



Beyond Audio, HiFi ROSE

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Advanced Hi-Fi Audio System, HiFi ROSE

HiFi ROSE is a Hi-Fi audio system that can play MQS (Mastering Quality Sound), Hi-Res (Hi-Resolution, Japan Audio Society), and MQA (Master Quality Authenticated) without distortion.

The ROSE name guarantees pure and clean sound.

The current recording technology that has been developed through LPs, tapes, and CDs supports high-resolution music files which are 7 times larger than CD music files. Recording technology for mastering analog data without distortion is still evolving.

HiFi ROSE transforms high-resolution/high-quality digital sound recorded with the latest technology into analog without distortion, reproducing even the smallest parts of the original sound.

In addition, in step with the new audio era, it provides an environment where you can enjoy music and video at the same time, providing a sense of space and realistic sound as if you were in a concert hall. HiFi ROSE is continuing research and development to provide a variety of music services and a convenient environment for listening to high-quality audio.

Its unrivaled design, convenience, pure sound without distortion, and unique analog circuit design technology are recognized around the world.



Absolute True Fidelity DAC RD160

The RD160 takes every single detail of sound to a new level.

The precise design and innovative technologies of HiFi ROSE, all concentrated on our product RD160, will guide you into a world of purer and more genuine sound. The RD160 offers a digital processing core module that precisely processes digital signals, an architecture to separate digital and analog signals and convert them transparently and precisely without distortion, a fully balanced design to maintain the highest signal purity, three power supply units to independently supply power to each circuit for clearer and more dynamic sound, and even a noise filter to vividly convey the finest details of the sound. Discover the RD160 and elevate your audio experience to a whole new level.



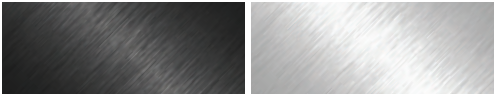


KEY FEATURES

- 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
- High-Precision OCXO Clock
- Lavish Internal Wiring with High-Purity OFC and OCC
- Fiber Optic USB Connectivity

DESIGN

- **Size** : 430 × 330 × 88 mm
- **Weight** : 10kg
- **Material** : Solid Aluminum, Rust-proof Steel
- **Color** : Black, Silver



MAIN FUNCTION

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

Absolute Pure Sound

Integrated Amplifier RA180

The RA180 is a state-of-the-art integrated amplifier using the latest innovative technologies. Power damping and dead times were reduced to 1/10 or less. Linearity was dramatically improved to create a near-perfect sound that transcends the boundaries between digital and analog. Enjoy the pure sound of nature provided by the RA180.





KEY FEATURES

- 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

DESIGN

- Size : 430 x 391 x 124 mm
- Weight : 16.7kg
- Material : Solid Aluminum, Rust-proof Steel
- Color : Silver

MAIN FUNCTION

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

Top-notch Master Integrated Amplifier RA280

The RA280 is an integrated amplifier that inherits the innovative technologies used in RA180. Enjoy pure natural sound as close to the original sound as you can get with the RA280, a near-perfect sound that transcends the boundaries between digital and analog technologies with excellent linearity achieved through strong power damping and short dead time. The RA280 offers a special listening experience that lets you feel the true essence of music.





KEY FEATURES

- 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

DESIGN

- **Size** : 430 × 355 × 103 mm
- **Weight** : 9.5kg
- **Material** : Solid Aluminum, Rust-proof Steel
- **Color** : Black, Silver



MAIN FUNCTION

In/Out Port	Analog In	LINE1, LINE2, LINE3, BALANCED, PHONO(MM)
	Analog Out	Sub Woofer
Speaker Out	4Ω	250W x 2ch (500W)
	8Ω	
Sub Woofer Out	Mono	1Vrms (2.218dBu)

Ultimate Network Transport RS130

The RS130 is a network transport which can be digitally connected to an external DAC product. It features Fiber Optic Ethernet and Fiber Optic USB connectivity, which effectively block digital noise, and also has a high-precision OCXO clock to optimize stable digital output. The RS130 supports external master clock input ensuring compatibility between devices in different usage environments and enabling playback of network audio at the highest level of sound quality. The RS130 is the first network transport developed by ROSE with a user-friendly lineup in mind, based on their unique design know-how and functions accumulated over many years.





