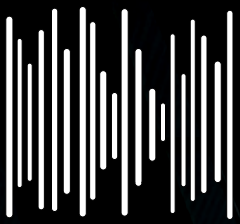
Wavewood

A revolutionary approach to acoustics



V/COUSTIC

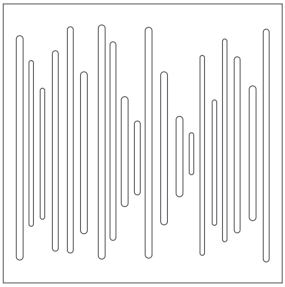
INNOVATIVE ACOUSTIC SOLUTIONS

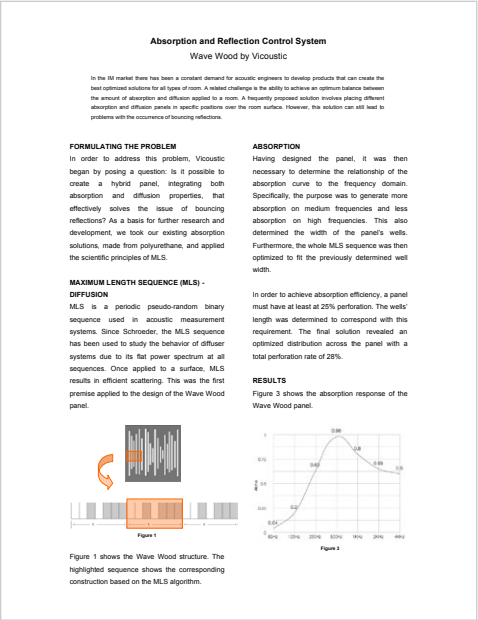
Probably the best acoustic panel design in the world

Why is it that Wavewood has become such an emblematic flagship trademark design of Vicoustic panels? The lines that resemble the flow of sound impulses through an audio timeline have much more to be said about it than you might think.

Wavewood's unique design was drawn to preserve the room's acoustic ambiance on a perfect marriage between acoustic science and design. Its lines have become the industry standard, with more Wavewood panels installed in professional recording studios than any other acoustic panel, making it probably the best acoustic panel in the world.

Countless times imitated, the original Wavewood by Vicoustic distinguishes itself not only in aesthetics and acoustic performance but as well in the quality of the materials.





Absorption and Reflection Control System

Wave Wood by Vicoustic

In the IM market there has been a constant demand for acoustic engineers to develop products that can create the best optimized solutions for all types of room. A related challenge is the ability to achieve an optimum balance between the amount of absorption and diffusion applied to a room. A frequently proposed solution involves placing different absorption and diffusion panels in specific positions over the room surface. However, this solution can still lead to problems with the occurrence of bouncing reflections.

FORMULATING THE PROBLEM

In order to address this problem, Vicoustic began by posing a question: Is it possible to create a hybrid panel, integrating both absorption and diffusion properties, that effectively solves the issue of bouncing reflections? As a basis for further research and development, we took our existing absorption solutions, made from polyurethane, and applied the scientific principles of MLS.

MAXIMUM LENGTH SEQUENCE (MLS) - DIFFUSION

MLS is a periodic pseudo-random binary sequence used in acoustic measurement systems. Since Schroeder, the MLS sequence has been used to study the behavior of diffuser systems due to its flat power spectrum at all sequences. Once applied to a surface, MLS results in efficient scattering. This was the first premise applied to the design of the Wave Wood panel.

Figure 1

Figure 1 shows the Wave Wood structure. The highlighted sequence shows the corresponding construction based on the MLS algorithm.

ABSORPTION

Having designed the panel, it was then necessary to determine the relationship of the absorption curve to the frequency domain. Specifically, the purpose was to generate more absorption on medium frequencies and less absorption on high frequencies. This also determined the width of the panel's wells. Furthermore, the whole MLS sequence was then optimized to fit the previously determined well width.

