

High Fidelity

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REFERENCE SYSTEM

IN MY AUDIOPHILE LIFE I had only two racks both designed in such a way, as to protect the devices placed on them from external vibrations and to reduce vibrations introduced by the devices themselves. The breakthrough was the MASTER REFERENCE PAGODE EDITION rack by the German company FINITE ELEMENTE. Installed in my house in November 2013, i.e. eight years ago, it has been a real support for me throughout all these years and a great reference point for other products of this type; the report of this event was published on January 1, 2014 (HF - [№ 116](#), see [HERE](#)).

SYSTEM

ONE OF THE FIRST THINGS I hear from manufacturers and distributors who have not visited me for a long time is: "er, nothing has changed ..." Although for my ego it would be better if they meant me and no visible signs of passing time, which would be a positive experience, in fact **they mean the audio system** that I use, i.e. the HIGH FIDELITY reference system.



~ Finite Elemente Master Reference Pagode Edition rack - the original version.

And there is something to it. Although many of them did not notice some „accessories“ at first, such as the QPOINT noise correction systems by NORDOST, QKORE artificial mass by the company, they did not notice the new **PRO AUDIO BONO PAB ceramic 60 SN** anti-vibration feet under the speaker stands, nor did they notice the change of power cables for the power amplifier and preamplifier from Acrolink Mexcel 7N-PC9500 to **ACOUSTIC REVIVE ABSOLUTE-POWER CORD**, the replacement of the cables with the SILTECH system from the TRIPLE CROWN series resonates in them to this day.

Perhaps it is about a cumulative effect, a "big" change, while "small" ones, even costing tens of thousands of zlotys, go unnoticed. And, again, there is something to it. Looking at the audio system, i.e. - according to the definition of the word 'system' - "a set of interconnected elements fulfilling a specific function and treated as separated from the environment for a specific purpose (...)", one could indicate its "core" and "surroundings" (*Encyklopedia PWN, ENCYKLOPEDIA.PWN.PL*, accessed: 6/08/2021 [PL]). In this approach, everything that I wrote about, and what has changed in my system in recent years, **could be described as "secondary"** and it would be a legitimate term.

However, if we look at it from the point of view of sound, the situation becomes more complicated. For years, I have been convincing you that the basis for the efficient performance of a system is a **perfect interaction of its individual elements**. In the audio world, this means that the other, „secondary“ elements, such as: cables, shelves, anti-vibration stands and feet, noise canceling products, etc., are as important as its core, i.e. the signal source, amplifier and loudspeakers and that you have to spend comparable amount of money on them to get everything that they offer from the aforementioned core components.

Any deviation from this assumption results in a significant deterioration of the sound quality. And while the source or the amplifier shape the "skeleton" of the sound, give it direction, all the other elements are its "body", and although their role is to keep up with the former, ultimately **it is precisely them, that give the sound its character**, they decide whether a sound is complex, refined and internally rich, or just good.

THE RACK

A KEY ROLE IN ACHIEVING the sound that I wanted in my system, as well as in extracting everything possible from the products I tested, **plays the Finite Elemente anti-vibration rack** (I use formal spelling, the manufacturer uses lower case letters), MASTER REFERENCE PAGODE EDITION model.



~ Finite Elemente Master Reference Pagode Edition rack, MkII version.

It is one of the elements of the system that "arranged it" and prepared the basis for the already mentioned Siltech cables. I believe that it is **one of the best anti-vibration systems on the market** and although we can find equally good products based on different assumptions and correcting the sound in a different way, in my case the Finite Elemente rack was the „one and only“ choice.

I have written about this company many times, so I let me only repeat briefly what the designers were guided by. The basic idea was **to construct a rack with a relatively low weight and to control resonances in a different way than by damping them**. In collaboration with the University of Applied Sciences of Dortmund, all versions of the rack were measured for vibration and three "layers" were used to eliminate vibrations: resonators, shelves and feet with the CERA technology.

The first "layer" of this system is a light frame and light shelves. **The frames of the shelves are made of Canadian maple** and joined in such a way that there are thicker beams on the outside and thinner in the middle, forming trusses. The shelves are connected with vertical aluminum T-bars - the lower one is permanently bolted, and the remaining ones are fixed through horizontal spikes, expanding these T-bars. The 18 mm shelves consist of two layers of MDF boards connected with a lossy element - the manufacturer calls it "silicone-like", thanks to which the outer panels "float" and are not rigidly connected to the rack's frame.

The second "layer" of the vibration damping system is the CERA system, i.e. decoupling points where the intermediary element is a sintered ceramic ball. In the first version of the rack, we could find them in the Cerabase Classic feet on which the whole rack stands (they are optional).



