

A-3E User Guide

INTEGRATED AMPLIFIER

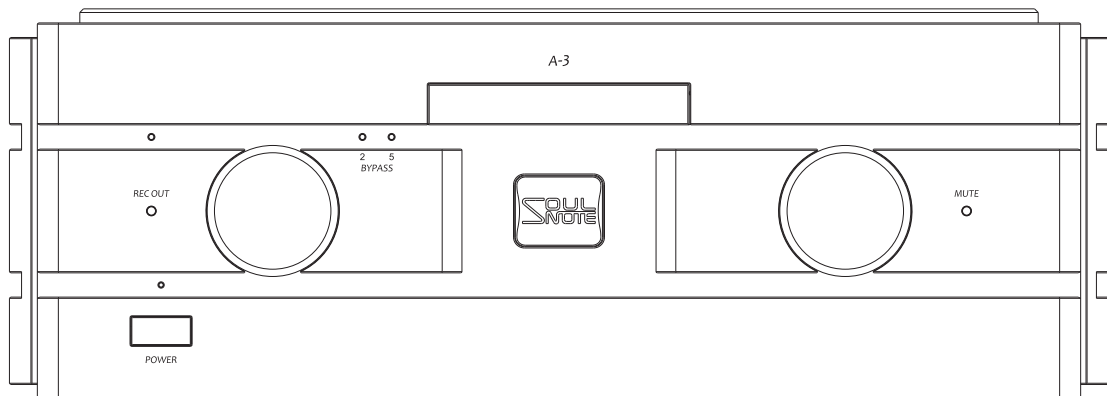


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Supplied Accessories

• User Guide (this manual)	1	• Spike pin	3
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Safety Precautions



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



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.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

A warning that an apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

IMPORTANT SAFETY INSTRUCTIONS
READ BEFORE OPERATING EQUIPMENT

This product was designed and manufactured to meet strict quality and safety standards. There are, however, some installation and operation precautions which you should be particularly aware of.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings.
Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.



CAUTION:

- To completely disconnect this product from the mains, disconnect the plug from the wall socket outlet. The mains plug is used to completely interrupt the power supply to the unit and must be within easy access by the user.
- Never use the unit with any other cord except the supplied power cord.

NOTE ON USE

WARNINGS
<ul style="list-style-type: none">• Avoid high temperatures. Allow for sufficient heat dispersion when installed in a rack.• Handle the power cord carefully. Hold the plug when unplugging the cord.• Keep the unit free from moisture, water, and dust.• Unplug the power cord when not using the unit for long periods of time.• Do not obstruct the ventilation holes.• Do not let foreign objects into the unit.• Do not let insecticides, benzene, and thinner come in contact with the unit.• Never disassemble or modify the unit in any way.• Ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths or curtains.• Naked flame sources such as lighted candles should not be placed on the unit.• Observe and follow local regulations regarding battery disposal.• Do not expose the unit to dripping or splashing fluids.• Do not place objects filled with liquids, such as vases, on the unit.• Do not handle the mains cord with wet hands.• When the switch is in the OFF position, the equipment is not completely switched off from MAINS.• The equipment shall be installed near the power supply so that the power supply is easily accessible.

DECLARATION OF CONFORMITY

We declare under our sole responsibility that this product, to which this declaration relates, is in conformity with the following standards:

EN60065, EN55032, EN55020.

Following the provisions of Low Voltage Directive 2014/35/EU and EMC Directive 2014/30/EU.

A NOTE ABOUT RECYCLING:

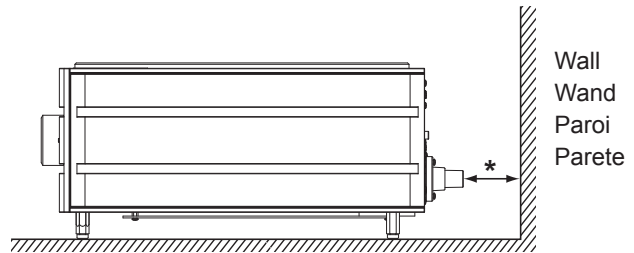
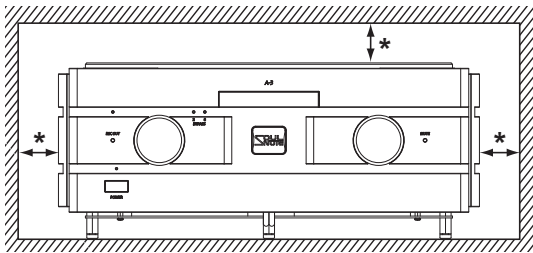
This product's packaging materials are recyclable and can be reused. Please dispose of any materials in accordance with the local recycling regulations. When discarding the unit, comply with local rules or regulations.

Batteries should never be thrown away or incinerated but disposed of in accordance with the local regulations concerning battery disposal. This product and the supplied accessories, excluding the batteries, constitute the applicable product according to the WEEE directive.



