



FEUILLETON.

A Visit to Finite Elemente

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I think I am like many audiophiles: It's fun to look for possible improvements within the audio chain with accessories and cables. It's much rarer to swap amplifiers and source components, and almost no one even parts with their loudspeakers on a trial basis. And equipment supports are almost a taboo subject. A mistake, as a visit to Meschede happened to turn out.

At least I don't have to reproach myself for having criminally neglected the subject of equipment placement. Since the late 90s, my components have been placed on Finite Elemente's fine Pagode supports. Every year or two, Luis Fernandes dropped by to present another improvement for testing. Sometimes it was Cerabase instead of the standard feet, sometimes frames with resonators, sometimes the heavy-duty version for the turntable shelf. Since every postulated enhancement was actually easy to perceive in terms of sound, I didn't worry about equipment racks, knowing that I had set up my equipment in the best possible way. But then things got quieter around Finite Elemente and Luis Fernandes was suddenly no longer part of the team. Updates were not forthcoming. Then, in 2014, I discovered an exciting hi-fi rack at a friend's house, which also impressed me visually thanks to its technical appearance. So when the distributor, at that time Jörg Klein's "Hörgeruss für Audiophile" (Listening Enjoyment for Audiophiles), offered it to me for a test, I didn't say no. As a result thereof, my Master Reference 750 with four levels and a Master Reference Heavy Duty 600, also with four levels, had to make way for the Artesania racks.

But then Finite Elemente took off again and Luis Fernandes provided innovative ideas for the new owner, the Köpf Möhring GbR. In the meantime, Finite Elemente conducts business again as a limited liability



The centre of the fine audio system in the listening room marks Chord Electronics' DAVE, data is supplied by a Melco N100 and a Lnygdorf CD-2 to an M-Scaler. Ascendo mono amplifiers provide plenty of power for the Audio Physic Midex

company with Werner Möhring and Luis Fernandes as managing directors and Ascendo's Stefan Köpf as the third partner. Since my colleague Wolfgang Kemper is using the two Pagode racks, which have come somewhat to ages, it was a matter of course for him to compare them with the current MKII version and to see how they stand the test. And as always, when Luis Fernandes promises sonic gains, it happened



To compare the supports, the Lyngdorf CD-2 moved from the previous generation Pagode Edition on the right to the visually very similar Pagode Edition MKII on the left. This was then upgraded with a Carbofibre® shelf before the CD-2 made its way onto the Pagode MKII Carbon Edition in the centre

to be the same here: Wolfgang Kemper attested the new version a considerable growth in terms of dynamics, resolution and homogeneity. In my system, too, there is again a Finite Elemente platform: the Einstein power amplifier rests on a Carbofibre° HD isolation base. For some time now, there has also been an absolute high-end model from Finite Elemente: the Pagode MKII Carbon Edition. If a Carbofibre°-HD shelf used in a "normal" MKII already ensures significant sonic benefits, as Wolfgang Kemper found out in another review, you really shouldn't miss out on the Carbon Edition. However, afore I have already commented on the popularity of equipment support comparisons.

Moreover, the dismantling and new set-up of an audio system, including the precise alignment of the individual levels, takes quite some time. You can't just switch from A to B and back to A again to verify supposed small differences in sound. If, as in my listening room, there is a lack of available space, one is more than willing to forego a test. Especially when the Finite Elemente website describes the Carbon Edition as "Simply The Best In The World" without any hint of understatement and one has experienced that Luis Fernandes is not prone to empty promises: You don't even want to be tempted after taking a look at the prices of the carbon racks. How fortunate that during a technical chat about power supplies for streaming components, the Finite Elemente developer incidentally mentioned that there is a newly designed listening room in the company's premises where the different generations and designs of Pagode racks can be compared without much effort. At the end of the conversation, a visit to the company was a done deal: This way, the capabilities of the carbon racks could be discovered without the danger of triggering an irresistible "have-to-have" impulse, as when trying them out in my own system.

