



High Performance
Network Streamer Gen 2

RS151

RS151 High Performance Network Streamer Gen 2

The RS151 is a network streamer that achieves groundbreaking improvements in every aspect.

ROSE's proprietary cutting-edge technologies developed during the RD160 project, combined with the latest flagship DAC chip and sophisticated design, deliver revolutionary advancements in audio performance.

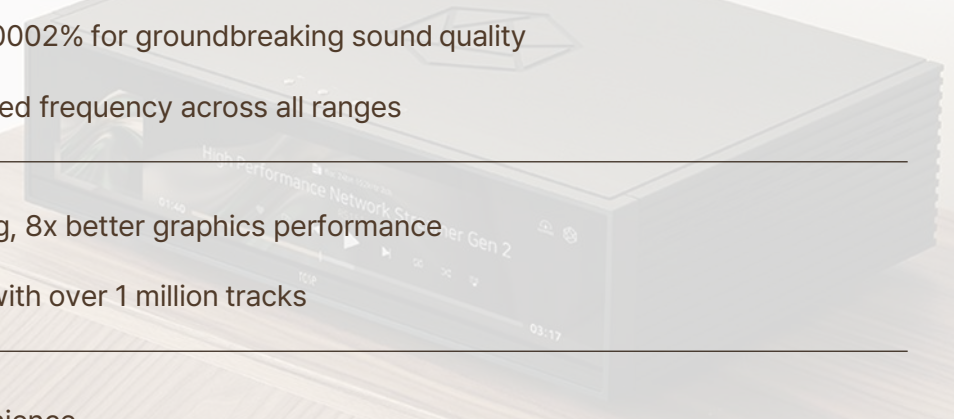
The significantly enhanced processing power, based on a next-generation 8-core CPU, integrates seamlessly with the Full HD wide-view multi-touch display introduced in the RS130, delivering a smoother and more enjoyable playback experience.

With upgrades in performance, functionality, and convenience, the RS151 sets a new standard for high-resolution audio and streaming.



Summary (Improvements from RS150B)

1	Innovative Signal Processing	• ROSE DPC™ module (from RD160)	Femto clock synchronization and I²S alignment (DSD upsampling)
		• Cutting-Edge DAC Design	Reduced jitter and improved linearity for high-resolution sound details
		4 th Gen. Hyperstream®	Physically separated signal paths for better clarity and accuracy
		Complete Separation of D/A	Exceptional channel separation and immersive staging
2	Advanced Performance	• Sophisticated Design	SNR 131.4dB, THD+N 0.0002% for groundbreaking sound quality
		• ROSE NRA™ Filter (from RD160)	Maintains fidelity with fixed frequency across all ranges
3	Enhanced Speed	• 8-Core CPU RK3588	4x faster data processing, 8x better graphics performance
		• Expanded Library	Supports large libraries with over 1 million tracks
4	Intuitive display & Connectivity	• 15.4" Full HD Multi-Touch Screen	Exceptional User Convenience
		• Upgraded Connectivity	Enhanced compatibility: eARC, Trigger, Bluetooth 5.4 (aptX) etc.