Pb

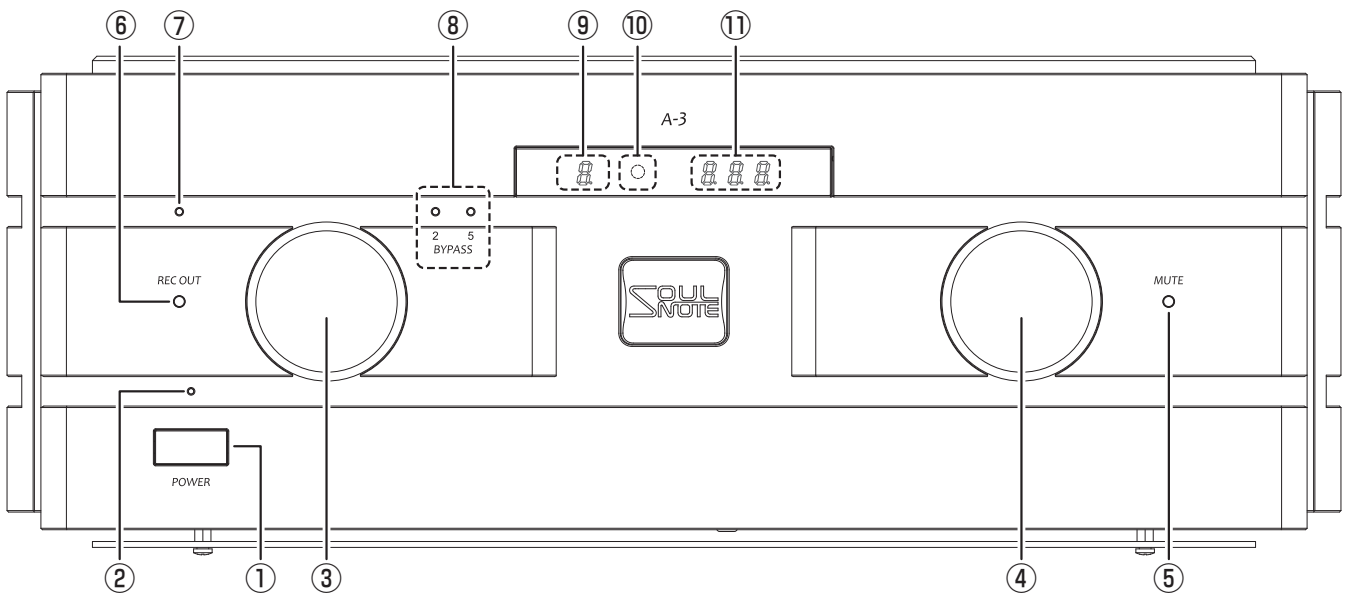
CAUTIONS ON INSTALLATION



*** For proper heat dispersal, do not install this unit in a confined space, such as a bookcase or similar enclosure.**

- Leave sufficient clearance (at least 10 cm) from the wall, (at least 5 cm) from top surface of the unit.
- Do not place any other equipment on this unit.

Front Panel Names and Functions



① Power Switch (POWER)

Press to turn on the power, and press again to turn off.

② Power Indicator (POWER)

When the power is turned on, the indicator is lit blue.

Note:

- When the GND switch on the rear panel is in the CONNECTION mode, the indicator is lit red.

③ Input Selector

Turn the selector to select the desired input (1 to 6). Turning the selector clockwise/counterclockwise changes the input as follows: 1 ↔ 2 ↔ 3 ↔ 4 ↔ 5 ↔ 6 ↔ 1 ↔ ...

Note:

- Settings are retained even after the power is turned off.

④ Volume Adjustment Dial

Turn the dial to adjust the volume. Turn the dial clockwise to increase the volume.

Even after the power is turned off, the last-used volume setting remains in the memory. Therefore, the last-used volume setting is retained for when the power is turned on again.

Note:

- If the volume setting remaining in the memory is -20dB or higher, the volume will default to -20dB when the power is turned on again for your safety.

⑤ Mute Button

Press the button to mute the sound, and press the button again to cancel the mute.

While muted, the Volume Display flashes.

⑥ REC OUT Button

Press the button to turn on REC OUT, and press the button again to turn off REC OUT.

⑦ REC OUT Indicator

While REC OUT is on, the indicator is lit red.

⑧ Volume Bypass Indicator (for INPUT2 / INPUT5)

The indicator is lit while the VOL.BYPASS Switch on the rear panel is on.

Note:

- When INPUT2 or INPUT5 is selected using the Input Selector while VOL.BYPASS Switch is on, the sound gets muted for your safety. Canceling the mute mode fixes the volume to -10dB.

⑨ Input Display

The selected input number (1 to 6) is displayed.

