



Advanced All-In-One Network Streamer **RS520**

Beyond Audio, HiFi ROSE



Advanced All-In-One Network Streamer RS520

Combination of Convenience and Top-Notch Sound Quality:
The Birth of a New All-in-One Network Streamer

RS520 is an all-in-one product with built-in network player, DAC, and amplifier.

For DAC and amplifier module, it is equipped with ES9038PRO DAC, the flagship DAC chip of ESS technology and Class AD amplifier module developed by applying new material GaN FET are mounted.

RS520 is an advanced all-in-one network streamer that consolidates the main functions of existing all-in-one streamers into one based on ROSE's unique design know-how and functions accumulated over many years.



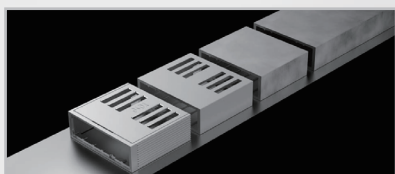
Design



Unchangeable Value

The design of the RS520 focused on values that did not change over time.

A refined design that will not change over time and a bold ventilation hole for heat dissipation represent a gentleman with both functionality and enterprising appearance.



Integral Aluminium Housing

The housing of RS520, which is made with generous use of high-durability 6000 class aluminum material, is manufactured by an all-in-one process in which four sides are produced as one part.

The all-in-one manufacturing process is the most ideal method to fundamentally block vibrations that may occur between separated parts, significantly reducing noise waves that can affect sound quality.



12.6-Inch Wide LCD Touchscreen

Visible audio is emphasized using Hi-Fi ROSE's spacious, wide-viewing-angle multi-touch LCD screen. With a size of 309*82.9 (mm) and a 1920*515 resolution LCD panel, you can enjoy a smooth and clear screen.



Silicon FET

GaN FET

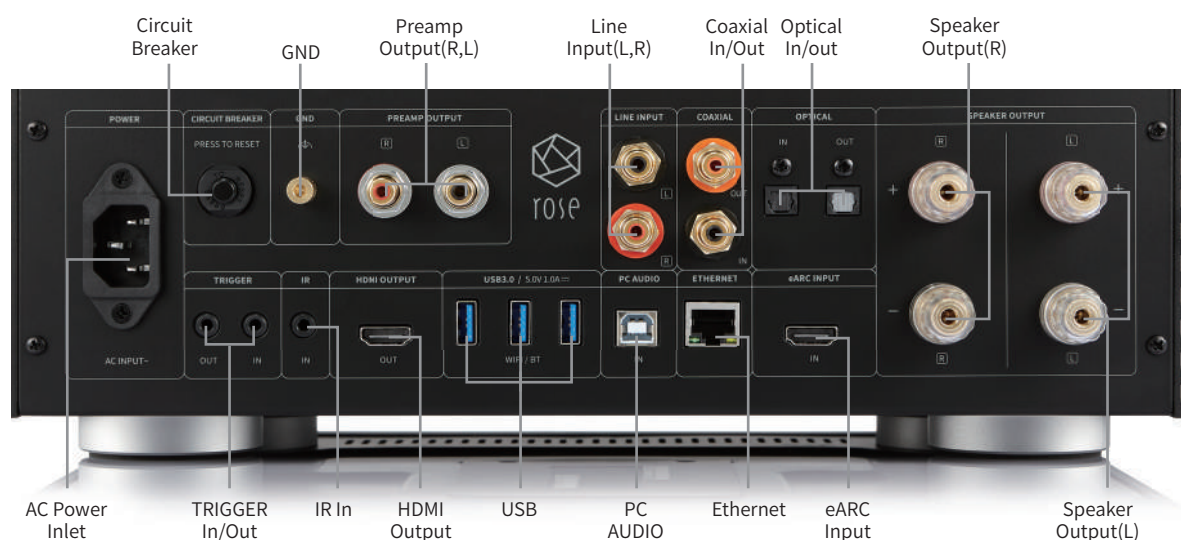
Switching speed / Accuracy comparison between Silicon FET and GaN FET

