



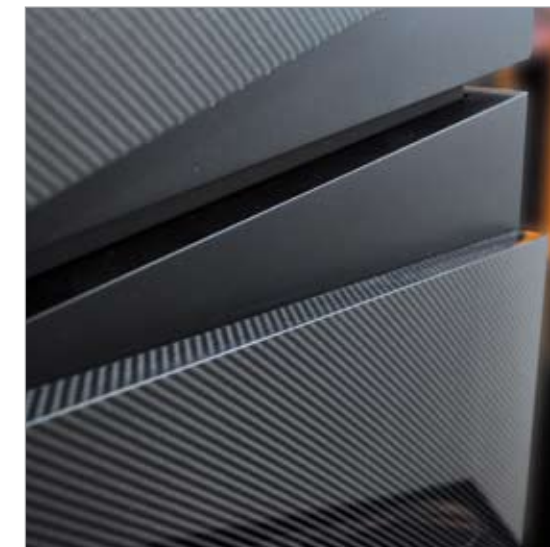
Imperial Highness

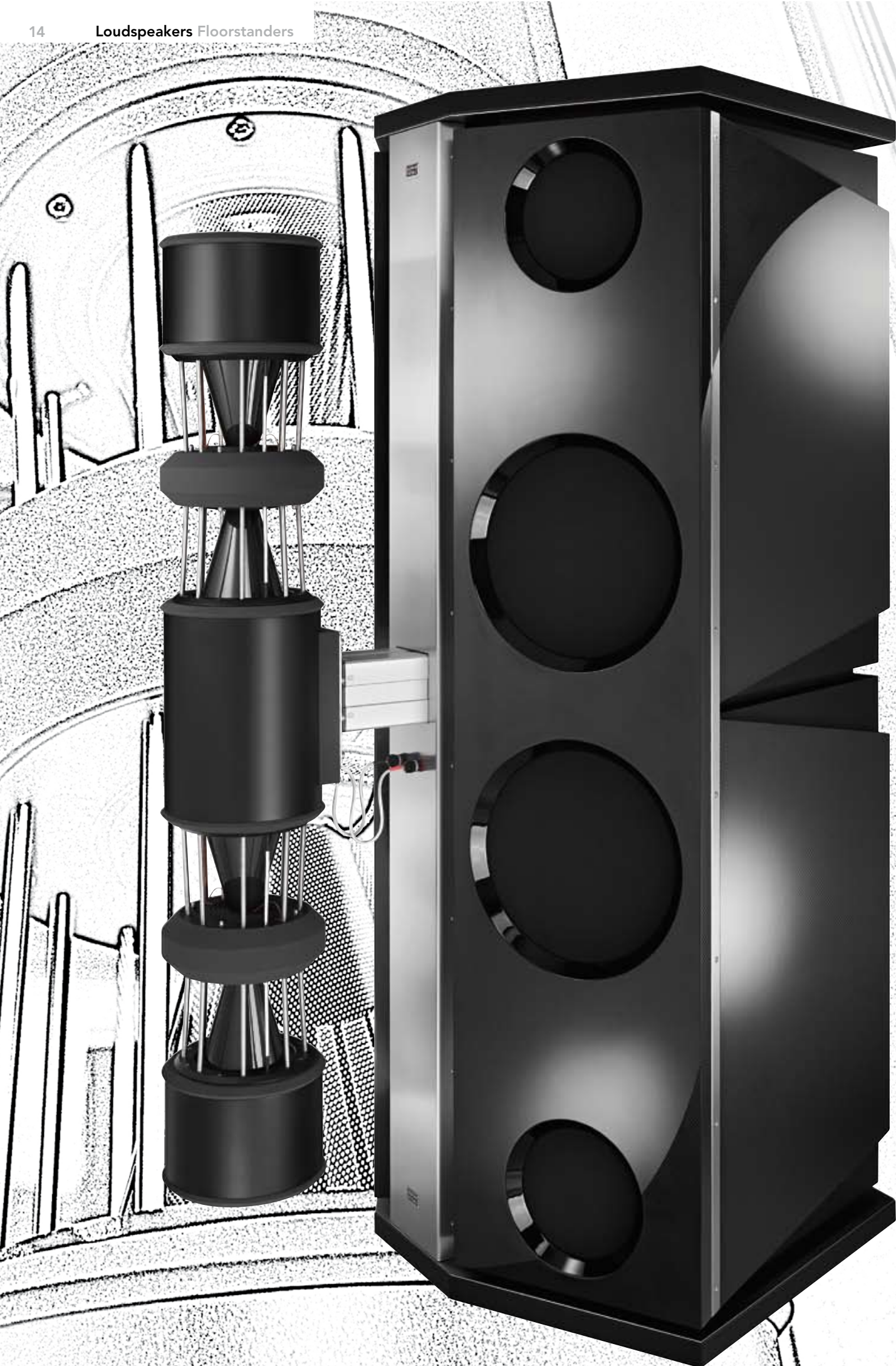
This loudspeaker is a sovereign. Its wide bandwidth, dynamics and unique spacial radiation ensure its outstanding status even among superspeakers.