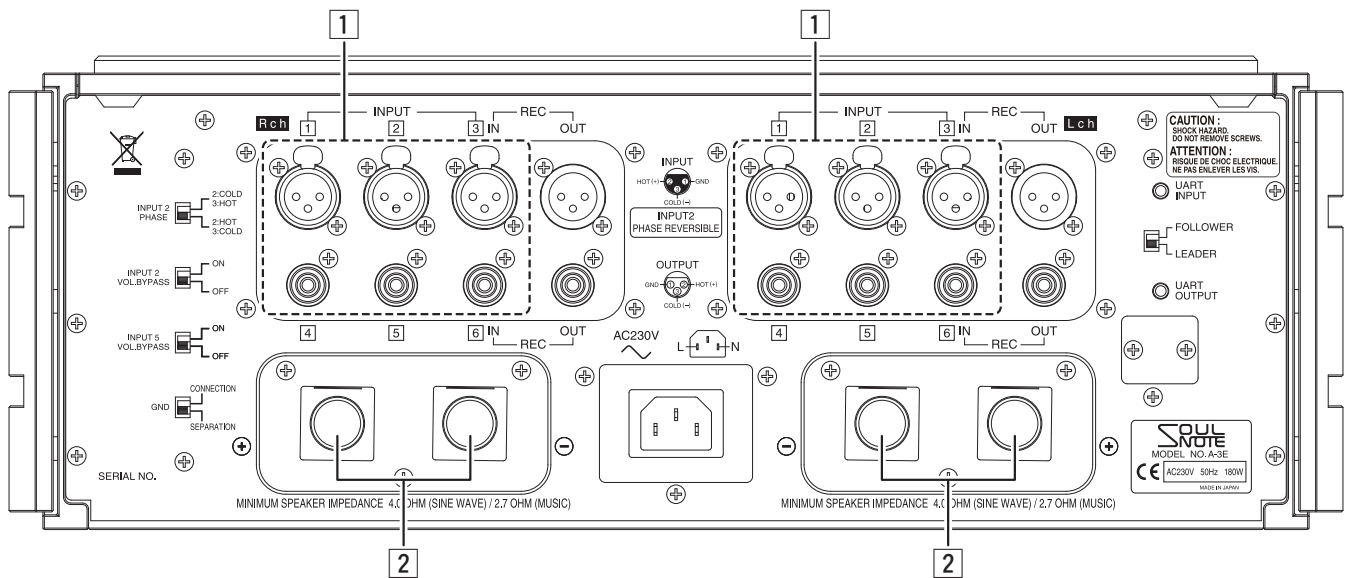
⑩ Remote Sensor

The remote sensor receives infrared signals from the remote control.

⑪ Volume Display

The volume is displayed in the unit of dB. The maximum volume is displayed as "-0.0" and the minimum volume (-∞) is displayed as "---".

Rear Panel Names and Functions



1 Audio Input Terminals (INPUT)

Use these terminals to input analog audio signals.

Notes:

- When connecting a connector cable, turn off the power or set the volume to the minimum (---).
- The settings of the XLR input terminals on this product:
pin 2 = HOT, pin 3 = COLD
Only for INPUT2, switching the PHASE switch changes the settings to pin 2 = COLD, pin 3 = HOT.

2 Speaker Terminals

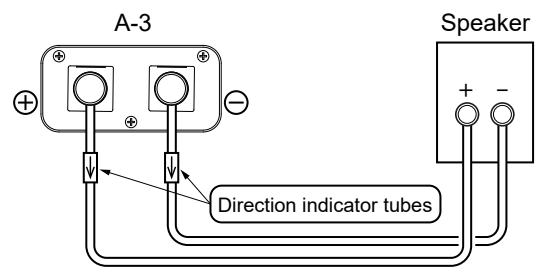
These terminals are used for speaker connections. To each of these speaker terminals, 2.7-ohm or higher speakers can be connected.

Notes:

- Turn off the power before connecting a cable to the input terminal or the speaker terminal, or before reconnecting speakers that are connected via speaker cables.
- Due to the superior frequency characteristic of the main unit, DO NOT connect any devices other than speakers. Connecting a speaker selector or measuring equipment causes a high-frequency connection of the input GND and the output GND, which may result in protection circuit activation or malfunction of the main unit.
- Whenever possible, keep the speaker cables and input cable apart from each other.
- While each of output terminals consist of the ⊕ (red) and ⊖ (black) polarities, speaker systems also have the ⊕ and ⊖ polarities. Be sure to connect ⊕ to ⊕ and ⊖ to ⊖ (except for BTL connections).

- About speaker cables

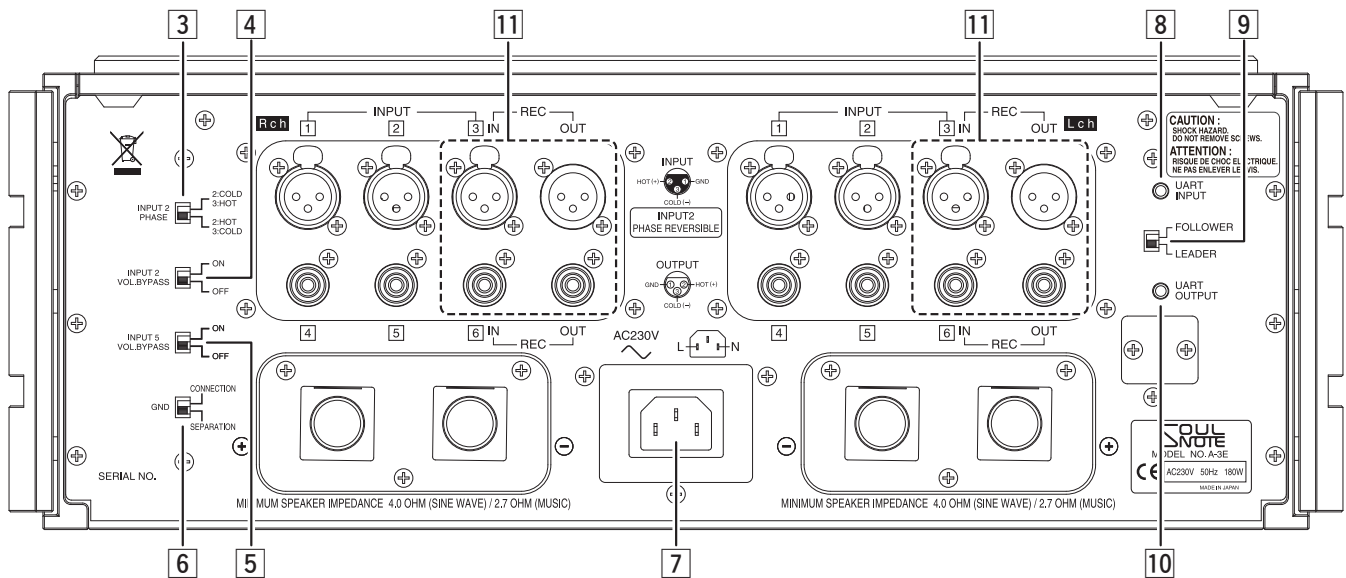
When using RSC-04/06/10 (sold separately), connect the cables as shown below.



