

Bassocontinuo Aeon audio rack review



We came to the point where often sadly many of us are looking sadly at the other branches of industry for their pace in dealing with new materials and high tech approaches. To often I'm stumbling on the products, created and based solely on the pin point guided marketing strategies, that actually offer very little if any true technological breakthroughs or even minor step ups.

Getting Bassocontinuo Aeon audio rack for review triggered quite some of my endorphins reserves. And for the clear reasons...

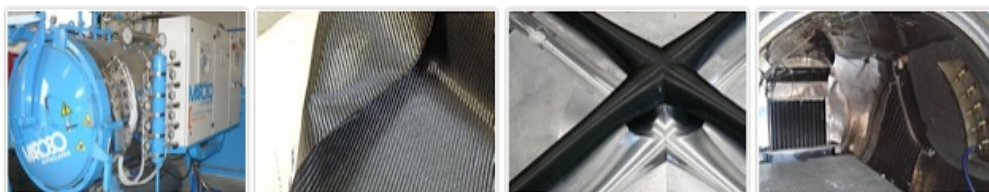
THE STORY

Its important to look what led to the creation of Aeon. It's a product of passion and urge to bring something special and

"REVOLUTION LINE was born from our desire to demonstrate that we can dream. We have believed in this project from the very beginning, we have been working hard to contain the costs and introduce on the market an innovative rack at an affordable price.



Ten months have past since the first draft was created and the engineers begun the feasibility study. Aeon is a reality today and is the result of all the experience gained during these years. The rack we have designed is what we would like to have in our houses, it represents our ideal: simplicity is complexity resolved (Constantin Brâncuși)."



TESTING PROTOCOL

Bassocontinuo hides nothing. They've researched and invested seriously into the Aeon. Here is the breakdown of the testing procedure:

TESTING PROCESS (transmissibility analysis)

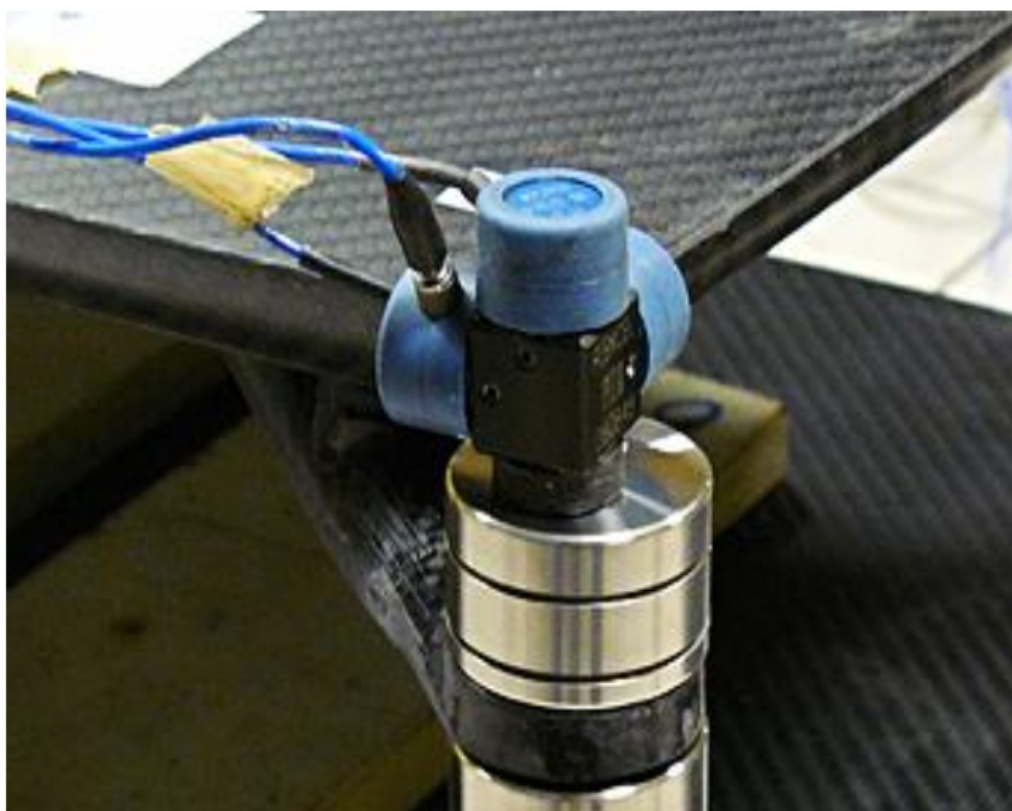
This was the most important phase. In this phase we were to find out if the project was correct: for the transmissibility analysis we have prepared a rack simulating a situation of operativity (we have loaded it with asymmetrical weights to simulate the presence of the electronic devices). We have performed the analysis stressing the deck with a seismic shaker able to create frequencies from 1Hz to 18 KHz from the distance of 1 meter.

