ENGLISH

Dear Audiophile,

Congratulations and thank you for choosing AAdac. You're now the owner of a unit that establishes a new reference in the category of high-quality and high-versatility stereophonic products. AAdac provides circuital solutions with no compromises and features capable to satisfy advanced users' demands. We built our D/A converter with a wide possibility of connections, high-performance circuits with very low distortion and very low noise, separated circuit sections for digital and analog sections and for each channel, linear power supply and high-quality passive components. AAdac is no only a DA converter, but also a fully balanced preamplifier and a high quality headphone amp. AAdac solutions make the unit a valuable and durable investment.

Music may increase the quality of our life, giving us relax and emotions. Our dream is to playback music the best possible way. It's a love choice.
AUDIO ANALOGUE projects, produces and sells high-fidelity audio units. Its staff of electronic engineers builds highly refined technologic units.
Each unit is tested through a sound panel that connects the prototypes to a wide range of audio and video products helping our engineers to finely tune them.
Our designer creates the unit's outfit: our houses get richer every day, why shouldn't we place beautiful and exciting objects in it?
AUDIO ANALOGUE products are distributed worldwide and we provide a competent and accurate technical support.

AAdac overview

1. High performance D/A converter stage up to 32bit/768Khz using Sabre ES9038
2. Amanero USB converter up to 32bit/384KHz and native DSD up to 512
3. 7 different selectable digital filters
4. SPDIF(up to 24bit/192KHz), Toslink(up to 24bit/96KHz), AES/EBU(up to 24bit/192KHz) digital inputs
5. Bluetooth aptX® high quality audio wireless input(up to 16bit/48KHz)
6. Separate boards for each stage
7. Separate power supplies dedicated to digital and analogue sections
8. Fully balanced and discrete audiograde components output stage to perfectly support ultra-low noise and ultra-low distortion digital stage
9. High quality headphone output
10. Possibility to use in direct(DAC) or volume regulated mode(DAC + preamp)

INTRODUCTION

AF GROUP SRL, owner of AUDIO ANALOGUE brand and manufacturer of AUDIO ANALOGUE products does not take any responsibility in the following cases:

Whenever the operational procedures related to the use and maintenance of the unit as described in this manual are not respected.

Whenever damages occur to the unit because of fixing and modifications made by non-authorized personnel or because of normal deterioration of the system.

No part of this manual can be reproduced by any means, transmitted or copied for private or public use without prior authorization from AF GROUP SRL.

The information contained in this manual are related to the data kept by AF GROUP SRL at the moment of the issue of this publication; AF GROUP SRL has the right to make changes to this document without prior notice.

The unit has been projected and manufactured according to meet the EC guidelines for obtaining the

CE

mark at the time of printing. The necessary tests were carried out with a positive result.

This unit cannot be used for different purposes other than those for which it has been manufactured.

AF GROUP SRL does not take any responsibilities for accidents or damages due to improper use of the unit.

WARNING:Please do respect the safety standards contained in this manual before starting to operate the unit.

Do not open the unit. No further operations than those described in this manual should be made. For technical assistance, please always contact your AUDIO ANALOGUE retailer or AF GROUP SRL directly. Not respecting the instructions contained in this manual will invalidate the terms and conditions of the guarantee.

NECESSARY PRECAUTIONS FOR SAFETY AND MAINTENANCE

ATTENTION: before starting any operation, use or maintenance of the equipment, it is strictly necessary to carefully read the present manual.

To avoid any accidents or hazards it is necessary to follow the instructions below.

Activate the unit only after checking if the installation has been properly made according to the instructions contained in this manual.

Avoid installing the unit in places subjected to extremely high temperatures or humidity.

Do not place the unit on carpets or other soft surfaces. Installing the unit near radiators or in closed environments without ventilation should also be avoided.

Do not turn on the unit until it has not been correctly and completely installed, only supply the unit with the kind of voltage indicated on the voltage label. If you are in doubts about the kind of voltage available, please consult an expert technician for technical assistance.