In order to achieve absorption efficiency, a panel must have at least at 25% perforation. The wells' length was determined to correspond with this requirement. The final solution revealed an optimized distribution across the panel with a total perforation rate of 28%.

RESULTS

Figure 3 shows the absorption response of the Wave Wood panel.

Figure 3

Figure 1 / Early draft of: «*Wave Wood Absorption and Reflection Control System*».

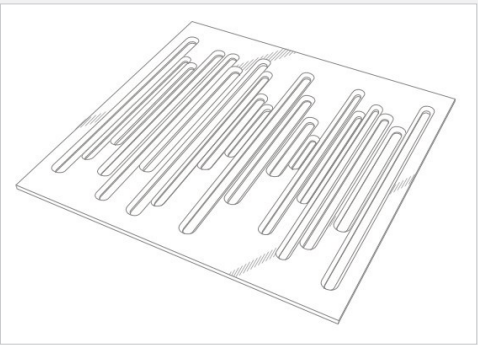


Figure 2 / Vicoustic has exclusive rights to the Wavewood designs for Acoustic Building elements, under a Registered Community Design (RCD) provided by the European Union Intellectual Property Office (EUIPO).

Absorption and Reflection Control System (ARCS)

ARCS (Absorption and Reflection Control System) that combines the best of both sound treatment worlds: absorption and diffusion, based on the MLS Algorithm.

Wavewood's hybrid ARCS system acts as an absorber at medium frequencies and a diffuser at high frequencies to prevent specular reflections, allowing both medium and high frequencies to be perfectly controlled. This is ideal for those who are striving for a balanced sound that can also, simultaneously, control any noise energy in a room, and still manage and create a living and bright sound in a particular setting.

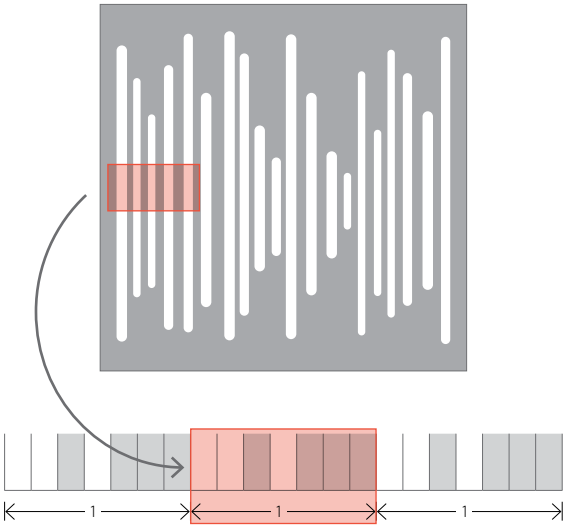


Figure 3 / Wavewood structure. The highlighted sequence shows the corresponding construction based on the MLS algorithm.

Maximum Length Sequence

MLS (Maximum Length Sequence) — A periodic pseudo-random binary sequence used in acoustic measurement systems. Since Schroeder, the MLS sequence has been used to study the behavior of diffuser systems, due to its flat power spectrum at all frequencies. Once applied to a surface, MLS results in efficient scattering.

A maximum length sequence (MLS) is a type of pseudorandom binary sequence. They are bit sequences generated using maximal linear feedback shift registers and are so-called because they are periodic and reproduce every binary sequence, except the zero vector, that can be represented by the shift registers.

Practical applications for MLS include measuring impulse responses, such as the ones that can be studied for room reverberation.

Vicoustic experts have engineered to use these acoustic scientific elements to develop a high-performance technology that binds with visual designing at the heart of the brand's soul. The result is the Wavewood landmark design that can be seen throughout our extensive line of acoustic panels.

VicPattern Ultra Wavewood

Absorption and Reflection, all in one

The VicPattern Ultra Wavewood panel is one of the leading solutions that Vicoustic offers in terms of the Absorption and Reflection Control System.

