



RCA VICTOR



3-RA-5 Series—The "Radiant"

- Model 3-RA-50—Iceberg White
- Model 3-RA-51—Iceberg White/Black Pearl
- Model 3-RA-52—Dark Blue/Iceberg White
- Model 3-RA-54—Autumn Smoke/Espresso

3-RA-6 Series—The "Splendor"

- Model 3-RA-60—Mist Brown/Iceberg White
- Model 3-RA-61—Iceberg White/Black Pearl
- Model 3-RA-63—Iceberg White/Shrimp
- Model 3-RA-65—Dark Green/Iceberg White

RCA SALES CORPORATION

A RADIO CORPORATION OF AMERICA SUBSIDIARY
600 NORTH SHERMAN DRIVE
INDIANAPOLIS 1, INDIANA

RADIO SERVICE DATA

—File: 1962 No. 10—

3-RA-5 Series

Chassis No. RC-1202AE

3-RA-6 Series

Chassis No. RC-1202AF

Circuit Board No. 962507-2

SPECIFICATIONS

TUNING RANGE540-1620 kc
INTERMEDIATE FREQUENCY455 kc
TUBE COMPLEMENT
 (V1) RCA 12BE6Converter
 (V2) RCA 12BA6I-F Amplifier
 (V3) RCA 12AV6Detector, AVC and Audio Amp
 (V4) RCA 50C5Audio Output
 (V5) RCA 35W4Rectifier
NET WEIGHTApprox. 3¼ lbs.

POWER SUPPLY RATING
107-120 volts, 50-60 cycles or DC30 watts
AUDIO POWER OUTPUT
 Undistorted1.0 watts
 Maximum1.3 watts
LOUDSPEAKER
 Size and type3" x 5" P.M.
 Voice Coil Impedance3.2 ohms @ 400 cycles
TUNING DRIVE RATIO5½:1 (2¾ turns of knob)
CABINET DIMENSIONS
 Height7¾" Width12⅝" Depth4½"

DESCRIPTION

Models of the 3-RA-5 series and 3-RA-6 series are 5 tube (including rectifier) table style radios designed to receive the standard AM broadcast band from 540 kc to 1620 kc and to operate on a 107 to 120 volt, 50-60 cycle or DC power source. The two model series are basically similar with the 3-RA-6 series containing some deluxe features.

The antenna, chassis, loudspeaker, and dial drives are mounted to the front panel section of the two-piece molded plastic cabinet and the power line cord is secured to the hood back section of the cabinet.

When the hood back is removed, the power cord is disconnected from the chassis by means of a safety interlock connector to guard against a possibility of a shock hazard.

With the hood removed, both sides of the chassis are readily accessible for servicing thus eliminating the need to unmount the chassis.

A standard ferrite rod antenna in the 3-RA-5 series, or a

noise reducing "Filteramic" antenna in the 3-RA-6 series, is used to pick up the signal for the superhetrodyne circuitry. This circuitry consists of a pentagrid converter (RF oscillator and mixer) stage, an intermediate frequency amplifier stage,

SUPPLEMENTARY INFORMATION LISTINGS

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1962 No.

DESCRIPTION (Continued)

a demodulator (detector) and AVC stage, an audio frequency amplifier stage, and a power amplifier (output) stage. Plate and screen power is obtained from a half-wave vacuum-tube rectifier circuit. This chassis utilizes the 150 ma. series of tubes. The model 3-RA-6 series instruments also contain a dial pilot light.

The phenolic base "Security Sealed" printed wiring chassis

has all of the components mounted on one side of the base with their leads, or connections, extending through openings in the board and dip soldered to the printed wiring which is bonded to the opposite side.

The electrical impulses are converted into sound waves by a 3" x 5" P.M. loudspeaker having a voice coil impedance of 3.2 ohms at 400 cycles.