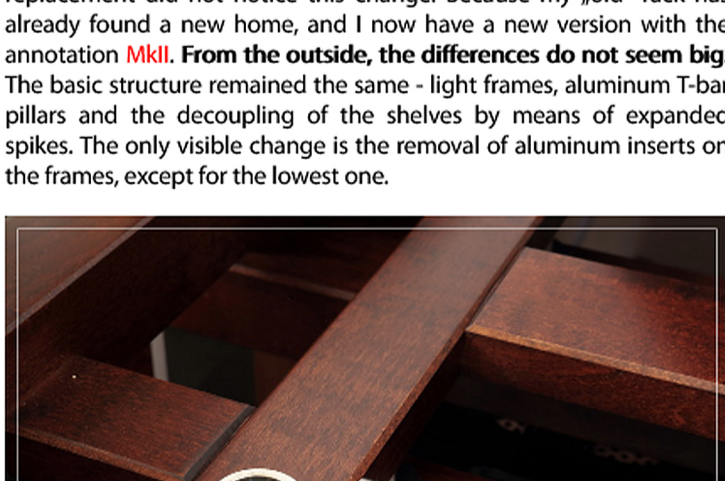
~ The frame of the Finite Elemente Master Reference Pagode Edition MkII rack.

And finally, there is the third "layer", probably the most interesting one - the resonators. They were developed at the same university and are used in industry. These are spindles vibrating in one chosen frequency. Like a tuning fork, they also "pick up" vibrations from the element in which they are placed and convert them into heat. After measuring the vibrations of the rack, these resonators were adjusted to the frequencies in which the vibrations have the highest amplitude - there are four such elements for each shelf. Each of the shelves vibrates differently and has resonators operating in different frequency ranges. And so, in the upper shelf they work in the range of 200-400 Hz, the middle one 400-600 Hz, and the lowest one 600-900 Hz.

The manufacturer declares that a shelf is largely **resistant to weight changes caused by the devices** standing on it and that the system dampens from 70 to 90% of external vibrations.

MkII

NO WONDER THAT MOST PEOPLE who visited me after rack replacement did not notice this change. Because my „old“ rack has already found a new home, and I now have a new version with the annotation **MkII**. **From the outside, the differences do not seem big**. The basic structure remained the same - light frames, aluminum T-bar pillars and the decoupling of the shelves by means of expanded spikes. The only visible change is the removal of aluminum inserts on the frames, except for the lowest one.



~ The key element of rack's „tuning“ (or vibration damping), one of resonators.

However, the new version features a **different way of decoupling the shelves from the frames**. In the old version, these are spikes - a good, simple solution. In the new one spikes were replaced with pins with ceramic balls, the same ones as used in the company's feet. What's more, the new version of the Pagode Elemente rack is available not only with classic shelves, but also with shelves made in the "honeycomb" technology with external layers of carbon fiber braid. In the version I bought, I have two such shelves - at the very top. These seemingly minor changes resulted in **much better vibration damping** - now not only the resonators work more efficiently, but also cover a wider frequency range - previously from 20 to 900 Hz, now up to 950 Hz.

The change I requested was **replacing the top shelf with a Heavy Duty version**. This means a thicker frame and its support on the rack's support with five CeraBall feet per shelf. I remember well how people from RCM placed the **Japanese TechDAS AIR FORCE ONE** turntable on it, a beast weighing over 50 kg. The shelf slightly sagged, but nothing else happened. After this experience, I supported it with four Tablette stands by Franc Audio Accessories, which reduced the problem but did not eliminate it. Only the Heavy Duty version did.



~ Two top shelves are decoupled from the frame using horizontal spikes, that spread the frame apart.

In this version, the "carbon" shelves are higher than in the classic one. My current version of the Master Reference Pagode Edition **MkII** rack, with additional Cerabase Classic feet, Heavy Duty top shelf and two Carbon fibre shelves **costs PLN 92,250**. Which is more or less the same as every basic element of my system. This is what I talked about at the beginning - treating the "accessories" as if they were core elements.

SOUND

I DON'T KNOW IF YOU HAVE NOTED, but the text you are reading is not a classic test. I tried to **avoid too many technical details**, because you will find them - along with the measurements - on the manufacturer's website. What's more, the history of the company and a lot of interesting information about its products can be found in an interview I conducted with one of its founders, and today's **CEO, Mr. LUIS FERNANDES**.

I also didn't want to duplicate the rigorous methodology that I am faithful to when it comes to testing - for several reasons. The first is obvious - the old rack was taken from me and the new one was set up in its place. **So I couldn't compare them using a direct A/B/A comparison**. It was an A/B comparison, but flawed because it was separated by a whole day. The differences are perfectly audible to me, I will go over them in a moment, and yet I have a personal relationship with the Finite Elemente rack (I like it), which is not a completely professional approach. And finally, there is such a thing as "fun" - a column that I actually wrote was fun for me, not work.



