



User Manual

SDA-1 DAC & Headphone Amplifier



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Don't Be a Stranger

Thank you for purchasing the Gato Audio SDA-1 DAC & Headphone Amplifier. We are absolutely confident that it will bring you many hours of listening pleasure.

We hereby cordially invite you to join the Gato Audio family by registering your product online. For new products, we offer to extend your factory warranty by three years on top of the two years we provide by law - in total five years warranty - if you choose to register. It's fast and easy and you can do it by typing this address into your internet browser or scan this code:



www.gato-audio.com/product-registration

You may also consider signing up for our newsletter to receive information about exciting new products, events and technical updates.

We are also present on several social media like Facebook, X, Instagram and LinkedIn. Tag your new Gato Audio gear with #gatoaudio. We would love to see it!

All this and more at www.gato-audio.com

Our very best,

Gato Audio

Package Contents

Please check that the following is included in the package:

- 1 Gato Audio SDA-1 DAC & Headphone Amplifier
- 1 Mains cable
- 1 Gato Audio SDA-1 remote control (RC-7)
- 1 CR2032 3 V battery
- This manual 😊



Safety First!

Mains Plug and Cable:

- Only use mains cables that adheres to safety standards - like the one included with this unit.
- Insert the mains plug fully into the mains outlet socket.
- Do not defeat the ground connection.
- Do not move the unit around while it is connected to mains.
- Do not place heavy objects on the mains cable or place the cable near high-temperature objects.
- Do not use damaged mains plugs or socket outlets.

Liquids:

Electricity and liquids are not a safe combination, therefore:

- When cleaning the unit, remove the mains plug.
- Do not handle the mains plug with wet hands.
- Do not spray any liquid directly onto the unit.
- Do not place liquid containers above or near the unit.
- Keep liquids away from the unit.

...And:

- This is not a toy and should not be handled like one (by children OR adults).
- Do not remove the covers of the unit (for service see page 14).
- Do not attempt to put foreign objects inside the unit (for service see page 14).
- Do not cover the unit with cloth, while it is connected to mains.
- Do not place the unit on sloped or unstable surfaces.
- When the unit will not be used for a long time, remove the mains plug.
- Never connect or disconnect cables when the unit is switched on.
- This unit is made for indoor temperature (15-25°C or 59-77°F). If it has been exposed to cold temperature, let it adjust itself to indoor temperature before use.
- Make sure that your unit is able to breathe by securing a minimum safe distance around the heat sinks of 100 mm or 4 inches.



About the SDA-1

General design

The SDA-1 is a sophisticated D/A converter, headphone amplifier and preamplifier with optional streaming capabilities. It has been designed with maximum sonic performance and flexibility in mind and features several digital inputs and even an unbalanced input for your analog source.

The line output can either be set at a fixed level in the use as a source component for your Hi-Fi system or variable to drive a power amplifier directly. The use and functionality of the SDA-1 are multiple and configurable to your exact needs.

Individual power supplies for the delicate analog and digital circuits secures a healthy separation of audio and logic. The SDA-1 features low noise voltage regulators and a well designed discrete analog output circuit that secures the best performance for your high end system.

SABRE DAC

The SDA-1 features the ESS9038PRO chip, as it has become the industry standard for the very best and most expensive DAC's and CD players on the market - and for good reason. A careful implementation utilizing a super precise femto clock, seven low noise voltage regulators and refined analog circuits, we managed to obtain a sonic performance that is unbelievably detailed and yet musical and smooth.

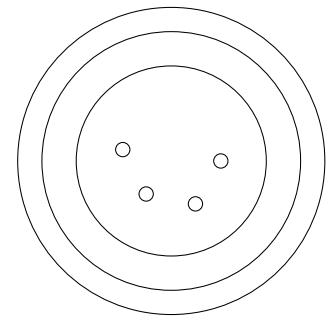
Dedicated Headphone Amplifier

Enjoy the intimacy of the digital sources, the analog input, or the optional streaming features directly into a pair of quality headphones via the front mounted 6,3mm unbalanced headphone jack or the balanced 4pin XLR connector. Both outputs offer a separate and discrete MOSFET headphone amplifier with an analog volume control and offers top notch performance.