Notes:

- When disconnecting cables, be careful not to drop the direction indicator tubes.
- Use a wire stripper or utility knife to peel about 2 cm off the insulation coating.

Rear Panel Names and Functions



3 XLR Type Selection Switch (PHASE)

Select the INPUT2 balance input terminal type (Europe type and USA type).

- Euro type: pin 2 is HOT and pin 3 is COLD
- USA style: pin 2 is COLD and pin 3 is HOT

Note:

- The default setting of this equipment is the European type.

4 Volume Bypass Switch (INPUT2 VOL.BYPASS)

While this switch is on, selecting INPUT2 fixes the volume to -10dB regardless of the volume setting. Connecting a preamplifier or the like allows you to use this product as a power amplifier.

When the bypass is set, the BYPASS 2 indicator on the front panel is lit. When INPUT2 is selected using the Input Selector, the sound gets temporarily muted for your safety. Canceling the mute mode outputs sound at the volume of -10dB.

Note:

- When a CD player or the like is connected, do not use the bypass mode.

5 Volume Bypass Switch (INPUT5 VOL.BYPASS)

While this switch is on, selecting INPUT5 fixes the volume to -10dB regardless of the volume setting. Connecting a preamplifier or the like allows you to use this product as a power amplifier.

When the bypass is set, the BYPASS 5 indicator on the front panel is lit. When INPUT5 is selected using the Input Selector, the sound gets temporarily muted for your safety. Canceling the mute mode outputs sound at the volume of -10dB.

Note:

- When a CD player or the like is connected, do not use the bypass mode.

6 GND Switch (SEPARATION/CONNECTION)

This switch connects separated right and left analog GND to the main chassis.

SEPARATION:

Separates the right and left analog GNDs from the main chassis. To obtain better audio quality, keep the switch in this position.

- The Power Indicator is lit blue.

CONNECTION:

Connects analog GND to the main chassis. When noise or the like occurs, set the switch to this position.

- The Power Indicator is lit red.

7 AC Inlet (AC230V)

Connect to a 230 V AC wall outlet (mains) with the supplied power cable.

Notes:

- **Do not use any electrical contact cleaner or the like in the AC inlet area.**
- To maintain the audio quality, use the supplied power cable.
- Connect the power cable to the AC wall outlet (mains) by inserting the power plug prong with the engraved OO symbols into the ground side (the longer hole). If you reverse the orientation of the power plug, you cannot fully enjoy the performance of the unit.
- Firmly insert the power cable into the end of the AC inlet.
- The ground terminal and the housing are not connected.

8 UART Input Terminal (UART INPUT)

Use this input terminal for control signals when using multiple units of this product.

When in follower mode, connect a 3.5Φ stereo mini plug cable (sold separately) to this terminal.

9 Mode Change Switch (LEADER/FOLLOWER)

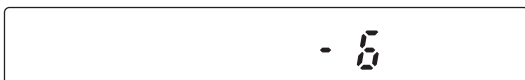
When using multiple units of this product, use this switch to select Leader or Follower.

Notes:

- While in the FOLLOWER mode, the Power Indicator is lit light blue. (When the GND switch is set to CONNECTION, the Power Indicator is lit yellow.)
- While in the FOLLOWER mode, the volume/mute is set in accordance with the LEADER status.
- While in the FOLLOWER mode, you can set the value of difference (-30dB +10dB) between the volume level of LEADER and that of FOLLOWER by adjusting the volume while pressing the MUTE button for the FOLLOWER. Based on the volume setting value of LEADER, the set difference in value is retained even after the power is turned off.

Display example

When the difference with the leader is set to -6dB,



is displayed.

- Inputting signals to FOLLOWER INPUT1 from LEADER REC OUT (or FOLLOWER REC OUT) is useful for a stack connection.

10 UART Output Terminal

(UART OUTPUT)

Use this output terminal for control signals when using multiple units of this product. When in leader mode, connect a 3.5Φ stereo mini plug cable (sold separately) to this terminal.

When in follower mode, using this output terminal allows you to connect 3 or more units with a stack connection.

11 Recorder Input/Output Terminals (REC IN/REC OUT)

REC IN

Use this terminal to connect to an output terminal of a device such as an open reel deck.

