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Finite Elemente Pagode Carbon Edition

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Finite Elemente Pagode Carbon Edition

NEXT LEVEL

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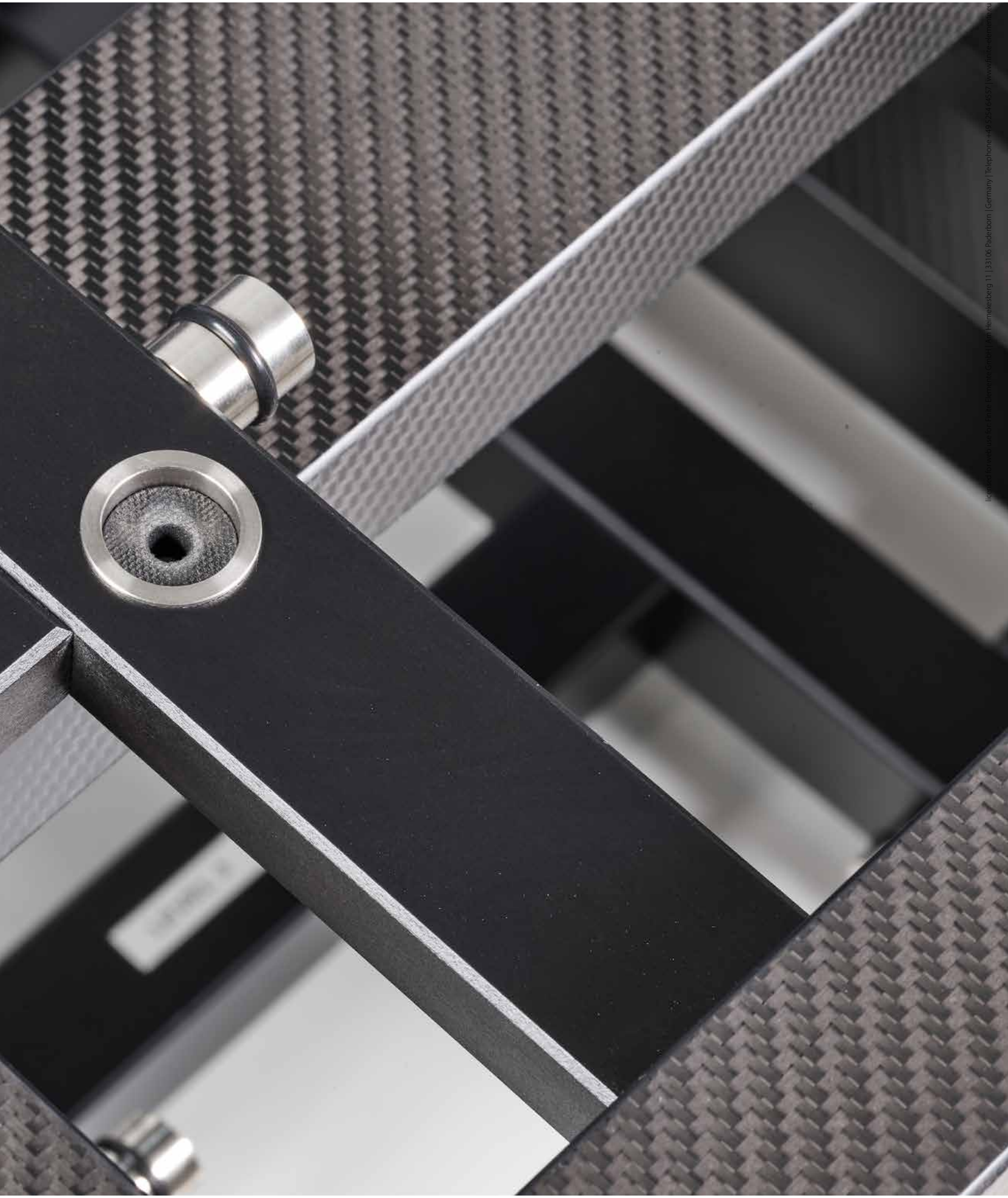
THE FINITE ELEMENTE PAGODE EDITION MK II MAY HAVE EARNED A REPUTATION AS POSSIBLY THE BEST HI-FI-RACK ON THE MARKET, BUT THE CARBON EDITION IS AN ENTIRELY SEPARATE LEVEL.



