ROTEL®

RA-12, RA-11
Stereo Integrated Amplifier
立体声放大器

Owner's Manual
使用说明书

Important Safety Instructions

Notice

The RS232 connection should be handled by authorized persons only.

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 expose the unit to dripping or splashing. Do not place objects filled with liquids, such as vases, on the unit. 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.

Do not use this unit near water.

You must allow a minimum 10 cm or 4 inches of unobstructed clearance around the unit.

> 10 cm
> 4 in
> 10 cm > 4 in
> 10 cm
> 4 in

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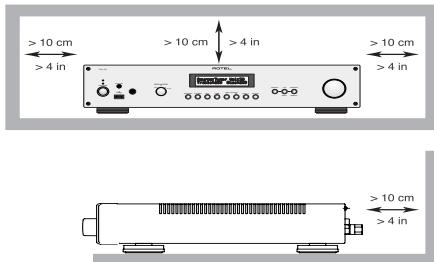
Do not place the unit on a bed, sofa, rug, or similar surface that could block the ventilation openings. If the unit is placed in a bookcase or cabinet, there must be ventilation of the cabinet to allow proper cooling.

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

WARNING: The rear panel power cord connector is the mains power disconnect device. The device must be located in an open area that allows access to the cord connector.

The unit must be connected to a power supply only of the type and voltage specified on the rear panel. (USA: 120 V/60Hz, EC: 230V/50Hz)

Connect the component to the power outlet only with the supplied power supply cable or an exact equivalent. Do not modify the supplied cable. A polarized plug has two blades, with one wider than the other. A grounding plug has two blades plus a third grounding prong. These are provided for your safety. Do not defeat grounding and/or polarization safety provisions. If the supplied plug does not fit your outlet, please consult an electrician for replacement of the obsolete outlet. Do not use extension cords.

The main plug of the power cordset is a disconnect device of the apparatus. In order to completely disconnect the apparatus from the supply mains, the main plug of the power cordset should be unplugged from the mains (AC) outlet.The stand-by LED indicator will not be lit up to show the power cord is unplugged. The disconnect device shall remain readily operable.

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

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

Use only accessories specified by the manufacturer.

Use only with a cart, stand, rack, bracket or shelf system recommended by Rotel. Use caution when moving the unit in a stand or rack to avoid injury from a tip-over.
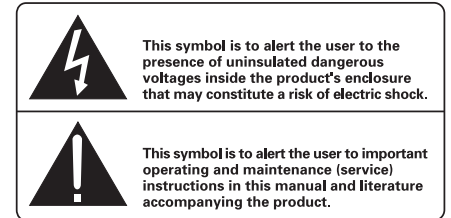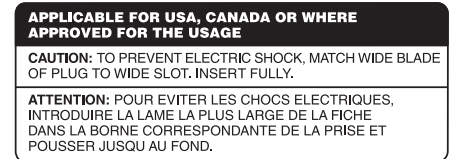
Use Class 2 wiring for speaker connections to ensure proper installation and minimize the risk of electrical shock.

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.

The batteries in the remote control should not be exposed to excessive temperature such as sunshine, fire or other heat sources.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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.

This symbol is to alert the user to the presence of uninsulated dangerous voltages inside the product's enclosure that may constitute a risk of electric shock.

This symbol is to alert the user to important operating and maintenance (service) instructions in this manual and literature accompanying the product.

Rotel products are designed to comply with international directives on the Restriction of Hazardous Substances (RoHS) in electrical and electronic equipment and the disposal of Waste Electrical and Electronic Equipment (WEEE). The crossed wheelie bin symbol indicates compliance and that the products must be appropriately recycled or processed in accordance with these directives.

This symbol means that this unit is double insulated. An earth connection is not required.
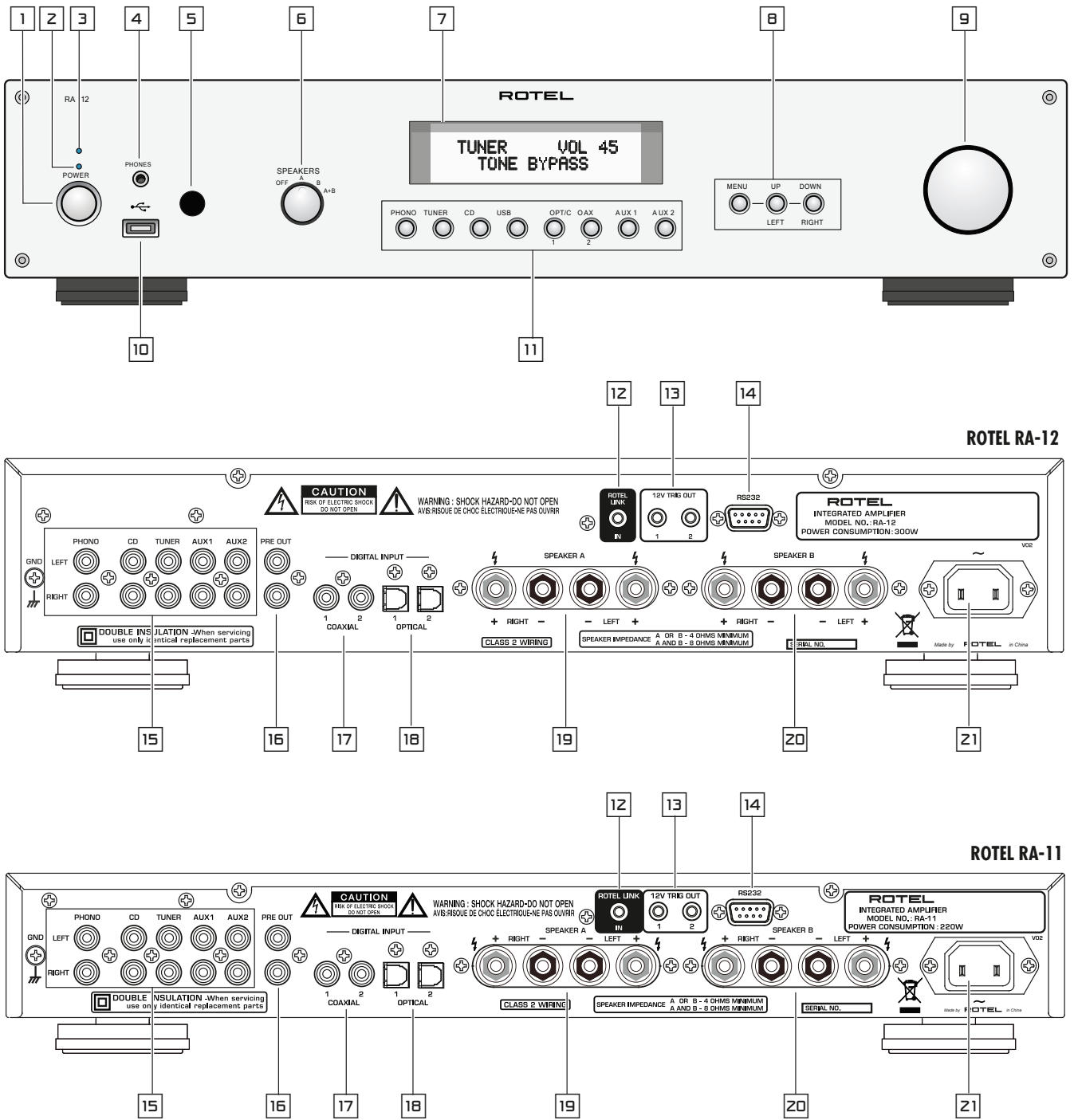
CE

Figure 1-1:   Controls and Connections

ROTEL

RA-12

POWER

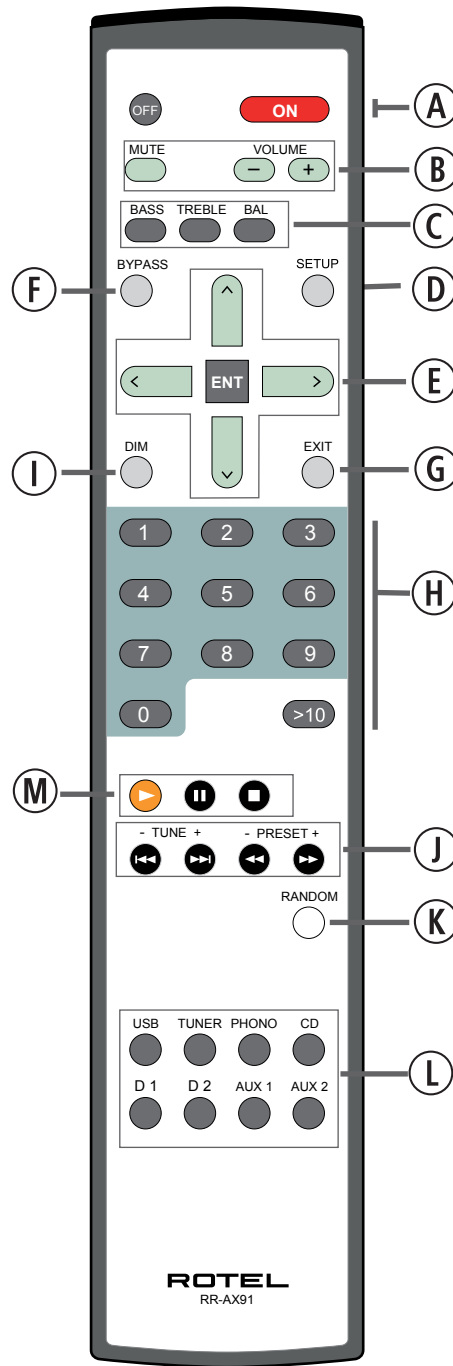PHONES

SPEAKERS
OFF   A   B   A+B

TUNER   VOL 45
TONE BYPASS

PHONO TUNER CD USB OPT/C OAX AUX 1 AUX 2
1   2

MENU   UP   DOWN
LEFT   RIGHT

ROTEL RA-12

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING : SHOCK HAZARD-DO NOT OPEN
AVIS:RISQUE DE CHOC ÉLECTRIQUE-NE PAS OUVRIR

ROTEL
LINK
IN

12V TRIG OUT
1   2

RS232

ROTEL
INTEGRATED AMPLIFIER
MODEL NO.: RA-12
POWER CONSUMPTION:300W
V02

PHONO   CD   TUNER   AUX1   AUX2   PRE OUT
LEFT

GND

RIGHT

DIGITAL INPUT

1   2
COAXIAL

1   2
OPTICAL

SPEAKER A

+ RIGHT −   − LEFT +

SPEAKER B

+ RIGHT −   − LEFT +

DOUBLE INSULATION -When servicing
use only identical replacement parts

CLASS 2 WIRING

SPEAKER IMPEDANCE A OR B - 4 OHMS MINIMUM
A AND B - 8 OHMS MINIMUM

SERIAL NO.

