

Ideon Absolute ε digital converter

by Alan Sircom



If you have a long memory for YouTube videos, you might recall the graduation documentary from a Goldsmiths College student that was all about the Athens Audiophile Society. While that documentary was more mocking than the society might have liked, anyone who thought Greece doesn't take its audio seriously was effectively silenced by that video. Greece also has a small, but vibrant and growing, group of audiophile manufacturers, including Athens-based Ideon. The company was founded in 2016 by CEO George Ligerakis and chief engineer Vasilis Tounas who, together with two like-minded professionals, concentrated on making the best in digital audio regardless of cost. Ideon's range is therefore small, but beautifully formed; two DACs, two clocks, two streamers, a USB reclocker and a made to order linear power supply for the more affordable devices in the Ideon catalogue. We didn't go with the affordable, though. We went right to the motherlode; the Ideon Absolute ε DAC. This is the latest revision of Ideon's Absolute DAC; well, not so much a revision, more taking the already highly regarded Absolute and running with it, like an absolute (pun intended) boss. Cleverly, Ideon didn't simply throw out all that was good in the Absolute, it instead looked at what could be improved upon and spent three years enhancing it!

Even before its epsilonisation, Ideon's Absolute flagship DAC was itself the product of a three year long research project, which resulted in selecting ESS Technology's Sabre ES9038PRO DAC, taking advantage of the chip's 32 bit processing and 140dB dynamic range. The ESS chip has extremely well designed digital filters that took a whole team many man-years to develop. However, Ideon wrote more than 4,000 lines of code to fully exploit the firm foundations created by ESS, and didn't just go with ESS's pre-configured set of commands and parameters. Ideon's own application of the ESS chip alone would make it the Absolute ε force a to be reckoned with, but we're just getting started!

Three is the magic number in many sections of the Absolute. It features a trio of ▶

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▶ top-of-the-line femto clocks (each with its own discrete power line) to help produce an ultra-low-noise and ultra-low-jitter signal path. Staying with the power of three, Ideon uses what it calls its ‘Triple Distillation’ input section; a proprietary three-stage noise-reducing circuit. Ideon claims that, “Figuratively speaking, we have declared war on linear and non-linear distortion and noise!” Given the last time I had anything triple distilled, it was an Irish whiskey, and the unconsciousness it produced certainly reduced my noise levels. So maybe Ideon has a point.

In addition, and new to the Absolute ε, Ideon has included three zero-noise active bridges of its own design, built to eliminate the possibility of noise coming from the current rectification on the bridge. The usual way for digital designers to reduce this noise is either to go for a switching power supply, or to pretend it doesn’t happen, but compromise is not something that translates into Ideon’s core value system.

The numbers game steps up a bit as you move through the DAC’s features; the balanced output stage has four output channels (again each with its own dedicated power supply) with no capacitors in the signal path. This again is one of the key areas that has seen upgrades in the move from Absolute to Absolute ε; Ideon has redesigned these symmetrical circuits to feature equally symmetrical, low noise, independent power supplies.

This brings the power supply count to 17 individually regulated stages throughout the converter, all fed from a high-grade, ultra low-noise power supply that features two custom-made transformers designed to handle three times the current draw of the Absolute ε. Each regulator is built to incredibly high tolerances, and the power supply bristles with 80 high-grade Elna capacitors. All of which makes the DAC a top-class design, and not easy or cheap to make. Ideon claims the Absolute ε is future-proofed for the next 10 years, but as my TARDIS needs recharging, I’m unable to verify that statement.

The DAC’s connections are extremely simple by today’s standards, with no Ethernet, HDMI or anything apart from S/PDIF, AES/EBU and USB.

However, the USB receiver is a state-of-the-art combination of the ESS USB input chip and Thesycon’s drivers made for Ideon to offer the best possible sound and support also up to 8x DSD. This is no off-the-shelf receiver; ESS has produced custom code and configured it specifically for Ideon. The DAC outputs to both balanced and single ended amplifiers. However, instead of sparking comments that include the word ‘rudimentary’ connectivity, the Absolute ε invites interesting philosophical asides about what else is needed on a DAC. Of course, it’s not as if Greece has anything to do with philosophy..

The front panel is surprisingly user-friendly for a DAC with a nice big dial to switch inputs and an equally large display showing input and sampling frequency. It does display ‘kHz’ as ‘Khz’ (although this will change soon). The display also switches to dB (this time displayed correctly) when the large central dial is used to access the digital volume control, and the display is useful when setting up the DAC, because there’s a choice of seven filter settings, settings for an IIR filter (47.44kHz is the default), lock speed (the number of audio samples the DAC ‘sees’ before deploying its digital phase-locked loop; which is useful in working with the ▶

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- ▶ Sabre chip’s jitter-reduction algorithm, as well as dithering, jitter elimination, and de-emphasis, all of which can be enabled or defeated.

There are two big and obvious issues with the Ideon Absolute ε. The first is it is bloody heavy! It comes supplied in a flight case, which adds to its shipped mass (but also makes it highly unlikely to be damaged in transit), but a solid billet of aluminium machined out to make a full-size clamshell case is never going to be light. Add in the transformers and you are looking at a DAC that weighs in at a healthy 28kg, which is more than many power amplifiers.

The other issue is burn in. While the DAC sounds good straight out of the box, it does go through one of those ‘good, then bad, then good again’ warm-up curves, and the whole process takes hundreds of hours to finish. To make matters worse, that warm-up requires a little more than just having power running through it and it seems to condition faster if you actively feed it digits from different sources. I’m not altogether sure whether this was simply hasty listening on different sources, but I had the distinct impression that if you gave the USB 100 hours and the S/PDIF input 300 hours of running in, you could hear the difference in performance between the two inputs. This sounds odd because once you get past the input stage, the datastream is passing through the same circuit, but it might be because that USB port has its additional noise-filtering circuit.