Removing the component shelves gives you some idea of how complex the design is. You can see the metal retainers, flush-mounted in the supporting frames, for the ceramic ball studs which are part of the shelves. The horizontally inserted metal cylinders are the end pieces of the resonators, which are separately tailored for each level.

"Three, two, one" was all it took when Rei counted in her track "Dance Dance" (*Seven*) without more than a whisper. The first note hadn't even been played, yet I could already hear the difference. Her voice stood much more firmly at center stage, seemed intrinsically more focused and somehow even more vivid. But this actually surprised me, given that hers is a hushed, whispering voice.

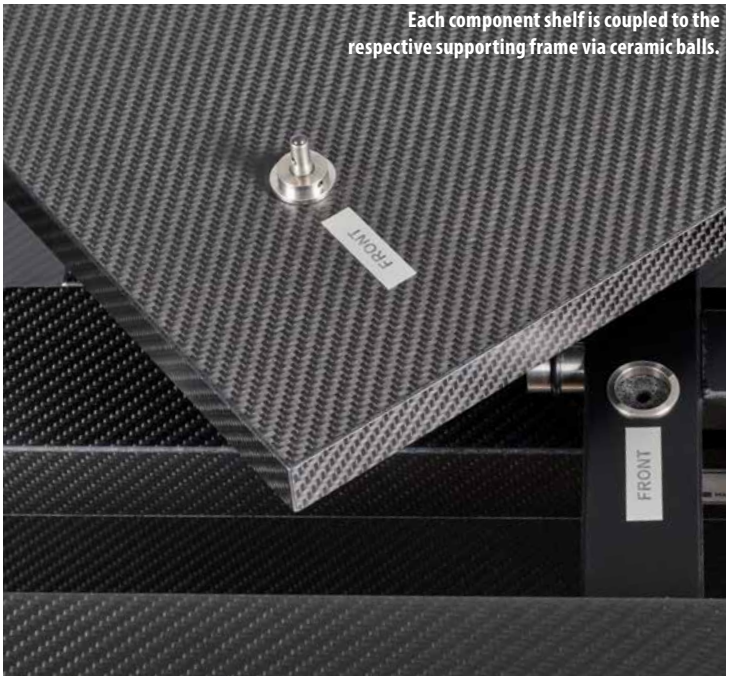
Admittedly, the experiment was somewhat extreme. I had initially placed the Audio Note CD 5.1x on the floor of our listening room and listened to the album in order to create an acoustic baseline for comparison purposes. This was before I conducted the same test with the device sat on the Finite Elemente Pagode Carbon Edition. Of course, my approach will seem barbaric to audiophiles, but I can assure you there was method to my madness: you see, direct comparisons between different rack systems may very well reveal (albeit relatively subtle) differences, but, as we know, our acoustic memory tricks us by constantly adapting to changing conditions. This makes it extremely difficult to discern which test subject has the least influence on the system's tonal quality – which tonality is the intended original? Ultimately, a rack shouldn't have any sound of its own and instead simply provide the components for the ideal working conditions to reach their full potential. Higher resolution? No problem! High-precision reproduction? Bring it on! However, the tonality should never be affected. And when it comes to tonality, you could hardly find a more

Black rack: the Finite Elemente Pagode MK II Carbon is fully-encased with carbon fiber composite material. Underneath this exterior lies a structure of Canadian maple boasting high sustain, which is often used for guitar necks – this might sound questionable, however it actually means that this wood is particularly effective at diverting vibration.

neutral standard gauge in non-laboratory conditions than a carpeted concrete floor.

The Finite Elemente Pagode Edition MK II already wowed us with its lack of character – an important discipline to master – but the manufacturer has gone to the next level with the Pagode Carbon Edition. It's fully encased in carbon fiber composite material, making the structure even more rigid, which means that the rack can divert vibrational energy even more effectively. However, no changes were made to the extremely sophisticated and brilliant central concept: aluminum T-profiles, firmly attached to the floor level, holding the supporting frames of the higher levels, and which are connected to the main structure with spikes. In turn, the lightweight honeycomb component shelves sit on these frames, whereby the contact with the supporting frames is created using ceramic ball studs. The entire rack is coupled to the floor with Finite Elemente Cerabase feet. Instead of the usual spikes, these feature three ceramic balls per-foot designed to provide the perfect balance between vibration damping and diversion.

