



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

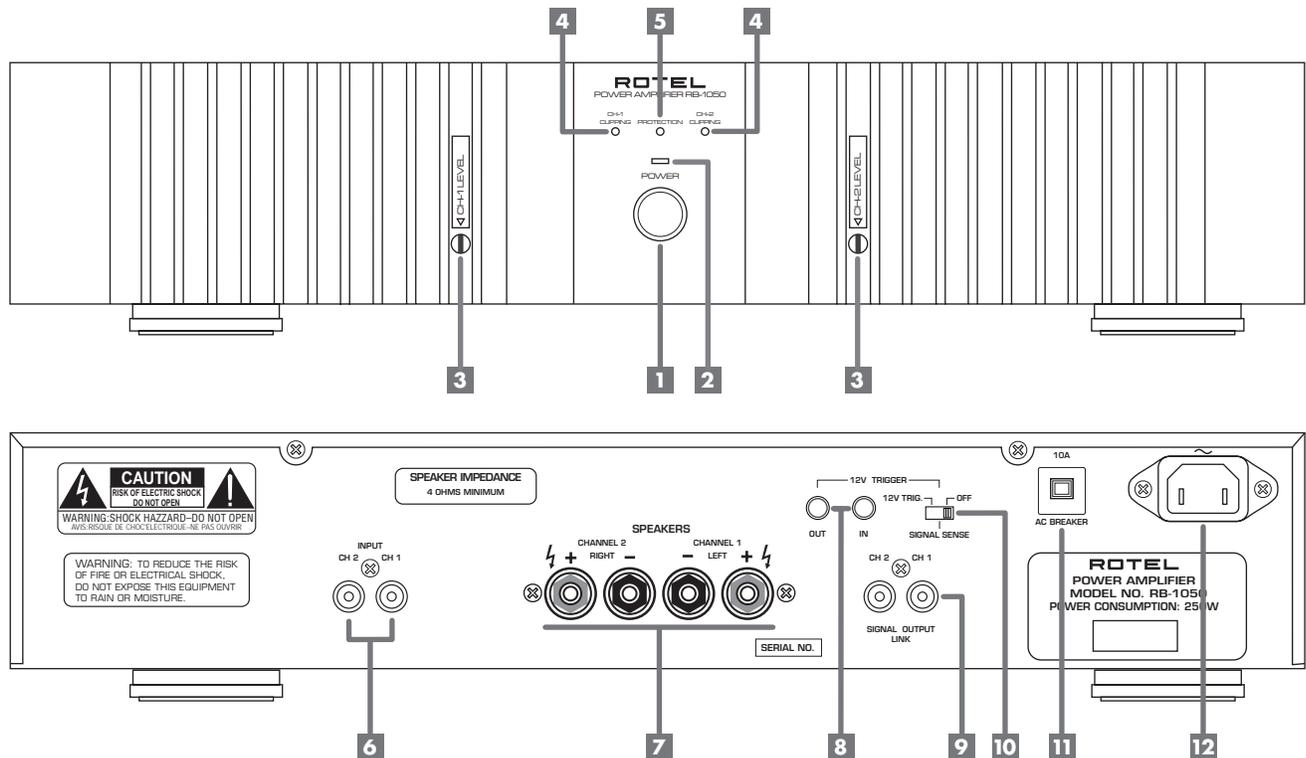
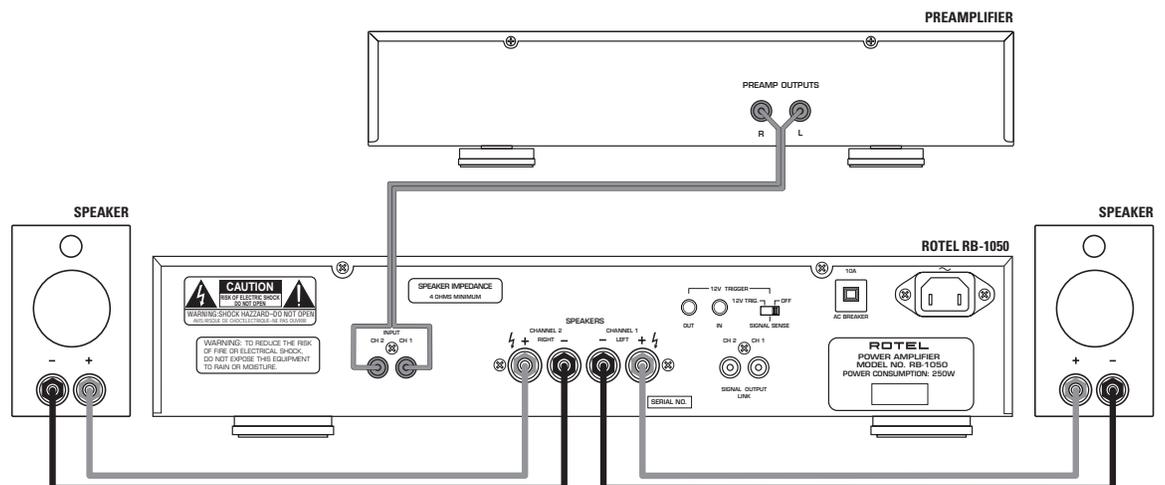


