ADMIRAL

AM RADIO
5R5X CHASSIS

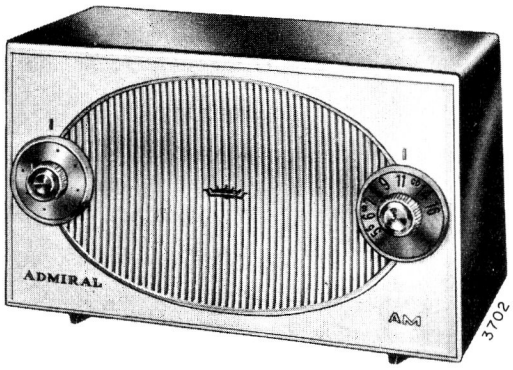


Figure 1. Front View of Set.

SPECIFICATIONS

ANTENNA: Ferroscope®, Ferrite Rod.

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

FREQUENCY: Standard broadcast band: 550 to 1600 KC.

IF FREQUENCY: 455 KC.

POWER SUPPLY: 105-125 Volts, 60 Cycle AC or DC.

POWER CONSUMPTION: 30 Watts.

SPEAKER: 6″ x 9″ PM, Voice coil impedance 3.2 ohms.

GENERAL

The models in this manual are five tube, table, AM type radios using the etched "Satellite" type circuit board, ferrite rod antenna and vernier tuning.

The main features of these models are the use of the large 6″ x 9″ PM speaker for increased power and fidelity of sound and also the cabinet color and style can be matched with its twin cabinet in the FM line (see FM Radio Models Y3061 and Y3067 in Service Manual No. S875).

CHASSIS REMOVAL

To remove the chassis from cabinet it is not necessary to remove the knobs from the set. See figure 2. It is not necessary to remove the etched board, when checking tubes or trouble shooting from the rear side of the etched board. If it becomes necessary to remove the etched board for servicing, first remove the tuning knob, as the screw mounting the gang capacitor to the front panel, is located under this knob. Another screw is located in the bracket on the opposite side, just below the tuning knob.

AM TABLE RADIO

MODEL	COLOR	CHASSIS
Y3021X	Black and White	5R5X
Y3027X	Walnut and White	

TO REMOVE CHASSIS FOR SERVICING

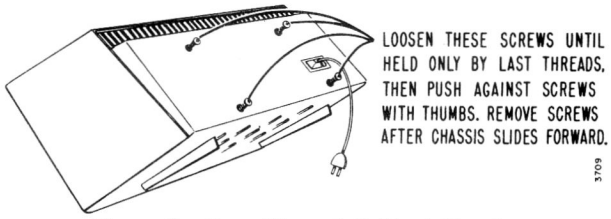


Figure 2. Rear View of Cabinet Showing Chassis Mounting Screws.

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.

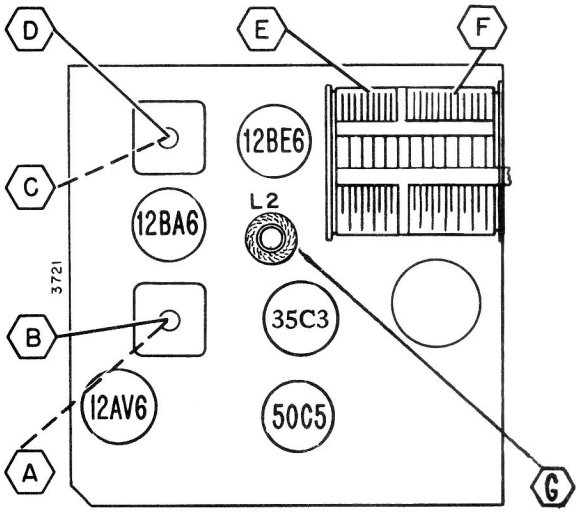


Figure 3. Top View of Chassis Showing Tube and Alignment Point Locations.

