

Artnovion

Acoustic Performance For Unlimited Design Solutions

We've all been there, trapped in an airless room with grimy melamine foam on the walls and watermarked acoustical tiles in a suspended ceiling to look at when exasperation with the "talent" becomes too much. It doesn't have to be that way... Enter Artnovion.

By
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(United States)



Photo 1: Jorge Castro is the man moving Artnovion forward.

Since Wallace Sabine first sat in Harvard's Sanders Theater thinking about the interaction of architecture, furniture, treatments, and people to modify the acoustics of a space, architectural acoustics has transformed rules of thumb into a scientific discipline. Today, acoustical CAD software instantly performs simulated transformations that would have taken Sabine and his students days or months to complete.

One aspect of architectural acoustics is that treatment I mentioned. In Sabine's time, it was horsehair-stuffed upholstery, heavy fabrics, and overdressed Victorian patrons that provided the absorption, while statuary, coffered ceilings, and filigree surface treatments provided diffusion. My website (www.seneschal.net/annex/links.html#acoustical) has a list of more than 50 modern-day manufacturers of acoustical treatment. Most of them offer some mix of reticulated or machined foam and fabric products that, while performing their intended jobs, tend to make for a rather

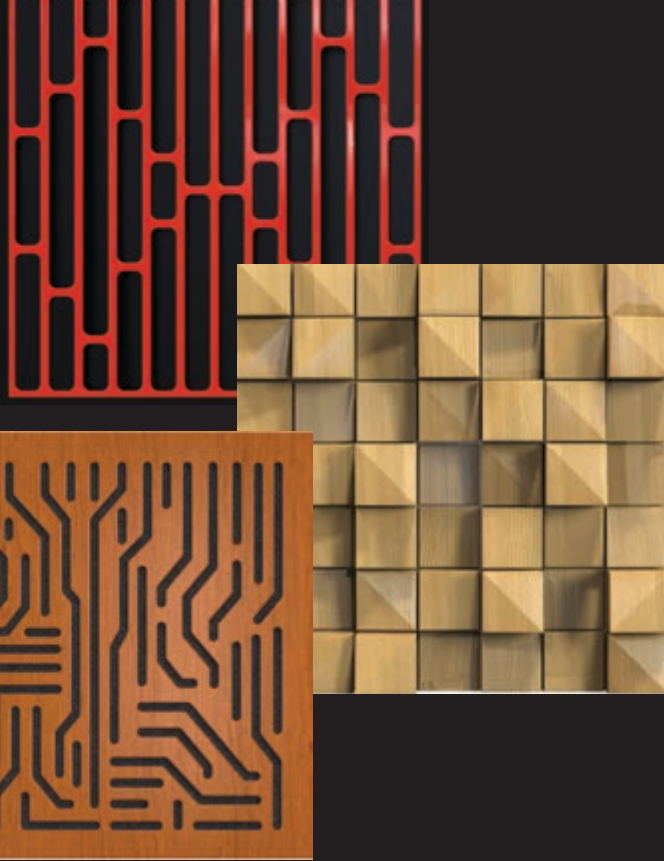
unattractive environment in which to work. They also don't take abrasion well, which dictates placement away from high traffic areas. About the most visually interesting products typically available are one- or two-dimensional Quadratic Residue Diffusers (QRDs), reflection phase gratings pioneered by Manfred Schroeder's work starting in the mid 1970s.

In stark contrast to the unappetizing industrial look that most vendors present, one manufacturer stands out. Artnovion, a newcomer to the acoustical treatment scene, combines a rigorous analytical approach to creating high-performance products with a decidedly European flair for arresting visual allure.

Jorge Castro

The man at the head of the company is founder Jorge Castro (see **Photo 1**). After graduating from a two-year postgraduate course in Audio Acoustics at Salford University in the UK, Castro co-founded Vicoustic in 2007 with an award-winning line of acoustical products. Within a few years, the company's customer roster included the BBC, ITV, Microsoft Seattle, and Google. While at Vicoustic, he created a state-of-the-art facility for product development that included the standard anechoic chamber along with a low-frequency tunable resonant/reverberant space with computer-controlled moving walls.

After striking out on his own, Castro pioneered Mustya (www.mustya.com), a new way of thinking about home and pro audio furniture. Though still in development, think Ikea for your control room: flat-pack furniture that's less expensive to ship and easier on your wallet. While developing Mustya, Castro



completed more postgraduate work, this time in Lean Manufacturing at Universidade do Minho, to better inform his product innovation mojo. Finally, in 2015, Castro decided to return to his first love, founding Artnovion to deliver "...a new set of acoustic treatment solutions and user sound experiences." The company's patented technology has led to improved product performance over industry norms with reduced packaging waste (see **Photo 2**). About 50 premium products have entered the pro audio, high-end home, and architectural markets so far.