Optional NPM-2 Streaming Module

A dedicated Roon Ready network streamer module can be fitted within the SDA-1. It offers TIDAL and Spotify Connect, Qobuz, internet radio and more, via Wi-Fi or LAN. The NPM-2 furthermore features a high quality LDAC enabled Bluetooth connection.

Balanced

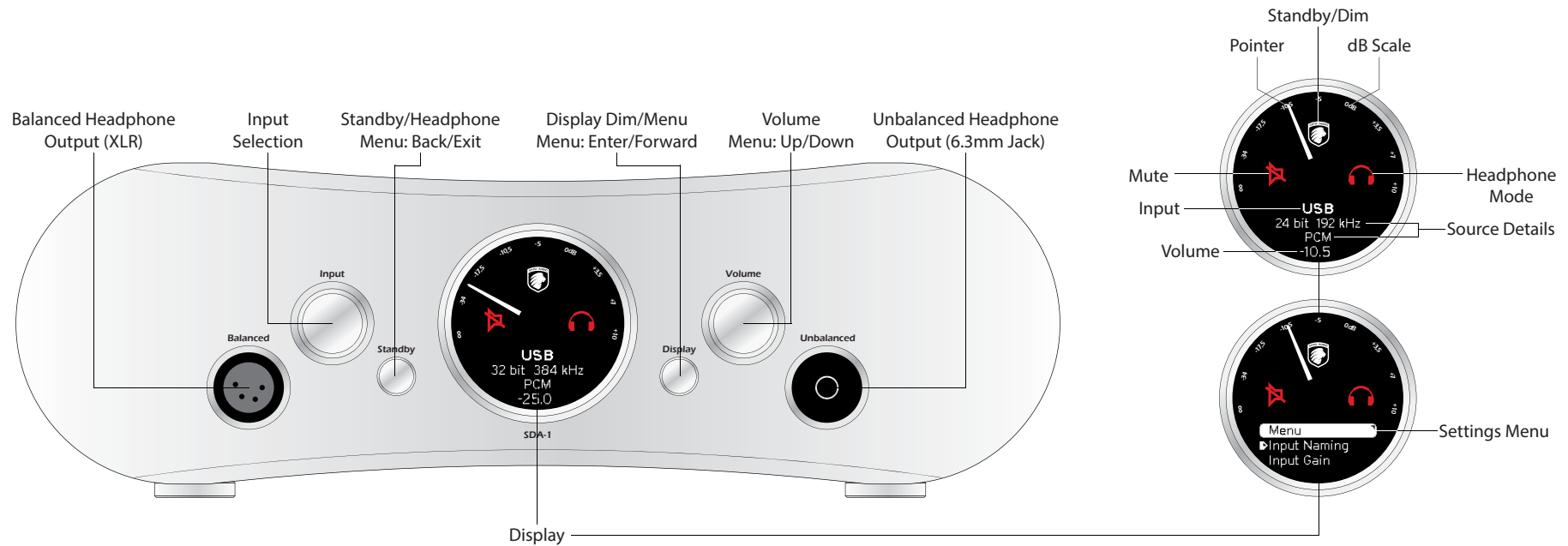


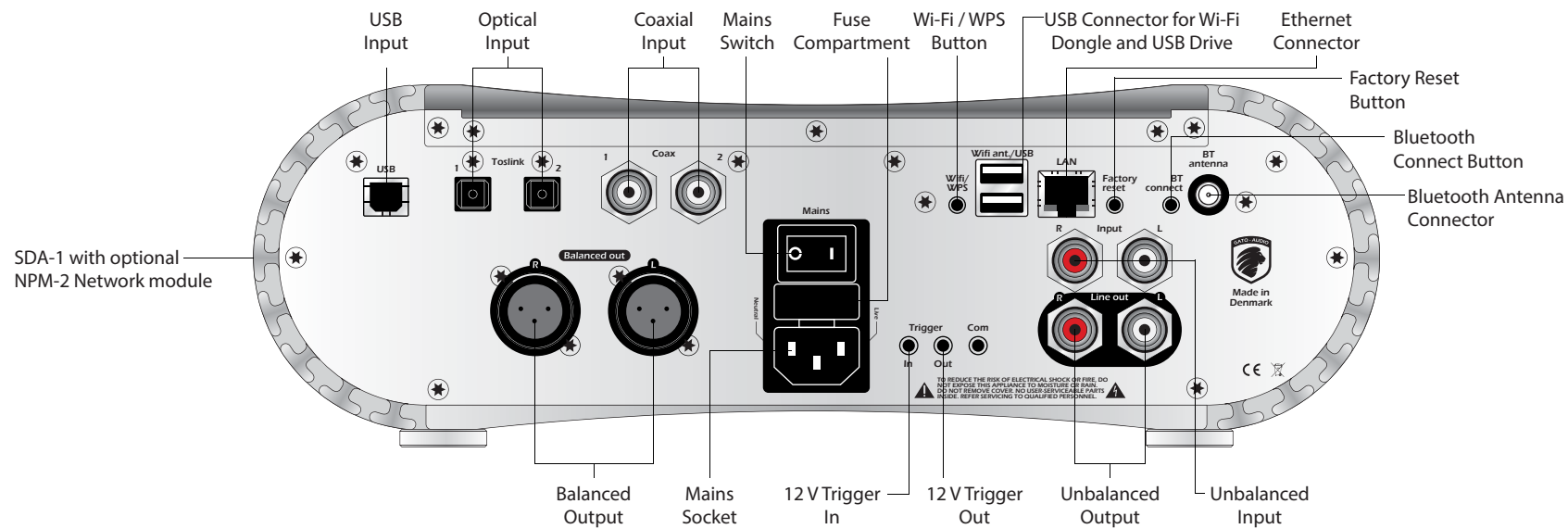
Setting Up Your SDA-1

Basic Connection

Follow these steps for setting up your system in this sequence:

1. Place the SDA-1 as per the instructions on page 4.
2. Connect digital and analogue sources as well as outputs to your amplifier.
3. Connect mains power cable to the SDA-1 and turn it on.
4. Select the desired input and volume setting. Enjoy!





How Does it Work?

Basic Functionality

Power On & Standby


Use the mains switch on the back of the unit to turn it on. The SDA-1 will now commence boot sequence that takes about 15 seconds to complete. When the red logo in the display stops flashing and becomes permanent red, the SDA-1 is in standby mode.

Exit standby and turn on the SDA-1 by pressing the Standby button on the front panel or the On button on the remote.



Adjusting Volume

Turning the volume control knob clockwise increases the volume. Turn it counter-clockwise to decrease the volume. The volume can also be adjusted by pressing the + or - button on the remote control.



Mute

For complete silence simply press Mute  button on the remote control. Press the button once more to return to the previous volume level.

Headphone Mode

Headphone mode turns off the line outputs and activates the headphone outputs. Long press Standby on the front panel or press  on the remote control. To exit the headphone mode long press Standby on the front panel or press  on the remote control.

Input Selection

Use the Input selection knob on the front panel to select between the different input channels. Inputs can also be selected with the remote by pressing the direct input selection buttons or the  or  buttons.

Display Dim

The display can be dimmed by pressing the Display button on the front panel or remote control. The display is now turned off except for one LED indicating the dimmed display

state. Whenever a change is made to the settings of the SDA-1, such as adjusting volume or changing input, the display will light up shortly, showing the change that is being made. Press either of the buttons again to exit display dimming mode.

Power Off

To put the SDA-1 in standby press the standby button on the front panel or the Off button on the remote control.

Menu Settings

Enter & Exit Settings Menu

Long press the Display button on the front panel or press the Menu button on the remote control to enter the Settings Menu. To exit the Settings Menu long press Standby button on the front panel or long press the Display button on the remote control.

