

Roland®

2 CHANNEL POWER AMPLIFIER

SRA-200E

OWNER'S MANUAL

Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUCTIONS" (p. 2), "USING THE UNIT SAFELY" (p. 3), and "IMPORTANT NOTES" (p. 4). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, this manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

Main Features

• Lightweight, Compact, and Energy-Efficient

Employing the latest developments in high-efficiency amplifier technology, the SRA-200E packs a powerful 100 watts per channel (at 8 ohms); yet it weighs a mere 5.0 kilograms, consumes only half the current, and generates just one-third the heat of previous power amps (in actual operation, compared with previous Roland products). With its compact design, this amp takes up only 1U (1.75-inch EIA standard rack space), and is only 360 mm deep.

• Packed with Features

The SRA-200E features three types of input connectors: XLR-3-31 connectors, standard phone TRS jacks, and screw type terminals. All inputs are balanced. With the Input Level switch, input sensitivity can be switched between +4 dBm and -10 dBm, flexibility that ensures compatibility with a variety of systems. The SRA-200E also features binding post output terminals which can accept either banana plugs or wide-gauge speaker cables.

• Protection Circuits for Added Reliability

The SRA-200 features a variety of protection circuits, including the PC Limiter Circuit that guards against shorting in the output, the Thermal Protection Circuit, the speaker-saving DC Detection Circuit, the Muting Circuit that cuts the "shock noise" that occurs when the power is switched on, all to ensure dependable operation.

• The indicators let you know about signal conditions.

With the LEVEL indicator and PROTECTION indicator, you can check to be sure of the amp's operating conditions.

• Built-In Limiter

The SRA-200 features an internal Limiter Circuit. This provide protection against unpleasant sound and damage to speakers resulting from clipping in the amp.

New ECOS High-Efficiency Amplifier Technology

ECOS (Efficiency Control Operation System) is a new high-efficiency amplifier technology developed by Roland. With this technology, amplifier power consumption is only 1/2 that of previous amps, while generating only 1/3 of the heat, all with no sacrifice in sound quality. As a result, the heat dissipation and power sections are smaller, making the amplifier lighter and more compact than previous models.

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	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
ATTENTION: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR		
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

WARNING - When using electric products, basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. Do not use this product near water — for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should be used only with a cart or stand that is recommended by the manufacturer.
4. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
8. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
9. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
10. The product should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the product; or
 - C. The product has been exposed to rain; or
 - D. The product does not appear to operate normally or exhibits a marked change in performance; or
 - E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

For the USA

GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER: Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product — if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

For the U.K.

WARNING: THIS APPARATUS MUST BE EARTHED
IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.
 GREEN-AND-YELLOW: EARTH, BLUE: NEUTRAL, BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol  or coloured GREEN or GREEN-AND-YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

The product which is equipped with a THREE WIRE GROUNDING TYPE LINE PLUG must be grounded.

USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠ WARNING and ⚠ CAUTION Notices

⚠ WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠ CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

	The ⚠ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The ⚡ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The ● symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING

⚠ WARNING

- Before using this unit, make sure to read the instructions below, and the Owner's Manual.
- Do not open or perform any internal modifications on the unit.
- When using the unit with a rack or stand recommended by Roland, the rack or stand must be carefully placed so it is level and sure to remain stable. If not using a rack or stand, you still need to make sure that any location you choose for placing the unit provides a level surface that will properly support the unit, and keep it from wobbling.
- Avoid damaging the power cord. Do not bend it excessively, step on it, place heavy objects on it, etc. A damaged cord can easily become a shock or fire hazard. Never use a power cord after it has been damaged.
- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.
- Protect the unit from strong impact. (Do not drop it!)
- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.

⚠ WARNING

- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

⚠ CAUTION

- Always grasp only the plug on the power-supply cord when plugging into, or unplugging from an outlet.
- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children.
- Never climb on top of, nor place heavy objects on the unit.
- Never handle the power cord or its plug with wet hands when plugging into, or unplugging from, an outlet.
- Before moving the unit, disconnect the power plug from the outlet, and pull out all cords from external devices.
- Before cleaning the unit, turn off the power and unplug the power cord from the outlet (p. 5).
- Whenever you suspect the possibility of lightning in your area, pull the plug on the power cord out of the outlet.
- When you mount the unit onto a rack, please be careful so that you won't pinch your fingers.

Important Notes

In addition to the items listed under “IMPORTANT SAFETY INSTRUCTIONS” and “USING THE UNIT SAFELY” on pages 2 and 3, please read and observe the following:

Power Supply

- Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- To avoid possible breakdown, do not use the unit in a wet area, such as an area exposed to rain or other moisture.

