

Instructions for RCA Victor 102

Four-Tube, 115-Volt AC/DC (Universal) Receiver

INSTALLATION

Location—The receiver should be located so that its power cord is within reach of an electrical outlet or lamp socket. Because of its light weight and small size, the instrument may be mounted upon a convenient shelf or upon an article of furniture (such as a piano or end-table) if desired. In any installation, however, care should be taken to avoid restriction of natural ventilation as would occur with the set resting upon or placed close to a radiator or other heating device.

Antenna—The proper length of antenna for use with the receiver should be determined by trial in each installation. In general, it is advisable always to use the shortest length which provides the desired signal pickup. The attached antenna (flexible black lead approximately 20 feet in length) when fully extended will provide satisfactory pickup in the majority of installations. In many cases, improved selectivity will be obtained by recoiling a portion of the lead.

Improved pickup for distant reception may be obtained by connecting the end of the antenna wire to a piping system (water, gas or heating), to a large-area conducting surface or to an external antenna system of from 25 to 75 feet in length. If the receiver is installed in a building of metallic construction, the shielding effect of that structure will greatly impede the passage of radio waves; hence, far better results ordinarily will be obtained with the attached wire either dropped out of a nearby window or connected to an outdoor antenna.

Power Supply—Connect the power cord to an electrical outlet upon which is impressed a supply voltage (either A. C.

—alternating current or D. C.—direct current) between the limits specified on the rating label attached to the bottom of the cabinet. Never operate the instrument from any voltage exceeding the maximum limit (125 volts). Consult your local power company if you are in doubt as to the actual voltage available.

NOTE—The power cord is of special construction and should not be shortened, tampered with, bent sharply or replaced with standard cord. It is normal for this cord to become slightly warm during operation of the receiver. If, at any time, the receiver fails to operate and the cord does not become properly warm, return the complete instrument to your dealer for installation of a new cord of the same type.

Tubes—The instrument is equipped and tested at the factory with RCA Radiotrons and is shipped with the tubes in their sockets. The set therefore is ready to operate when it is removed from the carton and external connections are made as heretofore described.

If, when first installed, the receiver either performs imperfectly or fails to operate, it is probable that one or more of the tubes or dome terminal (grid) clips have been jarred loose in shipment. Remove the cabinet rear panel (held in place by screws at the edges), then refer to the tube location diagram printed on the rating label and make certain that all tubes are pressed down firmly in their respective sockets and that the three grid clips are tightly attached to the dome terminals of the proper tubes.

OPERATION

Two operating controls only are used, both appearing upon the cabinet front panel. The left-hand knob is a combined volume control and power switch and the knob at the right is the station selector. The instrument should be operated as follows:

1. Apply power to the receiver by turning the left-hand knob clockwise from the "off" position of the switch. A definite "snap" should be heard at first, further rotation of the knob serving to increase the volume as required.

2. Allow approximately 30 seconds for the tube filaments to heat. Then, with the volume control fully advanced, proceed to rotate the station selector slowly until a signal is heard. Stations in the standard broadcast band (540-1500 kilocycles) will be received between dial settings of "100" and "10," approximately; police calls transmitted at frequencies up to 1712 kilocycles will be received near the "0" end of the scale.

IMPORTANT: When operating from a D. C. power supply, reception will be possible only with the connector plug inserted in that position which provides the correct polarity to the set. If no sound is heard from the loud-

speaker (signal or static interference), reverse the position of the connector plug in the outlet and repeat the above procedure.

3. Upon receiving a signal, reduce the volume level if necessary and then adjust the station selector (for best reproduction) to a position midway between the points where the signal disappears.

NOTE—When tuned to a strong local station with the volume control fully advanced, a condition may be observed where a certain amount of counter-clockwise rotation of the control will improve the quality of reproduction and actually increase the volume. This condition is caused by "overloading" and may be corrected simply by setting the volume control below the readily-apparent critical point.

4. When through operating, turn the power "off" by rotating the volume control counter-clockwise until the "snap" of the power switch is heard.