Made by ROTEL in China

ROTEL RA-11

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING : SHOCK HAZARD-DO NOT OPEN
AVIS:RISQUE DE CHOC ÉLECTRIQUE-NE PAS OUVRIR

ROTEL LINK
IN

12V TRIG OUT
1   2

RS232

ROTEL
INTEGRATED AMPLIFIER
MODEL NO.: RA-11
POWER CONSUMPTION : 220W
V02

PHONO   CD   TUNER   AUX1   AUX2   PRE OUT
LEFT

GND

RIGHT

DIGITAL INPUT

1   2
COAXIAL

1   2
OPTICAL

SPEAKER A

+ RIGHT −   − LEFT +

SPEAKER B

+ RIGHT −   − LEFT +

DOUBLE INSULATION -When servicing
use only identical replacement parts

CLASS 2 WIRING

SPEAKER IMPEDANCE A OR B - 4 OHMS MINIMUM
A AND B - 8 OHMS MINIMUM

SERIAL NO.

Made by ROTEL in China

Figure 1-2:   Remote Control RR-AX91

Figure 2: Preamp Input and Speaker Output Connections

SPEAKERS

+ −

+ −

ROTEL
INTEGRATED AMPLIFIER
MODEL NO.: RA-12
POWER CONSUMPTION: 300W

12V TRIG OUT   RS232

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING : SHOCK HAZARD - DO NOT OPEN
AVIS:RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR

PHONO   CD   TUNER   AUX1   AUX2   PRE OUT

GND   LEFT

RIGHT

DIGITAL INPUT

COAXIAL   OPTICAL

SPEAKER A

SPEAKER B

+ RIGHT −   − LEFT +

+ RIGHT −   − LEFT +

CLASS 2 WIRING

SPEAKER IMPEDANCE   A OR B - 4 OHMS MINIMUM
A AND B - 8 OHMS MINIMUM

SERIAL NO.

Made by ROTEL in China

DIGITAL MEDIA / CD PLAYER

DIGITAL OUTPUT

CD PLAYER

R   OUTPUT   L

PHONO

R   GND   L

Figure 3:   ROTEL LINK and 12V Trigger Connections

Important! : The 12V trigger cables will override the Rotel Link commands. Do not connect the 12V trigger cable if Rotel Link is connected.

Amplifier RA-12

CD Player RCD-12

Tuner RT-12

Important Notes
When making connections be sure to:
✔ Turn off **all** the components in the system **before** hooking up **any** components, including loudspeakers.
✔ Turn off **all** components in the system **before** changing **any** of the connections to the system.
It is also recommended that you:
✔ Turn the volume control of the amplifier all the way down **before** the amplifier is turned **on or off.**

Remarques importantes
Pendant les branchements, assurez-vous que :
✔ **Tous** les maillons sont éteints **avant** leur branchement, **quels qu'ils soient**, y compris les enceintes acoustiques.
✔ Éteignez **tous** les maillons **avant** de modifier **quoi que ce soit** au niveau de leurs branchements, quels qu'ils soient.
Il est également recommandé de :
✔ Toujours baissez le niveau sonore via le contrôle de volume, **avant d'allumer ou d'éteindre** l'amplificateur.

Wichtige Hinweise
Achten Sie beim Herstellen der Verbindungen auf Folgendes:
✔ Schalten Sie **alle** Komponenten im System ab, **bevor** Sie Geräte (einschließlich Lautsprecher) anschließen.
✔ Schalten Sie **alle** Komponenten im System ab, **bevor** Sie Anschlüsse im System verändern.
Ferner empfehlen wir, dass
✔ Sie die Lautstärke herunterdrehen, **bevor** Sie die Endstufe **ein-** oder **ab**schalten.

Notas Importantes
Cuando realice las conexiones, asegúrese de que:
✔ Desactiva **todos** los componentes del equipo, cajas acústicas incluidas, **antes** de conectar **cualquier nuevo componente** en el mismo.
✔ Desactiva **todos** los componentes del equipo **antes** de cambiar **cualquier conexión del mismo.**
También le recomendamos que:
✔ Reduzca el nivel de volumen de su amplificador a cero **antes** de **activarlo o desactivarlo.**

Héél belangrijk
Bij het maken van de verbindingen:
✔ Zorg dat niet alleen de RA-12/RA-11, maar de **gehele** installatie uitstaat, als nog niet **alle** verbindingen gemaakt zijn.
✔ Zorg dat niet alleen de RA-12/RA-11, maar de **gehele** installatie ook uitstaat, **als** u verbindingen gaat **wijzigen.**
Wij raden u ook aan om
✔ de volumeregelaar van de voorversterker geheel dicht te draaien (volkomen naar links) **wanneer** u uw eindversterker **aan- of uitzet.**

Note importanti
Quando effettuate i collegamenti assicuratevi di:
✔ Spegnere **tutti** i componenti del sistema **prima** di collegare **qualsiasi** componente, inclusi i diffusori.
✔ Spegnere **tutti** i componenti del sistema **prima** di modificare **qualsiasi** connessione nel sistema.
Vi raccomandiamo inoltre di:
✔ Portare il volume a zero **prima** di **accendere o spegnere** l'amplificatore.

Viktigt
Tänk på följande när du gör anslutningar:
✔ Stäng av **alla** apparater i anläggningen **innan** du ansluter nya komponenter eller högtalare.
✔ Stäng av **alla** apparater i anläggningen **innan** du ändrar någon anslutning.
Du rekommenderas också:
✔ Vrid ner volymen på förförstärkaren helt och hållet **innan** förstärkaren slås **på eller av.**

Важные замечания
Перед подсоединением:
✔ Выключите **все** компоненты, включая колонки.
✔ Выключите **все** компоненты в вашей системе, прежде чем что-то в ней **менять**.
Рекомендуется также:
✔ Вывести громкость усилителя на **минимум**, перед тем как **включать или выключать** его.

Contents

About Rotel

Our story began over 50 years ago. Over the decades, we have received hundreds of awards for our products and satisfied hundreds of thousands of people who take their entertainment seriously – like you.

Rotel was founded by a family whose passionate interest in music led them to manufacture high-fidelity components of uncompromising quality.

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.

Rotel's 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, semiconductors from Japan or the United States, while toroidal power transformers are manufactured in Rotel's own factory.

We all have concerns about our environment. And, as more and more electronics are produced it is especially important for a manufacturer to do all it can to engineer products that have a minimum impact on the environment.

At Rotel, we are proud to do our part. We have reduced the lead content in our products by using special lead-free ROHS solder and components. Our engineers continually strive to improve power supply efficiency without compromise to quality. When in standby mode Rotel products use minimal power to meet global Standby Power Consumption requirements.

The Rotel factory is also doing their part to help the environment through constant improvements to product assembly methods for a cleaner and greener manufacturing processes.

All of us at Rotel thank you for buying this product. We are sure it will bring you many years of enjoyment.

Getting Started

Thank you for purchasing the Rotel RA-12/RA-11 Stereo Integrated Amplifier. When used in a high-quality music audio system, Rotel products will provide years of musical enjoyment.

This amplifier is a full featured, high performance component. All aspects of the design have been optimized to retain the full dynamic range and subtle nuances of your music. The unit has a highly regulated power supply incorporating a Rotel custom-designed toroidal power transformer. This low impedance power supply has ample power reserves, which enables the amplifier 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 printed circuit boards (PCB) are designed with Symmetrical Circuit Traces. This ensures that the precise timing of the music is maintained and faithfully recreated. The circuitry uses metal film resistors and polystyrene or polypropylene capacitors in important signal paths. All aspects of this design have been examined to ensure the most faithful music reproduction.

The main functions of the RA-12 and RA-11 are easy to install and use. If you have experience with other stereo systems, you shouldn't find anything perplexing. Simply plug in the associated components and enjoy.

NOTE: *The operations and feature of RA-12 and RA-11 are the same. The illustrations in the manual use the RA-12 as an example, but all sockets and buttons are the same on the RA-11.*

A Few Precautions

WARNING: *To avoid potential damage to your system, turn off ALL the components in the system when connecting or disconnecting the loudspeakers or any associated components. Do not turn the system components back on until you are sure all the connections are correct and secure. Pay particular attention to the speaker wires. There must be no loose strands that could contact the other speaker wires, or the chassis of the amplifier.*

Please read this manual carefully. It provides information on how to incorporate the RA-12/RA-11 into your system as well as 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 shipping carton and all enclosed packing material for future use. Shipping or moving the amplifier in anything other than the original packing material may result in severe damage to your amplifier.

If included in the box please fill out and send in the owner's registration card. 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, this amplifier can be affected by its environment. Avoid placing the unit on top of other components. Also avoid routing audio signal cables near power cords. This will minimize the chance it will pick up hum or interference.

The unit 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.

Remember the weight of the amplifier when you select an installation location. Make sure that the shelf or cabinet can support it. We recommend installing the unit 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.

The RR-AX91 Remote Control

Some functions can be done with either the front panel controls, or the supplied RR-AX91 remote control. When these operations are described, the square call out numbers refer to the main unit, while the encircled letters refer to the remote control.

Second Amplifier Remote Code
The factory setting is remote code 1. If you find that the remote is conflicting with other Rotel amplifiers, you can change to remote code 2 with the following steps.

