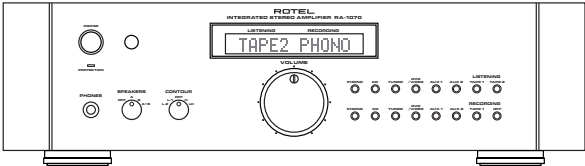


# Owner's Manual

## RA-1070

### Stereo Integrated Amplifier

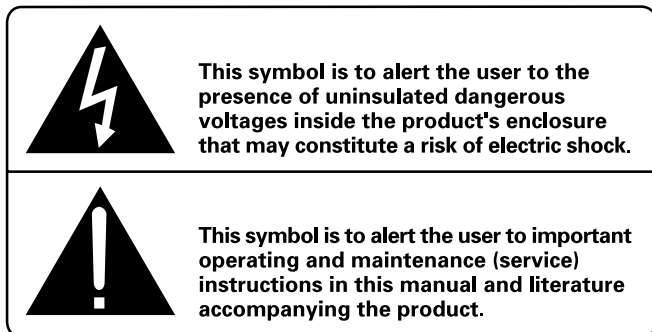




**APPLICABLE FOR USA, CANADA OR WHERE APPROVED FOR THE USAGE**

**CAUTION:** TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT. INSERT FULLY.

**ATTENTION:** POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.



**WARNING:** There are no user serviceable parts inside. Refer all servicing to qualified service personnel.

**WARNING:** To reduce the risk of fire or electric shock, do not expose the unit to moisture or water. Do not allow foreign objects to get into the enclosure. If the unit is exposed to moisture, or a foreign object gets into the enclosure, immediately disconnect the power cord from the wall. Take the unit to a qualified service person for inspection and necessary repairs.

Read all the instructions before connecting or operating the component. Keep this manual so you can refer to these safety instructions.

Heed all warnings and safety information in these instructions and on the product itself. Follow all operating instructions.

Clean the enclosure only with a dry cloth or a vacuum cleaner.

You must allow 10 cm or 4 inches of unobstructed clearance around the unit. Do not place the unit on a bed, sofa, rug, or similar surface that could block the ventilation slots. If the component is placed in a bookcase or cabinet, there must be ventilation of the cabinet to allow proper cooling.

Keep the component away from radiators, heat registers, stoves, or any other appliance that produces heat.

The unit must be connected to a power supply only of the type and voltage specified on the rear panel of the unit.

Connect the component to the power outlet only with the supplied power supply cable or an exact equivalent. Do not modify the supplied cable in any way. Do not attempt to defeat grounding and/or polarization provisions. Do not use extension cords.

Do not route the power cord where it will be crushed, pinched, bent at severe angles, exposed to heat, or damaged in any way. Pay particular attention to the power cord at the plug and where it exits the back of the unit.

The power cord should be unplugged from the wall outlet if the unit is to be left unused for a long period of time.

Immediately stop using the component and have it inspected and/or serviced by a qualified service agency if:

- The power supply cord or plug has been damaged.
- Objects have fallen or liquid has been spilled into the unit.
- The unit has been exposed to rain.
- The unit shows signs of improper operation
- The unit has been dropped or damaged in any way

Place the unit on a fixed, level surface strong enough to support its weight. Do not place it on a moveable cart that could tip over.



