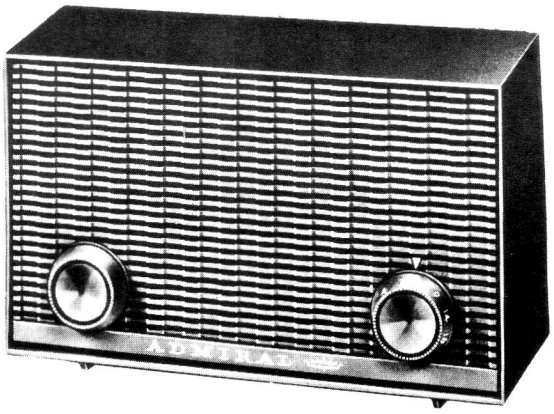
ADMIRAL

4A4X RADIO



SPECIFICATIONS

ANTENNA: Built-in loop.

CIRCUIT: Superheterodyne using 4 miniature tubes.

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

INTERMEDIATE FREQUENCY: 455 KC.

POWER SUPPLY: 117 volts, 60 cycles, AC/DC.

POWER CONSUMPTION: 30 watts.

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

WARNING! DO NOT CONNECT AN EARTH GROUND WIRE TO THIS RECEIVER.

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

MODEL	COLOR	CHASSIS
Y3503	WHITE	4A4X
Y3508	TURQUOISE	
Y3509	GRAY	

CHASSIS REMOVAL

1. Pull knobs off and remove screw under tuning knob.
2. Carefully pry up top of cabinet at back with finger tips, enough to allow removal of cabinet back.
3. Remove screw holding volume control to cabinet front.
4. Remove plastic support from back of chassis and slip chassis assembly out.

Service Manual T1178

ALIGNMENT PROCEDURE

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.

Set volume control full on.

Connect output meter across output secondary. Disconnect speaker and use a 3.2 ohm load.

Use lowest setting of signal generator capable of producing adequate indication on lowest scale of meter.

By using alignment tool 98A30-7, you can align the IF transformer slugs from the top of the chassis.

Repeat adjustments to insure best results.

STEP	CONNECTION OF SIGNAL GENERATOR	SIGNAL GENERATOR FREQUENCY	RECEIVER GANG SETTING	ADJUSTMENT DESCRIPTION	ADJUSTMENT
1	Through a .1 mf capacitor connected to L1. converter tube.	455KC	Fully Open	IF Primary IF Secondary	(A) and (B) for maximum output
2	Same as step 1	1620KC	Fully Open	Osc. Trimmer	(C) for max.
3	Radiated Signal. Loop of several turns of wire, or place generator lead close to receiver loop for adequate signal pickup.	1400KC	Tune in Generator Signal	Antenna Loop Gimmick	(*D) for max.
4	Same as step 1	535KC	Fully Closed	Osc. coil Core	(E) for max.
5	Repeat step 2				

* Rock gang for optimum results.

CLEANING CABINET

Before attempting to clean the cabinet, unplug the radio. Do not allow cleaning solution to get into the radio.

Wash the cabinet with a mild soap or detergent and water. Dry carefully. After cleaning cabinet, luster 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 luster. Dust will not accumulate on a cabinet cleaned and waxed in this manner.