CAUTION: DISCONNECT INSTRUMENT FROM POWER SUPPLY BEFORE TOUCHING CHASSIS, TUBES OR METAL PARTS INSIDE CABINET.

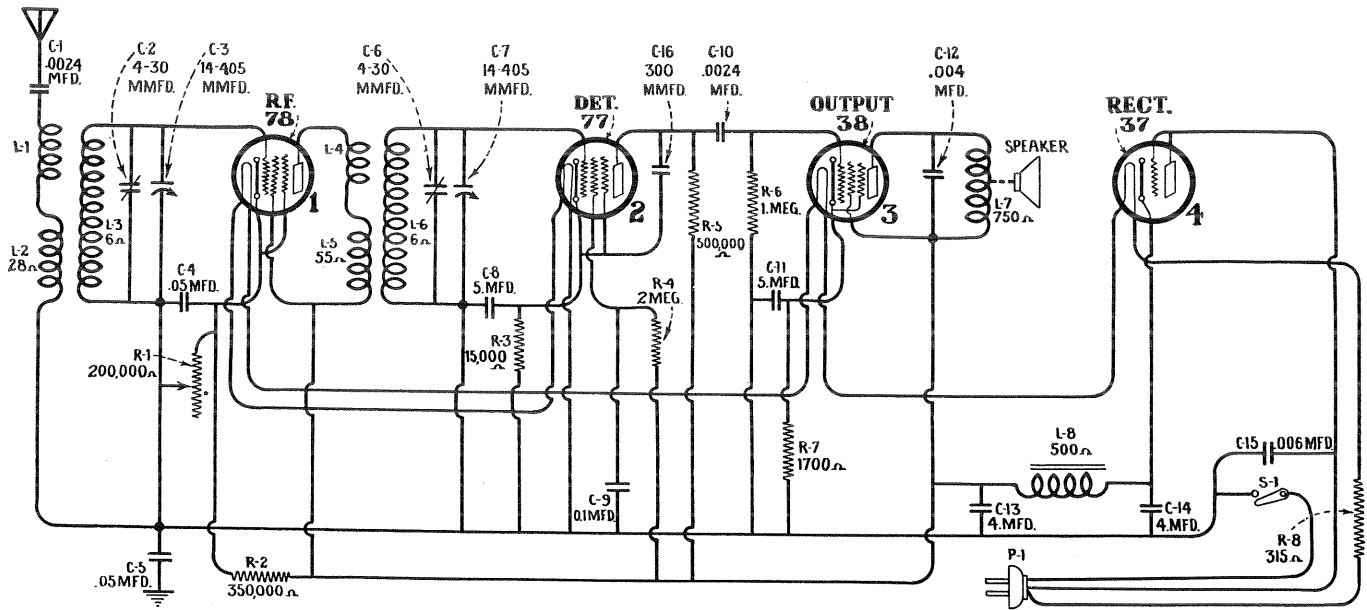


Figure A—Schematic Circuit Diagram

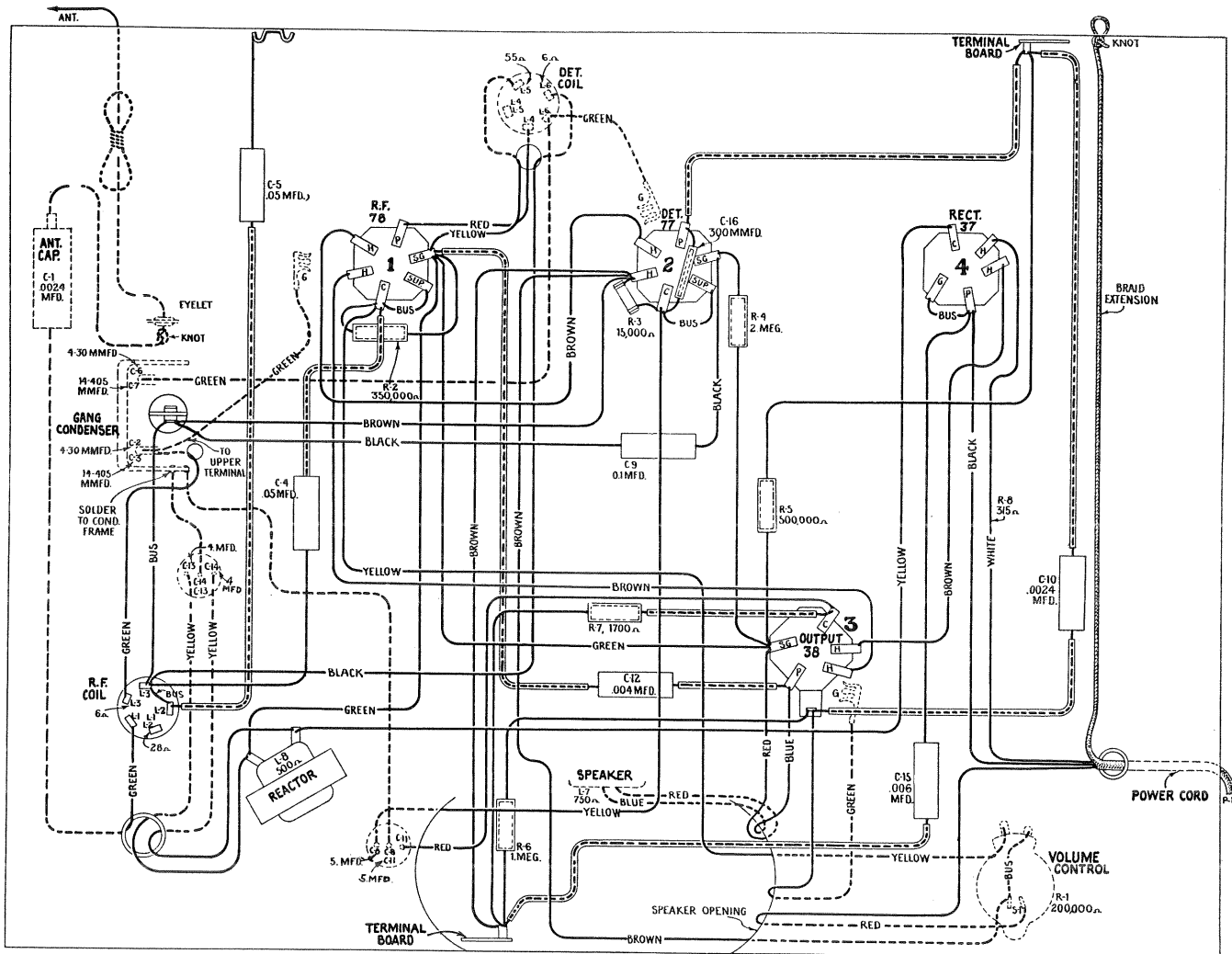


Figure B—Wiring Diagram

SERVICE DATA

Electrical Specifications

Voltage Rating . . . 105-120 Volts, 25-133 Cycles A. C. or D. C.
 Power Consumption 40 Watts
 Frequency Range 540 K. C.-1712 K. C.
 Type and Number of Radiotrons—
 1 RCA-77, 1 RCA-37, 1 RCA-38, 1 RCA-78—Total 4
 Undistorted Output 0.18 Watts

This receiver is an A. C.-D. C. table model tuned R. F. broadcast receiver. Features such as universal operation on both A. C. and D. C., wide tuning range, excellent performance and compact construction characterize this instrument. Figures A and B show the schematic and wiring diagrams

respectively. The voltage readings and replacement parts are given below.

The receiver is aligned at 1400 K. C. by means of the two trimmer capacitors located on the main tuning capacitor. The proper alignment is made by adjusting the trimmers for maximum output after tuning in a 1400 K. C. signal. This adjustment should be made when they are near their extreme minimum position. After alignment a check to make sure that a 1712 K. C. signal can be heard when the main tuning capacitor is near its extreme minimum position should be made. Stock No. 9050 Test Oscillator and Stock No. 7065 non-metallic screwdriver are desirable for making this adjustment.