The unit needs to be plugged to an ground connected inlet. The case of the unit is metallic, if ground connection is missing, it may result dangerous.

In case damages occur to the power cable, it should be immediately replaced with a cable of the same kind. This operation should be made only after unplugging the unit from the main power.

Do not place objects on the power cable and check that it is not positioned in way through. The cable should not be knotted or curled.

Always replace the fuses with others of the same kind.

Do not use the unit close to the water or other liquids. If liquid leaks into the unit, the plug should be disconnected from the socket avoiding touching the metallic parts. Competent technical staff should be asked to check the unit before operating it again.

Do not place recipients containing liquids on the unit, even when it is switched off.

Keep the equipment far from heat sources, such as direct sunlight, kitchens, radiators etc…

Always unplug the power cable during thunderstorms.

Always switch the unit off and unplug the power cable before cleaning the case: this operation should be made using a dry and soft cloth. Never use alcohol-based cleaning material.

If the AAdac is carried from an extremely cold environment to and extremely hot one, it could create internal condensation, causing possible bad functioning.

If this occurs, please wait for at least an hour before using the AAdac again, to allow it to gradually reach room temperature.

When not used for long periods, please unplug the unit by the mains.

INSTRUCTIONS TO PUT IT OUT OF SERVICE
Contact qualified personnel. Follow the regulations of the current legislation regarding recycling and waste disposal.

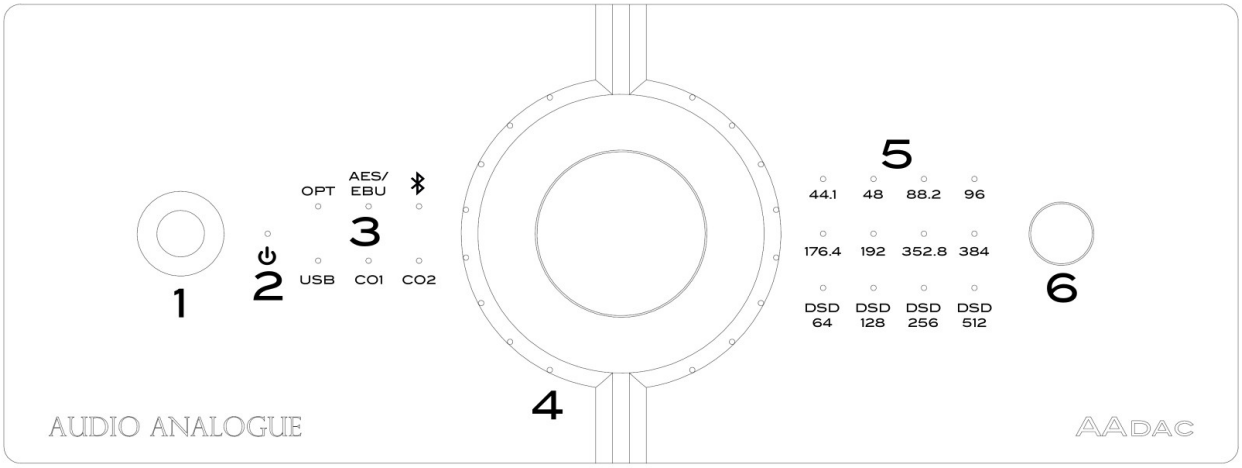
UNPACKING AND CHECKING PACKAGE
Carefully open the package to avoid damaging the content. The package should contain:

- AAdac.
- Power cord.
- Remote control(2 x AAA batteries already installed)
- 2.4GHz Antenna
- USB cable
- Owner's manual + warranty card

If one of the items listed above is missing, please contact your Audio Analogue retailer. After extracting the smallest items from the package, pull out the unit carefully. Separate the package from the anti-shock expanded-foam protections.

