



Beyond Audio, **HiFi ROSE**

Master Fidelity Network Streamer **RS451**



rose





Master Fidelity Network Streamer RS451

- Reference-Grade Network Streamer
- Compact Form Factor for Desktop Hi-Fi
- Built-in Powerful Headphone Amplifier
- ROSE DPC(Digital Processing Core) Module
- ROSE NRA(Noise Reduction Analog) for Flat and Clear Response
- Ultra-Fast 1300V/μs Slew Rate with 0.0003% THD
- Independent Power per Channel for Stereo Clarity

Hi-Res	DSD	Native DSD 512	In/Out Port	HDMI Out	4K
	PCM	32bit/768kHz		Headphone Out	XLR(Balanced), 4.4mm(Balanced), 6.35mm(Unbalanced)
In/Out Port	Digital In	USB 2.0 Type-B, Optical, Coaxial, HDMI eARC	Network Connection	Ethernet	10/100/1000 BASE-T
	Digital Out	USB 3.0 Type-A, Optical, Coaxial		WiFi	USB Dongle
	Analog In	Line In		Bluetooth	V.5.4 AptX
	Analog Out	Unbalanced, Balanced			

Connectivity Bluetooth, DLNA, AirPlay, Spotify Connect, Roon Ready
Design 430*337*92 mm / 7 kg / 8.8" IPS LCD & Capacitive Touch Screen (MIPI) / Color: Black, Silver



High Performance Network Streamer Gen 2, RS151

- Flagship Network Streamer
- Network Transport + DAC
- Advanced DAC Design with Extremely Low Noise and Distortion
- ROSE DPC™ (Digital Processing Core) Module
- ROSE NRA™ (Noise Reduction Analog) Filter for Flat and Wide Frequency Response
- Highly Precise Femto Clock
- Linear Power Supply for Significant Noise Reduction

Hi-Res	DSD	Native DSD 512	In/Out Port	Analog In	Line In
	PCM	32bit/768kHz		Analog Out	Unbalanced, Balanced
In/Out Port	Digital In	USB 2.0 Type-B, Optical, Coaxial, AES/EBU, HDMI eARC	Network Connection	HDMI Out	4K
	Digital Out	USB 3.0 Type-A, Optical, Coaxial, AES/EBU, I²S-HDMI		Ethernet	10/100/1000 BASE-T
				WiFi	USB Dongle
				Bluetooth	V.5.4 AptX

Connectivity Bluetooth, DLNA, AirPlay, Spotify Connect, Roon Ready
Design 430*319*125 mm / 11 kg / 15.4" Wide viewing angle touch screen / Color: Black, Silver



Absolute True Fidelity DAC RD160

- ROSE DPC™ (Digital Processing Core) Module
- ROSE CIM™ (Completely Isolated & Moduled) Architecture
- Three Independently Customized Reference Linear Power Supply Units
- ROSE NRA™ (Noise Reduction Analog) Filter for Flat and Wide Frequency Response
- High-Precision OCXO Clock for Long-Term Jitter Reduction
- Lavish Internal Wiring with High-Purity OFC and OCC
- Fiber Optic USB Connectivity

Hi-Res	DSD	Native DSD 512
	PCM	32bit/768kHz
In/Out Port	Digital In	USB SFP, USB 2.0 Type-B, Optical, Coaxial 1(RCA), Coaxial 2(BNC), AES/EBU, I²S-HDMI
	Analog Out	Unbalanced, Balanced
	Clock In	BNC 75Ω, SMA 50Ω

Design 430*330*88 mm / 10 kg / Aluminum, Rust-proof Steel / Color: Black, Silver



Top-notch Master Integrated Amplifier RA280

- Class AD Amplifier with Next-Generation GaN FET
- Independently Developed LC Filter by HiFi ROSE
- Highly Efficient and Stable Power Supply
- Powerful 250W Output
- Phono Amplifier for MM
- Bass/Treble Control Volume

In/Out Port	Analog In	LINE1, LINE2, LINE3, BALANCED, PHONO(MM)
	Analog Out	Sub Woofer
Speaker Out	Stereo	250W × 2ch(4Ω, 8Ω)

Design 430*355*110 mm / 9.5 kg / Aluminum, Rust-proof Steel / Color: Black, Silver



Ultimate Network Transport RS130

- Linear Power Supply Utilizing Supercapacitor for Battery-Level Noise Reduction
- High-Precision OCXO Clock for Long-Term Jitter Reduction
- External Master Clock Input
- Network Streaming with SSD Caching Playback
- Fiber Optic Ethernet & USB Connectivity

Hi-Res	DSD	Native DSD 512	Network Connection	Ethernet	10/100/1000 BASE-T (SFP COPPER Type)
	PCM	32bit/768kHz			
In/Out Port	Digital Out	USB 2.0 Type-A, Optical, Coaxial, AES/EBU, I²S-HDMI		WiFi	USB Dongle
	Clock In	BNC 75Ω, 50Ω			
	HDMI Out	4K		Bluetooth	USB Dongle V.4.2

Connectivity Bluetooth, DLNA, AirPlay, Spotify Connect, Roon Ready
Design 430*317*125 mm / 12 kg / 15.4" Wide viewing angle touch screen / Color: Black, Silver

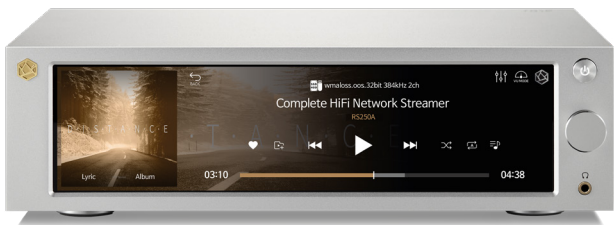


Complete HiFi Network Streamer RS250A

- Reference Grade Network Streamer
- Network Transport + DAC
- High-Resolution Music Playback (DSD512, PCM 32bit/768kHz)
- Highly Precise Femto Clock
- Linear Power Supply for Significant Noise Reduction

Hi-Res	DSD	Native DSD 512	In/Out Port	HDMI Out	4K
	PCM	32bit/768kHz		Headphone Out	3.5mm
In/Out Port	Digital In	USB 2.0 Type-B, Optical, Coaxial	Network Connection	Ethernet	10/100/1000 BASE-T
	Digital Out	USB 3.0 Type-A, Optical, Coaxial		WiFi	802.11 a/b/g/n/ac (2.4GHz/5GHz)
	Analog In	Line In		Bluetooth	V4.0 / V3.0+HS
	Analog Out	Unbalanced			

Connectivity Bluetooth, DLNA, AirPlay, Spotify Connect, Roon Ready
Design 278*231*83 mm / 3.2 kg / 8.8" Wide viewing angle touch screen / Color: Black, Silver

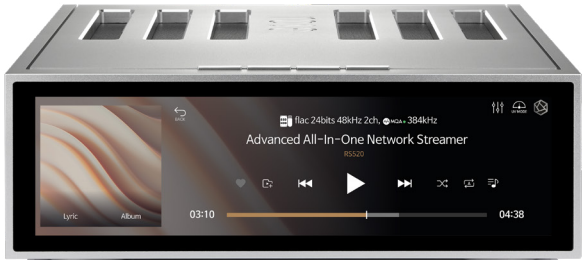


Advanced All-In-One Network Streamer RS520

- Reference Grade Network Streaming All-in-One
- Network Transport + DAC + Class AD Amplifier with Next-Generation GaN FET
- High-Resolution Music Playback (DSD512, PCM 32bit/768kHz)
- Highly Precise Femto Clock
- Linear Power Supply for Significant Noise Reduction

Hi-Res	DSD	Native DSD 512	In/Out Port	HDMI Out	4K
	PCM	32bit/768kHz		Speaker Out	250W × 2ch(4Ω, 8Ω)
In/Out Port	Digital In	USB 2.0 Type-B, Optical, Coaxial, HDMI eARC	Network Connection	Ethernet	10/100/1000 BASE-T
	Digital Out	USB 3.0 Type-A, Optical, Coaxial		WiFi	USB Dongle
	Analog In	Line In		Bluetooth	USB Dongle V.4.2
	Analog Out	Unbalanced			

Connectivity Bluetooth, DLNA, AirPlay, Spotify Connect, Roon Ready
Design 346*328*127 mm / 8.1 kg / 12.6" Wide viewing angle touch screen / Color: Black, Silver



Absolute Pure Sound Integrated Amplifier RA180

- Class AD Amplifier with Next-Generation GaN FET
- Multi-Output Component
- Designed to Play Up to the Super Tweeter Realm
- Balanced Power Supply
- Phono Amplifier with Variable EQ

In/Out Port	Analog In	LINE1, LINE2, LINE3(Bypass), BALANCED, PHONO(MM/MC)
	Analog Out	Sub Woofer
Speaker Out	Stereo(A/B)	200W × 4ch(8Ω)
	Stereo(A), BTL(B)	Stereo(A): 200W × 4ch(8Ω) / BTL(B): 400W × 2ch(8Ω)
	BTL(A/B)	BTL(A): 400W × 2ch(8Ω) / BTL(B): 400W × 2ch(8Ω)

Design 430*391*124 mm / 16.7 kg / Aluminum, Rust-proof Steel / Color: Silver



HiFi ROSE USB Fiber Optical Hub RSA720

- Compact Design Maximizing Usability and Functionality
- Optical USB Port
- Supports USB 3.0/2.0 via Four Independent USB Ports
- Guaranteed Stable Data Transmission Speed
- Supports Long-Distance Transmission

Input USB 3.0 Type-B, SFP(10G)

Output USB 3.0-2ports, USB 2.0-2ports

Design 152*153.5*33.5 mm / 1.2 kg / Color: Silver



HiFi ROSE CD Drive RSA780 Series

- USB Isolator Adopted to Block Motion Noise
- USB Type-B Port for HiFi Audio
- 900g Weight for Stable CD Playback
- Minimized Motion Noise with Insulators
- CD Ripping Features Included

Rear USB Type-B

Design 152*152*25 mm / 0.9 kg / Color: Silver



Innovative ROSE OS System



TIDAL

Enjoy music streaming and videos with TIDAL's unique features. Supports MQA Full Decoder, so you can enjoy high-resolution music.



RoseTube

You can enjoy all content and music on YouTube.



Spotify Connect

Spotify Connect allows you to play and wirelessly control Spotify music on your ROSE OS over a network. With the Spotify Connect function, you can enjoy a variety of music with HiFi sound quality on your ROSE device.



Roon Ready

ROSE OS is fully compatible with Roon Core, with Roon Ready certification in compliance with all requirements of Roon Labs. You can enjoy HiFi sound quality on your ROSE device with the powerful music management capabilities of Roon.



Hi-Res Audio

HiFi ROSE devices are certified with a 'High-Resolution Audio' license from the JAS(Japan Audio Society).



4K Video

You can enjoy high-definition videos on YouTube and TIDAL, and play video files in various formats.



Play CD

Play CDs by connecting an external USB CD-ROM.



CD Ripping

Rip CDs by connecting an external USB CD-ROM and save them on a storage device.



Qobuz

Enjoy music streaming with Qobuz's various functions. Support for Hi-Res Audio(24bit/192kHz) means you can enjoy high-resolution music.



Apple Music

Enjoy curated playlists divided by Apple Music's own musical tastes. You can enjoy various tracks in Apple Music.



Qobuz Connect

You can enjoy high-resolution streaming on ROSE OS using Qobuz Connect. Start playback on the Qobuz app from your smartphone or tablet, and then continue listening and controlling playback on your ROSE device in Hi-Fi quality.



Audirvana

Enjoy the immersive world of high-resolution music with Audirvana. You can experience your favorite tracks in greater depth.



Rose Radio

Enjoy Rose Radio, which comes with about 30,000 radio channels from 200 countries around the world. Channels are organized into various categories, and you can easily search for channels using the genre/region/language filters.



File Manager

You can perform file and folder management tasks, such as moving, copying, and deleting, on storage devices.



Clock

Various design clock functions are provided, such as alarms and weather information.



Music Library

Organize your music under various categories, such as album, artist, or genre.



My Playlist

Create your own playlist. You can also register your friends and share it with them.

ROSE Connect Remote Application

A dedicated Remote App is provided that allows users to conveniently control and smartly manage their ROSE device. The Remote App is supported on various platforms, including the iPhones, iPads, Android devices and PCs.

Control

You can freely and conveniently control various HiFi ROSE functions wirelessly.

- Control** You can control a variety of functions remotely, including Music, RoseTube, TIDAL, Qobuz, Radio, Apple Music and CD Ripping.
- Remote Search** ROSE Connect includes a remote control function.
- Search** You can conveniently search for a variety of music in the Media Library.

Streaming

You can simply and easily play music stored on your phone on your ROSE device. Enjoy a lossless, high-quality streaming service.

Playlist

You can create your own playlist.
Create playlists in Music and RoseTube, and access them under Home - My Music.

Share with Friends

You can share your playlists with your friends or listen to music they recommend.
Communicate with your friends through music.

Media Library

Scan the music in your local memory to organize it into various categories.



OWNER'S MANUAL

RS451 Product User Manual

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Safety Precautions

1. Warnings

1. Do not apply excessive force to the product, throw it, or strike it with sharp objects.
2. Children should only use the product under adult supervision to ensure they use it properly.
3. Use within a temperature range of 0°C to 40°C and do not use in hot or humid conditions. Install the product in a well-ventilated area, not an enclosed space. The product may break, corrode, overheat, or catch fire in an environment below 0°C or in a sealed environment with a high temperature, such as a sauna. Moisture or liquid can also damage the surface of the product and its circuit components.
4. Be sure to use a genuine power cable provided by ROSE. Any other cable may cause operational errors or damage (decreased performance) to the product.
5. Do not spill dirt or liquid on the product, as these may damage the components and circuits. If the product gets wet, do not turn it on and contact your nearest service center. However, free repairs are not available in this case.
6. Do not connect antennas or accessories that are not certified by ROSE to the product.
7. Install this product at least 1 m (3 ft) away from devices that may cause radio interference (wireless routers, microwave ovens, etc.). Noise may be generated by electromagnetic waves.
8. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - This device may not cause harmful interference.
 - This device must accept any interference received, including interference that may have an undesired effect on operation.
9. This device has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference using one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and the receiver.
 - Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
10. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authorization to operate the equipment.
11. This device should be installed and operated with a minimum of 20 cm between the radiator and your body.