Figure 1: Controls and Connections

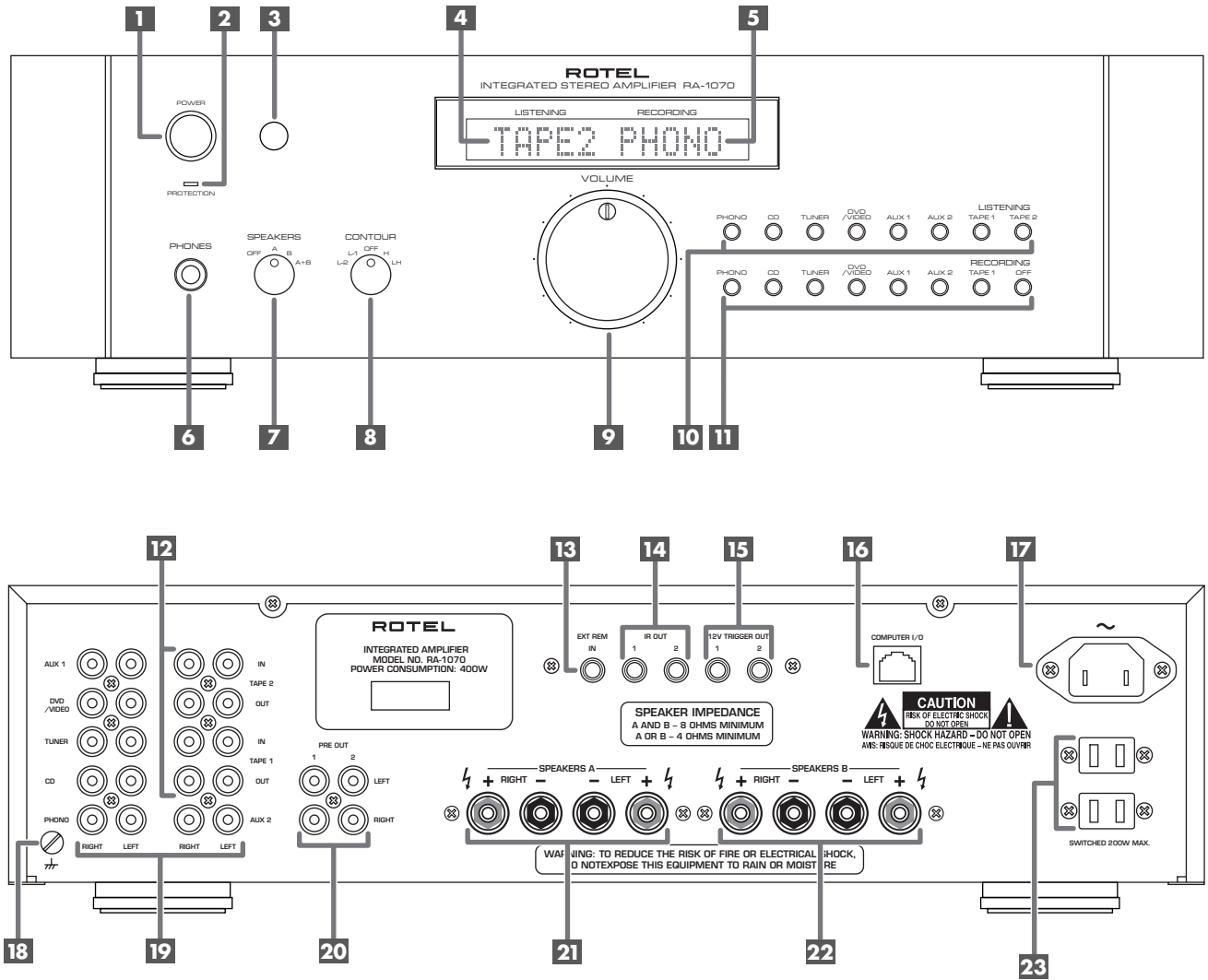


Figure 2: RR-969 Remote Control

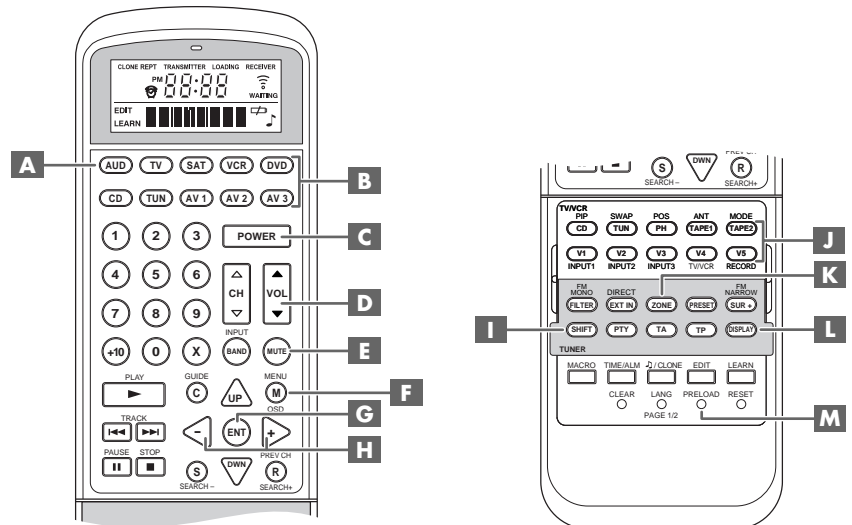


Figure 3: Phono and Line Inputs; Recorder Input/Output

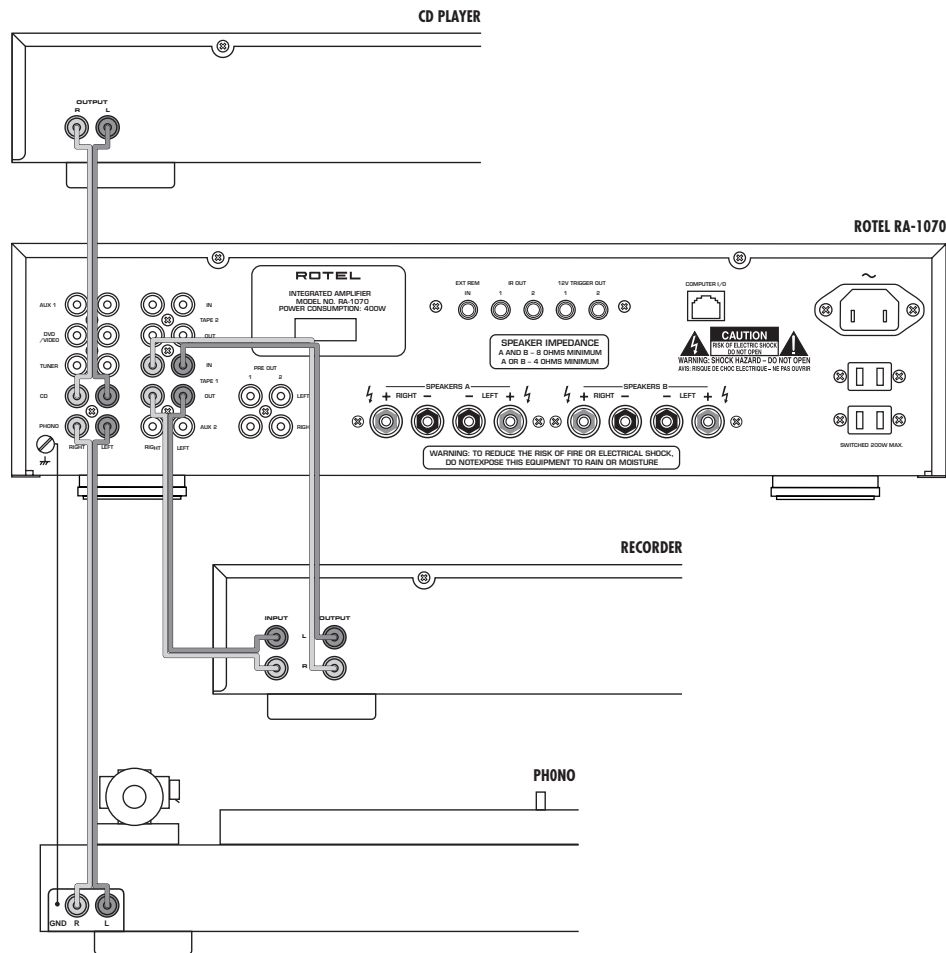
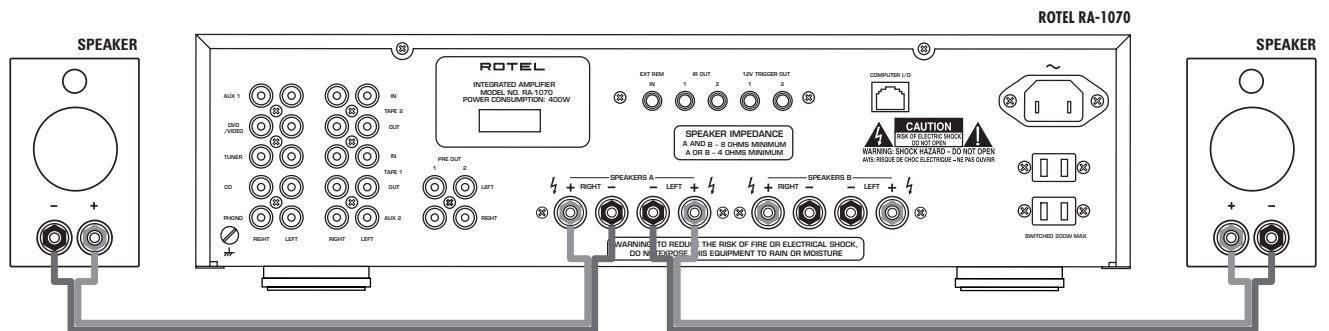


Figure 4: Speaker Output Connection



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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 40 years ago. Over the years that passion has remained undiminished and the 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, and toroidal power transformers 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 RA-1070 Stereo Integrated Amplifier. When used in a high-quality music audio system, it will provide years of musical enjoyment.

