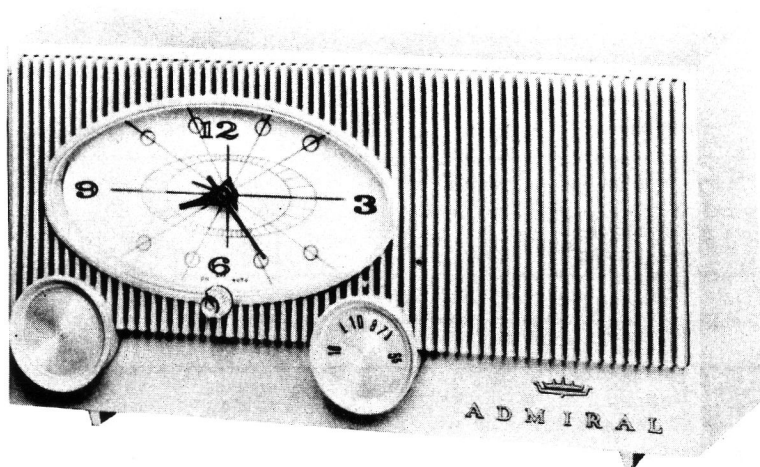


# ADMIRAL<sup>®</sup>

**CLOCK RADIO**

**4R3X CHASSIS**



## SPECIFICATIONS

**ANTENNA:** Aeroscope<sup>®</sup>. Built-in loop type.

**CIRCUIT:** Superheterodyne using four miniature type tubes. One 12AU6 (converter), one 12AV6 (Detector), one 50C5 (output) and one 35C3 (Rectifier)

**FREQUENCY RANGE:** Standard broadcast band; 535 KC 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 4R3X chassis is a completely new design in the small, compact, but very efficient AM clock radio line. The size and relative sensitivity is made possible only by the use of an etched "Satellite" type circuit board.

## CLOCK RADIO

MODEL	COLOR	NAME	CHASSIS
Y3137X	BEIGE	CHAPERONE	4R3X

## REMOVING CHASSIS FROM CABINET

Unplug and remove back. Remove the knobs from the front of the cabinet. Remove the screw outside from under the Tuning knob and the screws inside that hold the Volume control bracket to the cabinet. Remove etched circuit board support at rear of chassis. Chassis will now slide out.





## COMPONENT REPLACEMENT

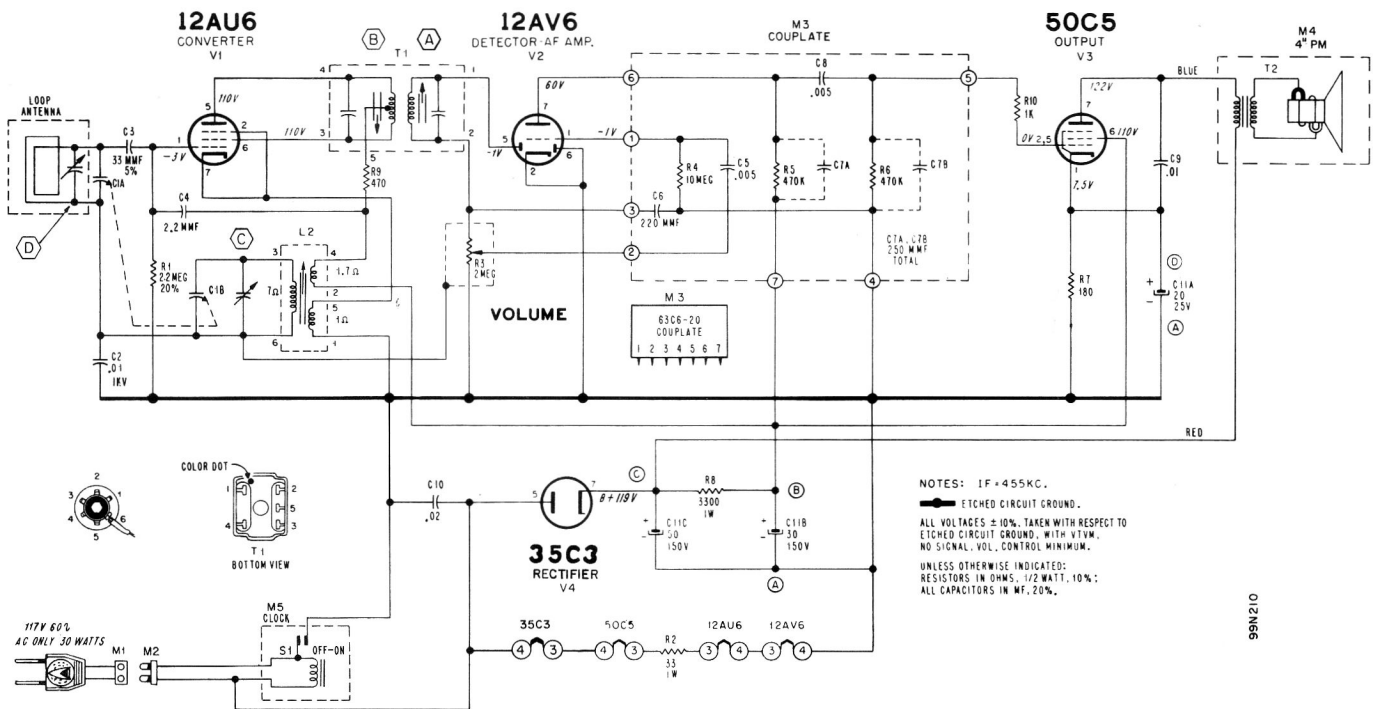
Defective resistors and capacitors should be removed by clipping leads as close to the unit as possible, then the new part neatly soldered to the old leads. If any resistor or capacitor is found inconvenient to replace on the top side of board, it is permissible to solder component on the bottom of the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