In this case the EDT (Encapsulated Damper Technology) module reacted perfectly and demonstrated its ability to damp vibrations, significantly reducing the peaks.



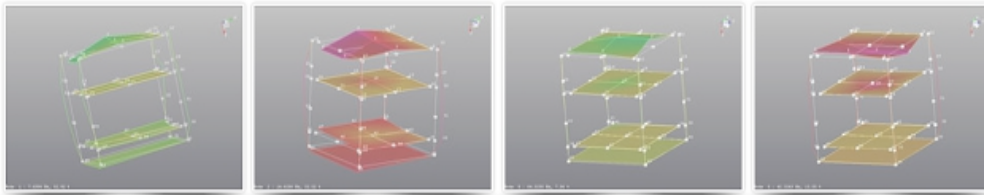
TESTING PROCESS (dynamic analysis of the structure)

Once established the exact composition of the endoskeleton we have done the dynamic analysis of the entire structure.



We have used a measuring hammer and four mono-axial accelerometers on 51 selected points so to recreate the structural net.

With the EMA (Experimental Modal Analysis) and a dedicated software we have detected the parameters of the resonance frequencies, of the dampings and of the modal warps.



This study evidenced some criticality and gave us the opportunity to solve problems that had never been faced before in this market.

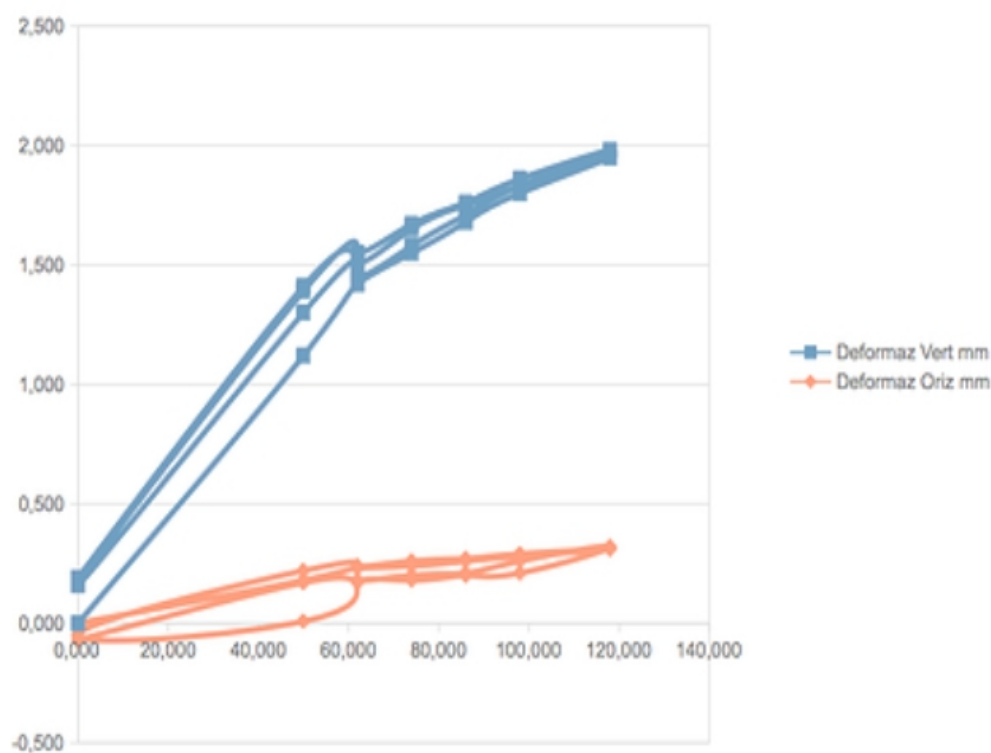
The result is a highly performing rack - without compromises - at a very competitive price.

TESTING PROCESS (static structural analysis)

To design a rack it is necessary to evaluate, first of all, which is the load that it can bear.

AEON is the first rack with a carbon main structure that can bear a very high load (80 kg on bottom shelf, 60 kg on all the others) even if it has a total weight of 635 gr. An amazing result!

