V&A Banc d'essai Matériel

#30 **Mai/Juin 2025** Vinyle**&**Audio (France)

V&A REFERENCE PRODUCT
TAIKO AUDIO EXTREME

Philosophy of a perfect design

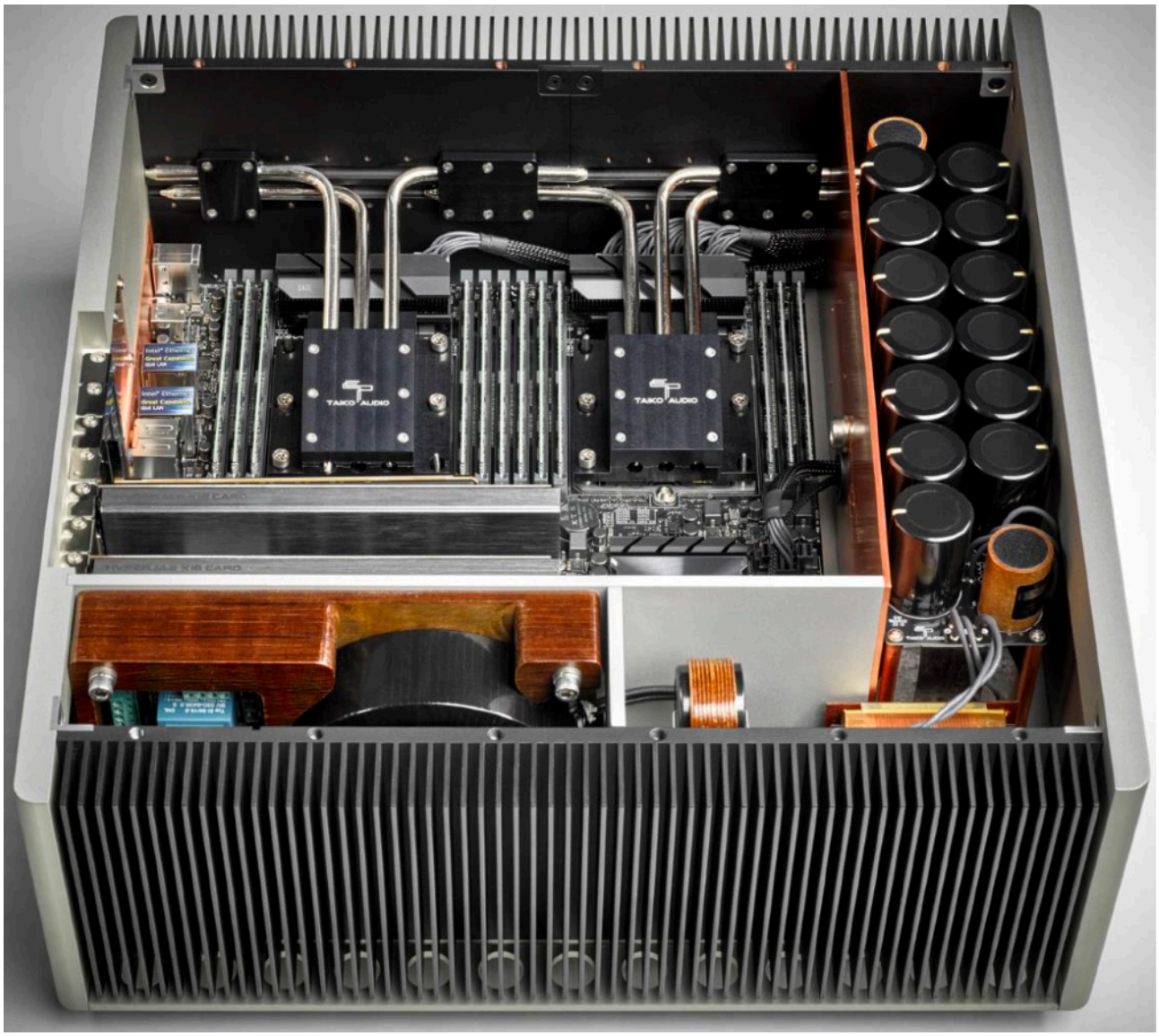
Approaching the test of a device such as the Taiko Audio Extreme music server is a real challenge and always poses a case of awareness. Does the technology used really justify the price?

