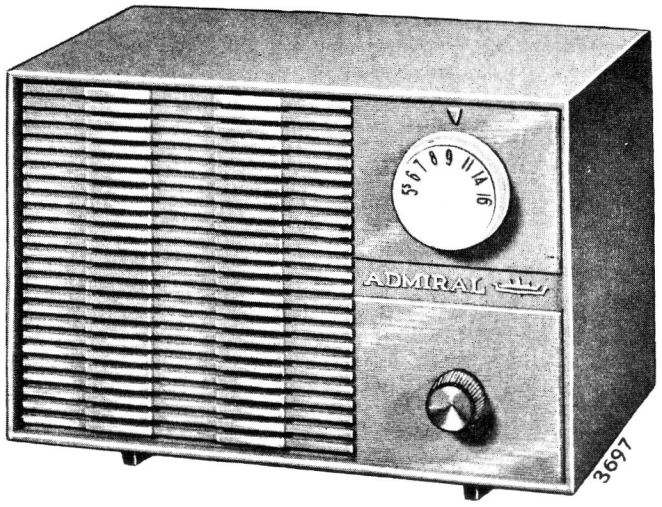
ADMIRAL

RADIO
4P3X CHASSIS

AM TABLE RADIO

MODEL	COLOR	CHASSIS
Y2993 X	White	4P3
Y2996 X	Yellow	
Y2998 X	Turquoise	
Y2999 X	Gray	



SPECIFICATIONS

ANTENNA: Aeroscope®. 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; 550-1600 KC.

INTERMEDIATE FREQUENCY: 455 KC.

POWER SUPPLY: 105-120 volts 60 cycle AC or DC.

POWER CONSUMPTION: 30 watts.

SPEAKER: 4" PM with Alnico V magnet. Voice coil impedance 3.2 ohms.

GENERAL

The 4P3 chassis is a completely new design in the small, compact, but very efficient AM radio line. The size and relative sensitivity is made possible only by the use of an etched "Satellite" type circuit board.

REMOVING CHASSIS FROM CABINET

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.

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 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.

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.

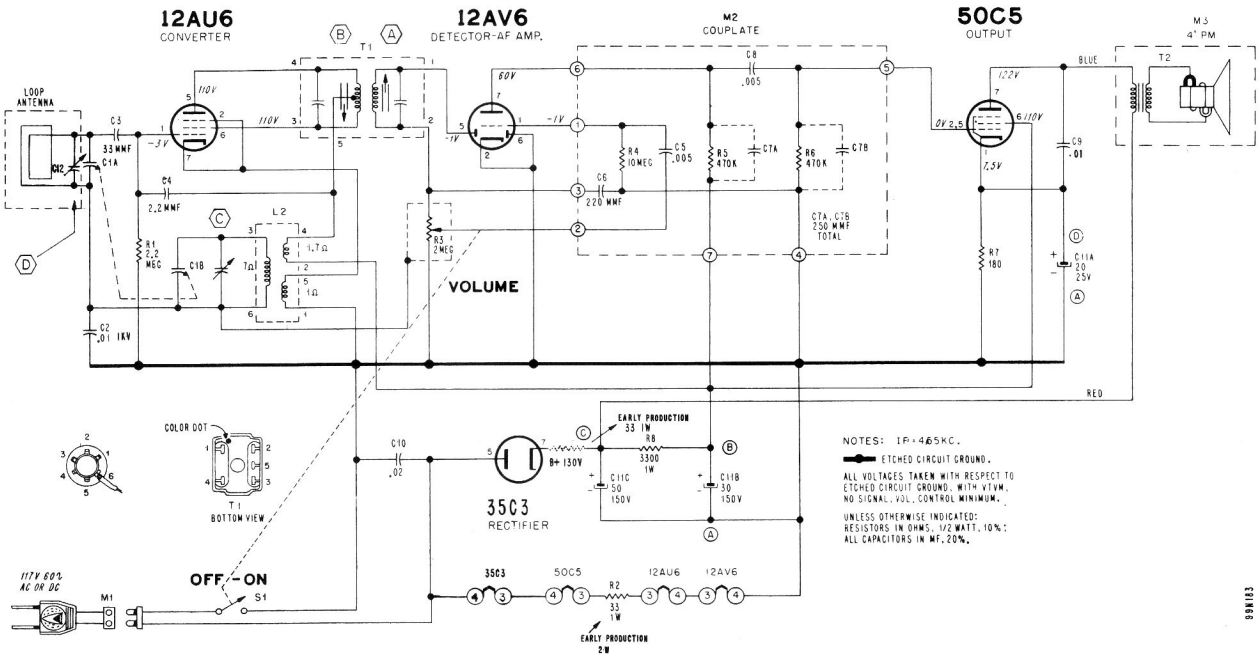
c. Connect output meter across output secondary. Disconnect speaker, use 3.2 ohm load.