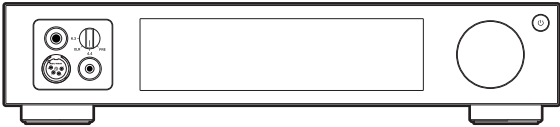

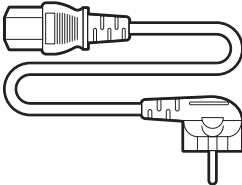
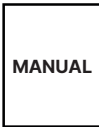

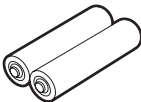
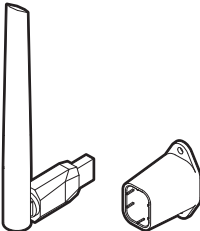
2. Precautions

1. The contents of the owner's manual are based on the default settings of the product.
2. Parts of this manual may be changed without prior notice to the user in order to improve product performance.
3. The features and additional services of the product may vary depending on the country, the software specifications, and any policy changes of the service provider.
4. Repairs required due to user negligence or product failure may erase user data (music files, video files, etc.). ROSE is not responsible for any damage or loss of data.
5. If you use Bluetooth and 2.4GHz band wireless LAN together, the WiFi connection may be slow or audio playback through Bluetooth may not work properly due to signal interference. If you are using them at the same time, we recommend using wireless LAN connections in the 5GHz band.
6. Do not use chemical solutions (alcohol, thinner, solvents, etc.) or detergent to clean the product. Applying chemical solutions to the product can create heat and cause it to catch fire. When cleaning the product, wipe it with a soft cloth or dry towel.
7. Do not disassemble, modify or repair the product on your own. If you do, you will no longer qualify for free repairs. If a malfunction occurs because of this, contact an authorized service center for repairs.
8. Only programs provided by the manufacturer are allowed. Transferring independently created files or user-modified files to the product may cause operational errors or serious problems with the product. ROSE is not responsible for any problems that arise in this case.
9. If the touch screen is damaged, do not touch it with your hands. Contact the service center immediately, as it may cause injury.
10. If you don't plan to use the product for a long time, be sure to unplug the power plug from the AC outlet. Even after the power has been shut off (manual standby mode), a minimal current remains in the equipment. Remove the plug to prevent power consumption.
11. After you connect the power plug and turn on the equipment with the power button, it takes about 30 seconds to complete booting, so please wait.
12. Do not power on the device within 10 seconds after shutting off the power and entering manual standby mode. Doing so may cause noise.
13. When the power is first connected, the device enters manual standby mode. In this mode, you have to press the power button to boot it up and use it normally. If you press the power button briefly during use, the device enters active standby mode. It's only in this mode that you can turn on the power with the Bluetooth remote control or the ROSE Connect Premium App.
14. Install the product close to an outlet so that it is easy to unplug.
15. Using a certified HDMI cable is recommended. Otherwise, a connection error may occur, causing problems with the audio and output screens. In addition, when using a long HDMI cable, please be sure to connect it with an HDMI repeater (signal amplifier).
16. Do not use the product near water. Do not expose the product to dripping or splashing liquid and do not place objects containing liquids, such as vases, on the device.
17. Do not block the ventilation openings. Install the product according to the product installation and orientation instructions.
18. Unplug the product during lightning storms or when unused for long periods of time.



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Components List

1	Main Device	
2	Remote Control	
3	Power Cable, 1.8m	
4	User Manual	
5	SSD Mounting Screws	
6	AAA Batteries for the Remote Control	
7	USB WiFi Dongle & Dongle Holder	

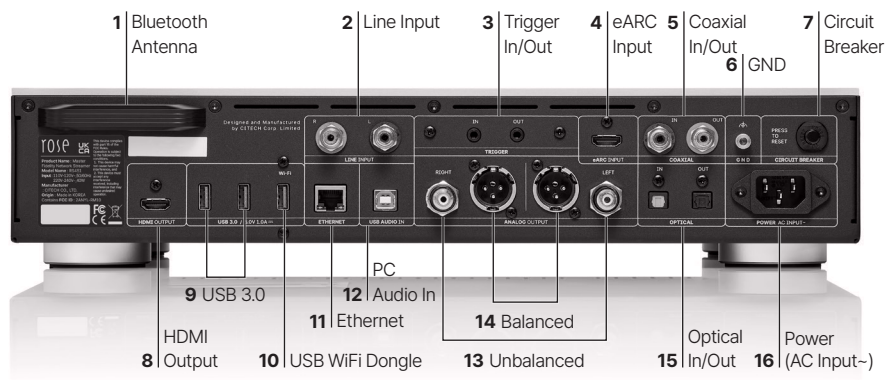
Locations/Functions of Buttons and Ports

1. Front of the Product



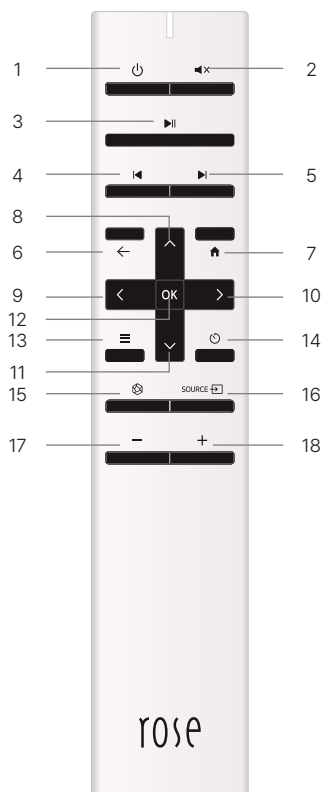
1	6.35mm (Unbalanced Out)	<p>Unbalanced stereo headphones can be connected via the 6.35mm jack, and some earphones can also be connected using a 3.5mm to 6.35mm adapter.</p> <p>⚠ Caution: Please set the volume to the minimum level before connecting earphones. High output levels may damage the earphones.</p> <p>※ Headphone output and PRE OUT cannot be used simultaneously.</p>
2	Output Selector	<p>Using the front output selector knob, you can choose one output among the XLR / 4.4mm / 6.3mm headphone jacks or the rear PRE OUT. The selected output appears at the top right of the screen along with an icon(Headphone: 🎧 / PRE: 📡).</p> <p>※ Audio is output only through the selected terminal, and simultaneous output is not supported.</p>
3	Power Button (Status Display LED)	<p>When the power button is pressed, the LED blinks, and when booting is complete, the LED turns off.</p> <p>※ If there is no input signal for about two hours, the product automatically turns off. If it has turned off automatically, turn it on again with the power button on the main body or the power button on the remote control to use it.</p>
4	XLR (Balanced Out)	<p>You can connect balanced headphones using the XLR jack.</p> <p>※ Headphone output and PRE OUT cannot be used simultaneously.</p>
5	4.4mm (Balanced Out)	<p>You can connect balanced headphones using the 4.4mm jack.</p> <p>※ Headphone output and PRE OUT cannot be used simultaneously.</p>
6	IPS Touch Panel	<p>You can use multi-touch gestures to move the screen and perform various function.</p>
7	Main Volume	<p>You can adjust the volume level by turning the knob clockwise (+) or counterclockwise (-). It can be adjusted between 0 and 99. Turning the volume knob quickly to the left activates the mute function.</p> <p>⚠ Caution: Please note that listening to music at high volume for a long time may cause hearing damage.</p>

2. Rear of the Product



1	Bluetooth Antenna	This is a built-in antenna for Bluetooth transmission and reception.
2	Line Input	This terminal receives RCA analog audio signals from an external source.
3	Trigger In/Out	When a power on/off control signal is received from an external device via the Trigger In jack, the unit automatically turns on or off without the need for remote control operation. The Trigger Out jack also outputs a power on/off control signal to external devices.
4	eARC Input	Connect the HDMI cable to this port and the ARC output port of the external device.
5	Coaxial In/Out	Connect the COAXIAL cable to this port to input and output digital signals.
6	GND	This is a grounding terminal used to connect the ground terminals of this device and external equipment for signal stabilization and noise suppression. It can also be connected to a separate ground to prevent electric shock by safely directing current in the event of leakage or static electricity.
7	Circuit Breaker	This protection terminal prevents damage to the set due to overvoltage or overcurrent.
8	HDMI Output	By connecting an HDMI cable, you can output AV signals to a TV or monitor.
9	USB 3.0 (5V 1.0A=)	You can play music files by connecting a USB flash drive or use the ripping function by connecting a CD ROM.
10	USB WiFi Dongle (5V 1.0A=)	Connect the USB Dongle to this USB port for WiFi.
11	Ethernet	10/100/1000 BASE-T Ethernet can be used by connecting the LAN cable to this port. It is recommended to use a Cat 6 or higher shielded cable.
12	PC Audio Input	Connect the device to a computer using a USB Type-B cable to use it as a USB DAC for the computer.
13	Unbalanced Output	Connect an RCA cable to this terminal to output analog signals.
14	Balanced Output	Connect a balanced XLR cable to this terminal to output analog signals.
15	Optical In/Out	Connect an OPTICAL cable to this terminal to receive digital signals from an external device or to output digital signals from this device to an external one.
16	Power (AC Input~)	Connect the AC power cable.

3. Remote Control



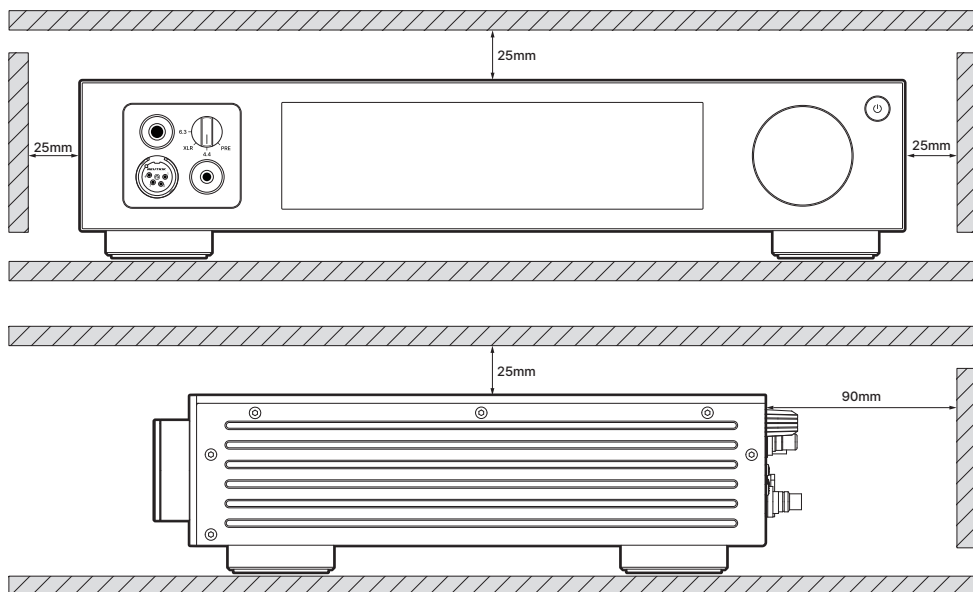
1	Power On/Off	Power the set on or off.
2	Mute	Mute the music.
3	Play / Pause Current Song	
4	Play Previous Song	
5	Play Next Song	
6	Go Back	
7	Go to the Home Screen	
8	Move Focus Up	
9	Move Focus Left	
10	Move Focus Right	
11	Move Focus Down	
12	Select Current Focus	
13	Queue Settings	Enter the Queue Settings(:) located to the right of the list of songs and videos.
14	Sleep Timer	
15	Go to Favorites Menu	Go to the favorites menu set up on this device.
16	Go to External In/Output Menu	Go to the in/output page.
17	Volume Down	Press and hold to adjust the volume down.
18	Volume Up	Press and hold to adjust the volume up.

※ This remote control uses infrared (IR) and may malfunction if the supplied power decreases.
In this case, replace the battery before use.

Product Installation

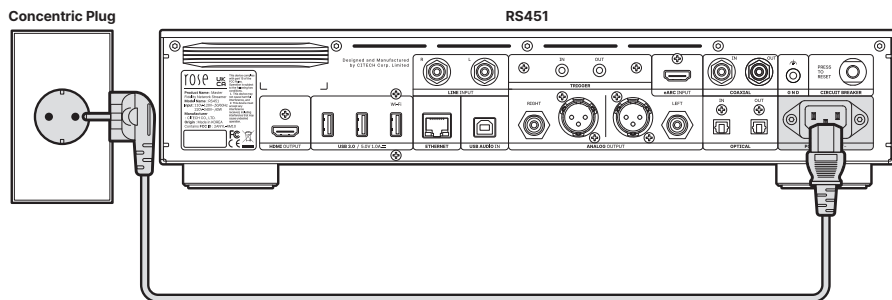
1. Product Design Method and Recommended Installation Location

- This product is designed to be used on a table or shelf.
- This product may malfunction in cold or hot weather.
(Operating temperature: 0 to 40°C, Storage temperature: -10 to 50°C)
- If the space where the product is installed is small, be sure to provide adequate ventilation.
A longer operating life is ensured when electronics are properly ventilated and maintained so that they do not overheat more than necessary. Do not install this product directly on a device that generates a lot of heat, such as a power amplifier.
- The figure below shows the minimum ventilation requirements of the product.
- Leave a space of 25 mm on both side of and above the product for airflow.
- Leave a space of 90 mm behind the product for airflow and cabling.



2. How to Connect the Power Cord

- This product includes a removable power cord. Connect the power cord after connecting all the audio cables.

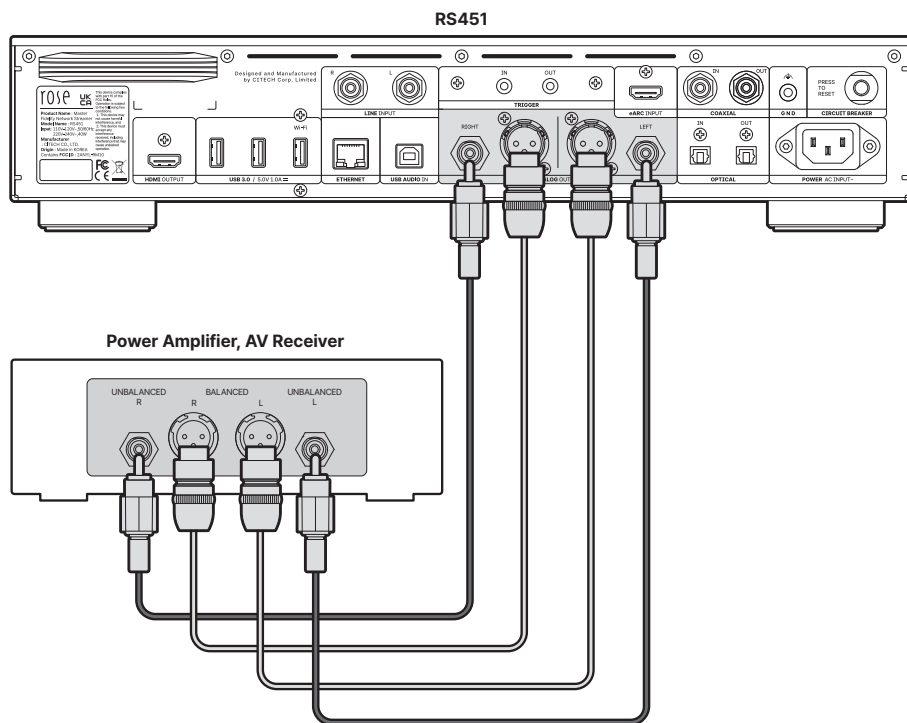


⚠ Caution: To remove the power cord, ensure the power switch is turned off and unplug the cord from the power outlet first.