Maintenance

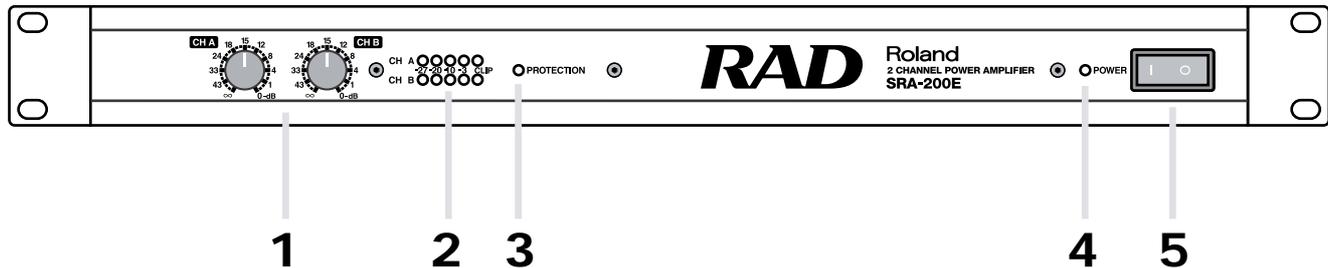
- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Additional Precautions

- Use a reasonable amount of care when using the unit’s buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable’s internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing your neighbors, try to keep the unit’s volume at reasonable levels (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Use a cable from Roland to make the connection. If using some other make of connection cable, please note the following precautions.
 - Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.

Names and Functions

Front Panel



1. Attenuator

This adjusts the level of what is output to the speakers.

Adjust for the most suitable volume according to the input level of the connected device.

* When set to BTL mode, volume is adjusted with the Channel A attenuator. (BTL Connection → p. 8)

2. LEVEL Indicators

Output is indicated by these 5-step LED level indicators.

The Limiter Circuit is activated when the CLIP indicator lights. The CLIP indicator lighting too frequently means that the output levels are too high; adjust the attenuator to attain the proper output level. (About the Limiter → p. 10)

3. PROTECTION Indicator

This lights when the protection circuits are in operation.

When this indicator is lit, sound from the speakers is cut. Stop operation of the equipment, and immediately check the operating conditions. (About the Protection Circuits → p. 12)

4. POWER Indicator

This is lit when the power is on.

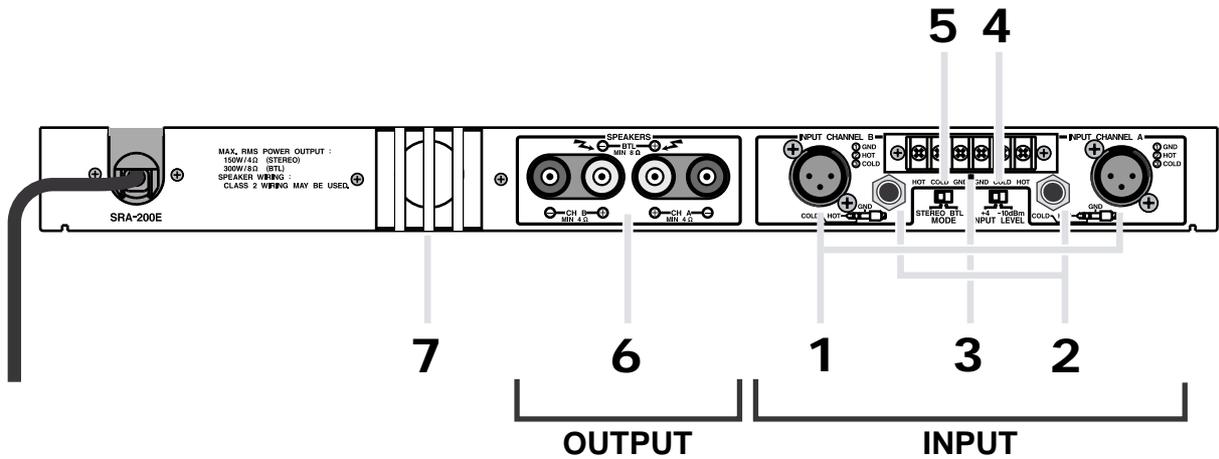
5. POWER Switch

This switches the power on and off.

* When turning the power on or off, first turn the attenuator (1) completely counterclockwise (-infinity) before pressing the switch.

* This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally. (About the Protection Circuits → p. 12)

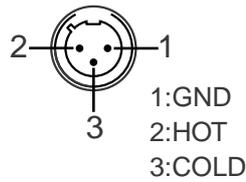
Rear Panel



INPUT

1. INPUT Connector (XLR-3-31 Type)

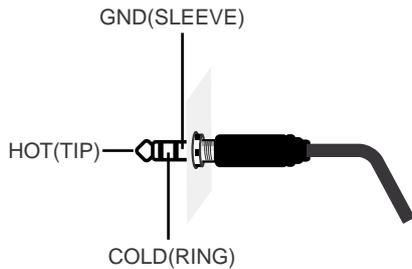
* The pin assignment for the XLR type connectors is as shown below. Before making any connections, make sure that this pin assignment is compatible with that of all your other devices.



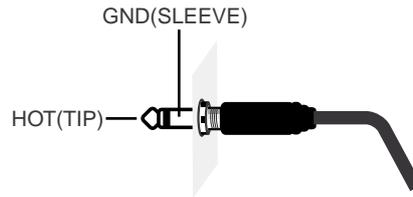
2. INPUT Jack (TRS Standard Phone Type)

Connect using quarter-inch TRS phone type when input is balanced, and connect with quarter-inch phone type when the input is unbalanced.

