

‘Suono Puro’: The pure voice of Battista and sound signature of Automobili Pininfarina

Auto

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- Automobili Pininfarina reveals how it has engineered the unique new ‘sound of sustainable luxury’ for its pure-electric hyper GT, Battista
- Composed using advanced sound engineering and the ‘voice’ of its phenomenal pure-electric powertrain, Battista’s sound resonates at 54 Hz, a frequency that aims to have a positive influence on the driver’s comfort and wellbeing
- Paolo Dellachà, Chief Product and Engineering Officer for Automobili Pininfarina said: “Our sound designers and engineers have crafted a unique, organic EV sound experience for clients.
- Video on the unique sound of Battista and its frequency displayed in natural elements:
youtu.be/E5etYYeFnik

(CAMBIANO /MUNICH – 12 APRIL 2022) Automobili Pininfarina has revealed ‘SUONO PURO’ – the sound concept created for the world’s first pure electric hyper GT as the Italian brand continues to develop new products and experiences aiming to lead creation of a sustainable new era in luxury.

Creating a unique sound experience presented key challenges, while ensuring an unrivalled ownership and driving experience with exquisite luxury, design heritage and sustainability remain at the core. What does beauty and power sound like in the world of electrification? What voice

should this award-winning design masterpiece and the Automobili Pininfarina brand have? How may natural and emotional connection between driver, car and the driving experience be created?

Aural sensations have been carefully crafted to embody the purity of Battista's design and give Automobili Pininfarina a unique voice that aims to resonate positively with the driver. Using advanced technology and following more than 2,000 hours of composition, development and fine-tuning by vehicle and sound designers and engineers, a unique brand experience is played out in exquisite frequencies and tones.

Paolo Dellachà, Chief Product and Engineering Officer for Automobili Pininfarina, said: "Our sound designers and engineers have crafted a unique, organic EV sound experience, something special and authentic for people experiencing the vehicle. It is a signature for Battista and the Automobili Pininfarina brand that is as recognisable, pure and individual as its design."

SUONO PURO honours the purity of Automobili Pininfarina's design DNA, incorporating wellbeing qualities associated with the 432 Hz frequency. It is warm and uplifting, as found in the positive emotional effect of Tibetan singing bowls and was used by classical music composers such as Mozart or Verdi.

At idle speed, the Battista's sound frequency is 54 Hz (down three octaves from 432 Hz) – a pure and resonant signature base note. The purity of this frequency can be visualised by the way in which it impacts water, creating beautiful, organically symmetrical ripples. The effect of this frequency on the human body, which is in average around 70 percent water, intends to contribute to a sense of wellbeing.

Clients will experience this in their own Battista, with deliveries worldwide starting this year.

Interview with the experts who crafted SUONO PURO for Battista

Automobili Pininfarina worked closely with sound designers Novo Sonic to craft a unique voice for the brand and Battista. Automobili Pininfarina NVH & Sound Managing Engineer, Garry Lane, and Novo Sonic Founder and CEO, Tom Huber, formed the core partnership that brought this to life, with a small team of dedicated and passionate sound experts. Here they talk in detail about the project.

What was the initial brief? How did you want to make people feel when they hear the Battista?

Garry Lane: We are bringing a unique hyper GT to the luxury car world. It is a first-of-a-kind reimagination of electric mobility – including its sound. SUONO PURO needed to be authentic and reflective of the brand. We decided to let the four powerful electric motors speak for themselves, combined with a special sound experience delivering a positive effect on the driver's wellbeing.

Tom Huber: We wanted to achieve a natural sound experience, and this comes from the use of frequency. 440 Hz was first introduced to the American music industry in the first half of the 20th century to establish a reference tuning tone for instruments and orchestras. Music tuning worldwide was adapted to this as a result. However, prior to this, 432 Hz was the tuning of the classical music world, including by Verdi. Listening to an orchestra playing in the original tuning, many would agree on a substantial difference in terms of warmth and positive impact.

The sound experience should resonate through all aspects of how the Automobili Pininfarina brand is experienced, not just the product – where a

lot of excitement comes from the emotive powertrain sounds. There needs to be an emotion and authenticity to all of it, which is why we took a holistic approach with the use of the 432 Hz frequency throughout the brand experience, with a consistent sound landscape at every point of contact.

What was the biggest challenge?

GL: We had to make sure the Battista is instantly recognisable – we wanted people to be able to hear it and know it was Battista before they could see it, fully embracing and celebrating its pure-electric powertrain. It had to be carefully curated and developed for a truly special car, and an entire brand, in around half the time it takes larger-volume manufacturers, who would typically develop a sonic signature in four to five years of research and engineering. That has been a tremendous challenge.

TH: Beautiful visual design is pure emotion. A beautiful car like the Battista gives you goosebumps. The same goes for music – emotions can come across in different ways and connect with the human body.

