



Nuno Vitorino on Innuos STREAM3

Innuos has specialised in the design of music streamers and servers aiming to provide the best music listening experience since 2016. However, the STREAM platform is a bold venture for Innuos, essentially replacing the company's popular original ZEN platform. With no built-in CD drive and the option for built-in DACs and more, STREAM3 shows Innuos both retaining its server capabilities and moving into new markets for the brand.

Nuno Vitorino, the R&D Director and co-founder of Innuos is no stranger to these Tech Talk pages. We caught up with him in the company's factory in Portugal and asked about what it took to introduce the STREAM series.

How did STREAM come about?

The STREAM series were based on the concept of merging the previous ZEN Mk3 and PULSE series into a modular product to adapt to user needs. Some users prefer to have a dedicated music server with separate streamers, some prefer an all-in-one. Some prefer to do streaming only while others prefer to also have their own local music library. Before the STREAM, you'd use the PULSE series if you wanted to stream only and use the ZEN Mk3 if you also wanted to have your local library. Some ZEN Mk3/PULSE series had DACs and digital outputs, some did not. The storage was fixed on the ZEN Mk3 series so users had to send the unit to the factory to upgrade the storage. The STREAM series came to answer those questions. It replaced six models with two - the STREAM1 and STREAM3. All systems on the STREAM series have user-removable storage up to 8TB and modular

output boards the user can choose, ranging from different digital outputs to full DACs.

When did development start on STREAM3?

The STREAM3 started being developed in 2024, making it a fairly

fast development cycle. Most of the power architecture comes from the PULSE series with trickle-down developments from the ZEN Next-Gen series. There's a new custom mainboard with a much newer processor and memory generation, with support for newer NVMe SSDs



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» for storage. But it's not just about consolidating technology that was bringing the best sound for the money - we wanted the STREAM series to have their own "soul". The STREAM series, and the STREAM3 in particular, is well-suited as an elegant and simple system. Add a DAC module, connect to active speakers and you have a great-sounding audio system without filling your living space with components. For this purpose, we also added support for a remote control, aligning the STREAM series more with a lifestyle product without compromising sound quality.

Is this a solo design or a team effort?

This is most definitely a team effort, and quite an extensive one. Even conception comes from a lot of people. While I start with an initial vision for the product, we take a lot of feedback from internal people - product specialists, developers and sales managers - as well as from the community. I always say "no one has the monopoly of good ideas." We search for the best technology during the design phase, investigating new materials, processes and technology, some of them cutting edge. Our design stage involves CAD, Augmented Reality reviews and 3D printing for both prototypes and some production parts. We work with specialists like Sean Jacobs for power supplies and advanced vibration materials such as TONEO on our higher end models, as well as with electronics specialists who design high-precision aerospace parts. We are also completely refactoring our software and testing processes with AI. This is the result

of many heads working together - it's no wonder we have grown to almost 50 people.

What challenges do you face building STREAM3 in 2026?

The current world is creating considerable challenges from a supply chain perspective. Parts that used to take a week are now given two-month lead times - and even then, come in late. Because suppliers are often behind, they sometimes skip or cut short their QA processes, which means receiving defective parts that further delay production. Given we work from the single resistor all the way to mainboards, it's a significant challenge to bring all these together. All it takes is a missing screw and the product can't be produced! It's a full-time job for our Procurement team.

What do you think separates STREAM3 from its rivals?

The STREAM3 is designed from the ground up as a modular system. Configure it with a PhoenixUSB Reclocker or a PhoenixI2S board and pair it with an external DAC for a high-end setup; or add a PhoenixDAC or PerformanceDAC module and connect directly to active speakers for a strikingly simple yet jaw-dropping system. Building on our experience with the ZENmini and PULSEmini, we stepped up our DAC modules significantly in response to user and dealer demand for higher performance in simpler setups.

The PhoenixDAC uses the same high-precision OCXO clock as the PhoenixUSB; high-quality femtoclocks, a dual-mono architecture, and separate digital/analogue power supplies by Dr. Sean

Jacobs - all in a board-only format that reuses the streamer's internal power supplies, making it punch well above its weight. Our top-of-the-range systems remain optimised for separate DACs when cost is no object.

You no longer include a CD drive in your devices. Why?

Internal optical drives have been discontinued by manufacturers, making long-term serviceability unfeasible, and demand has declined significantly - an external USB drive detected automatically by Sense software delivers the same seamless experience. As for servers in a streaming world - they remain essential. Users want to consolidate libraries across multiple services, access high-res formats like DSD and DXD unavailable on streaming, and serve regions where streaming catalogues are still limited. Most importantly, audiophiles want permanent ownership of the music they love — streaming services can't guarantee your favourite artist will always be available. With Innuos, you get the best of both worlds.

What's Next?

We keep working hard on software for our existing products, new output modules, and some products that complement our existing music streamers and servers... stay tuned! +

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