KEY FEATURES

- 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

DESIGN

- **Size** : 430 x 317 x 125 mm
- **Weight** : 11.7kg
- **Front LCD** : 15.4" wide touch screen (Full HD quality)
- **Color** : Black, Silver



MAIN FUNCTION

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

High Performance Network Streamer RS150B

ROSE's flagship network streamer RS150B adds the impression of the original sound to the existing convenient streaming. With its strengths in spaciousness and dynamics, it is the best network player model on the market. Enjoy streaming by connecting your own amplifiers, receivers, and more with a wide range of digital and analog input/output options. You can easily embed an SSD and build a digital library by connecting it with mass storage devices such as NAS.





KEY FEATURES

- Flagship Network Streamer
- Network Transport + DAC
- Advanced DAC Design for Pure Sound with Low Noise and Distortion
- High-Resolution Music Playback (DSD512, PCM 32bit/768kHz)
- Highly Precise Femto Clock
- Linear Power Supply for Significant Noise Reduction

DESIGN

- Size : 430 x 318 x 124 mm
- Weight : 11 kg
- Front LCD : 14.9-inch wide angle touch screen
- Color : Black, Silver



CONNECTIVITY

- Bluetooth, DLNA, Airplay, Spotify Connect, Roon Ready

MAIN FUNCTION

Hi-Res	DSD	Native DSD 512
	PCM	32bit / 768kHz
In/Out Port	Digital In	USB 2.0 Type-B, Optical, Coaxial, AES/EBU, HDMI ARC
	Digital Out	USB 3.0 Type-A, Optical, Coaxial, AES/EBU, I2S-DVI, I2S-RJ45
	Analog In	Line In
	Analog Out	Unbalanced, Balanced
	HDMI Out	4K
Network Connection	Ethernet	10/100/1000 BASE-T
	WiFi	USB Dongle
	Bluetooth	USB Dongle V.4.2

Advanced All-In-One Network Streamer RS520

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.





KEY FEATURES

- 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

DESIGN

- **Size** : 346 × 328 × 127 mm
- **Weight** : 8.1kg
- **Front LCD** : 12.6" Wide LCD Touchscreen
- **Color** : Black, Silver



MAIN FUNCTION

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

Complete HiFi Network Streamer RS250A

RS250A with built-in high performance DAC(ES9028PRO) and Discrete OP AMP provides the best of wide bandwidth, separation and audio clarity. The wide LCD screen and multi-touch function provide a new audio device experience and add perfection for those seeking simplicity. The harmonious design of the stylish aluminum body, which emphasizes the same edge as the previous product, and the cool wide-view angle touch screen placed on the front side make your music space stand out even more. The power button and volume control knobs are designed with visual effects and practicality in mind, displaying the delicateness of ROSE.





KEY FEATURES

- 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

DESIGN

- **Size** : 278 x 231 x 83 mm
- **Weight** : 3.2 kg
- **Front LCD** : 8.8-inch wide angle touch screen
- **Color** : Black, Silver



CONNECTIVITY

- Bluetooth, DLNA, Airplay, Spotify Connect, Roon Ready

MAIN FUNCTION

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

HiFi ROSE USB Fiber Optical Hub RSA720

The RSA720 uses an optical USB to fundamentally block vibration and electrical noise from external storage devices and provides the best solution for reliable use by allowing multiple devices to be connected simultaneously with four independent USB ports.





KEY FEATURES

- 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

DESIGN

- **Size** : 152 × 153.5 × 33.5 mm
- **Weight** : 1.2 kg
- **Color** : Silver

CONNECTIVITY

- **Input** : USB 3.0 B-Type, SFP(10G)
- **Output** : USB 3.0-2ports, USB 2.0-2ports



HiFi ROSE CD Drive RSA780E

The RSA780E CD Drive for HiFi ROSE provides CD playback and ripping functions by connecting to RS201A, RS250, or RS150B products via USB. Increasing the weight of the CD drive to 900g guarantees stable CD rotation without shaking, and a built-in USB isolator significantly reduces rotation motor noise and electrical noise.