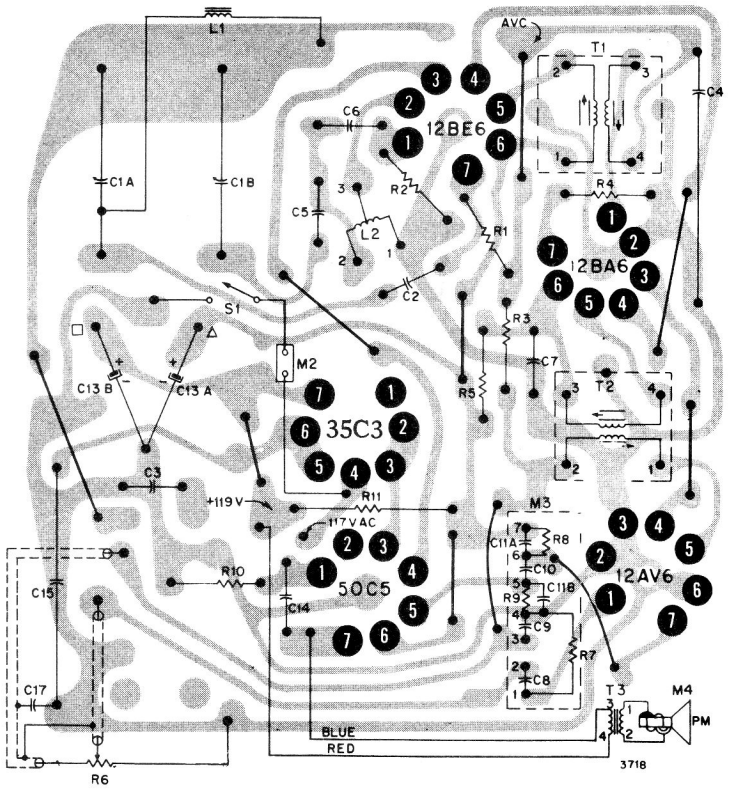
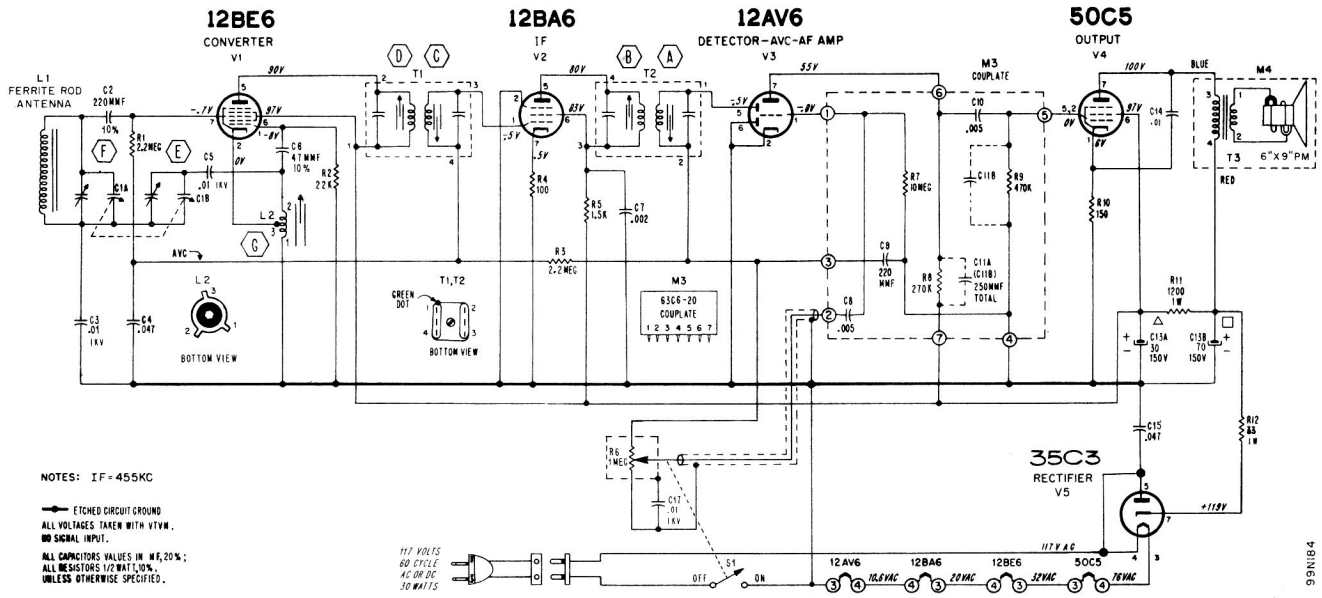


Figure 4. Rear View of Etched Circuit Board. Gray area represents etched wiring; black symbols and lines represent components and connections on opposite side.



