ADMIRAL

CLOCK RADIO

5T5X CHASSIS

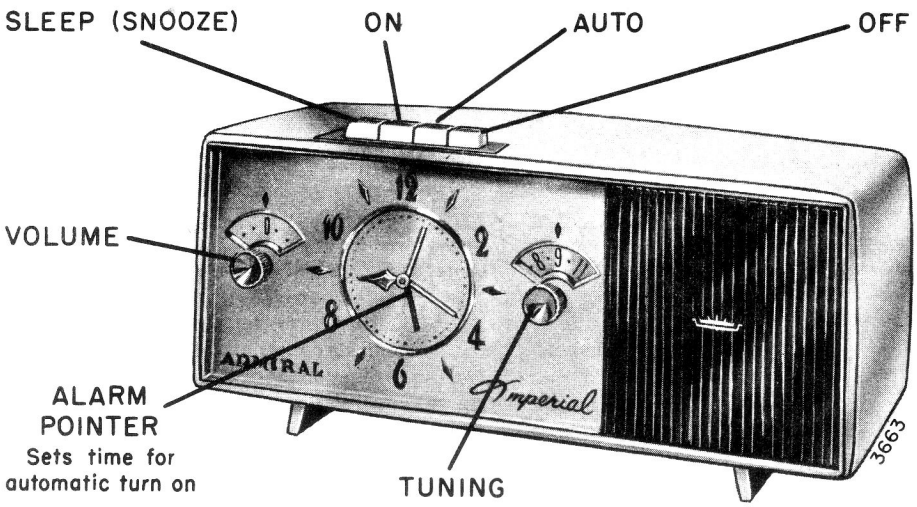


Figure 1. Front View of Set Showing Controls.

MODEL	COLOR	CHASSIS
Y3051X	Black	5T5X
Y3053X	White	
Y3058X	Green	

SPECIFICATIONS

ANTENNA: Ferroscope®, Ferrite Rod.

CIRCUIT: Superheterodyne using five miniature type tubes; one 12BE6 (Converter), one 12BA6 (IF), one 12AV6 (Detector-AVC-AF Amplifier), one 50C5 (Output) and one **35C3** (Rectifier).

CLOCK: Telechron Push Button Timer.

FREQUENCY RANGE: Standard broadcast band; 535 to 1620 KC.

INTERMEDIATE FREQUENCY: 455 KC.

POWER SUPPLY: 105-120 volts, 60 cycle AC only.

POWER CONSUMPTION: 30 watts.

SPEAKER: 4″ PM with Alnico V Magnet. Voice coil impedance 3.2 ohms.

GENERAL

The radio is built around an entirely new type electric timer clock having four push button controls on the top of the cabinet. No more small knobs to fumble with on the front of the clock.

The four push button clock controls consist of:

1. The SLEEP button having two functions "SLEEP" and "SNOOZE".

   When the radio is "off," pushing the SLEEP button will cause the radio to play from 10 minutes up to an hour depending upon the number of times the knob is pushed; once for 10 minutes, twice for 30 minutes, 3 times for 45 minutes and 4 times for 1 hour. The fifth time is a neutral position that cancels any previous setting.

   "SNOOZE ALARM"—When the buzzer alarm starts, it is possible to catch 40 winks more sleep by simply pushing down the SLEEP button. The buzzer will then be silent for a period of approximately 10 minutes for one push of the button, 30 minutes for two, 45 minutes for three, 60 minutes for four. *Note*: The fifth push is a neutral position which cancels the previous setting and turns the buzzer back "on".

   Every sixth push of the SLEEP button is the same as the first. To shut off buzzer, push down the ON or OFF button.

2. The ON button must be down to turn radio "on"
3. The AUTO button must be down for the radio to come on automatically at a pre-set time.
4. The OFF button must be down to turn radio "off". (This includes also the appliance outlet.)

THE RADIO (OR ANY CONNECTED APPLIANCE) WILL NOT TURN OFF, WHEN THE OFF BUTTON IS PRESSED DOWN, IF ANY PLAYING TIME REMAINS ON THE SLEEP-BUTTON. PUSH SLEEP BUTTON TO THE OFF OR NEUTRAL POSITION.

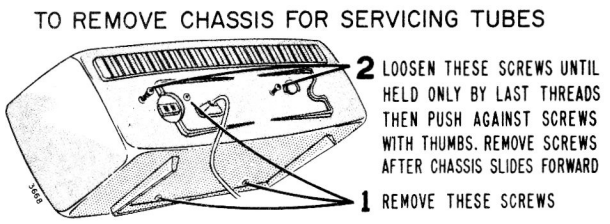


Figure 2. Rear View of Cabinet Showing Chassis Mounting Screws.