Made with melamine, a highly durable material, the VicPattern Ultra Wavewood panel is available in 8 different wood and metallic colors. Alongside this, the VicPattern Ultra Wavewood also uses our specially engineered PET wool, a sustainable material that maximizes the acoustic absorbing capabilities of the panel and contributes to Vicoustic's aim to produce greener and more environmentally friendly products.

This product can also be installed on the ceiling with the VicFix J Profile 2m, sold separately. For corner installation, use the VicFix Corner, sold separately.

Technical Specifications

Dimensions: 595×595×50 mm / 23,4″×23,4″×2,0″

Raw Materials: VicPET Wool, MDF, High-Pressure Laminate (HPL)

Fire Rate: Tests in progress

Acoustic Properties: Medium and High Frequencies Absorption and Diffusion

NRC: 0,70

Installation/Accessories: VicFix J Profile (included); VicFix Corner

Wavewood Ultra Lite

The budget solution to balance sound

The classic Vicoustic's flagship Wavewood continues its remarkable career in this Ultra Lite edition. Made with Standard MDF and melamine, a highly durable material, the Wavewood Ultra Lite panel is available in 6 different colors. Alongside this, the Wavewood uses acoustic foam polyurethane for absorption.

Wavewood Ultra Lite is the budget line solution for updating the iconic absorber.

Technical Specifications

Dimensions: 595×595×45 mm / 23,4"×23,4"×1,8"

Raw Materials: Polyurethane Foam, MDF and HPL

Fire Rate: Tests in progress

Acoustic Properties: Medium Frequencies Absorption

NRC: 0,75

Installation/Accessories: Flexi Glue Ultra

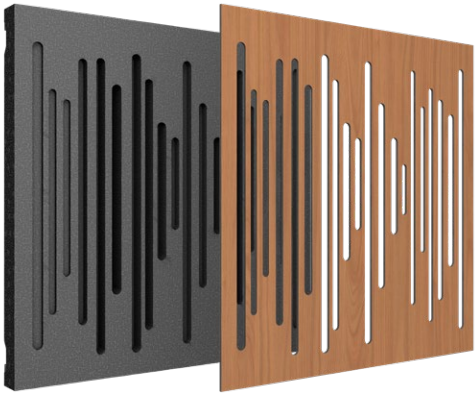
Wavewood Diffuser Ultra MKII

A new diffuser for balanced sound ambiances

With the Wavewood design a new diffuser product arrises. Simulating a QRD sequence the new Wavewood Diffuser is an ideal solution to those who search for balanced sound ambiances that simultaneously control the exceeding energy in a room, flutter echoes, and still maintain a living and bright sound. It is particularly effective in treating medium and high frequencies.

This panel is made of high-density polystyrene and wood finish. The idea is to have a more competitive diffuser with low weight and easier application. It matches perfectly along with the usual Wavewood absorption panel which means you can combine both absorption and diffuser versions without noticing any differences in terms of aesthetics.

Upgraded with built-in holder rips so it can be installed to a wall with a VicFix fixation system, using VicFix Mini (supplied) or VicFix J Profile 2m. Wavewood Diffusor Ultra MKII continues to be compatible with Flexi Glue Ultra, which is required for ceiling installation.



Technical Specifications

Dimensions: 595×595×60 mm / 23,4"×23,4"×2,4"

Raw Materials: EPS (Expanded Polystyrene), MDF, High-Pressure Laminate (HPL)

Fire Rate: Euroclass E

Acoustic Properties: Medium frequencies Diffusion

NRC: 0,30

Installation/Accessories: VicFix J Profile 80 mm (included); VicFix J Profile; Flexi Glue Ultra