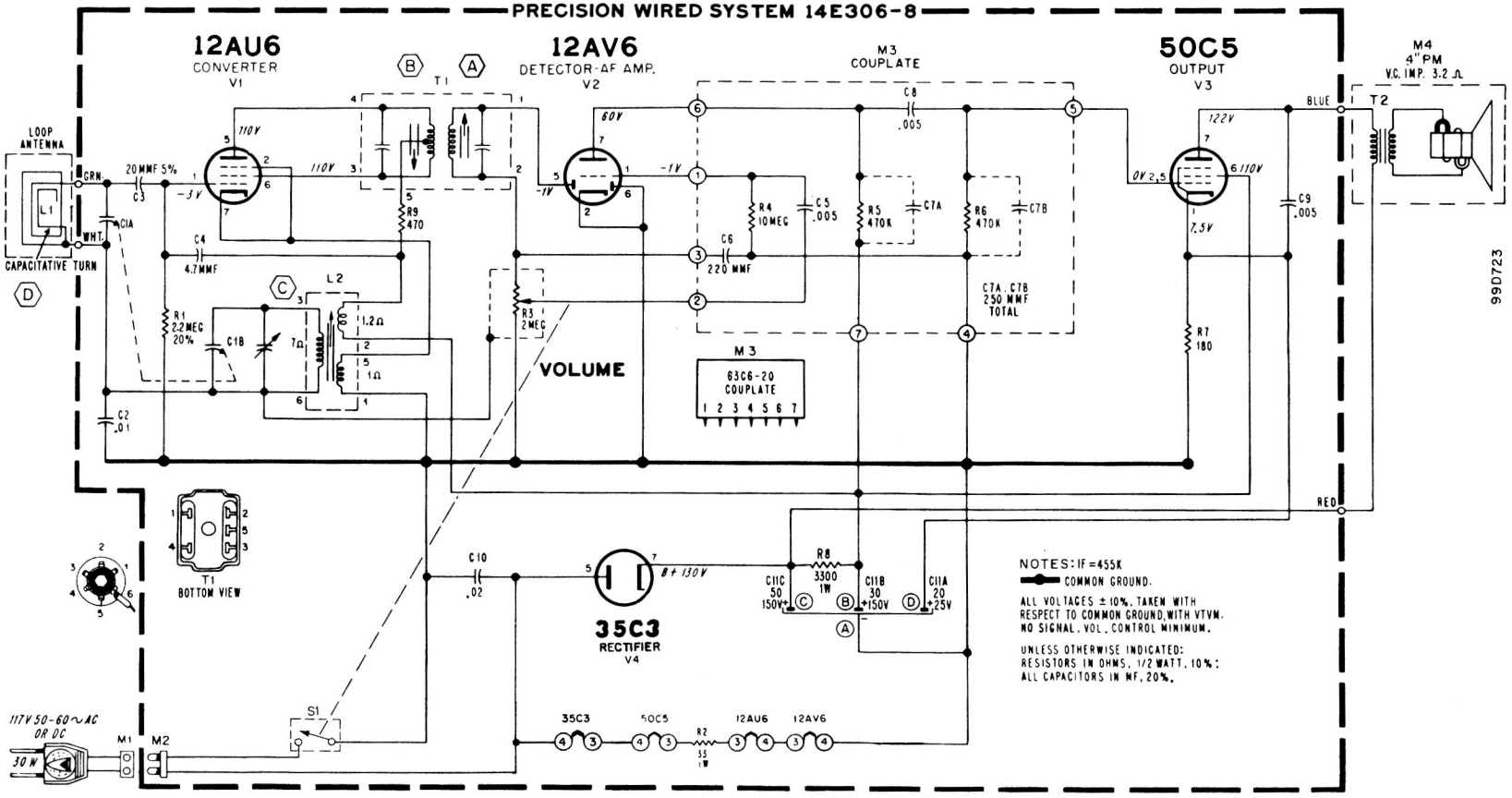
Admiral plastics polish, 51A11-3, can be used to remove minor scratches and scuff marks. After using this polish, cabinet should be washed and then waxed to return its luster.

