



## User Instructions



absolute



Thank you for purchasing the Ideon Audio absolute digital to analogue processor, our flagship creation.

Listening through the Ideon absolute you will gain exciting new levels of musical perception and discern details unknown before even in the most familiar recordings.

At the present state of sound technology, the absolute DAC represents the state of the art, thanks to its proprietary circuitry and ingenious combination of the best selected electronic and mechanical components.



As always, if you are coming from another Ideon product we are grateful for your continued trust. If you are a newcomer to our musical reproduction journey, we are honoured to welcome you on board.

We are certain that you will enjoy many magical musical moments for years to come. Recording quality and analogue to digital transfer and mastering quality notwithstanding, connecting the absolute to your digital source will bring you even closer to the musical event contained in the source files.

## Preamble

The absolute will breathe new life into your audio files libraries; it is artefact free, its linear circuit does not impart audio characteristics characteristics of its own.

- The device is fully balanced throughout – a topology that helps to minimize the noise floor to vanishingly low levels (~-120 to -140dB)
- The absolute can operate in single-ended and balanced modes without loss of signal either way.
- Ultra-linear circuitry and hand-selected and matched-to-circuit components are used throughout.
- Contemporary, cutting edge technology is applied in the absolute design: we choose the latest, highest performing digital-to-analogue conversion technology.
- Obsolescence-proof: modular construction for digital input and analogue output, which allows for easy updating as necessary.
- Proprietary circuit design optimizes the performance of the state of the art DAC chip and clocks used inside. Three ultra-low jitter clocks used to support sonic precision and sound stability.
- Proprietary, ultra-low noise, dual-quattro voltage parallel analogue amplification stages implemented in the Absolute :
  - ◇ Protects against noise, hum, and signal degradation. Hence, signal accuracy is unparalleled!
  - ◇ Ample energy reserves, strikingly improved SNR ratio. Stunning dynamics are achieved!
- The superlatively stable output stage with vast power reserves is therefore more than capable of driving any

commercially available pre & power amplifier combo, as well as longer cables, both in single-ended and balanced operating modes.

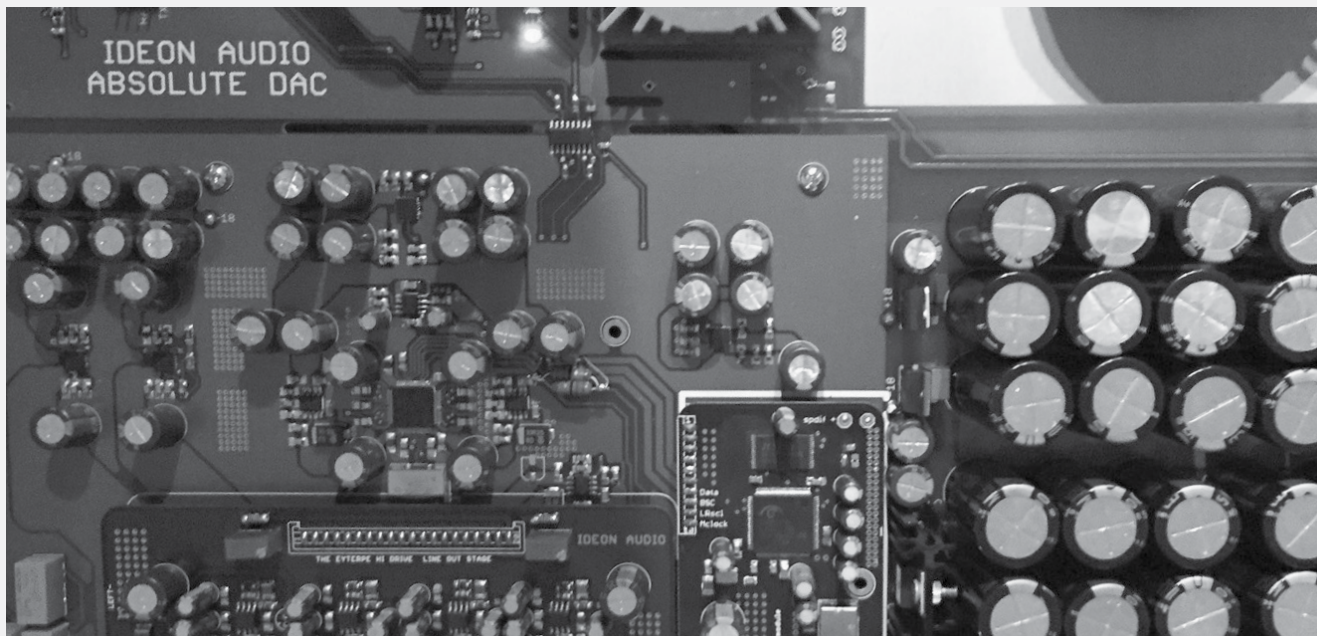
- The absolute main power banks, both the boards and the components, are engineered in order to ensure ultra-high operating stability and precision, thereby negating fluctuations to subsequent stages.
- Proprietary power supply design provides independent power lines to each stage that bypass the main power boards and ensure freedom from internal noise interference.
- The massive, hand-milled aluminium chassis enhances mechanical stability and provides shielding from airborne vibration. The base alone has more than 1650 cubic cm of solid aluminium.
- No signal-carrying wire inside the absolute . External wires–interconnects can, however, pick-up and introduce noise.
- A choice of digital filters allows the user to optimize reproduction or, more simply, to match one's personal taste.

