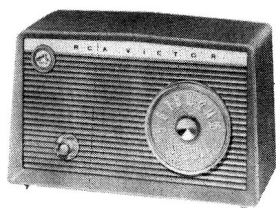
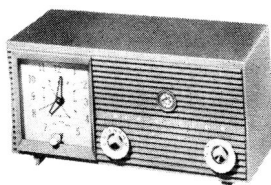




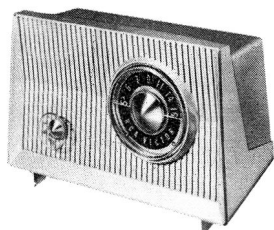
RCA VICTOR



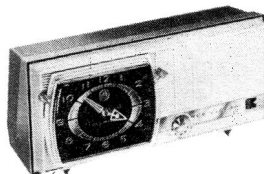
MODEL NIPPER VIII



MODEL C-419



MODEL X-408



MODEL C-422

RADIO RECEIVER MODELS C-419 C-422 NIPPER VIII - X-408 **SERVICE DATA**

— 1959 No. 2 —

ISSUED BY
SERVICE DIVISION
RCA VICTOR COMPANY, LTD.
MONTREAL, CANADA

GENERAL DESCRIPTION

The Models X-408 and Nipper VIII are five tube (including rectifier) table model radio receivers designed for operation on 115 volts AC-DC power supply. The Models C-419 and C-422 are five tube (including rectifier) table model clock-radios designed for operation on 115 volt, 60 cycle power supply.

The chassis is of the "printed wiring" type in which all components, except antenna, speaker (and clock-on clock radios) are mounted on an insulation plate. All wiring is printed, and all components connections are on the underside of the insulation plate. A conventional superheterodyne circuit is employed using 150 milliamperes series-string miniature tubes.

Models X-408, C-419 and C-422 feature a calibrated volume control knob with permits accurate presetting of the volume control.

The clock-timer mechanism incorporated on Model C-419, operates continuously when connected to the power service. A moving sweep-record hand indicates that the clock is in operation. The clock-timer features a clock controlled switch which will turn the radio on at a time predetermined up to 11 hours in advance (Auto).

The Model C-422 incorporates a "lever-matic" clock timer which operates continuously when connected to the power supply. The clock timer features a clock controlled switch which will: (1) turn the radio off after a period of operation to 60 minutes (sleep); (2) turn the radio on at a predetermined time up to 11 hours in advance (Auto), and sound a buzzer alarm (if desired) a short time after the radio is energized. Lever type clock-timer function controls are located at the perimeter of the clock face for maximum ease of operation.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

TUNING RANGE 540-1,600 kc

INTERMEDIATE FREQUENCY 455 kc

TUBE COMPLEMENT

- (1) RCA 12BE6 Converter
- (2) RCA 12BA6 I.F. Amplifier
- (3) RCA 12AV6 Det.-AVC-A.F. Amp.
- (4) RCA 50C5 Output
- (5) RCA 35W4 Rectifier

POWER SUPPLY RATING (X-408, NIPPER VIII)

115 volts d. c. or 50 to 60 cycles a. c. 30 watts

POWER SUPPLY RATING (C-419, C-422)

115 volts, 60 cycles, a. c. 35 watts

CAUTION: DO NOT CONNECT MODELS C-419, C-422 TO A D.C. POWER SUPPLY.

TUNING DRIVE RATIO 1:1 (direct drive)

LOUDSPEAKER

Size and type 4 in. P.M.
Voice coil impedance 3.2 ohms at 400 cycles

POWER OUTPUT

Undistorted 1.0 watts
Maximum 1.3 watts

WEIGHT Approximately 2¾ lbs

OPERATING INSTRUCTIONS (C-419)

To Set Clock Time—Pull out and turn TIME SET knob (at back of cabinet).

To Set Wake-up Time—Push in and turn TIME SET knob (at back of cabinet).

To Play the Radio—Turn SERVICE knob to "ON." Turn TUNING knob to select desired station and adjust VOLUME as desired. Turn SERVICE knob to "OFF" when through listening.

For "Radio Wake-up" Operation—With SERVICE knob turned to "ON," tune in the desired station and adjust volume level. Turn SERVICE knob to "AUTO." The radio will turn on automatically at the time for which the time has been set.

IMPORTANT—KEEP SERVICE KNOB AT "OFF" POSITION WHEN INSTRUMENT IS NOT IN USE.