REC OUT

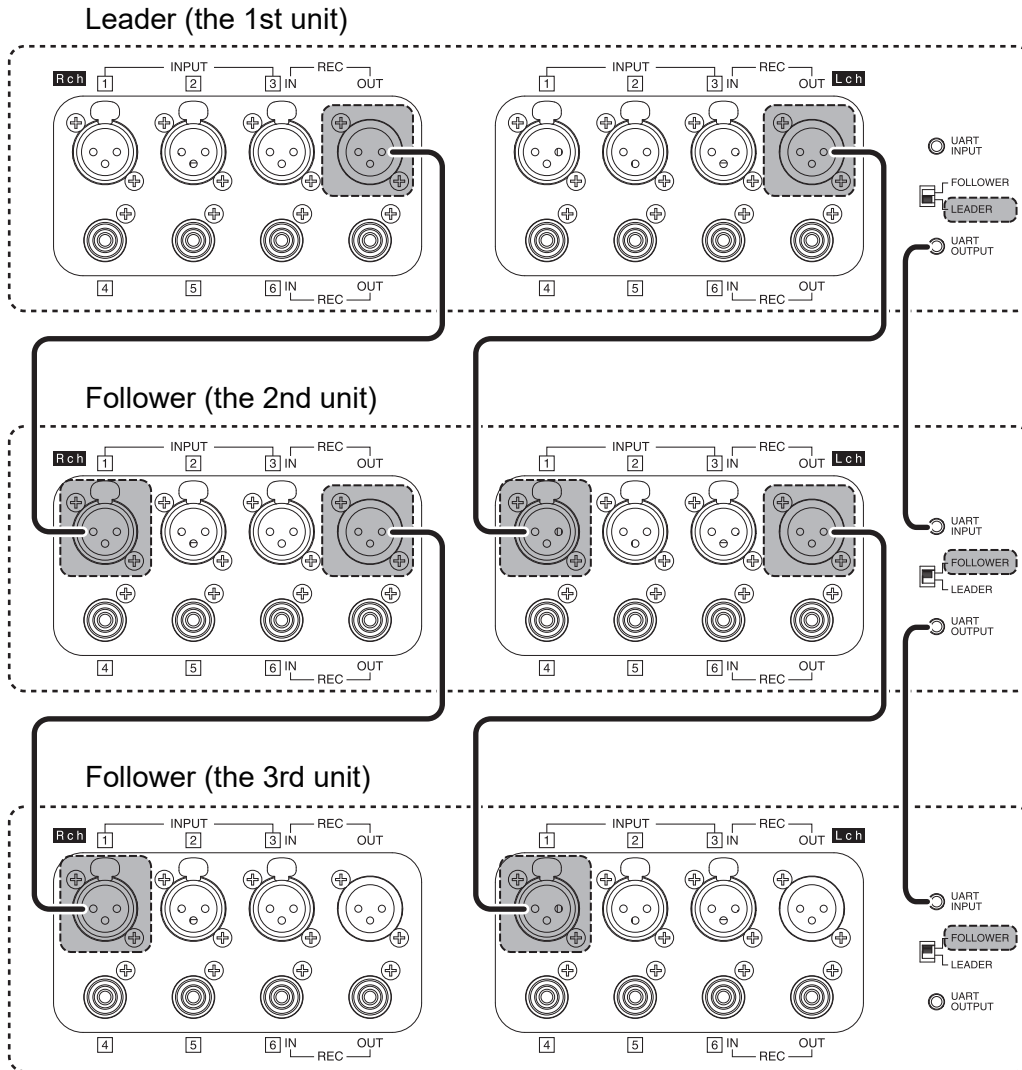
Use this terminal to connect to an input terminal of a device such as a digital recorder.

Note:

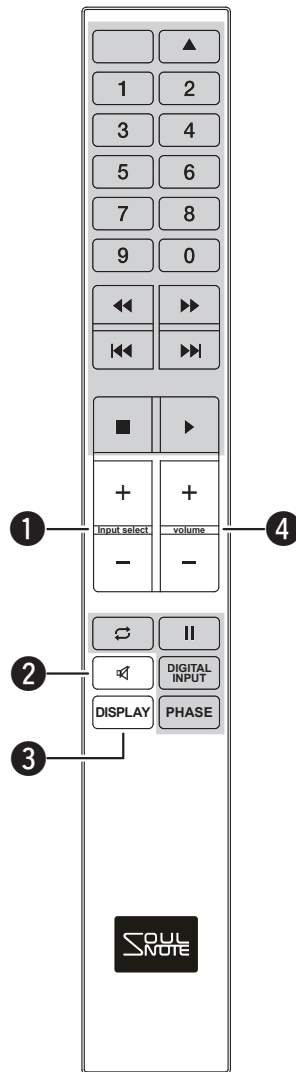
- Even when the REC OUT button is on, if "3" or "6" is selected using the Input Selector, the signal will not be output to REC OUT of the selected input "3" or "6".

- Connection example when connecting together multiple units of this product

When connecting together multiple units of this product, connect REC OUTs of the leader to INPUT1s of a follower, and then connect REC OUTs of the follower to INPUT1s of another follower. In this case, the bypass function of the leader is enabled.



Remote Control Button Names and Functions



❶ Input select button

Press to select a desired input (1 - 6).
1 ↔ 2 ↔ 3 ↔ 4 ↔ 5 ↔ 6 ↔ 1 ↔ ...

❷ MUTE button

Press to mute the sound and press again to cancel mute.
While muted, the Volume Display flashes.

❸ DISPLAY button

Press to turn off the indicators and the display and press again to turn on.

Notes:

- While all the indicators and the displays are off, pressing any button causes the Volume Display to turn on. If any operation is not performed for about 2 seconds, the Volume Display automatically turns off.
- The Power Indicator does not turn off.

- Even while all the indicators and the displays are off, the Volume Display will flash when in the mute mode.

❹ Volume button

Press to adjust the volume. Each time you press the button, the volume increases/decreases in the increment of 10dB. Press and hold the button to continuously increase/decrease the volume.

Notes:

- When increasing the volume, you cannot continuously increase the volume if the volume level is -20dB or higher.
- When decreasing the volume, you can continuously decrease the volume regardless of the volume level.