Author: Holger Biermann

We would gladly have rolled out a long red carpet. We would have redecorated and magnificently arranged the listening room. We would have supplied the best in electronics in order to create the appropriate sounds. Yet, Her Majesty did not show up. She was not miffed, however, just too big and at nearly half a ton too heavy to be set up in one of the Audio or Stereoplay listening rooms. What a pity! And I was so fascinated by this speaker ever since my first visit at German Physiks in Maintal in 2009. CEO Holger Müller guided me through the development and production departments for DDD converters and finally told me of his great models Gaudi and Emperor: Powerful, elaborate speaker cabinets with driver arrays that you could extend and retract by motor. Sound transducers, so expensive that only a few people in Central Europe would be willing and able to pay for them. I looked around, but only saw mere indications of their existence: A large array here, one of the subwoofer enclosures there. Did these super speakers really exist? And how do such extraordinary devices sound? Can they really surpass the performance of the PQS 302, which, after all, is Stereoplay's reference dipole/radial speaker? Müller promised me that I might come and check them out, as soon as he had one ready...

Müller called several times in the course of time, but the windows of opportunity in which the just completed Emperor Mk 2 (the Gaudi is currently being revised and is therefore not available) were available, were always too small. In May 2013 there was an Emperor exhibited at the High End, but it did not play. A little sign said: „Don't touch“. Not even this... And then one day, everything worked >





out. Before being delivered to a customer in China, an Emperor Mk 2 was on display at HiFi-Profis in Frankfurt for one week. When I set off, I had sufficient time and even more excitement in my luggage. The HiFi-Profis demo rooms were designed with love and knowledge to achieve neutral acoustics, and thus not unlike our own listening rooms. My delight grew even more when Profis boss Ernst Schmidt offered to connect the Emperor Mk 2 to an amp of my choice. Perfect! I opted for the large AVM chain (Ovation PA 8 preamp and MA 8.2 mono power amplifier). Both are tested in this issue (page 80) and have reference status here at Stereoplay. So I could expect near-normal listening test conditions, especially since the immensely powerful monos have no trouble working with the low impedance of the Emperor.

When I arrived, Holger Müller sat on the listening couch, playing with the remote control. Slowly he made the powerful arrays with the four DDD converters move back and forth - he did this just to find the optimum sound setting, of course ... „A wonderful men's toy," he beamed.

„I could do this for hours." Harald Knoll, development manager of German-Physiks, had used the DSP to adjust the system to the listening position, eliminating smaller edges from the sound. Radiating omnidirectional, the Emperor integrates the surrounding space and its tonal characteristics to a much higher degree than a traditional direct-radiating speaker does. This is why meticulous adjustment to the preferred listening position makes a great difference. Müller, in any case, was absolutely content. And rightly so: It sounded overwhelmingly confident.

