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HEDD-START

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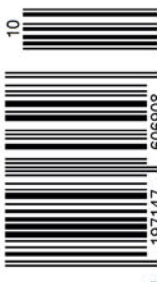
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ORIGINALLY IN GERMAN TRANSLATION: ENGLISH



HEDD-Start

The newly created company HEDD, founded by former ADAM senior developer Klaus Heinz and his son Frederik Knop, emerges with its first monitor models – we have tested the auspicious near field monitor Type 07.

AUTHOR: SYLVIE FREI (TRANSLATION: S. KASPER)

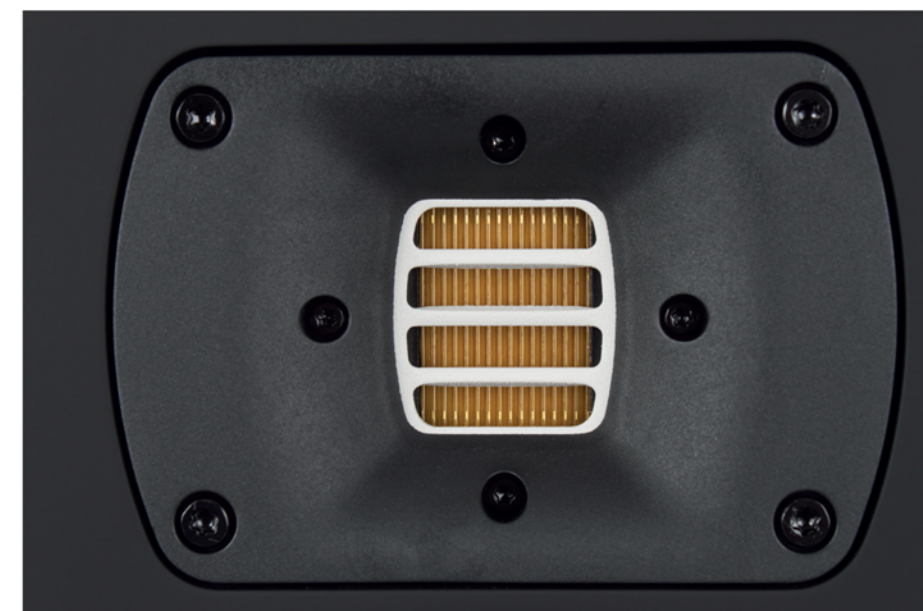
Insiders in the audio industry may have known for some time now that the renowned German loudspeaker company ADAM and its founder and long-term senior developer Klaus Heinz, have parted ways. While ADAM's new management endeavors to put the company back on track, Klaus Heinz and his son Frederik Knop just set up a new business without hesitation. The new company is called Heinz Electrodynamic Designs (or HEDD for short), which was set up in record time. Highly motivated and enthusi-

astic, the father-son duo already appeared at this year's Musikmesse in Frankfurt to show us the prototypes of the first HEDD monitor series called Series One. In the meantime, the manufacturer has started production and built its international distribution network. The 2-way near field model Type 07 is the first fruit of development under the brand name HEDD – a compact active monitor in a bass reflex design with specifications that read like a technical upgrade of an ADAM A7X. The latter should make a pre-informed reader perk up their ears, since the A7X is amongst the top ten best-selling ac-

tive near field monitors and is known for its flat frequency response. With a price tag of 649 Euros (\$849 US) per speaker, HEDD offers the Type 07 for exactly the same initial recommended retail price of the A7X (which is now available for 100 Euros less), but with the surprises the Type 07 has on board, it could be a threat to the iconic ADAM speaker. In the end, it is a new development running against an old one by the same mastermind.