Features of This Product

Feature 1: Complete Separation of the Right and Left GND Channels

We have applied the complete GND separation technology incorporated in the P-3 preamplifier to A-3 that has a power amplifier circuit. Originally, how to ground the GND of a power amplifier that handles high current to the chassis was a key design issue, and there was no precedent for ungrounded GND. However, the ungrounding of the power amplifier's enclosure was achieved through the simple non-NFB circuit, optimized artwork design, minimization of high current loops, elimination of inductance components, and other factors. This led to the birth of the integrated amplifier A-3 featuring completely separated left and right GNDs. Furthermore, by separating the control signals of the selector, volume, protection circuit, and other relays with a photocoupler, we achieved complete GND separation that takes capacitance and inductive components into consideration. The three-dimensional sound field space and spaciousness are the new frontiers of integrated amplifiers.

Feature 2: Single Push-pull Output Stage

For the output stage, we have adopted the single push-pull SEPP circuit using the TO-3 (metal can type) bipolar transistor that is used in M-3. It can play blur-free music at the correct timing, supporting from ultra-low to ultra-high frequencies. The heart-stirring music playback is achieved by single push-pull which does not spoil micro-time axis accuracy.

Feature 3: Four-stage Darlington Configuration with Super-powerful Driver and Pre-driver

To drive the TO-3 (metal can type) transistor easily, ultra-powerful TO-3P transistors are used in the driver as well as in the pre-driver. Ensuring perfect current supply all the way to the bottom end without regard to hfe fluctuation at high currents makes it possible to achieve deeply expressive and groovy sounds.

Feature 4: New Type-R Circuit Adopted

For voltage amplification, we have newly developed the high-gain-to-GND single-stage Type-R amplification circuit. Naked foil resistors are used generously for all resistors that are involved in amplifier operation.

Feature 5: GND Switching Selector

The selector that disconnects the connection up to GNDs was an important part of P-3. This is also adopted in A-3. It eliminates sound quality degradation caused by GND loops that occur when many playback devices are connected. The RSR custom relay, being the highest grade relay, is adopted as the relay.

Feature 6: Resistor-switching Volume

We have adopted the resistor-switching balanced volume which is the simplest control method and is least likely to decrease freshness of the sound source. Of course, RSR custom relays and naked foil resistors are used throughout this design. This is the highest-grade volume conceivable.

Feature 7: GND Anchor

The GND in the left and right channel power supply units is grounded to the left/right-side metal that is insulated by ceramic washers. We have adopted a special enclosure structure that serves as a GND anchor. A sense of openness and low-end grip are achieved at a high level.

Feature 8: Super-strong Power Transformer

Two 700VA unimpregnated toroidal power transformers are used on the left and right for the power amplification. In addition, three power transformers, including the control system power transformer, are packed into one enclosure. They are all mounted vertically so that the magnetic field lines are parallel to the board.

Feature 9: High-speed non-NFB Power Supply

For the rectifying capacitor, we have adopted a specially-selected low magnification foil filter capacitor of only 470uF featuring high-withstand voltage and low capacitance. We have adjusted the number of the capacitors to be used in order to optimize the capacitance, thereby reducing the load on the power transformer. This further improves real regulation of the ultra-powerful power transformer. For the rectifier diodes, we have adopted SiC diodes of the latest specifications with enhanced allowable inrush current. This is the most powerful and high-speed power supply configuration conceivable. In addition, two unsecured large power relays with excellent sound quality are used independently as power switches for the two main power transformers. In other words, the Power Switch on the front panel is dedicated to the control system sub-transformer. Having an independent power switch for each power transformer, which is a high current contact point, is extremely crucial for sound quality.

Feature 10: Heat Sink That Also Serves as Copper Bus Bar

Lightweight, small copper plates are used for the main heat sink. This heat sink also serves as a bus bar that supplies power to the TO-3 (metal can type) transistor, and the terminals of the TO-3 (metal can type) transistor penetrate the bus bar and are connected directly to the board underneath. Thus, we eliminated wiring which is a drawback of the TO-3 (metal can type) transistor to overcome instability caused by the inductance component while eliminating sound quality degradation that is caused by insulation sheet damping on the device. The physical independence of the heat sink from the chassis also has a profound effect on the sound quality, creating a sense of freedom and transparency. Furthermore, in A-3, the power supply board and amplifier board are connected by a bus bar heat sink which also serves as a structural component to form a block. It is truly a “four birds with one stone” heat sink.

Feature 11: Unsecured Structure

The amplifier block, terminals, AC inlet, top cover, and bottom cover are all unsecured. We especially focused on the amplifier block by adopting the three-point lateral sliding structure using titanium sliders. While escaping from the harmful vibration of the power transformer, it also releases its own intrinsic vibration.

Feature 12: Volume Bypass Feature

For an XLR system and an RCA system, volume bypass can be set by fixing the gain at 22dB. By connecting the output of an AV preamplifier, it can be used as an AV power amplifier.

Feature 13: Multiple-unit Connection Feature

Using a 3.5Φ stereo mini-plug cable, multiple units can be linked (simultaneous control of volume and other features is possible). By setting a leader and followers, all followers can follow the state of the leader. In addition, the follower can differentiate between the leader's and the follower's volume. This function enables, for example, volume control in a multi-amp configuration with digital channel dividers after DA conversion. Of course, the floating GND of the control system eliminates problems such as GND loops caused by coupling.