It takes the DDD factory at least six months to build a pair, with a maximum of ten pairs that can be produced per year. One cause is the motor, manufactured by a Swiss specialist. This is a custom production that has more than three months delivery time and is capable of moving loads of more than a ton. So it doesn't take much effort in the case of the Emperor Mk 2. The array the motor has to extend and retract weighs no more than 40 kilos; the powerful metal boom can move the column up to 20 centimetres in front of the actual cabinet. Of

course, the cabinet is more than a simple box. Each Emperor Mk 2 is composed of five parts: one housing for each of the two 30-centimetre sub-woofers, two housings for the four 16-centimetre kick basses and finally the array including the DDD drivers - all this is held together by a skeleton made of heavy-duty metal. Actually, you should also count the external crossover that can be positioned away from the mechanical vibration of the bass somewhere in the corner.

Müller knows his mainly Asian customers only too well (see interview at the end of this article). They prefer large passive speakers, so that they can connect power amplifiers as large as possible, and they do not accept "1b" quality. Gap dimensions in the millimetre range usually mean an immediate end of sales negotiations. Ultimate solutions are in demand here. Solutions originating from abundance.

In the case of the Emperor this means: The finish - the carbon version in our case - is immaculate. Of course, this also applies to the slightly cheaper veneer variants. Each of the four bass cabinets >



That's what makes this unique cabinet so special: A metal boom makes it possible, via remote control, to move the column up to 20 centimetres in front of the actual cabinet. The receiver is positioned on the cover of the Emperor.



is made of 28mm MDF board, which is reinforced and quietened by birch plywood (22mm). As if this weren't enough: The interior surfaces of the cabinet are entirely covered with Hawaphon mats. These rather expensive and heavy acoustic mats are made up of plastic chambers filled with tiny metal balls. Any remaining vibrations in the cabinet, so the theory will have it, are converted into heat by the movement of the balls. To absorb the sound of this constant motion, the mats are covered with a thick layer of felt. This multi-layer structure has proven its worth by long years of application not only with German-Physiks. It can also be found, for example, in Audiodata speaker cabinets.

The Emperor's layout with two integrated sub-woofers (15 - 100 Hz) and four bass/mid-range units for the so-called kick bass range (100-300 Hz) is unusual, but it provides for „fast“ bass and unlimited headroom in the performance-

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Harald Knoll, Development Manager at German Physiks

„We extensively listened to all the crossover components. And the so-called high-class components were by no means always the best, sound-wise ... „

sensitive area around 120 hertz.

This design is the perfect basis for an unconventional mid- and high-range driver, named „DDD“ - Dick Dipole Driver - after Peter Dick, one of its inventors. The special thing about them: The entire system operates by swinging up and down. Shaped like a cornet, the membrane is extremely broadband (70 to >20,000 Hz), emitting all frequencies without directional preference: Bass and lower mid-range spring from a piston-type movement, mid and high frequencies emanate as bending waves, where the large membrane vibrates in partial areas. The DDD is currently the only broad band unit emitting radially. Ger-

man Physiks are offering it in two versions fitted with either a slightly more solid carbon or a very thin titanium membrane. Carbon is more resilient, while titanium sounds a bit more airy and delicate.

All chassis - DDD and diaphragm woofer - are run in for many hours and then selected in pairs, so that the resulting sound impression is as homogeneous as possible. Should any remaining acoustic asymmetries arise, the DSP equalizer of the system will most likely be able to iron them out.

That's the beautiful aspect of luxury transducers such as the Emperor: Of course, it is installed at the customer's

place. Of course, the professionals perfectly adjust it on site to match the given room acoustics and sound ideas of the customer. Of course, the boss himself comes over to make sure that everything works perfectly and that the buyer is 100-percent satisfied. And should the owner of a Lorely, Emperor or Gaudi decide to move house, a German Physiks team is ready to organize the safe transport of the precious speakers to their new home. Not bad ...