3. How to Properly Connect the Rear Ports and Cables

3-1. Connection Between the Analog Output Port and the Power Amplifier or AV Receiver

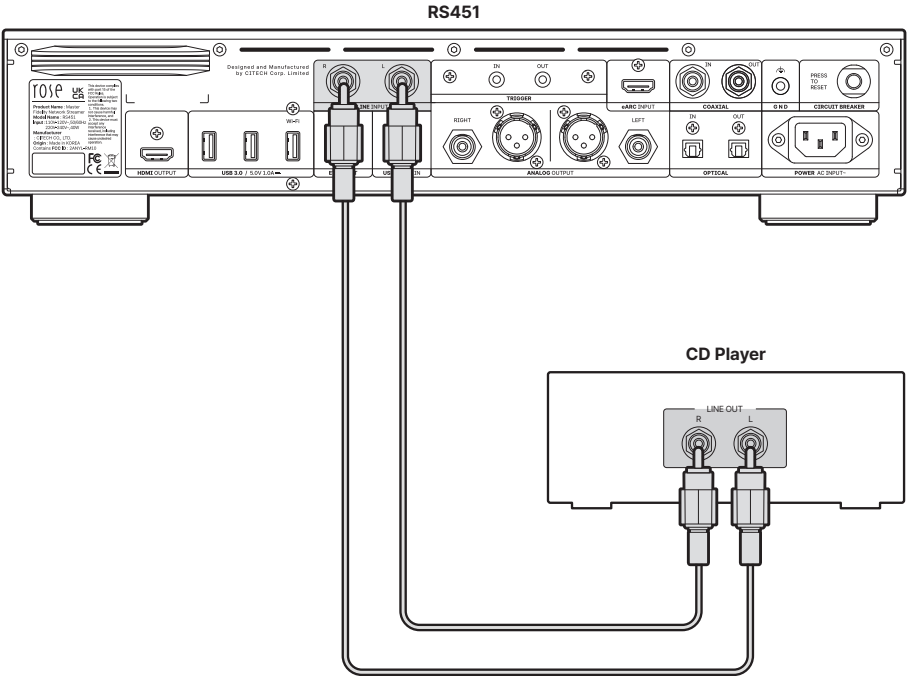
- You can connect the analog (BALANCED/UNBALANCED) audio output of this product to the analog input port of the power amplifier or AV receiver as shown in the figure below.
- In the pre-out level settings, you can select "Variable" or "Fixed" for the analog audio output volume adjustment.



⚠ Caution: Before connecting this product to the power amplifier, set the volume of the product to mute or below level 5, then connect it using an interconnector. If you connect the cable while the product is playing music at a high volume, a loud shock sound may occur.

3-2. Connection Between the Analog Input Port and the Audio Device

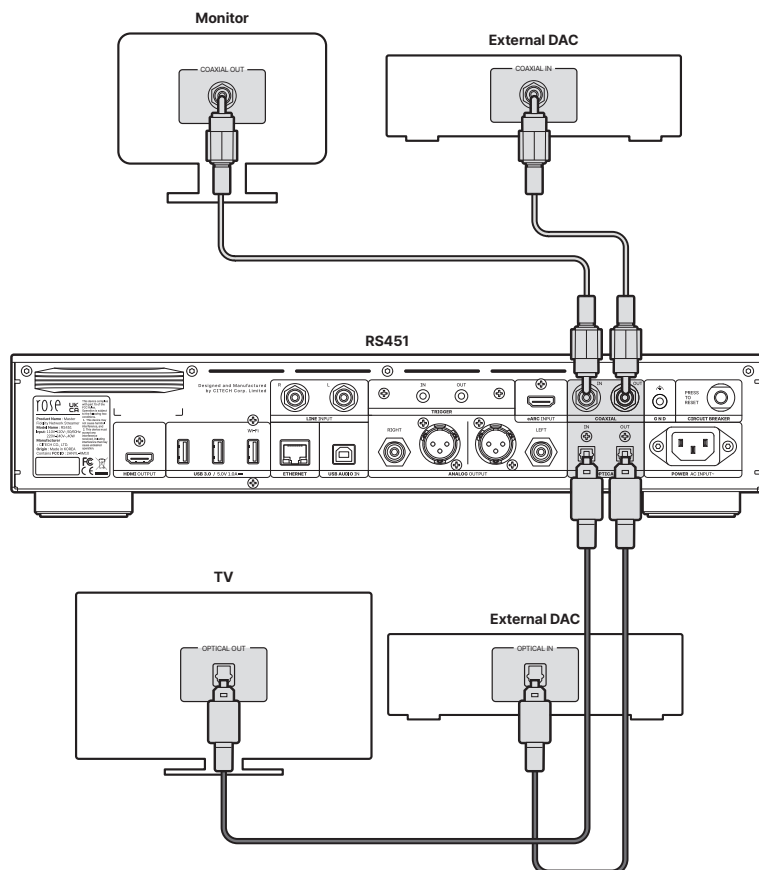
- You can connect the analog output port of an external device such as a CD player to the analog audio input port (LINE INPUT) of this product as shown in the figure below.
- When using an analog audio input as a source, you need to switch the input source to “LINE IN” in the In/Out Settings. You can change the In/Out Settings from the home screen, settings, or settings on the ROSE Connect Premium App, or with the remote control.



3-3. Connection Between the Digital In/Output Port and the Audio Device (TVs or Devices That Provide Digital In/Output Capabilities)

3-3-1. OPTICAL/COAXIAL

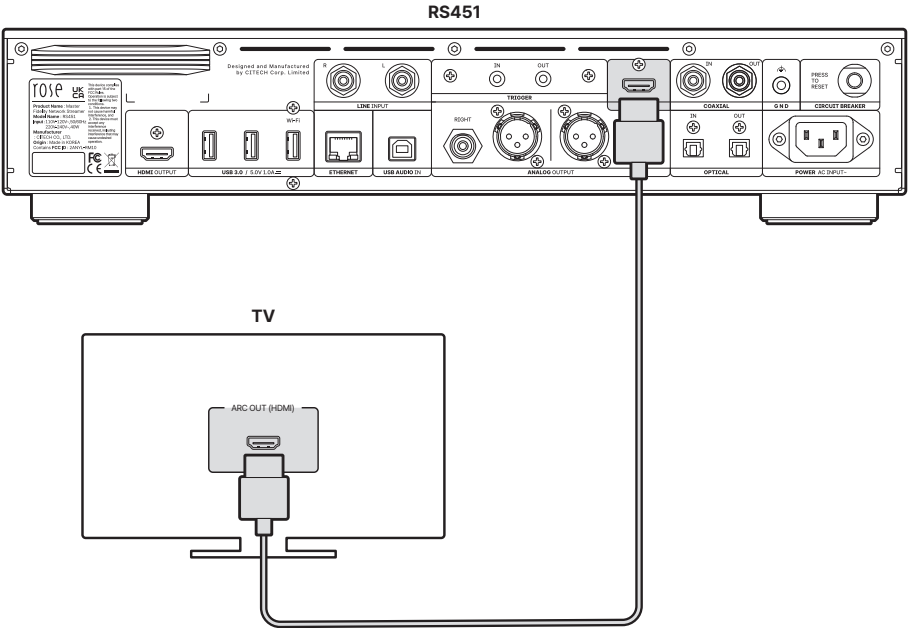
- You can connect the digital in/output port of an external device to the digital (OPTICAL/COAXIAL) in/output port of this product as shown in the figure below.
- This product can reproduce linear PCM signals with sampling frequencies of 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz and 384kHz. (However, OPTICAL is only supported up to 192kHz)
- When using digital input as a source, you need to switch the input source to 'OPT IN, COAX IN' in the In/Out Settings.
- To export digital output, you must activate the output mode as 'OPT OUT, COAX OUT' in the In/Out Settings.
- You can change the In/Out Settings from the home screen, settings, or settings in the ROSE Connect Premium App, or with the remote control.



⚠ Caution: Do not input signals other than linear PCM signals such as Dolby Digital, DTS, and AAC to this device. Doing so may cause noise and damage to the speakers.

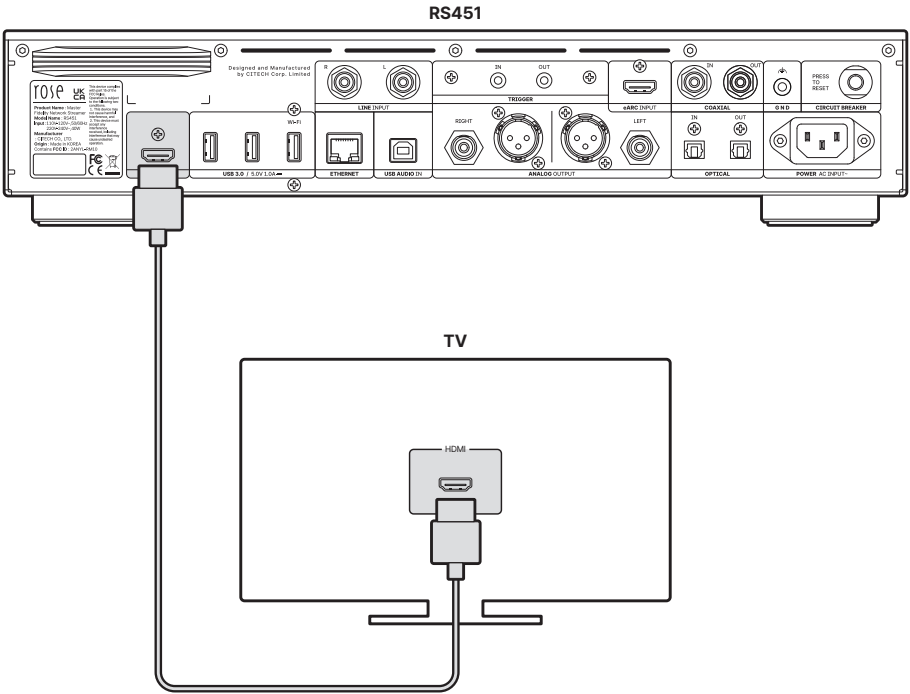
3-3-2. eARC IN

- You can connect the TV to the eARC INPUT (HDMI) port of this product as shown in the figure below.
- If you connect this product to the HDMI port of a TV that provides an ARC connection with an HDMI cable, you can receive audio signals from the TV with the product and listen to them through speakers connected to an external amplifier device.



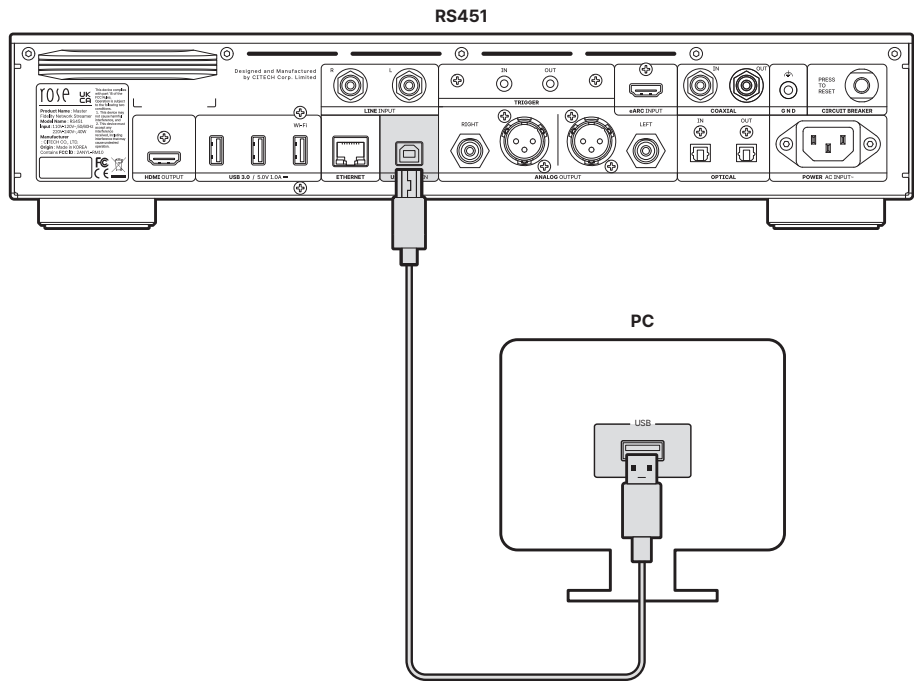
3-4. HDMI Connection

- You can connect the TV to the HDMI OUTPUT port of this product as shown in the figure below.
- Video output signals (up to 3840 × 2160/60Hz) can be played back by connecting this product to a TV.

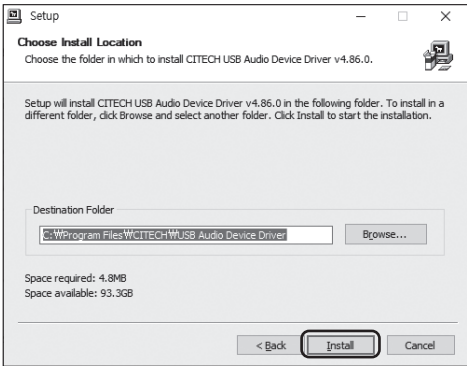
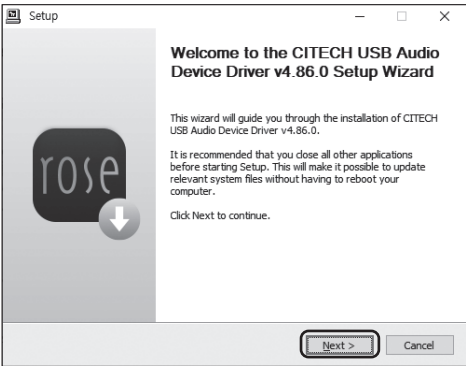


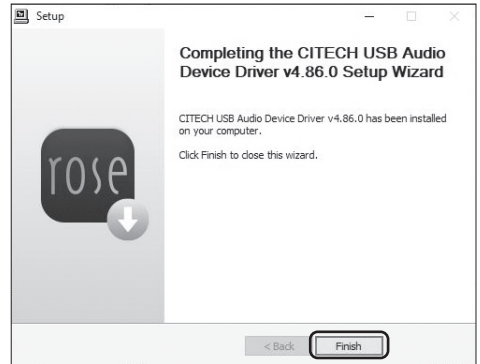
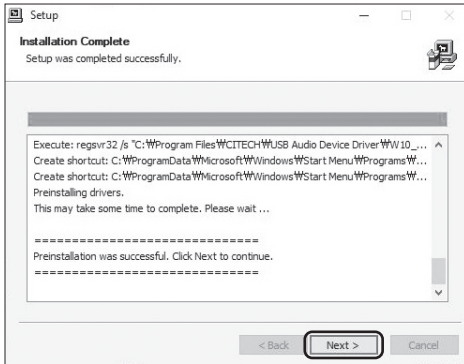
3-5. PC AUDIO Connection

- Connect the device as shown in the figure below.