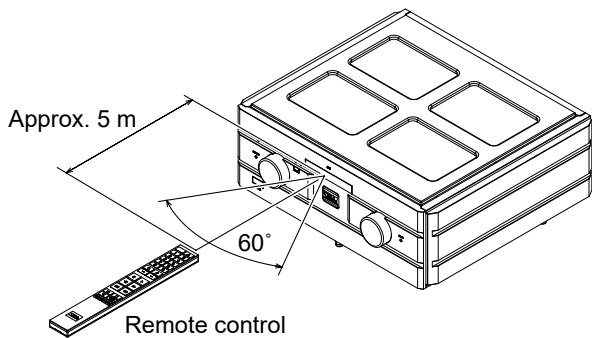
Feature 14: REC OUT Feature

REC IN/REC OUT terminals are provided to connect an open reel deck or a digital recorder. For these terminals, you can use XLR or RCA cables.

- For more detailed information, refer to our website or Facebook page.
https://www.kcsr.co.jp/eu_soulnote.html

Remote Control

■ Notes on Operation



Operate the remote control within approx. 5 m distance from the front panel of the main unit within an angle of 60° to the remote sensor.

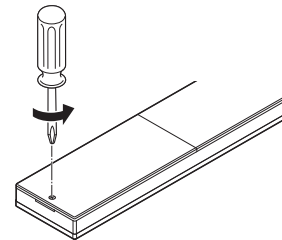
- Prevent the remote sensor from being exposed to strong light.
- Do not place any obstacles between the remote control and the remote sensor.
- Do not use other remote controls while using the remote control for the main unit.
- When using the remote control, keep the tip of the remote control facing the IR Sensor.

Cautions on Batteries

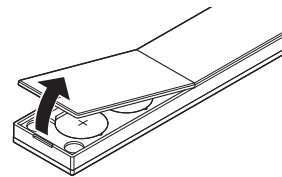
- Use CR2032 lithium batteries for the remote control.
- If you cannot operate the main unit by using the remote control at a short distance from the main unit, change the batteries with new ones.
- Do not use old and new batteries at the same time.
- Do not short-circuit, disassemble, or heat batteries. Do not throw batteries into a fire.
- Never leave batteries within reach of small children. If a battery is swallowed, immediately contact a doctor to seek medical attention.
- If your eyes come into contact with battery liquid, your eyes might get damaged. Avoid rubbing your eyes with and immediately flush your eyes with plenty of clean water such as tap water. After doing so, seek immediate medical attention.
- When not using the remote control for a long period of time, remove the batteries.

■ How to Change the Batteries

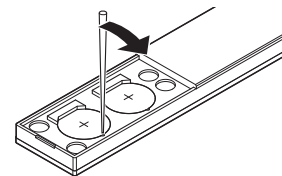
1. Remove the screw from the cover on the rear side of the remote control.



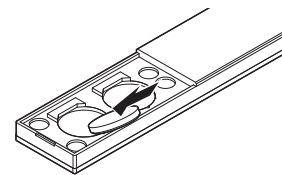
2. Lift up the cover diagonally to remove it.



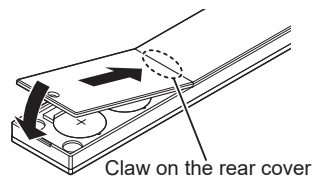
3. Use a thin yet sturdy oblong object to remove the batteries. Do not use any metal objects.



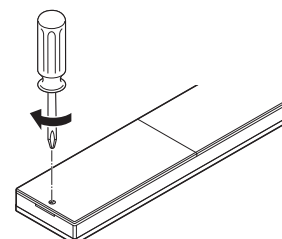
4. Insert the batteries with the + side facing upwards from the side indicated by the arrow.



5. Insert the claw on the rear cover into the slit and then close the lid.



6. Use a driver to tighten the screw on the rear cover.



DISPLAY button

The display and indicators other than the power indicator can be turned off by pressing the DISPLAY button on the remote control.

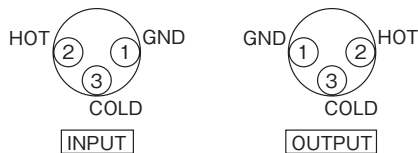
Turning off the display can reduce noise inside the unit thereby improving the audio signal quality.

Balanced Input/Output

The XLR Connector is used for Balanced Input/Output. There are two types of connection, "European Type" and "USA Type".

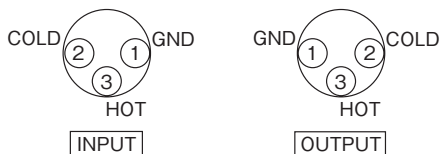
1. European Type (adapter for this unit)

(pin 2 = HOT, pin 3 = COLD)



2. USA Type

(pin 2 = COLD, pin 3 = HOT)



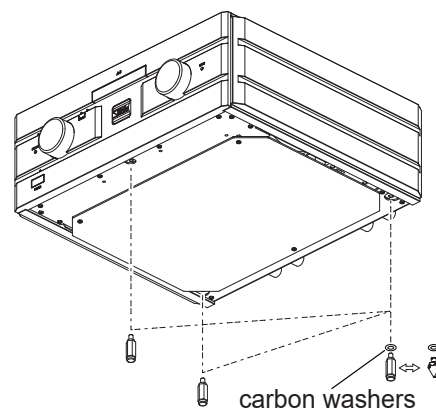
- On this product, only INPUT2 can be switched between the two types using the XLR Type Selector Switch.

Attaching the Spike Pins

By replacing the feet with the supplied spike pins, you can tune the audio quality. Point grounding makes the sound focus and auditory lateralization sharper. Furthermore, the audio quality can be subtly tuned by changing the material of the surface on which this equipment is installed.