Figure 2: Preamp Input and Speaker Output Connections
Entrée préamplificateur et sorties enceintes acoustiques
Anschlußdiagramm (Cinch-Eingänge und Lautsprecher)
Collegamenti di ingresso dal preamplificatore e delle uscite dei diffusori
Conexiones para la Señal de Entrada y Salidas para la Conexión de las Cajas
De aansluitingen naar de voorversterker en luidsprekerverbindingen



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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 40 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-1050 Stereo Power Amplifier. When used in a high-quality music or home theater system, your Rotel amplifier will provide years of musical enjoyment.

The RB-1050 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-1050 to drive the most demanding loudspeakers.

Be aware that the RB-1050 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-1050. If in doubt about your speakers, ask your local Rotel audio dealer for advice.

The RB-1050 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-1050 system configurations as well as general information that will help you get optimum performance from your system. Please contact your authorized Rotel dealer for answers to any questions you might have. In addition, all of us at Rotel welcome your questions and comments.

Save the RB-1050 shipping carton and all enclosed packing material for future use. Shipping or moving the RB-1050 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-1050. 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

The RB-1050 generates heat as part of its normal operation. The heat sinks and ventilation openings in the amplifier are designed to dissipate this heat. The ventilation slots in the top cover must be open. There should be 10 cm (4 inches) of clearance around the chassis, and reasonable airflow through the installation location, to prevent the amplifier from overheating.

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 12

Because of its high power rating, the RB-1050 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-1050 and all the other components connected to it.

Be sure the Power Switch on the front panel of the RB-1050 is turned off (in the out position). Then, connect the supplied power cord to the Power Connector 12 on the back panel of the amplifier and to the AC power outlet.

Your RB-1050 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.

Note: *Should you move your RB-1050 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-1050 exposes you to dangerous voltages. Consult a qualified service person or the Rotel factory service department for information.*

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.

12V Trigger Mode Selector 10

The Amplifier provides the option for manual or automatic power on/off operation. These modes are selectable using a switch on the back panel.

NOTE: *The front panel Power Switch 1 must be ON for the automatic turn on system to work.*

When the switch is in the "12V TRIG" position, the amplifier is turned on automatically when a 12V trigger signal is present at the 3.5 mm Jack of TRIGGER IN on the rear panel. The amplifier will go into standby mode after a delay of 5 minutes if the +12V signal is not present.

When the switch is in the "SIGNAL SENSE" position the amplifier is turned on whenever an audio signal is applied to the Inputs 6. If no audio signal is applied to the inputs the amplifier will return to standby mode after a delay of 5 minutes.

When the switch is in the "OFF" position the automatic activation system is turned off. Only the front panel Power Switch will control the amplifier.

12V Trigger Input and Output 8

The jack labeled IN is for connecting the 3.5mm Plug/Cable carrying a +12 volt trigger signal to turn the amplifier on and off. To use this feature the front panel Power Switch must be set to the ON position. This input accepts any control signal (AC or DC) ranging from 3 volts to 30 volts.

The jack labeled OUT is for connecting another 3.5mm plug/cable to provide a 12V trigger signal to other components. The 12V output signal is available whenever a +12 volt trigger signal is applied to the IN connector.