WHERE TO PLACE THE AADAC
The AAdac is a complex unit that may generate heat. Please locate the unit in a well-ventilated place. In particular, **leave at least 30 cm above the unit and avoid placing it close to heat sources (radiators, heaters, preamplifiers, television sets).**

FRONT PANEL



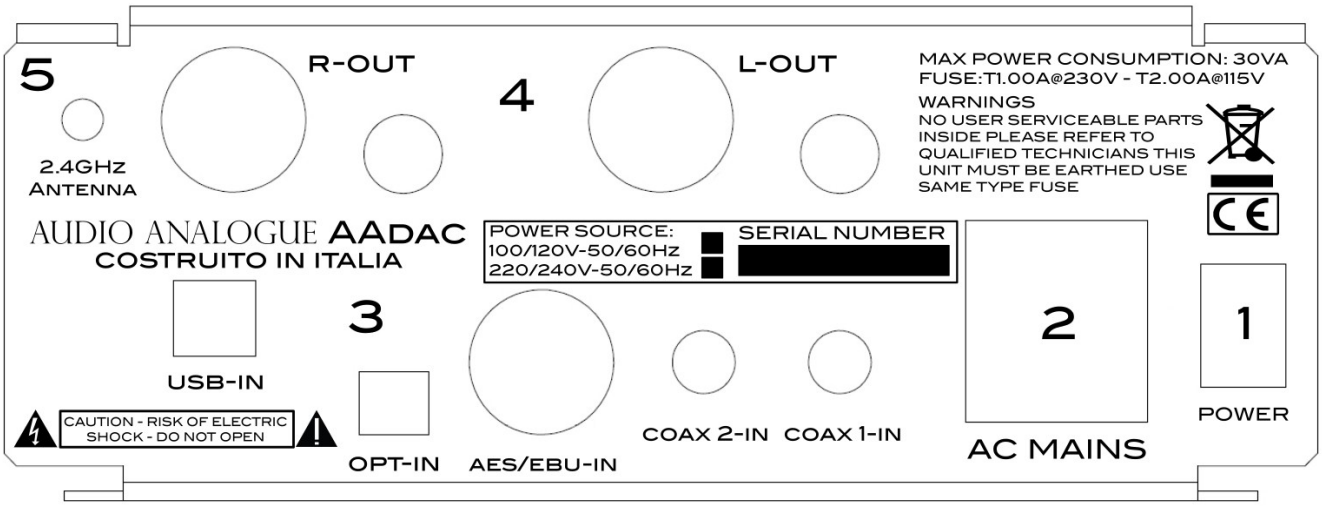
The front panel has 35 leds. The silkscreen close to each led explain its function. Starting from the left we have:

1. IR receiver
2. Stand by – Red led is on when the is in standby. It's off when the AAdac is working or totally off (rear switch off).
3. Input's – White leds(blue for BT) indicating the selected input.
4. Volume leds(active when used in preamplifier mode or using the headphone output)
5. Sample frequency leds. on when digital signal is loocked.
6. Headphone output

The central knob has more functions: pushing it for 1 second sets AAdac out of standby, pushing it for 3 seconds sets AAdac in standby, turning it changes the volume when used with headphone or as a preamplifier.

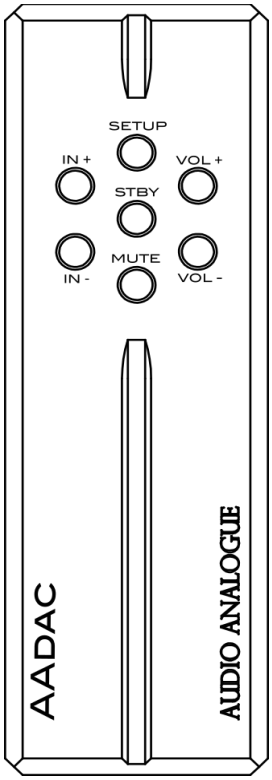
Note on the headphone output: once the headphone connector is inserted, the volume control using the knob or the VOL + / VOL- buttons on the remote control will be activated automatically. Once the headphone connector has been disconnected, the AAdac will return to the previous configuration(DIRECT or PREAMP MODE).