* Check the pin assignments of other devices before connecting.



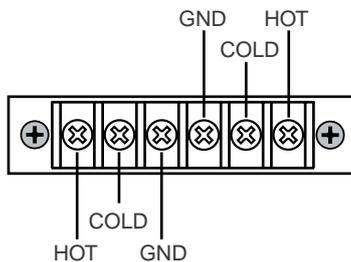
Quarter-inch TRS Phone Type (Balanced)



Quarter-inch Phone Type (Unbalanced)

3. INPUT Terminals

* Check the pin assignments of other devices before connecting. When making connections, be careful to avoid losing the screws that you remove.



4. INPUT LEVEL Switch

This switches the input sensitivity (+4 dBm/-10 dBm).

Select the setting appropriate for use with your system.

5. MODE Switch

Switches the unit between the STEREO and BTL modes.

Select the mode that is appropriate for your configuration (→ p. 8, 9).

STEREO : Channel A and Channel B work independently of each other. In this mode, the amp functions as a standard power amplifier.

BTL : Channel A and Channel B are bridged internally, creating a 300 watt (8 ohms) mono power amplifier.

6. Speaker Connection Terminals (Binding Posts)

These are terminals for connecting speakers.

* To avoid the risk of electric shock, do not touch the terminals while the amp is on.

Please refer to "Precautions When Connecting and Switching on the Power". (→ p. 10)

7. Cooling Fan/Air Vent

This comprises a forced-air cooling fan in combination with air vents. Cooler air is drawn in through the intakes in the top and bottom panels, and the air heated by the amp is expelled through the vents.

The fan is activated whenever the temperature of the interior heat sinks exceeds 60 °C, and the rotation speed of the fan changes smoothly in response to any change in the temperature.

* To ensure adequate cooling capacity, position the amp so that both intake and exhaust vents remain unblocked.

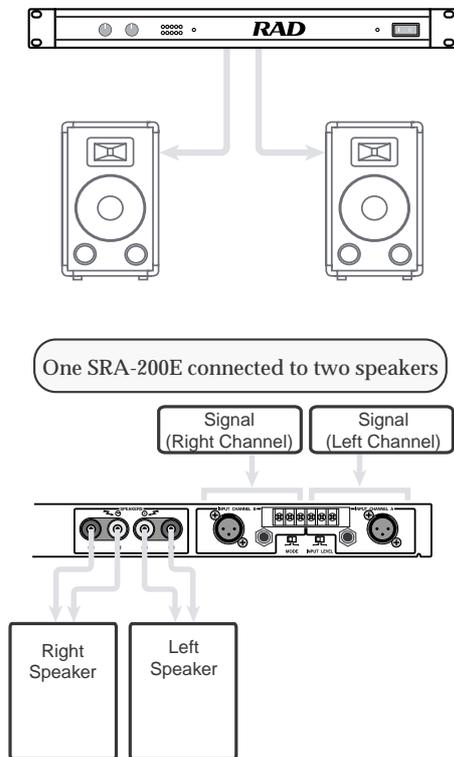
(About Rack Mounting → p. 13)

Connecting Other Devices

Please refer to p. 10 and p. 11.

Stereo Connection

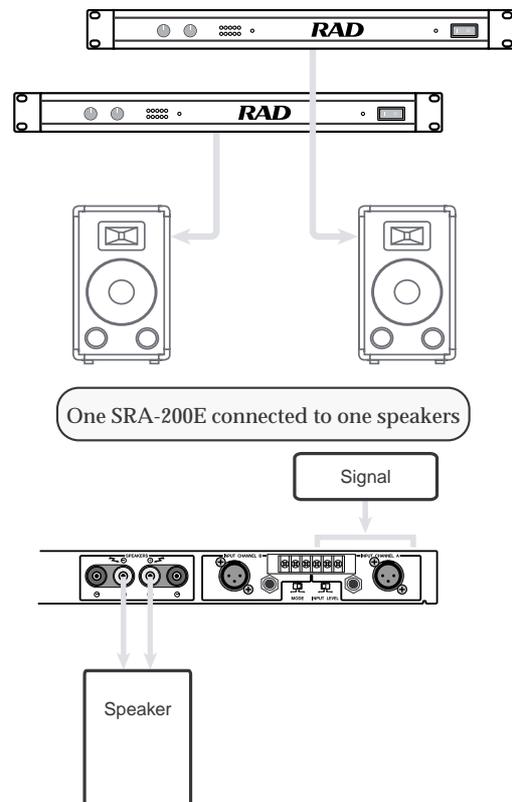
Channel A and Channel B may operate independently. In this mode, the SRA-200E functions as a stereo power amp, with 100 watts per channel (at 8 ohms).