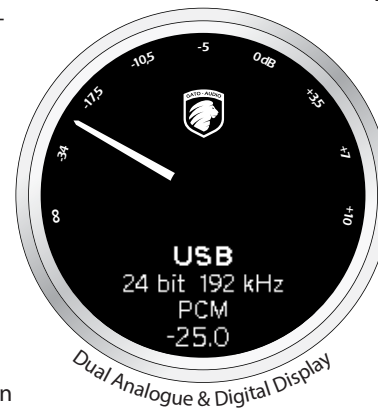
Navigating the Settings Menu

To scroll up and down in the menu use the volume knob or the + and - button on the remote.

To enter or select press Display button on the front panel or Menu on the remote control.

To go one step back press Standby on the front panel or Display on the remote control.

To exit menu long press Standby on the front panel or long press Display on the remote control.



Input Naming

Each input name can be customized. In the Input Naming Menu, use the volume knob or + and - on the remote to scroll through letters and numbers. Press Display on the front panel or Menu on the remote control to select a letter/digit. To go back one letter/digit, press Standby on the front panel or Display on the remote.

To reset or clear the input name to default, long press the Display button the front panel or the Menu button on the remote. Exit by pressing Standby button on the front panel or the Display button on the remote or dial the input selection knob to change the name of another input. You can also change the input with the direct input selection buttons on the remote.

Input Gain

Each input can be set to a specific gain to align volume levels of all connected sources. In the Input Gain Menu, select the input to be adjusted by turning the Input knob or using the direct input selection buttons on the remote. Then use the volume knob or + or - keys on the remote to scroll through the gain settings. Gain can be adjusted from -10 dB to +10 dB in 0,5 dB steps for each input. When set, select a different input to adjust or go back by pressing the Standby button on the front panel or Display on the remote.

Input Status

Inputs that are not in use can be removed from the input selection list in the Input Status Menu. Select the input to be set by turning the Input knob or press direct input selection buttons on the remote. Then use the volume knob or + or - on the remote control to select Disable or Enable for each input. When done, select a different input to be set or go back by pressing the Standby button on the front panel or Display on the remote.

Output Settings

As standard the SDA-1 is set up with variable output level. If the SDA-1 should be used as a fixed output source, the output can be changed in the Output Menu. Choose Output type and select Variable or Fixed. Press Standby on the front panel or Display on the remote to return to the Output Menu and select Fixed Level to adjust the fixed output level setting to your liking.

Oversampling Filter (PCM)

A custom selection of filter alignments are available in the DAC Settings Menu. Choose your preferred filter by scrolling through:

- Brickwall
- Hybrid - fast Roll-off
- Apodizing - Fast Roll-off
- Slow min. phase - Minimum phase, slow roll-off
- Fast min. phase - Minimum phase, fast roll-off
- Slow lin. Phase - Linear phase, slow roll-off
- Fast lin. Phase - Linear phase, fast roll-off

IIR Filter (DSD)

In the IIR Filter Menu use the volume knob or + or - on the remote to scroll through the values. Exit by pressing the Standby button on the front panel or Display on the remote.

- 47.44kHz
- 50kHz
- 60kHz
- 70kHz

Read more details about the filters on our website.

Large Volume Read Out

The SDA-1 will momentarily display the changes of volume setting in large digits for easy visibility on distance. This function can be disabled or enabled in the Large Volume Menu in Other Settings. Use the volume knob or + or - on the remote control to select Disable or Enable. Exit by pressing the Standby button on the front panel or Display on the remote.

Factory Reset

Factory reset will change all settings of the SDA-1 to default. Go to Other Settings and choose Factory Reset. Confirm with the Display button on the front panel or the Menu button on the remote.

Software Version Read Out

In the case of service, it can be useful to have the software version read out. Select software version from the Other Settings menu. Exit the Settings Menu by long press on Standby button on the front panel or long press the Display button on the remote.





USB
32 bit 384 kHz
PCM
-25.0



RC-7 Remote Control

The RC-7 is an infrared remote control for the Gato Audio SDA-1.

How to insert/replace the battery

The RC-7 runs on a standard CR2032 3 V button battery.

