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THE KLEINE SCHWARZE

DAN CLARK AUDIO NOIRE X

Dan Clark began his entrepreneurial career as a 'tuner' of a Fostex headphone. The successful attempt to make something existing better resulted in the desire to invest the acquired know-how in the development of a completely new headphone model. This resulted in the first product with the somewhat curious name 'Alpha Dog', which translates correctly as 'alpha animal'. With the Ether and AEON series, the Expanse and Stealth as well as the E3, the manufacturer now has a very impressive portfolio from the realm of magnetostats, which is within a market- or user-friendly price range. For professionals who have to pay attention to cost-effectiveness, the most important thing is to be able to make a reliable decision when listening, but a tool purchased for this purpose must of course also address the question of amortization, which we will answer at the end of this article.

Closed headphones are actually standard in the studio, but in the Recording room on the heads of the musicians. The headphone mix as a source of orientation and inspiration should be as unaffected as possible by the actual sound events in the recording room.

It to me that open-back headphones do not automatically sound 'open', just as closed-back headphones do not necessarily sound 'cramped' must. One of the San Diego-based headphone specialist's specialties is therefore to offer headphones with a closed back.

The aim was to give the enclosure an open sound image in order to avoid having to buy the advantages of noise isolation from the outside with a resonant enclosure sound. The 'Alpha-tier', the first headphones from the pen of Dan Clark, already pursued this goal. There are now several pro

products on the market that simulate and reproduce hearing through loudspeakers via headphones. Although this is a psychoacoustic illusion, it is intended to but according to reports, some of them work quite well. I have not yet been able to gain own experience of this. Of course, these products are primarily aimed at users, who do not have a functioning room available, because, why should I use emulation when I can an optimized, real space with loudspeakers can have? This leads me to the question of what role 'reference headphones' should play in production work today. I see it as a welcome addition to a functioning loudspeaker system. listening situation, not as a replacement. However, the headphones have also become very important for another reason, because the predominantly

of music listeners walk around the world with in-ears or over-ears. around. The special stereo imaging provided by the headphones can also be used as a 'stylistic device' and therefore requires a test instance. The headphones also provide a valuable service for mobile use. ste as a 'listening reference to take away'. In this case in particular, a common closed headphones are a very way of blocking out penetrating room acoustics on site, for example.

Overview

The Noire X is not a direct successor to the AEON 2 Noire, even if it advertised as such, but is

In my understanding, this is more of a strategically less expensive variant.

VSP-2 DUAL MIC PREAMP

FOR A CHARACTERFUL SOUND



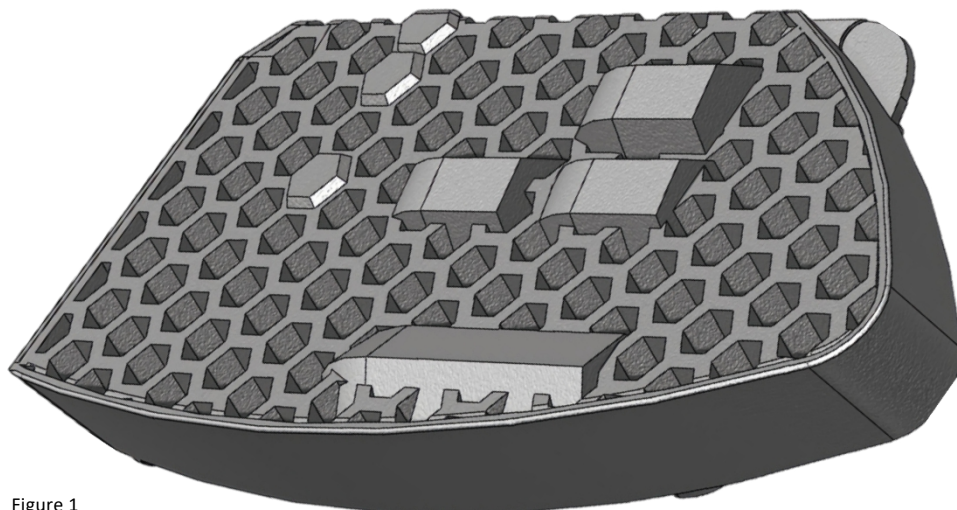


Figure 1

of the E3, which I highly praised in February of last year - also a closed model. Discovered The development goal of the Noire X was probably the technological connection of the affordable headphone line to the DCA top class. Some of the technical-mechanical refinements