Taiko is a Dutch company, which was founded by Emile Bok in 2008. Without worrying about the costs or limitations of manufacturing, the music servers of the Taiko Audio range are the result of many years of research and development in order to achieve a level of excellence that allows you to "bring your musical experience far beyond what you can imagine." says the manufacturer.

DESCRIPTION

In this type of device everything is pushed to the extreme, like the Wadax Atlantis Reference (€267,300) that we documented in issue 19 of July/August 2023.

Whether it is the components, the housing, the power supply or the mechanics, the configuration of the whole results from an in-depth study of the design of the system in its entirety and the understanding of digital and analogue audio signals. How all these mechanical factors, electronic and computer factors influence the result.
Although dealing with bits, and while any player is now capable of correctly reading the 0s and 1s, digital playback requires an astonishing calculation speed and ultra-low digital noise to extract all the data recorded in music files. Any failure at the source level will generate distortion or tonal imbalance that takes us away from reality. Emile Bok has worked extensively on system latency (active processing time), which plays a crucial role in sound quality. During the design of the Extreme, he ensured the lowest possible latency for each instruction or set of instructions the server must handle.
"Why? To maintain the shortest possible queue length in all system components, which results in constant power consumption, low EMI/RFI emissions, and reduced electrical line pollution. This is why the Extreme's computing power seems excessive, but it is actually essential for the quality of the audio stream. Direct SSD management, without an intermediate interface, is employed to achieve the best possible transfer speed. With the chosen SSDs, the transfer speed is four times higher than that of a professional SSD. The Taiko Audio Extreme uses an Asus WS C621E Sage motherboard with two Intel Xeon Silver 4210 processors (10 physical cores and 20 logical cores each), 12 custom 4GB RAM modules hand-selected (48GB in total), dedicated optane storage for the operating system, and up to 24TB of PCIe M.2 storage as an option for local music storage. In summary, all this technological extravagance reduces workload (while using only a tiny fraction of the system's capacity during music playback). The dual-processor motherboard allows for optimal isolation of musical processes and threads from other processes and threads of the operating system. This is the best among network-bridged servers. The impressive amount of PCIe storage keeps all musical content as "close" as possible to the processor. The Extreme is designed for bit-perfect output.



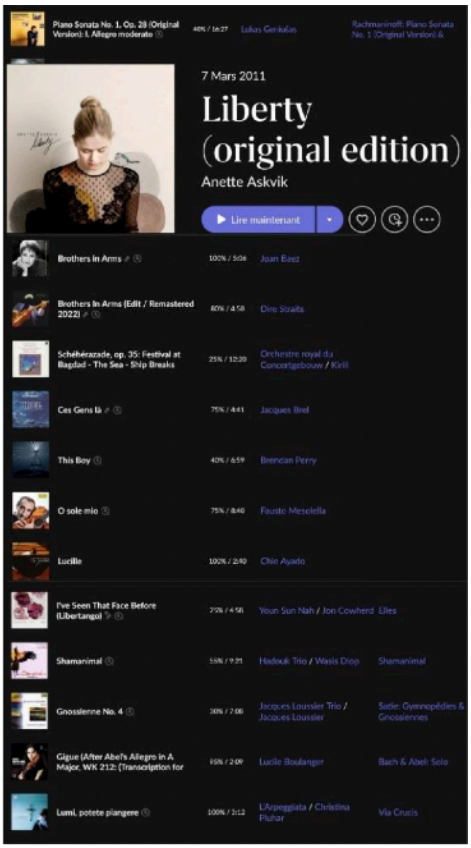
Without oversampling of the data flow, to meet the latest high-end R2R and Sigma/Delta D-to-A converters. The perfectly stable 400W linear power supply was developed in-house and specially designed for the Extreme. It is composed of the best capacitors from Mundorf and Duelund, combined to guarantee optimal sound neutrality. The transformers, provided by Lundahl, were also selected by ear. Massive filtering (700,000 µF capacitors) allows a greater power capacity on the power supply side. Despite all this power, an obsessive level of attention was paid to the control of RF and mechanical vibrations. Extensive vibratory measurements were applied to optimise longevity. Again, internal dampers made of Panzerholtz (a rolled wood, compressed by a factor of 2 compared to its original volume, with a density greater than 1, made in Germany) or copper , are used in strategic places to shift vibrations to softer areas. The entire design is designed for low temperature, long service life and, above all, optimal sound quality. This is why the processor interface has been machined with an accuracy of 5 microns (0.005 mm!). Solid copper was used for heat sinks, twice as much more efficient than conventional aluminum. Aluminum (10 mm thick top and bottom panels, and 15 mm front and rear panels), finely CNC machined, available in silver or black finish, protects against external noise and also protects other components from pollution. The use of Panzerholtz for the feet also absorbs vibrations. The top panel, for example, is pierced by 6,000 holes. These holes are "waveguides" that attenuate emissions by 81 dB, or about 10,000 times! The 240W passive cooling system, without active components, without fan and silent, extends the life of the components by an additional 4 to 12 years, depending on use and environmental conditions. "