1. From the remote control press Tuner Ⓛ and 2 Ⓗ at the same time to set the remote control to send Audio Code 2.

2. Point the remote at the unit and press 2 Ⓗ key for 8 seconds. The unit will show "Audio Custom Code 1 -> 2".

3. Repeat the above procedure and press "1" key instead of "2" to change the unit back to Code 1.

NOTE: *The remote control can be used to operate the basic functions of Rotel tuners and CD players. Remote control keys labeled Ⓗ Ⓜ Ⓙ Ⓚ can be used to operate CD or Tuner functions in your system. For the remote to operate properly, make sure both the remote and the CD or Tuner are both in same remote code, either Code 1 or 2.*

AC Power and Control

AC Power Input [21]
Your unit is configured at the factory for the proper AC line voltage in the country where you purchased it (either 120 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 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 unit exposes you to dangerous voltages. Consult a qualified service person or the Rotel factory service department for information.*

NOTE: *Some products are intended for sale in more than one country and as such are supplied with more than one AC cord. Please only use the one appropriate for your country/region.*

The unit does not draw high levels of current from the power outlet. However, whenever possible, 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) can handle the current demanded by the amplifier and all the other components connected to it.

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 ⏹Ⓐ and Power Indicator ⏹

Press the front panel Power Switch button ⏹, to turn the unit on. The Power Indicator light ⏹ is illuminated when the unit is on. Press Power Switch button again to turn the unit off.

When the power switch is in the ON position, the remote control ON and OFF buttons may be used to activate the RA-12/RA-11. In Standby mode the power LED remains lit, but the display is turned OFF.

12V Trigger Out ⏹

See Figure 3

Some audio components can be turned on automatically when they receive a 12V turn on "signal". The two 12V Trigger Outputs of the RA-12/ RA-11 provide the required signal. Connect compatible components to the amplifier with a conventional 3.5mm mini plug cable. When the unit is turned off, the trigger signal is interrupted, and the components controlled by it are turned off.

NOTE: *If you are using other units in the series with Rotel link, please use the Rotel Link connection to turn the units on or off. Do not connect both the Rotel Link and 12V trigger cables. The 12V trigger's power on or off features will override the Rotel Link features.*

Protection Indicator ⏹

The amplifier 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.

Input Signal Connections ⏹

See Figure 2

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 (GND)

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, Tuner, and Aux inputs of the amplifier are "line level" inputs. These are for connecting components such as CD players or other audio playback devices with an analog audio output.

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

Digital Signal Inputs ⏹ ⏹

See Figure 2

There are two sets of digital inputs labeled COAXIAL and OPTICAL. Connect the COAXIAL or OPTICAL outputs of your player into these sockets. The digital signals will be decoded and played by the amplifier. The unit is capable of decoding PCM signals up to 24 bit, 192kHz.

Preamp Outputs ⏹

The amplifier has a set of preamp outputs. The signal from the source selected with the Function Selector 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.

NOTE: *Changes to the settings of the Volume, Balance or Tone controls affect the signal from the Preamp Outputs.*

Speaker Outputs ⏹ ⏹

See Figure 2

Speaker Selector Switch ⏹

The amplifier has two sets of speaker outputs, labeled "A" ⏹ and "B" ⏹. The speaker outputs are controlled by the switch ⏹ 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 unit. See your authorized Rotel dealer if you have any questions.

Speaker Wire Selection

Use insulated two-conductor stranded wire to connect the unit 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 amplifier has color-coded binding post type speaker connectors on the back panel. These connectors accept bare wire, connector lugs, or dual banana type connectors. (except in European Community countries where their use is not permitted.)

Route the wire from the amplifier 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.*

Headphone Output 4

The headphone output allows you to connect headphones for private listening. This output accepts a standard 3.5mm (1/8") mini stereo headphone connector. 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 settings of the Function Selector determines which source is heard.

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

Remote Sensor 5

This remote sensor window receives IR commands from the remote control. Please do not block this sensor.

Display 7

The front panel display shows the source selected, volume level and tone settings.

Front USB Input 10

The front USB input can be connected to an iPod, iPhone, USB flash memory or the Bluetooth dongle (supplied) for wireless streaming. With iPod or iPhones, simply plug the device into the front USB and select USB function from the source selector. The iPod and iPhone remain active allowing search and play functions.

Bluetooth Dongle

Insert the supplied Bluetooth Dongle into the front USB of the RA-12/RA-11 for wireless streaming via Bluetooth, from your device (i.e. mobile phones). From your mobile device, look for "Rotel Bluetooth" and connect to it. Connection is normally automatic, but if prompted for a password, please press "0000" then enter on your device.

NOTE: *Not all Bluetooth dongles will operate with RA-12/RA-11. Please use the one supplied.*

Audio Controls

Volume Control 9 B

Turn the controls clockwise to increase the volume, or counter clockwise to decrease the volume. From the remote control press the volume + or - key to turn the volume up or down. Press the MUTE B key to completely mute the volume.

Balance Control 8 C

The Balance Control adjusts the left-to-right balance of the sound output. The factory default is the center position or "0". To change the balance from the front panel, press the MENU 8 key to toggle the front display to BALANCE SETTING mode. Then press the LEFT or RIGHT keys on the front panel to change the value to LEFT or RIGHT. The value can change from L15 to R15.

NOTE: *This setting is saved permanently including after powering off the RA-12/RA-11.*

To make temporary changes not saved after power off, from the remote, press the BAL C key to access the BALANCE SETTING menu, then press the LEFT or RIGHT arrow key to adjust. When finished, press the EXIT G key to exit the menu.

Tone Control Bypass 8 F

Bass and Treble Control (Tone Control) circuits are bypassed at factory default to ensure the purest possible sound. The front display will show TONE BYPASS. To turn on the tone control from the front panel, press the MENU 8 key to toggle to the Bypass control then press the LEFT or RIGHT keys to turn bypass on or off.

NOTE: *This setting is saved permanently including after powering off the RA-12/RA-11.*

To temporarily changes the Tone Control Bypass, press the BYPASS F key on the remote control to toggle the Bypass mode enabled and disabled.

Bass and Treble Controls ▣ⓒ

Set the Bass or Treble controls from the front panel by pressing the MENU ▣ key to toggle to either the Bass or Treble Setting menu. Then press the LEFT or RIGHT key to adjust the value. The Bass and Treble values range from -10 to +10.

NOTE: *These settings are saved permanently including after powering off the RA-12/RA-11.*

To temporarily change the Bass and Treble settings from the remote control, press the Bass or Treble ⓒ key, then press the LEFT or RIGHT arrow key on the remote to adjust the value.

A properly setup high-performance audio system produces the most natural sound with little or no adjustment of the tone controls. Use these controls sparingly. Be particularly careful when turning the controls up. This increases the power output in the bass or treble range, increasing the load on the amplifier and speakers.

NOTE: *Setting the Bass and Treble controls do not automatically turn on the tone control. To turn on tone control, refer to previous section Tone Control Bypass.*

Dim Control ▣ⓘ

To change the brightness of the front display, press the MENU ▣ button to toggle to the Display Settings. Then press the LEFT or RIGHT keys on the front panel to change the display brightness.

NOTE: *This setting is saved permanently including after powering off the RA-12/RA-11.*

To temporarily change the display brightness, press the DIM ⓘ key on the remote.

NOTE: *Tone Bypass, Bass, Treble, Balance and dimmer settings are only saved permanently from within the Menu/Setup. Adjustments made using the ⓒⓕⓘ buttons are temporary only and not saved after power off.*

Function Control ⑪ⓛ

The Function control selects the input signal source. From the front panel or remote press the corresponding input key to select the source to listen to.

ROTEL LINK ⑫

See Figure 3

This 3.5 mm stereo mini-jack (labeled ROTEL LINK IN) can optionally attach to Rotel network enabled products with ROTEL LINK OUT connections. This allows the attached Rotel products to communicate with each other and be controlled via the Rotel Remote App (available for download on the iTunes® store).

RS232 Connector ⑭

The RA-12/RA-11 can be controlled via RS232 for integration with automation systems. The RS232 input accepts a standard straight DB-9 Male-to-Female cable.

For additional information on the connections, software, and operating codes for computer control of the RA-12/RA-11, contact your authorized Rotel dealer

Settings Menu

You can access the settings menu from the front panel by pressing the MENU ▣ button or the SETUP ⓓ button on the remote. You can change the value of the selected option by pressing the LEFT/RIGHT key on the front panel or the LEFT/RIGHT arrow key on the remote. Step through the sub-menus by pressing the MENU ▣ key on the front panel or UP/DOWN ⓔ key on the remote.

• BASS: BASS level can be changed to desired settings. Press the MENU ▣ key on the front panel or SETUP ⓓ on the remote to toggle to BASS SETTING. (For more information refer to Bass and Treble control section.)

NOTE: *This setting is stored permanently even after the RA-12/RA-11 is powered off.*

• TREBLE: Refer to Bass and Treble control section.

• BALANCE: Change left/right balance. (For more information refer to Balance control section.)

NOTE: *These settings are stored permanently even after the RA-12/RA-11 is powered off.*

• TONE: TONE BYPASS on/off (For more information refer to Tone Control Bypass section).

NOTE: *These settings are stored permanently even after the RA-12/RA-11 is powered off.*

• CONTRAST: Changes the front panel display contrast between the back light and the actual characters.

• DIMMER: Dims the display in 7 steps.

NOTE: *These settings are stored permanently even after the RA-12/RA-11 is powered off.*

• ROTEL LINK CD: Selects how the CD player is connected to the amplifier, either CD (analog), CX1 (coaxial 1) or CX2 (coaxial 2). CD is the factory default.

NOTE: *This function works only with the Rotel App when selecting the CD (Rotel CD) input and does not change the front panel or IR remote control source buttons.*

• POWER ON MAX VOL: This sets the maximum volume level when the unit is turned on. "45" is the factory default.

NOTE: *Power On Max Volume settings do not apply to sources configured with Fixed Gain.*

• Auto Power Off: The RA-12/RA-11 can be configured to automatically power off if unused for a specified period. If no changes are made to the unit within the specified "Auto Power Off" timer the unit will automatically go to STANDBY mode. The Auto Power Off timer will be restarted if changes

are made to the volume, source or playback. The default for Auto Power Off is set to DISABLE.