Cabinet and looks

When it comes to design, HEDD Type 07 and ADAM A7X appear very similar and that is particularly because of the plain, dark cabinets and the combination of a ribbon tweeter paired with one cone sub/midwoofer in a conventional one-above-the-other arrangement as well as the circular bass ports located in the lower part of the front both speakers share. More visual differences however, can be found in the detail: While the ADAM A7X relies on a sharp-edged wooden cabinet with chamfered corners towards the tweeter on the front, the Type 07 comes with a special painted MDF cabinet with just slightly blunt edges and without any chamfer around the tweeter. The latter (tweeter) has been embedded into a waveguide instead that serves as a sound-transmitting element. Another difference is the gain control and the power switch that are located at the front of the ADAM model between the two bass ports, while the Type 07 has all controls at the back. We would have liked to see those controls incorporated at the front of the HEDD model as well, but to have all the control options at the rear is absolutely fine since the monitor should be accessible from behind anyway, given it has been placed correctly. Also, the actual output volume can be adjusted in the setup via the sound card or the monitor controller. The gain



The HEDD Air Motion Transformer is the latest incarnation of the X-ART tweeter. At the Type 07 it is embedded in a waveguide that serves as a sound-transmitting element.

control on the monitor is only meant for adjusting the incoming signal to consumer or studio level, or for bringing both monitors to the same level should the monitors slightly differ in output volume for some reason.

With a cabinet size of roughly 37 x 22 x 30 centimeters and a total weight of ten kilograms, the Type 07 can still be placed on a larger, sturdy desktop. If you choose to have the monitors on your desktop, they should be decoupled. Alternatively, there are special monitor stands on the market. Important: Even with the bass ports located on the front, the monitors should not be set up to close to the wall or in a corner of a room, otherwise the bass frequencies can get excessively increased dependent on spatial parameters. In comparison to the ADAM A7X the cabinet of the Type 07 comes with much thicker sidewalls and a 38 mm front panel. Furthermore, its bass reflex tubes have more streamlined endings as Frederik Knop explains: "Inside the cabinet the port tubes are terminated with a turn of 180 degrees, with this design port noise cancellation is even more efficient." This was positively noticeable in our listening session but let me come back to that later. Besides a smooth control for gain adjustment and a power switch there is one high shelf and one low shelf filter that al-

low the user – if at all desired – to adjust the monitor to personal listening habits in steps of one decibel up to +/- 4 dB below the range of 200 Hertz and above two kilohertz.

Connections

The analog monitor Type 07 comes with one balanced XLR connector and one for unbalanced RCA signals, meaning professional and consumer audio equipment can be connected. A detachable blank panel reveals one connector slot for a very special feature HEDD has fitted its Series One with, read more about that in the box called "HEDD Bridge". The keyword here is "digital connectivity" this much can be given away.

By the way, if several devices are connected alternately to the various inputs, a removal of the one that is not in use is not necessary. The Source Select switch on the rear lets you select the desired source. This way for example a home stereo and an audio interface/ sound card can be connected permanently to the monitors.

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HEDD Type 07

- + - detailed, organic, balanced and flat basic sound
- three dimensional
- excellent impulse response
- very dry, tight and deep bass
- nuanced and precise highs
- digital upgrade option

With the Type 07 Klaus Heinz proves the era of studio monitors with ribbon tweeters not to be over for a long time. The monitor brings everything we need to get all-round tasks done efficiently in the studio.

\$/€ 849,- / 649,-
recommended retail price (incl. VAT)



A few details have changed but the lineage of the HEDD Type 07 is unmistakable.



All connectors and controls are located at the back of the HEDD Type 07.

Features

Two-way Bi-Amping

The Type 07 is a two-way monitor that is actively driven by two amplifiers. Behind the tweeter and the sub/midwoofer there is a 100 watts PWM amp working for each driver. These are equipped with the latest generation of ICEpower modules, that “set the benchmark in bandwidth, low-distortion and noise performance”, as Frederik Knop describes them. This amp generation is a significant upgrade to the amplifiers that have been developed in China for the A7X. The sub/midwoofer measures 7 inches (182 mm, hence the product name Type 07) and comprises a cone woofer made from Ultra Honeycomb Composite (UHC), a super-light sandwich cone material that consists of a Kevlar texture at the outside and a Kapton honeycomb structure at the inside of the woofer. “The important progress for us is the new resins/adhesives that glue everything together. We get a drastically more rigid woofer cone with UHC, a feature that has a very positive effect on clarity in the midrange from our perspective”, Frederik Knop adds.