Captive Control Knobs

The control knobs of these instruments are held captive to the cabinet. The volume control knob is held to the cabinet by means of a retaining clip on the knob shaft inside of the cabinet and the tuning control knob is one piece with the knob shaft which is held to the cabinet by means of a "C" washer. If it should be necessary to unmount the chassis, the chassis should be pulled out of the knob.

Cabinet Disassembly

DO NOT ATTEMPT TO REMOVE THE KNOBS

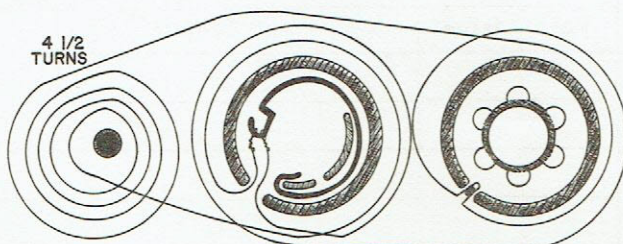
1. Remove the three cabinet assembly screws. (one at top center of back and two at bottom front)
2. Hold instrument face down with fingers extending around edge and under face.
3. Shake gently until sections separate. (fingers will catch front section)
4. Set instrument upright and complete removal of front section from hood back.

Chassis Reassembly to Cabinet Front (if unmounted)

1. Turn tuning capacitor to its FULLY OPEN position.
2. Turn dial to high end (1600 kc) so that the NOTCH in the capacitor drive pulley is UP.
3. Push formed wire spring (on capacitor shaft) into notch in drive pulley. (Squeeze spring together with long nose pliers, if necessary.)
4. Reinsert chassis mounting screws.

Cabinet Reassembly

1. Place cabinet front and chassis assembly slightly inside of and on the cabinet back so that the ribs on the front section rest on the outside of the ribs in the back section.
2. Push the front section straight into the back section.
3. Reinsert the three cabinet assembly screws.



DIAL CORD LENGTH - 30" TO LOOP ENDS

Dial Cord Assembly

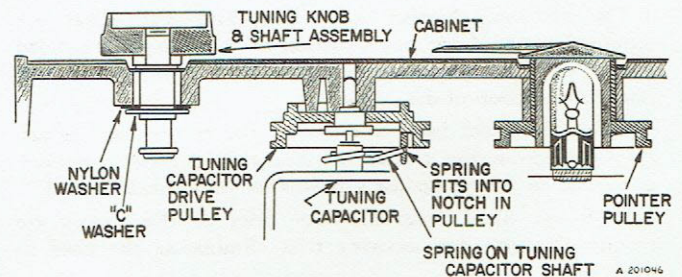
ALIGNMENT PROCEDURE

For all alignment operations connect low side of signal generator to common negative. Keep generator output as low as possible to avoid AVC action. Connect output indicator to voice coil terminals of loudspeaker. Set volume control to maximum.