- **MODE switch:** Set the MODE switch on the rear panel to "STEREO."
- **Connecting input:** Connect the input carrying the left signal to the Channel A INPUT connector, and the input carrying the right signal to the Channel B INPUT connector.
- **Speaker connections:** Connect the speaker for the left channel to the Channel A speaker terminal, and the speaker for the right channel to the Channel B speaker terminal.
 - * Use speaker systems with a total impedance of 4 ohms or higher for each channel.
 - * Take care not to connect speakers to the terminals with the polarity reversed.
- **Adjusting the volume:** Adjust the volume of the left channel with the Channel A attenuator and the volume of the right channel with the Channel B attenuator.

BTL Connection

If you need greater volume, you can connect a single speaker to each SRA-200E. In this mode, Channel A and Channel B are bridged internally by means of a BTL connection. BTL stands for Balanced Transformer-Less, and is a method in which the phase of one channel is inverted, and the output taken from the + jack of both channels. This provides approximately double the output voltage modulation, and in the case of the SRA-200E allows it to function as a 300 W (8 ohm) monaural power amp.



- **MODE switch:** Set the MODE switch on the rear panel to "BTL."
- **Connecting input:** Connect the input carrying the signal to the Channel A INPUT connector.
- **Speaker connections:** Connect the speakers to the red Channel A and Channel B speaker terminals (BTL). In this case, the polarity of Channel A is "+".
 - * Use speaker systems with a total impedance of 8 ohms or higher for each channel.
 - * Take care not to connect speakers to the terminals with the polarity reversed.
- **Adjusting volume:** Adjust the volume with the Channel A attenuator.
 - * The Channel B attenuator does not function in BTL mode.

Parallel Connection

Contacts for each of the SRA-200E's three types of input connectors (XLR-3-31, TRS standard phone, and screw type) are wired in parallel internally, so signals can be output unchanged and then input again at a separate device's connector, allowing connection of a multiple number of power amps.

* With parallel connections, the total impedance is reduced. Check the output impedance of each device

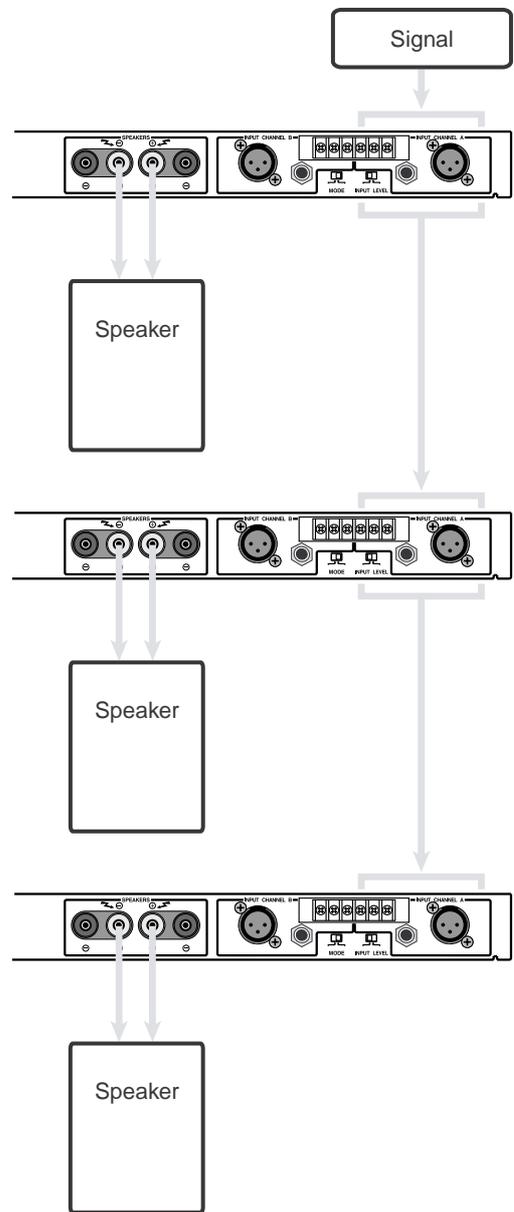
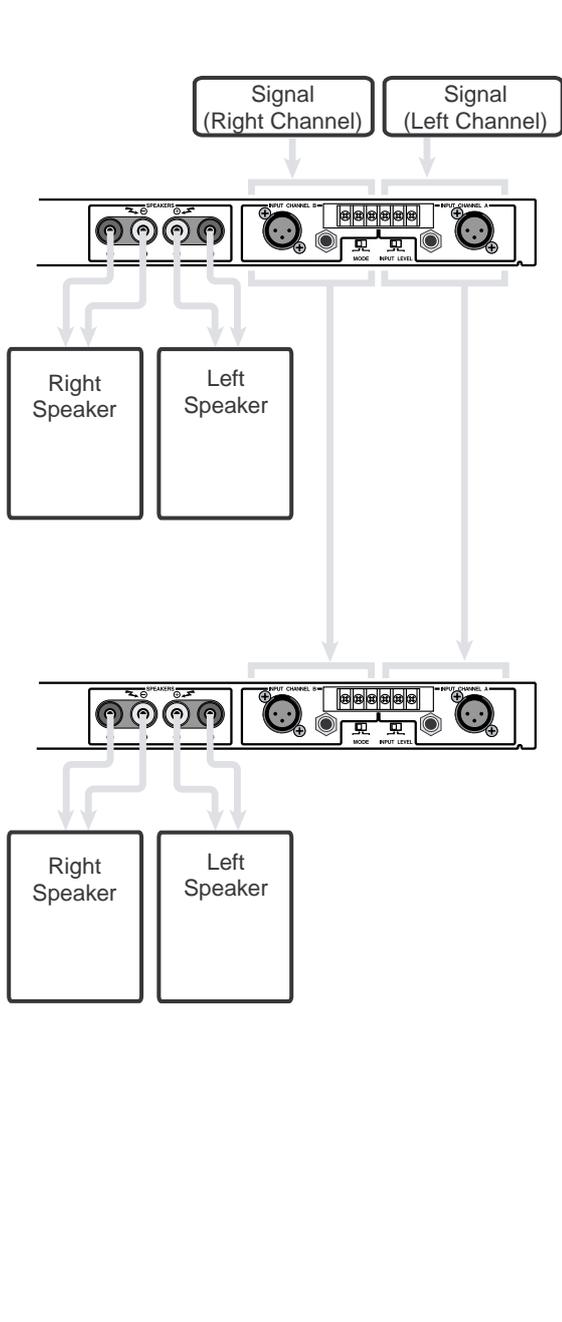
to be connected (mixer, preamps, and so on) to make sure that the outputs of the mixer and other devices do not overload the system.

