

Quality. Uncompromised.

ROTEL®

Technical Manual

DC/DC CONVERTER RV-C1

Serial No. Beginning
NB90517

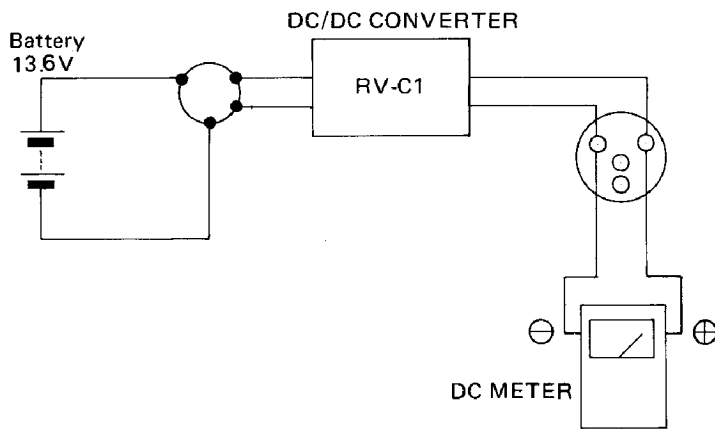
THE ROTEL CO., LTD.
ROTEL ELECTRONICS CO., LTD.
ROTEL OF AMERICA, INC.

1-36-8 OHOKAYAMA, MEGURO-KU, TOKYO 152, JAPAN
2ND FLOOR, EVERGLORY BLDG., NO. 305, SECTION 3,
NANKING E. ROAD, TAIPEI, TAIWAN, REPUBLIC OF CHINA

1055 SAW MILL RIVER ROAD, ARDSLEY, N.Y. 10502, U.S.A.

Adjustment of Output Voltage

1. Connect the 13.6-volt DC battery power source to the power input plug. The output terminals should be rendered to a non-load condition.
2. At this condition, adjust the Potentiometer VR901 so that the reading of the DC voltage meter connected to the output plug pins 4 (+) and 3 (-) indicates 44 volts.



Symptoms

A. If No Power Input (Pilot Lamp fails to illuminate).

Possible Cause (1): Poor connection at cigarette lighter plug.

Remedy: Remove the plug, check to see that the proper connection is not impaired by rust, corrosion, etc., and re-connect.

Possible Cause (2): Polarities (+, -) of the power cord may be reversed (when connections are made directly to the car battery by cutting off the cigarette lighter cord).

Remedy: Replace the fuse (8 amps), part F001, if blown. Part D904 diode, or C902 capacitor may also be damaged, so check these parts.

B. Fuse Continues to Blow After Replacement.

Possible Cause (1): Reversed polarities on the power line (Refer to A-2).

Remedy: Replace the RL-188 coil (185) and all the power transistors Q902, 903, 904, 905.

Possible Cause (2): Damage to the ferrite core of the power transistor due to an abnormally high power surge.

Remedy: Replace the RL-188 coil (185) and all the power transistors Q902, 903, 904, 905.

Possible Cause (3): Use of the speakers rated at 4 ohms or below at the full power.

Remedy: Replace the speakers with the ones rated at 8-ohms or more (RS-555 speakers are 8-ohms).

Possible Cause (4): Operation of the speakers rated at 4-ohms or less at full power, using non-standard fuse with a higher value than the rated 8A.

Remedy: Replace all power transistors Q902-905.

Possible Cause (5): The battery output is below the regular level necessary for proper operation.

Remedy: Use a well-regulated battery with a normal 11-16 volt output.

C. Noise During AM Reception.

Possible Cause: High frequency waves from the nearby electrical source may cause AM interference.