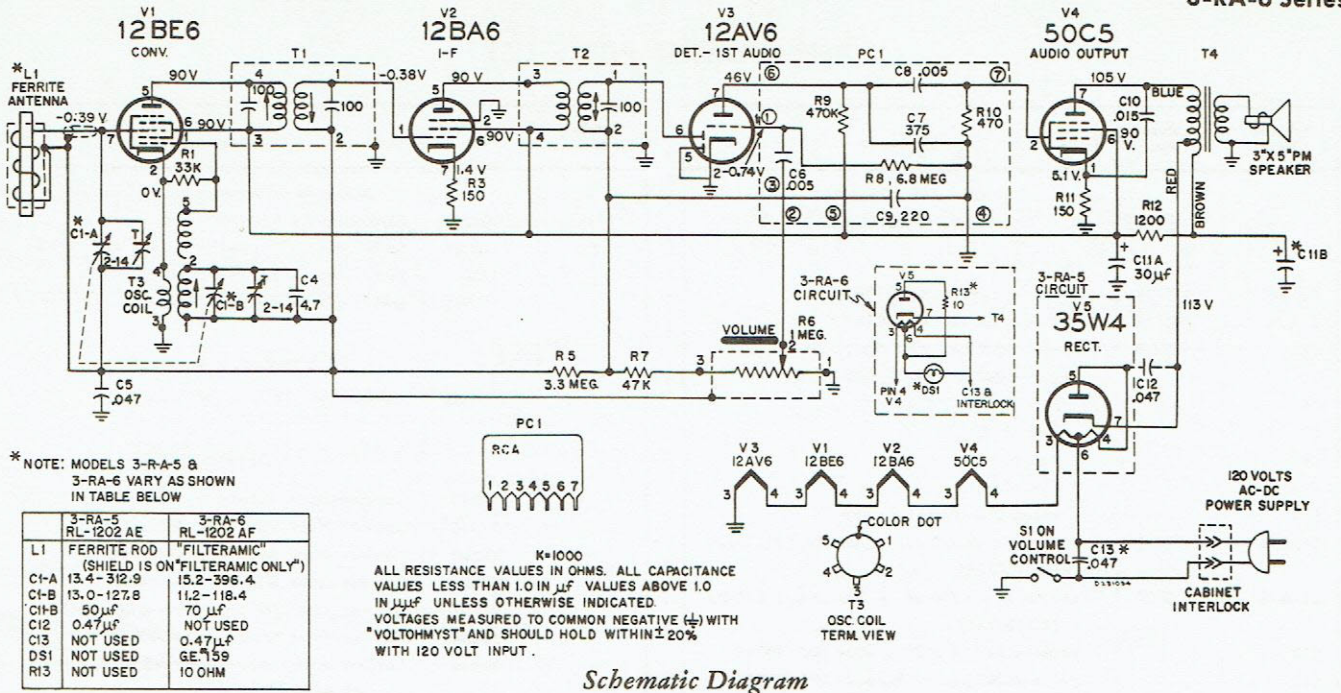
Step	Connect high side of signal gen. to—	Set signal gen. to—	Turn radio dial to—	Adjust—for peak output
1	Pin #1 of V2 (12BA6) through .01 μ f capacitor	455 kc (Modulated)	Quiet point near 1600 kc	T2 (2nd I-F trans.),
2	Pin #7 of V1 (12BE6) through .01 μ f capacitor			T1 (1st I-F trans.), top and bottom cores
3	Repeat steps 1 and 2			
4	Short wire placed near antenna to radiate signal	1620 kc (Modulated)	Gang fully open	C1-B-T (osc. trimmer)
5		1400 kc (Modulated)	1400 kc signal	C1-A-T (Ant. trimmer)
6		600 kc (Modulated)	600 kc signal (rock gang)	T3 (osc. coil)
7	Repeat steps 3, 4 and 5			