OPERATING INSTRUCTIONS (C-422)

To Set Clock Time—Push in and turn TIME SET knob (at back of cabinet).

To Set Wake-up Time—Turn TIME SET knob (at back of cabinet).

To Play the Radio—Move the SERVICE (Right Side) lever to "ON." Turn TUNING knob to select desired station and adjust VOLUME as desired. Move SERVICE lever to "OFF" when through listening.

For "Wake-up Music" Operation—Move SERVICE lever to "ON," tune in the desired station, adjust volume level, then move SERVICE lever to "AUTO." The radio will turn on automatically at the time for which the clock has been preset.

For "Sleep-Music" Operation—Move the SLEEP lever to the desired playing time (up to 60 minutes), TUNE in the desired station and adjust VOLUME as desired. "SLEEP" operation can be used individually or in conjunction with "Wake-up" operation.

The SERVICE lever may be moved to the "ALARM" position which will cause a buzzer-alarm to sound a short time after the radio is energized.

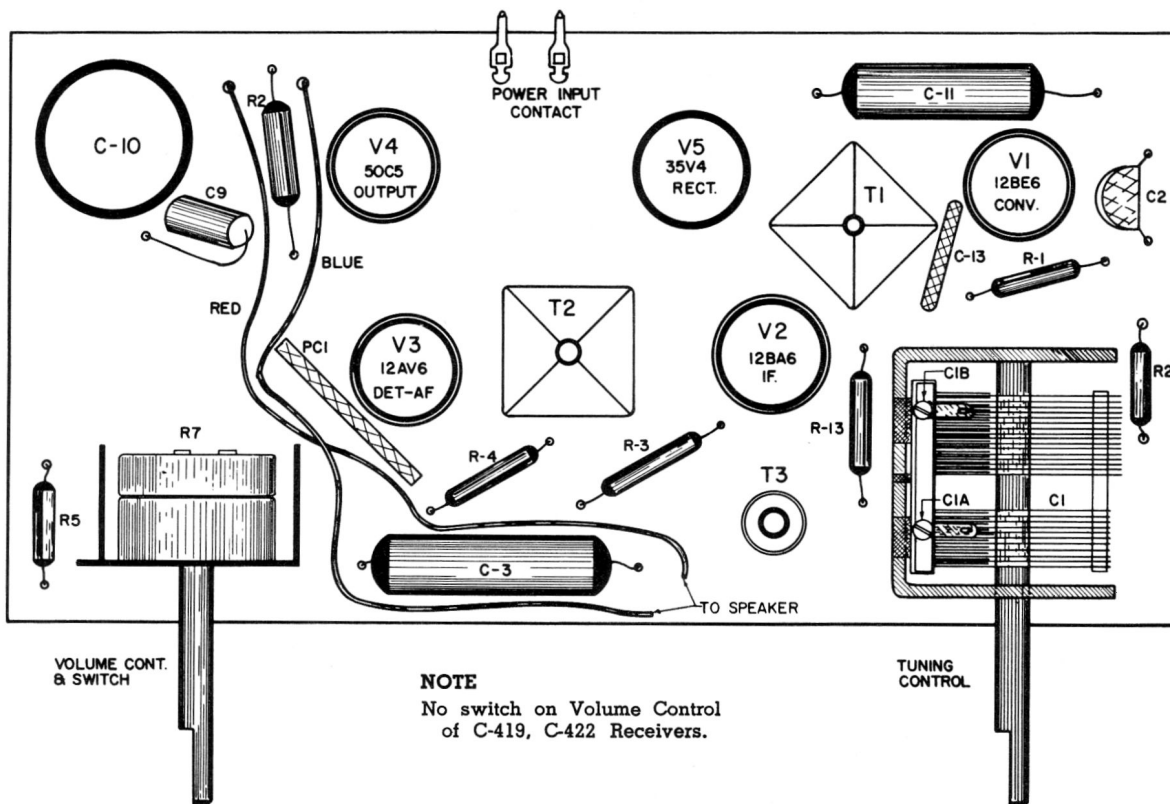
IMPORTANT—KEEP SERVICE LEVER AT "OFF" POSITION WHEN INSTRUMENT IS NOT IN USE.

Alignment Procedure

Test-Oscillator—For all alignment operations, connect the low side of the test-oscillator through an isolating capacitor to the "common negative wiring." Keep the oscillator output as low as possible to avoid a-v-c action.