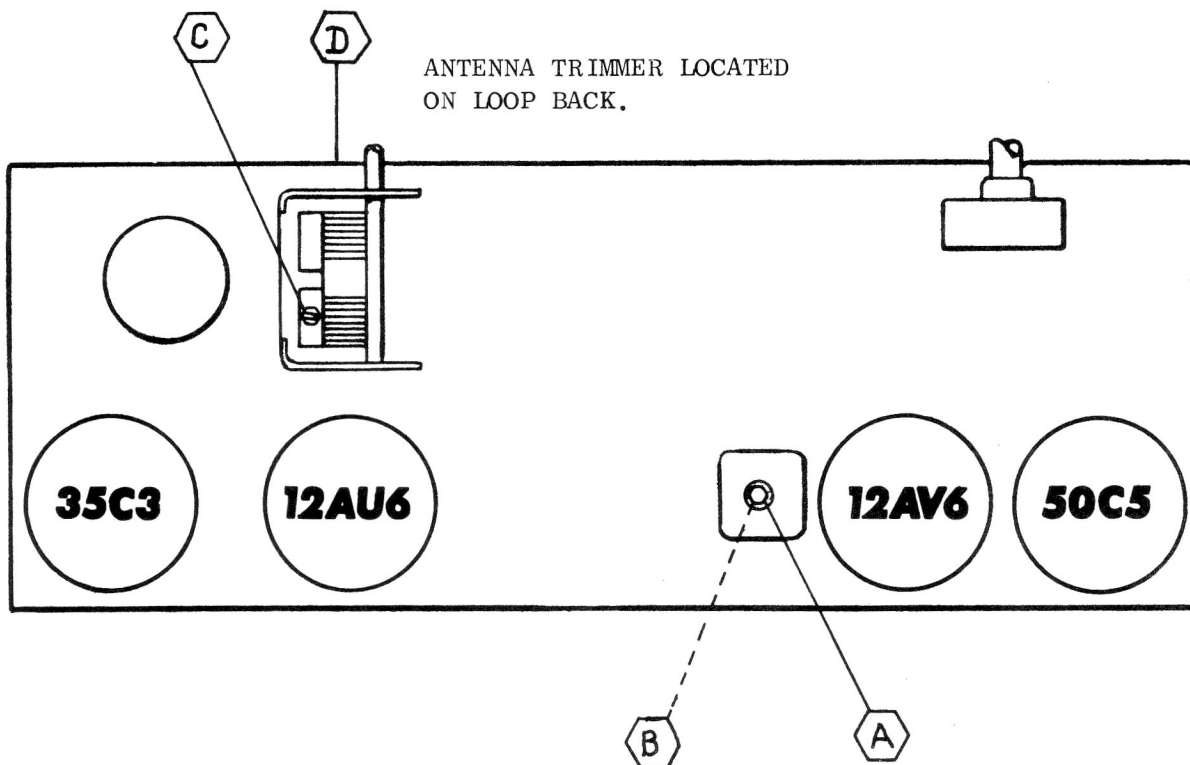
**SERVICE MANUAL T1123**

## ALIGNMENT PROCEDURE

- a. Use an isolation transformer or connect a .1 mf. capacitor in series with low side of signal generator.  
CAUTION: DO NOT CONNECT AN EARTH GROUND WIRE DIRECTLY TO CHASSIS.
- b. Set Volume control full on.
- c. Connect output meter across output secondary. Disconnect speaker, use 3.2 ohm load.
- d. Use lowest setting of signal generator capable of producing adequate indication on lowest scale of output meter.
- e. By using alignment tool (Part No. 98A30-7) both IF transformer slugs can be aligned
- f. Repeat adjustments to insure good results.