The challenge was to create a soundscape that emotionalises a sound that many people have not yet experienced – the sound of an electric motor. We tackled this head-on by fully embracing it, showing that the natural, pure-electric sound can be beautiful and uplifting.

How did you achieve the goal of representing design and beauty in the sound of Battista?

TH: The sound is inspired by the signature Design line around the body of Battista. Sound creation in the studio began with the brand's Chief of Design Luca Borgogno, forming a design-inspired 'leitmotif' - a short, recurring musical phrase. This was translated onto a music sheet displaying the brand's design philosophy based on its unique proportions represented by curves, length and harmony – something that has never been done before

in this context.

This is transformed into the sound of Automobili Pininfarina and the Battista, using 54 Hz as a unique and organic base note that is always present, creating harmony between performance and wellness – just like the car itself. This is the Automobili Pininfarina ‘Sonic Line’.

What was the biggest innovation?

GL: The development of bespoke software, which we call the ‘sound heart’. Not only did it have to be created from scratch for Battista, but the way it was implemented was unique, working on a specified software solution to enable the highest quality sound. It is all delivered via the newly engineered, individually tuneable synthesisers that respond to a range of vehicle systems, from the speed and torque profiles of the powertrain to the steering input, and 12 specially developed exterior and interior speakers in harmony with Naim Audio.

The speaker system was meticulously designed to project the 54 Hz tone across the whole frequency spectrum in immense quality. The car creates the sound in real time, a seamless, high-resolution sound experience that encompasses those inside the car, and provides a signature sound graphic on the outside. The sound is seamlessly transmitted to the interior for a natural aural experience. It is low frequency but brings in more of the EV sound experience.

TH: We want to be able to convey the highest quality sonic story to those experiencing it, so ensuring we had the right software and hardware to reproduce what we created in the studio was really important. It is very different from working with ICE (Internal Combustion Engine) vehicles as they develop their own, much wilder sounds. The Battista’s inherent futuristic sound is unique, but also interesting and new with a positive

natural effect on those experiencing it. In this regard, the Battista can be seen as an exquisitely engineered and finely tuned instrument, played by the conductor and composer behind the wheel, altering the output by the way they drive in real-time.

What is the most special thing about the final sound? What are you most proud of?

GL: Personalised experiences and beautiful design are very important to our clients, and drivers can enjoy as much or as little of the Battista's fine quality sound as they'd like. This results from the extensive engineering and development on the real sound of the electric motors, which develops through the different drive modes.

Ensuring the driver experiences defined differences in sound between the driving modes was a challenge, but very rewarding to have achieved that variation. It's a testament to the team's efforts. High levels of personalisation run through all aspects of Battista, enhancing the luxury experience to new dimensions, ensuring the driver is encompassed not only by the combination of performance from the powertrain and the material quality of the luxurious interior, but also the way in which the car communicates and makes the driver feel.

TH: The purity of the sound, I think, is very special. From the beginning we wanted to tune the sound to 432 Hz. The 54 Hz base frequency conveys the soulful power of the car and is organic, using the vehicle's hardware to provide as unique and authentic base as possible. It resonates with what Automobili Pininfarina stands for: pure design, sustainable luxury and outstanding performance.

The way the sound embodies the Battista's design, as well as the wider brand values is also unique. We haven't just created a sound for a vehicle.

We've evaluated in great detail how people experience the entire brand, the way it communicates with people, and what the 'voice' of the vehicle is. The same design and sound themes run through the whole experience. That, to me, is genuine and original, and tells an important story about innovation at Automobili Pininfarina.

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EDITOR'S NOTES

THE AUTOMOBILI PININFARINA BATTISTA

The Battista will be the most powerful car ever designed and built in Italy and it will deliver a level of performance that is unachievable today in any road-legal sports car featuring internal combustion engine technology.

Faster than a current Formula 1 race car in its 0 -100 km/h sub-two second sprint, and with 1,900 hp and 2,360 Nm torque on tap, the Battista will combine extreme engineering and technology in a zero emissions package. The Battista's 120 kWh battery provides power to four electric motors – one at each wheel – with a simulated WLTP range of up to 500 km (310 miles)

on a single charge. No more than 150 examples of Battista will be individually hand-crafted at the Pininfarina SpA atelier in Cambiano, Italy.

ABOUT AUTOMOBILI PININFARINA

Automobili Pininfarina is based in operational headquarters in Munich, Germany, with a team of experienced automotive executives from luxury and premium car brands. Designed, engineered and produced by hand in Italy, the Battista hyper GT and all future models will be sold in all major global markets under the brand name Pininfarina. The new company aims to be the most desired, sustainable luxury car brand in the world. The company is a 100 per cent Mahindra & Mahindra Ltd investment and has been named Automobili Pininfarina following the signing of a trademark licence agreement between Pininfarina S.p.A. and Mahindra & Mahindra Ltd. Pininfarina S.p.A. is an influential role in supporting design and production capacities based on their unique 90-year experience of producing many of the world's most iconic cars.

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