

# German Physiks HRS-130

Janine Elliot checks out this interesting omnidirectional loudspeaker.

**Hifi Pig**

**RECOMMENDED**



# GERMAN PHYSIKS HRS-130

Let me tell you a story. In the early 70s I remember an American company called Ohm which utilised the sides of the up-turned drivers like funnels to flex and ripple and 'bend' waves out to the listener in all directions. A radical omnidirectional speaker designed by Lincoln Walsh, and the Ohm Walsh Model F loudspeaker was probably the best speaker they made. Quite novel, though I personally didn't find the sound to my liking, sounding a bit too 'flabby' and slow, despite the rhetoric telling me when I listened through Ohm loudspeakers "you actually hear the source". In 1978 the German engineer and mathematician Peter Dicks, who was fascinated with certain characteristics of audio transducer behaviour, started working on improving Walsh's design. Dubbed DDD (Dick's Dipole Driver) this funnel shaped transducer was perfected over the next few years, though it took until a certain Mr Holger Mueller, owner of Mainhattan Acustik (and incidentally an owner of a pair of the original Ohm F loudspeakers), contacted Mr Dicks seeing its potential and employed it in the Borderland mk1 in 1993. Thus German Physiks was set up, and the DDD being utilised in all its products ever since. Whilst Dicks now worked in fine-tuning the maths and physical realisation, Mueller worked on the aesthetics and industrial design.

The idea of omnidirectional speakers has rocked the world for many years with many manufacturers trying different methods to create a sound that filled the room without that single sweet spot. Westphalia and Enckel in 1934, Harmon Kardon Citation X in 1960, Bose 901 in 1968, Shahinian from 1977, Duevel since 1997, and more recently B&O Beolab 5 and of course all those quadrasonics, Dolby Surround or soundbars, are just a few that spring to mind. I tried many options to get that room-filling-feeling and failed to get anything realistic enough to like. After all, it is realism that I wanted, and not just some short-term hi-fi buzz. When I was offered to review the German Physiks HRS-130 my immediate thoughts harked back to the Ohm Acoustics, and especially to the present day sci-fi looking MBL 101 E Radialstrahler, incidentally from another German manufacturer. Having been brought up on sweet spots, though, I entered into this review with a certain amount of trepidation. But I am always prepared to walk away with proverbial tail between my legs, so I set upon giving this monumental pedestal a fair and long listening.

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You may remember the four-sided [Unlimited MkII Loudspeakers were reviewed in HiFi Pig in July 2013](#), and contained admirable explanations on the technical process. HRS-130 is a brand new 8-sided offering, still at the lower price end, but £3,000 more. At the top is the same DDD driver; a carbon fibre cone suspended vertically under the top lid with 8 rods to hold it all in place rather than guard the driver from prying hands. Robert Kelly, International sales manager, showed me you could press it in and it still went back to its original shape. Just as well, though I didn't want to try it just in case. The Titanium version before wasn't quite so double jointed, which is why Carbon is used. The driver has a very special quality for the discerning hi-fi journalist. As it operates flat from 220Hz upwards, it essentially means all the important audio information comes from a single place. Where the titanium driver works well

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only up to 21.5kHz, the carbon fibre version is more rigid and can work brilliantly up to 24kHz, and consequently it is this design that is standard in all the models. Whilst the top frequencies could go up to 30kHz, they would start to sound a little ragged, so a roll off filter is applied at 24kHz so that only the most accurately produced frequencies are allowed to be radiated. The whole is held above a shallow cavity to absorb low frequency radiation. With a downward firing driver all frequencies can radiate uniformly on the surface in all directions. It is, if you like, an elongated upturned full range woofer with a spider/motor on the top end and terminating in a synthetic damping suspension at the other to stop waves rebounding back up again, and we are listening to the outside of the cone, rather than the inside. This clever mechanical device has several modes of operation; firstly at the lower frequencies it works like a piston driver, exactly like the drivers in conventional speakers, and progressively changes into the production of bending waves when it is no longer rigid enough to transfer this force down the diaphragm pistonically. In this instance it is not the forward and back thrust of the driver that is creating the sounds, but the frequencies rippling down the flat carbon fibre funnel. The cone's narrow physique allows for enough ripples and is angled well for my height sitting in an average settee. The comparisons with a skipping rope and how when one person flicks their end of the rope a wave travels along the rope to the other end is a good explanation of how the sound travels. Eventually a standing wave is set up on the diaphragm surface. At this frequency the driver goes into modal radiation, where vibrating regions that look like the pattern you see when you drop a stone into a pool are formed on the dia-