BACK PANEL



1. Main power switch.
2. Power socket(AC MAINS). Connect here the provided power cord.
3. Digital inputs(USB-IN, OPTICAL-IN, AES/EBU-IN, COAXIAL 2-IN, COAXIAL 1-IN)
4. Analog outputs(RCA, XLR)
5. 2.4GHz antenna connector(for BT)

REMOTE CONTROLLER DESCRIPTION



STBY

- Turn on and off the Aadac(press 1 second on/press 3 seconds to off)

SETUP

- used for special functions, see below for more details(press 5 seconds to active it)

MUTE(active only when used with headphone or as preamplifiers*)*

- activates/de-activates the mute function(press 2 seconds to activate it/press 2 seconds to de-activate it)

IN+/IN-

- input's selection

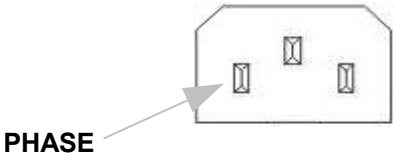
VOL+/VOL-(active only when used with headphone or as preamplifiers

- volume level increase/decrease

Note: Please replace the remote control batteries in case the commands are not correctly received.

PLUGGING IN AND CONNECTING THE AADAC
Before connecting the AAdac to other system's device, please be sure that they're all unplugged from wall outlets. First of all, connect the source's outputs to the AAdac inputs you want to use. Please use only high-quality cables. When this is done, connect the AAdac outputs. At last, after checking that the power button is in the off position, plug the power cord into the AAdac inlet and into the wall outlet.

NOTES ON CORRECT CONNECTION OF THE PHASE
The phase pin is in the left position as shown in image below. The supplied power cord has the phase pin indicated on the plug for the connection to the power network, make sure to find the right position using a phase detector screwdriver and if you replace the power cord, make sure to respect the right phase connection.



POWERING UP THE AADAC
First of all put the main switch on the rear to 1. The standby red led on the front will start to blink for 3 seconds. Push the central knob briefly or press the "STBY" button on the remote control. The AAdac will begin the start sequence and you will see the red led blinking for 10 seconds and after that the led corresponding to the selected input will be on(factory default is USD). If after pushing the button nothing happens, please refer to the troubleshooting section of the present manual. Note: it's good practice to turn on the AAdac before the amplifier and to switch it off after the amplifier.

REAR CONNECTIONS AND INPUT SELECTION
AAdac has the following connections available:

1. **USB-IN**(default input): based on Amanero OEM Combo384 Module. It possible to connect PC with Win7, Win8, Win10 32-64bit(drivers needed, see dedicated notes), Mac OSX 10.6+(no drivers needed) and Linux with UAC2 compliant kernel.
2. **OPT-IN**: TOSLINK connection
3. **AES/EBU-IN**: S/PDIF balanced input
4. **COAX1/2-IN**: coaxial S/PDIF inputs

Inputs can be selected with a short press of front panel knob or using the keys IN+/IN- on the remote control. Please wait 1 second between each press to give the AAdac the time to make to properly make the fade-in/fade-out between each input change.

WIRELESS CONNECTION VIA BLUETOOTH APTX® HD AUDIO
It is possible to connect a wireless source(PCs, tables, smartphones) to AAdac. Bluetooth connection of AAdac is always open, so you just have to activate Bluetooth connection on your device and search "Audio Analogue DAC" in the availble devices list. Once the two devices are connected, just select the input with

Bluetooth symbol using the front panel knob or the IN+/IN- keys on the remote control to listen to the connected source.

In order to improve the Bluetooth signal coverage, together with AAdac we supply a 2.4GHz antenna to carefully screw to the dedicated connector you can find on the top-left corner of back panel. Thanks to the this antenna, the distance between the two devices can reach up to 10m without any signal connection problem.
IMPORTANT: the Bluetooth module is not installed in this AAdac, but can be purchased separately as an option, for more information contact your local dealer.

