

Beyond Audio, **HiFi ROSE**



RS451

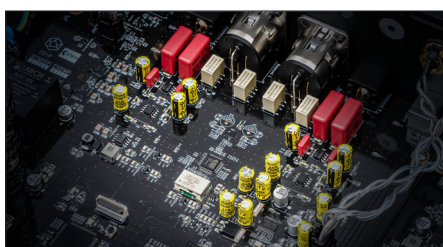
Master Fidelity Network Streamer



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Master Fidelity Network Streamer, RS451

The RS451 is HiFi ROSE's next-generation network streamer, integrating the brand's advanced digital audio technologies. It inherits the high-performance architecture of the flagship RS151, while offering practical usability and space efficiency optimized for desktop audio setups. Equipped with a high-performance ES9027PRO DAC, the RS451 applies separate DAC circuits for both pre-out and headphone output, delivering refined, high-end sound tailored to each listening environment. The pre-out section is designed with precision DAC circuitry to integrate seamlessly into high-end audio systems, while the dedicated headphone DAC is paired with four high-performance amplifiers to achieve precise impedance matching, low noise, and powerful driving performance. The RS451 is a network streamer that strikes a finely tuned balance of performance, design, and usability. It sets a new standard for audio experiences from HiFi ROSE.



Advanced DAC Architecture

The ES9027PRO used in the RS451 is a high-end 32-bit, 8-channel DAC chip designed with ESS's HyperStream® architecture, delivering precise performance optimized for Hi-Fi audio applications. It offers an impressive dynamic range of up to +124dB and a THD+N of 114dB, enabling delicate and clean sound reproduction. Supporting PCM up to 768kHz and DSD512, it ensures perfect compatibility with high-resolution audio formats. With seven built-in digital filters, users can fine-tune the sound signature to match their preferences. In the RS451, the DAC's eight channels are configured in a 4-channel parallel structure for stereo output, achieving even greater dynamic range and ultra-low noise performance.



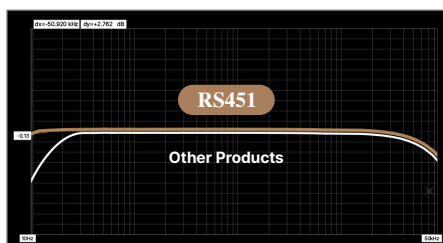
Advanced Headphone Amplifier Architecture

The RS451 is equipped with two ES9027PRO DACs, with one dedicated to the pre-out and the other to the headphone output. This ensures that the analog audio signal paths are completely separated. Each DAC has its own independent power supply and grounding, which effectively blocks interference and minimizes noise, resulting in clean audio output. The high-performance headphone amplifier section consists of four individually driven amplifiers that provide strong and stable output even for low-impedance headphones. The completely isolated power supply design for each channel helps suppress crosstalk, while the ultra-low-noise circuitry maintains linear response across the full frequency range. This design guarantees consistent driving performance under various impedance conditions and delivers outstanding transparency and tonal balance, even when playing high-resolution audio content.



Measured Precision in Headphone Performance

The RS451's headphone amplifier applies four high-output amplifier ICs in a parallel configuration, delivering stable drive capability even with high-impedance headphones exceeding 600Ω. Its ultra-fast slew rate of 1300V/μs minimizes signal distortion and enables highly responsive performance, accurately reproducing transients and dynamic changes in music. The THD+N remains consistently low across all impedance ranges, demonstrating the RS451's ability to deliver balanced, high-resolution sound with precision and clarity in any headphone environment.



ROSE NRA(Noise Reduction Analog)™ Filter

The analog stage of the RS451 features the ROSE NRA™ filter, which eliminates noise and enables flat frequency response even in the very low-frequency range. As a result, the RS451 maintains a consistent frequency characteristic across the entire spectrum without roll-off, delivering original sound information from high-resolution sources with clarity and fidelity.