As expected, a striking improvement occurred after moving the system from the floor to the Pagode Carbon Edition. Not only did Rei's voice become much more focused, but also the vividness noticeably increased due to her guitar, which sounded even more captivating and substantial. Moreover, I noticed an increase in stage depth: not only did the ▸



Each component shelf is coupled to the respective supporting frame via ceramic balls.

The complexity of this equipment support becomes immediately evident when you take a closer look "behind the scenes".

background vocals move significantly further back, but also the depth levels developed fuller three-dimensionality, while previously they'd felt stacked up behind each other like scenery backdrops. Suddenly everything, from the voices and the instruments through to the background tap dancers, felt more tangible in the room and resounded with a much clearer texture that avoided any exaggeration. Absolutely nothing changed in the timbre, which was exactly how it should be.

Of course it's hardly surprising that the Pagode Carbon Edition would emerge as the clear victor in its duel with the floor. Therefore I decided to turn up the heat quite considerably. We currently have several racks available in the listening room. I chose one with which I am very familiar and which has consistently impressed us due to its excellent performance. The rivals were set up next to one another and the player was alternately placed on the top-level of each so that moving it required simply a swift two-handed maneuver.

This was a much closer race – but my usual go-to was no match for the Finite Elemente. "Sinkin' Soon" by Norah Jones (*Not Too Late*) is a very cleanly produced track, and you can truly pick up all of the subtle nuances and micro-dynamics of the individual instruments and voices. Initially, the two racks seemed to be neck-and-neck: the banjo was clearly rooted just to the right behind the left loudspeaker without ever audibly emerging from it, Jones' voice vividly appeared exactly in center-stage, and I could perfectly follow how the double bass player slowed the string reverberation.

However, in direct comparison, the other rack clearly lacked some fundamental tone energy which the Pagode Carbon Edition managed to retain. The Pagode Carbon Edition revealed all of the recording details at least as accurately, perhaps even more-so, however it sounded

The best rack technology would be useless if the floor couplings weren't up to the same standard. Therefore, the Pagode MK II Carbon sits on Cerabase adjustable feet. The coupling via three ceramic balls per-foot combines effective diversion with precisely the right amount of damping.

Each supporting frame is not just resting on the structure, but is tensioned to the rack's support frame via spikes. A higher level of sophistication is not possible.

much more organic and natural. Even Norah Jones' voice had a full presence and the right amount of bite without ever becoming too sharp. The Finite Elemente Pagode Carbon Edition delivered everything that my previous go-to rack managed to deliver, and then went one better by revealing a host of little details which, once you've heard them, suddenly become crucial. It's the perfect partner for high-end systems for which only the very best will do. ▪

Hi-fi rack | Finite Elemente Pagode Carbon Edition

Concept: carbon fiber-encased hi-fi rack with multiple decoupling and resonator technology | **Levels:** 2 to 5, also available as a pure power amplifier base | **Load-bearing capacity:** 100 kg bottom level, 50 kg levels 1-4, optionally level 1 can be constructed for heavy-duty loads (load-bearing capacity of 120 kg, for an additional fee) | **Materials:** Canadian maple, aluminum, MDF and carbon fiber composite material | **Usable mounting surface:** 52 x 47 cm | **Options:** high-polished aluminum and logo insert (€840), heavy-duty level (from €2,700) | **Dimensions (W/H/D):** 71/60/59 cm | **Warranty period:** 5 years | **Price:** from €17,550 (2 levels), test model approx. €21,900

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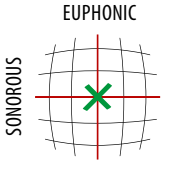
Accompanying Equipment
CDCD players: Ayon CD-3sx, Audio Note CD 5.1x | **Network players/DACs:** Cambridge Audio CXN V2, Lumin X1 | **Amplifiers:** Aavik I-580, NAD Masters M33 | **Loudspeakers:** DALI Epicon 6, Zingali Quantum Array 2.8 | **Cables:** AudioQuest