The attention to the smallest detail is measured by the fit and finish that exceed the usual standards of this category of consumer products. The Extreme USB output card replaces the older XLR versions. This Extreme USB card has been tested and measured as the quietest and most accurate for transferring data to the DAC, also better than galvanically isolated optical outputs. For optimal performance, the Extreme optionally benefits from the Extreme Switch connected in DAC connection by a Direct Attach Copper (DAC) Cable.

This solution is more efficient than even a very high-level LAN cable. The switch is ideally powered by the linear 12v Extreme power supply. The official seller for France PHP Audio even uses a 230V - 12V Swiss transformer of the highest quality. On the back: a USB 3.1 Gen. 2 socket for the DAC, several USB 3.1 Gen. 1 sockets and LAN ports for data, a PCIe StarTech PEX1000SFP2 optical network card, 1 Taiko Audio Extreme Network Card, (as standard on all Extremes), a 280 GB Intel Optane 900P storage drive for the operating system, a VGA port, an ASUSTek Hyper M.2 x16 v2 PCIe storage card for your music library (it comes standard with 2 TB), power supply and a port for future options.

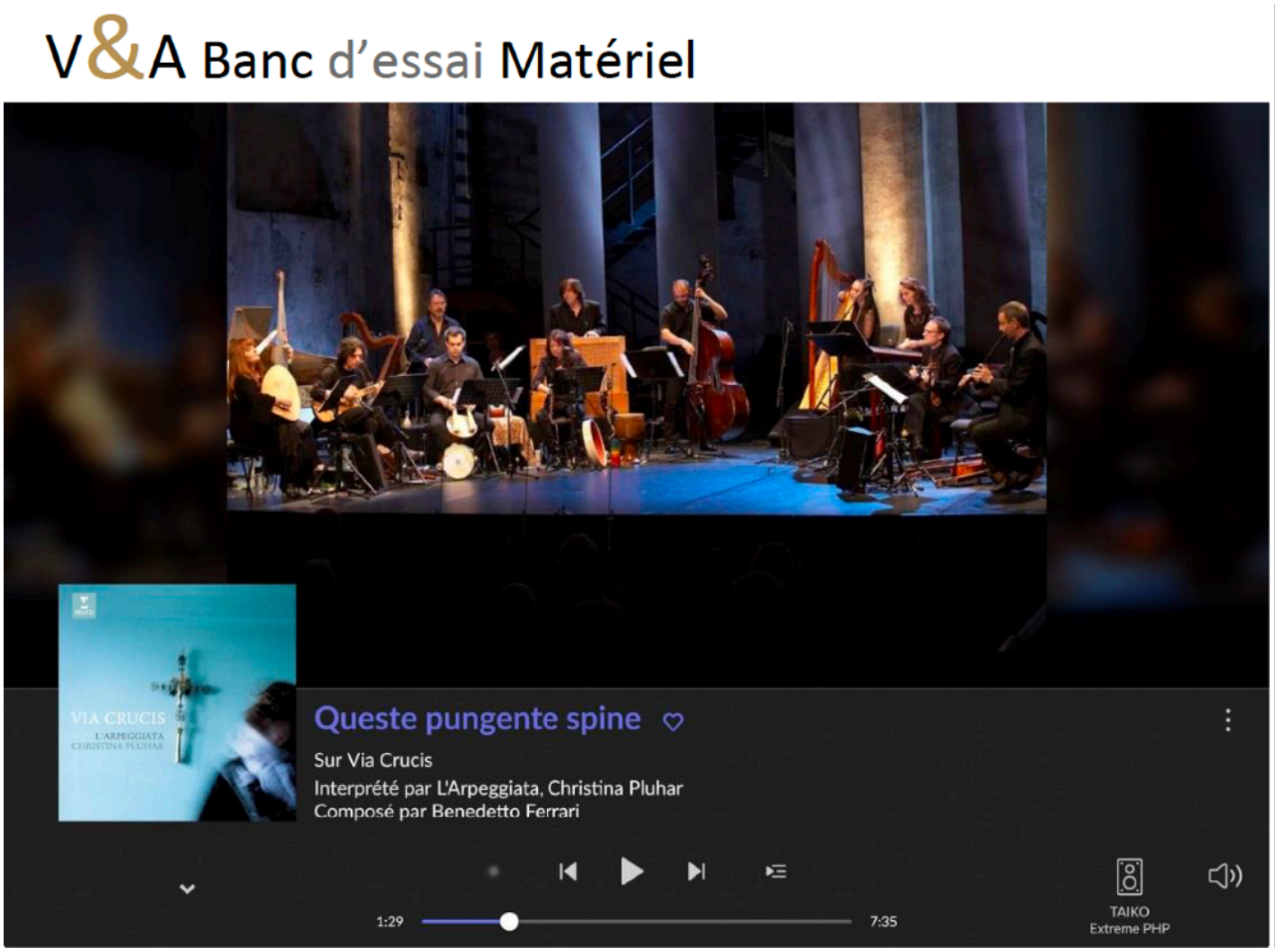
Behind this project there is a person, Emile Bok and a company whose only objective was to build the best possible digital audio server for the best possible audio playback, and infinitely configurable over time.