The sound quality of the premium segment is now also reflected in the Noire X. This makes these headphones a particularly interesting candidate in terms of cost-effectiveness. A very important element for the open sound of the Noire X is the AMTS element (see Figure 1), which is up to

long exclusive to the premium models Expanse (open), Stealth (closed) and Corina (electrostat of open design), but was ultimately reserved for the also found its way into the E3. All closed-back headphones are open Due to the dimensions of the auricle, the ear is affected by the problem of standing waves in the upper frequency range, which, without countermeasures, can lead to problems and, due to a certain 'annoyance', can quickly cause hearing fatigue. This is why the AMTS Element between the sound transducer and the ear that integrates sound guidance, diffusion effect and resonators, thus canceling out standing waves. be broken. The keyword here is 'Metamaterial', an artificially produced structure whose sound can be precisely adjusted. The selected detailed geometry

Princip as magnetostatics cop erations

Long before it was adapted for use in headphones, the magnetostatic drive was already used in loudspeaker development or as a design for microphones (ribbons). The interesting thing about a current magnetostatic drive is that the 'voice coil' is distributed over the entire diaphragm surface in comparison to a dynamic drive as a conductor track braid. The dimensions of the latter allow, at least in principle, the uniform movement of a larger amount of air, which is necessary for the effective reproduction of low frequencies, for example, but the aspect of time-accurate reproduction is no less important. Since a planar diaphragm moves as a voice coil in a magnetic field, it is obvious that an 'increase in performance' depends on the strength of the magnetic field, but also on the size of the diaphragm. The diaphragm material used is foil with a

The micrometer range is used in the micrometer thickness range. A micrometer corresponds to one millionth of a meter or 0.001 mm. For comparison: a human hair measures around 75 micrometers, red blood cells are 7.5 micrometers 'large' and a bacterium can boast dimensions of 5 micrometers. It is immediately obvious that a smaller mass can be removed much more quickly. One problem in production is to apply conductive tracks to such a film, which may also follow different patterns and thicknesses. The main components of a magnetostatic headphone are the magnets and the diaphragm. The chosen arrangement of the magnets creates a static 'force field' with which the diaphragm begins to interact or in which it moves back and forth as soon as current flows through the conductive tracks. To ensure that these movements in the

oretically arbitrary, fast is possible, one of the essential factors is the membrane mass, which ultimately ensures the most ideal transient reproduction and a broad, time-correlated frequency spectrum. Another factor is the magnetic drive as such, its strength and the question weight saving. The stronger the magnetic field, the greater the force that causes the diaphragm to move and accelerate. To increase the force, you actually need more magnets, which means an increase in weight. of the entire construction, but also creates more of an obstacle to sound propagation. An optimized combination of mass and magnet strength must therefore found so that the construction does not become too heavy and is also 'supple' enough not to hinder sound propagation.

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Image 1: Ingeniously foldable



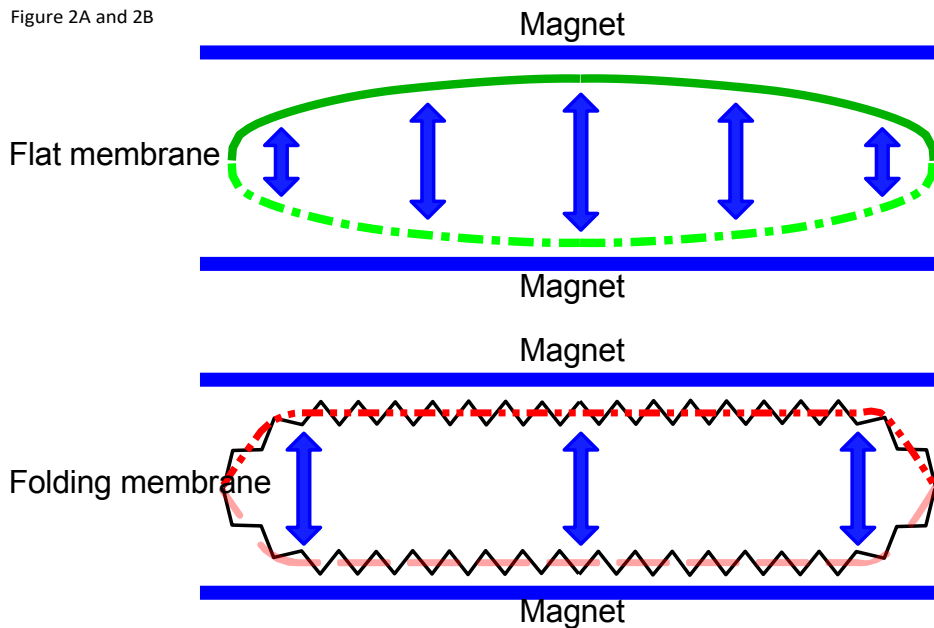
Image 2: The synthetic velour overlay of the ear pads ensures pleasant wearing comfort