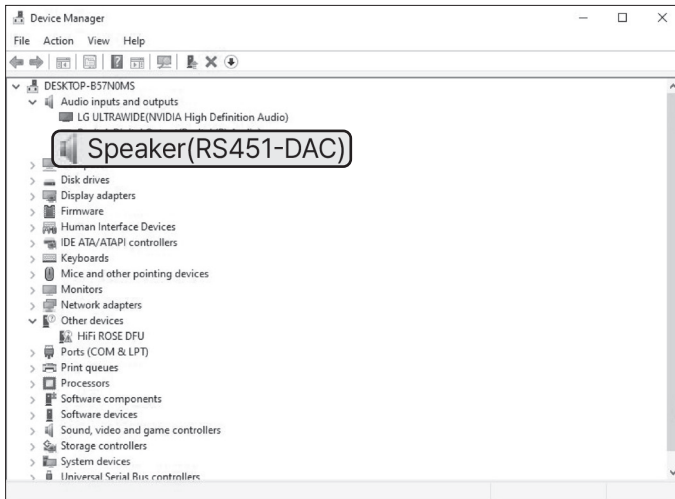


- **3-5-1.** After accessing the ROSE website, download the Rose_UsbAudio_[VERSION].zip file in “Downloads” under “Support”. You can access this category by entering the URL in the browser (<https://hifirose.com/download>) or by scanning the QR code on the right.
- **3-5-2.** When you unzip the downloaded Rose_UsbAudio_[VERSION] file and run Rose_UsbAudio_[VERSION].exe, the screen shown in the picture below appears. Select Next.

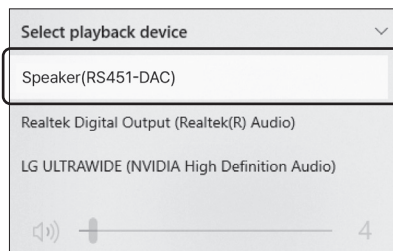




- **3-5-3.** Reboot after installing the USB Audio Device Driver.
- **3-5-4.** After the installation is complete, switch the source to USB IN in the In/Out Settings, and you can check the RS451-DAC on your PC as shown below.

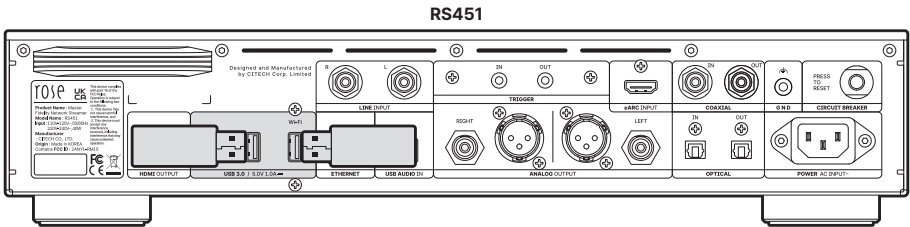


- **3-5-5.** Set the sound device to RS451-DAC in the system tray area of your PC, and now you are ready to use the device connected to the USB IN port.



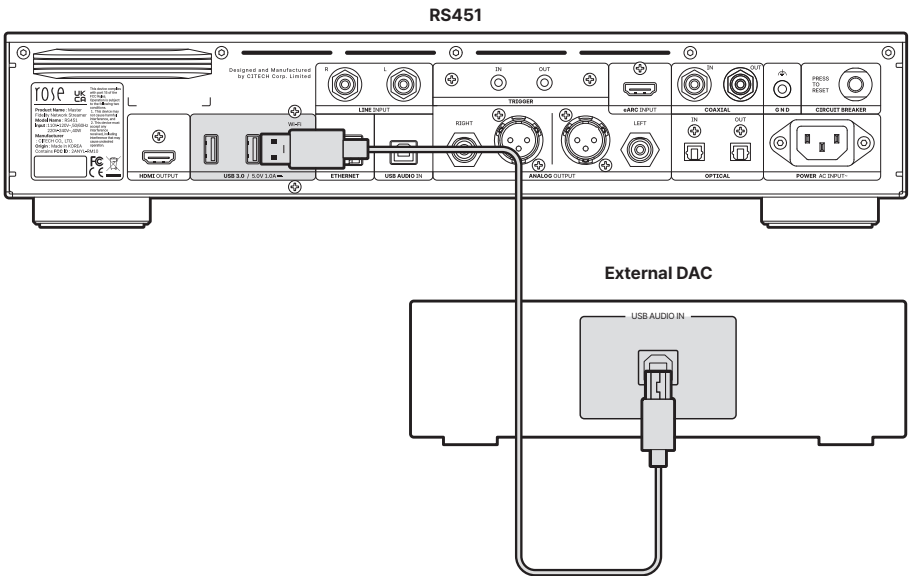
3-6. USB External Device Connection

- This product features a USB 3.0 port. You can connect a USB storage device or a USB WiFi dongle for use.



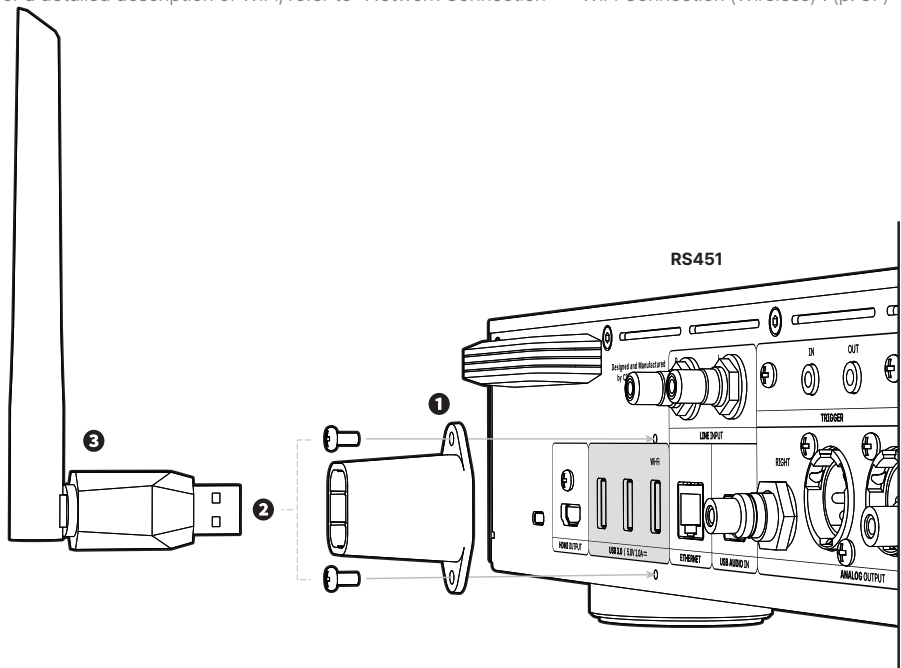
3-7. USB External DAC Connection

- Connect the device as shown in the figure below.
- You can connect an external DAC to the USB port of this product.
- After connecting an external USB DAC to the USB 3.0 port of this product, you can select USB OUT in the In/Out Settings and then select the output with the recognized external USB DAC.



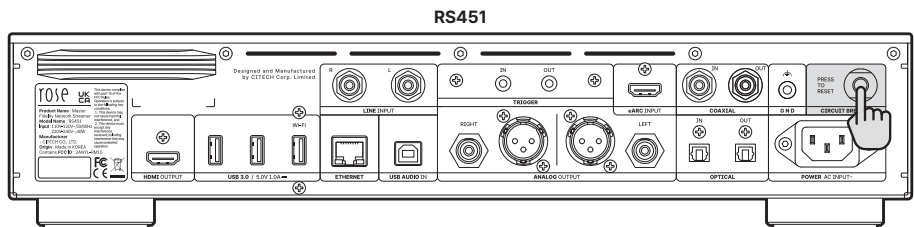
3-8. USB WiFi Connection

- You can connect the USB WiFi Dongle module to the USB WiFi Dongle port of this product as shown in the figure below.
 - For stable USB WiFi Dongle use, first remove the fixing screws (2 pcs) from the main body. Next, secure the Dongle holder (❶) using two bolts (❷) and install the USB WiFi Dongle (❸).
- ※ For the WiFi Dongle, it is recommended that you use 2.4GHz/5GHz dual-band WiFi.
- ※ For a detailed description of WiFi, refer to “Network Connection” – “WiFi Connection (Wireless)”. (p. 37)



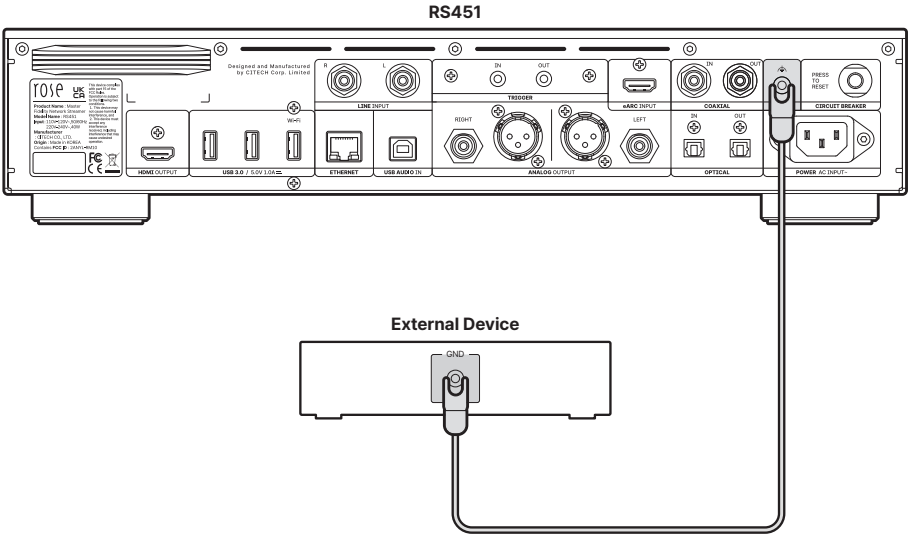
3-9. Circuit Breaker

- This circuit breaker terminal protects the circuit from damage caused by overvoltage or overcurrent.
 - Similar to the power circuit breaker in a home, in the case of overvoltage or overcurrent from the outside, the switch terminal pops out, blocking the power supply. When pressed again by hand, the terminal goes back in, connecting the internal circuit to the power supply.
- ※ If the pops out again after you press it, there may be a problem with the internal circuit. Please remove the power cord and request product repair.



3-10. GND Connection

- You can ground the GND terminal of an external device to the GND terminal of this product as shown in the figure below.
- ※ When a lot of noise is generated, you can reduce it by connecting this GND terminal to the signal GND of an external device.
- ※ Reversing the signal GND connection may increase noise and cause unintended errors. In this case, please remove the signal GND connection line between the devices.



4. External Memory Devices(USB) and SATA Storage Devices

- This product can connect to external memory devices and SATA storage devices.
- When connecting a storage device using SATA, using an SSD is recommended.
- USB storage devices up to 10 TB and SATA storage devices up to 4 TB are compatible.
- ※ An SSD can be purchased separately, and only the 7mm thick standard is available.
- ※ This product has only been tested for compatibility with Samsung SSDs, and may not function normally with SSDs of other brands (such as Intel).



rose

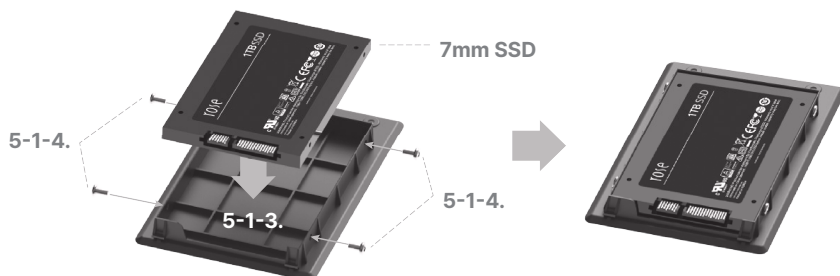
5. How to Connect an SSD

5-1. How to Insert an SSD

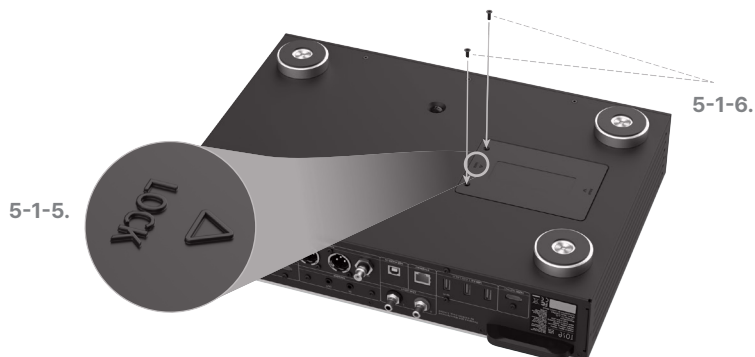
- **5-1-1.** Remove the SSD cover fixing screws (2 pcs) from the bottom of the main body.
- **5-1-2.** Remove the SSD cover by pushing the part marked OPEN.



- **5-1-3.** Install the SSD in line with the port on the SSD cover.
- **5-1-4.** Fix the SSD to the SSD cover with the SSD mounting screws (4 pcs).

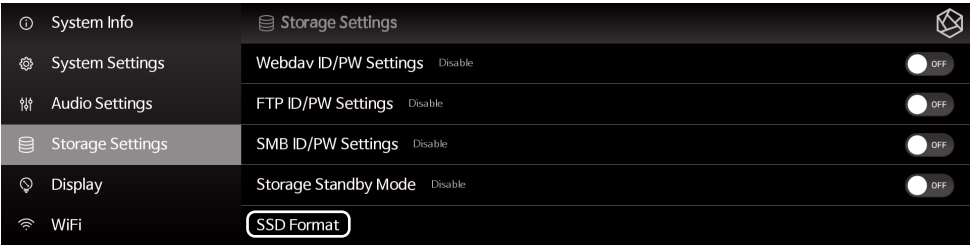


- **5-1-5.** Insert the SSD cover into the main unit and slide it toward the LOCK mark to secure it.
- **5-1-6.** Fasten the secured cover using the two screws (2ea).



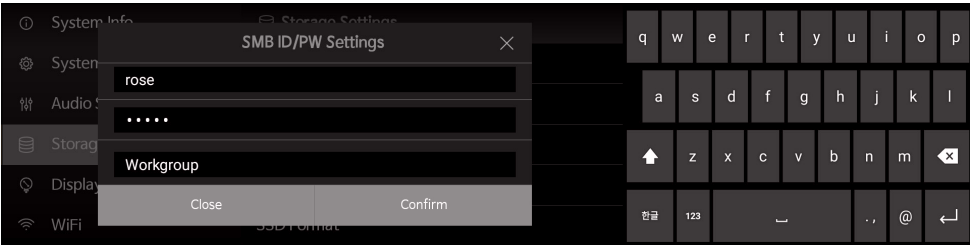
5-2. How to Format the SSD After Installation

- You can format the SSD connected to this product from the SSD Format menu under Storage Settings.



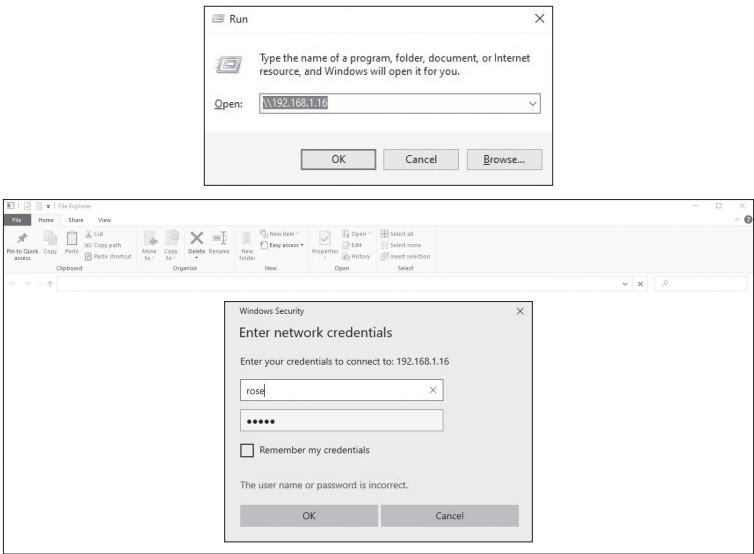
5-3. How to Copy Files Through the Network

- Set your SMB ID/PW in Storage Settings.