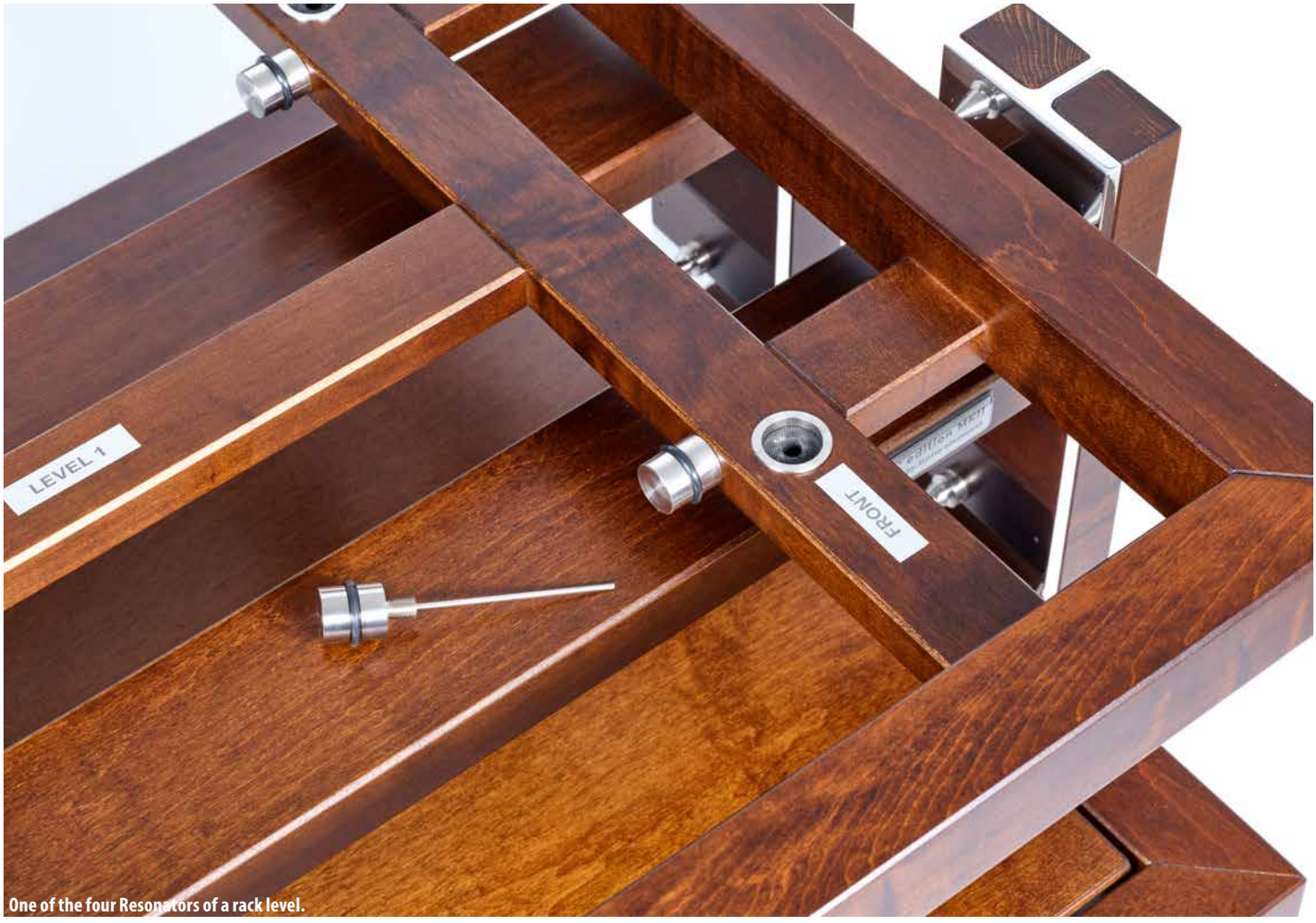
The **Finite Elemente Pagode Carbon Edition** removes itself from the musical event just like it does for any interference.



CHALLENGING = INTUITIVE = A component is 100% intuitive if you can exploit its potential to the full intuitively.