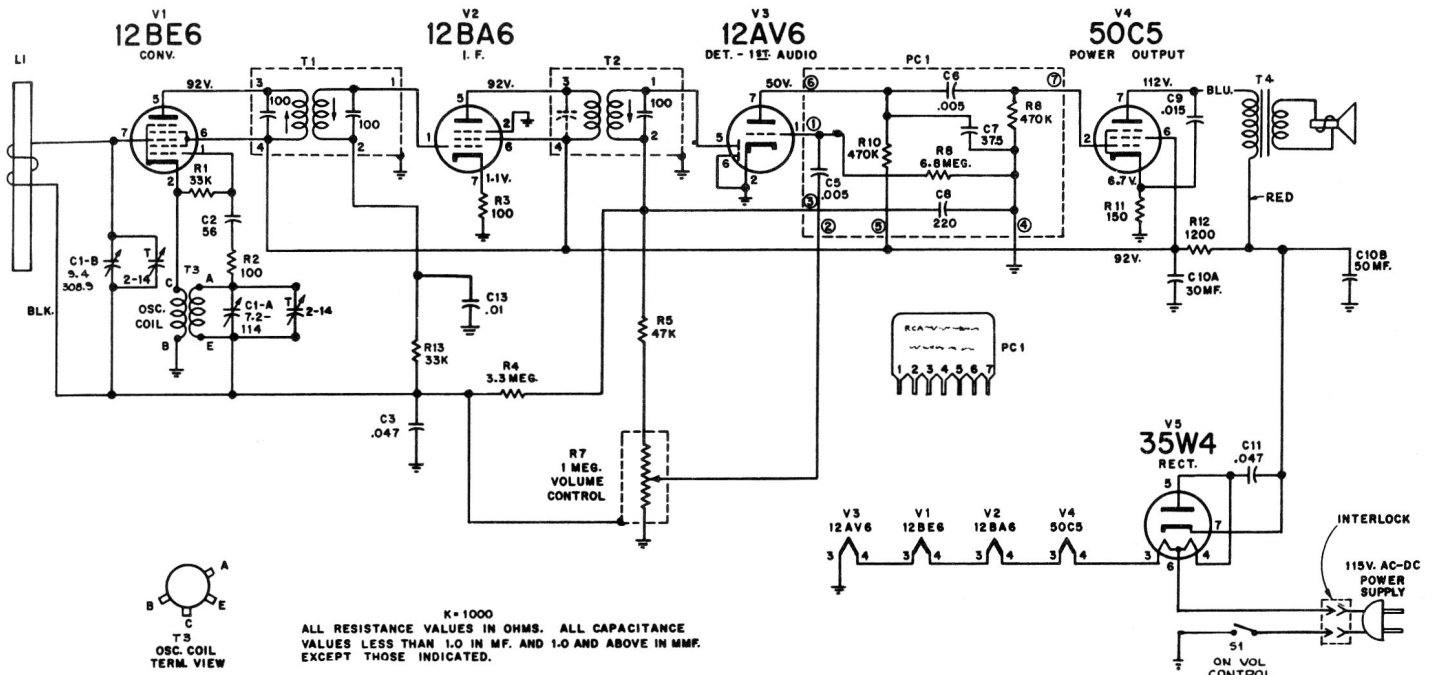
An isolation transformer (115 v./ 115 v.) may be necessary for the receiver if the test-oscillator is also a.c. operated.

Step	Connect the high side of test-oscillator to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. output
1	12BA6 I-F grid through .01 mfd. capacitor	455 kc	Quiet-point 1,600 kc end of dial	T2 (top) 2nd I-F trans.
2	Stator of C1-B through .01 mfd.			T1 (top and bottom) 1st I-F trans.
3	Short wire placed near loop to radiate signal	1,620 kc	Gang fully open	osc. trimmer C1-A
4		1,400 kc	1,400 kc signal	ant. trimmer C1-B
5		600 kc	600 kc signal	osc. coil T-3 (rock gang)
6		Repeat steps 3, 4, and 5		