The RA-1070 is a full featured, high performance preamplifier. All aspects of the design have been optimized to retain the full dynamic range and subtle nuances of your music. The RA-1070 has a highly regulated power supply incorporating a Rotel custom-designed toroidal power transformer and custom-made slit foil capacitors. This low impedance power supply has ample power reserves, which enables the RA-1070 to easily reproduce the most demanding audio signals. This type of design is more expensive to manufacture, but it is better for the music.

The RA-1070 printed circuit boards (PCB) are designed with Symmetrical Circuit Traces. This insures that the precise timing of the music is maintained and faithfully recreated. The RA-1070 circuitry uses metal film resistors and polystyrene or polypropylene capacitors in important signal paths. All aspects of this design have been examined with the final goal being faithful reproduction of music.

The RA-1070 has a superb phono preamp stage. It is designed for use with popular moving magnet (MM) phono cartridges. This shows our commitment to phono sound quality and our interest in the recreation of fine music.

The RA-1070 is straightforward in its installation and operation. If you have experience with other stereo systems, you shouldn't find anything perplexing. Simply plug in the associated components and enjoy.

### A Few Precautions

Please read this manual carefully. It provides complete information on how to incorporate the RA-1070 into your system as well as general information that will help you get optimum sound performance. 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 RA-1070 shipping carton and all enclosed packing material for future use. Shipping or moving the RA-1070 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 RA-1070. 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

Like all audio components that handle low-level signals, the RA-1070 can be affected by its environment. Do not stack the other components on top of the RA-1070. That will impede the ability of the amplifier to ventilate the heat it generates. Also, do not stack the RA-1070 on top of other components. This will minimize chance the other components will pick up hum or interference from the RA-1070. We recommend installing the system components in furniture designed to house audio components. Such furniture is designed to reduce or suppress vibration which can adversely affect sound quality. Ask your authorized Rotel dealer for advice about component furniture and proper installation of audio components.

### Cables

Be sure to keep the power cords, digital signal cables and regular audio signal cables in your installation away from each other. This will minimize the chance of the regular audio signal cables picking up noise or interference from the power cords or digital cables. Using only high quality, shielded cables will also help to prevent noise or interference from degrading the sound quality of your system. If you have any questions see your authorized Rotel dealer for advice about the best cable to use with your system

## RR-969 Remote Control

The RA-1070 includes a full-function learning remote control that can operate up to nine other components, in addition to the RA-1070.

A separate manual, included with the remote, gives detailed instructions on programming and using the RR-969 to replace all of the remote controls in your system. To avoid duplication, we provide only basic information about using the RR-969 to operate the RA-1070.

Most of the RR-969 functions duplicate the front panel controls. In this manual the remote control functions are covered in the same section as the front panel control operation. Numbers in gray boxes such as **1** indicate items on the front and rear panel control and connection illustrations. See Figure 1 on page 3. Letters in gray boxes such as **A** indicate items on the RR-969 illustration. See Figure 2 on page 3.

### Using the RR-969 **A**

To operate the RA-1070 with the remote, activate the AUDIO mode, if necessary, by pressing the AUD button **A**. The AUDIO mode will remain selected until another DEVICE button is pressed.

### Controlling Other Components **B**

To control other components with the RR-969, press the appropriate Device Selection button. See the RR-969 manual for more information.

### Remote Sensor **3**

The Remote Sensor is located to the right of the Power button on the front panel. It picks up the infra-red signals from the remote control. Do not cover or block the sensor. It must be clear of obstructions or the remote control will not work properly. The operation of the Remote Sensor can also be affected if it is exposed to bright light, particularly sun light. In addition remote control functions may not work reliably if the batteries in the RR-969 are weak.

### Programming the RR-969 **M**

The RR-969 is pre-programmed to operate the RA-1070. Should the Audio mode of the RR-969 not operate the RA-1070, the programming may have been changed. To restore the original programming, press the recessed Preload button **M** on the remote with the tip of a ball point pen.

