

# RB-971MKII

STEREO POWER AMPLIFIER

AMPLIFICATEUR DE PUISSANCE STÉRÉO

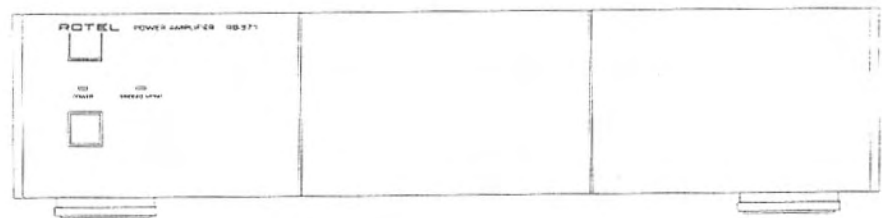
STEREO-ENDSTUFE

FINALE DI POTENZA STEREO

ETAPA DE POTENCIA ESTEREOFONICA

STEREO EINDVERSTERKER

STEREO EFFEKTFORSTERKER



**Owner's Manual**

**Guide d'utilisation**

**Bedienungsanleitung**

**Manuale di Istruzioni**

**Manual de Instrucciones**

**Gebruiksaanwijzing**

**Brukermanual**

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## About Rotel

A family whose passionate interest in music led them to manufacture high fidelity components of uncompromising quality founded Rotel over 30 years ago. Through the years that passion has remained undiminished and the family goal of providing exceptional value for audiophiles and music lovers, regardless of their budget, is shared by all Rotel employees.

The engineers work as a close team, listening to, and fine tuning each new product until it reaches their exacting musical standards. They are free to choose components from around the world in order to make that product the best they can. You are likely to find capacitors from the United Kingdom and Germany, semi conductors from Japan or the United States, while toroidal power transformers are manufactured in Rotel's own factory.

Rotel's reputation for excellence has been earned through hundreds of good reviews and awards from the most respected reviewers in the industry, who listen to music every day. Their comments keep the company true to its goal – the pursuit of equipment that is musical, reliable and affordable.

All of us at Rotel thank you for buying this product and hope it will bring you many hours of enjoyment.

## Getting Started

Thank you for purchasing the Rotel RB-971 Stereo Power Amplifier. When used in a high-quality music or home theater system, it provide years of musical enjoyment.

The RB-971 is a high-power, two-channel power amplifier, providing the highest level of audio performance. Discrete output devices, a massive power supply, premium components, and Rotel's Balanced Design ensure superb sound quality. High current capability allows the RB-971 to drive the most demanding loudspeakers.

Be aware that the RB-971 is capable of high power levels, in excess of 70 watts per channel. Make sure that your speakers can handle the power of the RB-971. If in doubt about your speakers, ask your local Rotel audio retailer for advice.

The RB-971 is straightforward in its installation and operation. If you have experience with other stereo power amplifiers, you shouldn't find anything perplexing. Plug in a pair of high-quality RCA cables from your preamp into the amplifier inputs, wire up your speakers, and enjoy.

## A Few Precautions

Please read this manual carefully. In addition to basic installation and operating instructions, it provides valuable information on various RB-971 system configurations as well as general information that will help you get optimum performance from your system. Please contact your authorized Rotel audio retailer for answers to any questions you might have. In addition, all of us at Rotel welcome your questions and comments.

Save the RB-971 shipping carton and all enclosed packing material for future use. Shipping or moving the RB-971 in anything other than the original packing material may result in severe damage to your amplifier.

Fill out and send in the owner's registration card packed with the RB-971. Also be sure to keep the original sales receipt. It is your best record of the date of purchase, which you will need in the event warranty service is ever required.

## Placement

Because of its high power output, the RB-971 may generate considerable heat. The heat sinks and ventilation openings in the amplifier are more than capable of dissipating this heat under normal conditions, but don't smother your amplifier. There must be adequate clearance around the chassis. The ventilation slots in the top cover must be unblocked, and there must be reasonable airflow around the amplifier. Use common sense when placing the amplifier in a cabinet or when stacking other equipment.