900g Solid Aluminium



Isolation, Normal Mode Switch

KEY FEATURES

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

DESIGN

- **Size** : 152 × 152 × 24 mm
- **Weight** : 0.9 kg
- **Color** : Silver

CONNECTIVITY

- **Rear** : USB B-Type

Innovative ROSE OS System

HiFi ROSE OS will show users a new way to enjoy music comfortably and easily. It provides a variety of ways to enjoy music and provides a library to conveniently manage your music files. You can create your own playlist and share it with your friends. ROSE OS will continue to develop through communication with customers and convergence with the latest technologies. New features and services are available to users through online updates.



TIDAL

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



Qobuz

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



ROSE Tube

You can enjoy all content and music on YouTube.



Apple Music App

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



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.



Audirvana

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



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.



ROSE Radio

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



Hi-Res Audio

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



File Manager

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



4K Video

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



MQA

Supports MQA's Full Decoder. Enjoy studio mastering sound quality.



Play CD

Play CDs by connecting an external USB CD-ROM.



Clock

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



CD Ripping

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



Music Library

Manage your music files under various categories, such as albums, artists, and genres.



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 iPhone, iPad, Android phone, 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, ROSE Tube, TIDAL, Qobuz, Bugs, Radio, Apple Music and CD Ripping.

Remote ROSE Connect includes the remote control function.

Search You can conveniently search for a variety of music in the Media Library.

Share with Friends

You can share your playlists with your friends or listen to music recommended by them. Communicate with your friends through music.

Media Library

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

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. Make a playlist on Music and ROSE Tube and check it out at Home - My Music.



• Specifications

Model NO.		RD160	
			
Benchmark	Input Sensitivity	0dBf 1kHz	
	Output Impedance	300Ω	
	Output Level	4.5Vrms(RCA), 9Vrms(XLR)	
	THD + N	0.005%(RCA), 0.005%(XLR) (1kHz 0dBf)	
	Signal to Noise Ratio	124dB(RCA), 124dB(XLR)	
	Residual Noise	0.3mV(RCA), 0.4mV(XLR)	
	Stereo Crosstalk	-124dB(RCA), -124dB(XLR) (1kHz 0dBf)	
	Frequency Response	10Hz ~ 20kHz (-0.3dB) 10Hz ~ 50kHz (-1.5dB) 10Hz ~ 73kHz (-3.0dB)	
Sampling Rate	PCM	8kHz~768kHz(8/16/24/32bit per Sample)	
	DSD	DSD64(2.8MHz)/DSD128(5.6MHz)/DSD256(11.2MHz)/ DSD512(22.6MHz)	
Technical	DAC	2 x AK4499EXEQ + 2 x AK4191EQ	
	PSU	3 x Independently Customized Reference Linear Toroidal	
	CPU	RK3128 Quad core Cortex-A7mp	
	RAM	DDR3 1866MHz 1GB	
	Flash	8GB eMMC	
	Oscillator	High Precision OCXO clock	
Inputs	Digital	USB SFP Module USB 2.0 Type-B HDMI I2S Coaxial RCA Coaxial BNC Optical AES/EBU	PCM 32bit/768kHz, DSD512(22.6MHz) PCM 32bit/768kHz, DSD512(22.6MHz) PCM 32bit/768kHz, DSD512(22.6MHz) PCM 32bit/384kHz, DSD128(5.6MHz) (only DoP) PCM 32bit/384kHz, DSD128(5.6MHz) (only DoP) PCM 32bit/192kHz, DSD64(2.8MHz) (only DoP) PCM 32bit/384kHz, DSD128(5.6MHz) (only DoP)
	External Clock	BNC 75Ω(10MHz), SMA 50Ω(10MHz)	
Outputs	Analog	Unbalanced, Balanced	
Feature	PCM Filter	Sharp Slow Short Sharp (default) Short Slow Super Slow Low Short	
	Pre-Out Level	1V~9V	
Power	Input Voltage	AC110V-120V~, 220V-240V~, 50/60Hz	
	Standby	0.3W	
	Playback	30W	
Environmental	Operating °C	0~40°C	
	Storage °C	-10~50°C	
Physical	Display	AMOLED hidden screen	
	Dimension	430(W) × 330(D) × 88(H) mm	
	Weight	10kg	
	Material	Solid Aluminum / Rust-proof Steel	
	Finish	Silver, Black	
	IR	38kHz IR Receiver	