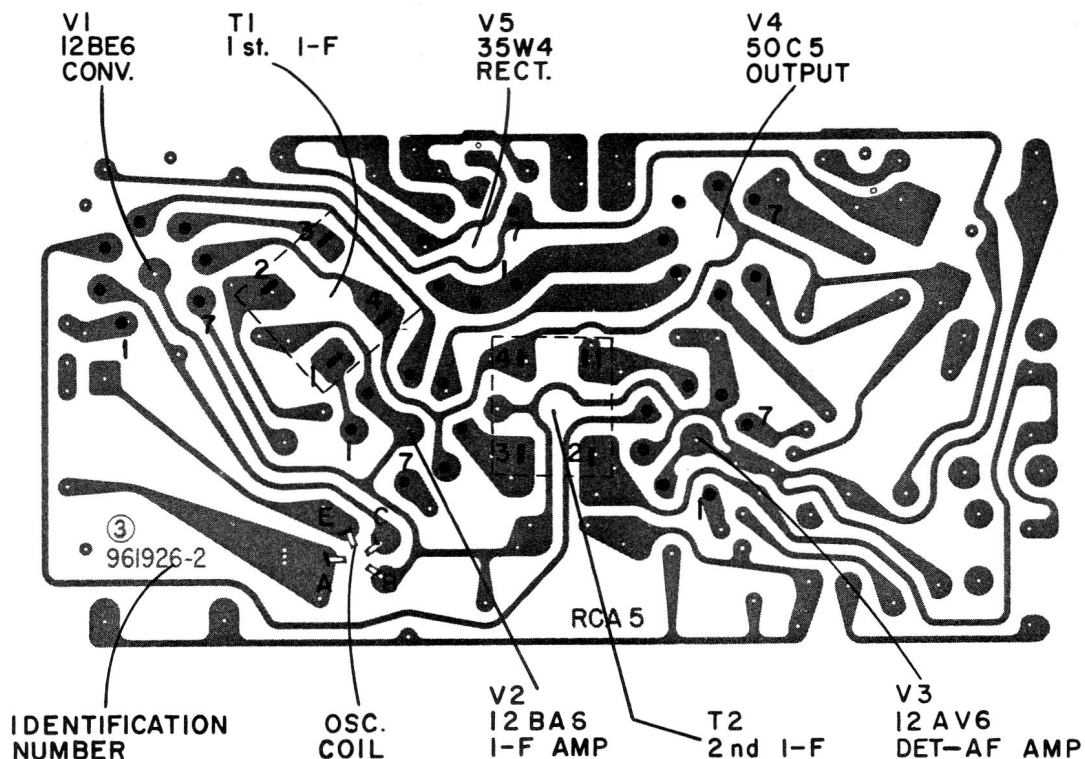
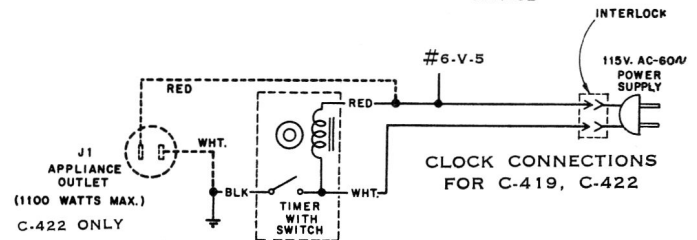


NOTE
No switch on Volume Control of C-419, C-422 Receivers.

Tube and Trimmer Locations



Schematic Diagram



The assembly represented above is viewed from the wiring side of the board.

The printed wiring, on the near side of the board, is presented in "phantom" view superimposed on the component layout of the reverse side.

CHASSIS REMOVAL (X-408, C-422)

1. Remove three cabinet holding screws.
2. Grip cabinet with two hands allowing fingers to extend over edges of cabinet front.
3. Hold cabinet, front down, and shake in a vertical direction. Cabinet assembly will separate and the fingers will limit the separation.
4. The cabinet front and chassis assembly may now be separated completely.

CABINET REASSEMBLY (X-408, C-422)

1. Place chassis front and chassis assembly on the cabinet back so that the ribs of the cabinet front rest on the bottom—inside of the cabinet back.
2. Push cabinet sections together firmly.
3. Insert three holding screws.

REPLACEMENT PARTS LIST

Insist on Genuine Factory Tested Parts, which are readily identified and may be purchased from Authorized Dealers.