- The input impedance of a single SRA-200E itself is 10 kilohms (with balanced or unbalanced input).
- The total input impedance of "n" number of SRA-200Es connected in parallel is "10/n" kilohms (with balanced or unbalanced input).

Stereo Connection: Multiple setups, with each SRA-200E connected to two speakers

BTL Connection: Multiple setups, with each SRA-200E connected to one speaker

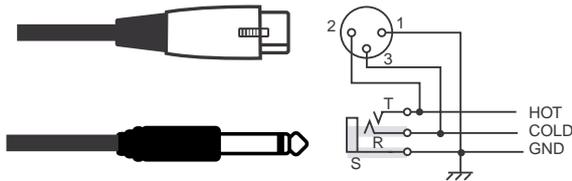
Sequence for turning the power on:



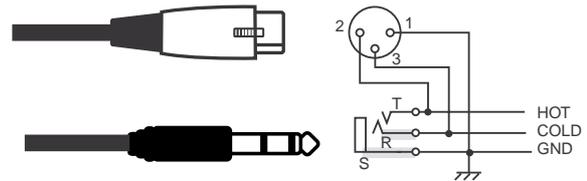
Sequence for turning the power off:

Precautions When Connecting and Turning on the Power

- To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.
- Do not connect anything other than speakers to these terminals.
- Connect speakers rated at 4 ohms or higher; or if using the BTL connection (bridging), 8 ohms or higher.
- Using an unbalanced standard phone plug and XLR-3-31 type connector at the same time shorts the XLR-3-31 connector's pin 1 (GROUND) and pin 3 (COLD), which may cause problems, including noise and the inability to get sufficient volume. Use caution when connecting with unbalanced standard phone plugs.



Quarter-inch Phone Type (Unbalanced)



Quarter-inch TRS Phone Type (Balanced)

- Although the SRA-200E is protected from damage by the PC Limiter Circuits, take care not to connect speakers rated at less than 4 ohms impedance or to allow shorting in the speaker cables.

(PC Limiter Circuits → see below)

- Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices. (reverse the order when shutting off the equipment)

Connected Devices → SRA-200E

- To avoid the risk of electric shock, do not touch the terminals while the amp is on.

<About the PC Limiter Circuits>

If the speaker cable's + and - wires are shorted, or if speakers rated at less than 4 ohms impedance are connected, the PC Limiter Circuit is activated in order to protect the speakers, and the sound may be cut off or distorted.

<About the Limiter>

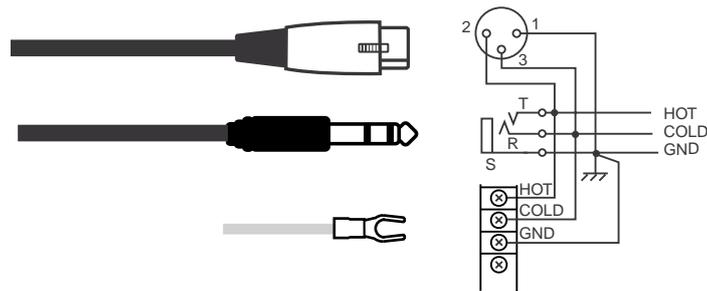
The SRA-200E also features a Limiter Circuit. This monitors the power amp's output signal and protects against noise and damage to speakers resulting from sudden peaks in the input.

