RCA RZF 395 Service Manual (1969 No. 33)

RCA

Transceiver Service Data

FILE
1969
No. 33

RZF 395

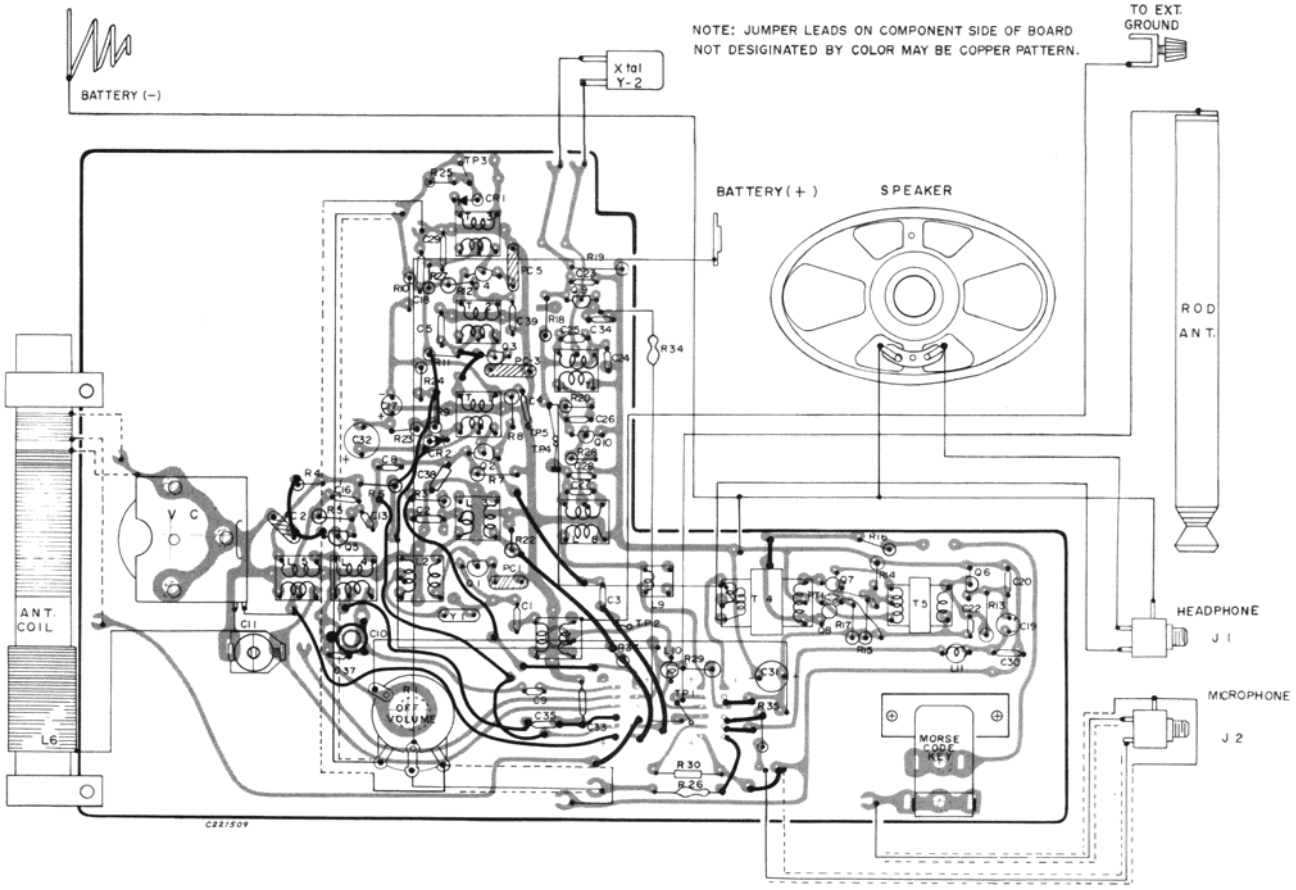
RCA Sales Corporation

An RCA Corporation Subsidiary

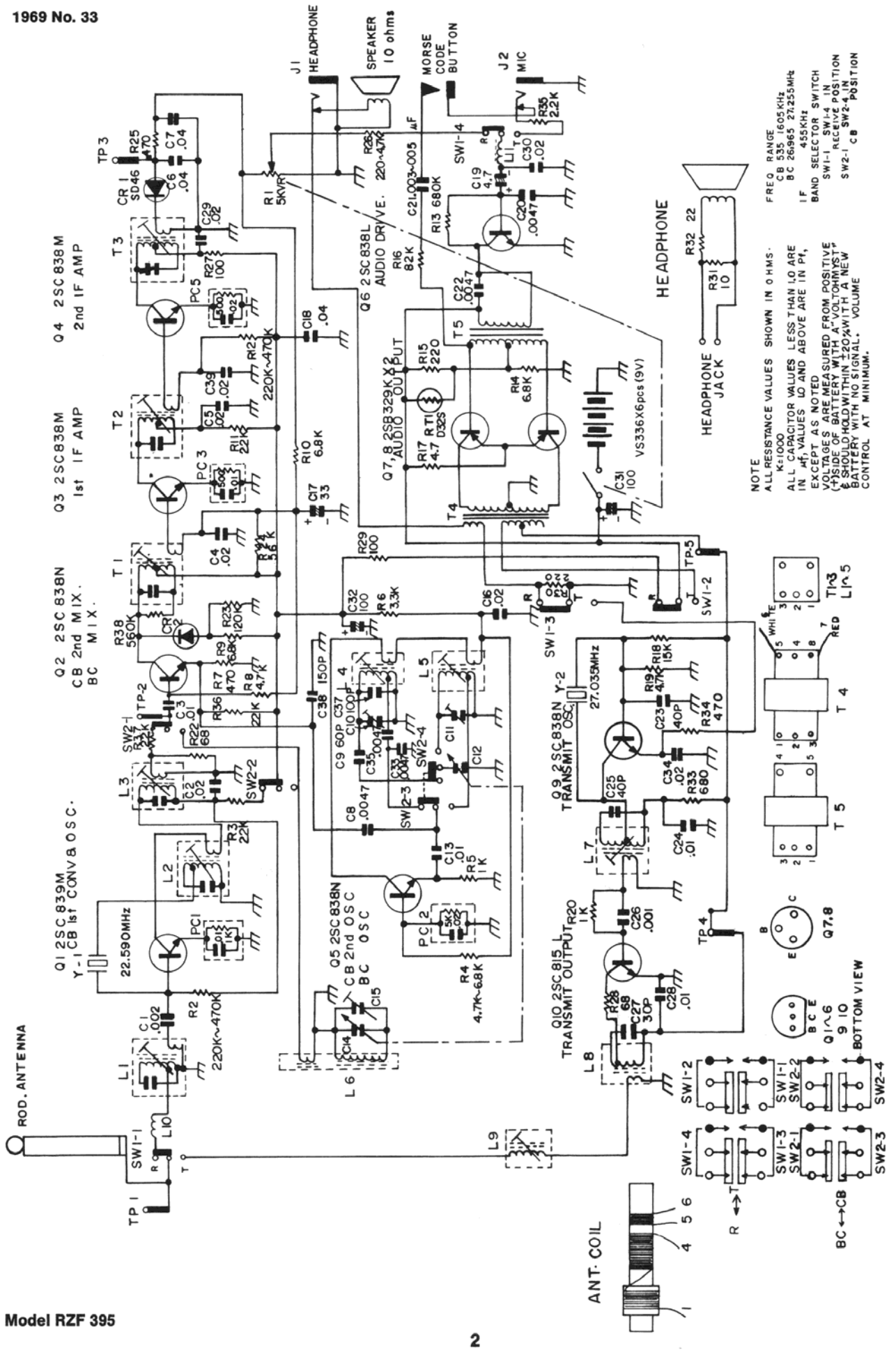
Product Performance

600 North Sherman Drive, Indianapolis, Indiana 46201

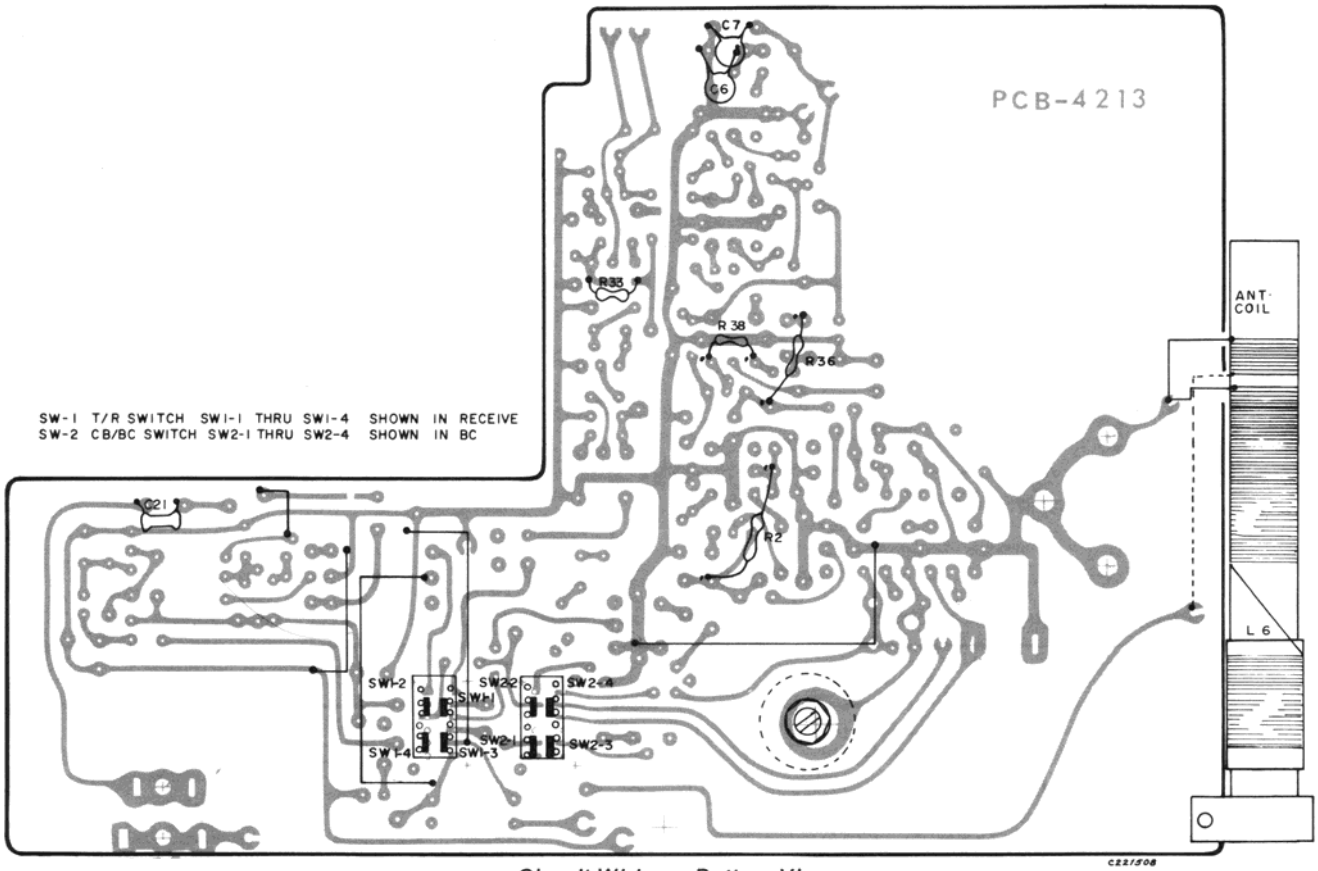
Model RZF 395A—Blue