Photo 2: Sustainability is a key component in the company's design process.

First Impressions

First impressions often set the tone for all future interactions and, in the case of Artnovion, it's the appearance of the stuff that really grabs you. Wood facia are scattered throughout its lines, with furniture-grade finishes in a variety of colors, from black to bold (see **Photo 3**). Along with the now common perforated flat surface obscuring foam backing, as with the Verona, Komodo, and Azteka absorbers, the company also has visually pleasing Petra, Komodo, and Verona bass traps. A versatile member of the High End line, the tunable Eiger is a Helmholtz trap with a slat front and shallow depth just under 9". Being adjustable, it affords an absorption range that can be fingertip modified from 45 to 125 Hz. A budget-minded Pro, Ulysses is a fabric-covered tunable trap. It's shallower at under 6", but less versatile. The non-tunable traps, depending on their efficiency, range from five to only a few inches deep, making for a wide range of placement options.

Another visually striking product is Artnovion's take on a polycylindrical diffusor. The Jaya is a faceted ellipsoid with a natural wood or hard lacquer finish. Scattering begins equally at all angles of incidence at 800 Hz and yields even diffusion up to 6,000 Hz, where the response becomes basically cardioid.

Other products address the "abfusor" function, combining mid-frequency absorption with high-frequency diffusion. An example is the Athos, with its waveform-shaped perforations aimed at the pro market. It offers broadband absorption from 0.315 to 3.150 kHz centered on 800 Hz along with selective high-frequency scattering.

Just as CNC machining has forever altered the facia of high-end consumer electronics, particularly DACs, the presence of this technology can be felt in a signature abfusor from Artnovion. The Sahara, with its organically shaped diffusing ridges and seemingly random placement of elongated thru-holes for absorption, is strongly reminiscent of the skeleton of Joshua trees (see **Photo 4**). Depending on orientation and location, you can alter the amount of Sahara's absorption due to its complex shape.

Paços de Ferreira, northeast of Porto, is the home of Artnovion and is also the furniture capital of Portugal. This has allowed management to draw from a roster of local craftspeople skilled in wood and fabric artistry. That peculiarity is no more evident than in the Kamet, a broadband absorber with pronounced response from 0.5 to 5 kHz. Its fabric-covered face is button-tufted, reminiscent of overstuffed Chesterfield sofas (see **Photo 5**).



Photo 3: Here is a representative collection of Artnovion's products, with the Jaya at upper right.

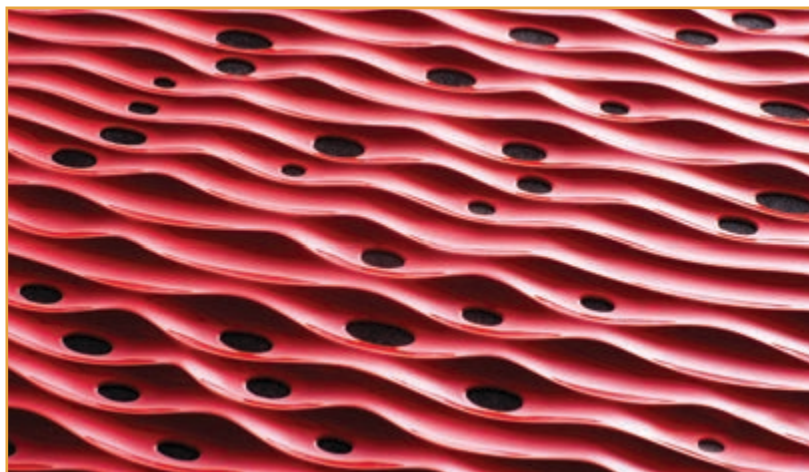


Photo 4: The Sahara provides both absorption and diffusion.