element, which is determined individually for each headphone model, the spectral profile of the upper frequency range can be 'adjusted' as required.

Another key factor influencing the sound quality of the Noire X is the V-planar technology already familiar from the other models. How

can be seen in the schematic diagram (Figure 2A and 2B), a finely structured folded membrane provides increased elasticity and flexibility in the edge/fastening area. This means a significantly larger diaphragm area, which can cover the maximum distance of movement, allowing more air to be moved with a smaller diaphragm. This means: better impulse fidelity at low frequencies, higher dynamics, better sound quality. reduced distortions and extended Precision in detail. The Noire X naturally stands out due to its 'high-gloss

Figure 2A and 2B



all-in-black' design, is there
However, it is also extremely sensitive to fingerprints. If you look at the first fingerprints on the glossy black glossy goorillaglas, it is over with the high glossy design - but we've been familiar with this from the touchscreens of our smart devices for a very long time.
Nevertheless, the Noire X, which was developed on the basis of an updated and improved AEON transducer, remains stylish. The new driver is significantly more robust than its predecessor and is characterized by tight manufacturing tolerances, lower distortion and a smoother frequency response.
Like other models in the AEON series, the Noire X is also equipped with a special folding mechanism (see Fig. 1), which allows it to be folded into its own shape.
very compact case including connection cable. The self-adjusting headband ensures a perfect fit.

The newly designed ear pads made of synthetic Alcan- tara suede (Fig. 2) and the comparatively low weight of 385 grams, which was made possible by materials such as titanium, aluminum and carbon, are also responsible for this. The manufacturer offers a cable collection for the Noire X with various connection standards, including combination plugs with 1/4-inch and 3.5 mm, 4-pin XLR connectors or 4.4 mm.

Listening and practice

I was able to compare the Noire X, provided by the German exclusive distributor audioNEXT based in Essen, with the AEON 2 Noire and the E3, which gave me a very interesting impression. and enlightening listening experience.

sheared. To be able to compare headphones directly, you have to put them on alternately, preferably without a long delay, in order to be able to compare the sound quality.
not to disturb my memory. That works for me - if I want to use the same headphone amplifier, which is oh-question is a prerequisite for a correct comparison - only with the near II Pro from Lehmannaudio with two connections. First, AE- ON 2 Noire and Noire X were pitted against each other. the on. I have to say up front that the AEON 2 Noire was my number one closed-back headphone for a long time until the E3 came along. The difference is more than clear from the first listen. The treble of the Noire X is
The sound is much more airy and balanced than with the AEON 2 Noire and the impulse power of the bass has more 'body'.
perity', which I only realized on the 'second glance in the ear' (nice phrase, isn't it?). All in all



