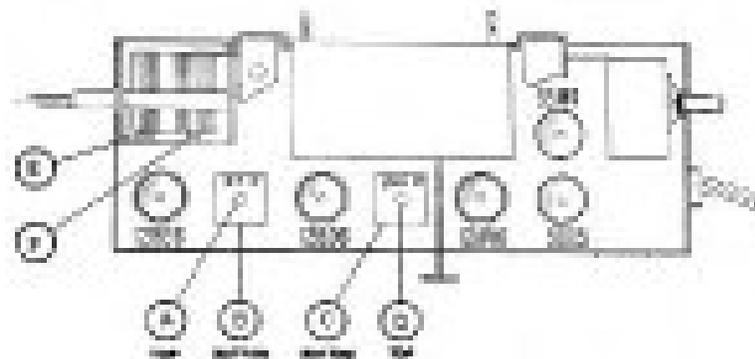


Fig. 4. Alignment Points & Tube Location

3. Pull out the small right-hand knob and turn until the SLEEP knob is opposite the time gear with the pointer and outlet to turn on automatically. If alarm "buzzer" feature is desired, leave knob out; if not desired, press knob in. (See Step 5.)
4. The radio and outlet will remain on for one hour and turn off automatically. They will then turn on again automatically at the time in which the SLEEP knob is set.
5. If small right-hand knob was left in out position, the alarm will start to "buzz" about 15 minutes after the radio and outlet turn on. To turn off the alarm, press the small right-hand knob in.
6. To turn off the radio and outlet, simply press the small left-hand knob in.

**ALIGNMENT PROCEDURE**

TO AVOID SHOCK HAZARD, CONNECT POWER THROUGH AN ISOLATION TRANSFORMER:

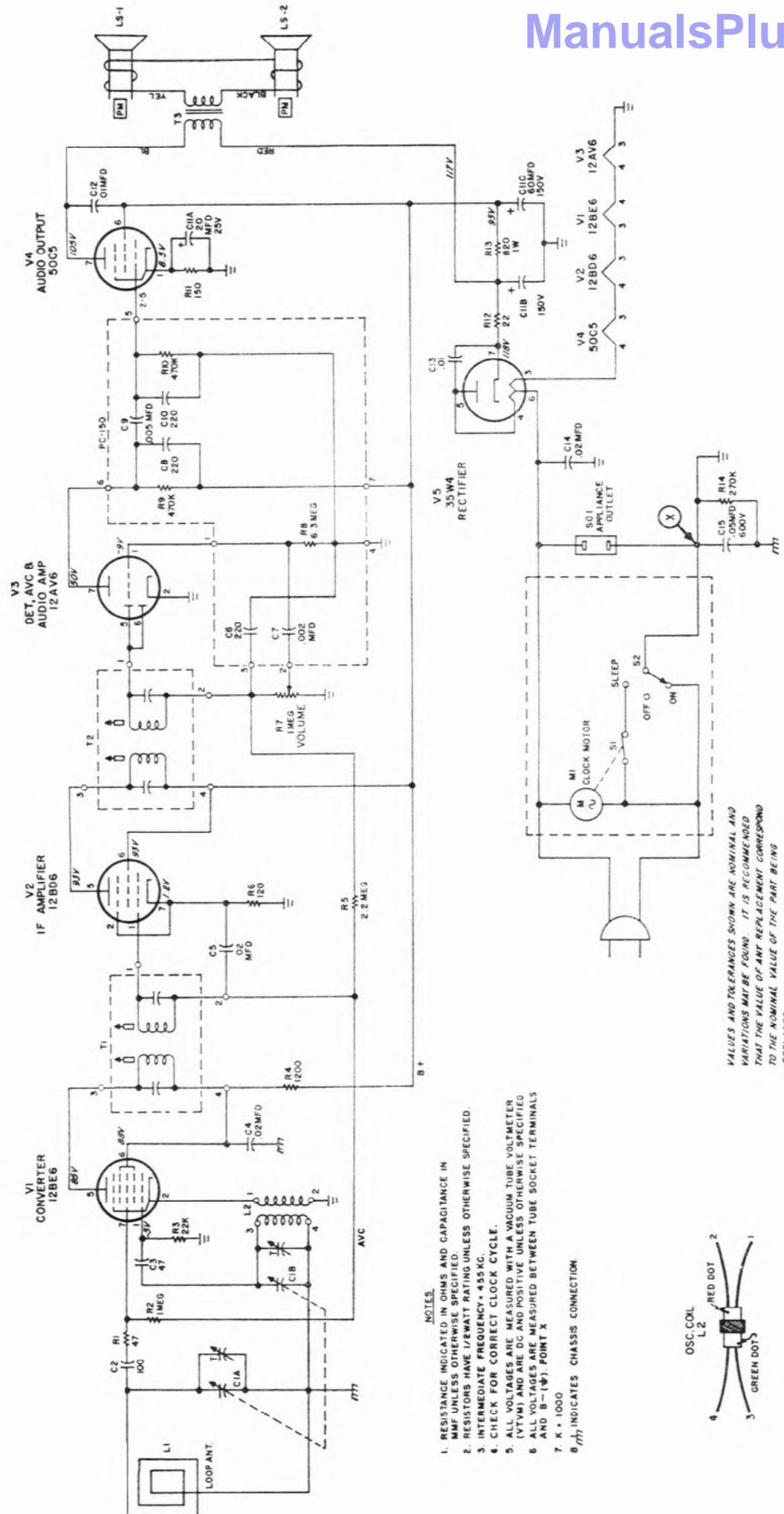
- Connect output wires across valve coil.
- Set volume control at maximum.
- Use a two-terminal alignment lead.
- Refer to Fig. 4 for location of alignment adjustments.
- Capacitor must have insulated output and carry 500 VDC, 1000 VDC and 2500 VDC.
- To avoid AFC action use lowest output winding of generator that gives a satisfactory reading on meter.

