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EQUIPMENT REVIEW

Audio Physic Cardeas

by Alan Sircom. Photography by John Hytch

There's something reassuringly European about the Audio Physic range. Elegantly designed, subtle and very well thought out, the range is well-built, priced intelligently and manages to be popular both with the flat-earth crowd (after a bit of quality away-from-the-wall speaker action) and collectors of high-end Americana wanting a loudspeaker that fits in with our European design sensitivities.

The Cardeas is second from top in the Audio Physic range, but the Kronos flagship is long in the tooth now. And for once, Audio Physic trickles technology up, not down. The key stories in recent tales of Audio Physic centre around the company's Hyper Holographic Cone Technology, which first appeared in the Avanti and Virgo 5 models further down the line. Then came Cardeas, which takes the technology up a notch or six. In Greek mythology, Cardea was the goddess of protecting the home, but at 55kg, it's probably your spine (rather than the door hinges) that needs protecting.

Cardeas is a sealed box loudspeaker, medium-large by European standards and it requires a relatively large room in Eurozone terms too. This is in part because the Cardeas is a deep loudspeaker that needs to be a metre or so away from side and rear walls and needs to be a good 2.25 metres apart. But the old Audio Physic recipe of firing across the width of the room, with speakers set far wider than usual is not required here. It's more conventional in layout and room design.

What hasn't changed is the narrow front baffle that made Audio Physic so ground-breaking in the first place. The slimmer the front of the speaker the better the imaging, but with that imaging comes increased diffraction effects causing unwanted peaks and dips in the frequency response (this is usually perceived as increased coloration instead of obvious frequency anomalies). There are many ways around this (horn-loaded drivers, stick-on cork or foam surrounds, and the rest). Audio Physic's plan has been to use incredibly careful drive unit placement to minimise diffraction, but ensure the drivers are doing their level best to prevent diffraction effects in the first place.

Part of that is the use of the new Hyper Holographic Cone driver technology; yes, Audio Physic takes the rare and difficult path of designing its own drivers. In the woofer, this custom driver uses an aluminium frame with a plastic inner basket (most designs use plastic or metal, not the two together) allowing the heat dissipation properties of the former to blend with the improved damping of the latter. In the tweeter, Audio Physic went right back to the foundation stones of box speaker design and has just reinvented the cone tweeter for the high-end, albeit a cone tweeter with a dome sealing element presenting to the listener. Cone tweeters went out of fashion years ago, because they were either too stiff or too heavy, resulting in a tweeter that quacked like a duck or rolled off not long after the top registers of a bass guitar. Much of those problems were due to the relatively limited materials on offer some time ago and new low-mass, soft materials effectively solve those problems. The result is effectively the elimination of the ringing effects that can plague dome tweeter designs. A foam surround aids

the reduction of diffraction effects and Audio Physic's neat Active Cone Damping system (a silicone/rubber ring on the outer ring of the cone pushing back on the cone during its excursion) helps cut down ringing still further. All the drive units are ceramic-coated aluminium designs.

The result is a big, passive three and a half-way design with a 260mm side-firing bass unit, two 150mm mid/bass units, another 150mm unit as midrange and a 39mm dome on cone tweeter.

Isolation is a key part of the Cardeas ethos. The inside of the cabinet is multi-chambered to isolate the individual speaker 'ways'. The tweeter, mid, mid-bass and each individual WBT binding post are independently mounted on what Audio Physic calls its String Suspension Concept, while the tweeter's crossover is directly wired, eliminating the need for potentially resonant PCBs in the high-frequency region. The WBT posts already rest in the company's Vibration



Control Terminal; to then further isolate them from the surroundings is either gilding the lily or taking vibration control very seriously. Either way, it's impressive from a taking things seriously point of view.

This is one of the most character changing speakers out there. Out of the box, you'll get on the phone and start moaning because the speaker sounds 'pony' (Cockney rhyming slang – Pony and Trap...). A week ►

► of through playing later, a magical transformation happens and everything beds in nicely. We used the Cardeas in a system comprising Oracle's sweet-looking, top-loading integrated CD player into a Belles VT-01 pre and 200 watt mono power amps. This made a perfect match for the loudspeakers, and fits nicely into the 40-350W amp recommendations Audio Physic suggests for the Cardeas. From a bit of experimentation, when it comes to power amps, transistors are your friends but tubes should be approached with caution. It's not a tough load, but those bass drivers could go all 'plummy' when used with an amplifier that thinks damping factor is something to do with a barometer.

The Cardeas does everything Audio Physic traditionally does well, great imaging, clean and detailed presentation, crystal clear midrange tonality, but with more, and more bass to boot. This was perhaps one of the stumbling blocks of previous Audio Physic products like the classic Step; the cheaper models were ideal for small rooms, but the bass was either MIA or slightly out of, ahem, step with the rest of the performance.

The Cardeas has a clever and revelatory bass. It's not there until you need it, then it kicks in perfectly well, perfectly accurately, perfectly deeply. There's a very slight warmth to the upper mids; mild enough to pass unnoticed on any normal speaker, but the clarity of the rest of the Cardeas is so remarkable that its mild warmth (it makes a dreadnought acoustic guitar sound more like a jumbo acoustic guitar) is apparent. The fact that it's only noticeable on specific instruments – and really likely only noticeable to someone who gets the difference in tonality between a dreadnought and a jumbo – paints it as really mild. Like so mild, you'd forgive it on a speaker costing twice as much.