Likewise, remember the weight of the amplifier when you select an installation location. Make sure that the shelf or cabinet can support its considerable bulk. Again, use common sense.

## AC Power and Control

### AC Power Input ⑥

Because of its high power rating, the RB-971 can draw considerable current. Therefore, it should be plugged directly into a 2-pin polarized wall outlet. Do not use an extension cord. A heavy duty multi-tap power outlet strip may be used if it (and the wall outlet) is rated to handle the current demanded by the RB-971 and all the other components connected to it.

Be sure the power switch on the front panel of the RB-971 is turned off (in the out position). Then, connect the supplied power cord to the AC power outlet.

Your RB-971 is configured at the factory for the proper AC line voltage in the country where you purchased it (either 115 volts AC or 230 volts AC with a line frequency of either 50 Hz or 60 Hz). The AC line configuration is noted on a decal on the back panel.

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***Note:** Should you move your RB-971 amplifier to another country, it is possible to reconfigure your amplifier for use on a different line voltage. Do not attempt to perform this conversion yourself. Opening the enclosure of the RB-971 exposes you to dangerous voltages. Consult a qualified service person or the Rotel factory service department for information.*

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If you are going to be away from home for an extended period of time such as a month-long vacation, it is a sensible precaution to unplug your amplifier (as well as other audio and video components) while you are away.

### Power Switch ① and Power Indicator ②

The power switch is located on the front panel of your amplifier. To turn the amplifier on, push the switch in. The LED indicator above the switch will light, indicating that the amplifier is turned on. To turn the amplifier off, push the button again and return it to the out position.

## Input Signal Connection 4

[See Figure 2 for normal stereo wiring illustration.]

The RB-971 has conventional RCA type input connectors, the type found on nearly all audio equipment.

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**Note:** To prevent loud noises that neither you nor your speakers will appreciate, make sure the amplifier is turned off when you make any signal connections.

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Select a high quality pair of audio interconnect cables. Connect the left channel output of your preamp to the left channel input on the RB-971. Connect the right channel output of your preamp to the right channel input.

## Speaker Connection

### Speaker Selection

We recommend using loudspeakers with a nominal impedance of 4 ohms or higher with the RB-971. You should exercise some caution in driving multiple pairs of speakers in parallel configuration, because the effective impedance the amplifier sees is cut in half. For example, when driving two pair of 8 ohm speakers, the amplifier sees a 4 ohm load. When driving multiple speakers in parallel, it is recommended that you select speakers with a nominal impedance of 8 ohms or higher. Speaker impedance ratings are less than precise. In practice, very few loudspeakers will present any problems for the RB-971. See your Rotel audio retailer if you have any questions.

### Speaker Wire Selection

Use insulated two-conductor stranded wire to connect the RB-971 to the speakers. The size and quality of the wire can have an audible effect on the performance of the system. Standard speaker wire will work, but can result in lower output or diminished bass response, particularly over longer distances. In general, heavier wire will improve the sound. For best performance, you may want to consider special high-quality speaker cables. Your Rotel audio retailer can help in the selection of appropriate cables for your system.

### Polarity and Phasing

The polarity — the positive/negative orientation of the connections — for every speaker and amplifier connection must be consistent so all the speakers will be in phase. If the polarity of one connection is mistakenly reversed, bass output will be very weak and stereo imaging degraded. All wire is marked so you can identify the two conductors. There may be ribs or a stripe on the insulation of one conductor. The wire may have clear insulation with different color conductors (copper and silver). There may be polarity indications printed on the insulation. Identify the positive and negative conductors and be consistent with every speaker and amplifier connection.

### Stereo Speaker Connection 5

The RB-971 has two pairs of color coded binding posts on the back panel. These connectors accept bare wire, connector lugs, or dual banana type connectors (except in the European Community countries where their use is not permitted).

Route the wire from the RB-971 to the speakers. Give yourself enough slack so you can move the components enough to allow access to the speaker connectors.

If you are using dual banana plugs, connect them to the wires and then plug into the backs of the binding posts. The hexagonal thumbscrews of the binding posts should be screwed in all the way (clockwise).