- Enter \\ROSE IP on your PC, then enter the SMB ID/PW that you set up. The storage connected with this product will appear and you can copy the files directly from your PC.

※ To connect to the SMB of this product from a PC, both devices must be connected to the same network.

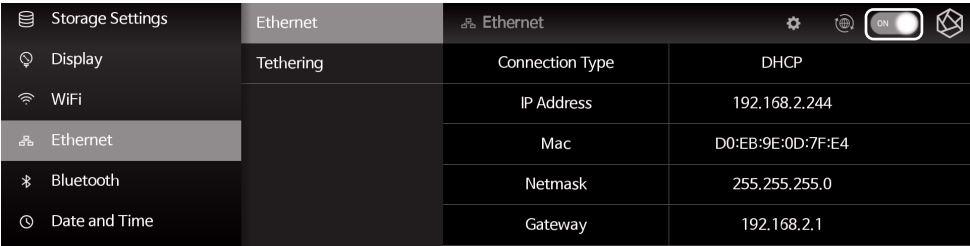


6. Network Connection

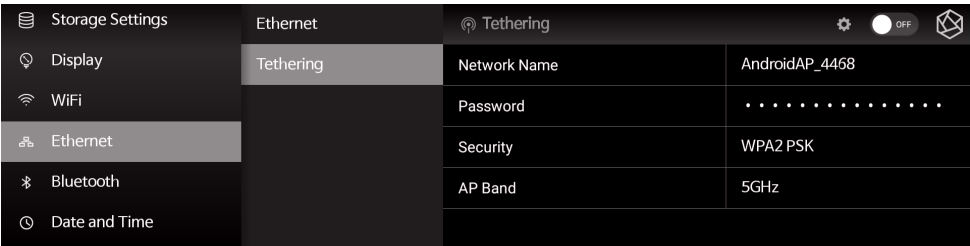
- This product can connect to wired/wireless networks.
- ※ This product uses TCP/UDP communication for optimal functionality.

6-1. Ethernet Connection (Wired)

- After connecting the LAN cable to the rear Ethernet port, select ON in the Storage Settings – Ethernet – Ethernet menu to connect to the network.
- If the connection is normal, the IP address and other information are obtained automatically.



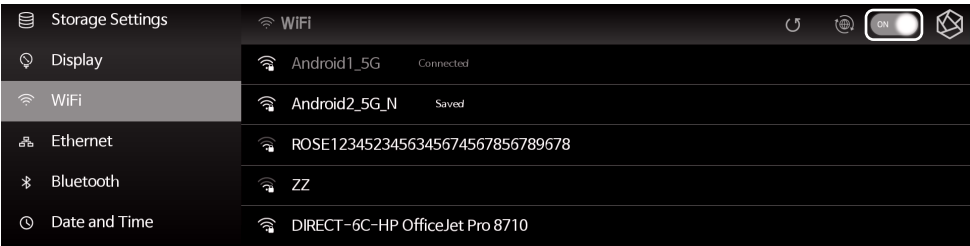
- **6-1-1.** With an Ethernet connection, you can use this product for WiFi tethering.
After entering the network name and password, you can enable the tethering function, and other devices can use the password to connect to this WiFi hotspot.



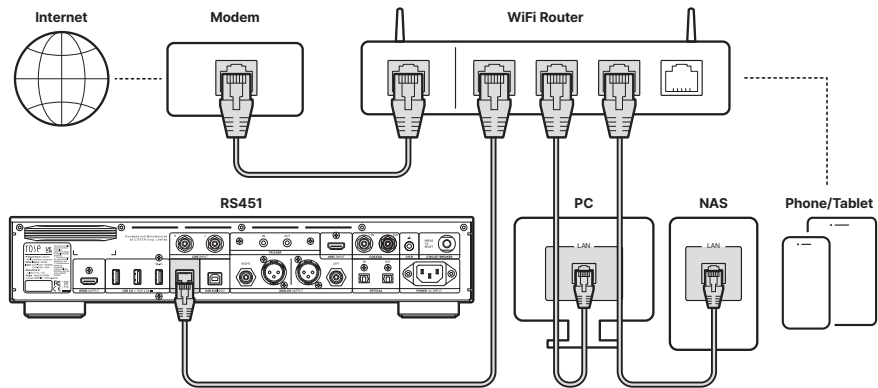
6-2. WiFi Connection (Wireless)

- When you turn on WiFi in the Storage Settings - WiFi menu, a list of currently accessible SSIDs appears, and you can select the desired SSID to connect to the network.

※ If WiFi is connected normally, The IP address and other information will be automatically obtained.



※ You can remotely control this product by downloading and installing the ROSE Connect Premium App from the Google Play Store or App Store on your smartphone.



※ To control this product with your smartphone (ROSE Connect Premium App), both must be connected to the same network. (You can configure a single network using wireless network extenders, bridges, etc)

7. How to Connect to RoonReady

- To use Roon, you must first create an account by accessing the website(<http://roonlabs.com>) Download RoonCore and install the software on your PC. You can access it by entering the URL(<https://roon.app/en/>) into your browser or by scanning the QR code on the right.
- You can see a variety of music available on RoonCore.



Hi, MJ

755
ARTISTS

1113
ALBUMS

9973
TRACKS

195
COMPOSERS

Recent activity

ADDED

Added 7 days ago
Slanted & Enchanted
Pavement

Added 12 days ago
The Look Of Love
Diana Krall

Added 12 days ago
Nameless
Dominique Fils-Aimé

Added 18 days ago
Arvo Pärt: Miserere (Live)
Howard Arman / Chor des Bay

Added 18 days ago
Anton Bruckner & Michael Haydn
MDR Leipzig Radio Choir/Philip

Nothing playing

⏮

▶

⏭

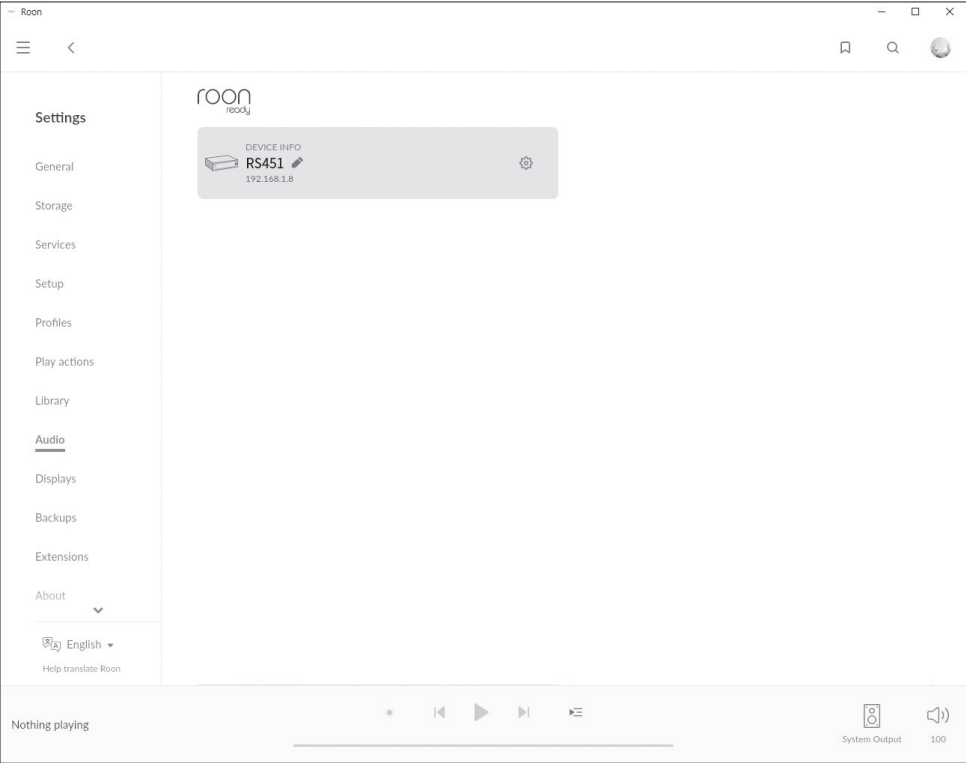
⏸

System Output

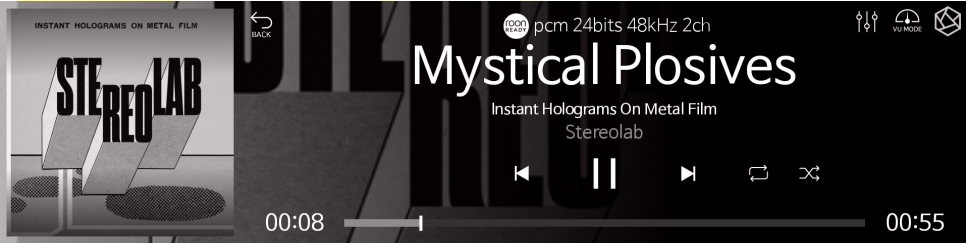
100

- 38 -

- Select this product under Settings - Audio.






- Once the connection with ROSE is complete, you can play and listen to music on RoonReady.



※ To control this product from RoonReady, both the product and RoonReady must be connected to the same network.

Default Settings

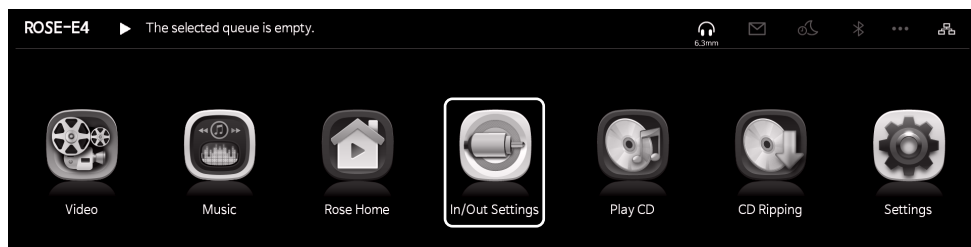
1. Power Button

- **1-1.** You can turn this product on and off by pressing the power button briefly.
 - 1-1-1.** If you press the power button briefly, the product enters the standby mode when the power is on, and turns on when the power is off.
 - 1-1-2.** If you press the power button during booting, the product will turn off.
- **1-2.** Press the power button for 3 seconds to display the [LCD OFF | Power OFF | Reboot] menu.
 - 1-2-1.** LCD OFF (): Music plays and only the screen turns off.
If you press the power button again while the LCD is off, the screen turns on.
* While you are using the product, this function can only turn off the screen.
 - 1-2-2.** Power OFF (): The power is turned off.
 - 1-2-3.** Reboot (): The product is turned off and on and then the home screen is displayed.

* If you touch a screen other than the menu, the function is canceled.
- **1-3.** Power button LED status: Screen on (LED OFF) / Screen off (LED ON).
- **1-4.** Press and hold the power button for more than 5 seconds to force a reboot.

2. In/Out Settings

- Select the "In/Out Settings" icon on the main screen to move to the In/Out Settings menu.



2-1. INPUT

- You can select an input by selecting the icon under INPUT.
When activated, the icon color changes to gold and a check mark appears.

※ Only one input can be selected at a time.

2-1-1. RS451

- This is the default mode at first start-up; select it when playing music or streaming sources from a storage device.
- If external input is in use, this mode is automatically selected for playing from a streaming source or storage device.



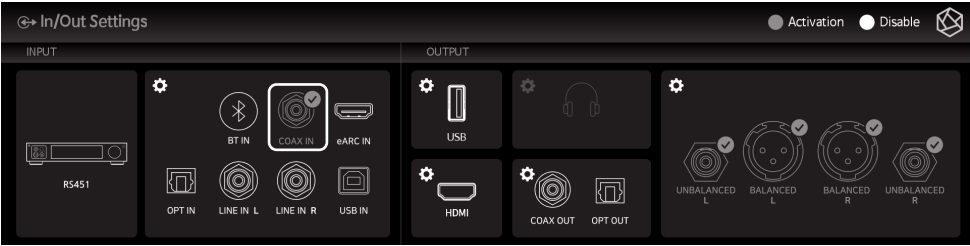
2-1-2. BT IN

- When using Bluetooth input, select "BT IN" as the input source in In/Out Settings.



2-1-3. COAX IN

- When using Coaxial input, select "COAX IN" as the input source in In/Out Settings.



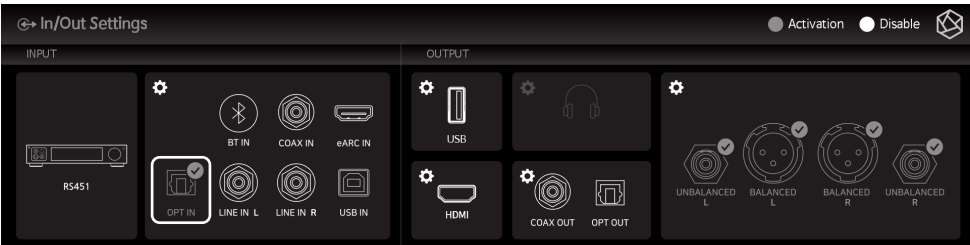
2-1-4. eARC IN

- When using eARC input, select "eARC IN" as the input source in In/Out Settings.



2-1-5. OPT IN

- When using Optical input, select "OPT IN" as the input source in In/Out Settings.



2-1-6. LINE IN

- When using LINE input, select "LINE IN" as the input source in In/Out Settings.



2-1-7. USB IN

- When connecting this product to a PC and using it as a USB DAC, select "USB IN" as the input source in In/Out Settings.

※ Please refer to "Product Installation" – "PC AUDIO Connection". (p. 28)



2-2. OUTPUT

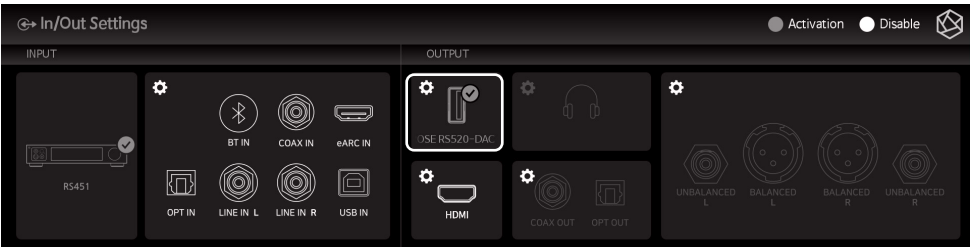
- You can enable/disable output settings by selecting icons under OUTPUT.
- When activated, the icon color changes to gold and a check mark appears.
- Only one of USB, HDMI, and internal DAC can be selected.
- For internal DAC, you can enable multiple output ports.