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**NOTE:** Pushing the PRELOAD button will **erase all custom programming and learned commands**, restoring the RR-969 to its factory settings.

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## AC Power and Control

### AC Power Input 17

The RA-1070 uses a moderate amount of power. However there are two auxiliary power outlets on the back of the unit, which can be used to supply up to 200 watts of power for other components. Consequently, the RA-1070 should be plugged directly into a 2-pin polarized wall outlet. Avoid the use of extension cords. 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 components connected to it.

**NOTE:** Do not connect the power cord for a power amplifier to the auxiliary power outlets on the RA-1070. Power amplifiers often draw more power than these outlets can provide. The auxiliary power outlets should be used only to power source components, such as CD players or tuners.

Your RA-1070 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 left side.

**NOTE:** Should you move your RA-1070 amplifier to another country, it is possible to reconfigure it for use on a different line voltage. Do not attempt to perform this conversion yourself. Opening the enclosure of the RA-1070 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 Remote Power Button C

The Power switch 1 is located on the left side of the front panel. When it is pressed the RA-1070 is turned on and the front panel displays and indicators are illuminated. When the front panel Power button is in the "on" position, the RR-969 Power button C can be used to put the RA-1070 into standby mode and return it to regular power mode. When the RA-1070 is in standby mode the front panel display is turned off and amplifier circuits go into low power mode.

**NOTE:** The RA-1070 will be turned on and in the normal operating mode as soon as it is connected to the AC outlet. Be sure to set the Volume control to the minimum (full counterclockwise) position before connecting the power cord.

### Auxiliary Power Outputs 23

(North American version only)

The RA-1070 has two switched outlets on the back panel. Power is available from these outlets when the RA-1070 is in regular power mode. Power to these outlets is turned off when the RA-1070 is in Standby mode. These outlets can provide up to a total of 200 watts. They are appropriate for supplying power to signal sources, such as CD players, tuners, or tape decks. They should not be used for power amplifiers. Connecting components that will draw more than 200 watts to these outputs could damage the Power switch in the RA-1070.

### Input Signal Connections 19

[See Figure 3.]

The RA-1070 has conventional RCA-type connectors for all inputs.

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

### Phono Input and Ground Connection 18

Plug the cable from the turntable into the appropriate left and right phono inputs. If the turntable has a "ground" wire connect it to the screw terminal to the left of the Phono inputs. It will help prevent hum and noise.

### Line Level Inputs

The CD, DVD/Video, Tuner, and Aux inputs of the RA-1070 are "line level" inputs. These are for connecting components such as CD players, Hi Fi or NICAM Stereo video cassette recorders, tuners, Laser Disc players or the analog output from a CD ROM drive.

The Left and Right channels are clearly labeled and should be connected to the corresponding channels of the source component. The Left RCA connectors are white, the Right connectors are red. Use high quality RCA cables for connecting input source components to the RA-1070. Ask your authorized Rotel dealer for advice about cables.

### Recorder Connections 12

[See Figure 3.]

The Tape 1 and Tape 2 inputs and outputs can be connected to any record/playback device that accepts standard line level analog input and output signals. Typically that will be a conventional tape recorder.

When connecting a recorder to the RA-1070, remember that the outputs of the recorder must be connected to the tape inputs of the RA-1070. Similarly the tape outputs of the RA-1070 must be connected to the inputs of the recorder. As with other sources be sure to connect the Left and Right channels of each device to the proper channels on the associated components. Use high quality connecting cables to prevent loss of sound quality.

## Preamp Outputs **20**

The RA-1070 has two sets of preamp outputs. The signal from the source selected with the Listening Selector buttons is always available from these outputs. Typically these outputs are used to provide a signal to another integrated amplifier or power amplifier, which is used to drive remote speakers. Or they may be used to provide signals to a surround sound processor or other signal processing component.

## Speaker Outputs **21 22** and Speaker Selector Switch **7**

[See Figure 4 for speaker connection illustration.]

The RA-1070 has two sets of speaker outputs, labeled "A" **21** and "B" **22**. The speaker outputs are controlled by the Speaker Selector switch **7** on the front panel.

### Speaker Selection

If only one set of speakers will be used at any given time, the speakers may have an impedance as low as 4 ohms. If there are times when both the A and B speakers will be used, all the speakers should have an impedance of 8 ohms or more. Speaker impedance ratings are less than precise. In practice, very few loudspeakers will present any problems for the RA-1070. See your authorized Rotel dealer if you have any questions.