Tips about Connection

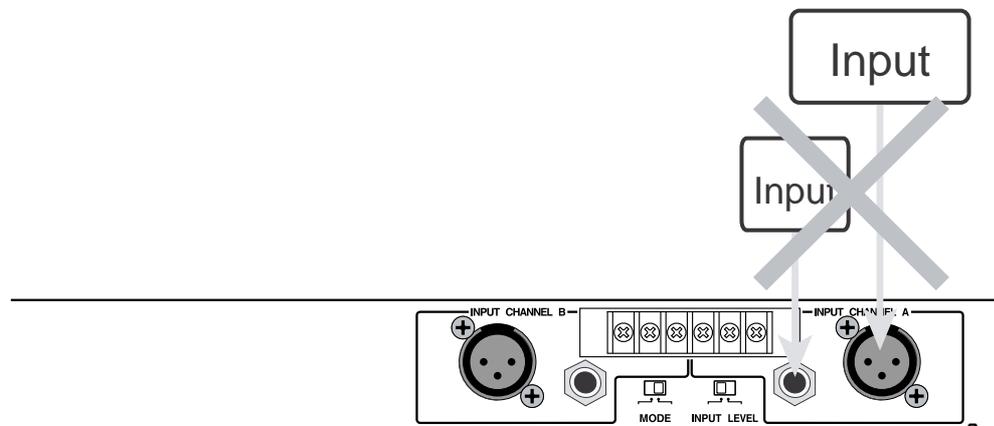
● Connections can be made using banana plugs and large-diameter cables. However, be sure only to connect cables specifically made for use with speakers. Use of cables (such as shielded cables) that accumulate significant static electricity can cause power amp overload, overheating, and damage to the equipment; do not use such cables.



● Contacts for the INPUT connectors are wired in parallel. This makes it convenient when a parallel connection is desired. (Parallel Connection → p. 9)



* However, the amp features no mixing functions. Regardless of the input arrangement used, do not connect inputs to different connectors on the same channel simultaneously. Doing so may result in damage to the SRA-200E and other connected devices.



About the Protection Circuits

The SRA-200E features special circuitry to protect the amp and any connected devices. Whenever this is activated, the PROTECTION indicator lights, and sound is cut off from the speakers. Stop operation of the equipment, and immediately check to find the cause of the problem.

1. Thermal Protection Circuit—Protects the Amp

Speaker output is cut if the temperature of the amp's heat sink exceeds 100°C. Stop operating the equipment for a short while to allow the heat to dissipate sufficiently. In addition, check the setup of the SRA-200E and rack, if rack-mounted, and take steps to allow enough circulation to carry away the heat generated by the amp.

(For more information on rack-mounting the SRA-200E, see "Notes on Heat Dissipation" → p. 13).

* The unit automatically restarts when the temperature of the heat sink falls. However, if the overheating protection circuit is activated again, check to make sure that the operating environment and the speakers connected to the amp output connectors conform to the SRA-200 specifications (4 ohms in stereo, 8 ohms with the BTL connection).

2. DC Detection Circuit—Protects the Speakers

Whenever DC (direct current) is generated in the output sent to the speakers, the output is cut off, protecting the speakers.

→ The SRA-200E restarts a few seconds after generation of direct current in the output ceases.

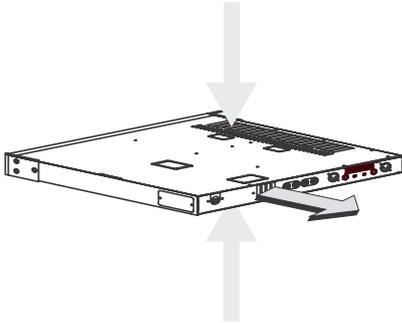
3. Muting Circuit—Protects the Speakers

When the power is switched on, output to the speakers is cut for a few seconds, thereby protecting the speakers from the sudden noise that occurs when the power is switched on.

About Rack Mounting (Notes on Heat Dissipation)

The SRA-200E uses a combined simple air-cooled/forced-air cooling system.

When the forced-air cooling fan is activated, cooler air from outside the amp is drawn in through the intakes in the top and bottom panels, and the air heated by the amp's interior is expelled through the vent (see figure below).



To ensure efficient cooling when rack mounting the SRA-200E or in similar setups, be sure to note the following points.

- Set up the unit in a site with good air circulation. In particular, make sure that there is nothing impeding the air flow that needs to reach the rear panel's air vent.
- Never mount the SRA-200E in enclosed-type racks.

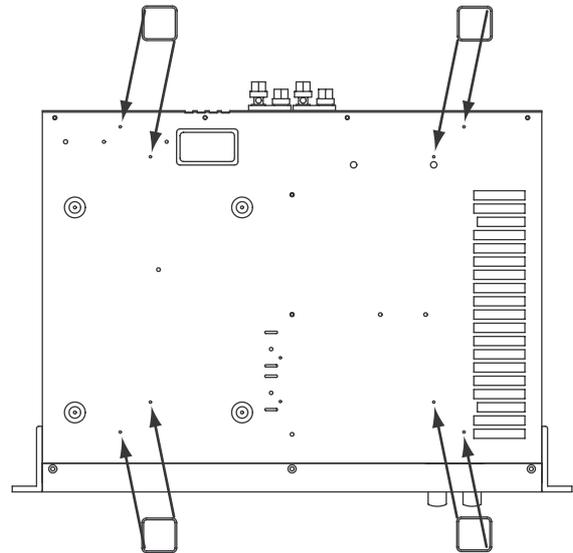
When the heated air inside the rack cannot be expelled, it is recirculated through the intakes, preventing efficient cooling of the amp.