Ray LaMontagne's *Trouble* exemplifies precisely what is good about this loudspeaker. The loudspeaker is perfectly good at processing his unique blend of alt.folk and alt.country, making the presentation musically enticing and articulate. What it also does is act like your inner musicologist. The level of

“They will make almost any other loudspeaker sound like it's got a righteous overhang and a bass boom.”

detail in the mix makes you pick out not just all his performance, but the performance of those who influenced him. One track sounds like he's singing with the Band, another sounds like he's standing in for Van Morrison and so on. The same applied to the excellent eponymous XX album – all those 'Nico sings while Joy Division meets the Cure' dismissals on tracks like 'VCR' are valid, but behind that is a new band that actually has something of a bass-line. That's crystal clear here.

These are some of the cleanest, driest sounding loudspeakers I've heard, but in an entirely correct way. They will make almost any other loudspeaker sound like it's got a righteous overhang and a bass boom. Don't take that 'dry' sound for 'light'... this is a deep, powerful and dynamic sounding loudspeaker, just not one that adds any sense of excess fat to the sound. This might be disconcerting for people more used to the box joining in with the musical celebration, but it makes things like Little Feat's *Dixie Chicken* (on Mobile Fidelity) sound more like you are in the studio than in the listening room.

And out of the listening room, too. It's one of the secret acid tests of any good speaker system. If it sounds good outside the room, it's often doing something right. By removing your direct attention to the sound and listening to it at one remove, you hear almost unconsciously how the system sounds in terms of musical cohesiveness and dynamic drive. It's here that these speakers sound pretty damn fantastic. Kenny Burrell's *Midnight Blue* is a fine example of this. Cool ►



EQUIPMENT REVIEW / Audio Physic Cardeas

► guitar, sax and percussion jazz from the late 1960s, it's not that difficult to get this to sound good in the listening room, but walk out of the room and it often sounds remarkably flat. Not here, the sound is like the guys hanging out in your living room. Short of donning an Austin Powers outfit, calling people 'hep cats' and having drummers called 'Clem' on speed-dial, this is as close as you can get to recreating the event in the home. Niiiiice.

One of the things I've always admired about Audio Physic is their inability to shout music at you. In this respect, they are very much like the best BBC designs, only without the sense of restraint some of those thin-walled loudspeakers bring to the party. But where the BBC designs are almost frozen in time (thanks to that part of the corporation being closed down), this is the speaker for those who want to take that classic line of development a step further from a sonic standing. This loudspeaker raises that power exponentially. The tweeter is the sort of understated player that never gets in the way of anything, and it's only when you go back to other brash, tinny, tizzy, hard, soft, bright or dull sounding tweeters, do you realise what Audio Physic is doing is so very right in this speaker. That extends further down the audio band than usual, too, with remarkably honest sounding midrange and bass.

This helps make sense of Shostakovich's Trio for Piano, Violin and Violoncello, which is one of those strange pieces of music that often sounds more musically coherent the smaller the system is. It sounds fantastic and entirely understandable when you play it in a car, but often full-range systems focus your attention on the fireworks at the expense of the musical themes going on behind that. This still gives the weight to the music, but adds in a lot of the musical information that is left behind by many more 'flashy' systems.

Imagery is an interesting issue with the Cardeas. Like much of the overall performance, it doesn't grab you, but gently impresses you with its unforced, natural soundscapes. At first, it takes some getting used to, because so many products try to paint so obvious an imagery picture that they could make mono sound like surround sound. Put on something rich and deep – like Ali Farke Toure's last album – and the soundstage fills out. Instruments and voices hang in the space between the speakers like they were nailed there. Then replace it with something more close miked and lacking in air – like the Vampire Weekend album – and the soundstaging goes away. But not the fun – this poorly recorded album is the polar opposite of what constitutes good audiophile recording, but is full of the sort of energy that the modern music scene is so good at. Many high-end speakers will reduce this to the unlistenable pile; the Cardeas doesn't 'pretty up' the sound, but it makes it sound enjoyable.

If there's a drawback to this, it's that many who are in the market for a big statement loudspeaker are after big statement sounds. This is like the best two-way loudspeaker grown tall, with none of the problems you can sometimes get with a too-large two-way. That's a recipe for tightly focused sound and real-world instruments, but if you are wanting 200' tall pianos and piccolos with added 64' organ pipes, look elsewhere. I'm exaggerating somewhat, but those who equate high-end with 'big audio' will find these speakers wanting... for all the reasons that make them a world-class design.

Audio Physic's latest docks alongside some serious players in the high-end world – all the big high-end loudspeaker names have products at this price point, although some of these brands consider the Cardeas' price to be an entry point. This was a concern, because it would be so easy to come up with a loudspeaker that adds nothing that wasn't covered by the rivals. Instead, the Cardeas manages to add to the pantheon of high-end. If you are tired of large-



scale loudspeakers sounding big and fat and boomy in the bass, and want something that delivers big speaker scale with all the fast, precise and detailed performance of a neat little two-way loudspeaker, this is arguably the best of the bunch. +

TECHNICAL SPECIFICATIONS

Audio Physic Cardeas
Three and a half way floorstanding
loudspeaker
Infinite baffle design
Driver Complement:
39mm HHCT cone tweeter
150mm HHCM midrange
2x 150mm HHCM mid/bass units
260mm bass driver
Frequency Response: 25Hz-40kHz
Sensitivity: 89dB
Impedance: 4 ohms
Dimensions (WxHxD): 30.5x119x59.5cm
Weight: 55kg

Price: £16,500 (depending on finish)

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