~ A novelty in the MkII version - instead of decoupling spikes, the shelves feature ceramic balls, the same as those used in the company's feet.

So what changed with the sound of my system with the **MkII**? These are not structural changes, the rack has a similar sonic signature - every audio element has it, let's face it - and yet from the very first moment I knew that I was in a different place. The sound of the familiar albums was **even lower and even denser**. The sound seemed more extensive, but deeper, and I would also say it was **darker**, were it not for the fact that some readers apparently misunderstand the term.

The owner of the Divine Acoustics company, who brought his latest loudspeakers, the Bellatrix model (test coming next month) to me, while listening to them in my system, asked at one point, why many people think that the HIGH FIDELITY system sounds dark. I replied that I myself was somewhat responsible for this because **I had too rarely explained what the "darkness" was all about**. And the point is not that the treble is missing/rolled off and there is too much bass, but that it has a natural velvety and depth, and the bass is physically tangible and incredibly dynamic. In short - "dark" sound is simply a "natural" sound.

I guess every manufacturer and distributor who heard the HF reference system repeated the same thing - at first they were surprised and asked about the treble, then they concluded that there is a lot of treble, **and thus it does not attract attention as such**. With the new version of the rack it goes even further, even deeper. So there is more air behind the music and this air is darker. So I had the impression that the music "grew", that although it seemed to be closer to me, in fact the back of the stage moved even further back, and the left and right sides opened more.

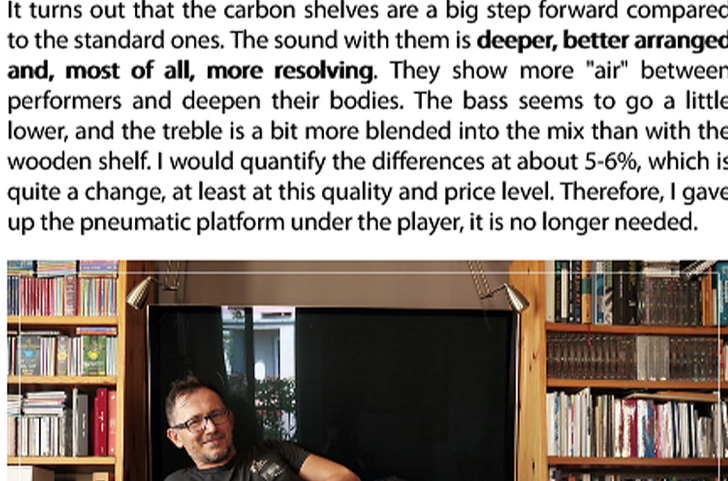


~ The rack replacement and setup of the new one was supervised by KAMIL LEMPE from the Dwa Kanaly company, who's also know from his work for the Koris high-end audio shop.

And there is also the matter of shelves. As I wrote, the classic shelves in the Finite Elemente racks are a sandwich design and are made of two MDF layers separated by a lossy material. Over the years I have disavowed (read - complained about them) their quality, using various, sometimes very expensive anti-vibration platforms to improve their performance. Indeed, most platforms introduced a lot of changes and these were **important changes in terms of sound quality**. With time, however, I came to the conclusion that these seemingly simple elements are really cool, at least within their limits.

As only two upper shelves in my new rack are "carbon" ones, and the others are classic, I had an opportunity to compare them. **It wasn't a precise comparison** because the former are the heavy duty version, ie they are thicker and have the fifth stem in the middle, but it gave me a good insight into the differences they bring to the sound.

It turns out that the carbon shelves are a big step forward compared to the standard ones. The sound with them is **deeper, better arranged and, most of all, more resolving**. They show more "air" between performers and deepen their bodies. The bass seems to go a little lower, and the treble is a bit more blended into the mix than with the wooden shelf. I would quantify the differences at about 5-6%, which is quite a change, at least at this quality and price level. Therefore, I gave up the pneumatic platform under the player, it is no longer needed.



~ And all is clear...

SUMMARY

SO DO YOU NEED TO REPLACE the original version with the **MkII** version of the rack? Well - if you can afford it, why not, it's just a better version. However, this is not a "must", but an option. The older Finite Elemente rack is so good that it offers most of the advantages that can be found in the new version. But if you do not have a high-end foundation/support, and you have a pagode audio system, then **FINITE ELEMENTE MASTER REFERENCE PAGODE EDITION MkII should be on your "short list" as the number one choice**.

It is not the only rack of this class on the market, there are others, based on different assumptions, also extremely interesting. But for me, in its honesty, in the technical background behind it, and in the changes it brings to the sound, it is a **unique proposition**. ■