BALANCED(XLR) AND UNBALANCED OUTPUT(RCA)
AAdac has balanced(XLR) and unbalanced(RCA) outputs. Having a fully balanced output stage we suggest to use balanced outputs to make the most of output stage performances, but both outputs can be used on the base of your preferences. Both outputs can be used at the same time without any technical problem.

NOTES ON BALANCED OUTPUTS
The balanced outputs accept connectors according to the standard XLR pinout as reported in the picture below. To avoid creating ground loop between the and the (which can cause hum problems) use only "true" balanced cables having the ground pin separated from the shield and the cable shield properly connected to the cable connector.

Pin	Function
1	Ground
2	"Positive" (in Phase) polarity terminal
3	"Negative" (contro phase) terminal

ADVICE ON USING THE AADAC
It is preferable to turn the unit off when unused and to unplug it from the outlet when unused for long periods and during lightning and electrical storms. Avoid using small metallic objects around the unit because they could fall inside the unit. Avoid leaving the unit on if unused.

VOLUME SETTING AND SILENCING (MUTE) – (ONLY WHEN USED WITH HEADPHONES OR AS PREAMPLIFIER)
The volume knob on the front panel and the VOL+/VOL- keys on the remote change the general sound level. It means that the volume of the two channels is altered identically.
The MUTE button on the remote controller(press it for 2 second to activate/deactivate it) allows you to set the audio level to zero. This function is useful any time you have to suddenly turn down the volume. When the AAdac is in mute mode, the volume leds will start to blink to show the status. While the AAdac is in mute mode, it will be possible to select a different input. Once the mute will be deactivated, the will get back to the last volume regulation settled.

CONFIGURATION SETTING
In this section the procedures to set the different AAdac functions are described.
The functions are accessed by pressing the remote “SET” button(press for 5 seconds to enter set-up and one single push on SET button to move to the next configuration)
The following are the available configuration changes:

1. led brightness setting
2. Balance
3. Digital filter selection
4. Direct(DAC mode) or volume regulated(preamplifier mode)

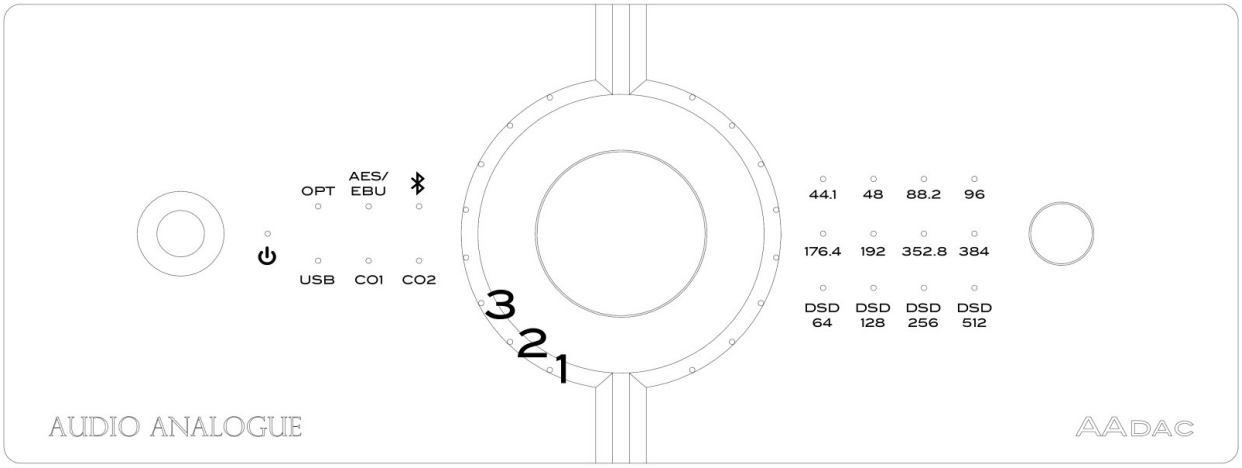
To change the set-up of any configuration, you will have to operate with the VOL+ and VOL- keys of the remote control that will activate the volume bar leds corresponding to the desired setting.
The settings are all stored in the controller and are retrieved when the unit is turned on.
To return to normal operation, continue to press the SET key until the AAdac exits the configuration mode and returns to its normal operating status.

