



# MADE IN GERMANY

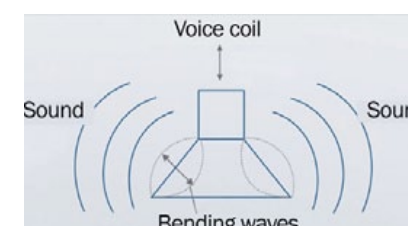
**Connoisseurs of exclusive loudspeaker concepts prick up their ears when the name German Physiks crops up, as the transducers from the German Main-valley, close to Frankfurt, are among the very special specimens of the loudspeaker world. We have ordered a technological masterpiece to our offices for a review: the Limited 11.**



Wouldn't you fancy something really special? The Limited 11 is an exclusive special edition model by German Physiks - there will be only 100 pairs. Despite that fact, the Limited 11 is the entry model of the Hessian manufacturer. Mind you, 'entry level' in this case has nothing to do with the do-it-yourself-class: A pair of the Limited 11 costs \$ 12,800 after all. However, considering German Physiks' usual standards, this offer really is a steal - usually prices start above \$ 15,000, and the top model 'Gaudi' can easily set the buyer back a hefty \$ 250.000 In this respect, the Limited 11 becomes truly interesting, because there's one thing for sure: The exclusive and unique technology has not been skimped on.

## DDD-technology

As mentioned before, German Physiks speakers are truly special. Not only are they completely developed in Germany and elaborately hand-built, they also are technologically unique and different from any other speaker. The central element and trademark of the German Physiks speakers is the optically and technologically unique DDD transducer that sits enthroned on the top of each 'box'. This does not only look different, it actually IS: DDD means 'Dicks Dipole Driver', referring to its inventor, Peter Dicks, who was responsible for the basic functional concept and who also built the first prototype. This happened in the early 1980s and was the initial spark for all German Physiks transducers. But what exactly makes this driver so special? It resembles a cone-driver that has been attached face-down to the top of a speaker. On top of the cone, there is the drive system with the voice coil, and where other speakers have a basket made of aluminum or sheet steel, the DD-Driver has a skeleton made out of very slim stainless steel beams. This seems plausible, as the DDD obviously radiates its sound all around into the room. Its super-light membrane consist of carbon fibre and is conically shaped but substantially longer than usual speaker membranes. Okay, now it's time to let the cat out of the bag: What we have here is a bending wave transducer that only moves approximately like an ordinary driver at very low frequencies.



Tech facts



## Bending Wave Transducer

The DD-Driver does not move its membrane back and forth, but it intentionally stimulates it to produce deformation resonances. These normally unwanted deformations are part of the basic concept of bending wave transducers. Starting from the lower midrange upwards, these flexural waves spread within the membrane and excite the air in order to produce sound waves. This happens continuously and of course according to the signal frequency (the music signal) - what we hear then is music. But why all this effort? The first big advantage is that the bending wave transducer is able to reproduce virtually all frequencies above its starting frequency of about 200 Hz equally well. In this way, it is a fundamental frequency driver, a midrange driver and a tweeter rolled into one. This allows for phase-correct reproduction, as no crossover can do any harm. The second advantage is the radiation characteristics of the DD-Driver. Judging from the appearance, we would say it can radiate at 360° because it looks like cylinder. But as matter of fact, it radiates omnidirectional! The radiation angle is influenced by the spreading speed of the deformation resonances, which can be controlled by the design. For this purpose, the engineers at German Physiks for example vary the thickness of the membrane, which is about 0.15 mm. Years of research work and a lot of know-how have been put into this speaker. By the way, the DD-Driver in the Limited 11 is not a downgraded version at all but the same type German Physiks also use in their multiply more expensive loudspeakers - maybe now you can understand why we say that these speakers have an exceptionally good value-for-money.

## One out of 100

In the Limited 11, the DD-Driver is supported by a bass driver below 200 Hz. For this purpose, a powerful 8" driver has been integrated into the cabinet of the Limited 11. It is invisibly installed in the base plate and thereby optimally couples the bass to the room. A choice of two different kinds of spikes lift the box from the floor so that it has enough air to work. While other German Physiks models can be ordered in a multiply of different finishes from high gloss to face





veneers, the Limited 11 is only available in the finish here shown - surely a concession to a more economical manufacturing process. The Limited 11 comes in a durable vinyl surface that blends into almost any environment thanks to the subtle grey. The speaker is a slim column with a square layout of slightly less than 10" x 10", and the backside has a noble connection plate in titanium finish, making the overall shape very clear and straightforward. Acoustically, German Physiks do not compromise anything. If you make such huge efforts like the development and the ongoing refinement of the DD-Driver, you do not skimp on the cabinet either. Thick and stable medium density fiberboard is a must, and despite the relatively small size, there are struttings at the right spots, making sure that the cabinet is maximally rigid. In order to reduce the sound flow through the cabinet walls and to prohibit them from resonating, the Limited 11 have an additional layer of a special damming material called Hawaphon, which consist of steel particles that are bonded within a plastics matrix. This is a very high-mass and thereby effective way of damping. Overall, the Limited 11 can be attested an exceptional built quality, which the people at German Physiks are rightly proud of.