Finite Elemente's production facilities are located on the first floor of a rear building on one of the main roads in Meschede, close to the town centre. A loading ramp and a goods lift facilitate delivery and dispatch. Generous skylights provide plenty of daylight on the first floor. Not far from the entrance, Werner Möhring and Luis Fernandes have a shared office. There is a lot of storage space for the products of the Cera family and also for equipment, cables and cartridges from the portfolio of the G8 & Friends distribution, whose management Werner Möhring also holds. The centrepiece is, no, not the listening room, but a large room with a centrally placed, electrically height-adjustable assembly table, on which the individual parts are assembled into a rack and finally packed. All racks are shipped fully assembled, as otherwise there would be no guarantee that the fine wood or carbon surfaces and polished aluminium pillars would not be damaged during assembly and that the sonic impact on the components would be exactly as the



Werner Möhring next to a ready-to-ship pallet with a Pagode rack and Carbofibre° bases destined for India



A goods lift and loading ramp facilitate logistics

designer intended. Of course, the freight costs are much higher than if the racks were delivered flat-packed. But Luis Fernandes sets the highest standards for the quality of his products. Questions of cost are of secondary importance.

Incidentally, Finite Elemente has still been working with the same carpentry workshop and the same polisher since it was founded in 1997. Initially, the metal pillars were chrome-plated, but this was not visually convincing at critical points. So Luis Fernandes decided to offer only matt anodised and, for an extra charge, high-polished side pillars. Because of the great variety of versions - there exist seven colour



The warehouse section with pre-packaged products from the Cera family

variants alone, each with two finish versions of the metal parts - the racks are only built to order. Yvonne Burmann has been responsible for this for 16 years. Depending on the model, she needs between two and five hours for assembly. Cloths, foils and polystyrene sheets are used from time to time to protect the surfaces from scratches. Special, self-made gauges are also used, for example to screw the frames and the side pillars exactly at right angles together or to adjust the distances between the pillars precisely. Gloves are also mandatory for some operations.

Since production of the racks is made to order, Finite Elemente can also respond to special requests: For a customer in India, for example, a rack was built to match the colour of the loudspeakers of a complete Burmester system, Luis Fernandes revealed. At the moment, Finite Elemente has 25 distributors and is represented in 30 countries. Pagode racks accounted for about 70 per cent of sales, Cera feet for 20 per cent and Carbofibre° HD platforms for 10 per cent. Finite Elemente purchases the Cera products completely packed from a manufacturer just 30 kilometres away. However, the manufacturer is supplied with pre-packed bags of accessories, the contents of which are put together in Meschede when no major orders are pending and there would otherwise be a risk of idle time. For example, M6/M8 thread adapters are enclosed with the Cerabase.

Despite all the innovations and different versions, the most important construction features of the racks have remained the same: On the one hand, the upper frames and the bottom frame, which is screwed to the side pillars, are made of solid Canadian maple that has been stored and dried for a longer period of time. Luis Fernandes chose this type of wood because it has a lot of sustain and is in no way overdamped. The frame is topped by an inserted shelf, which in the first version consisted of two layers of MDF with damping material in between and was then veneered or lacquered. From today's perspective, the developer describes these shelves as overdamped. In the current MKII version, the shelves consist of a honeycomb structure that is veneered all around or, in the Carbofibre° version, surrounded by carbon fibre plates. Initially, spikes provided the coupling of the shelf to the frame. In the current version, ceramic balls mounted in metal bolts take over this task. The frames are still connected to the metal side pillars on the right and left by four so-called side spikes each, and for about 20 years proprietary designed Resonators specially tuned to the number and size of the component levels have ensured that the most pronounced resonances are converted into heat. Luis Fernandes developed this technology in cooperation with the Dortmund University of Applied Sciences and Arts. Further information can be found here. The bottom level, which is screwed to the side pillars, then rests on stainless steel spikes with integrated floor protection plates or Cerabase, depending on the model.