SYMBOL	STOCK NO.	DESCRIPTION	SYMBOL	STOCK NO.	DESCRIPTION
C-1A,B C-2 C-3 C-5,C6, C7,C8 C-9 C-10A, C-10B C-11 C-13 PC-1 R-1 R-2 R-3 R-4 R-5 R-7 R-7 R-8, R-9 R-10 R-11 R-12 R-13 T-1 T-2 T-3 T-4 T-4 *S-22932+ *S-22914+ *S-22915+ *S-22930+ *S-23020+ *S-22921+ *S-22922+ 103204+ *S-22933+ *S-22908+ *S-22939+ *S-21865+ *S-22916+ *S-23160\$ *S-23161\$ *S-23162\$ *S-23165\$ *S-23163\$ *S-23166\$ *S-23164\$ *S-22910\$ *S-22911\$ *S-22912\$ *S-22918+ *S-22919+ *S-22923\$		Capacitor-variable tuning capacitor Capacitor-ceramic 56 mmf, 20% 500V Capacitor-.047 mfd. 20% 400V Part of PC-1 Capacitor-.015 mfd, 10% 400V Capacitor-electrolytic-30/50 mfd 120/150V Capacitor-.047 mfd. 20% 400V Capacitor-.01 mfd. +100%, -0%, 500V Circuit-Audio coupling (includes C-5, C-6, C-7, C-8, R-8, R-9 and R-10) Resistor-33,000 ohms, 20% 1/2w Resistor-100 ohms, 20% 1/2w Resistor-100 ohms, 20% 1/2w Resistor-3.3 megohms 20% 1w Resistor-47,000 ohms 20% 1/2w Control-Vol.control-X-408, Nipper VIII Control-Volume control - C-419, C-422 Part of PC-1 Resistor-150 ohms 10% 1/2w Resistor-1,200 ohms 10% 1/2w Resistor-33,000 ohms 20% 1/2w Transformer-1st IF transformer Transformer-2nd IF transformer Transformer-Oscillator transformer Transformer-Audio output (Nipper VIII) Transformer-Audio output (X-408) Circuit-printed chassis ass'y, complete with capacitors, resistors etc., less tubes tuning cap. and volume control SPEAKER ASSEMBLY Speaker-4" PM speaker MISCELLANEOUS - Model X-408 Antenna-Ferrite antenna ass'y. Cabinet-cabinet back-Grey Cabinet-cabinet back-Pink Cabinet-cabinet back-White Cabinet-cabinet front-Charcoal Cabinet-cabinet front-Grey Cabinet-cabinet front-Turquoise Cabinet-cabinet front-White Insert-Dial insert Insert-Dial insert Insert-Dial insert Knob Knob Manual-Customers Instruction Manual			MISCELLANEOUS - Nipper VIII Back cover ass'y Cabinet-Sky Blue Cabinet-Surf Green Cabinet-Antique White Cabinet-Frost White Cabinet-Spice Beige Emblem-Dog Emblem Emblem-RCA Victor Knob-tuning knob Knob-volume knob MISCELLANEOUS - Model C-419A, B Back cover-C-419A Back cover-C-419B Cabinet-Blue Cabinet-Green Cabinet-Ivory Cabinet-Pink Cabinet-Tan Crystal-Clock timer crystal Emblem-Dog emblem Knob-Tuning control knob Knob-Volume control knob Knob-Timer knob clear - C-419A Knob-Timer knob antique white - C-419B Knob-Time set knob - C-419B Manual-Customer Instruction Manual Plate-Face plate C-419A Plate-Face plate C-419B Retainer-Clock retainer Retainer-Speaker retainer nut Shaft-Extension shaft & knob (Time set) C-419A Timer-Telechron time C-419A Timer-Westclox time C-419B MISCELLANEOUS - Model C-422 Antenna-Ferrite rod antenna Brace-Wire form brace for chassis Cabinet-Cabinet back - Beige Cabinet-Cabinet back - White Cabinet-Cabinet front - Turquoise Cabinet-Cabinet front - White Cable - AC line cord and plug Connector-Appliance outlet receptacle Knob-Time set knob Knob-Tuning knob Knob-Volume control knob Nut-Retainer nut for clock Retainer-Clock window retainer Trim-Trim strip Window-Clock timer window Common to ALL Models. Nut-Speaker mounting nut Socket-7 pin tube socket for V-1, V-2, V-3 Socket-7 pin tube socket for V-4, V-5

* Indicates New Stock Items.

+ Indicates Parts Stocked at Branches at Manager's Option.

\$ Indicates Parts Stocked at Replacement Parts Cote de
Liesse Only. Order on Demand.

Only items listed under stock numbers are available as Replacement Parts.

All parts subject to change or withdrawal without notice.