Valid settings include: DISABLE, 1 HOUR, 2 HOURS, 5 HOURS, 12 HOURS.

• Fixed Gain: Configures a Fixed Volume level for a specified input. To enable this feature select the desired fixed volume level for Coax 1, Coax 2, Optical 1, Optical 2 or Bluetooth. When enabled and the input with a Fixed Volume is selected, the Volume level will immediately be set to the specified level.

Valid settings include: VARIABLE, FIXED MIN, FIXED 01-95, FIXED MAX.

   • COAX1 VOL: VARIABLE (disabled) is factory default.

   • COAX2 VOL: VARIABLE (disabled) is factory default.

   • OPT1 VOL: VARIABLE (disabled) is factory default.

   • OPT2 VOL: VARIABLE (disabled) is factory default.

   • BLUETOOTH VOL: VARIABLE (disabled) is factory default.

NOTE: *The Volume knob on the front panel and Volume +/- keys on the IR remote are disabled when the volume is Fixed. To disable this feature set the Fixed Volume level to "Variable".*

• Software Version : This shows the current software version loaded into the amplifier.

• Factory Default: This sets the unit back to the original state as when it left the factory. Press the RIGHT key on the front panel or the RIGHT arrow key on the remote control to select <YES>. The unit will ask for confirmation, press the RIGHT key again to confirm.

NOTE: *All previously configured options will be erased and reset to the factory default settings.*

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 unit, refer to the suggestions for the following conditions:

Power Indicator Is Not Illuminated

The Power Indicator and the basic items in the Display window should be illuminated whenever the unit is plugged into the wall power outlet and the Power button is pushed in. 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 Power Indicator still will not light when the unit 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 amplifier inputs are connected properly. Be sure the Listening Selector is set to the proper input. Check the wiring between the amplifier and the speakers.

Playable Audio Format

USB Apple (iPhone, iPod, iPad)

Format	Notes
Any supported file loaded to Apple device.	Phone may resample depending on stored format. May exclude Apps designed to play formats not originally supported by the sending device.

USB Bluetooth

Format	Notes
Any format supported by the sending device.	May exclude Apps designed to play formats not originally supported by the sending device.

USB Flash Drive

Format	Notes
MP3	
WMA	48 kHz, 16 Bit (Maximum)
WAV	
OGG Vorbis	

Coax/Optical

Format	Notes
SPDIF LPCM	44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz 16 Bit, 24 Bit

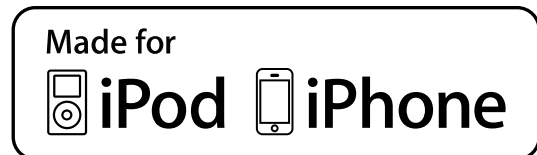## Cannot Connect via Bluetooth

If you cannot pair your Bluetooth enabled device to the RA-12/RA-11, delete the memory of the previous connection on the RA-12/RA-11 and on your device. On your device this is often listed as "Forget this Device". On the RA-12/RA-11 IR remote PRESS and HOLD the STOP Ⓜ button for 5 seconds until the front display shown "Reset BT DB List?" then release the button. Select <Yes> and press "ENT". Then try to make the connection again.

Specifications

Continuous Power Output	40 watts/ch (RA-11)
(20 - 20k Hz, < 0.03%, 8 ohms)	60 watts/ch (RA-12)
Total Harmonic Distortion *(20 Hz - 20k Hz)*	< 0.03%
Intermodulation Distortion *(60 Hz : 7 kHz, 4:1)*	< 0.03%
Frequency Response *(8 ohms)*	
Phone input	20 Hz - 15k Hz, ± 0.3dB
Line Level Inputs	10 Hz - 100k Hz, ± 1dB
Damping Factor *(20 - 20,000 Hz, 8 ohms)*	180
Input Sensitivity / Impedance	
Phone input	2.5 mV / 47 kOhms
Line Level Inputs	150 mV / 24 kOhms
Input Overload	
Phone input	180 mV
Line Level Inputs	5 V
Premp Output / Impedance	1 V / 470 Ohms
Tone Controls - Bass / Treble	±10 dB at 100 Hz / 10k Hz
Signal to Noise Ratio *(IHF "A" weighted)*	
Phone input	80 dB
Line Level Inputs	100 dB

Digital Section	
Frequency Response	10 Hz - 95k Hz (± 3.0 dB, MAX)
Signal to Noise Ratio *(IHF "A" weighted)*	100 dB
Input Sensitivity/Impedance:	0 dBfs/75 ohms
Preout/Impedance:	1.2 V/470 ohms (at - 20dB)
Decodable front USB Digital Signals:	WAV, MP3, WMA
	(up to 48K 16 bit)
Coaxial/Optical	SPDIF LPCM
	(up to 192kHz 24 bit)

General	
Power Requirements	
USA	120 V, 60 Hz
EC	230 V, 50 Hz
Standby Power Consumption	< 0.5 W
RA-11 Power Consumption	220 Watts
RA-11 BTU *(4 ohms, 1/8th power)*	311 BTU/h
RA-11 Dimensions *(W, H, D)*	17" x 2 $^7/_8$" x 13 $^1/_2$"
	430 x 72 x 342 mm
RA-11 Panel Height	60 mm / 2 $^3/_8$".
RA-11 Weight *(net)*	6.39 kg, 14 lbs.
RA-12 Power Consumption	300 Watts
RA-12 BTU *(4 ohms, 1/8th power)*	517 BTU/h
RA-12 Dimensions *(W, H, D)*	17" x 3 $^5/_8$" x 13 $^1/_2$"
	430 x 92 x 342 mm
RA-12 Panel Height	80 mm / 3 $^1/_{16}$".
RA-12 Weight *(net)*	8.02 kg, 18 lbs.

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

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"Made for iPod," and "Made for iPhone," means that an electronic accessory has been designed to connect specifically to iPod or iPhone, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod, or iPhone may affect wireless performance.

iPhone, iPod, iPod classic, iPod nano, and iPod touch are trademarks of Apple Inc., registered in the U.S. and other countries.

Made for

iPod iPhone

重要安全说明

注意：RS232接口只能由授权人士进行操作。

警告：机内无客户可以维修的部件，请合资格维修人员维修。

警告：为减少火灾或触电的危险，不要将本产品置于潮湿环境中或水中，不要将本产品置于滴水或溅水环境中，不要将含有液体的物件（例如花瓶）放在本产品上，不要让异物进入本产品外壳内。如果本产品进入潮湿环境中，或异物进入本产品内，立即从墙上拔掉电源线，将本产品送交合资格维修人员检查或进行必要的维修。
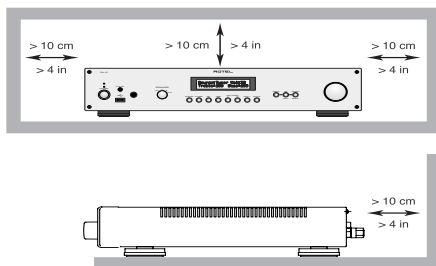
连接或操作之前，请阅读所有说明。

请保留本手册，以便可以参照这些安全说明。

请留意这些说明和产品上的所有警告或安全信息，请遵从操作说明。

只能用干布或真空吸尘器清洁。

不要在接近水的地方使用本产品。

本产品周围最少应有10cm或4in.的间隙。

不要将本产品置于床上、沙发、垫子或类似的物体上，以防堵塞通风口。如果将本装置放在书柜或橱柜上，柜上应有通风口，以便于产品的散热。

请将本产品远离辐射、热源、火炉或其它发热器具。

警告：后面板上的电源线接头是主电源断开装置。应该将本机放在可拔插电源线接头的开放的地方。

只能将本产品连接到后面板指定的型号和电压的电源上。（美国：120V/60Hz，欧洲：230V/50Hz，中国：220V/50Hz）

只能用本产品提供的电源线或严格等同的电源线将本产品连接到电源插座上。不得更改随本产品提供的电源线。两极插头有两个插刀，其中一个插刀比另一个宽。接地插头有两个插刀和第三个接地插刀。这些都是为了您的安全。不得违反接地和两极安全规定。如果随本产品提供的插头与您的插座不匹配，请咨询电工更换陈旧的插座，不要使用延长线。

电源电缆的主插头是本产品的断电装置。要将本产品从电源完全断开，应从主（交流）插座上拔下电源电缆的主插头。拔掉电源线后，待机指示灯熄灭。断路装置保持随时可操作状态。

不要使用变形的、收缩的、弯折的或损坏的电源线，不要将电源线置于热源附近。请特别留意插头处和本装置后面的电源线。

雷暴天气中或本装置长时间不使用时，应将电源线从墙上插头中拔出。

只能使用制造商指定的附件。

只能使用洛得推荐的机架、立架或支架。在支架或机架上移动本装置时，请小心避免翻侧。

使用2类电线连接音箱，以确保正确的安装及将触电风险减至最低。

在下列情况下，立即停止使用本装置，并请合格维修机构检测和维修：
- 电源线或插头损坏
- 异物或液体进入装置中
- 本装置遭受雨淋
- 本装置显示不正确操作的迹象
- 本装置跌落或以任何方式被损坏

请勿将遥控器内的电池暴露于如阳光、火源等类似的高温条件下。

注　意

请勿打开，以防触电！

小心：请勿打开机盖，以防触电危险。机内无用户可维修部件，维修工作应由合资格维修人员进行。
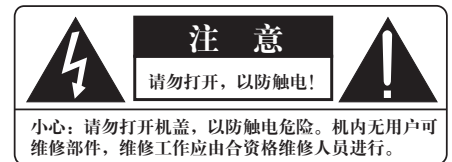
适用于美国、加拿大、或其它核准使用的地方。