Resonatoren - Montage pagode° HD 02

Typ	Gesamtlänge	Einstellänge	Menge
R 518	60,00	44,35	2
R 586	56,50	41,19	4
R 590	56,50	41,02	2
R 687	53,00	37,39	4

Specifications for the assembly of the Resonators



The total length of a Resonator is determined

According to Luis Fernandes' experience, a further improvement of the racks' tonal qualities was only possible by increasing the rigidity of the construction. Therefore, as a first step, he introduced the Carbofibre° shelves for the current racks and then, as a last consequence, built the Carbon Edition, where all maple parts are covered with carbon layers all around using hard-hardening glue. That's already a considerable effort, but Finite Elemente raises the bar even a little higher: for one thing, according to the developer, the fibre course is important with carbon in order to achieve the desired tonal effect. On the other hand, Finite Elemente also pays the utmost attention to the appearance of its products. Even in the gaps between the frame and the shelves, which are visible from above, there is not even the slightest offset in the fibre orientation: In any case, I am no longer surprised by the prices, which start at 17,550



The length of the Resonator's oscillating rod is adjusted

euros for a 71-centimetre-wide rack with two levels and still don't end at 37,350 euros for the 85-centimetre version with five levels. Finally, there is also a 123-centimetre double-wide version and surcharges for heavy-duty versions of individual levels and high-polished side pillars.

As fascinated as I am by the Carbon Edition's visual appearance, ultimately it's all about the sonic aspects and so it's time to settle down in the listening room. Here, the DAVE from Chord Electronics serves as converter and preamplifier. It drives two ASCENDO DNA 1000.2 HE mono amps, which provide the power for two Audio Physic Midex speakers. The source components consist of a Melco N100 with D100 drive and a Lyngdorf CD-2, which are connected to the DAVE via an M-Scaler powered by a Plixir linear power supply. The components are usually placed on a 123 centimetre wide Carbon Edition rack with three levels. However, the cable between the CD-2's S/PDIF output and the M-Scaler's BNC input is long enough to allow the CD player, which serves solely as a data source, to be placed on each of the three adjacent racks.

For a first impression, the CD-2 took its place on the upper level of a first-generation Pagode Edition with MDF sandwich shelves resting on spikes: I knew neither the song chosen for comparison nor the system, but was not particularly taken with the sonic result. The music flowed rather sluggishly out of the Midex and the reproduction was anything but transparent. The term "swampy" inevitably came to mind. And, this shouldn't be due to the fact that the system in my listening room has been spoiling me at the highest level for years, because the system in the Finite Elemente listening room certainly plays at a much higher level than my smallest combo of Aries Mini, NAD and Dynaudio Emit M 20, with which I often listen to music with entire enjoyment. The given potential of Lyngdorf, Chord, Ascendo, Audio Physic and cabling from Transparent was immediately apparent after the CD-2 had been moved to the upper level of the Pagode MKII: the chosen track sounded much clearer and more transparent - and you really don't need bat ears to notice this serious difference. No wonder Luis Fernandes describes the sandwich shelves of the first Pagode generation as overdamped from today's perspective.

Next, he swaps the MKII version's standard veneered honeycomb-core top-shelf for a Carbofibre° shelf, which comes at an extra cost. Here, too, the sonic improvement is immediately audible - and you don't even need to be sitting in the Audio Physics' sweet spot to hear it: The gain in dynamics and fine detail is surprisingly large! But that's not the end of the story: The sonic leap is at least as big when the CD-2 is placed on the Pagode MKII Carbon Edition instead of the Pagode Edition MKII with the Carbofibre° shelf,