The breaking point is even more astounding: the CFRP ENDOSKELETON can bear loads 500 times superior to its weight.

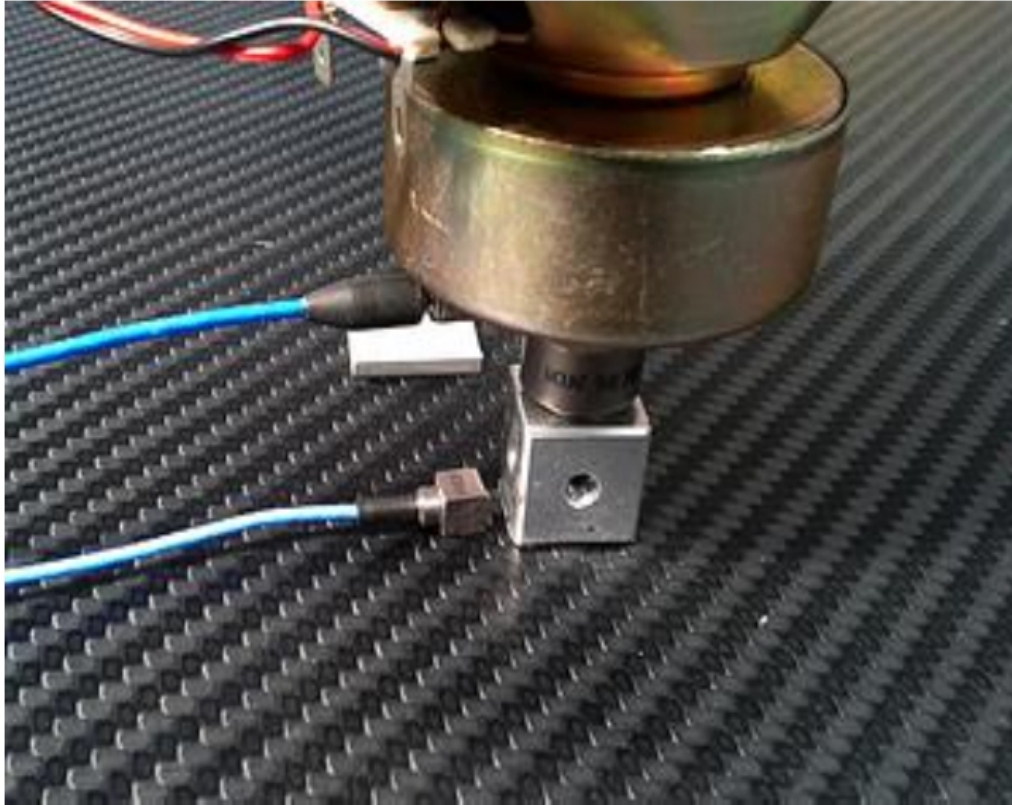


The deformation curves show a straight trend and a very high static resistance. The deformation is inferior to 2 mm on a 800mm long arm, loaded in its central part with more than 120 kg. With the same load the horizontal deformation is inferior to 0,3 mm.

TESTING PROCESS (shelf dynamic analysis)

The modal analysis of the CFRP ENDOSKELETON and of the LHPS SHELF has been performed with a seismic shaker created to generate the vibrations of a source engine (analog or digital) and to understand what actually happens to a rack that undergoes direct stress.

A three-axial accelerometer has been positioned in 42 points of the structure. In this way we have recreated the vibrational movements obtained stimulating the structure with frequencies included between 20 Hz and 11 KHz.



The subsequent analysis of the results evidenced the critical points of the prototype and gave us the opportunity to optimize the orientation of the carbon layers and maximize its performance.

TESTING PROCESS (static structural analysis)