- When mounting multiple amps, make sure that there is sufficient ventilation (especially within the rack), and also make sure that the exhaust air does not get recirculated back to the intakes. If there is no way to keep the rear panel of the amp away from the rack, then make sure the rack has an opening or fan installed for ventilation of the heated air that builds up during operation.
- Provide at least 1U (1.75 inches) of open rack space between each three SRA-200Es that you have mounted.
- When stored in portable racks, remove the front and rear covers of the case before operation, so that the front and rear panels of the SRA-200E are not obstructed.
- If the Thermal Protection Circuit is activated, and the PROTECTION indicator lights, you must then take measures to improve heat dissipation. Reconsider the type of installation and rack environment you are providing for the SRA-200E, referring to the points listed above.
- When mounting the SRA-200E in a rack or other fixture, exercise due caution so as to prevent fingers being caught or pinched between the amp and the rack.

Attaching the Rubber Feet (Included)

Attach the rubber feet included with the SRA-200E as needed when not mounting the amp in a rack or other fixture. Peel the covering from the double-sided adhesive tape, and place on the rubber feet as shown in the figure below.

Bottom Chassis



Troubleshooting

There is no sound

- Check to make sure the attenuators are not rotated too far counterclockwise.
- Check to make sure the speaker cables are not shorted and that the speaker impedance is not less than 4 ohms. If the speaker cable's + and - wires are shorted, or if speakers of less than 4 ohms impedance are connected, the PC Limiter Circuit is activated in order to protect the speakers, and the sound may be cut off or distorted.

(PC Limiter Circuit → p. 10)

- The Thermal Protection Circuit cuts off the sound if the internal power amp overheats. Stop operation of the equipment for a while to allow the heat to dissipate sufficiently. (About Rack Mounting → p. 13)

* The unit automatically restarts when the temperature of the heat sink falls. However, if the overheating protection circuit is activated again, check to make sure that the operating environment and the speakers connected to the amp output connectors conform to the SRA-200 specifications (4 ohms in stereo, 8 ohms with the BTL connection).

(Thermal Protection Circuit → p. 12)

- When DC (direct current) is generated in the output sent to the speakers, the DC Detection Circuit cuts off the sound to protect the speakers. The SRA-200E restarts a few seconds after generation of direct current in the output ceases.

(DC Detection Circuit → p. 12)

Noise is coming from the amp itself

- Whenever the temperature of the interior heat sinks exceeds 60°C, the cooling fan is activated. Although this is audible, it does not indicate a malfunction.

(About the Cooling Fan/Air Vents → p. 13)

Stereo image incorrect (minimal low end, extreme left-right spread, etc.)

- Is the MODE switch on the rear panel set to "BTL?"

→ Set the MODE switch to "STEREO" when using the SRA-200E in STEREO mode.

(MODE Switch → p. 7)

(Stereo Connection/BTL Connection → p. 8)

- Check to make sure the HOT and COLD of the Channel A and B inputs have not been connected in reverse (make sure the polarity is correct especially with the screw terminals).
- Check to make sure that you haven't mistakenly reversed the polarity when connecting the speaker cables.

The volume is difficult to adjust with the attenuator.

- Use the INPUT LEVEL switch on the rear panel to select the input sensitivity (+4 dBm/-10 dBm) that matches the system you are using.

Main Specifications

• Rated Power Output

100 W x 2 (stereo, 8 ohms load, 1 kHz, 0.1 % or less THD)

150 W x 2 (stereo, 4 ohms load, 1 kHz, 0.1 % or less THD)

300 W (BTL, 8 ohms load, 1 kHz, 0.5 % or less THD)

• Frequency Response

20 Hz to 50 kHz (+0/- 1 dB, 1 W/8 ohms)

• Input Impedance

Balanced Input: 10 k ohms

Unbalanced Input: 10 k ohms

• Input Sensitivity

-10 dBm/+4 dBm

• Non-Clip Maximum Input

+24 dBm

• Recommended Load Impedance

4 ohms or greater (stereo)

8 ohms or greater (BTL)

• Power Band Width

20 Hz to 20 kHz (stereo, 8 ohms load, 50 W, 0.2 % or less THD)

20 Hz to 20 kHz (BTL, 8 ohms load, 150 W, 0.2 % or less THD)

• Total Harmonic Distortion

0.05 % or less (stereo, 8 ohms load, 1 kHz, 50 W)

0.05 % or less (stereo, 4 ohms load, 1 kHz, 75 W)

0.07 % or less (BTL, 8 ohms load, 1 kHz, 150 W)

• S/N Ratio

100 dB or greater (input terminate with 150 ohms, input sensitivity +4 dBm, IHF-A weighted)

• Damping Factor

125 or greater (8 ohms load, 1 kHz)

• Channel Separation

65 dB or greater (8 ohms load, 1 kHz, 50 W, DIN audio weighted)

