

# The Goddess

The new Audio Physic Cardeas was named after a Roman goddess and does indeed deliver an unusual, yet heavenly, sound.

Test: Holger Biermann Fotos by: Julian Bauer



Two woofers are built into the sides of this elegant cabinet, although only one of them is active, while the second acts as a passive radiator, tuned to 20 Hertz. Our setup tip: Position the Cardeas so that the active woofers are facing inward.



So where does the new Cardeas fit into the Audio Physic hierarchy? Managing director Dieter Kratochwil and chief designer Manfred Diestertich were both present at the presentation of the new speaker and struggled with the question, hesitating before answering: "Well, in principle it belongs right at the top, certainly with regard to its technology."

And how right they are. The half active Kronos (3/04) has come to the end of its time, while 100,000 Euro giant models like the Cherubin from the 1990s are dead and buried. Leaving these behind, Audio Physic is now pioneering a new method, one that has brought huge success to leading industry figures such as B&W and Canton, namely offering leading-edge technology at prices that somehow remain within reach.

Correspondingly, this new technology flagship almost comes across as modest, costing 18,000 Euro, measuring 30 x 120 x 60 centimetres and weighing 55 kilograms. Nevertheless, everywhere you look in this elegant four-way design it is clear that Audio Physic have put an extreme amount of effort into this loudspeaker, right down to the finest details.

Take the cabinet, for example. The core unit is already extremely solid due to its multifaceted nested structure (see diagram on page 32). Diestertich has then surrounded this construction with a second wall. Both walls are made of MDF boards, which have been slit lengthways on the interior side,

allowing them to be bent and giving the cabinet its curves. These boards are, however, not fully glued together. Adhesive has only been used in areas where the inner cabinet resonates slightly. All other areas contain a gap that is about 1.5 to 2 millimetres wide, making the structure less mechanically stiff than it would be if the two surfaces were fully glued together. Nevertheless, this wooden sandwich with an air filling (similar to double-glazing) has more efficient acoustics because less sound is released through the cabinet walls.

Major effort has also been put into the drivers, which, as required by Diestertich's design,



No additional cable: the capacitor contacts are long enough to reach the tweeter.

involved many hours of nerve-racking work. The 10" woofer with an aluminium cone and the passive woofer of the same size, the aluminium cone tweeter with a 1.6" diameter and very broad spectrum and the 6" midrange drivers (which, as can be expected, also have aluminium cones) all have decoupled baskets and are extremely intricately designed.

## All Cardeas drivers have aluminium cones

And this is where we come across an essential keyword: The "decoupling" is literally a central thread running through the entire Cardeas concept. It refers to the fact that all components that affect the sound delivered by the speaker are decoupled from vibrating mounting surfaces. 15 years ago, Diestertich discovered an effective decoupling method using thin rope: the String Suspension Concept (SSC). These nylon threads have long since been replaced by tightly stretched nylon nets, which are designed to trap interfering vibrations.

And this brings us back to the midrange drivers. The Cardeas models have two baskets: one external basket, which is fixed into the baffle, and one internal basket, which is firmly connected to its external counterpart by an SSC net. The tweeter is also attached in the baffle by an SSC net; in fact, even the jacks are decoupled in this manner. Of course, this kind of decoupling is known to be used in drivers, but now it's used on the terminal too?