### Speaker Wire Selection

Use insulated two-conductor stranded wire to connect the RA-1070 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 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 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

Turn off all the components in the system before connecting the speakers. The RA-1070 has color-coded binding post type speaker connectors on the back panel (except in European Community countries where their use is not permitted). These connectors accept bare wire, connector lugs, or dual banana type connectors.

Route the wire from the RA-1070 to the speakers. Give yourself enough slack so you can move the components 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 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 the insulation from the end of each conductor. Be careful not to cut into the wire strands. Unscrew (turn counterclockwise) the binding post thumbscrews. Place the connector lug or wire around the binding post shaft. Turn the 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.

## IR Inputs and Outputs

### External Remote Input **13**

This 3.5 mm mini-jack (labeled EXT REM IN) receives command codes from an industry-standard infrared receivers (Xantech, etc.) located in the main listening room. This feature is useful when the unit is installed in a cabinet and the front-panel sensor is blocked. Consult your authorized Rotel dealer for information on external receivers and the proper wiring of a jack to fit the mini-jack receptacle.

**NOTE:** The IR signals from the EXTERNAL REMOTE IN jack can be relayed to source components using external IR emitters or hardwired connections from the IR OUT jacks.

### IR Output **14**

The IR OUT 1 and 2 jacks send IR signals received at the EXTERNAL REM IN jack to an infrared emitter placed in front of a source component or to Rotel CD players, cassette decks, or tuners with a compatible rear panel IR connector.

This output is used to allow IR signals to pass along IR signals from a remote control when the sensors on the source components are blocked by installation in a cabinet.

See your authorized Rotel dealer for information on IR repeater systems.

**NOTE:** The EXT REM IN jack located next to these jacks is for use with an external IR sensor duplicating the front panel IR sensor and located in the primary zone.

## 12 Volt Trigger Outlet **15**

Some audio components can be turned on automatically when they receive a 12V turn on "signal". The 12V Trigger Outputs of the RA-1070 provide the required signal. Connect compatible components to the RA-1070 with a conventional 1/8" miniplug cable. When the RA-1070 is in Standby mode, the trigger signal is interrupted, so the components controlled by it are turned off.



## Computer I/O Connector 16

The RA-1070 can be operated from a personal computer running audio system control software from third-party developers. This control is accomplished by sending the operating codes normally sent by the RR-969 remote control over a hard-wired network connection from the computer.

The COMPUTER I/O input provides the necessary connection on the back panel. It accepts standard RJ-45 8-pin modular plugs, such as those commonly used in 10-BaseT UTP Ethernet cabling.

For additional information on the connections, software, and operating codes for computer control of the RA-1070, contact your authorized Rotel dealer.

## Audio Controls

### Volume Controls 9 and D

The front panel Volume control 9 increases or decreases the volume in both channels at the same time. Turn it clockwise to increase the volume or counterclockwise to decrease the volume. On the RR-969 remote Volume Button D, press the ▲ to increase volume or ▼ to decrease volume.

### Listening Selector Buttons 10 and Display 4

Press one of the Listening Selector Buttons 10 to select the input signal that goes to the main outputs and to the power amplifier – or, more simply, which source is heard. The source selected is shown in the front panel FL Display 4.

### Recording Selector Buttons 11 and Display 5

Press one of the Recording Selector Buttons 11 to select the input signal that goes to the record outputs. The source selected is shown in the front panel FL Display 5. When you are not recording, press the Off button. This minimizes the chance of interference from other components in the system.

Having a separate Recording and Listening selector adds a significant degree of flexibility in how you can use the RA-1070. For example by selecting CD with the Record Selector and selecting Tuner with the Listening Selector you can record a CD onto a tape while listening to the tuner.

If you wish to duplicate (“dub”) a recording from one recorder to another, the source unit must be connected to Tape 1 in/outputs. Press the Tape 1 Recording Selector button. Connect the unit recording the signal to the Tape 2 in/outputs.

### Contour Control 8

Instead of conventional tone controls, the RA-1070 has a front-panel Contour control which selects one of five available settings. Each setting provides a fixed frequency contour as follows:

Off: the tone contour circuits are bypassed to ensure the purest possible sound.

L-1: moderate increase in bass frequencies (typically +3dB @ 100Hz).