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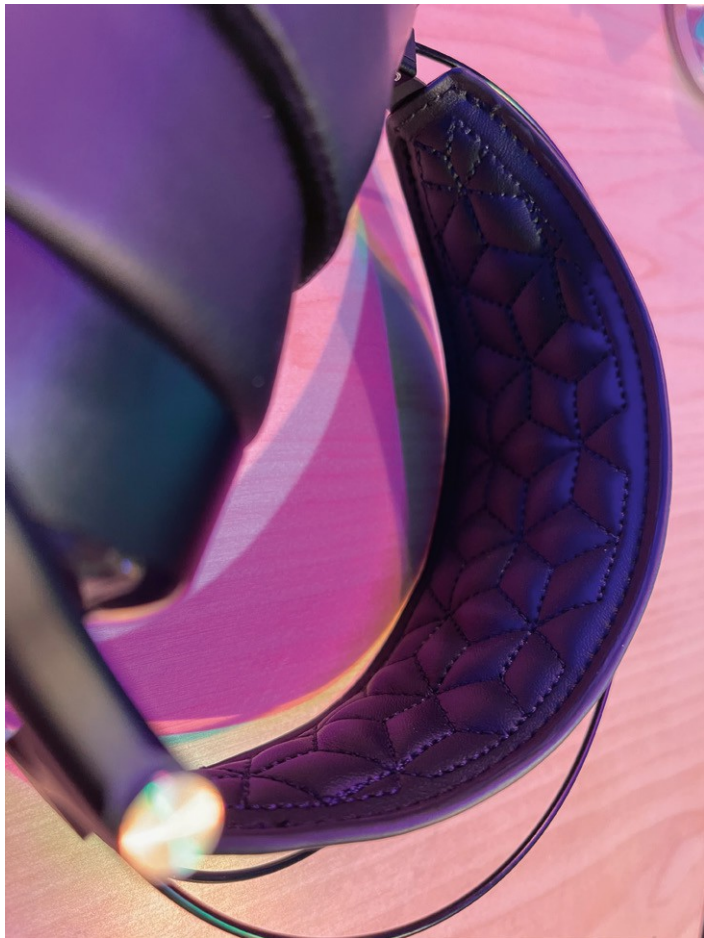


Image 3: Well-padded headband



Image 4: High quality in detail too: lockable connector plugs

the Noire X is very linear with a slight prominence of low frequencies and wonderful

Fine detail in the treble. The point goes to the Noire X without question, in comparison to its price-similar predecessor. Now follows comparison with the E3, which costs around two and a half times as much as the Noire X. First impression: The E3 is " in the mid-range and is a little more contoured there, but is more linear in the bass. Its value-for-money 'offshoot', as I referred to it at the beginning, can be compared to the Noire X in every respect except for the low end.

I almost like the low impulses of the Noire X even better. Conclusion: The E3 and Noire X are two very well-tuned headphones that outperform their colleague 'AEON 2 Noire'.

the own stable, which is astonishing at this overall sound level considering that the AEON 2 Noire

A development from the year 2021

is. But a little more detail on the sound of the Noire X. It's almost uncanny to me how big the development steps in headphones are.

are the best. Ten years ago, when I first came into contact with the Audeze LCD 2, I thought it couldn't get much better than that. But the fact that a closed headphone can easily surpass this level today is really more than amazing. The Noire X was

produces a very tidy stereo stage that allows you to listen deeply into the rooms. The balanced

The treble reproduces all the details in a relaxed and natural way and the listening pleasure with a safe but not disproportionate bass foundation is by no means neglected here. To be honest, I don't need any emulation of good tuned speakers in a world-class control room, as amazing as this technology is in one or the other.

case may be. The Noire X simply delivers sonic precision

on the temporal and spectral, which, as an addition to my loudspeaker system, makes it even easier for me to optimally serve all domestic playback formats. But the most impressive thing is that you forget you have a closed headphone.

headphones on your head. You can enjoy the peace and quiet of the isolation and feel no restriction from the closed housing.

Conclusion

The German distributor audioNEXT sells the Noire X for 1,099 euros VAT.

Replaceable ear pads for the Noire X and the AEON series headphones are available for 79 euros. However, I can say from my own experience that the ear pads

and stay in shape for a very long time the headphones are handled with care. The Noire X is the new benchmark for the segment of affordable metrostatic headphones around the 1,000 euros. With its relaxed, precise sound, it doesn't have to shy away from comparison with openly constructed competitors and, for me, is an ideal combination of economy and decision-making reliability when mixing and mastering. It doesn't take up much space in the travel bag and, thanks to its low impedance, it can be used in a variety of applications. (13 Ohm) can also be used with laptop headphone outputs. However, with its precision, it is of revealing the weaknesses of headphone amplifiers. The speed with which Dan Clark Audio brings clearly audibly improved headphone models onto the market is already impressive - as is the fact,



that the inexpensive models regularly benefit from the technical refinements and sonic advantages of the premium models.

models, as I was able to impressively experience during my review of the Noire X.

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