01 Signal Processing

02 Audio Performance

03 Processing Power

04 Display

05 Connectivity

06 Other Features

07 Specifications



01

Innovative Signal Processing

- ROSE DPC™ Module
- Cutting-Edge DAC Design



ROSE DPC(Digital Processing Core)™ Module

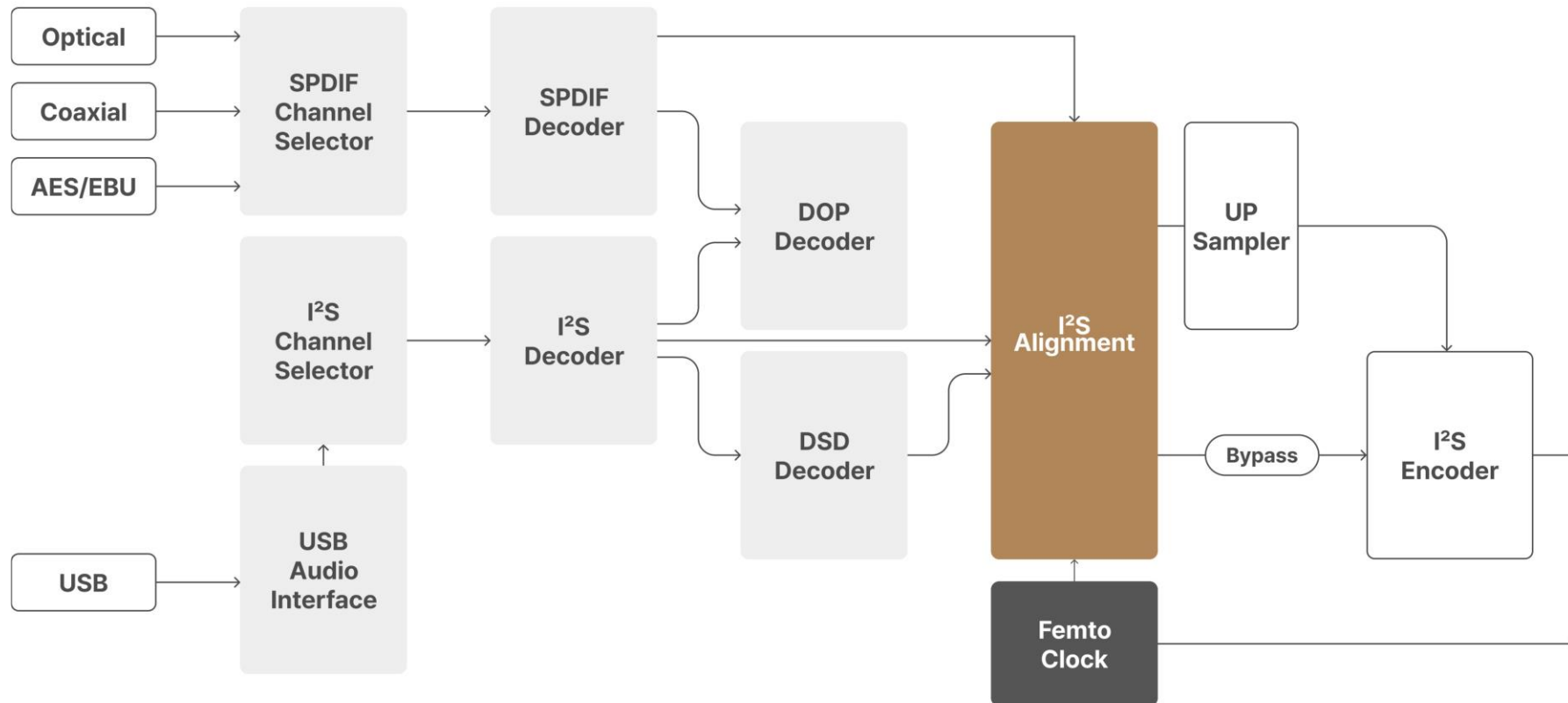
	RS150B	RS151
DPC™ Module	X	O
Digital Processing	SW Implementation	HW Dedicated Module
Clock Sync	X	O (Femto)
DSD Upsampling	X	Up to DSD512



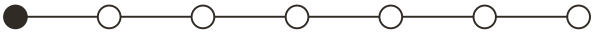
CHANGES	IMPROVEMENTS
Digital Processing	- Minimizes CPU resource consumption to prevent sound quality degradation and latency - Enhances efficiency and stability for consistent performance
Clock Sync	Reduces jitter and minimizes signal distortion
DSD Upsampling	Upsamples various PCM audio sources to DSD sound

ROSE DPC(Digital Processing Core)™ Module

The ROSE DPC™ module is applied to the RS151's digital stage, **minimizing jitter** and **maximizing signal quality** by precisely synchronizing input signals with a **highly precise Femto clock** and aligning them as I²S signals. All processing blocks within this module are designed to **maintain the highest level of signal accuracy**. Additionally, the circuit for the user interface and GUI configuration is completely isolated from the digital audio signal path, **thoroughly eliminating signal distortion and interference**. Through this design, the RS151 guarantees **accurate signal processing, natural and clean sound, and seamless compatibility** with various digital formats.