In recent years, we had many of the German-Physiks models in our listening rooms, and the latest was the bizarre Unicorn full-range omnidirectional horn. The uniqueness of these drivers - be it carbon or titanium - was always immediately audible. Not always free of edges, but with a wonderful spacial radiation, and a compelling homogeneity across the entire frequency range. So far, the German Physiks speakers we listened to were units equipped with a maximum of two (PQS 302) converters. So, how do four DDD in a row sound? What will hap-

pen, acoustics-wise, if the capacity is quadrupled and distortions are dramatically reduced? And what will happen if the DDD column - following the character of a line array - carries the sound into the room in the form of cylindrical waves, i.e. with severely reduced reflection from floor and ceiling?

Electrically speaking, the result is all too evident. The DDD converters of the Emperor's sound line are connected in parallel, which makes for a pretty low impedance (see the measurements). So take care with your choice of amplifier.

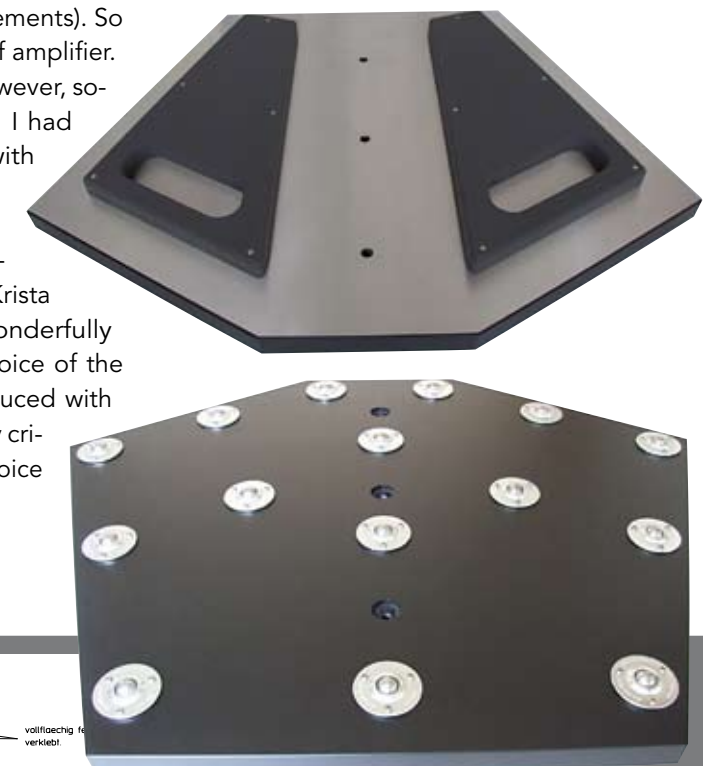
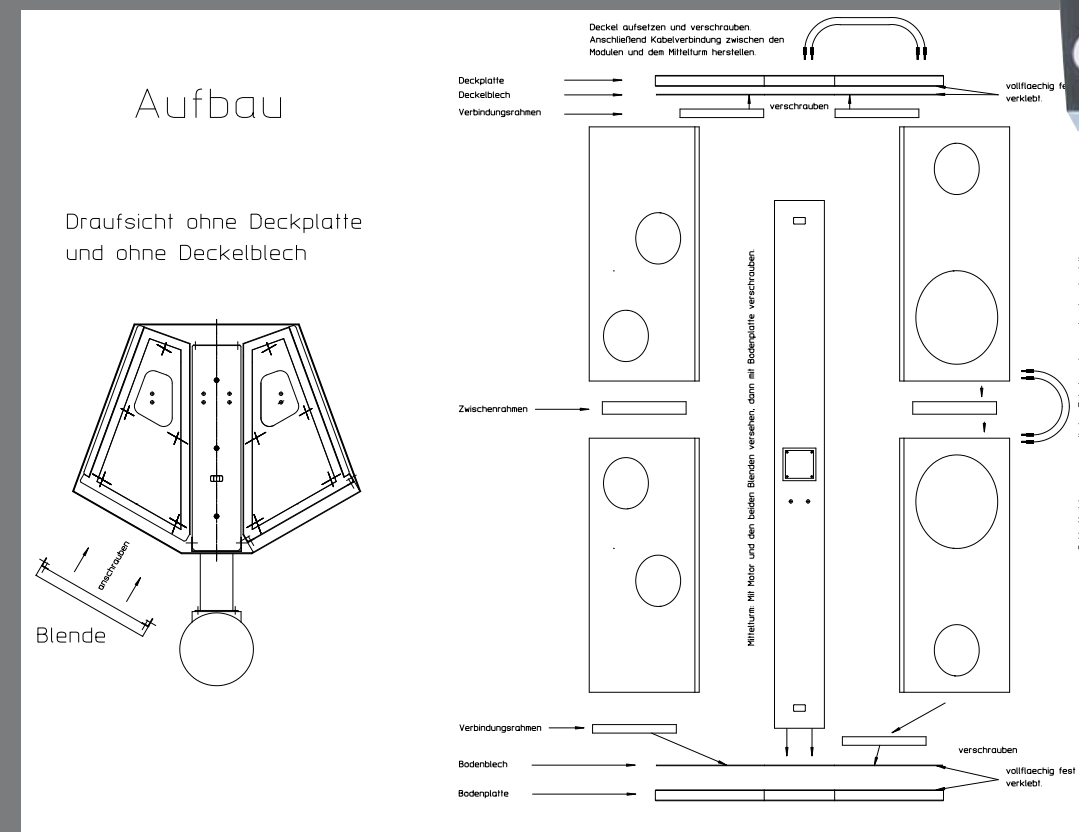
Acoustically speaking, however, something amazing happens. I had the latest Stereoplay CD with me, a compilation that I know by heart and had listened to for hours. One of my favourite pieces is „The Song“ by Krista Posch. The recording is wonderfully authentic and dense. The voice of the actress and singer is reproduced with impressive plasticity. My only criticism of this recording: The voice