phragm's surface. These get smaller and more numerous as the input frequency is further increased, which allows quite an extended upper frequency limit. For frequencies below 220Hz there is a downward firing sealed bass unit at the near bass of this mono-coque, suspended three inches above a series of

square apertures ala Helmholtz resonator which takes the music down to a very impressive 29Hz. I managed to get below 25Hz. The whole gave a flat response to above 20kHz with only a very slight dip in the mid bass around 80Hz.

With prices of up to £250,000 for the top-of-the-line Gaudi MkII, which comes complete with four DDDs and three German engineers (alas, only provided to set up this gigantic monolith), I had to make do with just Robert Kelly to deliver and set up the HRS-130. This is the company's latest outing with prices from £11,900 to £15,450 for different finishes and which replaces the 8-sided HRS-120. Where the former came in two versions with 8 inch or 10 inch woofer and Titanium or Carbon DDD driver respectively, the 130 is just 10 inches and Carbon, with all parts in high-polish black or white polyester, unless of course you want another finish. Where the former would operate in an area up to 55m<sup>2</sup>, the new model works well up to 75m<sup>2</sup>, which effectively means a 25ft square room! Luckily my 24 foot by 12 foot living room proved no challenge and allowed me to position the speakers and myself in such a way that I could get a good inkling of its character and musicality. At its base it is 325 mm x



325 mm, with a footprint only 5 mm larger than the HRS-120. The weight is a healthy 34.5kg, largely due to the special damping material called Hawaphon attached to the inside of each of the 8 panels. Hawaphon is a polymer sheet which contains a matrix of sections filled with very fine steel shot. Ap-

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parently this material was originally designed for use in military and government buildings as a sound deadening fixture so that spies couldn't listen in. An 8-sided structure was chosen more for creating a stiffer 'box' than for its looks, though I prefer this shape to the 'square' models. This box certainly is very rigid and substantial and at 4.8kg more than the HRS-120 sits very stably on the floor. It comes supplied with a selection of gubbins to fix to the floor, including reversible spikes giving you a choice between pointed or ball ends, metal washers for the ball ends to sit inside, and self-adhesive felt pads to stick under the metal washers to prevent them from scratching polished wood floors. All of which are provided in a well-stocked plastic pouch including a few CDs and a duster to remove those oh-so-annoying finger marks. Where the HRS-120 only had a single pair of binding posts, the HRS-130 allows bi-wiring/bi-amping, all supplied with WBT nextgen™ terminals. There are also jumpers on the rear to alter output level of the DDD above 8kHz in 2dB steps, from -2dB to +4dB. This allowed me to compensate for the absorption of high frequencies by furnishing in the room. For me 0dB was fine for my room - in the 0dB setting no extra elements are introduced into the crossover meaning a purer sound.

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Whilst technology is a major part of this company I didn't want science to take over the enjoyment of music, so I sat, and I stood, and I walked and I listened. This wasn't going to be a quick review. As soon as Robert Kelly had set the speakers up, I pressed play on the test CD that I knew so well, to get that initial emotion. Whilst initial thoughts shouldn't always be set in stone, I do tend only to buy things like clothes if they appeal to me immediately. If I hang around unsure for a while and then buy them I tend to regret it later. So I didn't write anything. I just listened for several days and then put pen to digital paper.