LED BRIGHTNESS SETTING
The following are the three available options:

- Volume led 1 - Dark Mode (no led lighted)
- Volume led 2 - MID Brightness (medium brightness, default setting)
- Volume led 3 MAX Brightness

Press SET key on the remote control for 5 seconds to enter set-up. First configuration you will find is **led brightness setting.**
You will see the front panel leds with **OPT** led blinking and 2nd volume led on. You can change the setting moving to the other options using the VOL+/VOL- keys on remote control.

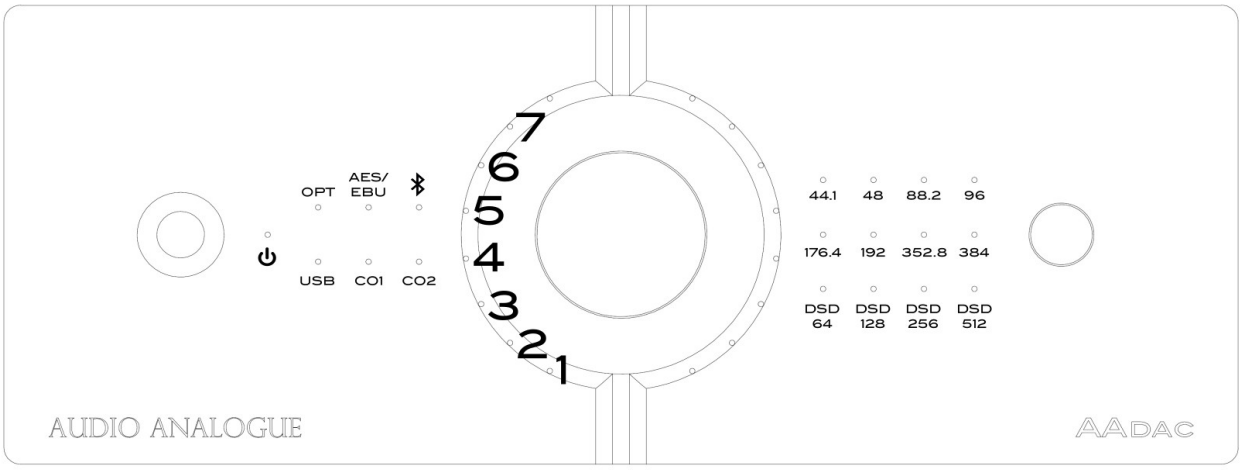
The default brightness is the MID. While the unit is in "Dark mode" all the leds on the front panel are turned off until a command by the remote or by the front control is sent.



BALANCE SETTING
Press SET key on the remote control for 5 seconds to enter set-up. Press SET key again to go to the second configuration you will find that is **BALANCE setting.**
You will see the front panel leds with **AES/EBU** led blinking and 1st and last volume led on. If you press VOL+ key on the remote control you will increase the level of right channel and decrease the level of left channel, while if you press VOL- key on the remote control you will increase the level of left channel and decrease the level of right channel. When 1st and last leds are on, channels are perfectly balanced.