RECORDS



The titles that served us for the test bench are listed in this screenshot, to which must be added "Delphica II" by Bryce Dessner/ Anastasia Kobekina/Colin Currie, from the album Solos, which is not in the picture.

LISTENING



Taiko Audio Extreme's USB driver allows plug-and-play use, avoiding the use of a specific driver to optimise the direct connection between the server and the DAC, unlike a Windows unit. This makes it as easy to use as any network player. The server is optimized to provide the best performance from stored files. All hardware and software design is based on optimizing file streaming and using Roon. The performance of the file depends on the quality of the recording, the resolution, compression and the quality of the file itself, whether it is streamed or stored. Roon offers an unparalleled level of performance for this. Taiko offers its customers 24/7 remote support. Regarding the material, very explicit explanations are detailed on their website.

To listen to the Taiko Audio Extreme, Philippe Perrot CEO of PHP AUDIO uses Playback Designs MPD-8Ai DAC.

BALANCE

Compared to the listening of a SACD on the Playback Designs MPS-8 player, which I had the opportunity to test at PHP Audio, this server happily surpasses it. It redefines the very notion of musicality from the playback of streaming files. Christina Pluhar's voice is in this confusing natural and that of Youn Sun Nah, for having heard it in concert, is perfectly posed and in its place in the middle of the orchestra.

TRANSPARENCY

The level of detail is amazing. The defects attributed to digital are completely absent here. The sound is both devoid of a digital artefact, at least that is what is perceived in the ear, and of a naturalness that is similar to the playback of an analogue master tape. The restitution delivers shades that give the instruments a palette of colors of great refinement. It is both gentle and defined. Lucile Boulanger's viola de gamba, which unfolds a thin and sensual bow, is overflowing with presence and materiality. The voice and piano of Chie Ayado,