Notes:

- When replacing the feet with the spike pins, remove the carbon washers from the feet, and then reattach them to the spike pins.
- When the spike pins are attached, it may be difficult to keep weight balance stable. Take great care not to carelessly apply a force on the corners of the main unit.



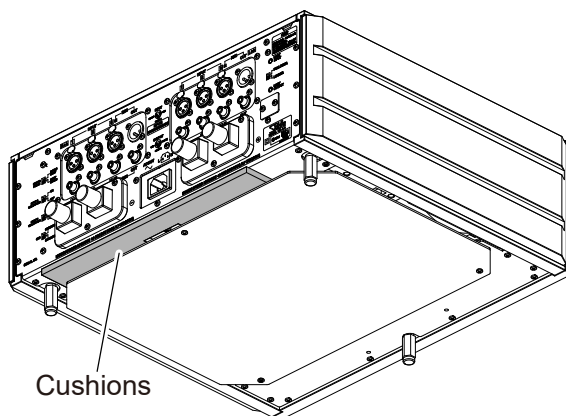
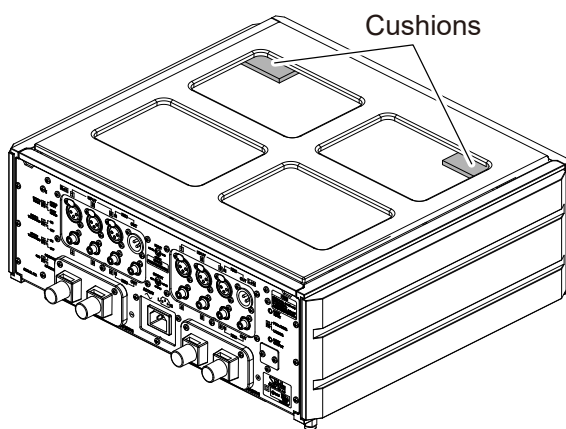
⚠ Cautions

- When using the spike pins, be extremely careful not to get injured, etc.
- When using the spike pins, be careful that the surface on which the main unit is installed such as the surface of a table, shelf, etc., may become damaged. Using the spike-receiving board is highly recommended in order to protect the installation surface.

Protection Pads for Transport

When unboxing this product, be sure to remove the transport cushions. With the cushions left attached, the intended sound quality of this product cannot be fully enjoyed.

- In order to obtain better sound quality, the top cover, the bottom cover, and the terminals on the rear panel are not secured.
- If you shake the unit, you will hear a rattling sound. It is not an abnormality.
- When you transport the unit, reattach the pads to the original places.



About Installation

When this product is installed on your shelf or audio rack with the spike pins attached, the supplied spike-receiving board can protect the installation surface from scratching.

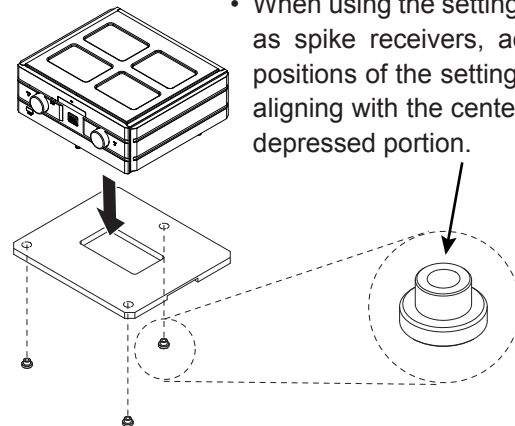
Using the setting spacers along with the spike-receiving board ensures that there is space between the installation surface and the spike-receiving board. With that space, the air hole of the spike-receiving board can be utilized. This can further improve the sound quality.

The setting spacers can also be used alone as spike receivers.

It is recommended to place the setting spacers with their smaller surface facing this product.

Note:

- When using the setting spacers as spike receivers, adjust the positions of the setting spacers aligning with the center of each depressed portion.



Troubleshooting

No sound is output.

- Check that the power of the main unit is on.
- Check that the mute mode is not on.
- Check that the appropriate input source is selected.
- Check that the Mode Change Switch is set properly.
- Check the connections of the external devices.
- Check that the power of the external devices is on.
- Check that the operations and settings on the external devices are correct.
- Check the connections of the speaker system.

The remote control does not operate.

- Check that the remote control batteries are not worn out.
- Check that the distance between the remote control and the main unit is not too far or that there is no obstacle between the remote control and the main unit.
- Keep the tip of the remote control facing the IR Sensor (Volume Display).

Maintenance

When the unit has become dirty, wipe it clean using a soft cloth. To remove stubborn stains, dilute some dish-washing liquid in 5 or 6 times as much water, soak a soft cloth in the solution, wring it out well, wipe away the stains, and then wipe the surfaces dry with a dry cloth.

Never use alcohol, paint thinners, benzine, insecticides or other volatile substances since they may mar or remove the surface gloss.

Bear in mind that rubbing surfaces with a chemical cleaning cloth or leaving such a cloth in contact with a surface for an extended time may result in deterioration.

Specifications

Maximum output.....	120 W x 2 (4 ohm)
Total harmonic distortion	0.27% (8 ohm, 1 W)
Frequency characteristic	
.....	2 Hz to 200 kHz (± 3.0 dB 8 ohm, 1 W)
Input sensitivity.....	480 mV
Maximum gain	33 dB
S/N ratio	110 dB
Power voltage.....	230 V AC , 50 Hz
Power consumption	
.....	180 W/86 W (When no signal)
Maximum external dimensions	
	454 (W) x 189 (H) x 456 (D) mm
Weight	31 kg



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