Cutting-Edge DAC Design



	RS150B	RS151
DAC	ES9038PRO	ES9039PRO
Hyperstream®	3 rd Gen.	4 th Gen.
	High-Precision Clock	Femto Clock
	Minimization of Digital Distortion	+ Enhanced Linearity
Digital & Analog	Separated Signal Path Design	Physically Separated Signal Path Circuits
Channel Circuit Design	<u>Shared</u> 8-Channel Circuit Design	<u>Independent</u> 8-Channel Processing Design
	Channel Processing in Shared Circuits	Independent Operation in Dedicated Circuits



CHANGES	IMPROVEMENTS
Hyperstream®	• Reduced Jitter and Enhanced Detail Expression
Digital & Analog	• Improved Clarity and Accuracy of Sound
Channel Circuit Design	• Enhanced Channel Separation, Stereo Imaging, Spatiality

1-2.

Cutting-Edge DAC Design

¹ 4th Gen. Hyperstream® Technology

Featuring 4th-generation Hyperstream® technology, the ES9039PRO combines with a highly precise Femto clock to drastically suppress jitter. In addition, it further enhances linearity during the digital-to-analog conversion process. This allows to deliver distortion-free, clean sound with improved timing accuracy and precise reproduction of detailed acoustic nuances in high-resolution audio.

² Complete Separation of Digital and Analog

The digital and analog signal paths are physically and completely separated, ensuring that each circuit operates independently. This design prevents any influence from noise and jitter generated in the digital circuit, offering a higher level of clarity and accuracy without interference or distortion between the paths.

³ 8-Channel Independent Processing Design

The ES9039PRO features an independent processing design, ensuring that all 8 channels operate independently within their own dedicated circuits. This enables the delivery of exceptional channel separation, precise stereo imaging, an expanded soundstage, and outstanding spatiality without any channel interference.

02

Advanced Audio Performance

- Sound Quality Progress through Sophisticated Design
- ROSE NRA™ Filter



Sound Quality Progress through Sophisticated Design

	RS150B	RS151
Resistor & Film Capacitor	Standard Chip Resistor, Metal Cap	Audio-Grade MELF Resistor, WIMA Cap
Decoupling Capacitor	Standard Decoupling Capacitor	Low ESR, High Ripple Decoupling Capacitor
Grounding	Plane Ground	Single-Point Ground
Signal-to-Noise Ratio	121dB	131.4dB