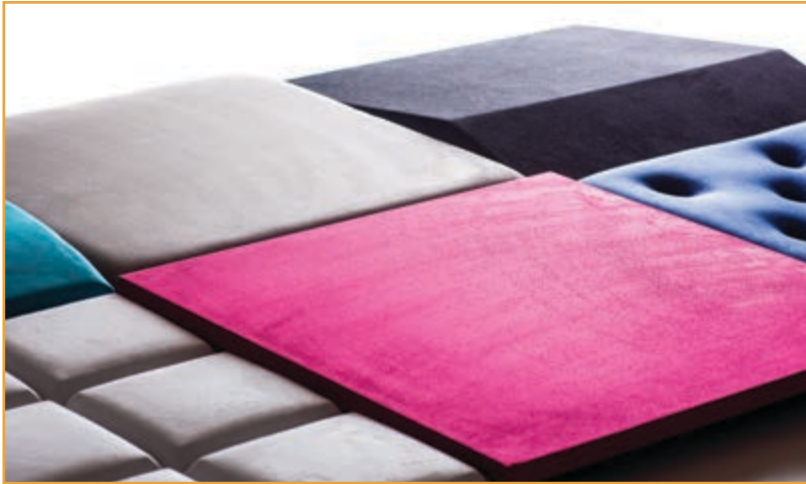


Photo 5: Some of the fabric-covered choices from the High End side are made by local craftspeople.

Accessories

Artnovion also makes accessories for its treatments, as well as standard building components (e.g., adhesives, limp mass barrier material, and mounting hardware). An alternate to the traditional on-site fabricated wood standoffs or commodity Z Clips used for mounting panels. Artnovion sells FixArt Metal, an all-metal concealed mounting system compliant with public sector fire regulations. Its FixArt Tube, as the name implies, is a plastic clip



Photo 6: The award-winning Impulso delivers an automatic prediction of what kind of treatment is necessary.

About the Author

Oliver A. Masciarotte has spent more 30 years immersed in the tech space, working on facilitation, optimization, marketing, and product development for clients worldwide. As an author and speaker, he enjoys informing folks about technological best practices. More information is available at seneschal.net and othermunday.com.

and hollow rail system for precision installation on walls, ceilings, slopes, or in corners where surface curvature makes placement difficult or repositioning is desirable. The third member of the FixArt accessory family is Fixart Plastic, the most affordable choice. All three options provide for easy removal, replacement, and swapping of panels but critically, they create the air gap necessary for highest performance.

An interesting specialized application of the FixArt Tube system is the Agad Mobile Wall and Mobile Wall kit. By leveraging vertical FixArt tubes sunk into a flat horizontal base, a choice of three panels can be clipped in for a lightweight, freestanding roving treatment. It is perfect to attractively attenuating rear waves from a dipole loudspeaker or as an impromptu gobo. A mini-gobo of sorts is the Olympus Microphone Screen. An upscale version of localized acoustical control for individual microphones seen elsewhere, the cylindrical Olympus is made from chestnut, black, or “cherry” colored vertical wooden slats with reticulated foam lining. Designed for easy transport and adaptable to an array of microphone styles, the miniature “vocal booth” attenuates incident sound arriving from the rear and sides.

Artnovion sells two limp mass barrier materials available in rolls—a 3-mm loaded vinyl with sound isolation 3 to 5 dB better than lead sheet and a thicker, layered version. The layered composite vinyl barrier material performs 4 to 6 dB better than solid lead and, due to its layer of absorptive material on one face, is directly applicable to air cavities. Either material is easily fitted into floors for “floating” or decoupling as well as for plasterboard and wooden construction for double or multi-layered walls or ceilings. They also have elastomer/spring vibration dampers and anti-vibration hangers for suspended ceilings, and an elastomer anti-vibration wall mounting system too.

Artnovion’s Mobile App

In 2015, Artnovion launched Impulso, the “... world’s first mobile app that intelligently measures the acoustic response of a room.” With the help of a full-range playback system and optional measuring microphone, Impulso characterizes your acoustic environment, and proposes suggestions for treatment (see **Photo 6**). You can send your measurements to the factory, and Artnovion’s Tech Design Department will analyze the data, and offer detailed recommendations.

Inês Aboim, marketing communications manager for the company, stressed that the app has little in common with the raft of simple measurement tools available on mobile platforms...“Impulso is designed to help both audio professionals, hi-fi enthusiasts, and engineers tune their rooms without requiring specialist training. The app gives you an immediate

simulation of your room, so you can see...which products work better for your...(particular space). This way, anyone using the app can see the reverberation time in octave bands, and then simulate how the acoustic response of the room is improved upon adding Artnovion acoustic products." For a tutorial on how Impulso works, visit Rutherford's site www.rutherfordaudio.com/impulso-app-acoustic-artnovion.

Key Selling Points

Robb Niemann is CEO of Rutherford Audio, Inc., the US distributor for Artnovion. He believes in the company he represents. "Artnovion is simply the leader in its field right now producing the most innovative and highest quality products available in the segment. The Pro Line embodies many years of knowledge building pro furniture for recording studios around the world. The High End is just that, high-end products with high wife acceptance factors and significant designer appeal but above all, performance."