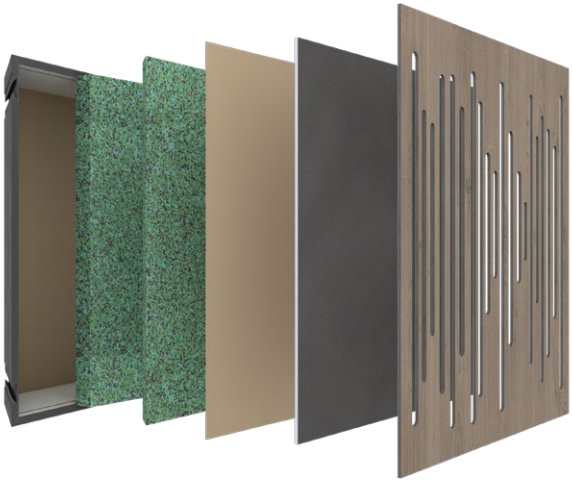
Super Bass Extreme Ultra

Designed for effective low frequency absorption

Super Bass Extreme Ultra's elegant wooden front is based on Vicoustic's flagship Wavewood panel. Appropriate for corner mounting, it provides effective low-frequency absorption between 60-125Hz and delivers maximum effectiveness between 75 -100Hz. The wooden front panel has two functions, providing sufficient high frequency absorption to control corner reflections without deadening the sound.

When the sound pressure is at its maximum, Super Bass Extreme Ultra's internal membrane transforms high-pressure fluctuations into air motion. The membrane sympathetically vibrates over a frequency range of 75-100 Hz, causing the air to pass through a layer of high-density foam absorbing the low frequencies.

Highly recommended for smaller rooms with low frequency issues, Super Bass Extreme Ultra can be used in different corner positions. Besides its aesthetics, it's extremely practical, with a modular structure allowing further units to be added as intended.



Technical Specifications

Dimensions: 595×595×155 mm / 23,4″×23,4″×6,1″

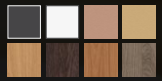
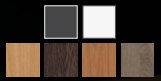
Raw Materials: VicPet Wool, ViCycle, MDF, High-Pressure Laminate (HPL)

Fire Rate: Tests in progress

Acoustic Properties: Low Frequencies Absorption; Bass Trap

Installation/Accessories: VicFix J Profile (included); VicFix Corner; Flexi Glue Ultra or Manually assembled (no tools required)

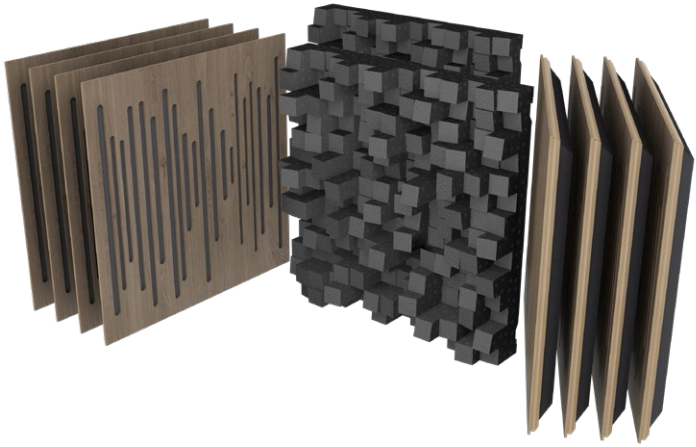
Wavewood Comparison Chart

	VicPattern Ultra Wavewood	Wavewood Ultra Lite	Wavewood Diffuser Ultra	Super Bass Extreme Ultra
Available Finishes High-Pressure Laminate (HPL)				
MDF	Premium Black	Standard	Premium Black	Premium Black
Installation	VicFix J Profile (included); VicFix Corner	Flexi Glue Ultra (not included)	VicFix J Profile (included); VicFix Corner; Flexi Glue Ultra	VicFix J Profile (included); VicFix Corner; Flexi Glue Ultra or Manually assembled (no tools required)
Units/Box	3	8	3	2
Absorption Material	Recycled PET (VicPET Wool)	Acoustic Polyurethane Foam	EPS (Expanded Polystyrene)	Recycled PET; ViCycle
Sides with Finish	✓			