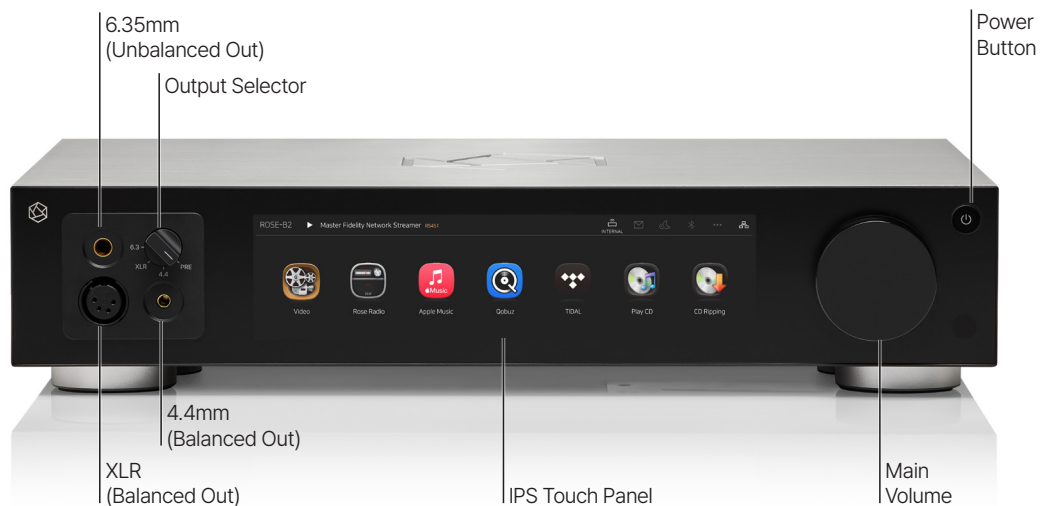


Enhanced Processing with Next-Gen 8-Core CPU

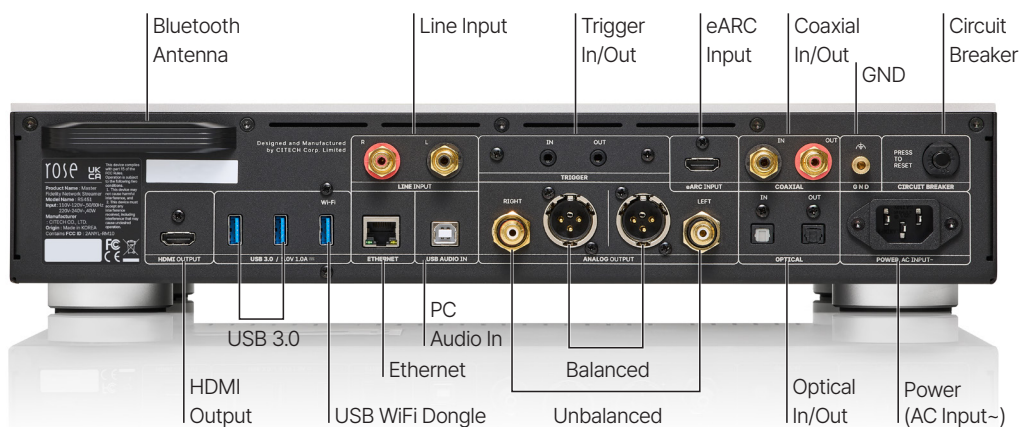
The RS451 features the next-generation 8-core CPU RK3588, offering a 4x increase in information processing performance and an 8x boost in graphics performance compared to its predecessor. In addition, the DRAM capacity has been upgraded from 4GB to 8GB, and the eMMC storage has been expanded from 8GB to 32GB, resulting in a processing speed that is more than twice as fast. This allows for smooth playback of large audio files as well as 4K high-resolution videos in HDR, while the media library capacity has grown by approximately three times, supporting over 1 million tracks.



• **Front**



• **Rear**



- Color



Silver



Black

- 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)				
	CPU		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		0.00087%	0.00076%	0.00037%	0.00038%
	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)					
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)				
Feature	CD Ripping	Support(By external USB CD Drive)				
Power	Input Voltage	AC 110–120V, 220–240V, 50/60Hz				
	Power Consumption	Standby	0.5W			
		Idle	5W			
		Playback	20W			
Physical	Protection	3A Thermal Circuit Breaker				
	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				