CAUTION

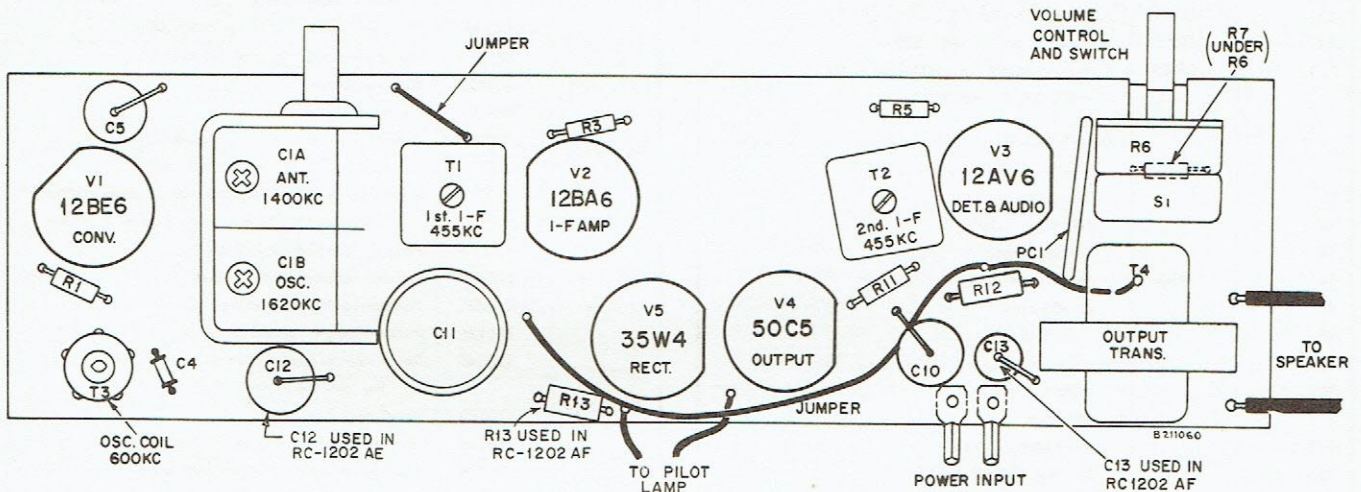
THE CHASSIS IS CONNECTED DIRECTLY TO THE POWER LINE. TO AVOID SHOCK HAZARD AN ISOLATION TRANSFORMER SHOULD BE USED DURING SERVICE WORK ON THE CHASSIS.