**Burn-in:** based on our experience, the absolute needs a little over 300 hours to come fully into its own. Nonetheless, please be assured that the musical enjoyment begins from the very first moment!

The absolute does not introduce non-linear distortion even when playing from a cold start; however, the sound improves during the first half hour of signal processing.

Before operating the Ideon Audio absolute DAC please read the brief instructions that follow.

## Cutting edge design & components



## Setting up the absolute

Connecting the absolute is straightforward. The back panel has three inputs, two are COAX (RCA & BNC) for SPDIF and one is USB.

The absolute is a fully balanced device throughout and output is offered in balanced XLR or single-ended. The device has its own output control functionality; it is therefore possible to drive your power amplifier(s) directly from the absolute

using this functionality. If you do not have any analogue sources, direct driving your amplification may be a way to simplify your system. As the Absolute is a balanced design, we recommend you use the balanced output to direct drive your amplification as it is less likely to transmit noise. From a sonic point of view, however, it is a matter of taste!

### Important

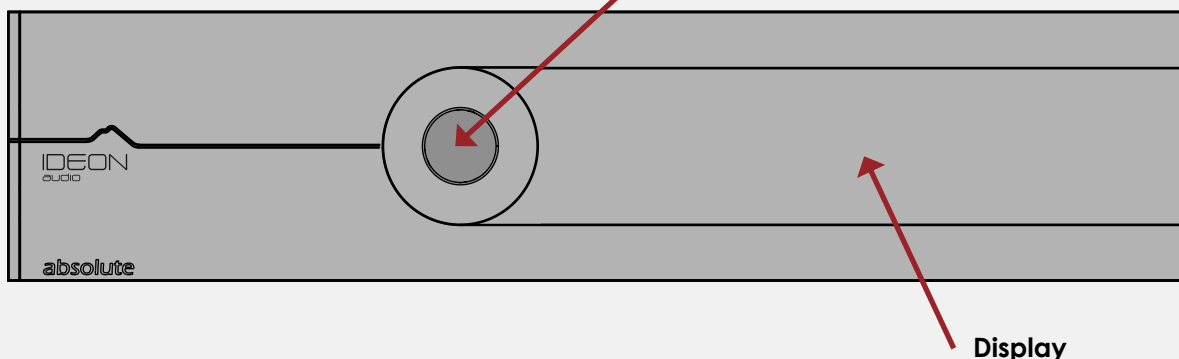
On power up the absolute defaults to -0 dB FS volume output. This means that the output is FULL VOLUME. IF you are playing direct (without pre-amp) and have selected variable volume output (from the General settings menu as explained in the following sections), ALWAYS turn the output volume to the lowest level – i.e. the highest “- dB” number – before switching on your amplification.