### **First-Class service**

In this context I'd like to give attention to the probably unrivaled customer-service philosophy of German Physiks. All products are sold with an all-around-service that doesn't stop with the delivery and setup at the client's home. The speakers are expected to work for at least 25 years, and German Physiks do leave no doubt that they are willing to support their customers for a lifetime - give or take. In case it is necessary, there are spare parts available for all speakers ever produced, and they are of course replaced by a qualified technician, if possible at the owner's home. Have you ever heard of a company that allows their customers a right of return that lasts for years, even reimbursing them a great part of the sales price? In case the customer moves, German Physiks staff take care of the proper transport and set them up at the new home again. Even a self-inflicted (!) damage will



be fixed without further ado - without cost for the first such incident. If the speakers are sold, all services and guarantees are transferred to the new owner, too. Have you ever heard of such a service? For my part, I don't know anything comparable.

## Sound

In our listening room, we connected the Limited 11 with a small but noble set of the audioLab devices CD8200 and A8200. Even if the DD-Driver is extremely durable and can take a lot of power even from true amplifier monsters, they allow for pressure and dynamics with smaller amps, too, as the efficiency is at a good 88 db. What we noticed first was the exceptional spatial reproduction of the bending wave transducers. While conventional speakers (even top-class specimens) produce a very well-defined but rather two-dimensional stage, the DD-Driver creates a three-dimensional soundspace. Even from extremely off-center listening positions, voices and instruments can be located easily. My dearly beloved test-disc ‚Dance to the drums again‘ by Cassandra Wilson provide the evidence: the smoky voice of the Jazz-singer sounds absolutely natural, almost palpable and physically present. Even after sitting on the extreme left of the speaker base, this fascinating voice recording does not lose its authenticity - an easily comprehensible effect of the almost perfect point source. Because the bending wave transducer omnidirectionally radiates its sound waves from a single driver without phase shifts (no crossover over 200 Hz), it evokes a unique and thrilling sound experience. Even next to or behind the speakers the sound is almost perfect, there is no evident ‚sweet spot‘. By the way: thanks to the support of the classic bass driver, deep frequencies do not miss out either. The tender grumble of a double bass sounds remarkably deep and the massive construction of the cabinet adds to the precision and impulse precision.

## Conclusion

The Limited 11 of the high-tech manufacturer German Physiks do not only look different than ordinary loudspeakers, they definitely



are a completely different breed. The unique bending wave principle gives the Limited 11 sonic characteristics that are almost beyond compare. Exhibiting a perfect spatial reproduction, an honest tonality and an astonishing naturalness, these speakers definitely are something very special for connoisseurs of a sophisticated music reproduction - a true ‚Highlight‘!



**Verdict**

German Physiks Limited 11

Price	\$ 12.800	
Internet	<a href="http://www.german-physiks.com">www.german-physiks.com</a>	

**In brief:**

- + unique speaker
- + sensational naturalness
- + no „sweet spot“

Sound quality	70 %	★★★★★
Lab	15 %	★★★★★
Practicality	15 %	★★★★★

**HiFi Vision**

**Gold Class**

Value for Money **excellent**

Verdict ★★★★★

37/2011 **HiFi Vision**  
**Highlight**



# MUSIC FIRST

**The HiFi-specialists of NAD already caught attention with their DVD-receiver Viso Two and the five-channel DVD-receiver Viso Five. These lifestyle-products combine upscale technology and modern design with best build quality. Now, the Viso family welcomes their youngest member, the pure stereo CD-receiver Viso Three. We have ordered the new NAD for an exclusive review.**

Upscale materials, the newest technology, slightly curved front plates and minimalistic operating elements: We have learned to treasure this motto since the introduction of the Viso series three years ago. NAD, the British manufacturer of upmarket HiFi components, have realized at an early stage that not all home cinema and music fans want a huge pile of single devices, but prefer compact units with a modern design. Without technological or sound compromises, NAD have staged their five-channel DVD-receiver Viso Five and the two-channel receiver Viso Two already in 2008, and they started a real trend. Following the motto „less is more“, a new stereo receiver joins the NAD lifestyle line.