Component Location (Circuit Wiring)



Schematic Diagram



Circuit Wiring—Bottom View

TRANSISTOR VOLTAGE & STAGE

Q NO.	TYPE	Coll (V)	Base (V)	Emitt (V)	STAGE
Q 1	2 S C 839 (M)	6 · 1	1·8	1 · 1	CB 1st CONV & OSC
Q 2	2 S C 838 (N)	8 · 4 8 · 5	0·94 0·94	0·32 0·36	CB 2nd MIX. BC MIX.
Q 3	2 S C 838 (M)	7 · 4	0·99	0·28	1st IF AMP
Q 4	2 S C 838 (M)	8 · 4	1 · 4	0·7 1	2nd IF AMP
Q 5	2 S C 838 (M)	4 · 0	1 · 6	1 · 1	CB 2nd OSC BC OSC
Q 6	2 S C 838 (L)	8 · 5	0·69	0	AF AMP
Q 7	2 S B 329 (K)	0	8 · 8	9 · 0	AF OUTPUT
Q 8	2 S B 329 (K)	0	8 · 8	9 · 0	AF OUTPUT
Q 9	2 S C 838 (N)	7 · 1	1 · 9	2 · 1	CB TRANSMIT OSC
Q 10	2 S C 8 1 5 (L)	8 · 0	0	0	CB TRANSMIT OUTPUT
CR 1	S D 46				DET
CR 2	S D 46				AGC
RT - 1	D 32 S				THERMISTOR