## Controls and Connectors

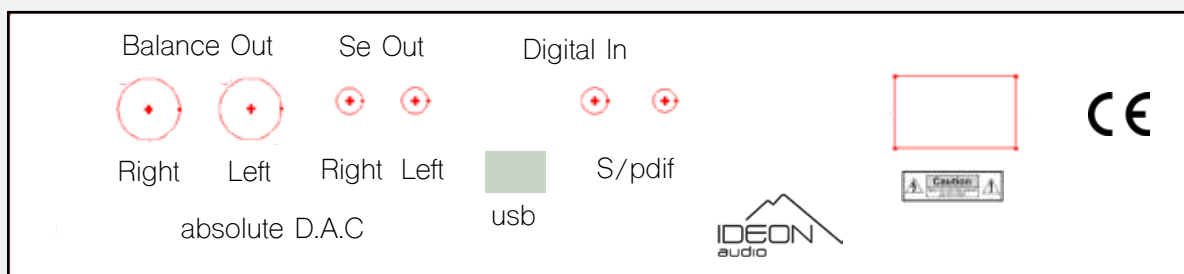
### Front panel

#### Multifunction knob:

- On-off switch
- Output level
- Input, Filter & Settings selector



### Back panel



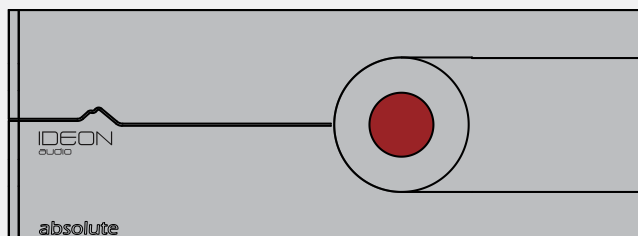
## Operating the absolute

Using the absolute is simple and its functions are designed to be user-friendly. At the same time, we have included user-controlled digital signal processing options which allow you to personalise certain functionalities and processing parameters.

The functions, including power on-off, are all accessible via the Multifunction rounded knob on the front panel.

If you have opted to drive your amplification directly via the absolute, please make sure that you have turned down the volume on the absolute to minimum (this can be done through the General Settings menu, as explained below) before switching on the power amplifier(s)!

## Using the Multifunction Knob



Applying pressure to (clicking) the multifunction selector knob changes its operating mode, while rotation allows you to highlight a selection within that mode; pressing again confirms your selection and takes you to the next item. Pressing the knob continuously for 7 seconds or more will power down the Absolute. At power down, the system saves the last selected settings.

Action	Result
One click from OFF position	<b>Power ON</b>
Pressing continuously for 7 seconds or more	<b>Power OFF</b>
Pressing continuously for <b>only</b> 2-3 seconds and release	<b>Changing menu screens</b>

The absolute offers a wide array of settings allowing users flexibility in selecting the best sound for a particular recording, input, or type of file. A brief description of the digital sound parameters follows the multifunction knob operating instructions.

## Main Screen

Action	Result
Rotating the knob will take you through different inputs (USB, RCA, BNC). To select, just press the knob when the desired input appears. Pressing again the knob will also take you to the choice of filter for that input; proceed as above to choose your preferred filter for that input using the rotating function of the knob and then click to select.	Active input (USB, COAX, BNC), the filter type, and the audio data frequency.  {The mute function is only available on the remote control. If, however, you have chosen variable output, the volume setting will appear top middle of the screen}



Pressing knob continuously for only 2-3 seconds and release; this takes you to the next screen.

## Input Settings Screen

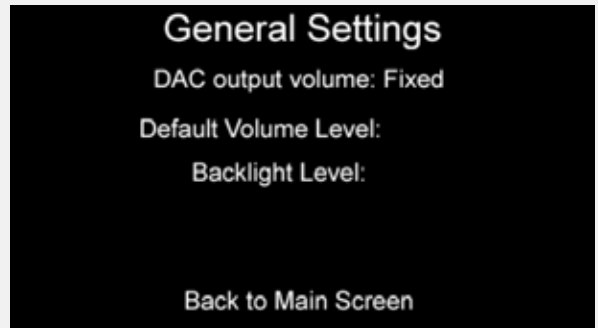
This screen is about filter and information processing parameters for the chosen input; option to return to main screen.



