Forever

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EIDOLON DIAMOND Review: AUDIO Magazine 1/2003

Neil Patel brings magic to loudspeaker designs. With his Eidolon D and its diamond tweeter, it casts a spell on the friends of music. AUDIO too succumbed to Diamond Fever.

Loudspeaker history is rewritten from this point on. It began in the year 2500 B.C.-approximately at least. Now you may think that the author of this article might be a little crazy. However, should one not do something amusing as an entrance? So why not mention the famous song by Marilyn Monroe, "Diamonds are a Girls Best Friend", at the beginning of this review as well? Still the poetic predicate does not miss a spark of truth: Around 2500 before Christ, someone found the first diamond on the banks of a river in India- the historical records say. After this event, the subject of diamonds went quiet for a thousand years. No miracle, since humans were not able to process the crystal in any manner. Diamond is the hardest of all known materials. Splitting or cutting one with other stones or metals? A hopeless enterprise. Melting perhaps? No normal fire offers any prospects. When in 1477 Maximilian of Austria put the first diamond wedding ring on the delicate finger of his wife, the jewel became an object of desire for the rich and beautiful. That hasn't changed until this very day. The diamond also won acclaim in the field of medicine and other technical pursuits; nevertheless it never fascinates humans more than as that perfect object revered by ladies of High Society. Is there a woman anywhere in the world who would not be in awe at the sight of a brilliant diamond?

In the year 2002, Neil Patel- designer and philosopher of the High-End speaker manufacturer Avalon- made a more emancipated judgment. The highly gifted loudspeaker designer reaches the stratosphere, when it concerns diamonds- and only the purest high tones are demanded. In his new super-speaker, Avalon Eidolon

Diamond, diamonds serve only secondarily as decoration. Rather, Patel approaches diamonds acoustically. Beside their ultimate hardness, this piece of carbon is characterized by the highest fusing temperature and the best thermal stability of all natural materials-which should help give this material, 4500 years after its discovery, an entirely new career. Its physical characteristics make the diamond extraordinarily attractive as diaphragm material for loudspeakers. Use diamonds for loudspeakers? Only if we think calmly without boundaries, and we put the costs for the implementation of an idea like this aside.

Due to its immense rigidity and hardness, such a diaphragm can be extremely thin, which would keep the weight down to an inconceivably low level. Second advantage: Due to superb thermal stability (it is five times higher than silver), and because of a high melting point, which is about 6332 degrees Fahrenheit, diamonds become suitable for bearing massive mechanical loads. Ideal for a high frequency speaker, which benefits from the highest rigidity and smallest moving mass. Let's compare well-known materials, which are used in High-End tweeters today: Aluminum deforms at 1220 degrees, titanium at approximately 3100 degrees. Why is this of importance? With tweeters, playing loudly is dependent upon thermal loading. Heat is quite harmless if it is immediately dissipated; otherwise the moving coil becomes deformed, which could lead to the end of the chassis. If the diaphragm has good thermal stability, it will make the environment cooler, shifting the heat generated near the voice coil into the surrounding air. So the diamond offers theoretically perfect tweeter characteristics. The practical technology for forming the diamond was developed in Germany-by Adrian Bankewitz, boss of the chassis manufacturer Thiel & Partner in Pulheim. Bankewitz in co-operation with the Fraunhofer Institut in Freiburg, mastered the tremendous technical challenges. In a complex procedure, an extremely thin artificial diamond layer is evaporated onto a carrying material, which is removed after the production process by an acid.

The American Patel keeps good relations with Germany and Bankewitz. For some time the designer has used the drivers of Thiel and Company in many of his top models. There are other manufacturers who swear by the diamond tweeter as well, but could their products be judged in the same breath as Neil Patel's speakers?

Some competitors boldly show off their products at the same exhibitions as Avalon, but a serious comparison is out of the question.

The "D" behind Eidolon is actually designated by a shining jewel on the Avalon logo. This super-speaker is built on a solid platform. The shape of the cabinet alone proves that a master has been working on this speaker. I speak not only of the quality relating to craftsmanship, which is very difficult to exceed, but also of form completely following function. The inclination of the cabinet produces the correct sound radiation behavior. The structure is ultra stable- sound transformations hit you at all bodily levels, with subtle vibrations that are instantly at peace with the mind. Transducers all too often suggest which material they are made of- an Avalon never. Patel manipulates the materials in his grasp like nobody else. He forms perfect images, whose acoustic presentation is also the very best. Seeing the construction of the Eidolon D brought us high expectations, which resolved themselves when we rotated the first disc in our reference player, the Accuphase DP-85. As the sound began, I could hardly ever remember a more contented expression coming over my face. Where other very good transducers take awhile to pull me into their spell, Patel's jewel succeeded right away. But what happens next? Only a few seconds later it was time to move on from the relaxation, with the highest attention necessary- so precisely did Patel's creation reproduce the Gregorian Song of the Choralschola der Wiener Hofburgkapelle (Philips). It was as if I could look around in the meager chapel space, able to detect the size of the individual choir members and feel the cold and damp of the hall. Such an illusion may also be creatable by one or the other dream transducer- nevertheless probably only an Avalon will let you hear the voices with their many facets, in all their beautiful colors and the splendor of their aliveness. On the one hand the coldness of the chapel, and on the other the virtuosity of the artists, whose voices are joined into a homogenous whole in the palpable warmth of their tonal qualities- a dramatic tension that could hardly be more fetching. Is that too gentle for you? Try the band Live "Mirror Song" (Mental Jewelry/BMG), then I felt like Columbus on a poetic discovery journey: I explored that piece like a new land- the Eidolon D so playfully revealing views of what was hidden- or better, views into what with other transducers remains hidden. It was amazing to hear

the multiple incarnations of the raspy voice of Sanger Edward Kowalczyk, raw, forceful, touching, and floating. Or how his fingers glide over the strings of the acoustic guitar, making it soar. Here the Eidolon D permitted me to follow his playing note for note. The ability of the Avalon to illuminate the recording space perfectly, I have already spoken of. But the best thing about the much praised high frequency tweeter, was that I never really heard it as such. It is the ability of this transducer to represent the music as a whole that places it above the competition. The aperitif, a suitable wine, and the digestif, must all blend perfectly, complementing the meal. Here our set closes: Neil Patel ennobles the finest materials by harmoniously joining them together into a whole that is truly greater than the sum of the parts. Never has the master succeeded better.

Conclusion: The Eidolon Diamond is not the only cabinet containing the noble diamond tweeter, but it is the one that will stand the test of time. With it, and its designer Neil Patel, this high-end loudspeaker will rewrite history.