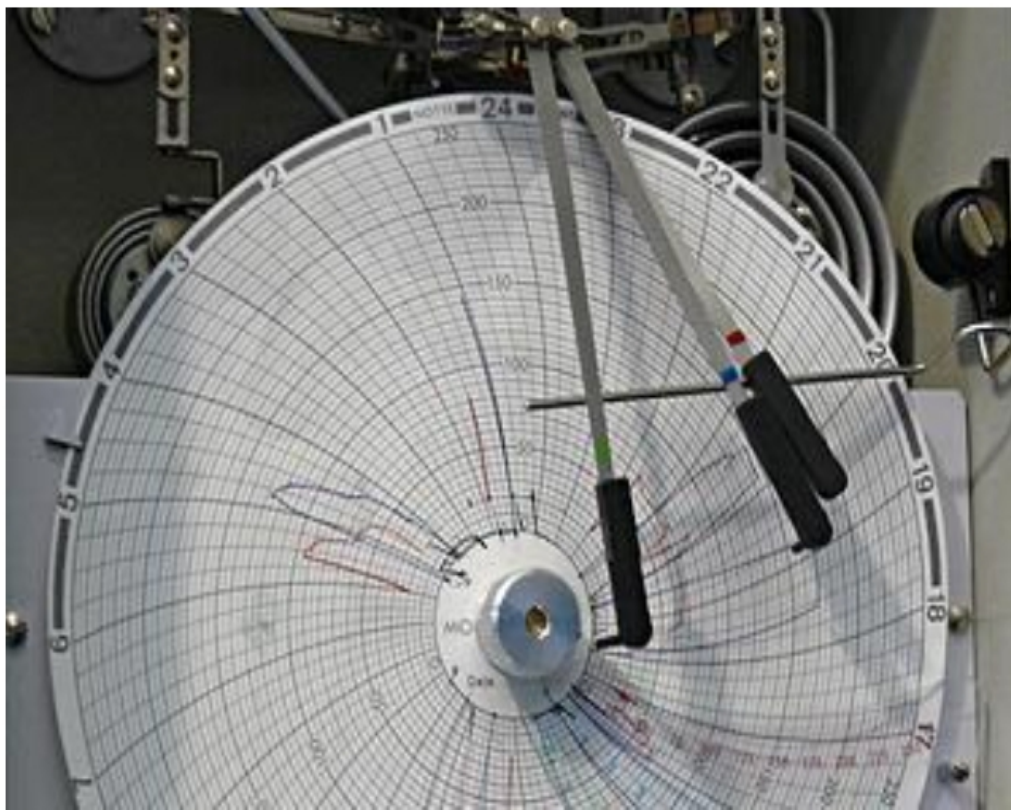
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TACHYGRAPHIC CERTIFICATE

A tachygraphic certificate, that comes with every product, guarantees the perfect execution of the autoclave manufacturing process of the endoskeleton (and the shelf). The control of pressure, time and temperature is fundamental to achieve the best results.



High temperature and pressure (120 C° and about 6 bars) inside the mould facilitate the hardening of the epossidic resin and the absence of air bubbles in the structure.

This same procedure is required in the aeronautical and automotive sector to certify the coherence of the productive process.

THE REAL DEAL

The effects of micro vibrations and micro resonances doesn't affect only the small sensitive devices like phono cartridges, but actually every single component in the high end audio system chain. As component I'm not referring to finished electronic devices, but about the actual building electronic parts. For some this might sound to much to handle and to exotic. Yet, resonance and micro vibrations affecting the primal building blocks can be (surprise surprise) both measured and heard. There is whole science around dealing with this specific hubris, but to often high end audio is of absence regarding that subject matter. How so? Simple. Many companies and products can be masked within the marketing blabbing.

For a change Bassocontinuo shows their elaborated technical approach. With an actual logical facts. There are few companies in our industry, that takes this specific audio duties with utmost seriousness like HRA Audio or Finite elements, but those comes with the completely different price tags and their own set of rules.

CFRP ENDOSKELETON

Aeon bring the CFRP (Carbon Fiber Reinforced Polymer) ENDOSKELETON. This specific composite materials act as a system's frame. Carbon fiber is by nature an anisotropic material, which means, that it reacts differently to the different forces that stress it. As mentioned its already well established and implemented in both aerospace and automotive industries. Its stiffness and lightweight nature ensure benefits, that others materials cannot provide at the same scale.

Bassocontinuo ENDOSKELETON is created from BIDIRECTIONAL carbon and glass fiber sandwich structure, that is reinforced with structural resins. Optimised fiber orientation created a possibility of the designing a special very light (600 g) main frame, that is able to hold up to 140 times its weight.



Going further in depth Aeon CFRP ENDOSKELETON is an actual MONOCOQUE BODY created from unique monolithic element made in an aluminium machined solid plate. As known from high performance car industry and aeronautics by nature monocoque bodies have no structural welding. As such monocoque mainframes the leading composite products, that this niche market can offer. For example Formula One cars uses a special safety airframe that implements this unique technology.