Action	Result
<p>Please proceed as above: rotating the knob will take you to different parameters of a specific setting, pressing will select the value of the setting, moving on to the next setting is done by pressing the knob.</p> <p>The default settings were set at Ideon Audio. We recommend you maintain these while you familiarize yourself with the device.</p>	<p>Parameter Choices:</p> <ul style="list-style-type: none"> <li>• <b>Filter:</b> choice of seven filters (explained below)</li> <li>• <b>IIR filter:</b> 47.44 kHz (default), other choices: 50, 60, 70 kHz;</li> <li>• <b>Lock speed:</b> default value 16384 FSL edges (default), other choices: 1024, 2048, 4092, 8192</li> <li>• <b>Dithering:</b> enabled-disabled (default: enabled)</li> <li>• <b>Jitter eliminator/DPLL:</b> enabled-disabled (default: enabled)</li> <li>• <b>Oversampling filter:</b> enabled-disabled, (default: enabled). It allows access to 7 pre-set filters</li> <li>• <b>De-emphasis:</b> enabled-disabled, (default: disabled)</li> <li>• <b>Back to Main Screen</b></li> </ul>

Pressing knob continuously for only 2-3 seconds and release; this takes you to the next screen.

## General Settings Screen



Action	Result
<p>Using the rotation function of the knob over "DAC output level" will change the output volume to variable. Pressing the knob will take you to next menu item which is lighting backlight level and using the rotating function you can select the level of the brightness function 1-10 (default is 10).</p>	<p>General Settings:</p> <ul style="list-style-type: none"> <li>• <b>DAC output volume:</b> fixed-variable (default: fixed @ 0dB FS)</li> <li>• <b>Default Volume Level</b> (selectable)</li> <li>• <b>Backlight Level:</b> 1-10 (default is 10)</li> <li>• <b>Back to main screen</b></li> </ul>

## Description of user controllable parameters and functionalities

**IIR:** infinite impulse—response filter, a fundamental element of digital signal processing. The IIR achieves the given filter characteristic using only a small amount of memory and processing power

**Lock speed:** this function sets number of audio samples required of the incoming signal before the DPLL\* and jitter eliminator lock onto it. More audio samples give a better first estimate of the master clock—full-scale range ratio; on the other hand, the more the audio samples, the longer the locking time interval.

Default value is 16384 FSL edges. Choices: 1024, 2048, 4092, 8192, 16384.

\* DPLL *Digital phase-locked loop. Changing the DPLL values can affect jitter and noise.*

**Dithering:** is a technique used to improve the sound of digital audio. It helps reduce the difference between the original signal and its reconstructed digital counterpart (called “quantization error”). It affects both the spectral response and the SNR of the digitized signal and enhances the signal’s dynamic range.

**Jitter eliminator:** reduces input clock jitter (ESS patented function). Enabling this function improves audio signal clarity.

**De-emphasis:** a filter that undoes pre-emphasis which is a first order high-pass filter—i.e. a filter that emphasizes high frequencies. De-emphasis attempts to bring back a flat response.

**Volume:** range -127dB- 0dB (full volume). Default setting is -0dB FS (i.e. full volume).

**Oversampling filter:** enabled gives access to 7 user-selectable, pre-set filters. The filters influence the frequency response and allow the user to tailor the sound to personal taste, the recording, or the mastering.

- Fast roll-off, minimum phase
- Slow roll-off minimum phase
- Fast roll-off linear phase
- Slow roll-off linear phase
- Brick wall
- Hybrid, fast roll-off minimum phase
- Apodizing, fast roll-off minimum phase

We recommend the usage of the default values at least until the absolute has reached optimum performance levels (i.e. over 300 hours of signal processing).

Please note that the Absolute defaults to full, fixed output level (-0 dB FS) when switched on. This position offers the best sound.



## Tips

What follows is a brief compendium of ideas and suggestions. We thought that putting it all together in one place is worth the boredom of repetition. What follows is offered in random order – i.e. the last is not necessarily less or more important than the first!

1. The absolute brings us closer than ever to the musical event; we strongly recommend you privilege listening over tweaking!
2. To reach its optimum sonic performance when new, the absolute needs slightly more than 300 hours of “burn-in” operation. Nonetheless, the sound will be very enjoyable as of the first moments.
3. Keeping the absolute on all the time keeps the power supplies charged and the operating temperature at optimum level. If, however, your mains grid is notoriously unstable it is best to switch the Absolute off when not in use.
4. We engineered the absolute to last under normal operating conditions. In the unlikely event of an operating problem, it does break please do NOT attempt to service the absolute yourself! The main power supply alone retains enough energy to cause very serious bodily harm! Please refer any service to a qualified technician.
5. Vibration control: typically, any vibration control device placed under the absolute chassis can affect the sound, as can the furniture upon which the absolute is placed. As always, what you end up doing is a matter of personal choice.
6. Cables: it is well worth trying out good quality interconnects to and from the absolute. Keeping in mind that the absolute circuits do not impart a sonic flavour of their own, choice of cable ultimately, becomes a matter of taste and associated equipment.
7. Power cords. Many users opt for specialist after-market power cords and find that this brings changes to the sound. Please ensure that the after-market cords you wish to test are electronically sound and will not cause short-circuits. Important: make sure you SWITCH OFF the device and disconnect it from associated downstream equipment before changing power cords! Please be careful when switching the absolute on and off and allow for at least 10 seconds between on off alternations as there is software operating within the unit. Also, please be aware that powering down the absolute for an extended length of time can affect the sound for a while until the device reaches again its optimum operating conditions (as is the case with any such device).