Step	Signal Generator Description	Generator Frequency	Receiver Dial Setting	Adjust
1.	High side line 1 with negative to shield plates of oscillator section of tuning gang. Low side to 2 <sup>nd</sup> (point 2).	435 KC	1400 KC	A-2 (1st IF) and C-1 (2nd IF)
2.	Connect a loop of a few turns of wire and connect it to the signal generator. Loosely couple this loop to the loop antenna of the receiver.	1400 KC	Tuning gang fully open.	B (osc. transformer)
3.	Same as Step 1.	1100 KC	1400 KC	F (a.c. transformer)

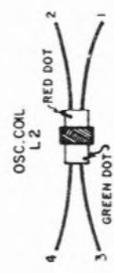


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- NOTES**
1. RESISTANCE INDICATED IN OHMS AND CAPACITANCE IN MMF UNLESS OTHERWISE SPECIFIED.
  2. RESISTORS HAVE 1/8WATT RATING UNLESS OTHERWISE SPECIFIED.
  3. INTERMEDIATE FREQUENCY = 455 KC.
  4. CHECK FOR CORRECT CLOCK CYCLE.
  5. ALL VOLTAGES ARE MEASURED WITH A VACUUM TUBE VOLTMETER.
  6. ALL VOLTAGES ARE DC AND POSITIVE UNLESS OTHERWISE SPECIFIED AND B - (-) POINT X.
  7. K = 1000
  8. *m* INDICATES CHASSIS CONNECTION



VALUES AND TOLERANCES SHOWN ARE NOMINAL AND VARIATIONS MAY BE FOUND. IT IS RECOMMENDED THAT THE VALUE OF ANY REPLACEMENT CORRESPOND TO THE NOMINAL VALUE OF THE PART BEING REPLACED.

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Fig. 5. Schematic Diagram