CHASSIS REMOVAL

1. Tilt cabinet forward and remove the two screws located on the bottom of cabinet. Also remove the center screw on the back. (The one just above the line cord socket.) See Figure 2.
2. Loosen the two screws remaining at the back until held only by their last threads. Apply enough pressure to these loosened screws with the thumbs, to break the AC interlock Connection inside the cabinet.
3. Remove screws completely and allow chassis, with attached front panel, to slide forward. Make certain that the Time Set Knob at the rear clears the hole provided in the cabinet back.

REMOVING THE CLOCK

1. Remove the cabinet (rear section) as instructed under Chassis Removal.
2. Remove the two knobs from the front and the four pushbuttons by pulling them straight off. (If it seems necessary to use pliers to remove any of the four pushbuttons, wrap each one with masking tape to prevent any damage to them.)
3. Remove the front crystal by pushing inward and then outward on the tabs located along the top and bottom edges. Remove the tuning and volume indicator discs.
4. Remove the two nuts mounting the clock to the front panel. The clock is removable through front, after unsoldering leads. (It will probably be necessary to loosen the chassis from the front panel, in order to gain access to the lower nut on the clock. To remove the chassis from the front panel, remove two screws mounting the Volume control, one mounting the gang accessible from front and two screws mounting the support brackets at top rear of front panel.)

For part number of clock used in this set, see M5 clock, in the Parts List.

PARTS AND SERVICE FOR CLOCK

Consult your Admiral distributor for the address of the nearest parts and service station for clocks used in Admiral radios.

COMPONENT REPLACEMENT

Defective resistors and capacitors should be removed by clipping leads as close to the unit as possible then the new part neatly soldered to the old leads. If any resistor or capacitor is found inconvenient to replace on the top side of board, it is permissible to solder component on the rear of the board.

If a unit such as the oscillator coil or IF transformer is to be replaced, first remove old part by heating the mounting lugs with a pencil type soldering tool (35 watts or less) and straighten with pick and long nose pliers. Brush away any loose solder with a stiff glue type brush. Before inserting new unit make certain all lug holes are free of solder, to prevent damage to wiring or component or both.

It is seldom necessary to replace complete tube sockets. Tube socket lugs may be replaced individually. Tube socket lugs may be ordered under part number 87D35-2. NOTE: If a complete socket is replaced, make certain that the center "shield" connection is securely soldered to the etched board, to prevent possibility of hum or oscillation developing.

SERVICE HINTS

Except at the terminal points where components are soldered to the foil, the etched circuit board is coated with a lacquer to prevent dust and humidity from creating leakage paths between adjacent wiring. Therefore, when making voltage, or resistance checks, connect the meter probe only at the soldered points of the foil to assure continuity between the wiring and the probe. It is not recommended that the lacquer coating be broken along other portions of the foil when making these measurements.

The etched circuit wiring is permanently bonded to the chassis board, but can be destroyed by excessive heat from soldering. Soldering irons with low (35 watts or less) ratings are well suited for etched circuit servicing.

When taking voltage readings or making resistance measurements, use test leads with needle point prods to avoid possibility of a short circuit between sections of the wiring.

If the bond between chassis base and the "etched wiring" becomes broken, solder a short piece of jumper wire across the damaged portion. Pigtail trimmings from resistors and capacitors are ideal for this purpose.

Remove the lacquer coating on the foil with Alcohol before soldering.

For further information pertaining to etched circuit servicing, refer to "Printed Circuits, Service and Repair", Admiral Service Manual, Form No. S559.

CLEANING CABINET

Wash the cabinet with a mild soap or detergent and water. Dry carefully. After cleaning cabinet, lustre can be restored by polishing with a good grade of abrasive-free paste wax. Use damp cotton or cheesecloth to apply wax. Rub off excess wax with a dry cloth and buff to a high lustre. Dust will not accumulate on a cabinet cleaned and waxed in this manner.

Admiral plastics polish, part number 51A11-3 can be used to remove minor scratches and scuff marks. After using this polish, cabinet should be washed and then waxed to return its high lustre.