Model NO.		RA180 (✳ Measurement Standard)		RA280 (✳ Measurement Standard)	
					
Design	Size	430(W) X 391(D) X 124(H)		430(W) X 355(D) X 103(H)	
	Weight	16.7kg		9.5kg	
	Body	Solid Aluminum, Rust-proof Steel		Solid Aluminum, Rust-proof Steel	
Power	Output Power	800W (SMPS) (✳ Maximum Output : 1100W)		500W (SMPS) (✳ Maximum Output : 600W)	
	Input Voltage	AC100-230V, 50/60Hz (✳ Standby Mode Power Consumption < 0.5W)		AC100-230V, 50/60Hz (✳ Standby Mode Power Consumption < 0.5W)	
Amplifier Output	4Ω	200W x 4ch (800W)		250W x 2ch (500W)	
	8Ω	200W x 4ch (800W)			
	BTL Mode On	400W x 2ch (800W) (✳ 400W x 2ch)		n/a	
Sub Woofer Output	Mono	1Vrms (2.218dBu)		1Vrms (2.218dBu)	
Input Sensitivity	Balance Input	2,000mV (✳ 200W x 4ch)		600mV (✳ 250W x 2ch)	
	Unbalance (Line1,2,3) Input	1,000mV (✳ 200W x 4ch)		335mV (✳ 250W x 2ch)	
	Phono Input	5mV/0.5mV (MM/MC) (✳ 200W x 4ch)		5mV (MM) (✳ 250W x 2ch)	
Input Impedance	Balance Input	44kΩ		47kΩ (MM)	
	Unbalance (Line1,2,3) Input	47kΩ			
	Phono Input	47kΩ (MM / MC)			
Bandwidth (✳ 8Ω Speaker Output)	Speaker Output	10Hz ~ 90kHz (✳ 100W x 2ch)	+0, ±3dB	20Hz ~ 20kHz (✳ 200W x 2ch)	+0, 0dB
				10Hz ~ 65kHz (✳ 200W x 2ch)	+0, -1dB
				10Hz ~ 80kHz (✳ 200W x 2ch)	+0, -3dB
	H/F Speaker Output	n/a			
Frequency Response (✳ 8Ω Speaker Output)	Speaker Output	10Hz ~ 90kHz (✳ 1W x 2ch)	+0, ±3dB	20Hz ~ 20kHz (✳ 1W x 2ch)	+0, 0dB
				10Hz ~ 66kHz (✳ 1W x 2ch)	+0, -1dB
				10Hz ~ 85kHz (✳ 1W x 2ch)	+0, -3dB
	H/F Speaker Output	n/a			
THD (Total Harmonic Distortion)	Balance & Unbalance(Line1,2,3) Input	0.005% (50W) (✳ 200W x 4ch)		0.007% (125W) (✳ 250W x 2ch)	
Damping Factor	Speaker & H/F Speaker Output	>150 (✳ 200W x 2ch)		>250 (✳ 250W x 2ch)	
S/N (Signal to Noise Ratio)	Balanced / Unbalanced / Phono	107dB / 105dB / 80dB (MM), 60dB (MC) (✳ 200W x 4ch)		109dB / 109dB / 85dB (MM) (✳ 250W x 2ch)	
Output Impedance	Speaker Output	53mΩ (✳ 200W x 4ch)		30mΩ (✳ 250W x 2ch)	
Subsonic Filter with On/Off Switch	-3dB	50Hz (✳ 1W x 4ch)		n/a	
Tone Control	Bass(100Hz) / Treble(10kHz)	±15dB (✳ 1W x 2ch(Speaker Output))		±15dB (✳ 1W x 2ch(Speaker Output))	
X-Over with On/Off Switch	HPF(-3dB)	600Hz ~ 6kHz (✳ 1W x 2ch(H/F Speaker Output))		n/a	
Phono	Turnover	Flat		500Hz (+13dB@100Hz) (✳ RIAA)	
		300Hz (+7.7dB@100Hz)			
		400Hz (+11.7dB@100Hz)			
		500Hz (+13dB@100Hz) (✳ RIAA)			
		700Hz (+14.5dB@100Hz)			
	Roll-Off	Flat		2.1kHz (-13.7dB@10kHz) (✳ RIAA)	
		1.6kHz (-16dB@10kHz)			
		2.1kHz (-13.7dB@10kHz) (✳ RIAA)			
		3.18kHz (-11dB@10kHz)			
		3.4kHz (-8dB@10kHz)			
6.36kHz (-5dB@10kHz)					
Signal In/Out on Rear	Trigger In	Trigger input voltage range: 3.3V ~ 12V		Trigger input voltage range: 3.3V ~ 12V	
	Trigger Out	Trigger output voltage: 12V		Trigger output voltage: 12V	
Remote Control	IR Input	38kHz Infrared Ray (Within 10m of Operating Distance)		38kHz Infrared Ray (Within 10m of Operating Distance)	