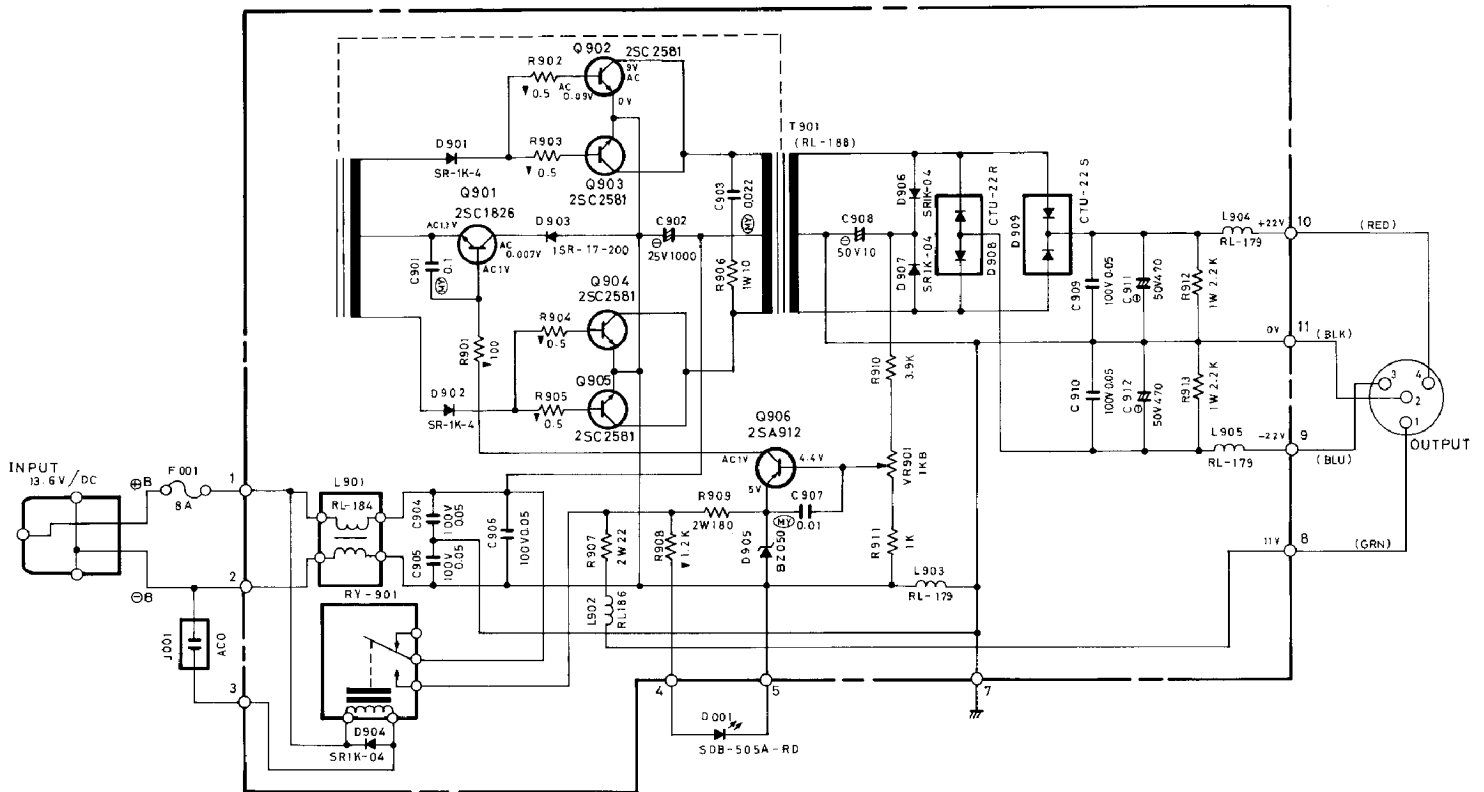
Remedy: Follow the procedures of locating the RV-C1 as indicated in the Owner's Manual. Weak station signals are particularly susceptible to noise interference.