The Resonator rod is fixed in its receptacle



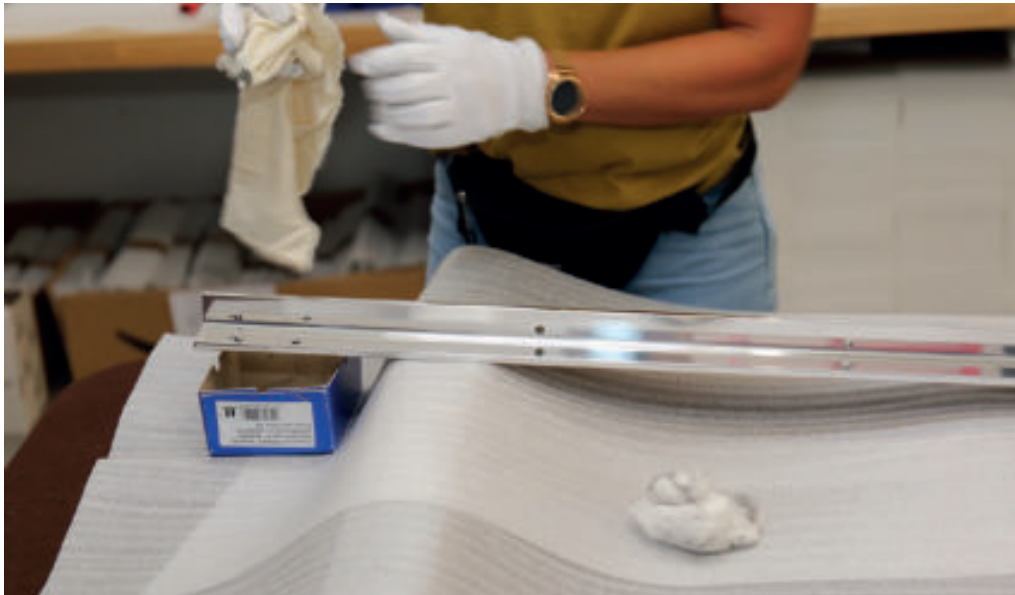
Finished Resonators

where the carbon clad honeycomb-core shelves come as standard. The cladding of all wooden parts with a carbon layer results in a more accurate, powerful and colourful bass range. The articulation of the voice is a good deal better defined. Suddenly the musical reproduction appears to be right in a way that is difficult to describe. You immediately think you know that instruments and voice should sound like this and not differently. Slowly I begin to doubt whether the decision not to try out the Carbon Edition in the listening room at home was the right one...

After lunch in a restaurant on the bank of the nearby Henne barrage, we visit the wood parts supplying carpenter's workshop. After delivery, the solid maple wood is first put into a drying chamber and then stored for three to four months. The processing in the various production steps then takes a few more



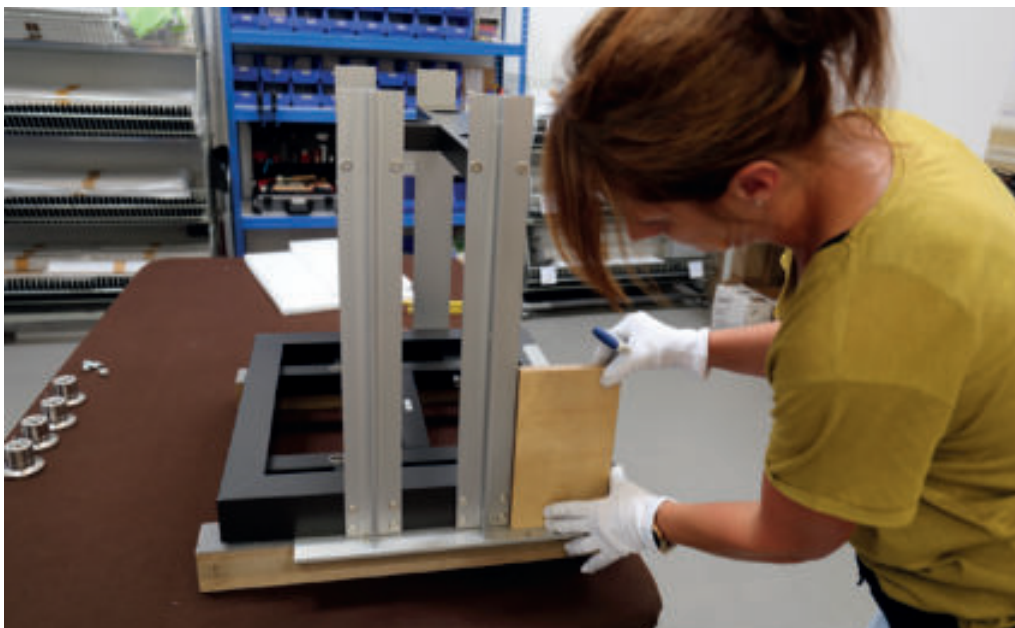
The racks are assembled by hand on this motorised height-adjustable table