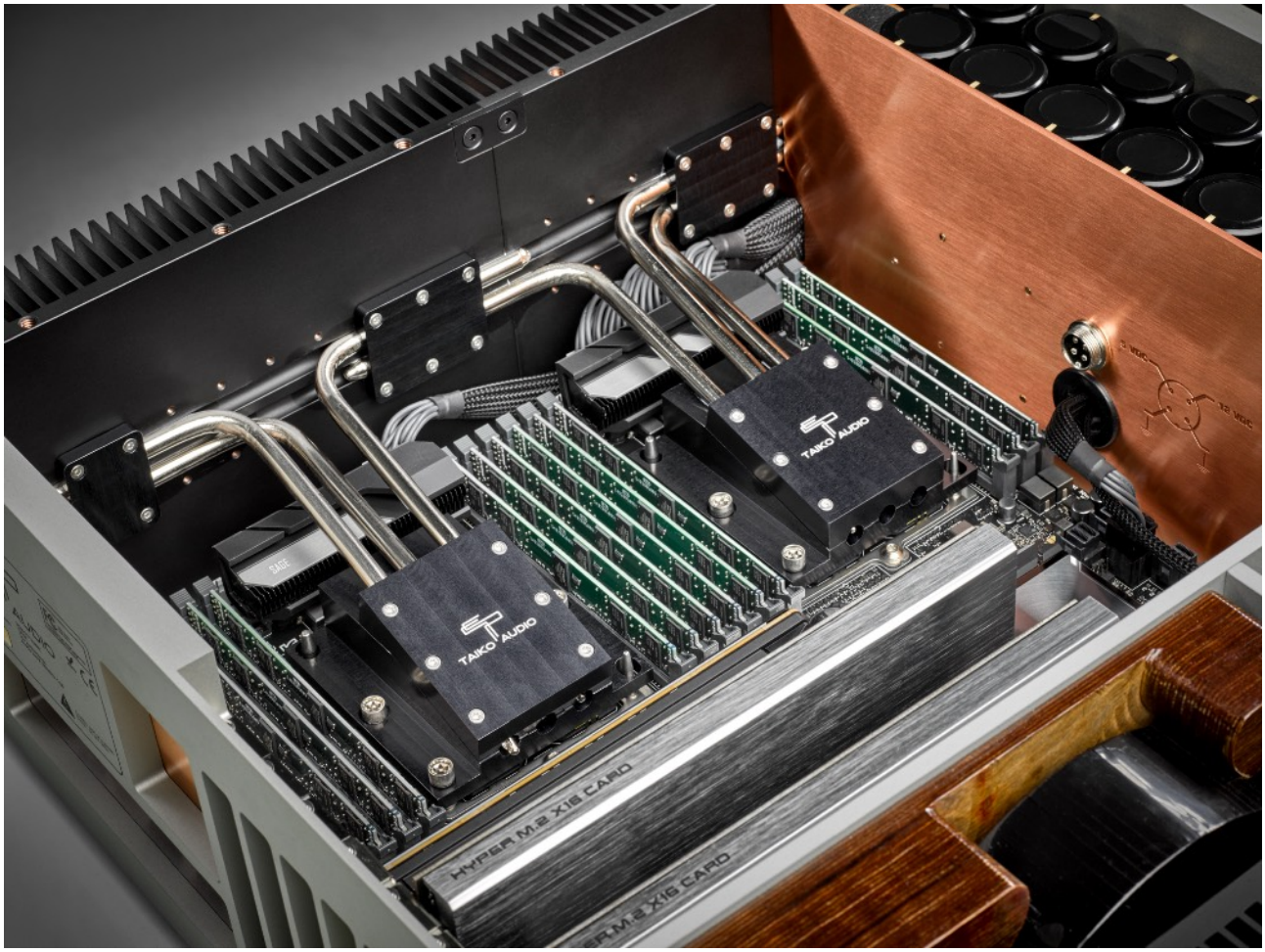
which, also offers a remarkable performance, are of a crystalline beauty. The interpretation is nevertheless full of virtuosity.`

DYNAMIC

Macro and micro-dynamics are perfectly distributed. In ***Gnossienne*** N°4, performed by Jacques Loussier's Trio, piano and the brooms on the cymbals retain their true dimension, both in time and space. The speed and control of the bass drum strokes in Brendan Perry's "This Boy" are just as remarkable. This server performs impeccable control of the digital signal.

SOUNDSTAGE

It is delicate and spatial, with this feeling of realism, of plausibility we could say, which puts us in relation to the performance space that unfolds before us, which can be grandiose on "Shéhérazade" or intimate in Anette Askvik « Liberty".



EMOTIONAL FEELING

The physical dimension of the performers or an orchestra gives this impression of embodied presence that brings us closer to the music, and the place of the recording, with all the intention that the singers or musicians strive to transmit to us. The vocal intonations and the fluidity of their playing emotionally connect us to their interpretations.

CONCLUSION

If Music, with a capital M, holds an important place in your life and serves as a vector of emotions, the Taiko Audio Extreme server is probably the best streaming and server player available, directly competing with Wadax Atlantis Reference.