ALIGNMENT PROCEDURE

- Use an isolation transformer if available; otherwise, connect a .1 mfd. capacitor in series with low side of signal generator and connect to common ground.
- Set volume control full on.
- Disconnect voice coil leads and connect output meter across output secondary. Use a 3.2 ohm load.
- Use lowest setting of signal generator capable of producing adequate indication on lowest scale of output meter.
- Use a non-metallic alignment tool with a blade 3/32" wide for aligning IF transformers.
- Repeat adjustments to insure good results.

STEP	CONNECTION OF SIGNAL GENERATOR	SIGNAL GENERATOR FREQUENCY	RECEIVER GANG SETTING	ADJUSTMENTS
1	Through a .1 mf capacitor to stator, Antenna section of gang tuning capacitor	455 KC	Gang fully open	"A", "B", "C" and "D" for maximum output
2	Same as "STEP 1"	1620 KC	Gang fully open	"E" for maximum output
3	Use a radiated signal. Loop of several turns of wire, or place generator lead close to ferrite antenna for adequate signal pickup.	1400 KC	Tune in on generator signal	"F" for maximum output

VOLTAGE DATA

- All readings made between tube socket terminals and etched circuit ground.
- Dial turned to low frequency end; volume control at minimum.
- All voltages measured with vacuum-tube voltmeter, on 117 Volts AC line.

VOLTAGE PRECAUTION

DO NOT CONNECT AN EARTH GROUND TO THIS RECEIVER.

The etched circuit common ground is connected directly to one side of the power line. To avoid possibility of damage to test equipment or to the etched circuit board, do not place the chassis directly on a metal service bench, tools or other metal objects.

When taking voltage readings or making resistance measurements, use test leads with needle point prods to avoid possibility of short circuits between sections of the etched wiring.

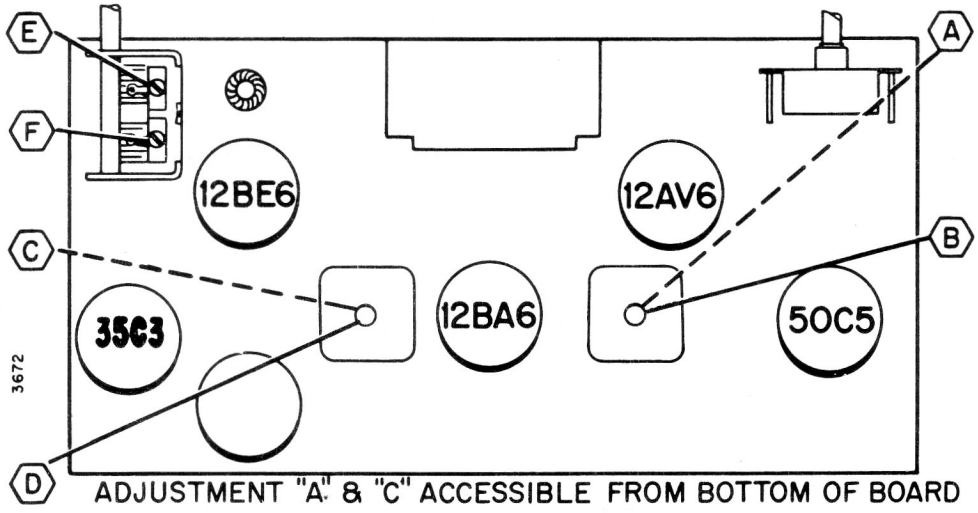
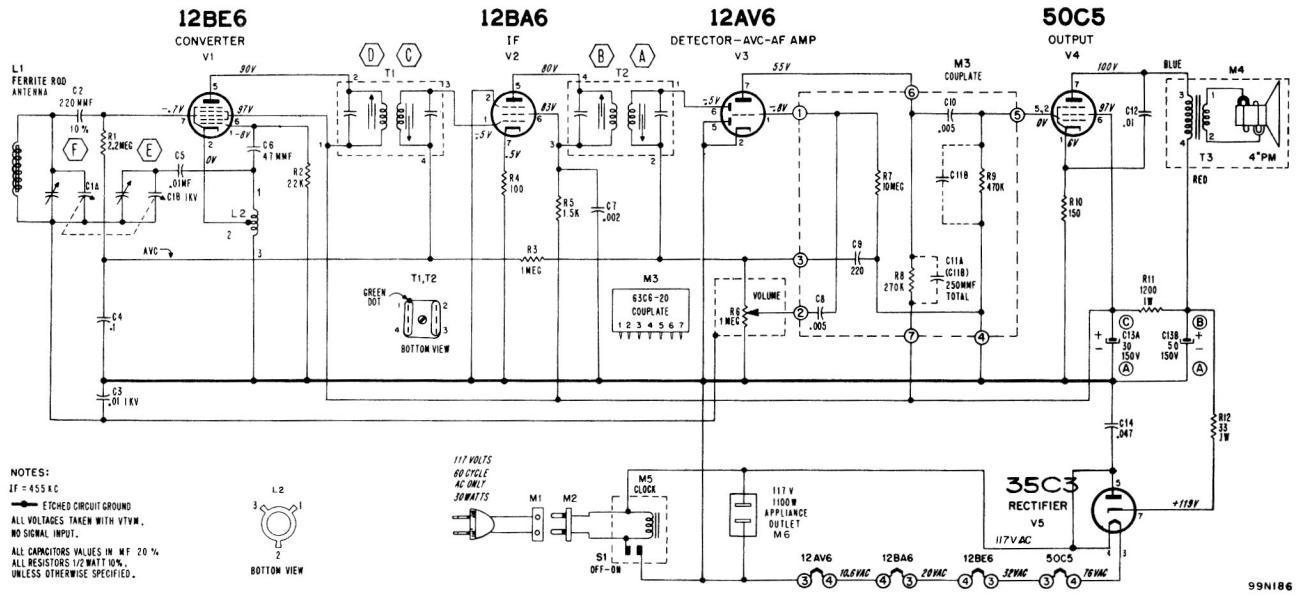