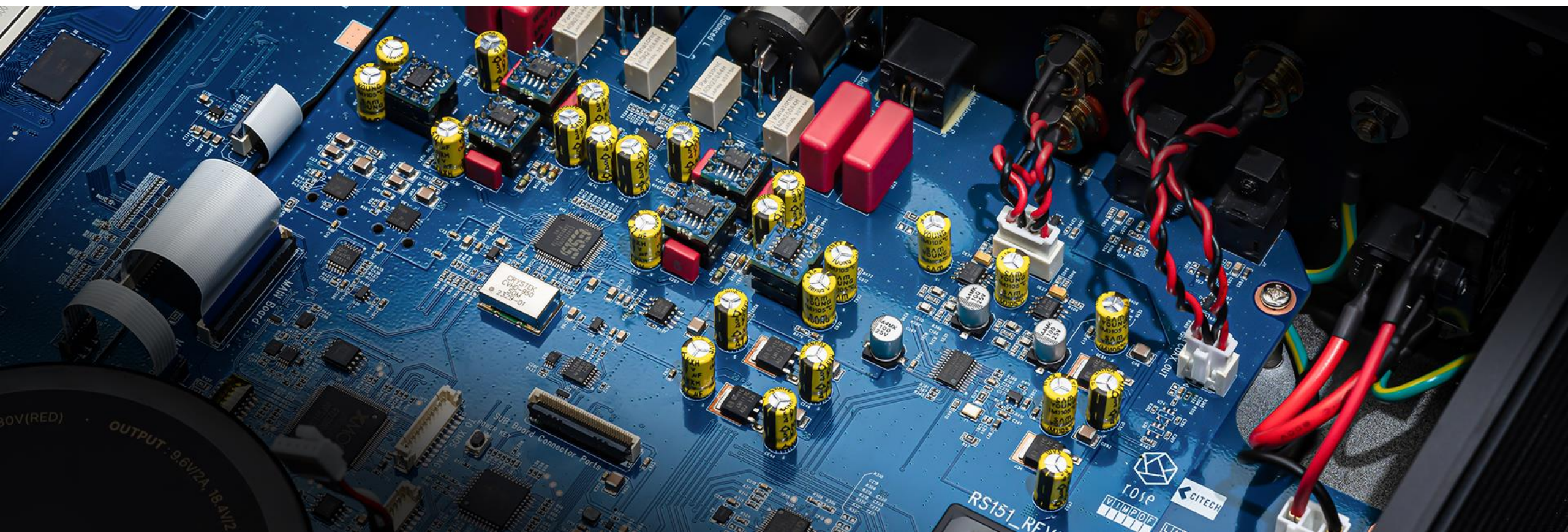


CHANGES	IMPROVEMENTS
Single-Point Ground	Minimized Ground Loops / Suppressed Noise Interference
Low ESR, High Ripple Decoupling Capacitor	High-Freq Noise Filtering→ Enhanced Power Supply Stability
Audio-Grade MELF Resistor, WIMA Cap	Improved Linearity and Minimized Distortion

2-1.

Sound Quality Progress through Sophisticated Design

The RS151 incorporates a variety of **technological innovations** and **premium components** to enhance sound quality. In the DAC stage, I/V conversion circuit, and OP-AMP stage, **high-precision MELF resistors** and **audio-grade WIMA film capacitors** are employed to **improve linearity** during signal processing and **minimize distortion**. Additionally, the bias voltage of the OP-AMP is precisely controlled, resulting in a more refined and natural sound. A **single-point ground** design **minimizes grounding loops** and **suppresses noise interference**, enhancing signal purity. Around the power supply, **decoupling capacitors with low ESR (Equivalent Series Resistance) and high ripple current capacity** are placed to **effectively filter high-frequency noise** and **strengthen power supply stability**. Thanks to these sophisticated design, the RS151 achieves remarkable measurement values with a **SNR of 131.4dB** and **THD+N of just 0.0002%**. These figures represent **groundbreaking progress in signal accuracy and sound quality**.