• Specifications

Model NO.		RS130	RS150B
			
Display		TFT LCD 15.4" 1920 × 382 pixels(eDP) Active area: 381.888 × 75.97mm / apacitive touch	14.9 inch Wide HD IPS Touch Screen LCD
OS		Customized Android 7.1 based ROSE OS	Customized Android 7.1 based ROSE OS
Size		430 (W) x 317 (D) x 125 (H) mm	430(W) x 318(D) x 124(H) mm
Weight		11.7kg	11 kg
Power		Input Voltage : AC100-120V, 220-240V, 50/60Hz Input Power : 40W	Input Voltage : AC100-230V, 50/60Hz Input Power : 55W
Audio	Supported Codec	WAV, FLAC, ALAC, AIFF, WMA, MP3, OGG, APE, DFF, DSF, AAC, CDA, AMR, APE, EC3, E-EC3, MID, MPL, MP2, MPC, MPGA, M4A	WAV, FLAC, ALAC, AIFF, WMA, MP3, OGG, APE, DFF, DSF, AAC, CDA, AMR, APE, EC3, E-EC3, MID, MPL, MP2, MPC, MPGA, M4A
	Supported Sampling Rate	PCM : 8kHz~768kHz (8/16/24/32bit per Sample) DSD : DSD64 (2.8MHz) / DSD128(5.6MHz) / DSD256 (11.2MHz) / DSD512 (22.5792MHz)	PCM : 8kHz~768kHz (8/16/24/32bit per Sample) DSD : DSD64 (2.8MHz) / DSD128(5.6MHz) / DSD256 (11.2MHz) / DSD512 (22.5792MHz)
	MQA	Full Decoding	Full Decoding
Video	Supported Codec	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@ level5.1 upto 4Kx2K@30fps)H.265/ HEVC (Main/Main10 profile@ level 5.1 High-tier upto 4Kx2K@60fps)	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@level5.1 upto 4Kx2K@30fps)H.265/ HEVC (Main/Main10 profile@ level 5.1 High-tier upto 4Kx2K@60fps)
	Supported Codec	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@ level5.1 upto 4Kx2K@30fps)H.265/ HEVC (Main/Main10 profile@ level 5.1 High-tier upto 4Kx2K@60fps)	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@level5.1 upto 4Kx2K@30fps)H.265/ HEVC (Main/Main10 profile@ level 5.1 High-tier upto 4Kx2K@60fps)
H/W	CPU	Hexa Core Dual-core Cortex-A72 up to 1.8GHz Quad-core Cortex-A53 up to 1.4GHz	Hexa Core Dual-core Cortex-A72 up to 1.8GHz Quad-core Cortex-A53 up to 1.4GHz
	Memory	LPDDR4 4G Byte	LPDDR4 4G Byte
	Flash	8GB High-Speed eMMC, Cache Memory: M.2 NVMe 256GB	8GB High-Speed eMMC