DIGITAL FILTER SELECTION
The ESS-SABRE ES9038 we use in AAdac gives the possibility to set 7 different digital filters that are the following:

1. Linear phase fast roll off;
2. Linear phase slow roll off(factory default, favourite sound perfomances);
3. Minimum phase fast roll off;
4. Minimum phase slow roll off;
5. Apodizing fast roll off;
6. Corrected minimum phase fast roll off(best performances for laboratory measurements)
7. Brick wall

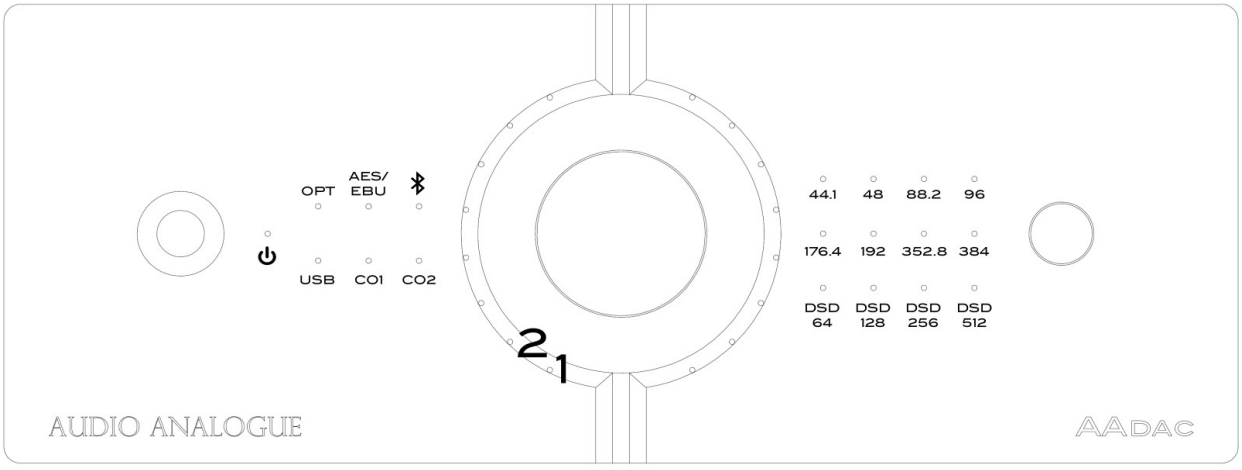


Above filters give you the possibility to change the AAdac sound changing the frequency response curve. Default filter is “Linear phase slow roll off”, but you are free to select your favourite filter on the base of your preferences and to perfectly match the AAdac to the other electronics of your system.

To change the digital filters press SET key on the remote control for 5 seconds to enter set-up. Press SET key **2** more times to go to the third configuration you will find that is **DIGITAL FILTER selection.**

You will see the front panel leds with **BT** led blinking and 2nd volume led on. You can change the setting moving to the other digital filters using the VOL+/VOL- keys on remote control.

DIRECT(DAC MODE) OR VOLUME REGULATED(PREAMPLIFIER MODE) SETTING



AAdac can work as a source, so with fixed maximum gain or also as a preamplifier so with the possibility to regulate the volume.

To select the **Direct (DAC mode, default) or volume regulated(preamplifier mode)** press SET key on the remote control for 5 seconds to enter set-up. Press SET key **3** more times to go to the fourth configuration you will find that is **Direct(DAC mode) or volume regulated(preamplifier mode).**

You will see the front panel leds with **USB** led blinking and 2nd volume led(corresponding to DIRECT mode) on. You can change the setting moving the VOL+/VOL- keys on remote control, VOL- to change to **volume regulated(preamplifier mode) setting(1)** or VOL+ to go back to **Direct (DAC mode, factory default)(2)**
Important: when AAdac is in Direct (DAC mode) volume is always fixed at maximum level, so be carefull about which configuration you are using and always turn the amp volume down when you change amplier input or AAdac configuration.

DEFAULT FUNCTIONS RESET
Is possible to go any time to the factory default set-up and the procedur is the following:

1. with AAdac in standby mode, fixed light red led, press SET key on the remote control for 3 seconds
2. while you keep the SET key pressed, youn will see the red light to go off for 1 second and than it will switch on again
3. now the AAdac is settled with all functions as factory default: Led MID Brightness, centered Balance, Linear phase slow roll off(2) digital filter, Direct (DAC mode).