A201465

GENERAL DESCRIPTION

This portable base station transceiver/tunable citizens band receiver and AM receiver is fully transistorized. A single channel CB transmitter for use in the class D citizens band is incorporated.

The transmitter is crystal controlled and CB receiver is crystal controlled in the 1st conversion stage and tunable in 2nd conversion stage. Transmitter crystal originally supplied with this unit is for operation on channel 7 (27.035MHz). Receiver crystal is factory installed and no installation changes are necessary for other channel operation. Operation on any of the other 22 channels can be accomplished by substituting the proper crystals. Realignment is not normally required when crystals are changed.

This unit has been clarified to comply with Part No. 15, Subpart E, Section 5, 205 of the FCC regulations.

Battery Replacement

The source voltage for this instrument is 9 volts, six size D cells; RCA VS336 or equivalent. These are housed in a subpanel compartment and access is through removable lid on front panel.

To Install or Replace Batteries

1. Remove the battery cover at the middle of the front panel. Move slide to left pull lid upward.

2. Two batteries are under front panel and must be installed prior to insertion of four in rear receptacle. Observe polarity as indicated on label.

3. Install the battery cover and slide the knob as indicated on battery cover.

Chassis Removal

Before removing chassis, the unit should be switched off and batteries removed.

1. Pull out the tuning knob and volume knob.

2. Set the whip antenna in vertical position.

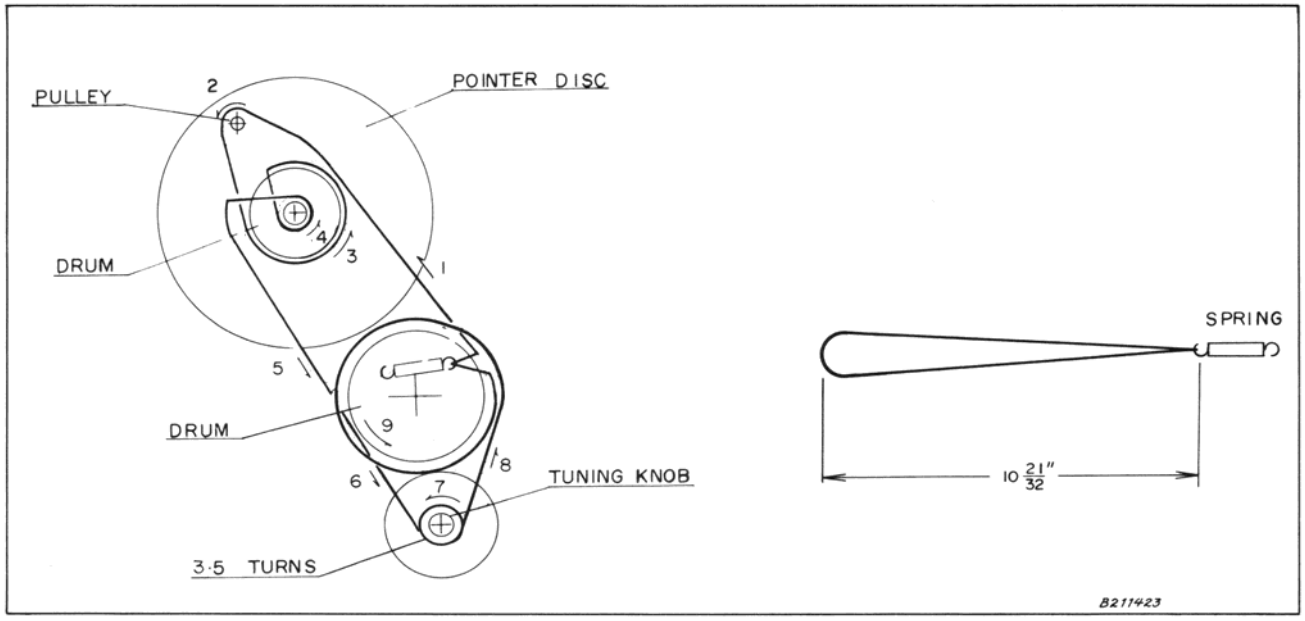
3. Loosen the screw under the tuning knob and two screws under the whip antenna groove.