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 from front or rear.

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	(A) and (B) for maximum output
2	Same as "STEP 1".	1620 KC	Gang fully open	Oscillator Trimmer	(C) 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	(D) for maximum output (Rock gang for optimum results)



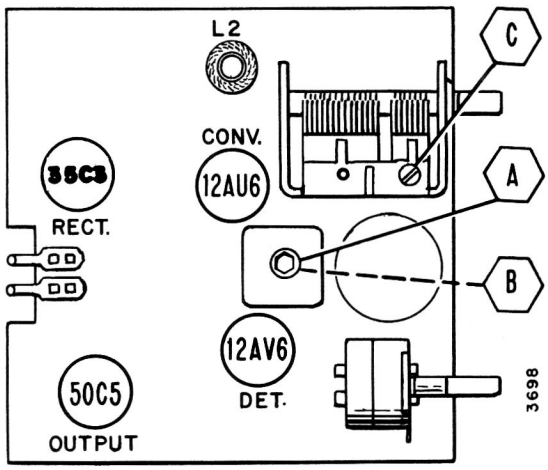
VOLTAGE PRECAUTION

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.

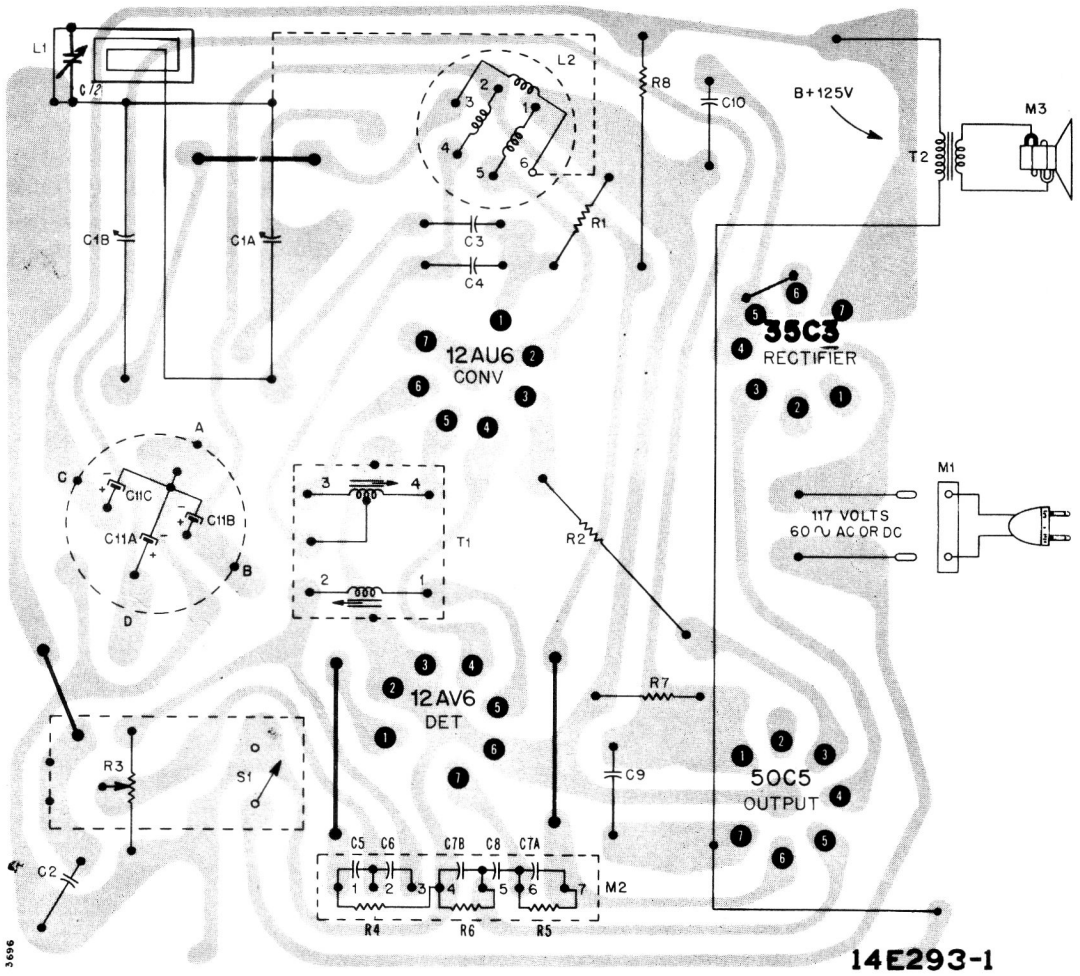
VOLTAGE DATA

- 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.



Alignment Point (D) is a Trimmer on the Loop Antenna Back.

Top View of Etched Circuit Board Showing Tube and Alignment Point Locations



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

4P3X PARTS LIST

RESISTORS

Sym.	Description	Part No.
R1	2.2 meg, ½W, 10%	60B8-225
R2	33 ohm, 1W, 10%	60B14-330
R3	2 meg, Volume Control	75C77-1
R4	10 meg	Part of M2
R5	470K	Part of M2
R6	470K	Part of M2
R7	180 ohm, ½W, 10%	60B8-181
R8	3300 ohm, 1W, 10%	60B14-332

CAPACITORS

C1A C1B	Gang Condenser	68C84-1