	GPU	Mali-T864 GPU, OpenGL ES 1.1/2.0/3.0/3.1, OenVG1.1, OpenCL, DX11	Mali-T864 GPU, OpenGL ES 1.1/2.0/3.0/3.1, OenVG1.1, OpenCL, DX11
	DAC	n/a	ES9038 PRO
	Oscillator	OCXO(Oven Controlled Crystal Oscillators)	High Precision Femto Clock
Pre Out	Output Level	n/a	6.5Vrms (Balanced), 2.2Vrms (Unbalanced)
	THD	n/a	0.0002% (Balanced, 1kHz 6.5Vrms), 0.0003% (Unbalanced, 1kHz 2.2Vrms)
	THD + N	n/a	0.0003% (Balanced, 1kHz 6.5Vrms), 0.0004% (Unbalanced, 1kHz 2.2Vrms)
	IMD	n/a	103dB (Balanced), 103dB (Unbalanced), SMPTE 4:1, 60Hz:7kHz
	Signal to Noise Ratio	n/a	121dB (Balanced), 118dB (Unbalanced), A-wt
	Dynamic Range	n/a	Max 132dB (CCITT filter)
	Stereo Crosstalk	n/a	Max -138dB, 20-20kHz
	Output Frequency Response	n/a	20Hz to 20,000 (+/-0.5dB)
	Input Impedance	n/a	n/a
Speaker Out	Output Impedance	n/a	50Ω
	Output Power	n/a	n/a
	THD + N	n/a	n/a
Signal to Noise Ratio	Signal to Noise Ratio	n/a	n/a
	Bluetooth	USB Dongle V.4.2	USB Dongle V.4.2 (A2DP Sink, AVRCP v1.3)
	WiFi	USB Dongle	USB Dongle
Network Connectivity	Ethernet	10/100/1000 BASE-T (SFP COPPER Type)	10/100/1000 BASE-T
	Digital In	n/a	USB 2.0 Type-B, Optical, Coaxial, AES/EBU, HDMI ARC
	Digital Out	USB 2.0 Type-A, Optical, Coaxial, AES/EBU, I2S-HDMI	USB 3.0 Type-A, Optical, Coaxial, AES/EBU, I2S-DVI, I2S-RJ45
In/Out Port	Analog In	n/a	Line In
	Analog Out	n/a	Unbalanced, Balanced
	Speaker Out	n/a	n/a
	Headphone Out	n/a	n/a
	HDMI Out	4K	4K
	MicroSD	n/a	MicroSD x 1
	SSD	SATA 3.0, SSD x 1 (NTFS, Supported protocol - FTP/WebDav)	SATA 3.0, SSD x 1 (NTFS, Supported protocol - FTP/WebDav)
	Clock In	BNC 75Ω, 50Ω	n/a
Storage	SATA	4TB	4TB
	USB	10TB	10TB
	MicroSD	n/a	400GB
	File System	NTFS / exFAT / FAT32	NTFS / exFAT / FAT32
Connectivity	Roos Ready	Support	Support
	Spotify Connect	Support	Support
	Streaming Protocol	Airplay / DLNA Service / Bluetooth	Airplay / DLNA Service / Bluetooth
	Network Storage	SMB / FTP / WebDav	SMB / FTP / WebDav
CD Ripping		Support (By External USB CD Drive)	Support (By External USB CD Drive)