2-2-1. USB DAC

- When you connect a USB DAC and select USB, a list of connected USB DACs appears. Select the USB DAC you want to use from the list.



- When you select a USB DAC, the model name of the selected USB DAC appears and it becomes available.




- If you select the setting icon for USB DAC, you will see the USB DAC Settings screen below.

2-2-1-1. MQA Type

- This is the menu for setting the MQA playback mode. You can select Authenticator or Decoder mode. Only original sound or decoded audio data can be exported to digital output; fully decoded audio data cannot be exported.

⚙️ Output Settings

Apply 

<

MQA Type ⓘ

Authenticator

☒ Authenticator

PCM Resampling Frequency

Original

☐ Decoder

DSD Mode

Native DSD

Software Volume Control

☐ OFF


The low 8 bits of a 32-bit sound sources will be corrected.

☐ OFF

2-2-1-2. PCM Resampling Frequency

- Max Sample Rate: You can set the maximum number of samples for the connected DAC.
- Resample Rate: If you want to output at the same sampling rate as the original sound, select Original. To use the resampling feature, select the desired Resample Rate.

⚙️ Output Settings

Apply 

<

MQA Type

Authenticator

PCM Resampling Frequency ⓘ

Original

☒ Auto

☐ 48kHz

☐ 96kHz

☐ 192kHz

☐ 384kHz

DSD Mode

Native DSD

Software Volume Control

☐ OFF

The low 8 bits of a 32-bit sound sources will be corrected.

☐ OFF

Max Sample Rate

Resample Rate


☒ Original

☐ 44.1kHz

2-2-1-3. DSD Mode

- When connecting an external USB DAC, up to DSD512 is supported if the DAC supports native DSD, and up to DSD256 is supported if the DAC supports DoP mode.

⚙️ Output Settings

Apply 

<

MQA Type

Authenticator

☒ Native DSD

PCM Resampling Frequency

Original

☐ DSD over PCM

DSD Mode ⓘ

Native DSD

☐ DSD to PCM (upto DSD512)

Software Volume Control

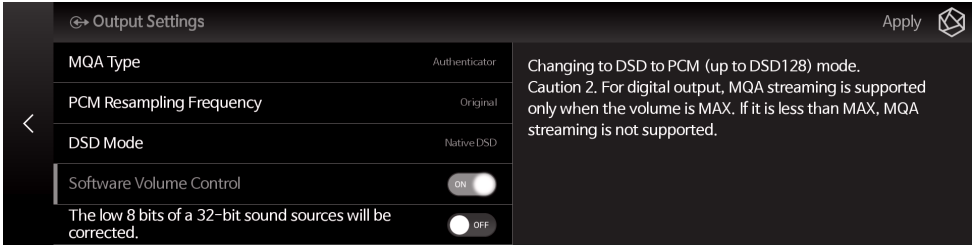
☐ OFF

The low 8 bits of a 32-bit sound sources will be corrected.

☐ OFF

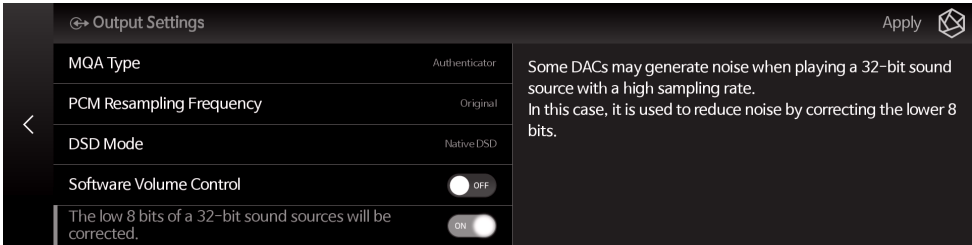
2-2-1-4. Software Volume Control

- You can adjust the playback volume of digital audio data using Software Volume Control.
- ⚠ **Caution 1:** Not available in Native DSD and DSD over PCM modes. Can be applied after changing to DSD to PCM (up to DSD512) mode.
- ⚠ **Caution 2:** For digital output, MQA stream is supported only when the volume is at maximum. MQA stream is not supported when the volume is less than the maximum.



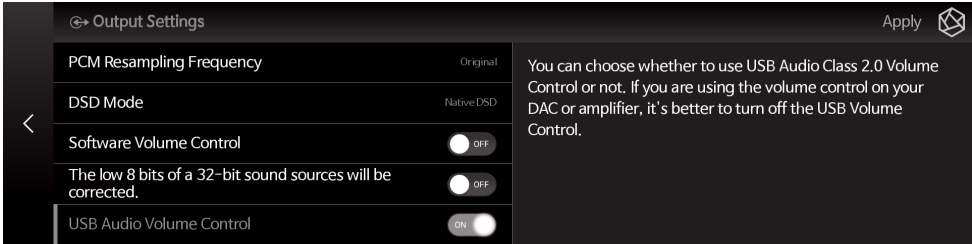
2-2-1-5. The low 8 bits of a 32-bit sound sources will be corrected.

- Some DACs may produce noise when playing 32-bit audio at high sampling rates. In this case, this function can be used to reduce noise by correcting the lower 8 bits.



2-2-1-6. USB Audio Volume Control

- You can choose whether to use USB Audio Class 2.0 Volume Control or not. If you are using the volume control on your DAC or amplifier, it's better to turn off USB Audio Volume Control.



2-2-2. HDMI

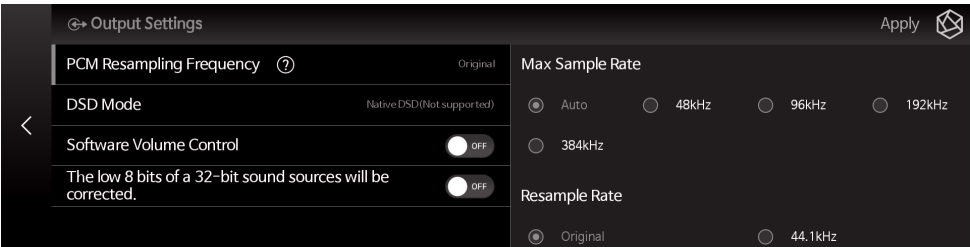
- You can set up HDMI.



- When you select the setting icon for the HDMI, the HDMI Settings screen appears as shown below.

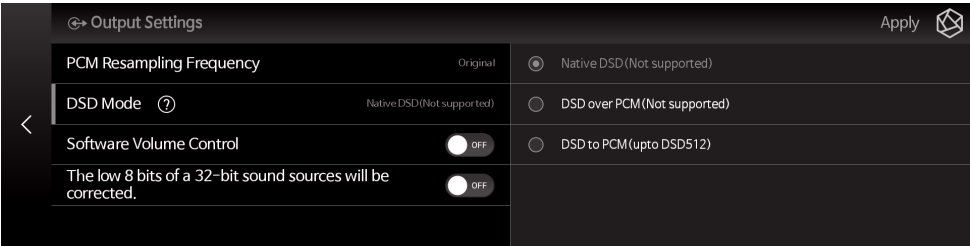
2-2-2-1. PCM Resampling Frequency

- Max Sample Rate: You can set the maximum number of samples for the connected DAC.
- Resample Rate: If you want to output at the same sampling rate as the original sound, select Original. To use the resampling feature, select the desired Resample Rate.



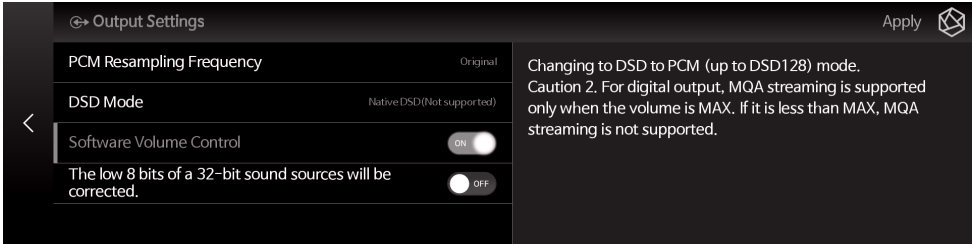
2-2-2-2. DSD Mode

- For HDMI output, only DSD to PCM is possible.



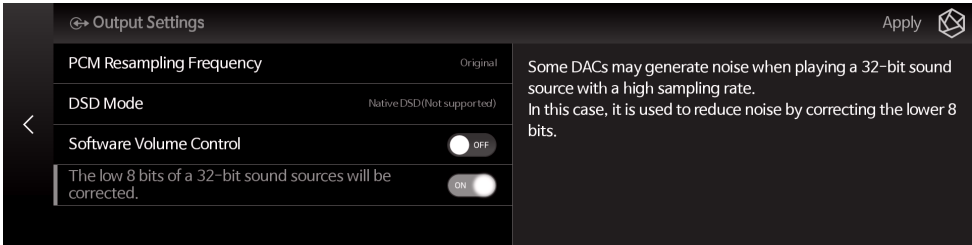
2-2-2-3. Software Volume Control

- You can adjust the playback volume of digital audio data using Software Volume Control.
- ⚠ **Caution 1:** Not available in Native DSD and DSD over PCM modes. Can be applied after changing to DSD to PCM (up to DSD512) mode.
- ⚠ **Caution 2:** For digital output, MQA stream is supported only when the volume is at maximum. MQA stream is not supported when the volume is less than the maximum.



2-2-2-4. The low 8 bits of a 32-bit sound sources will be corrected.

- Some DACs may produce noise when playing 32-bit audio at high sampling rates. In this case, this function can be used to reduce noise by correcting the lower 8 bits.



2-2-3. Headphones

- Displays the currently selected output setting (XLR, 4.4mm Balanced, or 6.3mm Unbalanced).

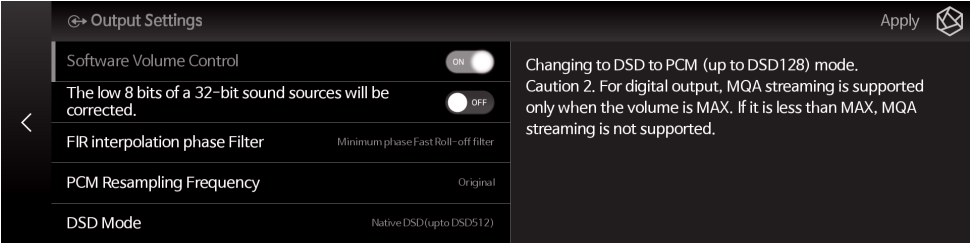


2-2-3-1. Software Volume Control

- You can adjust the playback volume of digital audio data using Software Volume Control.

⚠ **Caution 1:** Not available in Native DSD and DSD over PCM modes. Can be applied after changing to DSD to PCM (up to DSD512) mode.


⚠ **Caution 2:** For digital output, MQA stream is supported only when the volume is at maximum. MQA stream is not supported when the volume is less than the maximum.



2-2-3-2. The low 8 bits of a 32-bit sound sources will be corrected.

- Some DACs may produce noise when playing 32-bit audio at high sampling rates. In this case, this function can be used to reduce noise by correcting the lower 8 bits.

⌕ Output Settings

Apply 

Software Volume Control

☐ OFF

The low 8 bits of a 32-bit sound sources will be corrected.

☒ ON

FIR interpolation phase Filter

Minimum phase Fast Roll-off filter

PCM Resampling Frequency

Original

DSD Mode


Native DSD (upto DSD512)

Some DACs may generate noise when playing a 32-bit sound source with a high sampling rate. In this case, it is used to reduce noise by correcting the lower 8 bits.

2-2-3-3. FIR Interpolation Phase Filter

- Even if a specific filter is selected by the user, 'Minimum phase Fast Roll-off filter' is automatically selected to provide the best audio quality during MQA playback. FIR filters only apply to PCM data, not to DSD.

⌕ Output Settings


Apply 

Software Volume Control

☐ OFF

The low 8 bits of a 32-bit sound sources will be corrected.

☐ OFF

FIR interpolation phase Filter 

Minimum phase Fast Roll-off filter

PCM Resampling Frequency

Original

DSD Mode

Native DSD (upto DSD512)

☐ Brick Wall filter

☐ Hybrid Fast Roll-off filter

☐ Apodizing Fast Roll-off filter


☐ Minimum phase Slow Roll-off filter

☒ Minimum phase Fast Roll-off filter

2-2-3-4. PCM Resampling Frequency

- This is the menu for setting the Sampling Frequency.
- Select Original if you want to output the original sound or select the desired sampling rate (48kHz, 96kHz, 192kHz...) to use the re-sampling function.
- This function is not supported for MQA, Native DSD, DoP, Video, Bluetooth, AirPlay, or Roon Ready.

⌕ Output Settings

Apply 

Software Volume Control


☐ OFF

The low 8 bits of a 32-bit sound sources will be corrected.

☐ OFF

FIR interpolation phase Filter

Minimum phase Fast Roll-off filter

PCM Resampling Frequency 

Original

DSD Mode

Native DSD (upto DSD512)

Max Sample Rate

☒ Auto ☐ 48kHz ☐ 96kHz ☐ 192kHz

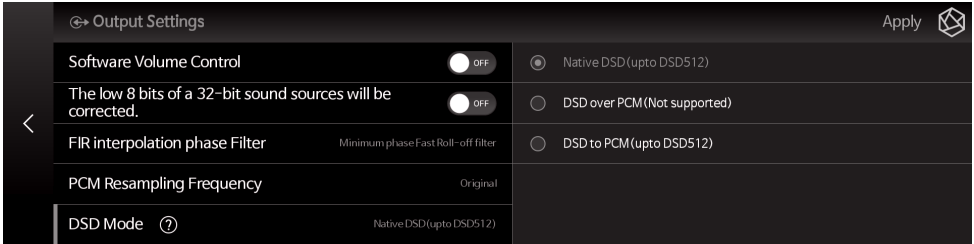
☐ 384kHz

Resample Rate

☒ Original ☐ 44.1kHz

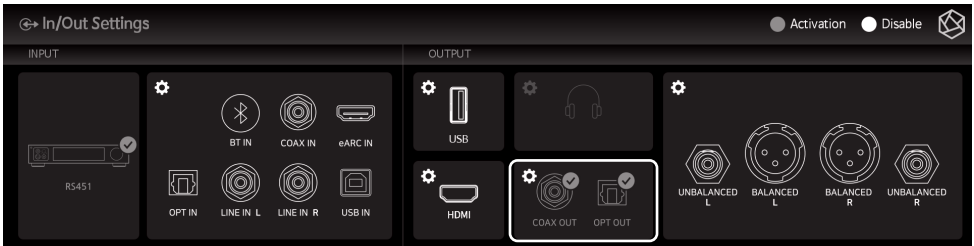
2-2-3-5. DSD Mode

- For analog output, up to DSD512 is supported in native DSD mode. (DoP mode is not supported.)
- When using DSD to PCM mode, you can convert and play back up to DSD512 via PCM.