Connections

Front

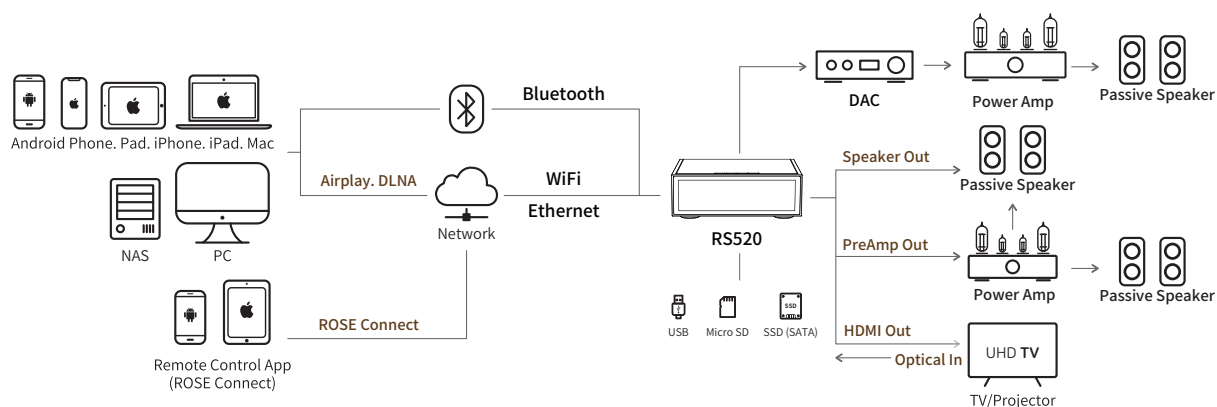


Rear



Network Streaming

Enjoy real-time streaming services through DLNA, Airplay, and ROSE Connect.



Innovative ROSE OS



ROSE Tube

Enjoy Endless Play of YouTube high-definition videos.



Music / Video

Play music and video files on a local storage device (USB / MicroSD / SSD). Also, you can build your home network library with a NAS connection. It is possible to categorize your music with numerous ways.



Roon Ready

RS520 is Roon-Ready device. It supports automatic network discovery, stable library operation, and multi-channel playback of high-quality sound sources.



Radio

Listen to more than 10,000 internet radio stations from all over the world. Register and listen to your favorite channel. It also offers Shazam, so that you can search for good songs on the radio right away.



Apple Music



Bugs

Streaming Service

You can play high-quality sound sources from various streaming services. Easily integrate and play all existing features, such as music files, Tidal, Qobuz and Apple Music in one playlist.



CD

By connecting an external CD-Rom Drive via USB, spontaneous CD playback is possible. You can extract music files stored on a CD and save them to SSD, USB, or MicroSD.



Plays Ultra HD 4K Video

You can enjoy Ultra HD 4K video or ROSE Tube video files on a large display from a connected storage device (USB, external hard drive, SSD, etc.) via HDMI connection. Now, you can get the vivid experience of an opera house at home.

Rose Audio Engine

Hi-Fi ROSE can deliver pure audio data to DAC without loss by using RoseAudioServer, developed by ROSE, and realizes advanced high fidelity audio service by using various signal processing technologies.

Figure 1. Rose Audio Architecture

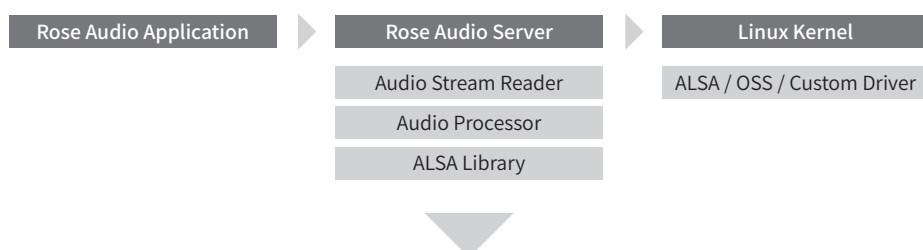
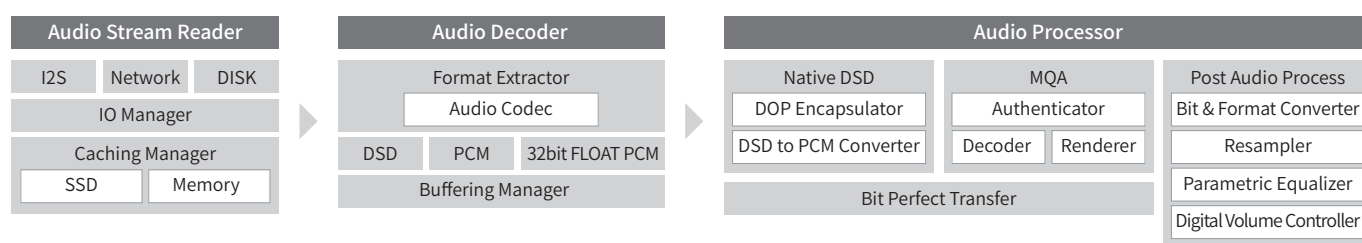


Figure 2. Rose Audio Server



Audio stream reader

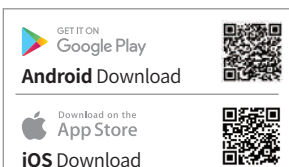
Audio stream reader uses caching technology developed by Hi-Fi ROSE to process digital input signals using system interrupt, network jitter, and coarse clock without distortion.