and instruments are positioned too close to the centre for my liking.

Normally, that is. Not so with the Emperor Mk 2. She opened the room in its width and put the individual sound events further apart than any other reference cabinet of the Stereoplay listening room had ever done. That was really good for a start. Because the Emperor did not unnecessarily inflate the voice and >



The crossover of the Emperor Mk 2 is located vibration-proof in an extra box. If you want to do without the DSP, you can make „analogue“ two-stage bass settings via jumpers. Audibly superior in the acoustics department: the WBT NextGen connectors are made of plastic.



The sheer weight ...

... the Emperor Mk 2 currently weighs 425 kg - per unit! Therefore, the bottom panel is equipped with 15 flat, but smooth-rolling heavy-duty castors. These castors are available in two versions: with metal balls (pictured here) for carpeted floors, or with nylon balls for parquet or tiles. Overall, the mighty Emperor body is made up of four individual bass housings, in the middle of which the powerful motor for the sound line is positioned. This stately structure is held together by the ground and top plate as well as a kind of skeleton made of stainless steel (the centre-piece in the drawing).

instruments - in the way large cabinets with line array arrangements tend to do. Some of you, dear readers, will still remember the great Infinity Reference Standard. How large the mouths sometimes were! Or individual instruments that seemed to drift across the room. The German Physiks does not do such things. Her reproduction is somewhat splendid in the high-range, while, on the other hand, she can focus very exactly. The voice of Ms Posch, the slightly bashful male choir, the accompanying bass - all this had very realistic proportions and, above all, positions. I love this feeling to be able to walk between the musicians or instruments of a recording, when they are presented in a realistic way with plenty of room depth. On this evening in Frankfurt it was exactly like this. In one of the beautiful rooms of HiFi-Profis and connected to the large AVM chain, the Emperor virtually drew me into the recording - an overwhelming experience.

Could it become even better? There was this option of a different array position ... I took the remote control and

made the mighty columns move back and forth. The spatial impression changed less than I had expected, but it was still noticeable. By slightly twisting the unit (easily done thanks to the castors), and slightly reducing the distance from the DDD array to the cabinet in comparison to what Müller had chosen, I obtained a somewhat more compact, but still more accurate representation. Everyone to his liking: The Emperor offers the possibility to change the spatial impression in moderation. There is hardly any other speaker that can do this. And because she is a radial transducer, you are not committed to one fixed listening position in order to hear stereo. Due to the adjustment via DSP this is merely the position where the sound is most precise.