LHPS SHELVES

LHPS SHELVES uses another unique feature. They are made as an lightweight high performance material sandwich mix, that is designed strictly for enhancing the sound performances. Each dedicated shelf section uses 1 mm thick mono directional carbon fiber shell as well as special polyurethane foam with overlapping epoxy resin that build out supporting ribs. This helps with perfect dispersion of residual vibrations (generated by the sources) in the form of heat, a very high resistance to compression and to static load and an optimum force distribution (as it is demonstrated by the modal analysis).



LHPS shelves are laying on the special gel absorbers. These allows three directional shelf positioning and helps with reducing of direct vibrations generated by the sound pressure.

TSA - Technogel Shock Absorber

TSA - Technogel Shock Absorber comes directly from Technogel GmbH, that in cooperation with Bayer Chemical Company created a unique “soft solid” material that joins together the 3D deformation of a fluid and the memory shape of a solid.



It's a completely non-toxic and stable polyurethane substance (made without using oils or plasticisers), at first developed for the medical field and now used in a wide range of applications.

This material, exposed to dynamic stress brings a level of absorption and dispersion unmatched by others.

EDT - Encapsulated Damper Technology

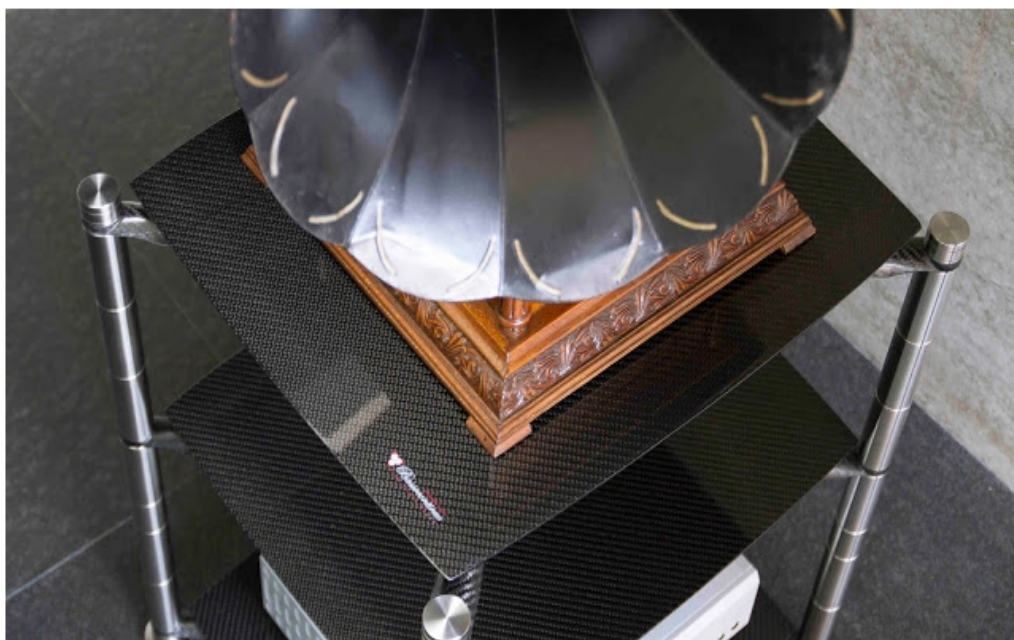
EDT - Encapsulated Damper Technology ensures very high absorption coefficient and allows foot to be adjustable in height via threads 1 point per inch. It implements an elastomer cylinder 15 mm thick and 3 degrees of constraint for providing the necessary stability.



This simple yet effective solution, thanks to the material's relative compliance (50 sh.) via the foot are easily adjustable to the surface and this compliance absorbs/disperses in the form of heat the low frequency floor vibrations.

REPETITION FOR COMPLETION

For any objective test result there must be some repetitive process in ensuring the real foundation for practical results. For the references I'm keeping all my data from previous test and it's always on hands for comparing and contemplating.



With Bassocontinuo Aeon audio rack I wanted to go an extra mile and research deeper into the subject matter. As usually I've prepared my steady arsenal of testing track and started with the process of listening, comparing and testing. I've extend my usual time and procedures with some extra twists.

It's very easy to get carried away with the initial impressions. For the standing conclusions it's always recommended to repeat the process few times in the same/similar conditions as well as bringing in an extra measures to give the observation a certain peek stress test as well as an objective conclusions.