As a studio manager of old, used to painting a picture on a large canvas in front of me, the idea of creating a 3D print is anathema to my training. I even have problems with setting up my 5.1 system. It really just is not real. And so many times omnidirectional offerings just miss out on that x/y factor, that I just concentrate on setting up my two-speaker hi-fi so that it sounds as life-like as my brain will allow it. And then I listened to this. It reminded me of those posthumous 3D moving holographs of Elvis Presley or Michael Jackson appearing on an empty stage that turned audience heads in awe. All the music was all 'just there' in front of me and I could almost 'touch it'. I began to believe the musicians were actually there in the room with me. It didn't matter that there was no sweet spot. Indeed, I felt relieved that I could move my head and not lose anything. For that reason the music now became all the more real and therefore approachable. The TelluriumQ Ultra Silvers with their phase coherence worked well in keeping the music controlled and real. Instruments were placed at the correct desk in the orchestra. 'Nights in the Gardens of Spain', Manuel de Falla (Chandos ABRD1169) had both depth of energy and of soundstage, so that I really was there with the musicians, and probably in Spain, too. Interestingly, while the German Physiks Unlimited MKII Loudspeakers reviewed last year in Hi-Fi Pig didn't work so well with the Krell KAV250a, I found the same combination – this time with the control and bite of the MFA Baby Reference and Ecosse MS4.45 cables – gave a very controlled and realistic 3D image, particularly when the Krell was allowed to show its muscle and with the speakers well away from the walls, and with much further still. Where my B&W 804s could perform the magic act of separating the music into low, mid and high constituent sweet spots, the mixture of Helmholtz resonator bass end and omnipolar dipole



at the other in this tall gloss black pedestal now worked in harmony with each other, just as Hydrogen and oxygen. Even God, or whoever, couldn't have created a more coherent chemistry than the designers of this pedestal. The DDD funnel working all the way down through 220Hz assisted in this greatly, and lower frequencies grunted with all the energy that Helmholtz pressure peaks and troughs would allow. What astounded me was its fluidity of sound. Whilst the two drivers couldn't be further from each other physically, their similarity in delivery gave a uniformity of sound that I found quite exhilarating. This was not a bass – top duo that never talked to each other, like so many speakers, nor did I have to vice my head in a single point for fear that movement away would lose me much of the detail. Because the main DDD driver covered everything from 24kHz down to 220Hz, I could concentrate on just listening to the music, wherever I sat or stood.

Whilst the HRS-130 isn't particularly efficient (at 87dB 1W/1m) it didn't feel lacking by today's standards. Where most speakers focus their sound into that

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one sweet spot, these were speaking just as loudly in front of me as they were everywhere else in the room, making for in reality an efficiency of probably 4-6dB more than they own up to. Indeed, room placement was less of an issue than nearly every other speaker I have ever tried. As long as it was more than a metre from walls its position was not that critical. Running bi-wired and with spikes on my carpet-covered concrete floors I could position my attention to the music, not the mechanics. I guess these speakers would work great if I were to have a party, as well as of course to be a good conversation starter. A good test for speakers is what they sound like outside the room. A real test for this is the grand piano. Not happy with one, I settled with two Steinways played by John Ogdon and Brenda Lucas in my prized Shostokovich two piano Concertino op 94 recorded in 1975, via the Music First Audio Reference Phono amplifier. This was not uprights on steroids; rather it provided me with a forceful and very realistic rendition of the half ton beasts (the pianos, in case you wondered). Deciding to come back into the room and squeezing in between the two pianos, this was just as equally real. The speaker did not feel inefficient, showing it could handle extremes in dynamics and soundstage, whether I fed it 250W Krell or 25W Slee. My room was now the concert hall or the studio, and it felt so different to my usual boxes.