2-2-4. Digital

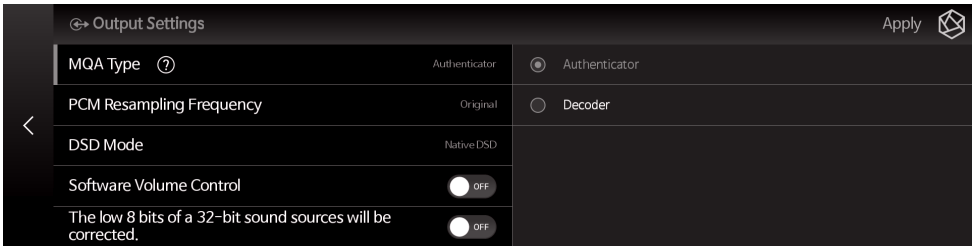
- You can set COAX OUT and OPT OUT.



- If you select the digital settings icon, the Digital Output Settings screen appears as follows.

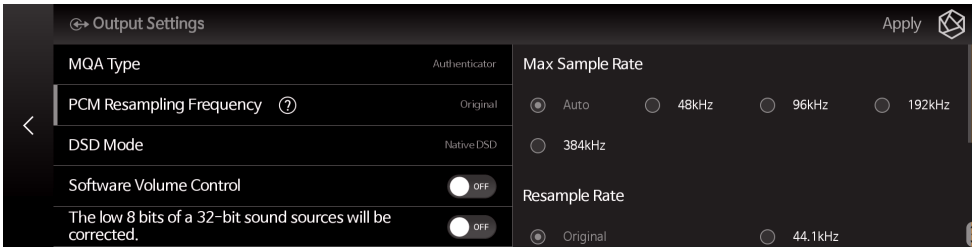
2-2-4-1. MQA Type

- This is the menu for setting the MQA playback mode. You can select Authenticator or Decoder mode. Only original sound or decoded audio data can be exported to digital output; fully decoded audio data cannot be exported.



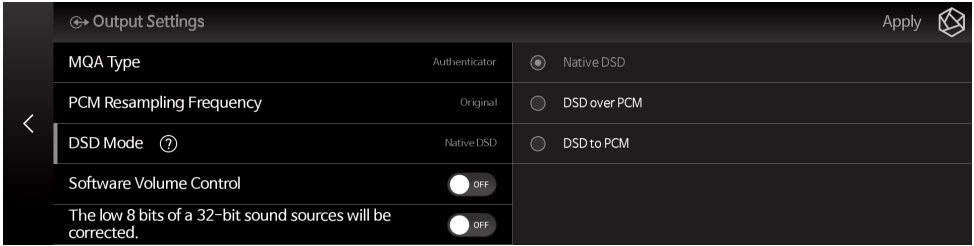
2-2-4-2. PCM Resampling Frequency

- Max Sample Rate: You can set the maximum number of samples for the connected DAC.
- Resample Rate: If you want to output at the same sampling rate as the original sound, select Original Sampling Rate. To use the resampling feature, select the desired Resample Rate.



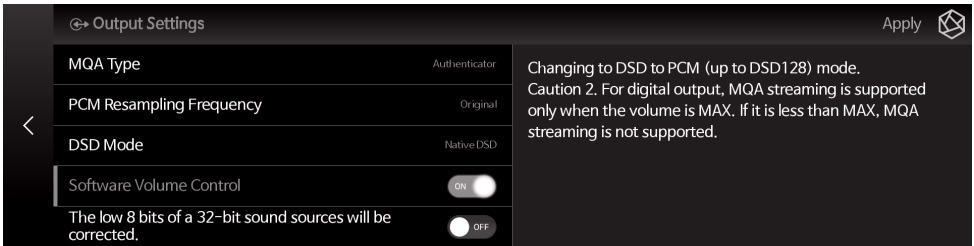
2-2-4-3. DSD Mode

- For digital output, some restrictions on the supported method and sampling rate may apply depending on the output port.
- For OPT output, up to DSD64 is supported in DoP mode. (Native DSD mode is not supported.)
- For COAX output, up to DSD128 is supported in DoP mode. (Native DSD mode is not supported.)



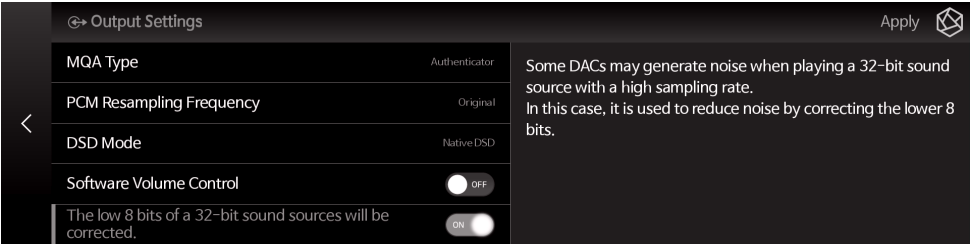
2-2-4-4. Software Volume Control

- You can adjust the playback volume of digital audio data using Software Volume Control.
- ⚠ **Caution 1:** Not available in Native DSD and DSD over PCM modes. Can be applied after changing to DSD to PCM (up to DSD512) mode.
- ⚠ **Caution 2:** For digital output, MQA stream is supported only when the volume is at maximum. MQA stream is not supported when the volume is less than the maximum.



2-2-4-5. The low 8 bits of a 32-bit sound sources will be corrected.

- Some DACs may produce noise when playing 32-bit audio at high sampling rates. In this case, this function can be used to reduce noise by correcting the lower 8 bits.



2-2-5. Analog

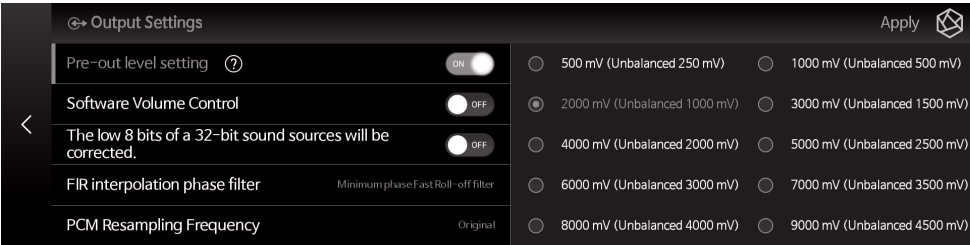
- You can set the analog output(UNBALANCED R/L, BALANCED R/L).



- If you select the analog settings icon, the Analog output settings screen appears as follows.

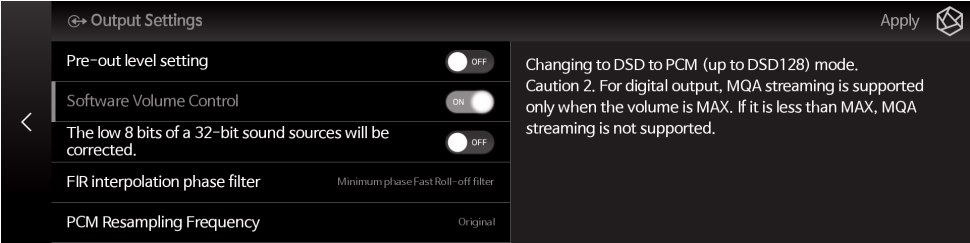
2-2-5-1. Pre-Out Level Settings

- This is the menu for fixing the pre-output level. The output level of this product can be fixed with an input value within the allowable range of the connected AMP without using the volume control of this product.



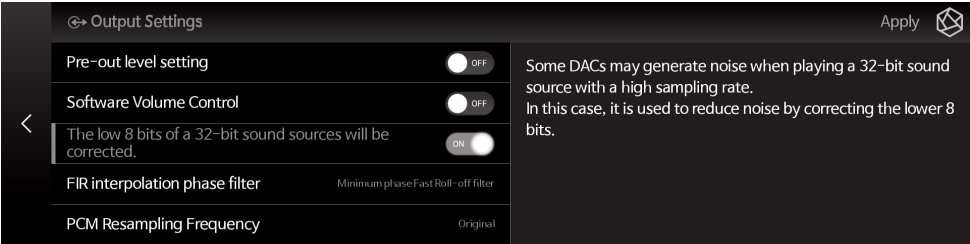
2-2-5-2. Software Volume Control

- You can adjust the playback volume of digital audio data using Software Volume Control.
- ⚠ **Caution 1:** Not available in Native DSD and DSD over PCM modes. Can be applied after changing to DSD to PCM (up to DSD512) mode.
- ⚠ **Caution 2:** For digital output, MQA stream is supported only when the volume is at maximum. MQA stream is not supported when the volume is less than the maximum.



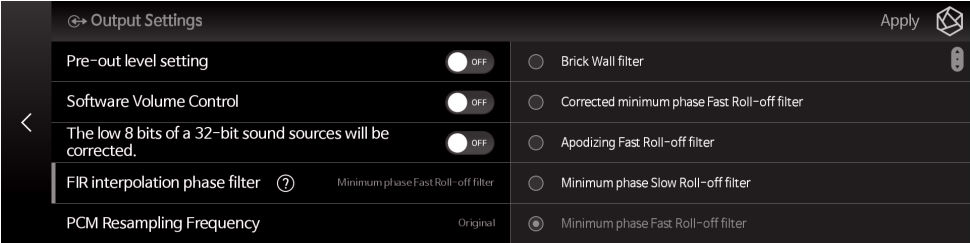
2-2-5-3. The low 8 bits of a 32-bit sound sources will be corrected.

- Some DACs may produce noise when playing 32-bit audio at high sampling rates. In this case, this function can be used to reduce noise by correcting the lower 8 bits.



2-2-5-4. FIR Interpolation Phase Filter

- Even if a specific filter is selected by the user, the 'Minimum phase Fast Roll-off filter' is automatically selected to provide the best audio quality during MQA playback. FIR filters only apply to PCM data, not to DSD.



2-2-5-5. PCM Resampling Frequency

- This is the menu for setting the Sampling Frequency.
- Select Original if you want to output the original sound or select the desired sampling rate (48kHz, 96kHz, 192kHz...) to use the re-sampling function.
- This function is not supported for MQA, Native DSD, DoP, Video, Bluetooth, AirPlay, and Roon Ready.

Output Settings

Apply

Pre-out level setting

OFF

Software Volume Control

OFF

The low 8 bits of a 32-bit sound sources will be corrected.

OFF

FIR interpolation phase filter

Minimum phase Fast Roll-off filter

PCM Resampling Frequency

Original

Max Sample Rate

Auto

48kHz

96kHz

192kHz

384kHz

Resample Rate

Original

44.1kHz

2-2-5-6. DSD Mode

- For analog output, up to DSD512 is supported in native DSD mode. (DoP mode is not supported.)
- When using DSD to PCM mode, you can convert and play back up to DSD512 via PCM.

Output Settings

Apply

Software Volume Control

OFF

The low 8 bits of a 32-bit sound sources will be corrected.

OFF

FIR interpolation phase filter

Minimum phase Fast Roll-off filter

PCM Resampling Frequency

Original

DSD Mode

Native DSD (upto DSD512)

Native DSD (upto DSD512)

DSD over PCM (Not supported)

DSD to PCM (upto DSD512)

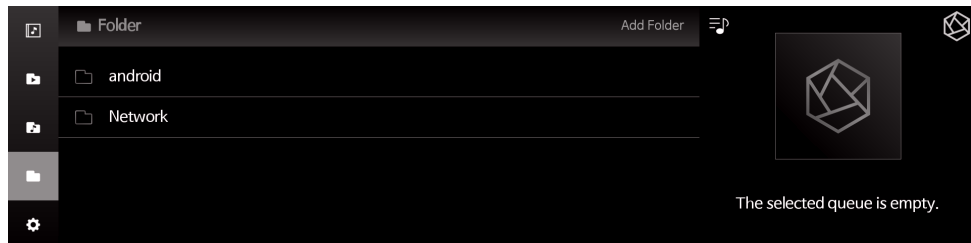


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Playback

1. Default Playback

- You can play music and video files by connecting a USB storage device to the USB port on the rear of this product.
- SATA HDDs/SSDs can be installed at the bottom of this product. * Thickness: 2.5inch / 7mm
- You can play files on the storage device from the "Music/Video" - "Folder" tab.

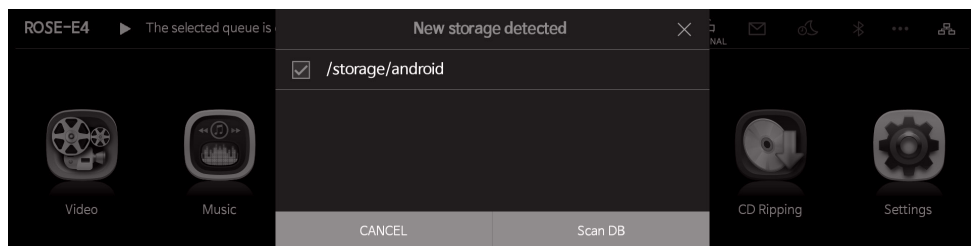


2. Media Library

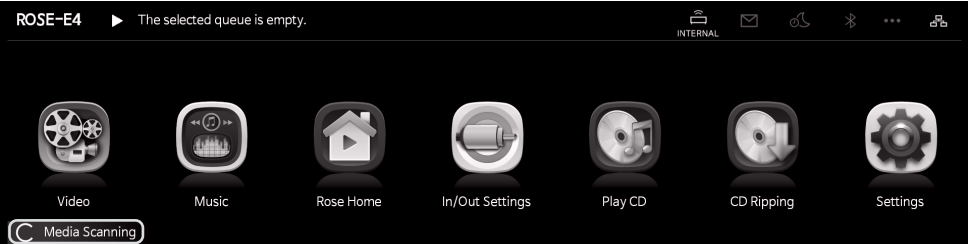
- You can save music in a storage media or network shared folder as a database (DB) by scanning the media.

2-1. Activate Media Scanning

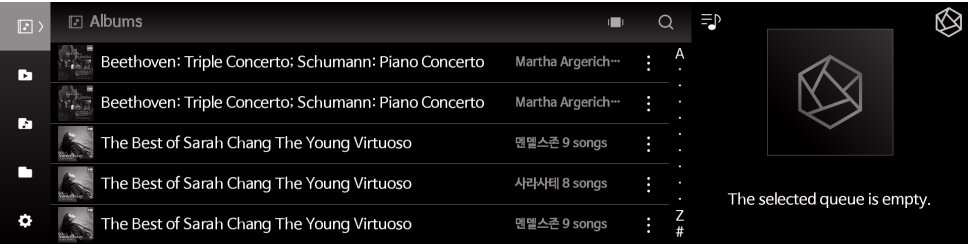
- When you connect a new storage device to a USB port on the rear of the device, a new storage detection pop-up appears.



- Select the "Scan DB" button in the new storage pop-up to begin a media scan of the connected storage device. (Depending on the storage capacity, the media scanning time may vary.)
- During DB scanning, the "Media Scanning" loading image is displayed at the bottom left of the main screen of this product.



- After the DB scanning is complete, the album art and list of music and videos are displayed, and you can play the music.
- You can also add, research, and delete DBs through the Music/Video and Settings menu.



2-2. After Media Scanning

- The album list is displayed with the album art, and you can play entire albums.
- You can sort and play music by album, artist, genre, and composer.
- You can search for music by artist and album name.
- You can save your favorite music and albums using the Playlist and Favorites features.