小心：避免触电，请将宽片插头对准宽口插座。完全插入。

注意：为避免触电，请将插头最大（长）的那片（头）插入插座相应端口并插到底。

本标记用于提醒用户，本产品内有未绝缘的危险电压，可能引致触电风险。

标记提醒用户遵从本手册及随附文件中的操作和维护（维修）指引。
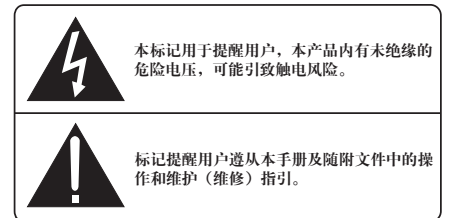
洛得产品符合电气和电子设备限制有害物质（RoHS）以及处理废旧电气和电子设备（WEEE）的国际指令。带叉形符号的轮式垃圾箱标志指合乎规定，且该产品应根据这些指令以适当的方法进行回收或处理。

本符号表示本装置有双重保护。无需接地。

CE

图 1-1：控制和连接

ROTEL RA-12

ROTEL RA-11
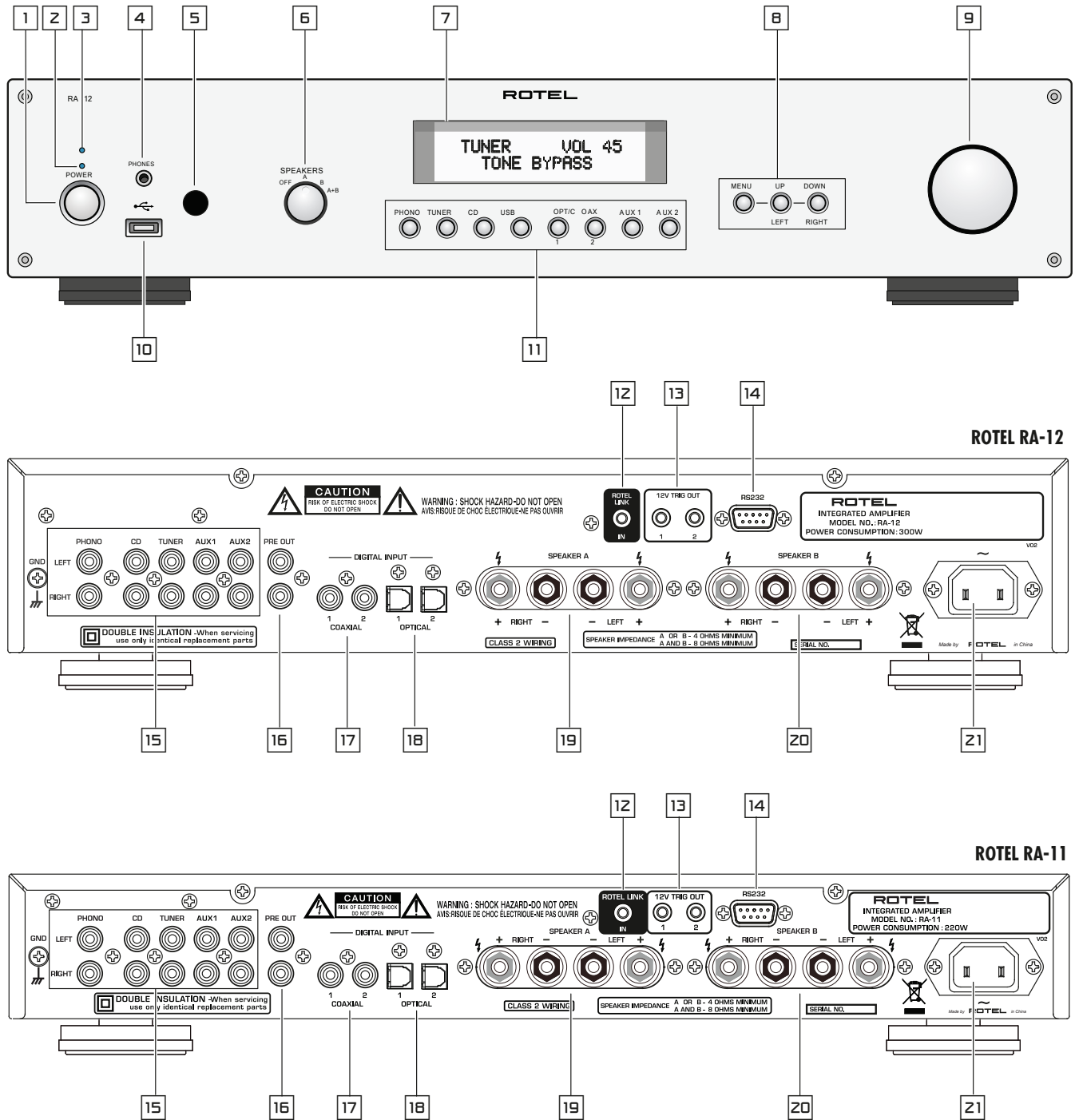
图 1-2：RR-AX91遥控器
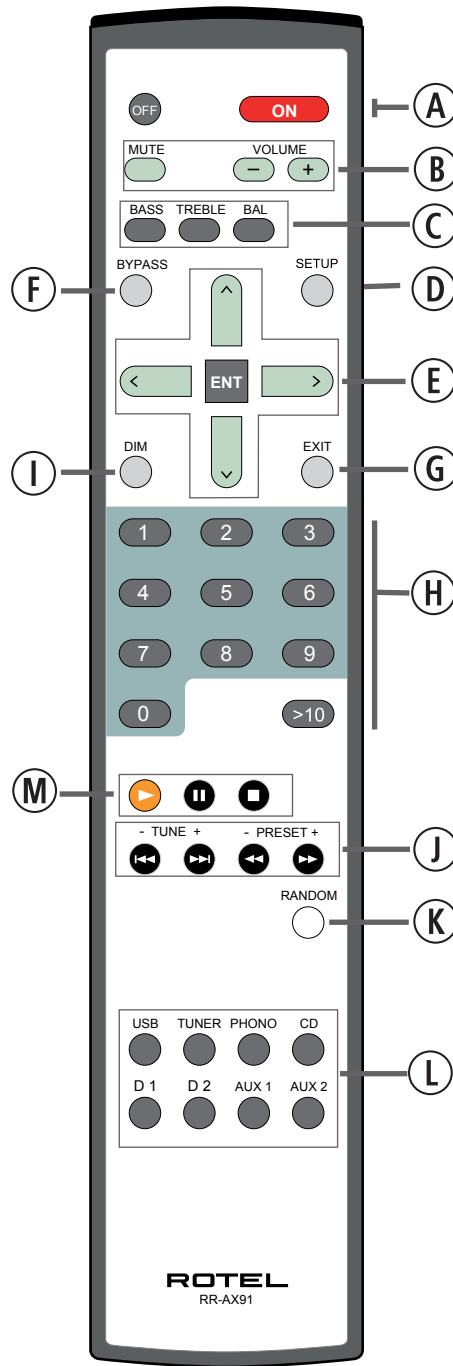
图 2：信号输入和音箱输出连接
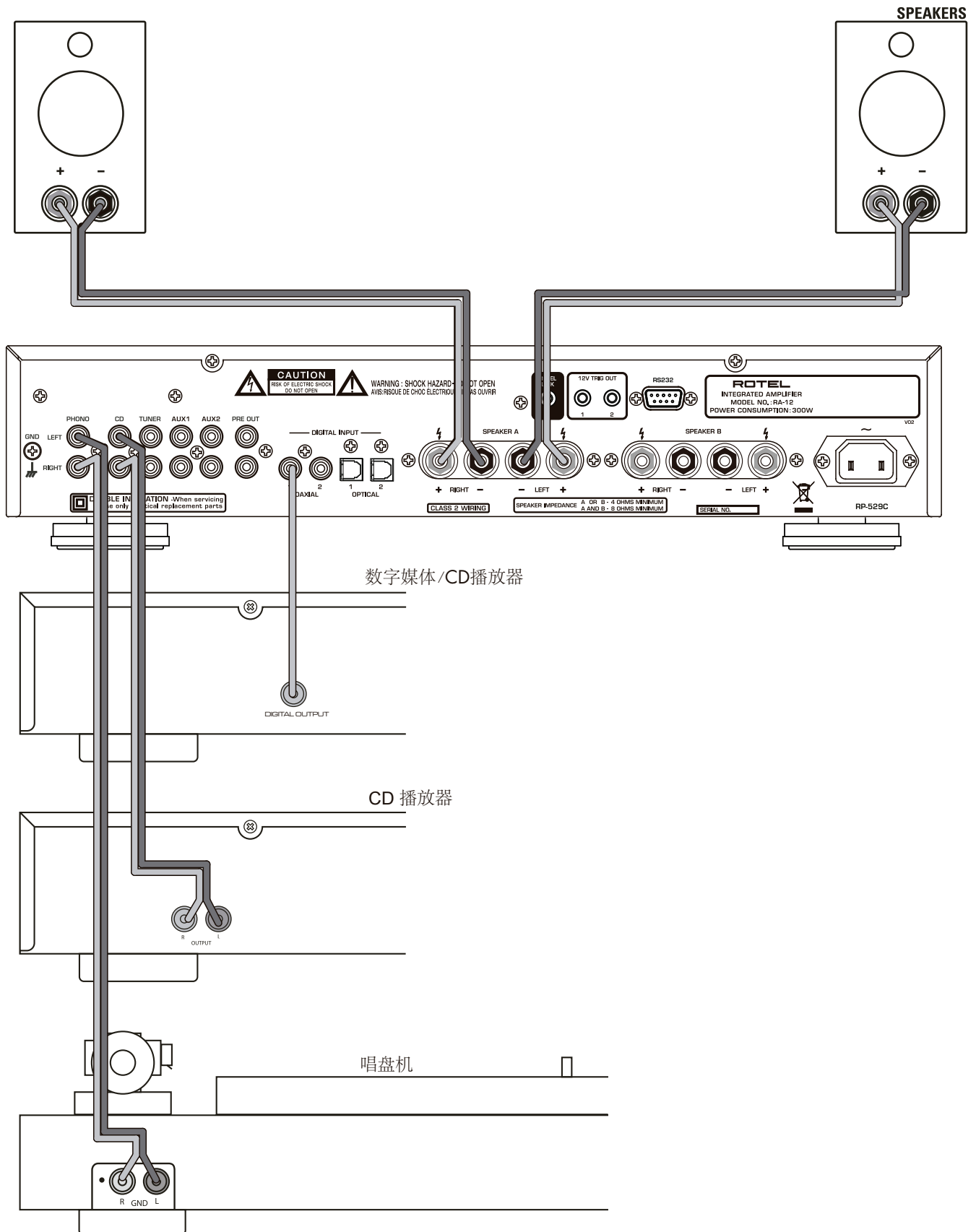
图 3：ROTEL LINK和12V触发连接