dubai audio

Acoustic kits

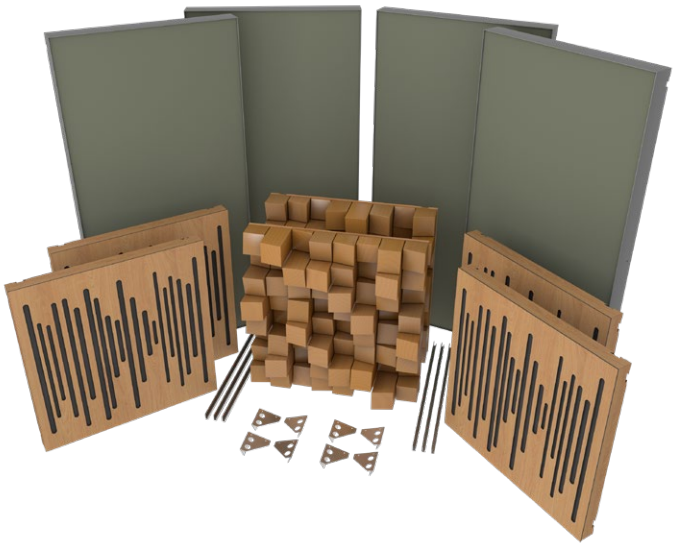
VicStudio Box



A kit composed by 8 Wavewood Ultra Lite, 2 Multifuser DC3 and 2 tubes of Flexi Glue Ultra, available in three different finishes (Black Matte, Brown Oak and White Matte).

For project studios, Vicoustic has developed VicStudio Box - Acoustic Treatment kit. Combining some of our most popular products in an easy-to-use and install package, a home studio owner can get everything required to have a treated studio that will sound great and look even better.

VicAudiophile VMT Kit



A kit with 4 Flat Panel VMT, 4 VicSpacers Plus, 4 VicPattern Ultra Wavewood and 2 Multifuser Wood MKII, available in three different finishes (Brown Oak, Natural Oak and White Matte).

No matter how efficient a Hi-Fi system is, if room acoustics is not properly addressed, you will end up hearing more energy coming from the room than from the loudspeakers. VicAudiophile VMT Kit was developed to improve room acoustics.

Vicoustic's new line of products takes a holistic approach into account by fully integrating its acoustic performance with other sustainability goals

Sustainability

From the first Wavewood pattern panels to the current solutions, Vicoustic underwent a long path, consolidating the products and raw materials used, which today seek to provide a sustainable and environmentally friendly approach.

By continuously introducing the use of PET and VMT solutions, predominantly made from recycled plastic bottles, the brand was able to develop a high-performance acoustic absorber that is eco-friendly. The use of MDF and melamine in the Ultra line of products also presented a new path for a more sustainable acoustic approach.

Alongside the use of recycled and recyclable materials, Vicoustic's new line of products takes a holistic approach into account by fully integrating its acoustic performance with other sustainability goals, such as air quality, human safety, and health.

Vicoustic understands sound
- and we know what makes a
truly exceptional acoustic
and audio experience.

Vicoustic

The Wavewood has become such a trademark for Vicoustic that its unique design was melted into the brand's Head Quarters in Paços de Ferreira, Portugal. The HQ facilities with the Wavewood trademark facade are at the forefront of our Logistics center and main office.

Vicoustic understands sound - and we know what makes a truly exceptional acoustic and audio experience. Being at the forefront of acoustic technology, we combine engineered systems with stunning design to bring you to sound that is free of compromises but full of high-quality performance.

We understand the unique sound dynamics of a room or venue. So whether it's a Home Cinema Hi-Fi to a professional sound system for radio and television, our expertise for peak acoustic performance is second-to-none.

A leading force in the industry, founded in 2007, Vicoustic is found in over 80 countries around the world. The products from Vicoustic deliver clever and innovative solutions to meet the demands of spaces that require a sophisticated soundscape. Taking on board the high standards of our customers, we continuously strive to manufacture products of superior functionality, adaptability, but all the while with a sustainable and environmentally conscious mindset.

Wavewood

A revolutionary approach to acoustics

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