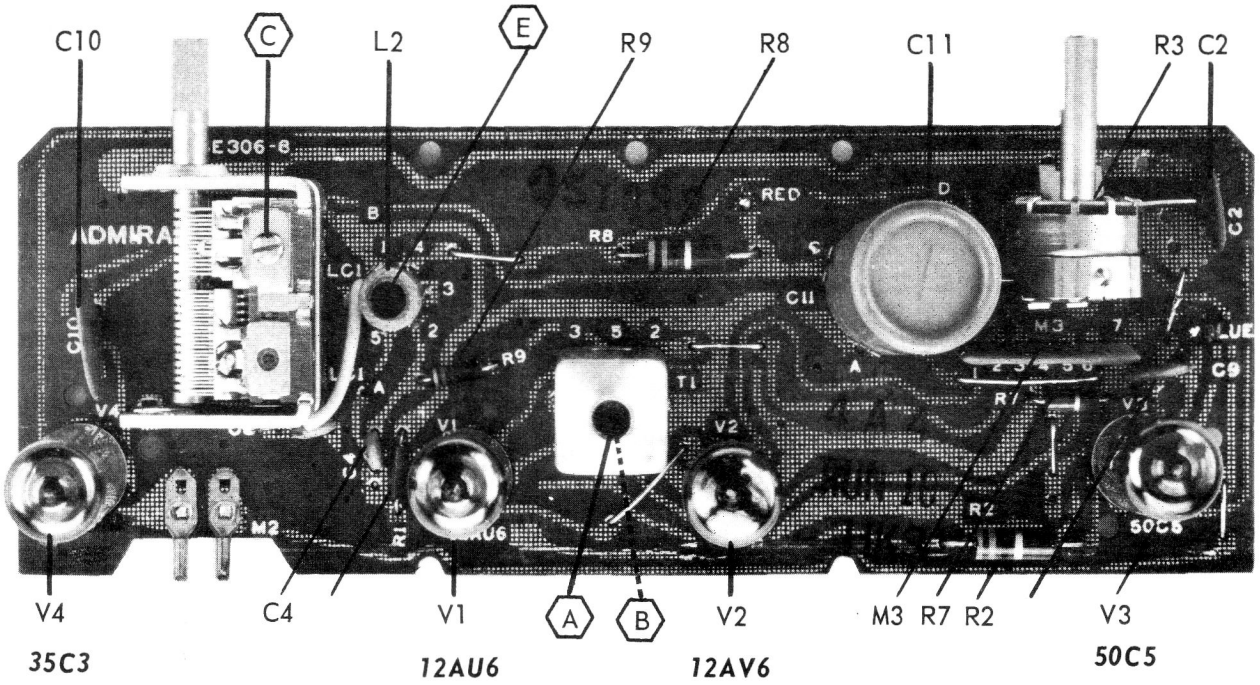
COMPONENT REPLACEMENT

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 under 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.


PRECISION WIRED SYSTEM 14E306-8
12AU6
CONVERTER
V1
12AV6
DETECTOR-AF AMP.
V2
50C5
OUTPUT
V3
M3
COUPLATE
M4
4" PM
V.C. IMP. 3.2 Ω
T1
T2
LOOP
ANTENNA
CAPACITATIVE TURN
L1
L2
GRN.
WHT.
BLUE
RED
20 MMF 5%
C3
C1A
C1B
C2
.01
C4
4.7 MMF
R1
2.2 MEG
20%
R2
33
1W
R3
2 MEG
VOLUME
R4
10 MEG
C5
.005
R5
470K
C7A
R6
470K
C7B
C6
220 MMF
C7A, C7B
250 MMF
TOTAL
C8
.005
R7
180
C9
.005
R8
3300
1W
C10
.02
C11C
50
150V+
C11B
30
+150V
C11A
20
+25V
R9
470
1.2Ω
1Ω
7Ω
M3
63C6-20
COUPLATE
1 2 3 4 5 6 7
35C3
RECTIFIER
V4
T1
BOTTOM VIEW
S1
M1
M2
117V 50-60~AC
OR DC
30W
35C3
50C5
12AU6
12AV6
110V
60V
122V
7.5V
-3V
-1V
-1V
0V 2.5
6 110V
8+130V
99D723
NOTES: IF = 455K
COMMON GROUND.
ALL VOLTAGES ± 10%, TAKEN WITH RESPECT TO COMMON GROUND, WITH VTVM. NO SIGNAL, VOL. CONTROL MINIMUM.
UNLESS OTHERWISE INDICATED: RESISTORS IN OHMS, 1/2 WATT, 10%; ALL CAPACITORS IN MF, 20%.



TOP VIEW OF CHASSIS 4A4 SHOWING COMPONENTS AND ALIGNMENT POINTS

PARTS LIST

CHASSIS PARTS LIST

RESISTORS

Sym.	Description	Part No.
R1	2.2 Megohm, ½W, 10%.....	60B8-225
R2	33 ohm, 1W, 10%.....	60B14-330
R3	Control, 2 meg, Volume w/switch.	75C77-6
R7	180 ohm, ½W, 10%.....	60B8-181
R8	3.3K ohm, 1W, 10%.....	60B14-332
R9	470 ohm, ½W, 10%.....	60B8-471

CAPACITORS

C1	Gang Cond.....	68C84-2
C2	.01 mfd, 1KV, GMV.....	65M1-3
C3	20 mmfd, 500V, 10%, NPO.....	65D10-123
C4	2.2 mmfd, ± .25 mmfd, 500V, N750.....	65D10-27
C9	.01 mfd, 500V ± 20%.....	65D10-41
C10	.02 mfd, 500V, GMV.....	65D10-34
C11A	20 mfd, 25V, Electrolytic....	67C39-5
C11B	30 mfd, 150V, Electrolytic...	67C39-5
C11C	50 mfd, 150V, Electrolytic...	67C39-5

MISCELLANEOUS CHASSIS PARTS

L2	Coil Oscillator.....	69C215-7
T1	I. F. Transformer.....	72C175-1
Couplate Audio.....		63D6-20
Tube Socket, 7 Pin.....		87D35-47

CABINET PARTS LIST.

Sym.	Description	Part No.
	Knob, Tuning, Y3503.....	33C601-1
	Knob, Volume, Y3503.....	33C601-2
	Knob, Tuning, Y3508.....	33C601-3
	Knob, Volume, Y3508.....	33C601-4
	Knob, Tuning, Y3509.....	33C601-5
	Knob, Volume, Y3509.....	33C601-6
	Cabinet, White Y3503.....	34E232-1
	Cabinet, Turquoise Y3508.....	34E232-2
	Cabinet, Grey Y3509.....	34E232-3
	Trimmer.....	66A33-1
	Loop Antenna & Cabinet Back.....	69N13-5
	Speaker 4" P. M.....	78D142-6
	Line Cord.....	89C62-4