1. Remove the small lid on the bottom side of the remote
2. Insert or replace the CR2032 3 V button battery
3. Reinstall the small lid on the bottom side of the remote

Functions

On/Off

- Press the On button to exit standby and Off to enter standby.

Display

- Press the Display button to dim or undim the display. Press Display to exit in the Settings Menu.

Mute

- Press the Mute button to mute the amplifier. Press it again to return to the previous volume level.

Headphone

- Press the button to enter and exit headphone mode.

Volume + -

- Press the + to increase volume and - to decrease volume and navigate in the Settings Menu.

Menu

- Press the Menu button to enter the Settings Menu and for enter and step forward in the Settings Menu.

Next/Previous input

- Press the  or  to change input channel.

Analogue Input

- Press the **Input** button to select the analogue input.

Digital Inputs

- Press the **USB**, **Tos 1**, **Tos 2**, **Coax 1**, **Coax 2** button to select a digital input.
- Press the **Net** or **BT** button to select a digital input. Only available with NPM-2.

Previous Track

- Press the  to select the previous track. Only available for the Net Input.

Play / Pause / Stop

- Press the  to play/pause a track. Only available for the Net Input.

Next Track

- Press the  to slip to the next track. Only available for the Net Input.



Troubleshooting

The SDA-1 will not power up:

- Check the mains plug is securely fastened in the socket and the mains switch is on.
- Check there is power in the mains plug you are using.
- Check the mains fuse in the small compartment above the mains socket.

There is no sound coming from the speakers:

- Check that mute function is not activated.
- Check that the headphone mode is not activated.
- Check connections to your source, power amplifier and speakers.
- Check that sound is coming from your source.
- Check that signal can pass through the power amplifier.

There is no sound in the headphones:

- Check that the headphone mode is activated.
- Check that the headphone jack is securely fastened and pushed all the way into the socket on the front of the SDA-1.
- Check that the headphone cable is not damaged and well connected to the headphone itself.
- Check that sound can come from the speakers to ensure that the source is coming through the SDA-1.

There is no light in the display:

- Check that the display is not dimmed. Press the display key on the front panel or the remote to activate and deactivate the display.

No sound is coming through USB:

- Check that your source is set up correctly, if you are using a computer or server, please check the correct output device is selected in the computer or server menu.
- Check the cable and that it is securely fastened at both ends.

Make it Last!

Please apply simple common sense to maintain the sound quality and lifespan of your new Gato Audio SDA-1. Here are a few guidelines:

- Regular care: Wipe the surfaces carefully by using a clean soft dry cloth.
- Cleaning: If necessary, wipe the hard surfaces clean using a soft cloth dampened with window cleaning detergent. Then wipe the surfaces dry using a soft dry cloth.
- Be careful never to use hot water or any type of concentrated detergent, solvent, thinner, or any other volatile substance on the surfaces, or you may cause permanent damage to the surface coating.
- Keep the cabinet away from prolonged contact with rubber or PVC materials.
- Do not expose the amplifier to direct sunlight or other heat sources.

If All Else Fails...

...don't panic! Every Gato Audio product comes with a minimum 2-year warranty. You can also register your new product on our website and extend the factory warranty by three years to five years in total. Scan the code or type this address into your browser:

www.gato-audio.com/product-registration

This warranty does not cover damage or wear directly or indirectly caused by improper use, violence, tampering with or unauthorized access to or servicing of any part of the product.

If you are in need of service or repair, please do not hesitate to contact us at hello@gato-audio.com or visit our website www.gato-audio.com for more information.