L-2: more increase in bass frequencies (typically +4dB @ 100Hz).

H: moderate increase in high frequencies (+3dB @ 10kHz).

LH: combination of L-2 bass and H high frequency increases.

## Phones Output 6

The Phones output allows you to connect headphones for private listening. This output accommodates standard stereo phone (1/4”) plugs. If your headphones have another type of plug, such as a 1/8” mini-plug, you will need an adapter plug. Contact your authorized Rotel dealer, to get the correct adapter plug. Plugging in a set of headphones does not cut off the signal to the outputs. Use the Speaker Selector to turn off the speakers. The setting of the Listening Selector controls which source is heard. Turn the front panel Listening Selector to the source you want to listen to. Or press the corresponding source button on the remote control.

**NOTE:** Because the sensitivity of speakers and headphones can vary widely, always reduce the volume level before connecting or disconnecting headphones.

## Remote Control Functions

### Selecting Listening Input J

To select listening sources press:

Source	Button
Phono	PH
CD	CD
Tuner	TUN
DVD/Video	V1
Aux 1	V4
Aux 2	V5
Tape 1	TAPE 1
Tape 2	TAPE 2

### Selecting Recording Input

To select the Recording Input press the Zone button K, then press the button for the source you want. Refer to the table in the previous paragraph. (Tape 2 cannot be selected as a Recording Input.)

After you have selected a Recording Input the Source Selection buttons revert to the Listening Input selection function.

To turn the Recording Selection off, press the Zone button, then press the Shift button L.

### Mute Button E

Press the Mute button to temporarily reduce the volume of the system. Press the button again to return the volume to its original level.

## FL Display Control

### Turning FL Display On/Off **L**

To turn the front panel FL Display on or off, press the Display **L** button on the RR-969. When the display is set to off, the Listening Selector Display and Recording Selector Display will light for 5 seconds when a new source is selected.

### Customizing FL Display

You can program the RA-1070 to display custom names, up to 5 characters long, in the Listening and Recording Selection Displays. For example, if the Aux 1 input was connected to a Digital Satellite Dish, you could program it to RA-1070 to display "DSS" when the Aux 1 input is selected.

Example:

- 1 Select Aux 1 as the listening input so AUX 1 appears in the display. Press and hold the Menu/OSD **F** button until the characters in the display change to blinking solid blocks.
- 2 Use the RR-969 **◀/▶** buttons **H** to scroll through the character set. (See page 3 of the RR-969 manual for a listing of the character set.) When the character you want is displayed, press Enter **G** to confirm it and go to the next character.
- 3 Repeat the previous step to select the remaining characters. After the last character is selected and confirmed the new name is saved automatically.

Once the Listening input display is customized, the new name also appears when that input is selected as the Recording input. (The exception is the Tape 2 input since it cannot be selected as the recording source.)

When an input that has a customized name is selected, the original input name is displayed for 2 seconds, before the customized name is displayed.

### Clearing FL Display Customization

To clear all customized displays, turn the RA-1070 on. Then press the Listening Selector Phono button together with the Recording Selector Off button. This will return all displays to their original settings.

## Protection Circuitry **2**

The RA-1070 has both thermal and over-current protection circuitry that protects the amplifier against damage in the event of extreme or faulty operating conditions. The protection circuits are independent of the audio signal and have no impact on sonic performance. Instead, the protection circuits monitor the temperature of the output devices and shut 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.

## Troubleshooting

Most difficulties in audio systems are the result of incorrect 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 RA-1070, refer to the suggestions for the following conditions:

### Power Indicator Is Not Lit

The Power Indicator should be lit whenever the RA-1070 is plugged into the wall power outlet. If it does not light, test the power outlet with another electrical device, such as a lamp. Be sure the power outlet being used is not controlled by a switch that has been turned off.

### Fuse Replacement

If another electrical device works when plugged into the power outlet, but the Standby Indicator still will not light when the RA-1070 is plugged into the wall outlet, it indicates that the internal power fuse may have blown. If you believe this has happened, contact your authorized Rotel dealer to get the fuse replaced.

### No Sound

Check the signal source to see if it is functioning properly. Make sure the cables from the signal source to the RA-1070 inputs are connected properly. Be sure the Listening Selector is set to the proper input. Check the wiring between the RA-1070 and the speakers.