If you are using terminal lugs, connect them to the wires. If you are attaching bare wires directly to the binding posts, separate the wire conductors and strip back the insulation from the end of each conductor. Be careful not to cut into the wire strands. Unscrew (turn counterclockwise) the binding post hexagonal thumbscrews. Place the connector lug or wire around the binding post shaft. Turn the hexagonal thumbscrews clockwise to clamp the connector lug or wire firmly in place.

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**Note:** Be sure there are no loose wire strands that could touch adjacent wires or connectors.

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## Bridged Mono Operation

[See Figure 3 for bridged operation jumper setting and connection illustration.]

The two channels of the RB-971 can be "bridged". In this configuration the single channel produces a massive 200 watts! This feature allows you to increase the overall power output of your system by bridging the RB-971 and adding a second bridged RB-971. Or the RB-971 is bridged to drive a monophonic subwoofer. Note however that when the RB-971 is bridged the speaker connected to it must have an impedance of 8 ohms or more.

In order to use the RB-971 in bridged mode, three "jumper" connectors inside the amplifier must be moved from one set of pins to another. This task should be done by a qualified technician. See your Rotel audio retailer. In addition the RB-971 is connected to the other components in a different way. When the RB-971 is setup for bridged operation the Bridged Mono indicator light on the front panel will light. 

## Resetting Jumpers

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*Before opening the RB-971 cabinet to reset the jumpers, the power cord **must** be unplugged from the wall. DO NOT OPEN THE CABINET OF THE RB-971 BEFORE THE POWER CORD HAS BEEN UNPLUGGED FROM THE WALL. FAILURE TO DO SO WILL EXPOSE YOU TO HAZARDOUS VOLTAGES.*

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After the power cord has been unplugged, remove the screws that hold the cabinet cover in place and slide the cover off the amplifier. Locate the three jumper pin blocks labeled S 601, S 602 and S 603. The factory standard (stereo) position of the jumpers is on pins 1 and 2 of each block. There is a \* mark on the circuit board next to this position. To convert the RB-971 to bridged mono move all three jumpers so they are on pins 2 and 3 of each jumper pin block. Replace the cover of the cabinet. **Do not plug the RB-971 power cord back into the wall outlet until the cabinet cover has been replaced.**

## Input Connection

When using the RB-971 in bridged mono mode, connect the cable from the preamplifier output to the left input. No connection is made to the right input.

## Bridged Speaker Connection

When using the RB-971 in bridged mono mode, the wire to the speakers is connected to the positive terminals of the left and right channels. Connect the wire that goes to the positive terminal of the speaker to the positive terminal of the left channel of the RB-971. Connect the wire that goes to the negative terminal of the speaker to the positive terminal of the right channel of the RB-971. No connections are made to the negative terminals of the RB-971.

## Troubleshooting

Most difficulties in audio systems are the result of poor or wrong connections, or improper control settings. If you encounter problems, isolate the area of the difficulty, check the control settings, determine the cause of the fault and make the necessary changes. If you are unable to get sound from the RB-971, refer to the suggestions for the following conditions:

### Front Panel Power Indicator Is Not Lit

No main power to the RB-971. Check the front panel power switch. Make sure that it is set to the on position. Check AC power connections at the amplifier and the AC outlet.

### Fuse Replacement

If everything checks out correctly and you still cannot get the amplifier to turn on, the internal power fuse may have blown. If you believe this has happened, contact your Rotel dealer for information on where to take your amplifier to get the fuse replaced.

### No Sound

If the amp is getting AC power, but is producing no sound. Typically, this occurs only when the ventilation openings are blocked, when there is faulty speaker wiring, or after a period of extreme use. Turn off the system and wait for the amp to cool. Check all of your connections and control settings on associated components. Pay particular attention to the speaker wire connections. Push the front panel power switch in. If the problem is not corrected or reoccurs, there is a problem with the system or the amplifier itself.