Figure 3. Rear View of Etched Circuit Board. Gray area represents etched wiring; black symbols and lines represent components and connections on opposite side.



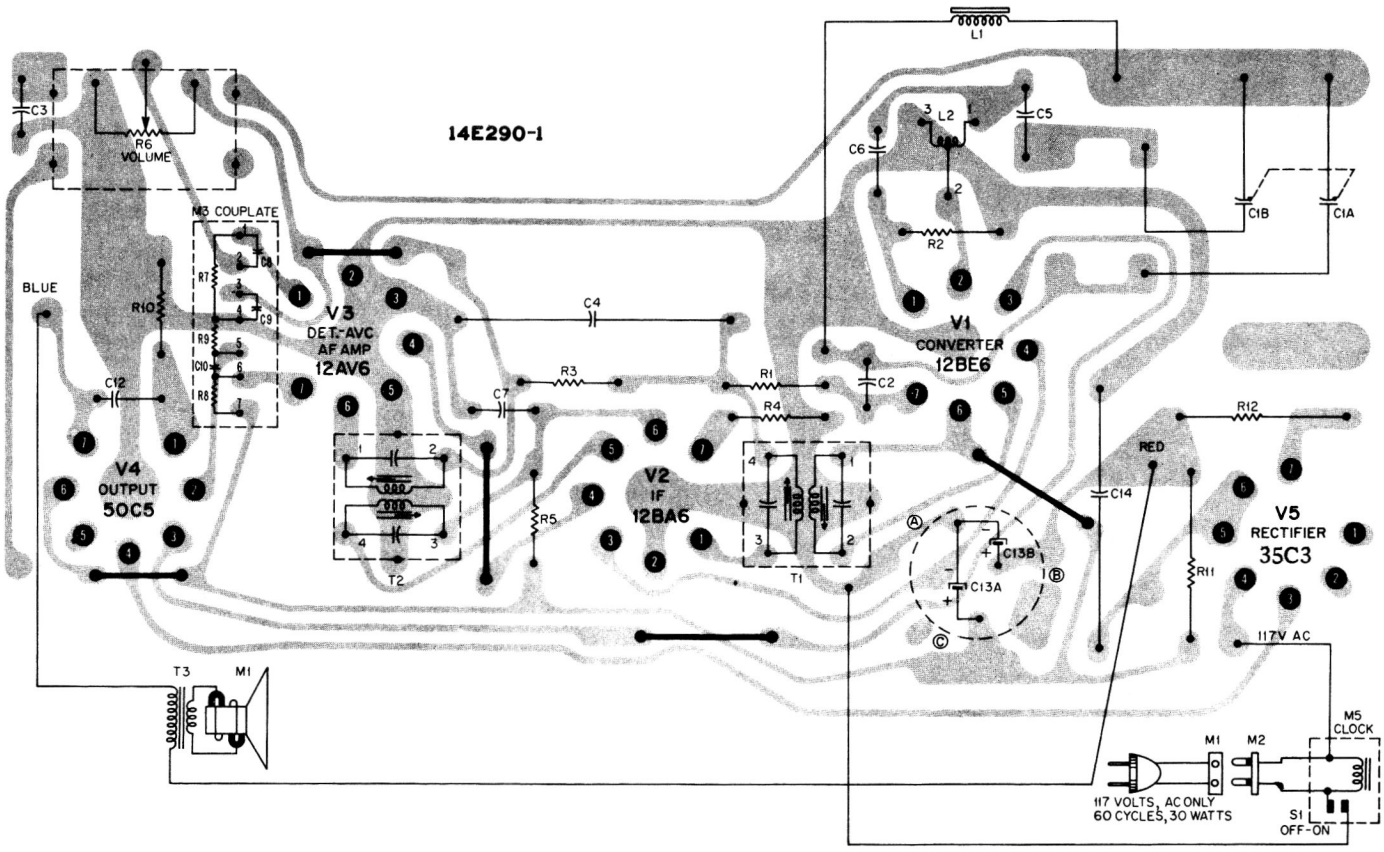


Figure 4. Top View of Chassis Showing Tube and Alignment Point Locations.

5T5X PARTS LIST

RESISTORS

Sym.	Description	Part No.
R1	2.2 meg, ½W, 10%	60B8-225'
R2	22K ohm, ½W, 10%	60B8-223
R3	1 meg ohm, ½W, 10%	60B8-105
R4	100 ohm, ½W, 10%	60B8-101
R5	1.5K ohm, ½W, 10%	60B8-152
R6	1 meg ohm, ½W, 10%	60B8-105
R7	10 meg	Part of M3
R8	270K	Part of M3
R9	470K	Part of M3
R10	150 ohm, ½W, 10%	60B8-151
R11	1.2K ohm, 1W, 10%	60B14-122
R12	33, 1W, 10%	60B14-330

CAPACITORS

C1A	Gang Condenser	68C78-5
C1B	Gang Condenser	68C78-5
C2	220 mmfd, 500V	65D10-83
C3	.01 mfd, GMV, 1KV	65M1-3
C4	.1 mfd, 400V	64L6-26
C5	.01 mfd, GMV, 1KV	65M1-3
C6	47 mmfd, 500V, 20%	65D10-198
C7	.002 mfd, 500V	65D10-125
C8	.005	Part of M3
C9	220	Part of M3
C10	.005	Part of M3
C11A, C11B	250 mmf	Part of M3
C12	.01 mfd, 500V	65D10-41
C13A	30 mfd, 150V	67B39-1
C13B	50 mfd, 150V	67B39-1
C14	.047 mfd, 400V, 20%	64L6-28

COILS

L1	Rod, Antenna	69B228-3
L2	Coil, Oscillator	69A217-6