4. Lift the panel and pull out the attached spring from the bottom of upper cabinet. Chassis assembly and front panel can be then separated from the cabinet.

5. To remove the printed board assembly, remove 7 screws on the printed board.

NOTE:

All transmitter adjustments or tests made while radiating energy or coincident with the servicing of this equipment for the purpose of restoring compliance with FCC regulation must be made by or under the immediate supervision and responsibility of a person holding a first or second class commercial radio operator license who will be held responsible for the proper functioning of the equipment at the conclusion of such adjustments or tests.



Dial Cord Arrangement

ALIGNMENT PROCEDURES

INSTRUMENT REQUIRED

1. RF Signal Generator (RCA WR-50B or equivalent)
2. Vacuum-Tube Voltmeter (RCA WR-69A or equivalent)
3. Thin non-metallic shaft screwdriver alignment tool

GENERAL CONDITIONS

1. Signal input must be kept as low as possible to avoid AVC action. (Set output indicator to highest sensitivity.)
2. Standard modulation is 400 cycle at 30% amplitude.

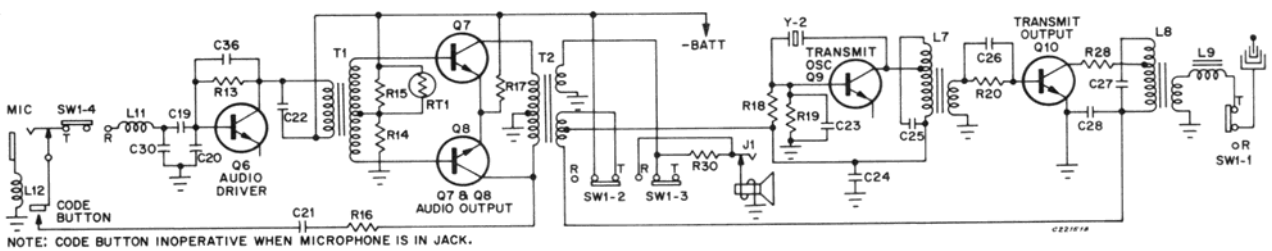
Step	Signal Source Connected to—	Output Indicator Connected to—	Set Signal to—	Set Radio Dial to—	Adjust—	Adjust for—	Step
1	Set function switch to BC						1
2	RF Signal Generator— A standard radiating loop or loop of wire placed near BC antenna	V.T.V.M.— across voice coil	455kHz	Gang closed	T1 (1st IF)	Max.	2
3					T2 (2nd IF)	Max.	3
4					T3 (3rd IF)	Max.	4
5	Repeat steps 2 thru 4 as necessary to obtain maximum sensitivity						5
6	RF Signal Generator— A standard radiating loop or loop of wire placed near BC antenna	V.T.V.M.— across voice coil	525kHz	Gang closed	L5 (Osc. coil)	Max.	6
7			1620kHz	Gang open	C11 (Osc. trim)	Max.	7
8			1400kHz	1400kHz (rock gang)	C15 (Ant. trim)	Max.	8
9			600kHz	600kHz (rock gang)	L6 (Ant. coil)	Max.	9
10	Repeat steps 6 thru 8 as necessary to obtain best tracking						10
11	Set function switch to CB						11
12	RF Signal Generator— whip antenna through 10pF dummy antenna	V.T.V.M.— across voice coil	26.965MHz	Channel 1 (rock gang)	L4 (Osc. coil)	Max.	12
13			27.255MHz	Channel 23 (rock gang)	C10 (Osc. coil)	Max.	13
14	Repeat steps 11 thru 13 as necessary to obtain best tracking						14