# ROTEL STEREO POWER AMPLIFIER RB-971

Figure 1: Controls and Connections  
Commandes et branchements  
Bedienelemente und Anschlüsse  
Controlli e collegamenti  
Controles y Conexiones  
De bedieningsorganen en aansluitingen  
Kontroller og tilkoblinger

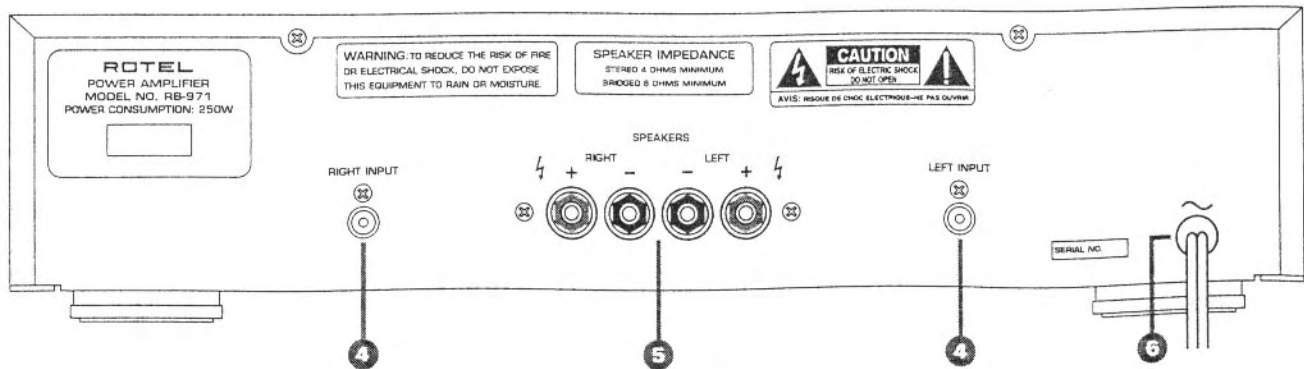
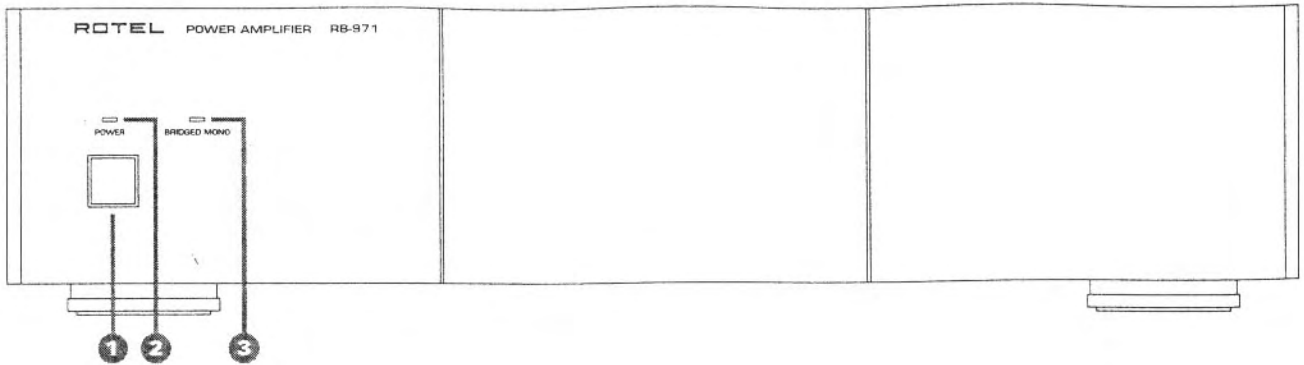


Figure 2: Stereo Connections – Inputs and Speakers

Branchements des entrées et des enceintes en mode stéréo

Anschlußdiagramm bei Stereobetrieb - Eingänge und Lautsprecher

Collegamenti stereo - Ingressi e diffusori

Conexiones para el Funcionamiento en Modo Estereofónico - Terminales de Entrada y de Conexión a las Cajas Acústicas