Audio Decoder

Audio decoder can process various types of audio sources and codecs to extract DSD and PCM data, and in the case of a sound source using lossy codec, it decodes to 32bit float PCM to minimize distortion.

Audio Process

Audio process supports bit-perfect transmission, and packages and delivers audio data in a transmission format optimized for the connected DAC. It can handle full MQA decoding and native DSD, and provides an advanced hi-fi audio environment using various post-process modules developed by Hi-Fi ROSE.



Control directly from your mobile device with ROSE Connect!

It includes a Dedicated Remote Control Application that allows users to conveniently control and smartly manage ROSE devices. The remote control application works on various platforms including iPhone, iPad, Android phone, and PC.

• Color



Black



Silver

• Specifications

Part		Specifications
OS		Customized Android 7.1
Design	Size	346(W) x 328(D) x 127(H) mm
	Weight	8.1kg
	Display	12.6" TFT LCD & Capacitive Touch Screen (eDP)
CPU	Hexa Core CPU	Dual-core Cortex-A72 up to 1.8GHz / Quad-core Cortex-A53 up to 1.4GHz
GPU		Mali-T864 GPU, OpenGL ES1.1/2.0/3.0/3.1, OpenVG1.1, OpenCL, DX11
Memory		LPDDR4 4GByte
Network Connection	Ethernet	10/100/1000 BASE-T
	WiFi	802.11ac Dualband USB Wireless LAN Card (Dongle)
	Bluetooth	V4.2 (USB Dongle)
Audio Service	Streaming	Airplay / DLNA / Roon Ready / Spotify Connect / Bluetooth
	Music Service	TIDAL / Qobuz / Bugs / ROSE Tube / Internet Radio / ROSE Podcast / Apple Music
In/Output	Audio Input	Optical x 1, Coaxial x 1, Line-In x 1, USB DAC x 1, eARC x 1
	Audio Output	Optical x 1, Coaxial x 1, Preamp-Out x 1
	Video Output	HDMI 2.0 x 1 (up to 3840 x 2160 / 60Hz)
	Media Connection	File System : NTFS / exFAT / FAT32 Network Protocol : SMBv1 / FTP / WebDav Storage Interface : USB3.0 x 2, SATA x 1
Supported Codec	Audio	MQA, WAV, FLAC, AIFF, WMA, MP3, OGG, APE, DFF, DSF, AAC, CDA, AMR, APE, EC3, E-EC3, MID, MPL, MP2, MPC, MPGA, M4A, ALAC, PCM : 8kHz~768kHz(8/16/24/32bit per Sample), Native DSD : DSD64(2.8MHz)/DSD128(5.6MHz)/DSD256(11.2MHz)/ DSD512(22.4MHz)
	Video	ASF, AVI, MKV, MP4, WMV, MPEG-1, MPEG-2, MPEG-4 H.263, H.264, H.265, VC-1, VP9, VP8, MVC, H.264/AVC, Base/Main/High/High10 profile @ level 5.1 up to 4Kx2K @ 30fps H.265/HEVC, Main/Main10 profile @ level 5.1 High-tier up to 4Kx2K @ 60fps
Power	Input Voltage	AC100-240V 50/60Hz
	Power Consumption	150W
	Circuit Breaker	6A Thermal Circuit Breaker
Update		SW update via internet, USB OTA, ROSE Store
Remote Control Feature	Remote Controller	38kHz Infrared Ray(Within 10m of Operating Distance), Bluetooth Remote Control
	Remote App	ROSE Connect (Android, iOS) / Google PlayStore, App Store
Accessory		Power Cord x 1, Bluetooth Remote Controller x 1 (AAA Battery x 2), Manual x 1, SSD Screw x 4

Analog Audio Specifications		
Output Power	-	250W + 250W@ 8Ω, 4Ω
Sensitivity	Line in	2Vrms
	Pre Out	2Vrms
Power Bandwidth	-3dB	10Hz ~85kHz, 8Ω, 200W
THD+N	Pre Out	0.00033%, 1kHz, 600Ω, 2Vrms
	Speaker	0.007%, 1kHz, 8Ω, 150W
Damping Factor	1kHz	150
Input Impedance	-	100kΩ
Output Impedance	-	50mΩ
Frequency Response	+1/-3dB	10Hz ~ 83kHz
Signal-to-Noise Ratio	Pre Out	124dB, 1kHz, 600Ω, 2Vrms
	Speaker	109dB, 1kHz, 8Ω, 250W