C2	.01 mfd, GMV, Ceramic	65D10-3
C3	33 mmfd, 5%	65D10-119
C4	2.2 mmfd, ± 1/4 mmfd, Ceramic	65D10-27
C5	.005 mfd	Part of M2
C6	220 mmfd	Part of M2
C7	250 mmfd	Part of M2
C8	.005 mfd	Part of M2
C10	.02 mfd, GMV	65D10-34
C11A	20 mfd, 25V, Electrolytic	67C39-5
C11B	30 mfd, 150V, Electrolytic	67C39-5
C11C	50 mfd, 150V, Electrolytic	67C39-5
C12	Trimmer	66A33-1

COILS

L1	Loop Antenna	69M10-1
L2	Coil, Oscillator	69K11-1

TRANSFORMERS

T1	Transformer I.F.	72K6-1

MISCELLANEOUS

M1	Line Cord	89B62-10
M2	Couplate	63C6-20
M3	Speaker 4 in. (with Output Trans.)	78B142-6

MISCELLANEOUS CHASSIS PARTS

Terminal and Connect	9C28-51
Connector, Interlock	9B42-2
Chassis P.C. Board	14E293-1
Quick Mask, Pre-Cut	52B5-3
Quick Mask, Pre-Cut	52B5-7
Socket (7 Pin)	87D35-47

CABINET PARTS

Knob, Volume	33C395-4
or	
Knob, Volume (Preferred)	33C395-5
Knob, Tuning	33C439-2
or	
Knob, Tuning (Preferred)	33C439-3
Cabinet, White (Y2993X)	34E174-1
Cabinet, Yellow (Y2996X)	34E174-2
Cabinet, Turquoise (Y2998X)	34E174-3
Cabinet, Grey (Y2999X)	34E174-4
Heat Shield	52B12-1