Before assembly, the high-polished side pillars are cleaned again

weeks. Due to the long lead time, it is of course necessary to keep a large stock. Therefore, large quantities of semi-finished wooden parts are stored in the joinery, which are assembled as needed and then lacquered. Each part is primed twice, followed by an intermediate sanding, but even after the so-called final lacquering, it is not yet finished. Only after further sanding does the final coating take place. Of course, the carbon layers are also glued to the maple in the joinery and then surface-treated. What we didn't get to see, however, was the honeycomb material that forms the core of the shelves. Luis Fernandes does not reveal any further information about this. But even without this detail, it was impressive to see the amount of work that goes into the racks from Finite Elemente: Extremely high quality made in Germany.

PS: Somehow I can't get the enormously positive effect of the Carbon Edition on the sound of the CD-2 out of my head. So don't be surprised if a test should come around in the near future.



Yvonne Burmann bolts the precisely aligned side pillars to the bottom frame



With this gauge she adjusts the distance of the side pillars to each other



This crossbar is part of the Heavy-Duty option



The upper frame is supported fivefold with CERAPUCs® in the metal bushes



The frame for the upper level is inserted



The bottom frame and the side pillars are protected with cardboard sheets and foam panels



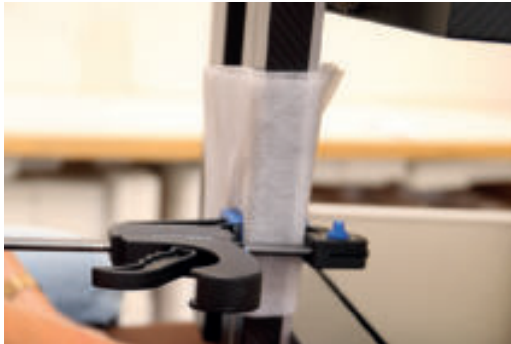
This prevents damage when installing the middle level



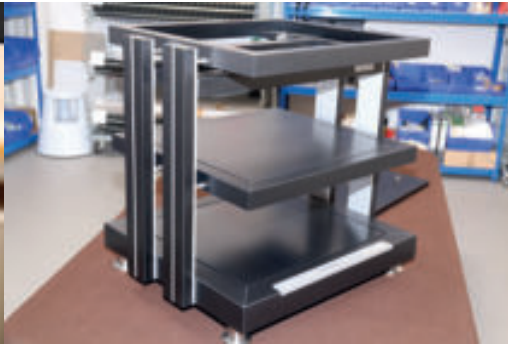
The Cerabase feet are getting installed



The wood/carbon trim bars are adapted



The appliquéés are fixed in place until the adhesive has hardened



The almost finished Pagode MKII Carbon Edition



A lot of semi-finished parts are stored in the carpentry workshop



The carbon sheets are also stored at the carpentry workshop



Before further processing, Georg Klose grinds the semi-finished parts again



Here he is mounting a frame for a 123-centimetre-wide rack



After glueing the parts together, the frame is inspected



The frame remains in this press until the glue has set

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