重要：12V触发电缆将会覆盖Rotel Link命令。当已经连接Rotel link时，不要再连接12V触发电缆。

放大器RA-12

CD 播放器 RCD-12

调谐器 RT-12
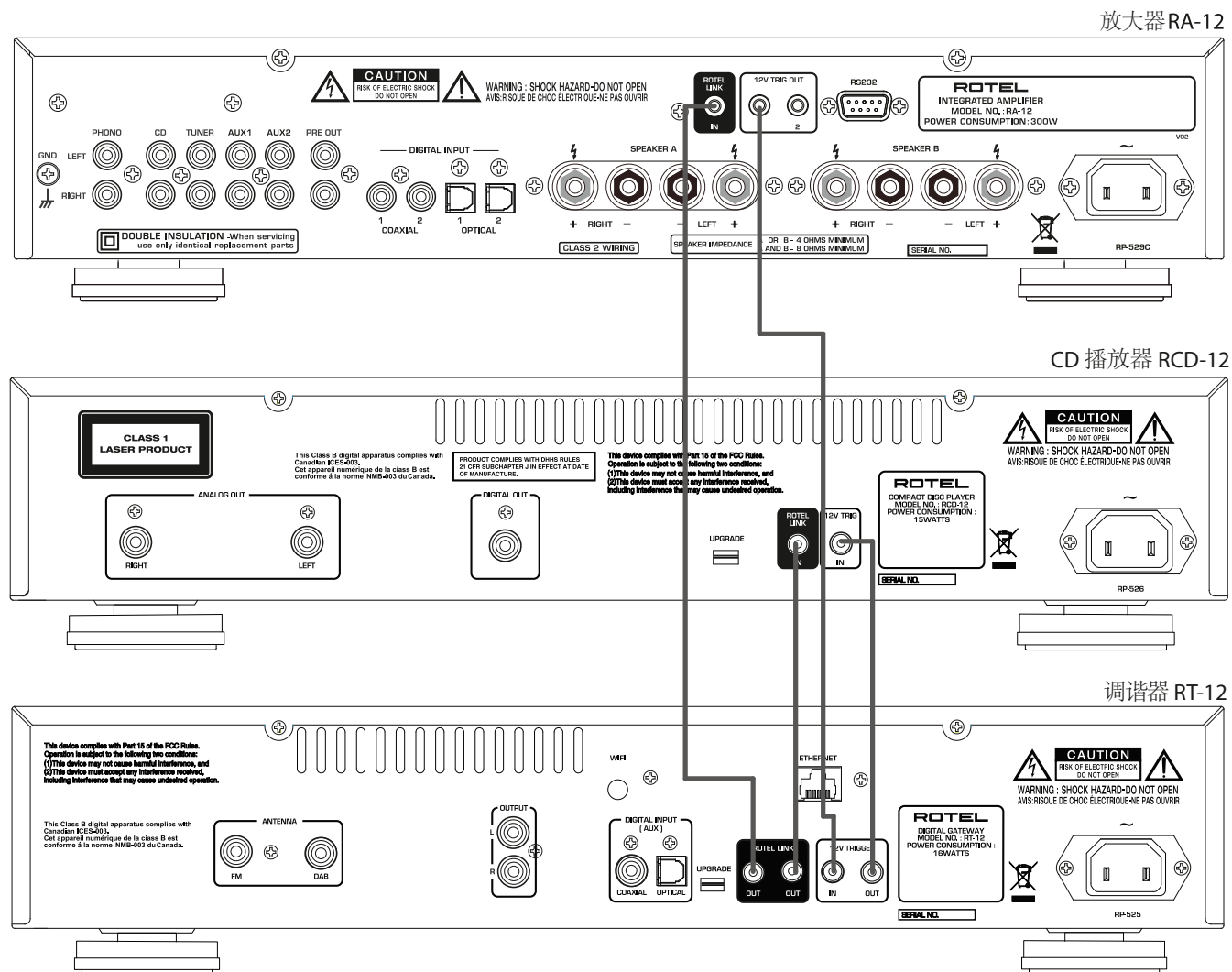
重要注意事项

进行连接时，请确保：

✔ 连接任何设备（包括音箱）之前，应关闭系统中所有设备的电源。

✔ 改变系统的任何连接之前，应关闭系统中所有设备的电源。

我们还建议您：

✔ 打开或关闭放大器之前，将放大器的音量控制调到最低。

目录

关于洛得

洛得已有超过50年的历史。几十年来，我们的产品已赢得数百次奖项，满足了无数对娱乐有着严肃态度的人士－比如您。

洛得是一个家族公司，他们对音乐的激情让他们致力于制造高品质的高保真音响设备。多年以来，这种激情丝毫未减，而为不同预算的高保真音响发烧友和音乐爱好者提供超值产品的目标，是洛得所有员工的共同追求。

洛得的工程师紧密协作，认真倾听并精确调谐每个新产品，直到其符合苛刻的音乐标准。他们从世界各地选购部件，以令其产品尽善尽美。您可能会发现英国和德国生产的电容器、日本和美国产的半导体，以及洛得自家工厂制造的环形功率变压器。

我们十分关注环境问题。随着越来越多电子产品的出现，制造商竭尽所能把产品设计为对环境负面影响最小的产品显得尤为重要。

在洛得，我们做到了这一点，对此我们深感自豪。通过使用特殊的无铅ROHS焊料和部品，我们大大降低了产品中的铅含量。洛得工程师在保证产品质量的同时不断提高电源供应的效率。洛得产品在待机时都使用最低功率以满足国际待机功耗要求。

洛得还不断研发更清洁、更环保的制造工艺为环保事业贡献自己的力量。

洛得全体同仁感谢您购买本产品。我们深信，本产品将为您带来数年的美妙享受。

开始使用

感谢您购买洛得 RA-12 /RA-11立体声放大器。配合高质量的音乐音频系统使用，洛得产品可为您提供多年的音乐享受。

本放大器是功能齐备、品质上乘的设备。设计的各个方面已进行优化，以获得音乐的全部动态范围和细微差别。其配有高度规范的电源和洛得自家设计的环形电源变压器。低阻抗的电源有充足的电力储备，使其能够轻松再现要求最苛刻的音频信号。这种设计制造起来更加昂贵，但可获得更佳的音乐效果。

印刷电路板使用对称电路线路（Symmetrical Circuit Traces）设计。这可确保忠实再现精确的音乐时间。本放大器的电路在重要的信号通道使用金属薄膜电阻和聚苯乙烯或聚丙烯膜电容器。这种设计的各个方面均已进行测试，确保最忠实地再现音乐。

RA-12/RA-11的主要功能均易于安装和使用。如果您有使用其它立体声系统的经验，您会发现一切均易如反掌。只要插上关联的设备，就可以开始欣赏音乐了。

注意：RA-12和RA-11的操作与性能均一致。本说明书里的插图以RA-12为例，但RA-11所有的插口和按钮均与RA-12相同。

几点注意事项

警告：要避免可能造成系统的损坏，进行连接或断开音箱或相关组件之前应关闭所有系统组件。确保所有连接均正确和安全后再开启系统组件。请特别注意音箱线。确保没有松开的线束与其它音箱的电线或放大器的机架接触。

请仔细阅读本手册。本手册提供如何将RA-12/RA-11连接到系统的完整资料，以及可帮助您获得最佳音响效果的全面资料。如果您遇到任何问题，请联络洛得授权经销商。另外，洛得全体同仁欢迎您提出问题或建议。

请保存好包装箱和包装材料，以备日后使用。使用任何非原始包装材料运输或移动你的放大器可能导致严重损坏。

包装中若有用户注册卡，请填写并寄回给我们。另请保留原始销售收据。它是购买日期的最佳记录，您日后需要保修时会用到它。

放置

跟所有处理低电平信号的音响设备一样，本放大器也会受环境的影响。避免将此放大器放在其它设备的上面。也要避免将音频信号线置于电源线附近。这可将噪音或受干扰的机会降至最低。

本放大器在正常工作过程中会产生热量。放大器中的散热器和通风口用于排出热量。上盖的通风口应该打开。为防止放大器过热，机身周围应有10cm(4in.)的间隙，且安装位置应有适度的气流通过。

选择安装地点时应考虑放大器的重量。请确保机架或机柜能够承载本设备的重量。本公司建议将放大器安装在为安装音响器材设计的家具内。这些家具可以降低或减少可能对声音质量产生负面影响的振动。设备家具和音频设备的正确安装方法，请向授权洛得经销商寻求帮助。

电缆

将电源线、数字信号电缆和音频电缆分开放置。这可将音频信号电缆从电源线或数字信号线拾取噪音或干扰的机会降至最低。使用高质量的屏蔽电缆也有助防止噪音或干扰。如果您有任何问题，请访问授权洛得经销商寻求有关最匹配您的音响系统的建议。

遥控器RR-AX91

RA-12/RA-11的有些功能可以通过前面板控制器，或者随本放大器提供的遥控器RR-AX91进行操作。本说明书中的功能操作说明里，方框中的数字表示前后面板控制上的项目，圆圈中的字母表示RR-AX91遥控器图示上的项目。