Tomaz Pengov album Odpotovanja might be a simplistic in its core. And exactly that makes its such a unique gem and so special. Recorded back in the seventies by legendary Aco Razbornik, Odpotanja reveals Tomaz inner world in profound and most intimate way. This album is his Leit Motif. Wider public doesn't know, that this album was fully recorded on analog tape in the student dorm toilet. Wit right! This specific surroundings projects an intriguing sound scape, that gives the album certain ethereal appeal. In a way it reminds me (for the mood) on completely different, but also legendary recording - Stefanovski/Tadic Krushevo. Stefanovski deliberately choose the unique acoustics of Krushevo monument place. This gives the album not only specific sound imprint, but it enriches it with the certain message, that both artists and producer wanted to achieve.

I know both albums by heart and listened to them so much over the years, that I literally follow each note strike during the songs. This helps me in shaping the viable perspective of spotting the minute changes and even minimal differences within the performance shift of tracks and under the scope.



Compared to the usual performance and leveling with other two High End audio racks on hand Bassocontinuo showed even within first notes strikes the effective changes. And not changes for the sake of changes, but the real benefits toward the more refined and balanced performance.

Continuing my exploration of Aeon effectiveness I've switched to pure acoustic, un-amplified recordings of classical real life instruments and vocals. This always adds up to the real references and factual end results. Many people too quickly forget how the only real reference in high end audio can be pure acoustic music! Unaltered in any way! Only with such recordings there can be a serious discussion about the real reference level of high end audio playback.

There are certain amount of anchor points needed to be viable in presenting a believing high performance. When those are presented in audio system, then the real emotional exchange between the performer and listener can happen.



Over the years I've learned, that there are many ways or different routes in achieving this. Experienced high enders can quickly or instantly recognize certain products, that carry that specific potent DNA. Such person is highly likely capable of setting up the system that can enable high performance emotional interaction.

My listening and comparing of the notes during Bassocontinuo Aeon testing produced interesting results. The performance shifts varied with different components. From spotting smallest changes, subtle nuances, better details, better coherence and musicality to much larger and dramatic performance boost.

With the devices, that were already designed to deal with the resonances and micro vibrations in its own way the results varied a lot. For some the additional benefit was small, while with others results were quite stand out. This proves the point, that not everyone knows what they're doing. Even if claiming the promising tech solutions and improvements.

For example Robert Koda Takumi K-10 preamplifier is built like a tank and it was planned from the ground up to deal with resonances. Still, I could spot a performance change quickly. It wasn't as obvious as with some other components, but vivid enough to make a repeated remarks.

CONCLUSION

In the world where state of the art technical barriers are challenged each year it's great to see and experience the product as refined, resolved and matured as Bassocontinuo Aeon audio rack. It clearly shows how much efforts and thinking went into creation of Aeon.



Too often I stumble on the products, that was design to please the eyes, but not the ears. Aeon strikes with double impact combining evident performance benefit with the stylish Italian looks.

Aeon monocoque structure brings something fresh into the high end audio. This approach is already successfully implemented with quite few products in other industry branches. It's great to see that we're also getting our high tech portion within the high end audio realms.



I like a lot Bassocontinuo Aeon high end audio rack. It represent a fresh wind with its innovative approach and down to earth pricing. I'm more then sure, that quite few companies would put a shocking price sticker on products such as Aeon if the it would be their manufacturing and design output. Lorenzo and Bassocontinuo team managed to create something, that stand out of the crowd and leave a lasting highly positive impression.



Bassocontinuo Aeon high-end audio rack deserves the attention of anyone in consideration of upgrading or adding the high tech rack into the system. For a passive device, that deals with the resonances in its unique way Bassocontinuo Aeon represent not only a trend setter, but an industry showcase of taking things very seriously.

Highly recommended!

Text: Matej Isak

TECHNICAL SPECS

FLAGSHIP CARBON FIBER AUDIO RACK

Structure: Modular solid stainless steel; floating shelves on CFRP endoskeleton.

Carbon fiber shield with PU absorbtion sandwich.

Thickness of the shelves: 25 mm / 1".

Height between shelves: From 95 to 345 mm

Overall dimension: 660 x 560 mm (W x D)

Useful size: 600 x 515 mm (W x D) each shelf

Top shelf useful size: 660 x 560 mm (W x D)

Load capacity: 80 kg bottom shelf / 60 kg top shelves

Decoupling: TSA (Technogel Shock Absorber) and EDT (Encapsulated Damper Technology).

Note: Update and change heights between shelves just adding stainless steel cyliders.