De cinch- en luidsprekerverbindingen/voorversterker/

Stereotilkoblinger - innganger og høyttalere

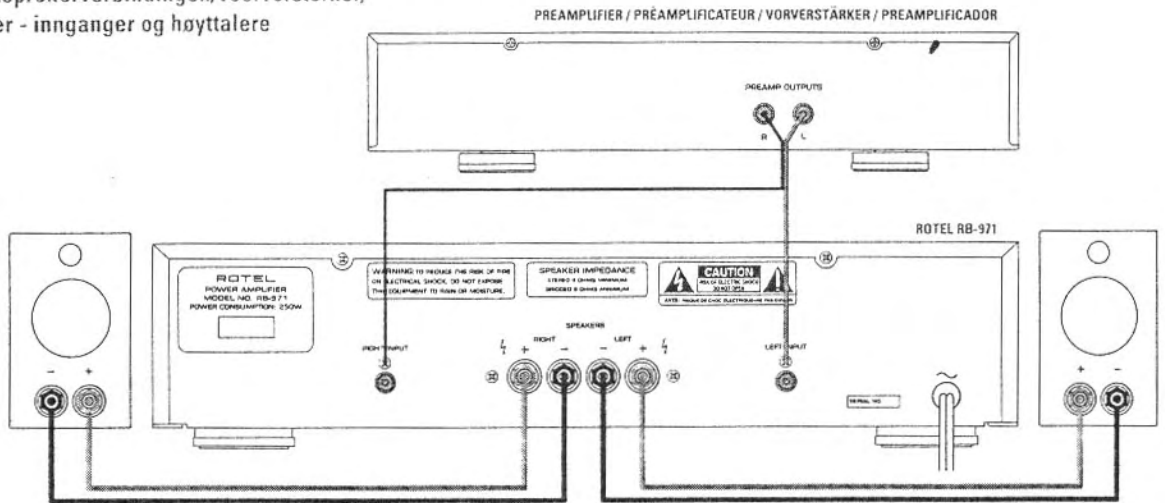


Figure 3: Bridged Mono Connections – Inputs and Speakers

Branchements des entrées et des enceintes en ponté mode mono

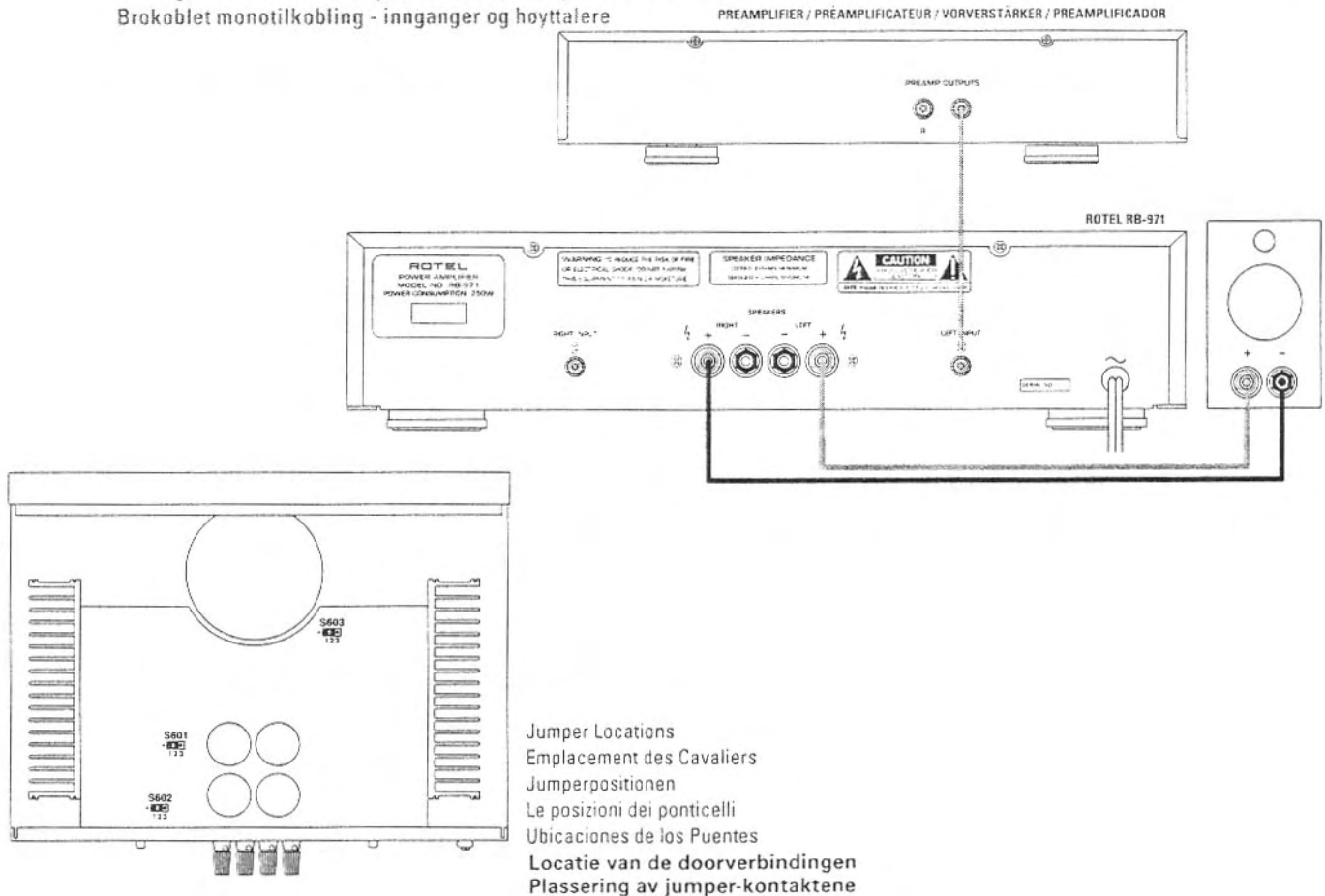
Anschlußdiagramm bei Brückenschaltung - Eingänge und Lautsprecher