I used the Ideon DAC in balanced mode (if you use it in single-ended, it’s essentially a down-shifted balanced mode rather than single-ended operating in pseudo-balanced) into my Burmester 088/911 Mk 3 pre-power amp and from there into Wilson Audio Duette 2 loudspeakers, using Nordost cable throughout. I fed it a diet of USB from my Melco N10 music server as well as S/PDIF from both a Naim Uniti Core and a Hegel Mohican CD player.

This is a DAC of rare subtlety and finesse, like a synthesis of all the good things of all the best DACs with none of the idiosyncrasies. It demands you take it seriously and approach its settings with careful consideration, ideally performed over weeks of listening. None of which makes it good for the quick-fire movements of a review sample, where such a device is in constant short supply. The same likely holds in demonstrations, where no matter how much run-in, that finesse of combining the DAC with your tastes and your system takes weeks, all of which cannot be performed in a single listening test no matter how involved. That isn’t meant to excuse the Ideon DAC - because no such excuses are needed or demanded – but suggests that no matter how good that listening experience in the demonstration room or in a home audition, there’s still a lot more to be had from the Ideon Absolute ε.

Saying how much more can be had from a DAC is one thing, but when a DAC gets so far under the skin of music even when in ‘out of the box’ mode, you know you are onto something really, really good. The adjustment of filters, dither, de-emphasis and jitter are not simply window dressing, but make

that link between DAC and music get ever closer. This is where reviewers begin to run out of terminology fast, which is, in this case, a very good thing. The Ideon gives music true ‘presence’ as it gets past the ephemera normally associated with audiophilia and gives the music the stature and energy it should demand. Given that it bestows that stature to ‘Toxic’ by Britney Spears [*In The Zone*, Jive] as much as it does to Schoenberg’s *Verklärte Nacht* [von Karajan, Vienna Philharmonic, DG] shows just how much there is buried in digital audio and just how much the Ideon manages to extract.

A perfect example, relevant to both recordings, is the audio definition of ‘dynamic range’. We consider this in terms of the difference between ‘silent’ and ‘the loudest a system can muster without distortion’. While true, dynamic range in music is more nuanced; not just ‘microdynamics’ and a system’s ability to parse relatively small aspects of a performance within the sonic whole. Here, however, ‘dynamic range’ refers to the way the music just flows from the loudspeakers thanks to the Ideon DAC.

My first reaction to this was to think the Ideon was trying to smooth everything over, making the rookie error of trying to make a DAC sound soft and ‘vinyl-like’, but in fact the rookie error was all mine. This isn’t music declawed and sanitised; the energy and vibrant power of recordings is not held in check. It just doesn’t have that steeliness or the bright, forward nature of many top-end DACs. This isn’t a rolled off sound; my go-to Joyce DiDonato recording [*Stella Di Napoli*, Erato] showed her singing in fine form, to the point where you could hear her diaphragm opening up as she drew breath; none of which is possible to hear from a system that softens the impact of music. ▶

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► This recording perhaps best encapsulated what the Ideon does so right. Her voice is one that raises goosebumps on even the most humble audio equipment, but here you are stilled and silenced by her voice, and to switch to another track while the music is playing seems like an act of musical sacrilege when it’s played on the Ideon, so direct the link between you and the music.

There was no musical passage or genre that troubled the Ideon, and neither was there anything in audio that caused it to stumble. In short, the Absolute ε sets a new standard for reference DAC’s for me as the very best in almost every performance aspect, and close to the best in all others. There are a lot of paths up this digital mountain and those prepared to sacrifice key parts of the musical whole for a more immediate presentation will always find different avenues, but for someone seeking the musical whole will struggle to find anything that comes remotely close to the Ideon Absolute ε.

Lengthy run in and back ache aside, the only real downside to the Ideon Absolute ε is the lack of remote control. This isn’t so big an issue if you are using the DAC just as a DAC, but if you are using its volume control into a power amplifier, that absence of handset can be a bit of a bind. It’s omission is done for sonic reasons, and that itself speaks to the level of obsessiveness that went into the design of this converter, but as a practical consideration, a remote would be nice sometimes (good news... a remote is on the way!).

The Ideon Absolute ε came as a bit of a surprise. I admit that I came to it with little background knowledge of the company and even less about the product itself. I didn’t even ask about the price until the test was over. But in the listening it was clear this was a world-class device capable of doing what so many high-end DACs claim to do, but often fail to achieve in reality; make music sound like music. Real living, breathing musicians playing in your living room. There are lots of different interpretations of how digital audio is supposed to sound but Ideon makes it sound like real music. This really is one of the best DACs in the world right now. +

TECHNICAL SPECIFICATIONS

Inputs: USB, AES/EBU, coaxial

Formats supported: 44.1kHz to 384kHz
PCM up to 32 bits, Native DSD
(up to 8x DSD)

Digital Inputs: 4x advanced isolated
input slots

XLR Output: 9Vrms at 0dB

RCA Output: 4.5Vrms at 0dB

THD (A-weighted, 20Hz–20kHz):
<-120dB on all outputs

Channel Separation:
>130dB on all outputs

**Signal to noise ratio (A-weighted,
20Hz–20kHz):** >130dB on all outputs

Dynamic Range (20Hz–20kHz): 147dB FS,
145dB AFS

Dimensions (WxDxH): 49 × 35 × 12cm

Weight: 28kg

Price: £31,440

Manufacturer: Ideon Audio

URL: ideonaudio.com

UK Distributor: G-Point Audio

URL: gpoint-audio.com

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