TRANSMITTER

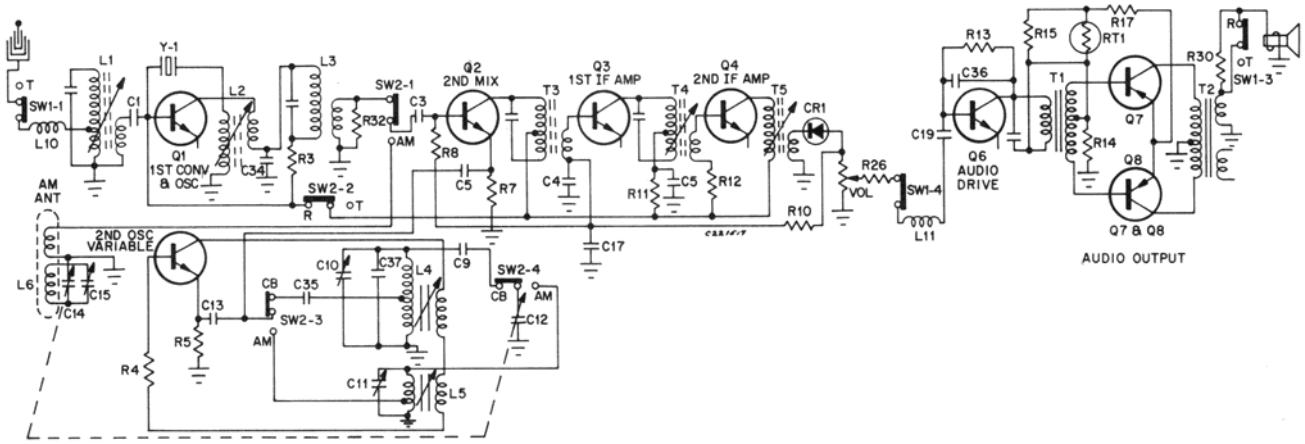
Alignment Conditions

1. CB/BC switch to be switched CB position.
2. TRANSMIT/RECEIVE switch to be switched TRANSMIT position.
3. Fully extend the whip antenna.
4. Remove the leadwire out of the TP4 and connect the DC ammeter between TP4 and the leadwire (+ for leadwire).
5. Field strength meter placed in position near extended antenna. Set up a field strength meter at the exact transmitting frequency.
6. Insert the plug of Microphone into Mic. jack J2 and hold the microphone in hand.
7. Turn the core of oscillator coil L7 for max. field intensity. (Core to be inside 1 turn from max.)
8. Turn the core of tank coil from min. reading of DC ammeter.
9. Turn the core of loading coil L9 for max. field intensity. (Core to be inside 1½ turn from max.)
10. Turn the core of L8 for 9.5mA to 11.5mA of DC ammeter reading.

SIMPLIFIED CIRCUIT—TRANSMIT MODE



SIMPLIFIED CIRCUIT—RECEIVE MODE



REPLACEMENT PARTS

NOTE: See Schematic for Values, Wattage and Tolerance of Standard Electrical Components not listed.