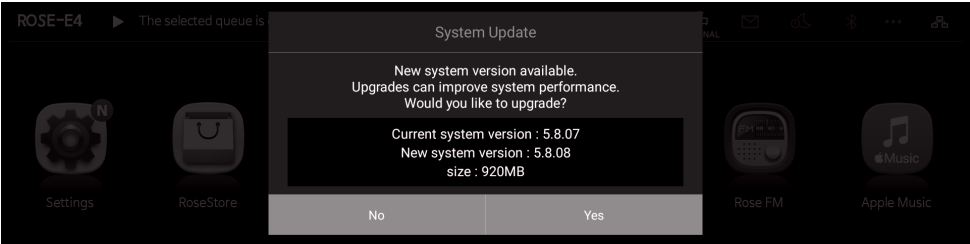
Supplementary Information

1. Firmware Update

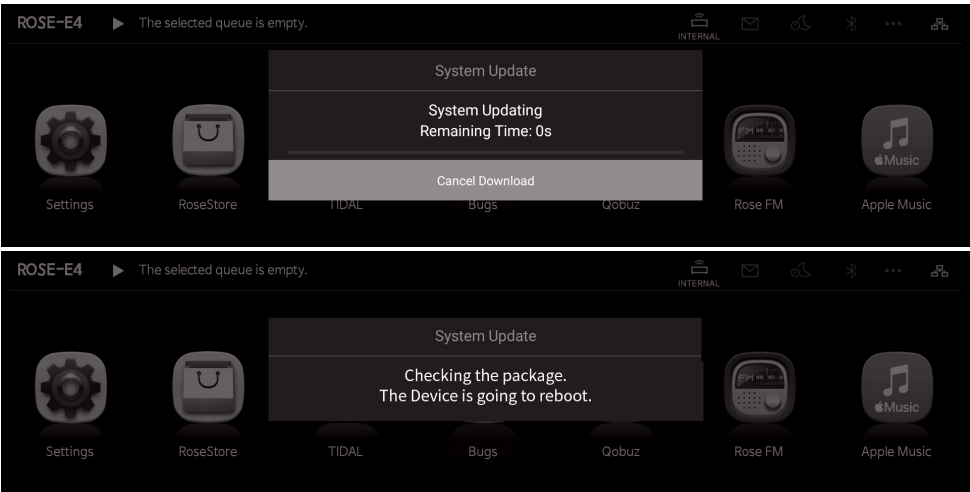
⚠ Caution: Never disconnect the product from power during the update, as doing so may cause problems.

1-1. Run OTA Update

- The System Update pop-up appears if the latest version of the update is available while the network is connected.



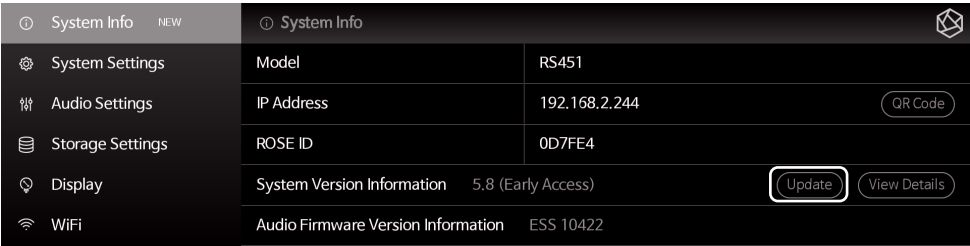
- If you select the “Yes” button in the System Update pop-up, the OTA update begins.



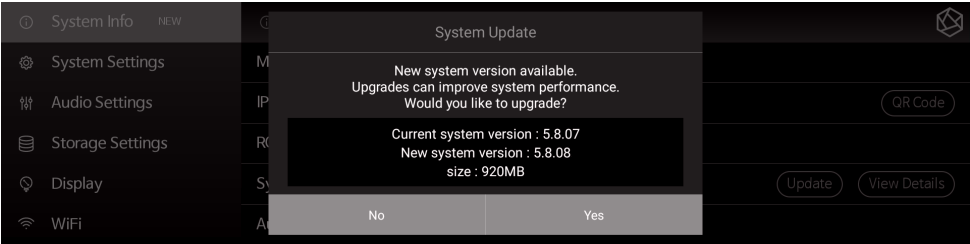
- After rebooting, the SW system update is complete.

1-2. Update Via Settings Menu

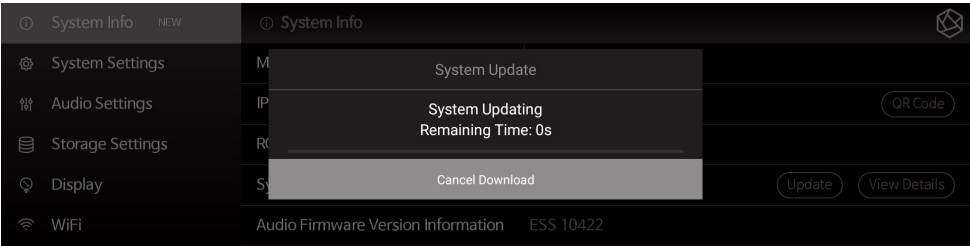
- If a new version update is available, the “Update” button is displayed next to System Version Information in the System Info menu.



- If you select the update button, the System Update pop-up is displayed.



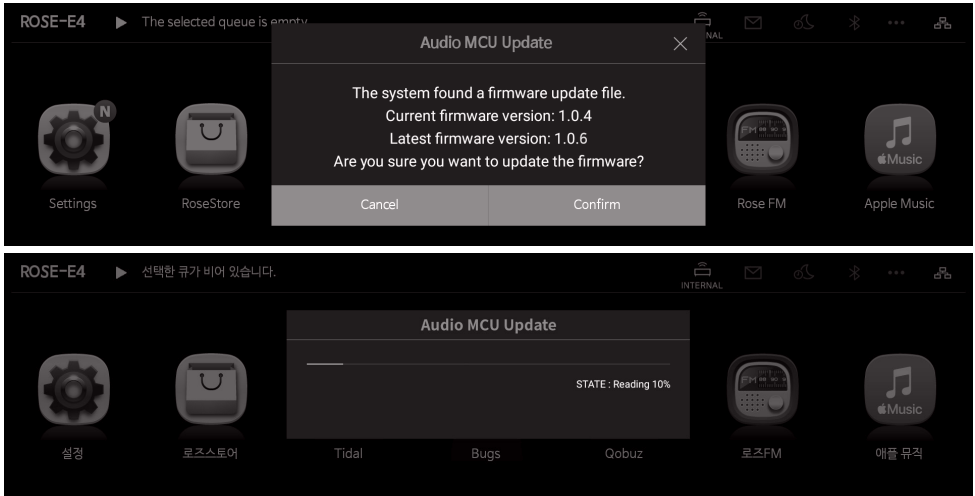
- If you select the “Yes” button in the System Update pop-up, the OTA update begins.



- After rebooting, the SW system update is complete.

1-3. How to Install the Firmware When the Audio MCU Update Pop-Up Appears

- If a firmware update is available after the system update, the update window will automatically appear and you can proceed with the firmware update.
- The device automatically reboots after completing the Audio MCU Update.



2. Factory Reset

- A factory reset is recommended when the product does not work or a firmware update via the Internet fails. After a factory reset, all custom settings, including DB Scan data, settings and storage data for each app, apps installed through the ROSE Store, WiFi network settings, shared files, and saved playlists are reset. These must be set up again following a factory reset.
- This product can be reset or restored to default settings.
- You can return the system to the default settings by selecting "Factory Reset" under "Settings" – "System Settings".



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Product Specifications

Preamp Outputs

Output Impedance	1.5Ω(XLR), 1.3Ω(RCA)
Output Level	10Vrms(XLR), 5Vrms(RCA)
THD+N	0.00025%(XLR) (1kHz, 10Vrms), 0.00025%(RCA) (1kHz, 5Vrms)
Signal to Noise Ratio	129dB(XLR), 126dB(RCA)
Dynamic Range	130dB
Stereo Crosstalk	140dB (20Hz-20kHz)
Frequency Response	10Hz ~ 80kHz (+/-1dB)

HP Outputs

Jack	XLR(Balanced), 4.4mm(Balanced), 6.35mm(Unbalanced)				
Output Level		16Ω	32Ω	300Ω	600Ω
	XLR	2,700mW	2,600mW	650mW	350mW
	4.4mm	2,700mW	2,600mW	650mW	350mW
	6.35mm	1,300mW	1,000mW	175mW	90mW
THD+N		0.00065%	0.00060%	0.00035%	0.00030%
Signal to Noise Ratio	128dB(XLR), 128dB(4.4mm), 118dB(6.35mm)				
Dynamic Range	140dB(XLR), 140dB(4.4mm), 120dB(6.35mm)				
Frequency Response	10Hz ~ 80kHz (+/-1dB)				

Sampling Rate

PCM	8kHz - 768kHz(8/16/24/32bit per Sample)
DSD	DSD64(2.8MHz)/DSD128(5.6MHz)/DSD256(11.2MHz)/DSD512(22.6MHz)

Supported File Formats

Audio	WAV, FLAC, ALAC, AIFF, WMA, OGG, APE, DFF, DSF, CDA, M4A, MP3, AAC, AMR, EC3, E-EC3, MID, MPL, MP2, MPC, MPGA
Video	ASF, AVI, MKV, MP4, WMV, MPEG-1/2/4, H.263, H.264/AVC, H.265/HEVC, VC-1, VP8/9, MVC H.264/AVC (Base/Main/High/High10, Level 5.1): Up to 4Kx2K@30fps H.265/HEVC (Main/Main10, Level 5.1 High-tier): Up to 4Kx2K@60fps VP9/H.264/H.265: Up to 4Kx2K@60fps H.264/MVC/VP8 Encoding: Up to 1080p@30fps

Technical

PSU	Toroidal Linear Power Supply
CPU	Quad core Cortex-A76 + Quad-core Cortex-A55
RAM	LPDDR4X 8GB
GPU	ARM Mali-G610 MC4(OpenGL, Vulkan, OpenCL)
DAC	ES9027 PRO(ESS)
HP DAC	ES9027 PRO(ESS)
Oscillator	Highly Precise Femto Clock

Inputs

Digital	USB 2.0 Type-B	PCM 32bit/768kHz, DSD512(22.6MHz)
	Coaxial	PCM 32bit/384kHz, DSD128(5.6MHz) (only DoP)
	Optical	PCM 32bit/192kHz, DSD64(2.8MHz) (only DoP)
	HDMI eARC	PCM 24bit/192kHz
Analog	Line In	
Service	USB 3.0 Type-C	
Trigger	DC 3.3V - 12V	

Outputs

Digital	USB 3.0 Type-A	PCM 32bit/768kHz, DSD512(22.6MHz)
	Coaxial	PCM 32bit/384kHz, DSD128(5.6MHz) (only DoP)
	Optical	PCM 32bit/192kHz, DSD64(2.8MHz) (only DoP)
Analog	Unbalanced, Balanced	
Video	HDMI 2.0 (4K UHD / 60Hz)	
Trigger	DC 12V	

Network

Connectivity	Ethernet	10/100/1000 BASE-T(1Port)
	WiFi	USB Dongle
	Bluetooth	5.4 aptX (A2DP1.4, Sink, AVRCP v1.6.2)
Streaming Protocol	Bluetooth, AirPlay, DLNA/UPnP, Roon Ready, Spotify Connect	
Storage	SMB, FTP, WebDav	

Storage

External	3 × USB 3.0 Type-A 1 × 2.5" SSD(SATA 3.0, NTFS, exFAT)
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Feature

CD Ripping	Support(By external USB CD Drive)
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Power

Input Voltage	AC 110-120V, 220-240V, 50/60Hz	
Power Consumption	Standby	0.5W
	Idle	5W
	Playback	20W
Protection	3A Thermal Circuit Breaker	

Environmental

Operating °C	0~40°C
Storage °C	-10~50°C

Physical

Display	8.8" IPS LCD & Capacitive Touch Screen (MIPI)
Dimension	430(W) × 337(D) × 92(H) mm
Weight	7kg
Material	Aluminum / Rust-proof Steel / ABS
Finish	Silver, Black
IR	38kHz IR Receiver

Quality Guaranteed

Model Name	RS451
Purchase Date	DD / MM / 20YY
Place of Purchase	Shop Name
	Contact Address
Serial No.	
Contact Address	
Warranty Period	Until 1 year from the date of purchase

- Name of the Company that Received the Conformity Assessment: CITECH Co., Ltd.
- Manufacturer/Country of Manufacture: CITECH Co., Ltd. / Republic of Korea
- Identification Code of the Certified Company: SYH
- Certification No.: R-R-SYH-RS451

Product Website: www.hifirose.com

- Get news about the latest events and new product information from ROSE through the newsletter.
- You can find an authorized dealer or reseller near you on the website.



Things to Check Before Contacting the Service Center

- If touch does not work or the screen freezes, restart the product. Press and hold the power button for more than 5 seconds to force a reboot.
- If the switch does not work while the product is in use, it may be because it was exposed to strong static electricity. Disconnect the power cord before starting again.
- If the product is used for a long time in a confined space that does not meet the product installation conditions (p. 21), it may generate heat and become hot, which will affect its life and performance. Always keep the ventilation openings on the top of the main body open so that the heat inside dissipates.
- If the transmission is unstable or a transmission or reception failure occurs when using the mobile app due to the nature of WiFi communication, please move to another location and try to reconnect.
- If there is no output sound, check the input source selector of the main unit, and check that the speaker connection status, and the volume control level are not "0".
- If the remote control does not work, the battery may be empty. Replace it with a new battery.
- Content-specific files are optimized according to product characteristics, design specifications, and business needs. Therefore, even with the same content, there may be differences in volume, tone, etc., with other manufacturers and other models.

Repair Service Guide

• Free Repair

Limited to naturally occurring failures within one year from the date of purchase, which is the warranty period of the product.

• Paid Repair

The actual cost of repair (including part costs) will be charged if the warranty period has expired or during the warranty period in the following cases.

- Failure due to consumer negligence during use
- Repairs or modifications made by persons other than company engineers
- Failure or damage caused by an abnormality in the power supply
- Failure due to a natural disaster

• Repair Service Application Guide

If a failure occurs during use, stop using it immediately and consult with the place of purchase or the customer support office of the company first.

• Information Required for Reporting

- Model name and serial number (manufacture date)
- Place and date of purchase
- Consumer information including contact information and address
- Symptoms of failure
- All other matters necessary for the repair service

• Precautions for Product Delivery to the Service Center

When delivering the product by courier, be sure to pack it in the original box and inner protective material to prevent damage. Please note that we are not responsible for damage to the product during transportation in other packaging.

UK PSTI Statement of Conformity

We, Citech, Co., Ltd. hereby declares that this product complies with the applicable security requirements set out in Schedule 1 of The Product Security and Telecommunications Infrastructure (Security Requirements for Relevant Connectable Products) Regulations 2023 at the time of this Statement, required by the UK government in the Product Security & Telecommunications Infrastructure Act 2022.

Citech, Co., Ltd. will provide software security updates for this product as described on this webpage:

<https://hifirose.com/Legal/>



If you detect a vulnerability with this product, please contact us following the guidance covered on this webpage:

<https://hifirose.com/QnA?category=34zK754S49/>



* This statement was last updated on April 4, 2024.



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Memo

Memo

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