DRIVER INSTALLATION
Before connecting the PC or Mac to AAdac, in order to obtain the best performances and to let USB input of to AAdac(based on Combo384 Module from Amanero) to properly work, for Windows users it is necessary to download and install the dedicated drivers that can be found in the following website:

https://amanero.com/drivers.htm

Once you have downloaded the .zip folder specific for your operative system, double click on the folder or unpack it. After that double click on the setup.exe file and let the PC run the procedure to install the driver until the installation process is fully completed.
Now you can connect the PC to the AAdac and your PC will automatically recognize AAdac as the new USB digital output.
For Mac users AAdac is compliant with OSX 10.6+ and select Combo384 Module in system preferences.

PC CONNECTION AND SUGGESTIONS
Recommended software players are Foobar2000, Jriver and Audirvana. For DSD playback is necessary to settle the playback options on ASIO Combo384 driver.
For further details about the player configuration please check them with your Audio Analogue dealer or send us an email to the address info@audioanalogue.com

TECHNICAL INFORMATION
To have detailed technical information please visit the website: www.audioanalogue.com

TECHNICAL DATA

Parameter	Measurement conditions	Value
Channels		2
Output noise with 0 signal		2.9 µV (22 Hz ÷ 20 kHz)
Output noise with 0 signal	A weighted	2.1 µV
Output voltage - Balanced	1kHz/0dB	3.35 VRMS
Output voltage - Unbalanced	1kHz/0dB	3.35 VRMS
Dinamic Range	A weighted	124 dB
THD+N	1dB, 1kHz, FS = 48 kHz	-108 dB
ENOB		17.65 BIT
Standby power consumption:	230VAC	0.7W
Dimensions	Cm	W.22 x D.39 x H.10
Weight	KG	5.5

TROUBLESHOOTING

Symptom	Cause	Remedy
No led on No sound	Power cord incorrectly plugged in	Make sure the power cord is correctly plugged into the wall outlet
	Burned-out fuses	Check fuses in the fuse holder under the IEC inlet (after unplugging the power cord from the wall outlet)and replace them with new ones of the same type
Symptom	**Cause**	**Remedy**
No sound	Low volume	Turn volume knob right
	Faulty or incorrectly plugged signal connectors between AAdac and the amp.	Check cables and their connection
	off or incorrectly selected source	Check if the source is on and active and if it is correctly selected using the in selector

Remote controller doesn't work	No battery/ worn-out battery	Place/replace battery (2 'AAA' batteries)
	You're standing too far or on an exceeding angle from the front panel	Get closer to the unit or reduce angle
If the suggested remedies do not work or the problem is not shown in the list above, please contact your local Audio Analogue retailer.		

Attention: Your product is marked with this symbol. It means that used electrical and electronic products should not be mixed with general household waste. There is a collection system for these products.

INFORMATION ON DISPOSAL FOR USERS (PRIVATE HOUSEHOLDS)

1 In The European Union

Attention: If you want to dispose of this equipment, please do not use the ordinary dust bin.

Used electrical and electronic equipment must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of used electrical and electronic equipment.

Following the implementation by member states, private households within the EU states may return their used electrical and electronic equipment to designated collection facilities free of charge*. In some countries* your local retailer may also take back your old product free of charge if your purchase a similar new one.

*) Please contact your authority for further details.

If your used electrical or electronic equipment has batteries or accumulator, please dispose of these separately before and according to local requirements.

By disposing of this product correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

2. In other countries outside the EU

If you wish to discard this product, please contact your local authorities and ask for the correct method of disposal.

B. Information on Disposal for Business Users

1. In the European Union

If this product is used for business purposes and you want to discard it:

Please contact your Audio Analogue dealer who will inform you about the take-back and recycling. Small products (and small amounts) might be taken back by your local collection facilities.

2. In other Countries outside the EU

If you wish to discard this product, please contact your local authorities and ask for the current method of disposal.