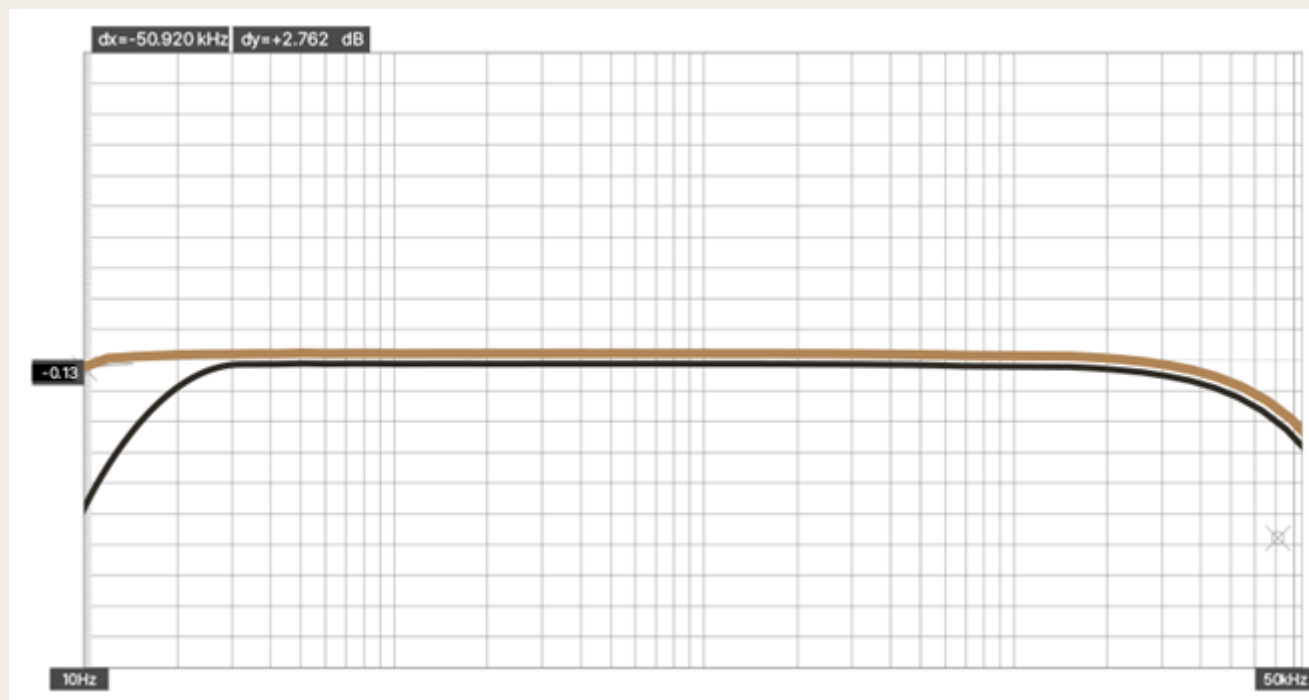
2-2.

ROSE NRA(Noise Reduction Analog)™ Filter

The analog stage features the **ROSE NRA™ filter**, designed to eliminate noise and enable flat frequency characteristics even at extremely low frequency ranges. With this innovation, the RS151 boasts a **fixed frequency response** across the entire range **without roll-off**, faithfully and clearly reproducing the original sound information embedded in high-resolution audio sources.

	RS150B	RS151
ROSE NRA™ Filter	X	O

RS151 
Others 



Enhanced Processing Power with Next-Generation 8-Core CPU



	RS150B	RS151
CPU	4 Core Cortex-A53	8 Core RK3588
CPU Performance	4x Improvement	
GPU Performance	8x Improvement	
DRAM	4GB	8GB
eMMC	8GB	32GB
OS	Android 7.1	Android 12

2x I/O Speed

Seamless Playback of
Hi-Res, 4K HDR

3x Library Capacity
→ Over 1M tracks

Enhanced User
Convenience & Security

3.

Enhanced Processing Power with Next-Generation 8-Core CPU

- Equipped with the **next-generation 8-core CPU**, the RK3588, RS151 boasts **four times the data processing performance** and **eight times the graphics performance** compared to its predecessor. The **DRAM capacity** has been doubled **from 4GB to 8GB**, while the **eMMC storage** has been expanded **from 8GB to 32GB**, providing **processing speeds more than twice as fast**. This enables **seamless playback** of large audio files and **4K high-resolution videos with HDR**, while the **media library capacity** has tripled, supporting **over a million tracks**.
- Additionally, improved I/O bus performance offers **read/write speeds approximately twice as fast** as before, allowing for **quicker file transfers** and **faster response times during music playback** for a smoother listening experience. The newly integrated Android 12 OS further enhances user convenience and security, providing an intuitive and stable user experience.