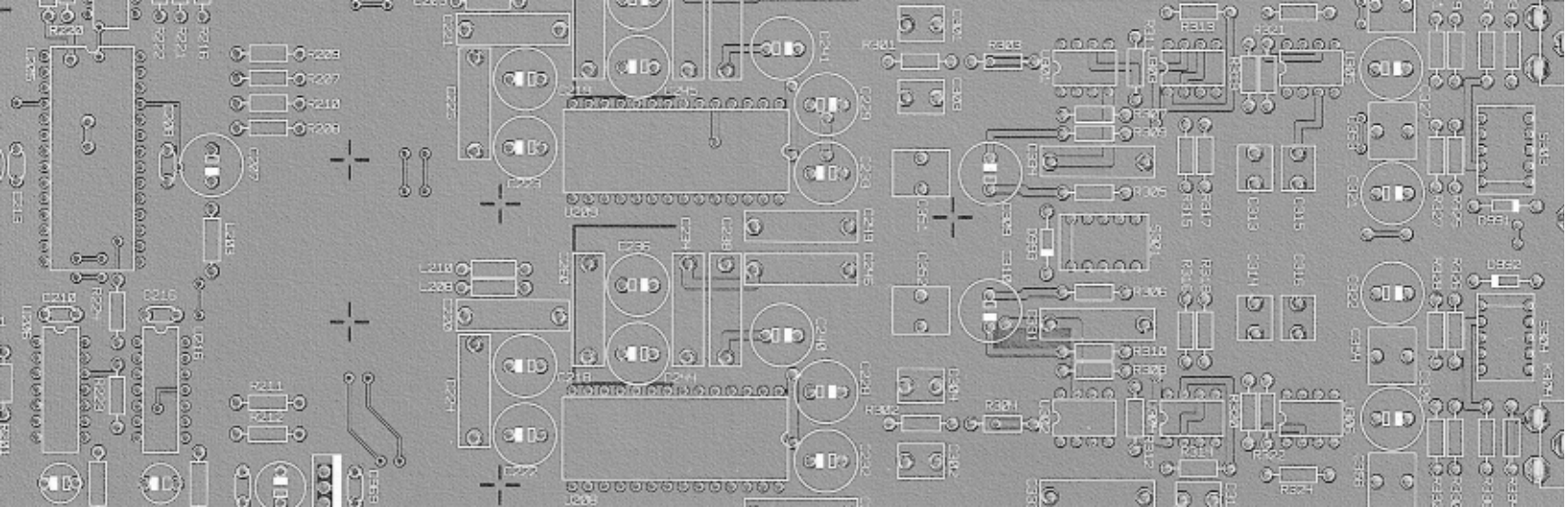
### Protection Indicator Is Lit

The front panel indicator lights when the RA-1070 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

<b>Continuous Power Output (20-20 kHz, &lt; 0.03%, 8 ohms)</b>	100 watts/ch
<b>Total Harmonic Distortion (20Hz-20kHz)</b>	< 0.03% at rated power, 1/2 power or 1 watt
<b>Intermodulation Distortion (60 Hz : 7 kHz, 4:1)</b>	< 0.05% at rated power, 1/2 power or 1 watt
<b>Frequency Response</b>	
Line level inputs	4Hz – 100kHz, ± 3dB
Phono input	20Hz – 20kHz. ±0.5dB
<b>Damping Factor (20-20,000 Hz, 8 ohms)</b>	400
<b>Input Sensitivity / Impedance</b>	
Line level inputs	150 mV / 33 kOhms
Phono input (MM)	1.2mV / 68 kOhms
<b>Input Overload</b>	
Line level inputs	5 V
Phono input (MM)	70 mV
<b>Preamplifier Output Rated Voltage</b>	1V
<b>Signal to Noise Ratio (IHF "A" weighted)</b>	
Line level inputs	102 dB
Phono input	70 dB
<b>Power Requirements</b>	
USA Version	115 Volts, 60 Hz
European Version	230 Volts, 50 Hz
<b>Power Consumption</b>	400 Watts
<b>Dimensions (W x H x D)</b>	430 x 121 x 360 mm 16 <sup>15</sup> / <sub>16</sub> x 4 <sup>3</sup> / <sub>4</sub> x 14 <sup>3</sup> / <sub>16</sub>
<b>Weight (net)</b>	10.3 kg, 22.7 lbs.

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



**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](http://www.rotel.com)