Yet, everyone prepared to spend such an amount of money on a sound transducer wants more than just a fascinating spacial impression - and with the Emperor Mk 2 you get much more. Another example from the Ultimate Tunes Vol.2 CD: „Time Slave“, a piano-driven piece where pianist Martin Vatter plays his in-



The IR receiver on the top plate relays its signals to the array motors via an RS232 connector.

strument in a surprisingly meaty way. Vatter strikes not only the keys but also the piano strings - a mighty challenge for the bass-range. Yet, the Emperor's 12-inchers are up to it. Such challenges are handled absolutely masterfully and free of any obvious distortion. Saturated, clean, and extremely deep-reaching: German-Physiks developer Harald Knoll has always had a knack for a hearty-clean bass range, and with the Emperor Mk 2 he surpassed himself once more. This

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German-Physiks boss Holger Müller

„Having a line array is very nice, but you must not sit too close to it. Four to five metres distance is optimal. „

undistorted supremacy called for a bold twist of the volume control. With another, very bass-intensive piece from the CD, „Steppe“ by Annuluk, the billowing waves became really impressive and menacing - too much for this room. The listening room was not capable of handling such an amount of bass energy - I had to lower the volume, although the Emperor obviously still had reserves left ...

Not just aiming for the guts, this bass supports the Emperor's dreamlike, generous spaciousness. And because of the precision in the high-range the entire lower midrange area is extremely clean and well structured. That's why the voices sound so authentic with the Emperor, and drum recordings show so much drive, giving you the feeling to be present at the recording session. The

longer I listened, the more the Emperor drew me under its spell: this homogeneity, this wealth of detail, this enormous pulling power. Or was it just a particularly good combination with the successful AVM electronics? We exchanged the AVM Monos against the Burmester 909. Now it sounded slightly more covered and velvety, but just as powerful and excitingly spacial. The Emperor's reaction to good and stable amplifiers seems to be always the same: giving a magnificent performance.

I left this place of enchantment late at night - having spent many hours of impressive listening to music. The long wait for his majesty the Emperor had paid off. Too bad that the Emperor Mk 2 is so rare in these parts. If you get the opportunity to listen to them, you should not miss it. <



Test CD
stereoplay
Ultimate Tunes Vol. 2

This compilation was the title CD of Stereoplay edition 11/13. Here you will find many of the editors' favourite test listening pieces. With all recordings, the best possible spacial radiation of the cabinets is required.