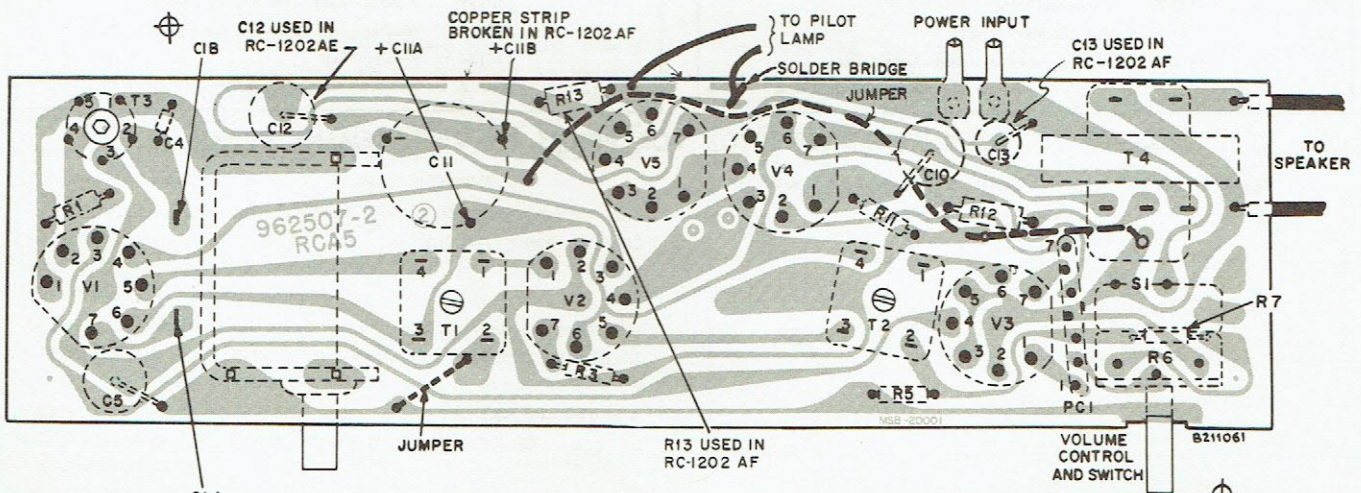
Tuning Drive Assembly



Schematic Diagram



Chassis Layout—View from Component Side



Chassis Wiring and Component—View from Wiring Side

REPLACEMENT PARTS LIST

Symbol No.	Stock No.	Description
CHASSIS ASSEMBLY RC-1202AE, AF		
CAPACITORS:		
C1A/B	110128	Variable, tuning (RC-1202AE)
C1A/B	110124	Variable, tuning (RC-1202AF)
C4	103440	ceramic—5.6 μf , ± 0.5 μf , 500v, N3300
C5		paper—0.047 μf , $\pm 20\%$, 400v
C6		Part of PC1
C7		Part of PC1
C8		Part of PC1
C9		Part of PC1
C10		paper—0.015 μf , $\pm 10\%$, 400v
C11A/B	110060	electrolytic—50/30 μf , + 100-0%, 150/150v (RC-1202AE)
C11A/B	110121	electrolytic—70/30 μf , + 100-10%, 150/150v (RC-1202AF)
C12		paper—0.047 μf , $\pm 20\%$, 400v (RC-1202AE)
C13		paper—0.047 μf , $\pm 20\%$, 600v (RC-1202AF)
DS1		Lamp—pilot—GE#159
L1	110127	Antenna—ferrite—(RC-1202AE)
L1	110132	Antenna—ferrite—(RC-1202AF)
PC1	106989	Circuit—printed circuit (includes C6, C7, C8, C9, R8, R9, R10)
RESISTORS—fixed, composition, $\pm 20\%$, $\frac{1}{2}$ watt unless otherwise specified		
R1		33,000 ohm
R3		150 ohm, $\pm 10\%$
R5		3.3 megohm
R6	110120	control—volume
R7		47,000 ohm
R8		Part of PC1
R9		Part of PC1
R10		Part of PC1
R11		150 ohm
R12		1200 ohm, 1 watt
R13		10 ohm (RC-1202 AF)
S1		Part of R6
T1	110057	Transformer—1st IF
T2	108008	Transformer—2nd IF
T3	110310	Coil—oscillator
T4	110133	Transformer—output
	110350	Circuit—printed circuit chassis, less tuning capacitor, volume control and

Symbol No.	Stock No.	Description
		output transformer.
	103236	Connector—AC interlock
	110061	Socket—tube, 7 pin miniature—for V1, V2, V3
	110709	Socket—tube, 7 pin miniature—for V4
	110831	Socket—pilot lamp (RC-1202AF)
SPEAKER ASSEMBLY		
	110068	Speaker—3" x 5" P.M., 3.2 ohm v.c.
MISCELLANEOUS		
	Y7245	Cabinet—front, Iceberg White—3-RA-50,-51
	Y7248	Cabinet—front, Dark Blue—3-RA-52
	Y7249	Cabinet—front, Autumn Smoke—3-RA-54
	Y7253	Cabinet—front, Mist Brown—3-RA-60
	Y7251	Cabinet—front, Iceberg White—3-RA-61,-63
	Y7254	Cabinet—front, Dark Green—3-RA-65
	Y7246	Cabinet—back, Iceberg White—3-RA-50,-52,-60,-65
	Y7247	Cabinet—back, Black Pearl—3-RA-51,-61
	Y7250	Cabinet—back, Espresso—3-RA-54
	Y7252	Cabinet—back, Shrimp—3-RA-63
	103620	Cable—power
	72953	Cord—drive
	110775	Escutcheon—tuning control—3-RA-5
	110776	Escutcheon—tuning control—3-RA-6
	110324	Knob—volume control knob, and tuning control knob and shaft assembly (set of 1 each)
	110777	Pointer—control dial—3-RA-5
	110778	Pointer—control dial—3-RA-6
	110782	Pulley—control dial drive
	110126	Pulley—tuning capacitor drive
	110547	Retainer—spring grip knob shaft retainer for volume knob
	110780	Retainer—pointer
	110136	Screw—shoulder—for drive cord pulleys
	109288	Spring—retaining—for volume knob
	110834	Spring—dial cord tension
	110137	Spring—chassis mounting
	110864	Spring—speaker mounting
	110135	Washer—nylon—for tuning knobs
	76221	Washer—"C" type—for tuning knob shaft
	110134	Washer—felt
	110779	Window—control dial—for 3-RA-6

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