Circuit Breaker 11

A circuit breaker on the rear panel protects the amplifier's electrical circuitry. Generally, the circuit breaker will only open under a fault condition which results in excessive current draw. To reset the circuit breaker, press the button. Should it repeatedly open, contact your authorized Rotel dealer for troubleshooting assistance.

Protection Circuitry 5

The RB-1050 features a thermal protection circuit that protects the amplifier against potential damage in the event of extreme or faulty operating conditions. Unlike many designs, the RB-1050's protection circuit is independent of the audio signal and has no impact on sonic performance. Instead, the protection circuit monitors the temperature of the output devices and shuts down the amplifier if temperatures exceed safe limits.

Most likely, you will never see this protection circuitry in action. However, should a faulty condition arise, the amplifier will stop playing and the LED indicator on the front panel will light up.

If this happens, turn the amplifier off, let it cool down for several minutes, and attempt to identify and correct the problem that caused the protection circuitry to engage. When you turn the amplifier back on, the protection circuit will automatically reset and the indicator LED should go out.

In most cases, the protection circuitry activates because of a fault condition such as shorted speaker wires, or inadequate ventilation leading to an overheating condition. In very rare cases, highly reactive or extremely low impedance speaker loads could cause the protection circuit to engage.

If the protection circuitry triggers repeatedly and you are unable to isolate and correct the faulty condition, contact your authorized Rotel dealer for assistance in troubleshooting.

Clipping Indicators 4

Each channel has a Clipping Indicator on the front panel. "Clipping" occurs when an amplifier is driven to the point it begins to produce distortion. The term refers to the flattening or "clipping" of the musical waveform that occurs when an amplifier is driven beyond its rated power. If the Clipping Indicators light, reduce the volume level of the system. Failure to do so could result in damage to the speakers connected to the amplifier. It may also cause the Protection Circuit to activate.

Input Signal Connections **6**

See Figure 2

The RB-1050 has conventional RCA type input connectors, the type found on nearly all audio equipment.

NOTE: To prevent loud potentially damaging noises, make sure the amplifier is turned off when you make any changes to the input signal configuration.

Select high quality audio interconnect cables. Connect each of the outputs from the preamplifier or signal processor to the corresponding input of the RB-1050. Typically the left channel signal is connected to Channel 1 and the right channel signal is connected to Channel 2.

Front Panel Level Controls **3**

The Level controls on the front panel let you control the output volume of the RB-1050. In most systems these controls should be turned up all the way (full clockwise position). In some situations, such as when the amplifier is part of a multi-room or bi-amplified speaker system, it may be necessary to reduce the output level. Use a small flat blade screwdriver to turn the controls down (counterclockwise) as needed.

Turning down the level does not reduce the maximum output of the amplifier. It simply increases the input signal required to achieve maximum output power.

“Signal Output Link” Connectors **9**

The input signal that goes into the normal Inputs also goes to the Signal Output Link connectors. This is typically used when the amplifier is part of a multi-room system. The signal from the Signal Output Link is then used to provide a signal to the other amplifiers in the system.

Speaker Connection

Speaker Selection

We recommend using loudspeakers with a nominal impedance of 4 ohms or higher with the RB-1050. 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-1050. See your authorized Rotel dealer if you have any questions.

Speaker Wire Selection

Use insulated two-conductor stranded wire to connect the RB-1050 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 authorized Rotel dealer 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.

Speaker Connection **7**

The RB-1050 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-1050 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.

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

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-1050, refer to the suggestions for the following conditions:

Front Panel Power Indicator Is Not Lit

No main power to the RB-1050. 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.

No Sound

If the amp is getting AC power, but is producing no sound, check the Protection indicator on the front panel. If it is lit, see below. Also check the front panel Level Controls to see if they are turned up. Then check all of your connections and control settings on associated components.