The Author
Holger
Biermann

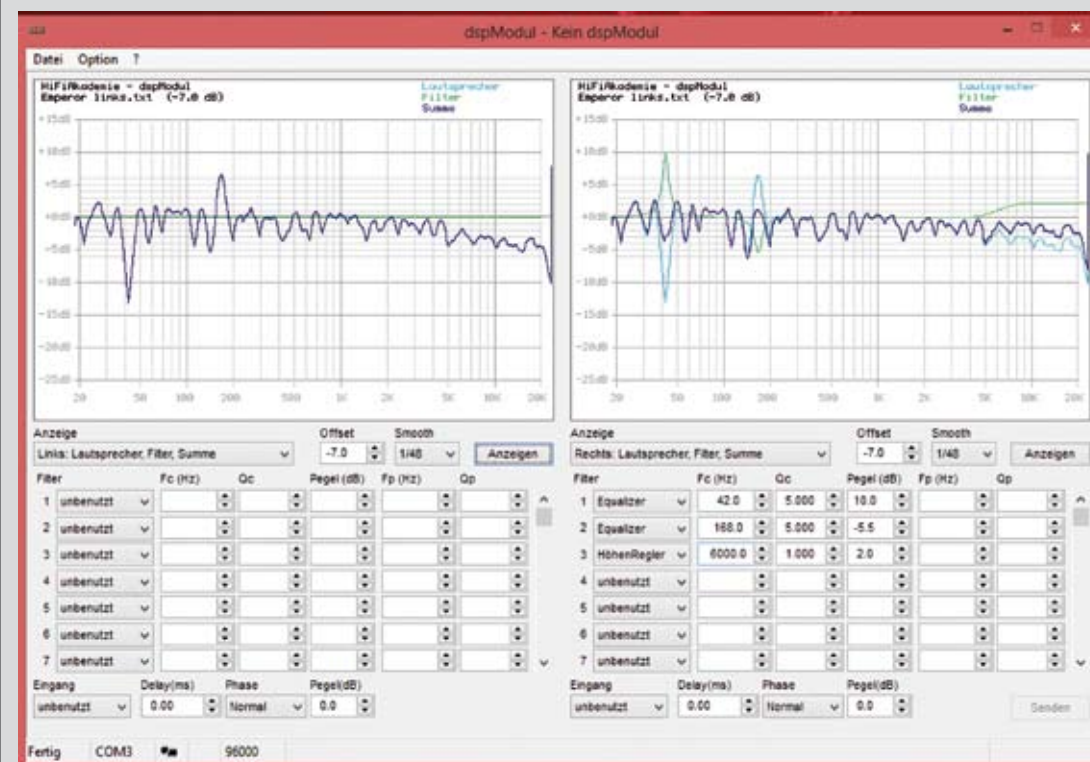
The Stereoplay chief editor has been part of the writing HiFi clique since 1991. His hobbies include flamboyant speakers, tube electronics and room acoustics. His musical home is mainly 70s jazz rock.

German Physiks Emperor Mk II

List price: from 189,500 euros
Warranty: 5 years
Weight: from 425 kilos
Dimensions WxHxD (cm):
101 x 196 x 81
Surface designs: any kind of veneer. Or Carbon (test version)
Surcharge: 26,100 euros

Distribution:

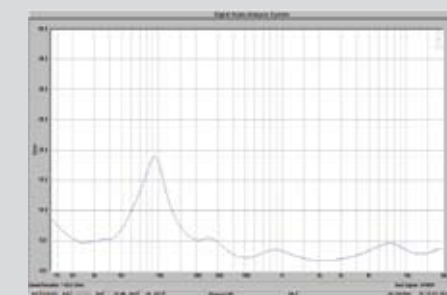
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The Measurements

The frequency response of the Emperor Mk II extends down to under 20Hz. The DDD drivers cover a very wide frequency range but exhibit a mild rolloff beyond 15kHz. The small dips and peaks (at 40 and 200Hz) in the first measurement (left) come from the acoustic properties of the listening room at HiFi-Profis and were smoothed out using the DSP EQ. Overall, the frequency response is very linear considering the sheer size and construction of the Emperor. However, these measurements were performed at the listening position in more than 4 meters distance from the driver arrays. With a sound source of this size, the usual 1-meter measurement is not useful.

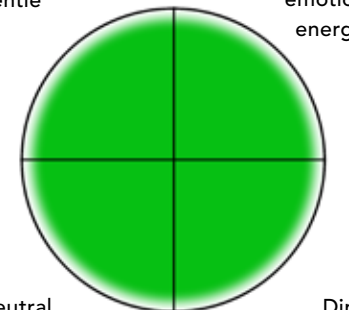
The graph below shows the impedance characteristic of the Emperor MkII. Due to the very low impedance values (going down to 2 Ohms over a large part of the spectrum), powerful and load-insensitive amplifiers are strongly recommended - otherwise the Emperor will fall short of its enormous potential.



AUDIophile Character

Effortless, breezy, gentle

Rousing, emotional, energetic



Neutral, authentic

Direct, high-resolution

AUDIophile Potential



AUDIophile Recommendation

The Emperor has to stand alone. Via DSP, she can be moderately adjusted to your room acoustics. The amp should deliver at least 300 watts per side.