SYMBOL NO.	STOCK NO.	DESCRIPTION
		Radio Chassis RZF395A
C1	165187	Capacitor—0.002μf 50v., GMV, cer.
C2	117706	Capacitor—0.02μf +80—20%, 50 v., cer.
C3	117604	Capacitor—0.01μf 50v., GMV, cer.
C4	117779	Capacitor—0.02μf 50 v., GMV, cer.
C5	117706	Capacitor—0.02μf +80—20%, 50v., cer.
C6	117799	Capacitor—0.04μf +80—20%, 50v., cer.
C7	117799	Capacitor—0.04μf +80—20%, 50v., cer.
C8	165188	Capacitor—0.0047μf 20%, 50v., cer.
C9	116220	Capacitor—60ρf 5%, 50v., cer.
C10	165186	Capacitor—40ρf, variable
C11	165185	Capacitor—8ρf, variable
C12	165184	Capacitor—tuning
C13	117604	Capacitor—0.01μf 50v., GMV, cer.
C14	165184	Capacitor—tuning
C15	165184	Capacitor—variable
C16	117706	Capacitor—0.02μf +80—20%, 50v., cer.
C17	126920	Capacitor—33μf 6.3v., elec.
C18	117799	Capacitor—0.04μf +80—20%, 50v., cer.
C19	127478	Capacitor—4.7μf 10v., elec.
C20	165188	Capacitor—0.0047μf 20%, 50v., cer.
C21	117773	Capacitor—0.005μf 20%, 50v., mylar
C22	165188	Capacitor—0.0047μf 20%, 50v., cer.
C23	116218	Capacitor—40ρf 5%, 50v., cer.
C24	117604	Capacitor—0.01μf 50v., GMV, cer.
C25	116218	Capacitor—40ρf 5%, 50v., cer.
C26	165183	Capacitor—0.001μf 50v., GMV, cer.
C27	116221	Capacitor—30ρf 5%, 50v., cer.
C28	117604	Capacitor—0.01μf 50v., GMV, cer.
C29	117706	Capacitor—0.02μf +80—20%, 50v., cer.
C30	117706	Capacitor—0.02μf +80—20%, 50v., cer.
C31	129357	Capacitor—100μf 10v., elec.
C32	129357	Capacitor—100μf 10v., elec.
C33	165188	Capacitor—0.0047μf 20%, 50v., cer.
C34	117706	Capacitor—0.02μf +80—20%, 50v., cer.
C35	165188	Capacitor—0.0047μf 20%, 50v., cer.
C37	118449	Capacitor—100ρf 5%, 50v., cer.
C38	165189	Capacitor—150ρf 5%, 50v., cer.
C39	117706	Capacitor—0.02μf +80—20%, 50v., cer.
CR1	129474	Diode—detector
CR2	129474	Diode—AGC
J1	129116	Jack—microphone
L1	165144	Coil—CB antenna
L2	165145	Coil—CB OSC.
L3	165146	Coil—CB I.F.
L4	165147	Coil—CB osc.
L5	165148	Coil—BC osc.
L6	165149	Antenna—Ferrite Rod
L7	165150	Coil—CB Transmitter osc.
L8	165151	Coil—tank
L9	165153	Coil—transmitter loading
L10	165152	Coil—receiver loading
L11	165154	Coil—choke
PC1	165155	Circuit—printed
PC2	165156	Circuit—printed
PC3	165157	Circuit—printed
PC5	165157	Circuit—printed
Q1	129512	Transistor—conv./osc.
Q2	165190	Transistor—CB/BC mixer, 2SC838N
Q3	129512	Transistor—I.F. amp.
Q4	129512	Transistor—I.F. amp.
Q5	165190	Transistor—CB/BC osc., 2SC838N
Q6	129513	Transistor—A.F. amp.
Q7	165191	Transistor—outpit, 2SB329K
Q8	165191	Transistor—outpit, 2SB329K
Q9	165190	Transistor—Transmitter osc., 2SC838N
Q10	165192	Transistor—Transmitter output
R1	165193	Resistor—control, On/off, vol.
RT1	129501	Thermistor
SW1	165194	Switch—CB/BC transmit
SW2	165194	Switch—receiver
T1	129134	Transformer—input
T2	165159	Transformer—output
T3	129502	Transformer—I.F.
T4	129379	Transformer—I.F.
T5	165160	Transformer—I.F.
Y1	165195	Crystal—receiver, 22.590MH
Y2	165196	Crystal—transmitter, 27.035MH
		MISCELLANEOUS
	165158	Antenna—Telescoping
	165161	Belt—MIC./earphone holder
	165156	Cabinet—top, blue
	165157	Cabinet—bottom, blue
	165162	Cover—battery
	165163	Dial—Crystal
	165164	Dial—channel indicator
	165165	Drum—tuning capacitor
	165166	Drum—dial indicator
	165167	Emblem—RCA
	165168	Headphone
	165169	Holder—crystal
	165170	Knob—tuning, on/vol.
	165171	Knob—code key
	165172	Label—morse code
	165173	Microphone
	127400	Nut—3 mm, pulley
	127622	Nut—2.6 mm, for L6
	165174	Overlay—controls
	165175	Panel—around dial
	120287	Screw—3 × 8 mm, rod antenna & dial panel
	123611	Screw—2.6 × 6 mm, tuning drum
	123641	Screw—3 × 4 mm, rod antenna washer
	129274	Screw—2.6 × 8 mm, speaker, printed circuit board & L6
	165176	Shaft—code key
	165177	Speaker—10 ohm 0.5w.
	165178	Spring—code key shaft
	165179	Spring—code key
	165180	Spring—battery cover
	165181	Terminal—battery, neg.
	165182	Terminal—battery, pos.
	123600	Washer—3 mm, rod antenna
		—order from RCA Sales Corporation—
	1407486-2	Book—customer instruction

Specifications Subject to Change Without Notice

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