VOLTAGE PRECAUTION

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

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.

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 etched circuit ground.
Set Volume control full on.

Connect output meter across output secondary. For best results disconnect voice coil and use a 3.2 ohm load.

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

Use a non-metallic alignment tool with 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	Same as "STEP 1"	535 KC	Gang fully closed	"G" for maximum output
4	Repeat "STEP 2"			
5	Use a radiated signal. Loop of several turns of wire, or place generator lead close to receiver loop or rod for adequate signal pickup.	1400 KC	Tune in on generator signal	"F" for maximum output

RESISTORS

Sym.	Description	Part No.
R1	2.2 meg, ½W, 10%	60B8-225
R2	22K ohm, ½W, 10%	60B8-223
R3	2.2 meg, ½W, 10%	60B8-225
R4	100 ohm, ½W, 10%	60B8-101
R5	1.5K ohm, ½W, 10%	60B8-152
R6	1 meg, Volume Control	75B74-1
R7	10 meg	Part of M3
R8	270K	Part of M3
R9	470K	Part of M3
R10	150 ohm, ½W, 10%	60B8-151
R11	1200 ohm, 1W, 10%	60B14-122
R12	33, 1W, 10%	60B14-330

CAPACITORS

C1A C1B	Gang Condenser	68C78-7
C2	220 mmf, 10%, 500V	65D10-83
C3	.01 mfd, 1KV, GMV	65M1-3
C4	.047 mfd, 200V, 20%	64L6-41
C5	.01 mfd, 1KV, GMV	65M1-3
C6	47 mmf, 10%, 500V	65D10-180
C7	.002 mfd, 500V	65D10-125
C8	.005 mfd, 500V	65D10-152
C9	220 mmf	Part of M3
C10	.005 mmf	Part of M3
C11A C11B	250 mmf	Part of M3
C13A	30 mfd, 150V	67C30-2
C13B	70 mfd, 150V	67C30-2
C14	.005 mfd, 500V	65D10-152
C15	.047 mfd, 20%, 400V	64L6-28
C17	.01 mfd, 1KV, GMV	65M1-3

COILS

L1	Rod Antenna	69D252-1
L2	Coil, Oscillator	69C263-1

Description	Part No.

TRANSFORMERS

T1	Transformer I.F.	72C170-5
T2	Transformer I.F.	72C170-4

MISCELLANEOUS

M1	Line Cord & Plug, 6 ft	89B62-4
		or
M1	Line Cord & Plug, 6 ft	89B62-9
M2	Plug Interlock	88W36
M3	Couplate, Audio	63C6-20
M4	Speaker W/Out Trans	78D171-1

MISCEALLANEOUS CHASSIS PARTS

Chassis P.C. Board	14E270-2
Couplate Shield	15A2267-1
Bracket, Ant. Bd. Mtg.	15B2281-1
Bracket, Ant. Bd. Mtg.	15B2282-1
Bracket, P.C. Bd. Mtg.	15B2283-1
Shield	15B2290-1
Fibre Barrier	32L53-1
Spacer Mtg. P.C.	32A250-2
Tube Socket, Min. (7 Pin)	87D35-13
Min. Tube Socket, 7 Pin (With Gnd. Strap)	87D35-14
Tube Shield, 7 Pin	87B52-2

CABINET PARTS

Cabinet Front White	34E169-1
Cabinet, Black (Y3021X)	34E170-1
Cabinet, Walnut (Y3027X)	34E170-2
Cabinet, Green (Y3028X)	34E170-3
Knob, Tuning	33D430-2
Knob, Volume	33D430-1
Knob, Indicator	33D430-3