Step	Connection of Signal Generator	Signal Gen. Frequency	Receiver Gang Setting	Adjustment Description	Adjustment
1.	Through a .1 mf capacitor to pin 1 of the 12AU6 (Converter) tube.	455 KC	Gang fully open	IF Primary IF Secondary	 and  for maximum output
2	Same as "STEP 1".	1620 KC	Gang fully open	Oscillator Trimmer	 for maximum output
3	Radiated Signal. Loop of several turns of wire, or place generator lead close to receiver loop for adequate signal pickup.	1400 KC	Tune in generator signal	Antenna Trimmer	 for maximum output (Rock gang for optimum results)





#### ADJUSTMENT "A" ACCESSIBLE FROM BOTTOM OF BOARD

Top View of Chassis Showing Tube and Alignment Point Locations.

#### VOLTAGE PRECAUTION

The etched circuit common ground of this receiver is connected directly to one side of the power line. To prevent damage to etched wiring, do not place chassis directly on a metal bench, or other metal objects.

When taking voltage or resistance measurements, use test prods with needle points to avoid short circuits between sections of the circuit wiring.

#### VOLTAGE DATA

- All voltage readings made between tube socket terminals and etched circuit common ground.
- Dial set to low frequency end; volume control at minimum.
- Line voltage at 117 volts AC.
- All voltages measured with vacuum-tube-voltmeter.

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 brush. Before inserting new unit, make certain all lug holes are free of solder, to prevent damage to wiring or component or both.

An open or damaged section of the etched wiring

may be repaired by soldering a short jumper wire across the break.

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.

## PARTS LIST

### RESISTORS

Sym.	Description	Part No.
R1	2.2 megohms, ½ watt . . . . .	60B 8-225
R2	33 ohms, 1 watt . . . . .	60B 14-330
R3	2 megohms volume control . . . . .	75B 77-5
R4	10 megohms . . . . .	Part of M3
R5	470,000 ohms . . . . .	Part of M3
R6	470,000 ohms . . . . .	Part of M3
R7	180 ohms, ½ watt . . . . .	60B 8-181
R8	3,300 ohms, 1 watt . . . . .	60B 14-332
R9	470 ohms, ½ watt . . . . .	60B 8-471
R10	1,000 ohms, ½ watt . . . . .	60B 8-102

### CAPACITORS

C1A	354 mmf max. ant. . . . .	} gang . . . . . 68C 89-1
C1B	89.3 mmf max. osc. . . . .	
C2	.01 mf, 1kv GMV ceramic disc . . . . .	65M1-3
C3	33 mmf, 5%, 500 volts, ceramic . . . . .	disc . . . . . 65D 10-119
C4	2.2 mmf, 500 volts, ceramic . . . . .	disc N750 Temp. Coeff. . . . . 65D 10-27
C5	.005 mf . . . . .	Part of M3
C6	220 mmf . . . . .	Part of M3
C7	250 mmf . . . . .	Part of M3
C8	.005 mf . . . . .	Part of M3
C9	.01 mf, 500 volts, ceramic disc . . . . .	65D 10-41
C10	.02 mf, 500 volts, ceramic disc . . . . .	65D 10-34
C11A	20 mf, 25 volts . . . . .	} Electrolytic . . . . . 67C 39-5
C11B	30 mf, 150 volts . . . . .	
C11C	50 mf, 150 volts . . . . .	

### COILS, TRANSFORMER AND MISCELLANEOUS CHASSIS PARTS

Sym.	Description	Part No.
L1	Antenna, Loop, Part of Cabt. Back . . . . .	69N13-2
L2	Coil, Oscillator . . . . .	69C 215-6
T1	Transformer, IF . . . . .	72C 175-1
M1	A.C. Line Cord and Plug . . . . .	89C 62-4
M2	Connector, Interlock . . . . .	9B 42-2
M3	Couplate, Audio . . . . .	63D 6-20
M4	Speaker, 4" PM . . . . .	78B 142-7
S1	Switch, on/off . . . . .	Part of R3
	Socket, Tube . . . . .	87D 35-47

### CABINET PARTS

#### Cabinet, Plastic

Y3137x(Beige) . . . . .	34E 185-1
Clock (Telechron) . . . . .	91C 54-1
Crystal, Clock . . . . .	24C 46-1
Knobs, Clock . . . . .	91C 54-10
Knob, Tuning . . . . .	

Y3137x(Beige) . . . . .	33C 465-1
Knob, Volume . . . . .	

Y3137x(Beige) . . . . .	33C 465-2
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