## Technical Specifications

Supported Formats (input dependent)	<b>44.1kHz to 3,072kHz PCM up to 32 bits</b>
Digital Inputs	<b>4x Advanced isolated input module slots</b>
XLR Balanced Outputs	<b>4.2Vrms at -6dB</b>
RCA Outputs	<b>2.7Vrms at -6dB</b>
THD (A weighted 20Hz-20kHz)	<b>&lt; - 120dB on all outputs</b>
Channel separation	<b>&gt;130dB on all outputs</b>
SNR (A weighted 20Hz-20kHz)	<b>&gt;130dB on all outputs</b>
Dynamic Range 20Hz to 20kHz	<b>147 dB (FS) . 145 dB (AFS)</b>
Display	<b>Custom discrete LED audio clock synchronous display;</b>
Dimensions (W x H x D)	<b>470 x 350 x 130 mm</b>
Weight	<b>15.5 kg</b>

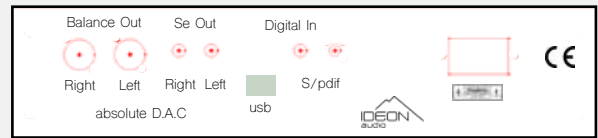
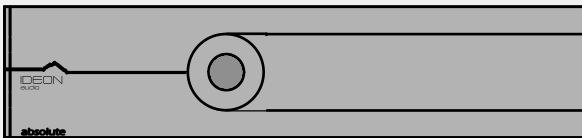
## Safety Instructions

- WARNING. TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.
- Clean only with a dry cloth. Do not place flammable material on top of or beneath the component.
- Do not remove or bypass the ground pin on the end of the AC cord unless necessary to reduce hum from ground loops of connected equipment. This may cause RFI (radio frequency interference) to be induced into your playback setup. Removing or bypassing the ground pin on any electrical component is potentially dangerous and should be avoided for safety reasons.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus. Unplug this apparatus during lightning storms or when unused for long periods of time.



## Servicing

THERE ARE NO USER-SERVICEABLE PARTS INSIDE ANY PS AUDIO PRODUCT. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL Please contact your authorized dealer, distributor, or Ideon Audio if you have any questions not addressed in this reference document.



## Warranty

Ideon Audio provides a 2-year manufacturer's warranty on all new Ideon Audio components.

This Warranty is subject to the following conditions and limitations: The Warranty is void and inapplicable if the product has been used or handled other than in accordance with the instructions in this document, abused, or misused, damaged by accident or neglect or in being transported, or the defect is due to the product being repaired or tampered with by anyone other than Ideon Audio or an authorized Ideon Audio repair center.

1. The product must be packaged and returned to Ideon Audio or an authorized Ideon Audio repair center by the customer at his or her sole expense in the original packing material. Ideon Audio will pay return freight of its choice for original purchasers.
2. Returned product must be accompanied by a written description of the issue or the defect. Ideon Audio reserves the right to modify the design of its products without obligation to purchasers of previously manufactured products and to change the price or specifications of any product without notice or obligation to any person.

In the event the product fails to meet this Warranty and the above conditions have been met, the purchaser's sole remedy under this Limited Warranty shall be to

return the product to Ideon Audio or an authorized Ideon Audio repair center where the defect will be repaired without charge for parts or labor.

This warranty does not cover the cost of custom installation, customer instruction and setup adjustments.

This warranty does not cover cosmetic damage or any damage due to accident, misuse, abuse, negligence or modification of, or to any part of the Product, without initial express consent from Ideon Audio. This warranty does not cover damage due to improper operation or maintenance, connection to improper voltage supply, or attempted repair by anyone other than a facility authorized by Ideon Audio to service the Product.