Technology

RACKS – MORE THAN JUST HI-FI RELIQUARIES

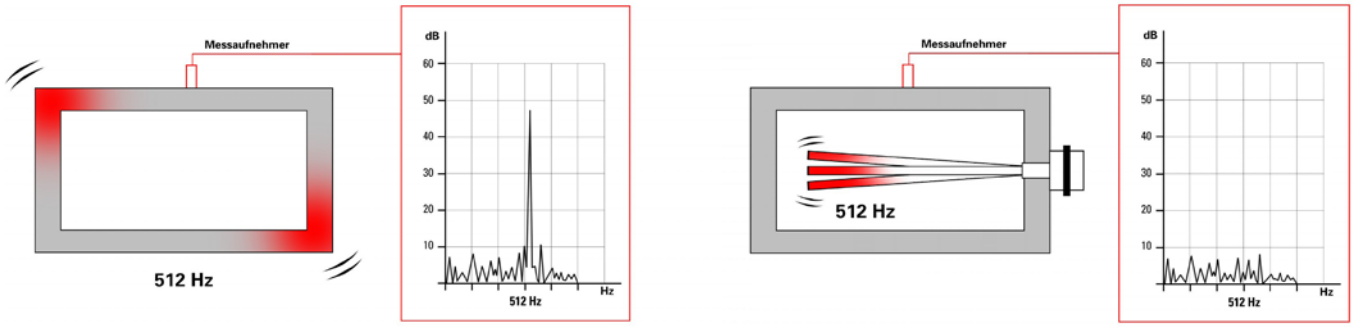


One of the four Resonators of a rack level.

The popularity of the classic set-up, sometimes disrespectfully and disdainfully referred to as a "hi-fi altar", seems to be waning due to the trending "sideboard-fi". Thus many are wondering whether the 30-kg CD transport might find it easy migrating to a KALLAX shelving unit. When it comes to turntables, the answer is clear: as mechanical devices that convert the slightest movements of a tiny diamond stylus into music signals, they react extremely sensitively to every type of external vibration and shock. Even tubes and transformers are considered microphonic: they convert mechanical vibrations into voltages of corresponding frequency and then send this along the signal path. However, the same is also true, to a certain extent, for other components, such as capacitors. Therefore it's always advisable to protect all hi-fi system components from any mechanical interference as effectively as possible, or render such interference harmless as quickly as possible. But this is no mean feat when the entire space is being hammered with 90 decibels or more across a broad frequency range. Generally, the inertia associated with the mass helps by somewhat sedating all devices, but every object has self-resonance. And this applies to the mounting surface on which a component is placed just as much as to the component itself. If there is excitation at these frequencies – and music signals excite practically the entire audible frequency range –the hefty vibrations can cause undesirable microphonic effects.

In turn, for decades, rack manufacturers have racked their brains for methods to reign in these vibrations. They essentially use two basic principles: the first is damping, whereby the material absorbs the vibrational energy and converts it into heat though internal friction; and the second principle is diversion, which channels the energy away from the components and, for example, releases it into the floor which, due to its mass, can absorb significantly more energy without noticeably vibrating. But the folks at Finite Elemente didn't do all of this on their own, instead teaming up with Dortmund University of Applied Sciences

If the self-resonance(s) of a rack level have been determined, one can specifically take action against them and disarm them. Targeted approach: just like, in principle, all objects, a rack's levels also have self-resonance. The Finite Elemente resonators are each specifically tailored to the frequency that the level on which they are mounted would vibrate. They absorb this vibration and thus practically neutralize it in full.



and Arts to examine the detailed nature of the excited vibrations and subsequently develop the most effective methods for neutralizing them.

The initial tests showed that the Finite Elemente rack's lightweight design is inherently very effective: it behaves calmly across the entire audible frequency spectrum, with the sound emitted by the rack staying far below the exciting music signal, and so it remains inaudible during playback. However, what remain are numerous resonance peaks which may cover a narrow range but maintain a fairly high sound level. And this is precisely where Finite Elemente's resonator technology steps in: each level features four of these hidden resonators – small metal pins, which are precisely tailored to each defined frequency. They absorb the resonant vibration of the surfaces on which they are mounted and vibrate instead of them. As they only have a minuscule emission surface area, they also emit only low sound pressure which fizzles out in the small cavity where the resonator sits, all of which goes unnoticed externally. Although the rack levels are identical, they have different resonant frequencies because they are connected to the supporting frame at different heights. The higher levels are further away from the floor level, so they are attached to a longer swing arm and are thus excitable at lower frequencies. Therefore, the resonators must be individually tailored for each level. To truly intercept all resonances, the four resonators within one level are also tuned differently. Yet as the owner, luckily you only need to engage with the complex ins and outs if it's something that piques your curiosity: differences in component weight essentially only affect the amplitude of resonances, and hardly affect the frequency itself. In turn, every rack is a closed system, whereby you don't have to change the resonators even if you change the devices. In each case, the resonators are tailored based on 50% of the load-bearing capacity of the levels. Any slight frequency fluctuations are easily intercepted due to the frequency range of the resonators which tolerate deviations from their tuning frequency of up to approximately 10%. ▪

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