遥控器控制代码

遥控器的遥控代码出厂设定为1。若发现控制器与另一台洛得产品发生冲突，可以按以下步骤将遥控代码改为2。

1.同时按下遥控器上的TUNER Ⓛ 键和数字2 Ⓗ 键来设置遥控器发送Audio Code 2。

2.将遥控器对准放大器并长按数字2 Ⓗ 键至8秒钟。放大器将会显示"Audio Custom Code 1 -> 2（音频制定代码1->2）"。

3.要将控制代码恢复到Code 1，按上述步骤把数字"2"键换成数字"1"键。

注意：遥控器可以操作一些洛得调谐器和CD播放机的基本功能。控制器按键 ⒽⓂⒿⓀ 可用于操作您系统里的CD机和谐调器。要使遥控器正常操作，请确保遥控器和CD机或谐调器的遥控代码均一致，为代码1或代码2。

交流电源和控制

交流电源输入 ㉑

RA-12/RA-11出厂时已设置为您购买本产品所在国家的交流电压（美国：120 V/60Hz AC，或欧洲：230 V/50 Hz AC，中国： 220V/50Hz AC）。交流电压配置标注在后面板的标签上。

注意：如果您将放大器带到另一个国家，可能需要重新设置以使用不同的电压。不要试图自行进行转换。打开放大器的外壳会有触电危险。请咨询合资格的维修人员或洛得工厂服务部门寻求帮助。

注意：有些产品在多个国家出售，因此提供了多条AC电源线，请选择一条适用于您的国家/地区使用的电源线。

虽然本放大器不会从电源插座上产生大量电流。但应尽可能将本设备直接插到墙上的两极插座。不要使用延长线。如果大功率多插孔插线板（和墙插座）可以承受放大器和所有插到上面的其它器材，则可以使用多插孔插线板。

如果您将要离家较长时间，例如一个月，离开前请务必拔下放大器（和其它音频视频设备）的电源插头。

电源开关 ①Ⓐ 和电源指示灯 ②

要打开放大器的电源，将本开关按入。电源打开时，电源开关周围的指示灯会变亮。要关闭放大器，再次按下按键将其复位。

电源开关位于开的位置时，可以使用遥控器上的开（ON）和关(OFF)键激活放大器。在待机模式中，电源键周围的指示灯亮，但显示屏关闭。

12V触发连接 ⑭

见图3

一些音频组件当接收到12V开启"信号"时可以自动打开组件。RA-12/RA-11有两个12V触发器提供所需的信号。用3.5mm迷你插头电缆连接RA-12/RA-11和相应兼容的组件。当RA-12/RA-11关闭后，触发信号被中断，外接的组件会被关闭。

注意：如果您在使用Rotel link系列的其它设备时，请用Rotel link 来开/关设备。不要同时连接Rotel link和12V触发电缆，否则12V触发器的开/关电源功能将会覆盖Rotel link连接功能。

保护指示灯 ③

本放大器装有过热和过流保护电路，避免在过度或错误操作的情况下受到损坏。保护电路独立于音频信号，对音质表现没有影响。相反，保护电路监控输出装置的温度，如果温度超出安全限度，将关闭放大器。

一般的正常操作不会激活此保护电路。但是，如果出现故障情况，放大器将停止播放，前面板上的LED指示灯将会点亮。

发生这种情况时，关闭放大器电源，让其冷却几分钟，并尝试确定及解决该问题。重新打开放大器时，保护电路自动重置，保护指示灯熄灭。

大多数情况下，保护电路由于错误情况例如音箱电线短路或通风不畅引起温度过高而激活。在极罕见的情况下，高度灵敏的或太低的音箱阻抗负载可能造成保护电路介入。

如果保护电路重复触发，而且您无法屏蔽并解决故障，请联络授权洛得经销商帮助解决问题。

输入信号连接 ⒂

见图2

注意：要避免高噪声对您和音箱的影响，进行任何信号连接之前，应关闭所有系统组件。

唱盘机输入 ⒂ 和地线连接（GND）

将电缆从唱机插入适当的唱机左右声道输入。如果唱机有"地线"连接，将其连接到唱机输入左侧的螺丝端口。这可以帮助避免嘈杂声和噪声。

线性电平输入 ⒂

CD，TUNER和AUX输入为"线性电平"输入。这些输入用于连接CD播放机或其他音频播放设备的模拟音频输出。

左右声道均已清晰标记，且应连接到源设备的相应声道。左声道接口为白色，右声道接口为红色。使用高质量的RCA电缆将源设备连接到放大器。有关电缆的建议，请咨询授权洛得经销商。

数字信号输入 ⒄ ⒅

见图2

有两组标注COAXIAL和OPTICAL的数字输入。将您播放器的同轴COAXIAL或光纤OPTICAL输出连接到这些接口。放大器对数字信号进行解码并播放。该设备可以解码高达24位，192kHz的PCM信号。

前置放大器输出 ⒃

本放大器设有一对前置放大器输出，通过功能选择对相应的源信号进行输出。这些输出特别用于为其它合并式放大器或功率放大器提供用于驱动遥控音箱的信号。

注意：更改音量、均衡或音调控制的设定都会影响前置放大器输出的信号。

音箱输出 ⒆ ⒇

见图2

音箱选择旋钮 ⒍

本放大器有两套音箱输出连接，分别标记为SPEAKER A ⒆ 和SPEAKER B ⒇。音箱输出连接由前面板上的开关 ⒍ 控制。

音箱选择

如果在任何指定时间内只使用一套音箱，音箱的阻抗最低为4 Ω。如果有时候您同时使用A和B音箱，则所有音箱的阻抗应为8 Ω或以上。音箱并联的实际阻抗低于单个音箱的额定阻抗。实际上，极少有音箱在与放大器配合使用时会出现问题。如果有任何疑问，请咨询授权洛得经销商。

音箱线

使用绝缘的双导线连接放大器和音箱。电线的大小和质量可能会对系统的性能产生明显的效果。标准的音箱线也能正常使用，但是可能会导致输出降低或减少低音响应，尤其是在距离较远的情况下。通常，重量更重的线会提升音质。为得到最佳效果，您可能需要考虑特别的高质量音箱电缆。洛得授权经销商可以帮助您为您的系统选择合适的电缆。

极性和相位

每个音箱的极性连接的正/负方向（+/-）和放大器连接应保持一致，以确保所有音箱在相同相位上。如果一个连接接反，低音输出会非常微弱，立体声效果会降低。所有音箱线上均有标记，您可以区别两根导线。在一股导线的绝缘套上可能有小标签。电线绝缘套内的导线可能有不同颜色（铜或银）。绝缘上可能印有极性标记。找到正负导线，并确保每个音箱和放大器的连接一致。

音箱连接

连接音箱时请关闭系统中所有设备的电源。放大器的后背上有以颜色区分的音箱接线柱。这些接线柱可以连接裸线或接线插片。（在非欧盟市场，接线柱还可以连接双香蕉型接头。）

将电缆从放大器连接到音箱上。要留有足够的余地，以便可以移动设备以连接到音箱接线柱上。如果您使用香蕉型插头，先将插头接到线上然后插到接线柱后面。应拧紧音箱接线柱上的套环（顺时针）。

如果使用接线插片，将其连接到电线上。如果您直接将裸线连接到接线柱上，请分开电线的导线，并自每根导线的端头将绝缘剥去。请小心不要将导线切断。将接线柱的套环拧开（逆时针方向）。将接线片或导线绕在接线柱轴上。顺时针拧紧套环，固定接线片或线头。

注意：请确保没有松开的线束与邻近的电线或导线接触。

耳机输出 ⒋

耳机输出可让您连接耳机独自欣赏音乐。本输出插孔可连接标准的3.5mm（1/8 in）立体声迷你耳机接口。插入耳机不会切断发送到音箱的信号。可使用音箱选择旋钮切断输出到音箱的信号，单独用耳机欣赏音乐。功能选择的设置将决定收听的源信号。

注意：由于音箱和耳机的灵敏度会有很大差异，在连接或断开耳机之前请先降低音量。

遥控感应器 ⒌

遥控感应器接收来自遥控器的红外信号。不要覆盖或遮挡感应器。

显示屏 ⒎

前面板上的发光显示屏提供有关输入源、音量和音调设置。

前置USB输入 ⑽

前面板USB输入可连接iPod、iPhone、USB存储器或蓝牙适配器（已提供）播放无线流媒体。与iPod或iPhone连接时，只需将其插到前置USB插口然后选择USB功能。保持iPod和iPhone运行，以应用搜索和播放功能。

蓝牙适配器

将随机提供的蓝牙适配器插到RA-12/RA-11前面板的USB插口，通过蓝牙，把无线流媒体从您的设备（如移动电话）传输到放大器。从您的移动设备搜索到"Rotel Bluebooth"并连接，通常是自动连接，但如果提示需输入密码，请输入"0000"，再按您设备上的确认键即可。

注意：并非所有的蓝牙适配器都能与RA-12/RA-11兼容。请使用随机提供的蓝牙适配器。

音频控制

音量控制 □⑧

顺时针旋转前面板上的VOLUME（音量）旋钮增加音量，或逆时针转动VOLUME（音量）旋钮降低音量。或者，按遥控器上VOLUME（音量）−或+键调节音量。按MUTE（静音）⑧ 键可关闭声音。

均衡控制 □©

均衡控制可调整声音输出的左−右均衡。通常，本控制应置于中间位置或"0"。要从前面板更改均衡，按MENU（菜单）□ 键将前面板显示切换至均衡设定模式。然后再按前面板上的LEFT（左）或RIGHT(右)键调整左右均衡。该均衡值可从L15调至R15。

注意：关掉RA-12/RA-11电源后，该设置将被永久保存。

只作暂时更改设置，请从遥控器按BAL©键进入均衡设置菜单，然后按左或右箭头键进行调整。调整完毕后按EXIT⑥键退出菜单。

音调控制旁通 □⑥

低音和高音控制（音调控制）电路出厂默认设置已被旁通，以获得最纯净的声音。前面板显示屏将显示TONE BYPASS(音调旁通)。从前面板按MENU□键切换到旁通控制，然后按LEFT或RIGHT键打开或关闭旁通。

注意：关掉RA-12/RA-11电源后，该设置将被永久保存。

只作暂时更改设置，从遥控器上按BYPASS ⑥ 键切换旁通启用/禁用。

低音和高音音调控制 □©

要设置低音(BASS)或高音(TREBLE)控制，按前面板MENU□键切换到低音或高音设置菜单。然后按LEFT或RIGHT键调整音调值。低音和高音音调值是-10至+10。