4x

CPU

2x

I/O
Speed

8x

GPU

1M

Tracks

	RS150B	RS151
Resolution	HD 1280 x 255	FHD 1920 x 382
Size	14.9 inch	15.4 inch

4.

Full-Size Multi-Touch Display

The RS151 features HiFi ROSE's signature **full-size wide-viewing-angle display**, enhancing the appeal of **"Impression of sound enjoyed by eyes and ears"** to the fullest. Upgraded from 14.9 inches to 15.4 inches and from HD to Full HD, the display offers a generous screen size and superior resolution, reproducing album art and videos in stunning high quality. The **intuitive multi-touch screen panel** provides exceptional user convenience, while its high resolution and wide color gamut allow for detailed and vivid visual representation.

15.4"
Generous
Screen
Size

Full-Size
Wide-View
eDP LCD
Display

1920 x 382
Resolution



5.
Upgraded Connectivity with Advanced Features

	RS150B	RS151
ARC	ARC	eARC (24bit/192kHz uncompressed)
Trigger IN/OUT	X	O
Bluetooth	Dongle	SIG-certified module & proprietary antenna
Bluetooth Version	v4.2	v5.4
Bluetooth – aptX	X	O
COAX & AES/EBU Sampling Rate	◦ PCM - 24bit/192kHz ◦ DSD - DSD64	◦ PCM - 24bit/384kHz ◦ DSD – DSD128

Upgraded Connectivity with Advanced Features



eARC

The previously supported ARC via HDMI has been upgraded to **eARC**, allowing **uncompressed transmission** of high-resolution audio signals at **24bit/192kHz**. This enhancement enables the RS151 to deliver even more realistic and high-quality Hi-Fi sound through HDMI, bringing you closer to a true Hi-Fi experience.

Trigger IN/OUT

Through the **Trigger IN/OUT** ports and a monaural mini jack cable, the RS151 can receive **DC signals** ranging from **3.3V to 12V** to automatically power on the device or output a **12V** signal to **control the power of external audio equipment**. This allows for efficient power management of your system, **enabling centralized control** without the need to manually operate each device individually.



Upgraded Connectivity with Advanced Features



Bluetooth Module & Antenna

The RS151 integrates a **SIG-certified** Bluetooth module and a proprietary antenna, supporting the latest **Bluetooth® v5.4** specification. Built on the **Qualcomm QCC3083** chipset, this module features a high-performance **24-bit audio interface** and **aptX** codec, delivering high bitrates and exceptional sound quality. It also supports various profiles, including **A2DP, AVRCP, and IOPT**, ensuring a stable and premium wireless audio experience.

Hi-Res COAX & AES/EBU

With the ES9039PRO's significantly enhanced digital signal processing capabilities, the RS151 now officially supports **PCM 24bit/384kHz** and **DSD128** formats via **coaxial** and **AES/EBU** inputs.



Other Features

	RS150B	RS151
To DSD	X	Upto DSD512
Remote Control	Bluetooth	IR (Improved range & angle, paring X)

Upsampling

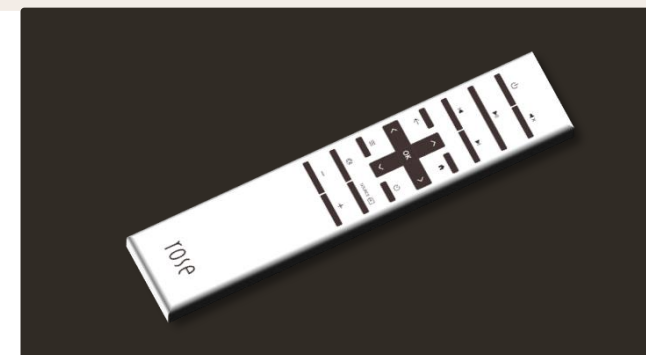
DSD512

To DSD512 Upsampling

The RS151 offers the ability to **convert PCM audio to DSD** and **upscale** it to a **maximum of DSD512** using the ROSE DPC™ module. This allows users to enjoy various PCM audio sources with the rich, unique sound characteristics of DSD. The high-resolution upsampling preserves the fine details of the original source while enriching the sound with depth and clarity tailored to user preferences.