Jean Razzaroli

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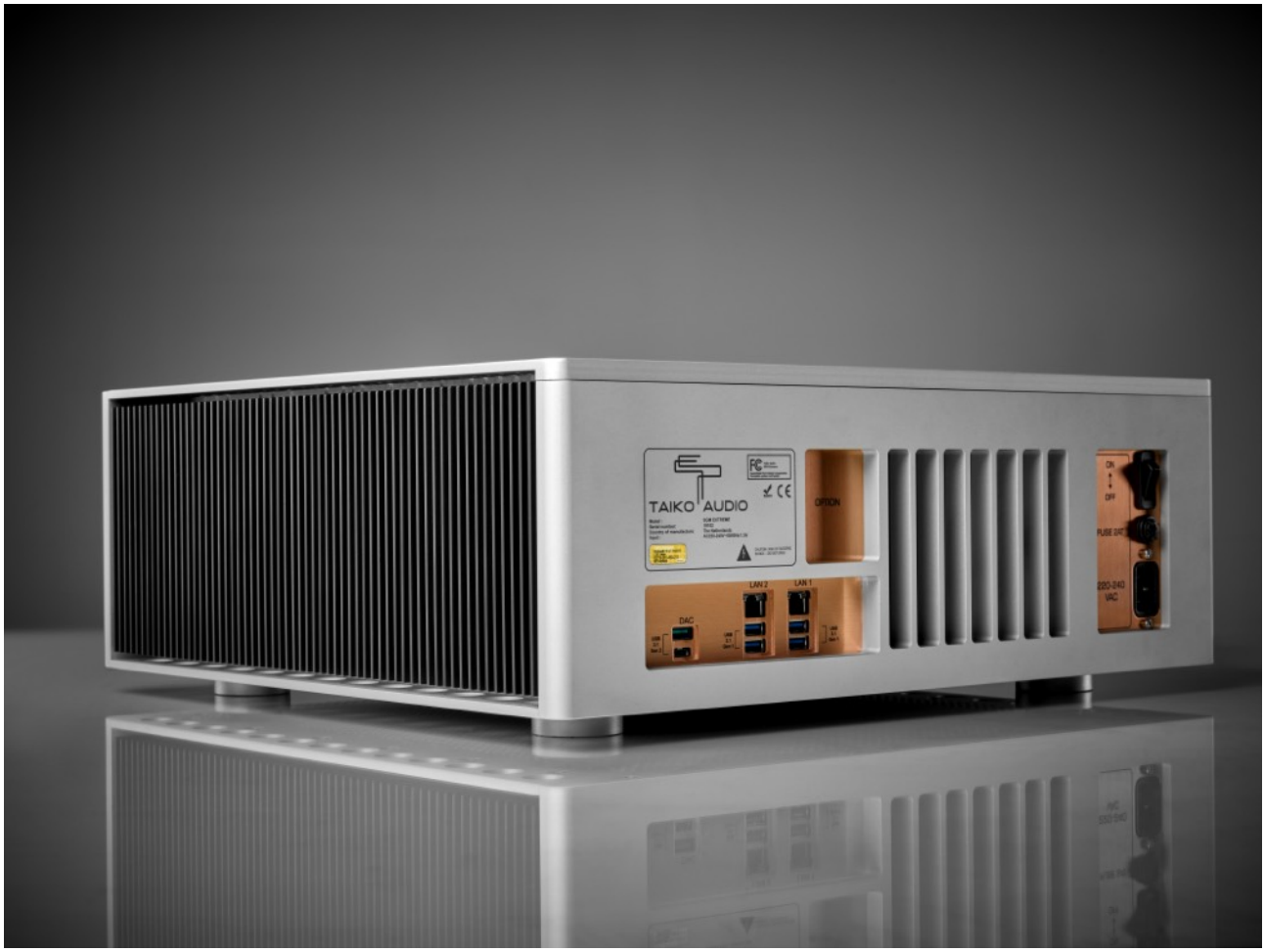

COUNTRY OF ORIGIN : Netherlands
DIMENSIONS (L X H X P) : 483 x 180 x 455 mm
WEIGHT : 45 kg
FINISH : Black ou silver
OPTIONS : Storage : 265 € TTC à 1 920 € for SSD 4To to 16 To, 2 250 € over 16 To
Price of the tested version : 33 600 €

MANUFACTURER
www.taikoaudio.com

REVIEWED AT PHP AUDIO, FRENCH OFFICIAL DEALER
www.phpaudio.fr