注意：关掉RA-12/RA-11电源后，这些设置将被永久保存。

只作暂时更改设置，请从遥控器按BASS或TREBLE©键，再按左或右箭头键调整音调值。

经过适当设置的高性能音频系统可产生最自然的声音，而无需调整或只需作细微调整。请谨慎使用这些控制。向上调整（顺时针）控制钮时请特别小心。这将加大低音或高音范围的功率输出，从而增加放大器和音箱的负载。

注意：在设置低音或高音时，不要自动打开音调控制。要打开音调控制请参考上节音调控制旁通。

调光控制 □①

要更改前面板显示屏的亮度，按MENU（菜单）□ 键切换到显示设置菜单。然后按前面板LEFT或RIGHT键来更改显示屏亮度。

注意：关掉RA-12/RA-11电源后，该设置将被永久保存。

只作暂时更改设置，按遥控器上的DIM①键进行调节。

注意：从Menu(菜单键)或Setup（设置键）进入音调旁通、低音、高音、均衡和调光设置均永久保存设置。使用©⑥①键调节为临时性更改，关闭电源后则不被保存。

功能控制 ⑪⑤

本功能控制选择输入信号源。按下前面板或遥控器上相应的音源按键选择您想收听的音源。

ROTEL LINK ⑬

见图2

这个3.5毫米立体声迷你插孔（标有ROTEL LINK IN）与ROTEL LINK OUT连接，可让RA-12/RA-11与带网络功能的洛得产品相互连接。通过ROTEL LINK相连接的洛得产品可相互通讯并可通过Rotel Remote App（洛得遥控应用程序，可从iTunes®商店下载）进行控制。

RS232接口 ⑮

RA-12/RA-11可经由RS232控制，集成到自动化系统中。RS232输入使用标准的DB-9插头电缆。

更多有关RA-12/RA-11计算机控制的连接、软件和操作代码的资料，请咨询授权洛得经销商。

设置菜单

您可通过前面板MENU□键或按遥控器上的SETUP①键进入设置菜单。按前面板LEFT/RIGHT键或遥控器左或右箭头键修改选项值。按前面板MENU□键或遥控器UP/DOWN(上/下)键可浏览子菜单。

• BASS 低音：低音值可根据所需进行设置。按前面板MENU□键或遥控器SETUP ① 键切换到BASS SETTING（更多信息请参考低音和高音控制部分）。

注意：关掉RA-12/RA-11电源后，该设置将被永久保存。

• TREBLE 高音：参考低音和高音控制部分。

• BALANCE 均衡：更改左/右均衡（更多信息请参考均衡控制部分）。

注意：关掉RA-12/RA-11电源后，该设置将被永久保存。

• TONE 音调：TONE BYPASS 音调旁通开/关（更多信息请参考音调控制旁通部分）。

注意：关掉RA-12/RA-11电源后，该设置将被永久保存。

• CONTRAST 对比度：将前面板显示对比度在背光与真实效果间切换。

• DIMMER 调光器：可调暗显示屏，共7阶。

注意：关掉RA-12/RA-11电源后，该设置将被永久保存。

• ROTEL LINK CD：可选择CD播放器与放大器的连接方式，任一CD(模拟)、CX1（同轴1）或CX2（同轴2）。出厂默认设置为CD。

注意：该功能只能在选择RCD (Rotel CD) 输入且不改变前面板或遥控器的音源按键时，运用Rotel App（洛得应用程序）才可以正常工作。

• POWER ON MAX VOL 开机最大音量：设置当设备开启时的最大音量。出厂默认值为"45"。

注意：POWER ON MAX VOLUME（开机最大音量）设置不适用于Fixed Gain（固定增益）设定的输入设置。

• Auto Power Off 自动关机：RA-12/RA-11设有自动关机功能。若在设定的"自动关机"时间内没有使用或对机器作任何操作，机器则自动切换至待机（STANDBY）模式。若对音量、音源或播放作操作，自动关机计时器会重新计时。自动关机（Auto Power Off）出厂默认设置为禁止（DISABLE）。

可选用的计时设定包括：DISABLE（禁止）、1 HOUR(1小时)、2 HOURS(2小时)、5 HOURS(5小时)和12 HOURS(12小时)。

• Fixed Gain 固定增益：为指定的输入配置固定的音量电平。要启用此功能，请选择Coax 1、Coax 2、Optical1、Optical2或蓝牙输入所需的固定音量电平。启用本功能并选定了相应输入的固定音量后，音量将立即设置到指定的音量电平。

可选用的设定包括：VARIBLE（可变）、FIXED MIN（固定最小值）、FIXED1-95（固定值1-95）、FIXED MAX（固定最大值）。

   • COAX1 VOL: 出厂默认设置为 VARIABLE 可变（禁用）。

   • COAX2 VOL: 出厂默认设置为 VARIABLE 可变（禁用）。

   • OPT1 VOL: 出厂默认设置为 VARIABLE 可变（禁用）。

   • OPT2 VOL: 出厂默认设置为 VARIABLE 可变（禁用）。

   • 蓝牙BLUETOOTH VOL: 出厂默认设置为 VARIABLE 可变（禁用）。

注意：当音量电平被固定时，前面板的音量旋钮和遥控器上音量+/－键均不可用。要禁用此功能，请将音量电平设为"Variable"（可变）。

• Software version 软件版本：显示当前加载到放大器的软件版本。

• Factory Default 恢复出厂设置：此设置将会使设备恢复最初出厂的状态，按前面板RIGHT键或遥控器右箭头键选择<YES>。设备将提示要求确认，再次按下RIGHT键确认。

注意：进行该操作后，之前的所有设置都会被清除，恢复到出厂默认设置。

故障排除

音响系统的多数故障是由于错误连接或控制设置不正确引致。如果您遇到问题，请屏蔽有问题的区域，检查控制器设置，确定故障原因并进行必要的修正。如果放大器仍然没有声音，请参考以下状况的建议：

电源指示灯不亮
放大器插到墙壁电源插座并且电源键被打开时，电源指示灯和显示窗口的基本项目应该点亮。如果没有点亮，用其它电气设备例如台灯测试电源插座。确保电源插座开关没有被关闭。

更换保险丝
如果其它电气设备插到该插座时可正常工作，但放大器插到同一插座且电源开关打开时电源指示灯和显示屏不亮，表明内置保险丝可能已烧断。如果您确信发生这种情况，请联络授权洛得经销商更换保险丝。

没有声音
检查信号源，看其是否正常工作。确保连接信号源和放大器的输入的电缆已正确连接。确保收听选择旋钮已设置到正确的输入。检查放大器和音箱之间的连线。

可播放的音频格式

USB Apple (iPhone, iPod, iPad)

格式	注意
任何支持下载到Apple设备里的文件。	根据其储存格式，手机可能会进行再次取样。为了能够播放原本发送装置不支持的格式而设计的Apps应用程序除外。

USB Bluetooth（蓝牙）

格式	注意
发送装置支持的任何格式	为了能够播放原本发送装置不支持的格式而设计的Apps应用程序除外。

USB Flash Drive (USB 存储器)

格式	注意
MP3	48 kHz, 16 Bit (最大)
WMA	
WAV	
OGG Vorbis	

Coax/Optical

格式	注意
SPDIF LPCM	44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz 16 Bit, 24 Bit

不能通过蓝牙连接
如果RA-12/RA-11不能与您使用蓝牙的设备配对，请删除RA-12/RA-11及您设备上之前所有的连接信息。在您设备上通常选择"清除此设备"。在RA-12/RA-11遥控 器上长按STOP Ⓜ键5秒钟，直到前面板显示"Reset BT DB List ?"然后松开按钮。选择<Yes(是)>，再按"ENT（确认）"。然后尝试再次连接。

技术参数

连续功率输出	40 W/声道 (RA-11)
（20 - 20 k Hz，< 0.03%，8Ω）	60 W/声道 (RA-12)
总谐波失真（20 Hz - 20k Hz）	< 0.03%
互调失真（60 Hz：7k Hz，4:1）	< 0.03%
频率响应（8Ω）：	
唱盘机输入	20 Hz - 15k Hz, ± 0.3dB
线性电平输入	10 Hz - 100k Hz, ± 1dB
阻尼系数（20-20,000 Hz, 8Ω）	180
输入灵敏度/阻抗	
唱盘机输入	2.5 mV/ 47 kΩ
线性电平输入	150 mV / 24 kΩ
输入过载	
唱盘机输入	180 mV
线性电平输入	5 V
前置放大器输出/阻抗	1 V / 470 Ω
音调控制 － 低音/高音	± 10 dB at 100 Hz /10k Hz
信噪比（IHF"A"加权）	
唱盘机输入	80 dB
线性电平输入	100 dB

数字部分	
频率响应	10 Hz - 95k Hz (± 3.0 dB, MAX)
信噪比（IHF"A"加权）	100 dB
输入灵敏度/阻抗：	0 dBfs/75Ω
前置放大器输出/阻抗：	1.2 V/470Ω（at - 20dB）
可解码前面板USB数字信号：	WAV, MP3, WMA
	（高达48K 16 bit）
同轴/光纤	SPDIF LPCM
	（高达192k Hz 24 bit）

基本信息	
电源要求：	
美国	120 V, 60 Hz
欧洲	230 V, 50 Hz
中国	220 V, 50 Hz
待机功耗	< 0.5 W

RA-11 功率消耗	220 W
RA-11 BTU (4Ω, 1/8 功率)	311 BTU/h
RA-11 尺寸（宽x高x深）	430 x 72 x 342 mm
RA-11 前面板高度	60 mm
RA-11 净重	6.39 kg, 14 lbs.

RA-12 功率消耗	300 W
RA-12 BTU (4Ω, 1/8 功率)	517 BTU/h
RA-12 尺寸（宽x高x深）	430 x 92 x 342 mm
RA-12 前面板高度	80 mm .
RA-12 净重	8.02 kg, 18 lbs.

本手册印刷时所有参数均属精确。

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