IR Remote Control

Replacing the previous Bluetooth-based control, the RS151 now features an IR remote receiver. With less restrictions on range and angle and no need for pairing, the IR remote offers stable, intuitive control and enhanced user convenience.



Specification



Benchmark	Input Sensitivity	0dB 1kHz(Digital), 2Vrms(Analog)
	Output Impedance	2.84 Ω
	Output Level	9.0Vrms(XLR), 4.5Vrms(RCA)
	THD + N	0.0002%(XLR), 0.0003%(RCA) (1kHz, 0dB)
	Signal to Noise Ratio	131dB(XLR), 124dB(RCA)
	Dynamic Range	Max 150dB (CCITT filter)
	Stereo Crosstalk	Max -143dB, (20Hz-20kHz)
	Frequency Response	20Hz - 75kHz (+/-0.5dB)
Sampling Rate	PCM	44.1kHz~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	Octa core RK3588
	RAM	LPDDR4X 8GB
	GPU	ARM Mali-G610 MC4(OpenGL, Vulkan, OpenCL)
	DAC	ES9039 PRO(ESS)
	Oscillator	Highly Precise Femto Clock
Storage	Internal	eMMC Flash 32GB (System Use Only)
	External	3 × USB 3.0 Type-A 1 × 2.5" SSD(SATA 3.0, NTFS, exFAT)

Specification



Feature	CD Ripping	Support(By external USB CD Drive)	
Inputs	Digital	USB 2.0 Type-B Coaxial Optical AES/EBU HDMI eARC	PCM 32bit/768kHz, DSD512(22.6MHz) PCM 24bit/384kHz, DSD128(5.6MHz) (only DoP) PCM 24bit/192kHz, DSD64(2.8MHz) (only DoP) PCM 24bit/384kHz, DSD128(5.6MHz) (only DoP) PCM 24bit/192kHz
	Analog	Line In	
	Service	USB 3.0 Type-C	
Outputs	Digital	USB 3.0 Type-A Coaxial Optical AES/EBU I ² S-HDMI	PCM 32bit/768kHz, DSD512(22.6MHz) PCM 24bit/384kHz, DSD128(5.6MHz) (only DoP) PCM 24bit/192kHz, DSD128(5.6MHz) (only DoP) PCM 24bit/384kHz, DSD128(5.6MHz) (only DoP) PCM 32bit/768kHz, DSD512(22.6MHz)
	Analog	Unbalanced, Balanced	
	Video	HDMI 2.0 (4K UHD / 60Hz)	
Network	Connectivity	Ethernet WiFi Bluetooth	10/100/1000 BASE-T(1Port) USB Dongle 5.4 aptX (A2DP1.4, Sink, AVRCP v1.6.2)
	Streaming Protocol	Bluetooth, AirPlay, DLNA/UPnP, Roon Ready, Spotify Connect	
	Storage	SMB	
Power	Input Voltage	AC110V-120V~, 220V-240V~, 50/60Hz	
	Power Consumption	Standby	0.3W
		Idle	5W
Environmental		Playback	55W
	Operating °C	0~40°C	
	Storage °C	-10~50°C	
Physical	Display	15.4" TFT LCD & Capacitive Touch Screen (eDP)	
	Dimension	430(W) × 319(D) × 125(H) mm	
	Weight	11 kg	
	Material	Aluminum / Rust-proof Steel	
	Finish	Silver, Black	
	IR	38kHz IR Receiver	

Color



Black



Silver



THANKS