Using my Slee Class Ab 25W mono-blocks, Mozart Wind Serenade No 10 in Bb (Royal Philharmonic Orchestra, Naim) was tight and musical. The left-speaker in the recording didn't become annoying, as the music was there in front rather than pinned against the wall, though I still wondered why they ever invented the bassoon. Turning to the other extreme, Led Zeppelin II, the left-right bouncing effects in "Whole Lot of Love" didn't sound confused as I thought it might, and the quiet echo of Robert Plant's voice in the middle was surprisingly clear with a spaciousness that made it both enjoyable and palatable. Indeed the amount of information coming to me from all directions was clear and musical. Track 2 'What is and What Never Should Be' just showed me what there actually should be with its stunning openness and unfettered energy, the lucidity and detail in the ride cymbal showed these speakers were not wanting at high frequencies, nor slow. Robert was alive and well in my living room, but he was wearing a dapper three piece suit with bow tie, rather than jeans. Whilst the bass end could be very punchy if needed, the rest was just a little too polite. I felt



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these speakers worked best with live or open music, and particularly classical and jazz. Kitaro "Live in America" is an extremely dramatic and spacious work, with violins, synthesisers, recorders and numerous wooden percussion instruments, all contributing in horizontal writing of competing intertwining strands of music. It also has deep thunderclaps and an audience that occasionally claps in the very, very distant background. This work is inspired by the classic Buddhist pilgrimage to the 88 sacred temples on Japan's southerly Shikoku Island, and the German Physiks give the music the reverence and space that it deserves. Each instrument has its own place in this meditational live recording, and these speakers give the depth of field that few others I have heard can do with this complicated album. I began to realise that whilst these speakers could handle almost anything I fed it, they were more at home with music that had a good depth of sound and space. This speaker was superbly articulate, and better at mimicking live music than multitrack studio music. It was better with classical music, conducting each instrument onto their correct seat in the orchestra, but it gave me the freedom to sit anywhere in the auditorium to enjoy it. I felt it used the acoustics of my room to create a larger space than the walls suggest. Interestingly, the most excitement I got was when I used these speakers as the sound whilst watching a film, indeed finding them more engaging than my 5.1 set up. The depth of soundstage was mesmerizingly absorbing. For me this is where they excelled. Where cluttered layers of sounds and music in film can be so confusing, these speakers unravelled them and put them in their rightful position, just as the AD on the film set directs the Extras to their starting points. These could turn any transistor amp into valve, with oodles of soundstage, imaging and layering and noticeably endless decays. All they lacked was that pin-sharp focus, which was not what they were intended for. I did add the Townshend Super-tweeter to see if that improved things for me, but whilst it did give the speaker that little bit more control and removing some of the vagueness at the top (for example, cymbals in Walking on the Moon, The Yuri Honing Trio, being that much 'tighter'), I lost much of the depth of sound that is the whole point of these speakers. I quickly confiscated them.

### Conclusion

Omnidirectional speakers are like Marmite; you will either love 'em or hate 'em. Luckily for me I like

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marmite and cheese on digestive biscuits, so feasted in the week I had these speakers in my house. If you want absolutes, you will prefer two box speakers, but if you have imagination and want exploration you will love these. They are different, not for the sake of it, but because the technology mimics life more than a traditional box ever can, such that they exude the emotion of the performance rather than it being a mechanical performance. They are not cheap, though certainly inexpensive compared with the MBIs. They were a definite conversation starter whilst in my house, though references to a cigarette bin or Daleks were quickly ignored by me. Of the wood finishes available, my favourite was Mappa Burl at £13,500, which would make this speaker look like a work of art any living room. It made a change for me not to have my head in a vice listening to music all week, and I really enjoyed listening to an immersive, uncoloured and open presentation, particularly with live music. My living room never felt so big.

**Sound Quality – 8.4/10**

**Value for Money – 8.3/10**

**Build Quality – 8.4/10**

**Overall – 8.37/10**

**Janine Elliot**