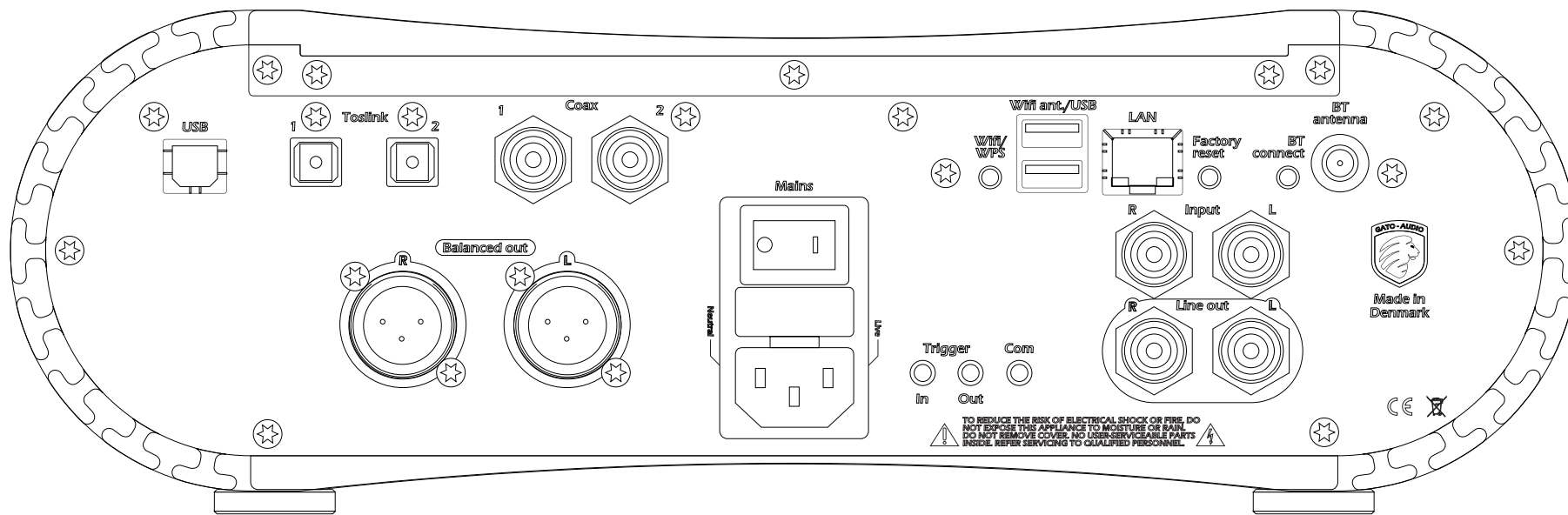


Technical Specifications

Output Level 0 dB (Digital Sources)	2.2 V Unbalanced, 4.4 V Balanced	Headphone	
Maximum Output Level (Analog Source)	7 V Unbalanced, 11 V Balanced	Output Impedance	1 Ω
Frequency Response	20Hz - 20kHz - 0.3 dB	Unbalanced Output	1W @ 33 Ω , 600 mW @ 50 Ω , 420 mW @ 100 Ω ,
THD+N	0.002%		200 mW @ 300 Ω , 120 mW @ 600 Ω
Signal to Noise Ratio (A Weighted)	117 dB	Balanced Output	3 W @ 33 Ω , 2.8 W @ 50 Ω , 1.9 W @ 100 Ω ,
Analog Input	8 V Max		850 mW @ 300 Ω , 460 mW @ 600 Ω

Connectors		Size & Power	
Unbalanced Analogue Input	1 pair of gold plated RCA	Power Requirements	115 VAC or 230 VAC, 50 Hz/60 Hz
USB Input	1 pc USB type B	Fuse	20 mm sand-filled, 1,6 AT
Toslink Input	2 pcs Optical	Power consumption stdb/idle/max	< 1 W / 30 W / 60 W
SPDIF Input	2 pcs gold plated RCA	Dimensions (WxHxD)	325 x 105 x 396 mm / 12.8 x 4.1 x 15.5"
Unbalanced Analogue Output	1 pair of gold plated RCA	Weight	10 kg / 22 lb
Balanced Analogue Output	1 pair gold plated XLR Neutrik		
Unbalanced Headphone Output	1 pc 6,3 mm jack (with volume control)		
Balanced Headphone Output	1 pc gold plated XLR Neutrik (with volume control)		
Trigger, 12 V - In	1 pc mini jack		
Trigger, 12 V - Out	1 pc mini jack		





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