• Slew Rate

11 V/micro sec or greater (stereo, 8 ohms load)

• Controls

Attenuators x 2 (A, B)

Power Switch

MODE Switch (STEREO/BTL)

INPUT LEVEL Switch (+4 dBm/-10 dBm)

• Indicators

Power Indicator

Clip Indicators (A, B)

Level Indicators (A, B)

Protection Indicator

• Connectors

Balanced Input Jacks (1/4 inch TRS phone type) x 2 (A, B)

Balanced Input Connectors (XLR-3-31 type) x 2 (A, B)

Balanced Input Terminals x 2 (A, B)

Speaker Terminals (Binding Posts) x 2 (A, B)

• Power Supply

AC 117/230/240 V (50/60 Hz)

• Power Consumption

130 W (AC 117/230/240 V)

• Dimensions

482 (W) x 364 (D) x 48.6 (H) mm

19 (W) x 14-3/8 (D) x 1-15/16 (H) inches

(EIA-1U rack mount type)

• Weight

5.0 kg/11 lbs 1 oz

• Accessories

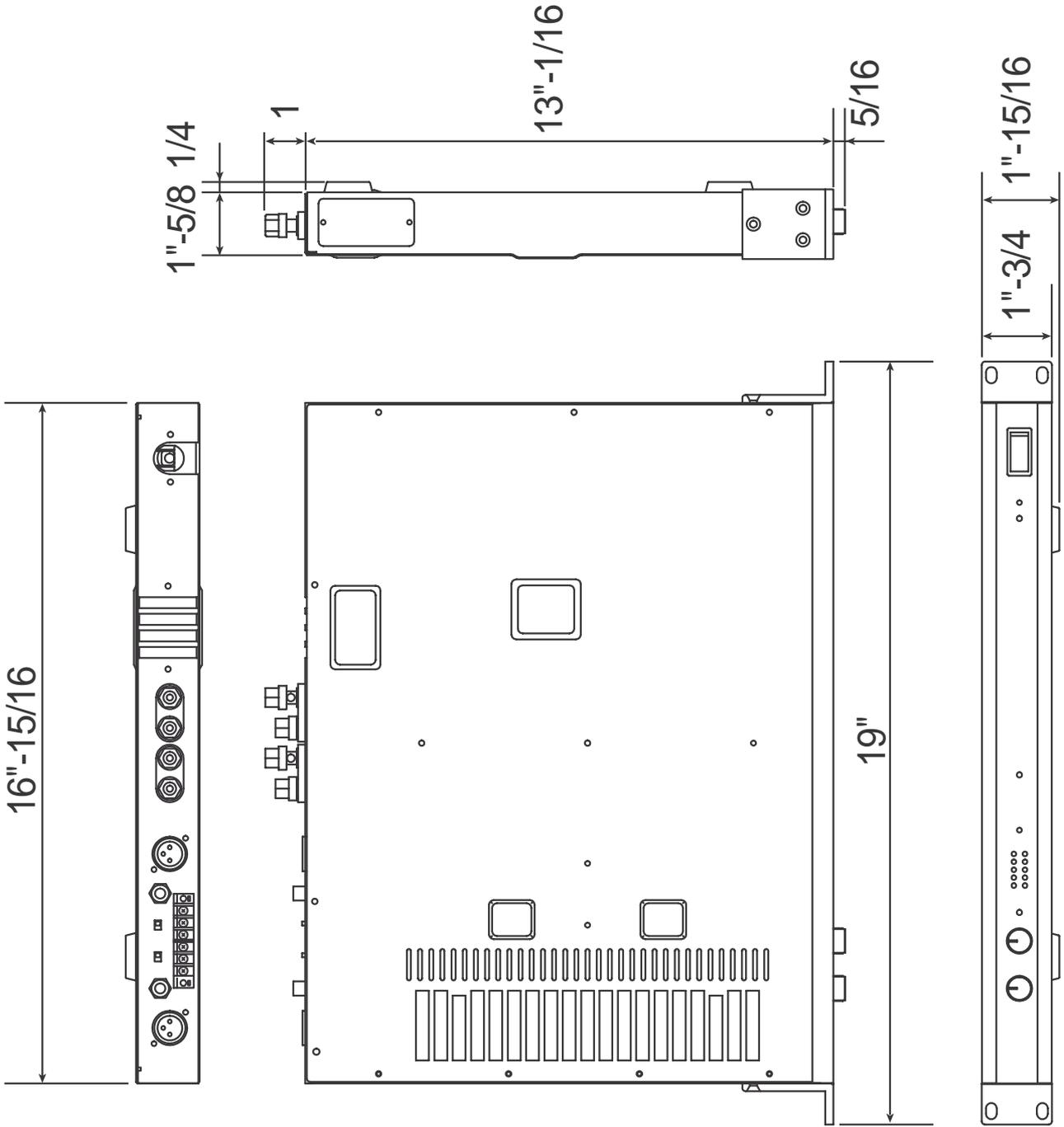
Owner's Manual

Rubber Feet x 4

0 dBm = 0.775 V rms

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

Dimensions



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