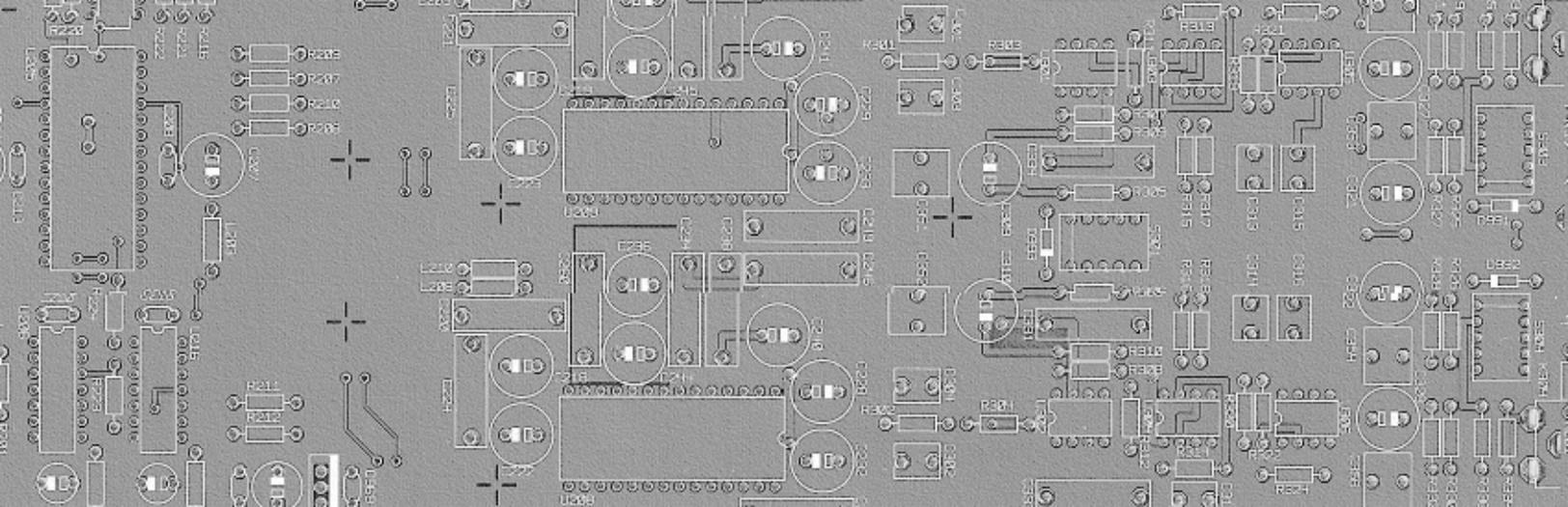
Protection Indicator Is Lit

The front panel indicator lights when the RB-1050 protection circuits have shut off the amplifier. 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. Then push the front panel power switch in and out to reset the protection devices. If the problem is not corrected or reoccurs, there is a problem with the system or the amplifier itself.

Specifications

Continuous Power Output (20-20 kHz, < 0.03%, 8 ohms)	70 watts/ch
Total Harmonic Distortion (20Hz-20kHz, 8 ohms)	< 0.03%
Intermodulation Distortion (60 Hz : 7 kHz, 4:1)	< 0.03%
Frequency Response (± 1 dB)	10Hz-100kHz
Damping Factor (20-20,000 Hz, 8 ohms)	500
Speaker Impedance (Normal mode)	4 ohms minimum
Signal to Noise Ratio (IHF A network)	116 dB
Input Impedance/Sensitivity	33 k Ohms/1.0 volt
Power Requirements	115 Volts, 60 Hz (U.S. version) 230 Volts, 50 Hz (European version)
Power Consumption	250 Watts
Dimensions (W x H x D)	430 x 92 x 350 mm 16 ¹⁵ / ₁₆ x 3 ⁵ / ₈ x 13 ¹³ / ₁₆ ins.
Weight (net)	8.1 kg, 17.86 lb.

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



ROTEL

The Rotel Co. Ltd.

10-10 Shinsen-Cho
Shibuya-Ku
Tokyo 150-0045
Japan

Phone: +81 3-5458-5325

Fax: +81 3-5458-5310

Rotel of America

54 Concord Street
North Reading, MA 01864-2699
USA

Phone: +1 978-664-3820

Fax: +1 978-664-4109

Rotel Europe

Meadow Road
Worthing, West Sussex BN11 2RX
England

Phone: +44 (0)1903 524 813

Fax: +44 (0)1903 524 831

Rotel Deutschland

Kleine Heide 12
D-33790 Halle/Westf.
Germany

Phone: +49 05201-87170

Fax: +49 05201-73370

www.rotel.com