RADIOTRON SOCKET VOLTAGES

Measured at Maximum Volume—115 Volt A. C. Line
 All Voltages on D. C. will be slightly lower

Radiotron No.	Cathode or Filament to Control Grid Volts	Cathode or Filament to Screen Grid, Volts	Cathode or Filament to Plate, Volts	Plate Current M. A.	Filament or Heater Volts
1. RCA-78 R. F.	2.5	105	105	7.0	6.0
2. RCA-77 Det.	*2.0	17.0*	*40	0.1	6.0
3. RCA-38 Output	10.0	100	95	5.5	6.0
4. RCA-37 Rect.	—	—	115 RMS	16.0	6.0

* Impossible to measure on ordinary voltmeter.

Note—Above voltages will be approximately 5% lower on 115 volts D. C. except for heater voltages which will be the same.

REPLACEMENT PARTS

Insist on genuine factory tested parts, which are readily identified and may be purchased from authorized dealers

Stock No.	DESCRIPTION	List Price	Stock No.	DESCRIPTION	List Price
CHASSIS ASSEMBLIES					
2747	Cap—Contact Cap—Package of 5	\$0.50	6819	Cord—Power cord—315 ohms (R8, P1)	\$1.00
3048	Resistor—500,000 ohms—Carbon type— $\frac{1}{2}$ watt (R5)—Package of 5	1.00	6820	Coil—RF coil (L1, L2, L3) . . . . .	.86
3076	Resistor—1 megohm—Carbon type— $\frac{1}{2}$ watt (R6)—Package of 5	1.00	6821	Coil—Detector coil (L4, L5, L6) . . . . .	.96
3537	Reactor—Filter reactor (L8)	1.10	6822	Condenser—2-gang variable tuning condenser (C2, C3, C6, C7)	2.34
3542	Volume control (R1, S1)	1.18	6823	Capacitor—Two 4. mfd. capacitors (C13, C14)	1.14
3713	Capacitor—0.05 mfd. (C4, C5) . . . . .	.32	6824	Capacitor—Two 5. mfd. capacitors (C8, C11) . . . . .	.94
3860	Socket—5-contact Radiotron socket . . . . .	.32	7485	Socket—6-contact Radiotron socket . . . . .	.40
3932	Capacitor—2400 mmfd. (C10) . . . . .	.30	REPRODUCER ASSEMBLIES		
3998	Resistor—15,000 ohms—Carbon type— $\frac{1}{4}$ watt (R3)—Package of 5	1.00	7712	Support—Cone support . . . . .	.50
4007	Capacitor—2400 mmfd. (C1) . . . . .	.35	7713	Mechanism—Speaker mechanism complete (L7)	3.72
4046	Resistor—2 megohm—Carbon type— $\frac{1}{2}$ watt (R4)—Package of 5	1.00	9470	Reproducer—Complete	4.62
4068	Lead—Antenna lead . . . . .	.30	9471	Cone—Speaker cone—Package of 5	3.50
4069	Capacitor—0.1 mfd. (C9) . . . . .	.36	MISCELLANEOUS PARTS		
4070	Capacitor—0.004 mfd. (C12) . . . . .	.42	4076	Escutcheon—Volume control escutcheon—Package of 2 . . . . .	.26
4071	Capacitor—0.006 mfd. (C15) . . . . .	.42	4077	Escutcheon—Station selector escutcheon—Package of 2 . . . . .	.26
4072	Capacitor—300 mmfd. (C16) . . . . .	.26	4078	Knob—Station selector knob—Package of 5 . . . . .	.75
4073	Resistor—350,000 ohms—Carbon type— $\frac{1}{2}$ watt (R2)—Package of 5	1.00	4079	Foot—Rubber foot—Package of 4 . . . . .	.22
4074	Resistor—1700 ohms—Carbon type—1 watt (R7)—Package of 5	1.10	4096	Knob—Volume control knob—Package of 5 . . . . .	.75