TRANSFORMERS

Sym.	Description	Part No.
T1	Transformer I.F.	72C170-5
T2	Transformer I.F.	72C170-4

MISCELLANEOUS

M1	Line Cord and Plug, 6 ft	89B62-5
M2	Plug Interlock	88W36
M3	Couplate, Audio	63C6-20
M4	Speaker 4 in. P.M. (with Trans.)	78D142-5
M5	Clock Push Button Timer	91C47-1

MISCELLANEOUS CHASSIS PARTS

Terminal and Connect	9C28-51
Chassis P.C. Board	14E290-1
Bracket, Ant. Mtg	15B1665-1
Spring (Appliance Outlet Mtg.)	18B264-1
Spring	18A266-1
Calibration Disk	21C138-1
Volume Disk	21C138-2
Bezel, Button Trim	23B414-1
Face Plate	23C415-1
Extrusion, Plastic	33C233-6
Knob	33B412-1
Push Button (Black)	33C414-1
Push Button (White)	33C414-2
Push Button (Green)	33C414-3
Cabinet Front, Black (Y3051X)	34D165-1
Cabinet Front, White (Y3053X)	34D165-2
Cabinet Front, Green (Y3058X)	34D165-3
Mask, Quick, Pre-Cut	52B5-3
Tube Socket, 7 Pin	87D35-43
Tube Socket, 7 Pin (with Gnd. Strap)	87D35-45
Tube Shield, 7 Pin	87B52-2
Outlet Appliance	87A77-4

CABINET PART LIST

Cabinet, Yellow (Y3051X)	34D125-38
Cabinet, White (Y3053X)	34D125-36
Cabinet, Green (Y3058X)	34D125-37
Operating Instructions	41L15-5

Canadian Admiral CORPORATION, LTD

PORT CREDIT, ONT.