Collegamenti mono configurazione "a ponte" - Ingressi e diffusori

Conexiones para el Funcionamiento en Modo Monofónico Puentado - Terminales de Entrada y de Conexión a las Cajas Acústicas

Gebrugde mono aansluitingen/voorversterker/plaats van de doorverbindingen/

Brøkbølet monotilkobling - innganger og høyttalere



Jumper Locations  
 Emplacement des Cavaliers  
 Jumperpositionen  
 Le posizioni dei ponticelli  
 Ubicaciones de los Puentes  
 Locatie van de doorverbindingen  
 Plassering av jumper-kontaktene

# Specifications

<b>Continuous Power Output</b> (20-20 kHz, < 0.03%, 8 ohms)	70 watts/ch
<b>Bridged Mono Power Output</b> (20-20 kHz, < 0.1%, 4 ohms)	180 watts (200 watts at 1kHz)
<b>Total Harmonic Distortion (20Hz-20kHz, 8 ohms)</b>	< 0.03%
<b>Intermodulation Distortion (60 Hz : 7 kHz, 4:1)</b>	< 0.03%
<b>Frequency Response ( ±1dB)</b>	10Hz-100kHz
<b>Damping Factor (20-20,000 Hz, 8 ohms)</b>	500
<b>Speaker Impedance (Normal mode)</b>	4 ohms minimum
<b>Signal to Noise Ratio (IHF A network)</b>	116 dB
<b>Input Impedance/Sensitivity</b>	33 k Ohms/1.0 volt
<b>Power Requirements</b>	115 Volts, 60 Hz or 230 Volts, 50 Hz
<b>Power Consumption</b>	250 Watts
<b>Dimensions (W x H x D)</b>	440 x 92 x 340 mm 17 <sup>3</sup> / <sub>8</sub> x 3 <sup>5</sup> / <sub>8</sub> x 13 <sup>3</sup> / <sub>8</sub> ins.
<b>Weight (net)</b>	7.2 kg, 15.84 lb.

All specifications are accurate at the time of printing.  
Rotel reserves the right to make improvements without notice.