Repair Parts List

Schematic Location	Part No.	Description
D001	300414019	Light Emitting Diode with Bracket SDB-505A-RD, C-2846 (Red)
F001	341221800	Fuse, Long 8A
J001	648211141	AC Outlet M-7007, C-1448 #1
T901	228641154	Coil RL-188
L901	228641147	Coil RL-184 Input
L905, 904, 903	228641145	Coil RL-179 Output 30 μ H
L902	228641149	Coil RL-186 Output 200 μ H
RY901	240111243	Relay, Sub Miniature G2K-0234 12V
Q902, 903, 904 } 905	301201193	Transistor 2SC2581 (O) (Y)
Q901	301201169	Transistor 2SC1826 (Y) (G)
Q906	301001142	Transistor 2SA912 (R) (S)
Q908	300919035	Diode CTU-22R
D909	300919034	Diode CTU-22S
D901, 904, 902 } 906, 907	300919024	Diode SR1K-4
D905	300313034	Diode BZ-050
D903	300919036	Diode 1SR17-200 (Red)
C904, 905, 906 } 909, 910	440500965	Capacitor, Ceramic CK 100V, 0.05 μ F
C901	452100832	Capacitor, Mylar, MY50V, 0.1 μ F (J)
C907	452100932	Capacitor, Mylar, MY 50V, 0.01 μ F (J)
C903	450220932	Capacitor, Mylar, MY 50V, 0.022 μ F (J)
C902	404100425	Capacitor, Electrolytic CE04 RE 25V, 1000 μ F
C911, 912	404470525	Capacitor, Electrolytic CE04 RE 50V, 470 μ F
C908	402100650	Capacitor, Electrolytic CE04 RE 50V, 10 μ F
R911	562100122	Resistor, Carbon RD $\frac{1}{4}$ w 1K(J)
R910	562390122	Resistor, Carbon RD $\frac{1}{4}$ w 3.9K (J)
R902, 903, 904 } 905	564050832	Resistor, Carbon RD $\frac{1}{2}$ w 0.5 ohm (J)
R901	564100032	Resistor, Carbon RD $\frac{1}{2}$ w 100 ohm (J)
R908	564120132	Resistor, Carbon RD $\frac{1}{2}$ w 1.2K(J)
R906	568100943	Resistor, Metal Oxide RSU1W 10 ohm (K)
R912, 913	568220143	Resistor, Metal Oxide RSU1W 2.2 K (K)
R909	568180053	Resistor, Metal Oxide RSU2W 180 ohm (K)
R907	568220953	Resistor, Metal Oxide RSU2W 22 ohm (K)
VR901	510502151	Semi Fixed Variable Resistor KVSF10-7SNB-1K
	138011300	Bonnet, Chassis 2MH-1A
	648211144	Fuse Holder FH-032, C-1574
	675201114	Cord Stopper SR-4N-4
	675201115	Cord Stopper SR-6W-1
	628111161	4P Plug AC4P-4, C-3079
	628111164	Plug Assy, Cigar Lighter, C-3143
	141810891	Printed Circuit Board Assy X-318
	127012233	Heat Sink 3MH-4A
	127012206	Sub. Plate, Heat Sink 4LJ-37#2

Schematic Location	Part No.	Description
	770202005	Pin C-2300
	992001111	Collar C-1054
	770911144	Nut, Transistor C-1122
	124011301	Bottom Plate 2MH-3A
	673402022	Foot, Plastics C-3135
	812001351	Cosmetic Box

Schematic Diagram



(RESISTORS)

5% TOLERANCE UNLESS OTHERWISE NOTED.
 K--- KILO OHM.
 ▽---NONFLAMMABLE CARBON FILM RESISTORS 1/2 WATT.

(CAPACITORS)

⊘---ELECTROLYTIC CAPACITORS.
 NON MARK---CERAMIC CAPACITORS.
 ●UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITANCE VALUES ARE EXPRESSED IN MFD.
 ●VOLTAGE READING WITH VYIM FROM THE POINT SHOWN TO THE CHASSIS GROUND (LINE VOLTAGE 117 VOLT.)
 ●VOLTAGE READING MAY VARY ± 20%.

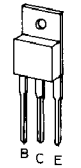
2SA912



2SC2581



2SC1826



MODEL RV-C1
 DC/DC CONVERTER
 SCHEMATIC DIAGRAM