Since sophisticated appearance is a key selling point of Artnovion's lines, I asked Aboim about how they approach the pro and high-end consumer markets. She told me that performance and aesthetics are equally important in the development of all their merchandise, although each market has its own unique characteristics. "Our Pro Audio range was specially conceived for artists that love to record, mix and produce their music with the maximum quality imaginable. We like working alongside producers, musicians, TV networks and radio stations, to always guarantee a perfect sound." Artnovion's Pro Audio collection is suitable for home studio, dedicated studios, and broadcast facilities, like Dolby's head office in the UK, where critical listening is an everyday task.

"On the other hand," Aboim said, "Artnovion's High-End collection was designed for audiophiles and for people that simply want to enjoy a great movie or listening to their favourite record while relaxing in the comfort of their own homes." In the high-end segment, they work alongside home owners, architects, and engineers to guarantee a perfect ambiance. Artnovion's High End line is used in listening rooms, home theaters, auditoria, and even gaming spaces.

Aesthetics is always a factor, the primary one in the case of high end installs, and secondary to price and performance in the pro audio realm. Aboim said that the pro market "...usually prefers a more striking treatment, incorporating it into the design of their space, usually playing with contrasting colors and creating visual centerpieces. In the High End market, an acoustic treatment, although essential in each

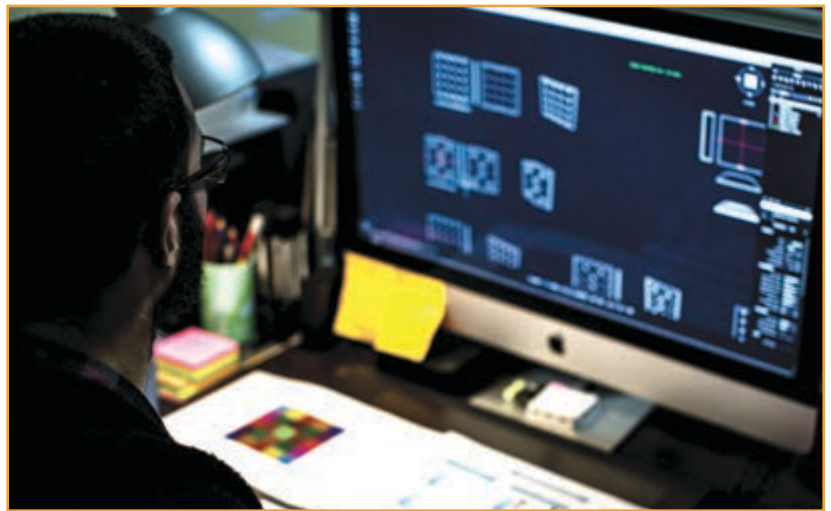


Photo 7: Art is married to science at Artnovion.

environment, is normally not the main focal point of a room, such as in auditoriums, living rooms or home cinemas...(Usually) these rooms have a more neutral design, picking up on pre-existing design elements." In each market, they strive to provide appropriate "tools" to achieve the design goals.

I asked one of my colleagues and old friend in the acoustical design space about Artnovion's client mix, and how aesthetics plays into that. Francis Manzella of FM Designs in Yorktown Heights, NY, told me that, with the rise of home studios and the restructuring of the dedicated studio landscape, "...a lot of my business is 'pro' in a residential environment...many of our customers are pros who have retreated to their homes." In that environment, visual design factors are important but as Manzella pointed out, "aesthetics are based on budget, and that usually involves custom millwork or stretched fabric. Some people don't want to see typical diffusers," so he hides them behind fabric. Artnovion adds value by being aesthetically pleasing and therefore enhancing the experience of listening to the music, just as using a correctly shaped wine glass enhances the experience of fine wine. Aboim emphasize that, "All our range is manufactured with the highest quality materials, with a premium selection of wood and fabric, creating unique ambiances, with distinctive artistic and acoustic designs according to the space."

Artnovion not only strives to create beautiful products that outperform their peers, but they also have optimized their manufacturing processes to reduce their contribution to the solid waste stream (see **Photo 7**). Incorporating sustainably harvested wood with optimized packaging to reduce transportation cost and fuel use are two of the ways the company also looks to the future. Twenty five years after happily receiving his first keyboard as a child, Castro just wants to keep celebrating the marvels of music, science, and sound. For more information, visit www.artnovion.com. 