Model NO.		RS520	RS250A
			
Display		12.6 inch TFT LCD & Capacitive Touch Screen (eDP)	8.8 inch TFT LCD & Capacitive Touch Screen (MIPI-DSI)
OS		Customized Android 7.1 based ROSE OS	Customized Android 7.1 based ROSE OS
Size		346(W) x 328(D) x 127(H) mm	278(W) x 231(D) x 83(H) mm
Weight		8.1 kg	3.2 kg
Power		Input Voltage : AC100-240V, 50/60Hz	Input Voltage : AC100-120V, 220-240V, 50/60Hz Input Power : 50W
Audio	Supported Codec	MQA, WAV, FLAC, AIFF, WMA, MP3, OGG, APE, DFF, DSF, AAC, CDA, AMR, APE, EC3, E-EC3, MID, MPL, MP2, MPC, MPGA, M4A, ALAC	WAV, FLAC, ALAC, AIFF, WMA, MP3, OGG, APE, DFF, DSF, AAC, CDA, AMR, APE, EC3, E-EC3, MID, MPL, MP2, MPC, MPGA, M4A
	Supported Sampling Rate	PCM : 8kHz~768kHz(8/16/24/32bit per Sample), Native DSD : DSD64(2.8MHz) / DSD128(5.6MHz) / DSD256(11.2MHz) / DSD512(22.4MHz)	PCM : 8kHz~768kHz (8/16/24/32bit per Sample) DSD : DSD64 (2.8MHz) / DSD128 (5.6MHz) / DSD256 (11.2MHz) / DSD512 (22.5792MHz)
	MQA	Full Decoding	Full Decoding
Video	Supported Codec	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@level5.1 upto 4Kx2K@30fps)H.265/HEVC (Main/Main10 profile@ level 5.1 High-tier upto 4Kx2K@60fps)	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@level5.1 upto 4Kx2K@30fps)H.265/HEVC (Main/Main10 profile@ level 5.1 High-tier upto 4Kx2K@60fps)
H/W	CPU	Hexa Core Dual-core Cortex-A72 up to 1.8GHz Quad-core Cortex-A53 up to 1.4GHz	Hexa Core Dual-core Cortex-A72 up to 1.8GHz Quad-core Cortex-A53 up to 1.4GHz
	Memory	LPDDR4 4G Byte	LPDDR4 4G Bytes
	Flash	8GB High-Speed eMMC	8GB High-Speed eMMC
	GPU	Mali-T864 GPU, OpenGL ES1.1/2.0/3.0/3.1, OpenVG1.1, OpenCL, DX11	Mali-T864 GPU, OpenGL ES 1.1/2.0/3.0/3.1, OenVG1.1, OpenCL, DX11
	DAC	ES9038 PRO	ES9028 PRO
	Oscillator	High Precision Femto Clock	High Precision Femto Clock
Pre Out	Output Level	2Vrms (Unbalanced)	Max 2.2Vrms , Unbalanced
	THD	n/a	0.00028%(1kHz 2.25Vrms Unbalanced Output)
	THD + N	0.00033%, 1kHz, 600Ω, 2Vrms	0.0003%(1kHz 2.25Vrms Unbalanced Output)
	IMD	0.023% (SMPTE4:1, 60Hz~7kHz)	n/a
	Signal to Noise Ratio	124dB, 1kHz, 600Ω, 2Vrms	122dB(A-wt)
	Dynamic Range	n/a	Max 135dB(CCI TT filter)
	Stereo Crosstalk	n/a	Better than -137dB, 20Hz ~20kHz
	Output Frequency Response	10Hz ~ 83kHz	17Hz ~80kHz, ±1dB
	Input Impedance	n/a	100kΩ
	Output Impedance	50mΩ	150Ω
Speaker Out	Output Power	250W + 250W @ 8Ω, 4Ω	n/a
	THD + N	0.007% @ 50W, 0.01% @ 100W, 0.1% @ 250W, x2/8Ω	n/a
	Signal to Noise Ratio	109dB, 1kHz, 8Ω, 250W	n/a
Network Connectivity	Bluetooth	USB Dongle V.4.2	V4.0 / V3.0+HS (A2DP Sink, AVRCP v1.3)
	WiFi	USB Dongle	802.11 a/b/g/n/ac (2.4GHz/5GHz)
	Ethernet	10/100/1000 BASE-T	10/100/1000 BASE-T
In/Out Port	Digital In	USB 2.0 Type-B, Optical, Coaxial, HDMI eARC	USB 2.0 Type-B, Optical, Coaxial
	Digital Out	USB 3.0 Type-A, Optical, Coaxial	USB 3.0 Type-A, Optical, Coaxial
	Analog In	Line In	Line In
	Analog Out	Unbalanced	Unbalanced
	Speaker Out	250W x 2ch(4Ω, 8Ω)	n/a
	Headphone Out	n/a	3.5mm
	HDMI Out	4K	4K
	MicroSD	n/a	n/a
	SSD	SATA 3.0, SSD x 1 (NTFS, Supported protocol - FTP/WebDav)	SATA 3.0, SSD x 1 (NTFS, Supported protocol - FTP/WebDav)
	Clock In	n/a	n/a
Storage	SATA	4TB	4TB
	USB	10TB	10TB
	MicroSD	n/a	n/a
	File System	NTFS / exFAT / FAT32	NTFS / exFAT / FAT32
Connectivity	Roon Ready	Support	Support
	Spotify Connect	Support	Support
	Streaming Protocol	Airplay / DLNA Service / Bluetooth	Airplay / DLNA Service / Bluetooth
	Network Storage	SMB / FTP / WebDav	SMB / FTP / WebDav
CD Ripping		Support (By External USB CD Drive)	Support (By External USB CD Drive)



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