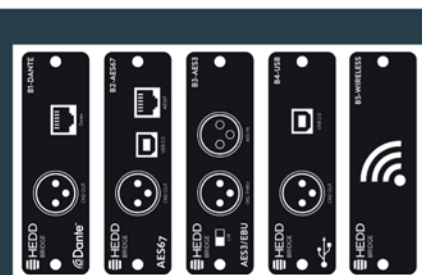
HEDD Air Motion Transformer

Like with all loudspeaker developments of Klaus Heinz there is one distinctive feature – the tweeter. As with his developments for ADAM, Heinz does not work

foil strip furnished with conducting paths that is exposed to a strong magnetic field. Depending on the audio signal, the individual pleats of the diaphragm open or close. They “breathe” the air out so to speak, which happens in a diaphragm to air velocity ratio of 1:4. By applying this trick, the velocity can be quadruplicated in comparison to a conventional dome tweeter with the result that signals with very fast transients can be reproduced extremely accurate in a high-resolution manner. German physicist Oskar Heil is regarded as the inventor of this principle. Klaus Heinz went to see him frequently in the 1970s and on the basis of Heil’s prototypes, Heinz tried to refine his invention that got patented in 1969. He eventually came up with a first compact, heat-resistant and also sound-improved version that can be seen as the ancestor of what we call the HEDD Air Motion Transformer today.

The latter again is the enhanced version of his development for ADAM’s X-ART tweeter. A stronger magnetic field is applied in order to minimize distortion

with dome tweeters commonly used for studio monitors but with a special ribbon tweeter. The HEDD Air Motion Transformer relies on a pleated accordion-like



HEDD Bridge

‘Digital networking’ is the tech-keyword of current developments in pro audio. HEDD as a manufacturer of analog studio monitors does not want to ignore this progressing trend. Yet with the huge number of digital protocols that are around at the moment it remains uncertain, which of these protocols will be the established standard in tomorrow’s interconnected world. For this reason HEDD searched for a future-proof and flexible integration of their analog monitors into a digitalized work environment. The result of this research is a modular input card system – the HEDD Bridge. For this optional upgrade each HEDD monitor comes with a freely configurable card slot located on

the backside of the monitor. Hidden behind a removable blank panel a connector socket can be found that can hold one of the Bridge input cards. The optional modules that are available at the moment offer functionality for AES3/EBU, Dante/Ravenna or AES 67 protocols to be used in Audio over IP networks. In addition, there are modules for USB and Wireless in the works. With that said there is nothing to stop analog HEDD monitors to be integrated into Ethernet-based multi-channel systems. We are curious to see if and when other analog monitor companies come up with similar solutions, but first and foremost how audio material fed in via a HEDD Bridge module actually sounds like. We will make sure to find out in one of our next issues when we cover the soon to be released three-way model HEDD Type 30 together with the HEDD Bridge.

More information can be found here:



www.hedd.audio/en/hedd-bridge



The cone membrane of the Type 07’s sub/midwoofer is made of an Ultra Honeycomb Composite, an ultra-light but rigid sandwich membrane composed of a Kevlar texture (outside) and a Kapton honeycomb structure (inside).

and intermodulation even further. The newly designed waveguide that already caught our eye, made it possible to have a lower crossover frequency, which is of great acoustic advantage, especially for the two-way Type 07 and Type 05 monitors. Thanks to this new concept, the crossover frequency of the Type 07 is lo-

cated around 2.3 kHz, as opposed to the ADAM A7X that sits at a slightly higher 2.5 kHz. Frederik Knop explains: “Due to frequency-dependent sound transmission the waveguide produces an exaggeration in the crossover range and above. With the help of a parametric filter we can equalize this and as a result we get a

slightly lower -3dB point for the highpass filter. In addition to that, the conducting tracks on the diaphragm are more consistently designed now to get better contribution of the membrane’s border areas. “We have got a little more going on here now.” Klaus Heinz annotates: “Thus far I had avoided waveguides, as I suspected them to introduce coloring to the sound, similar to the effect of horn speakers. By experimenting with different waveguide designs with the help of a 3D printer, I was able to avoid all these effects.”

Measurements

In the Professional audio test lab the manufacturer’s data was verified accurately, just below 38 Hz our frequency response starts to drop noticeably. Other than that, the response of the measured frequency range develops to be extremely flat and is not subject to fluctuations of more than one decibel. This is not necessarily the case with other candidates in the same or even a higher price range, where it quite often looks less friendly in this area. The Type 07 appears to be an absolute model pupil. By way of comparison, we have a look at a measurement graph of the pre-



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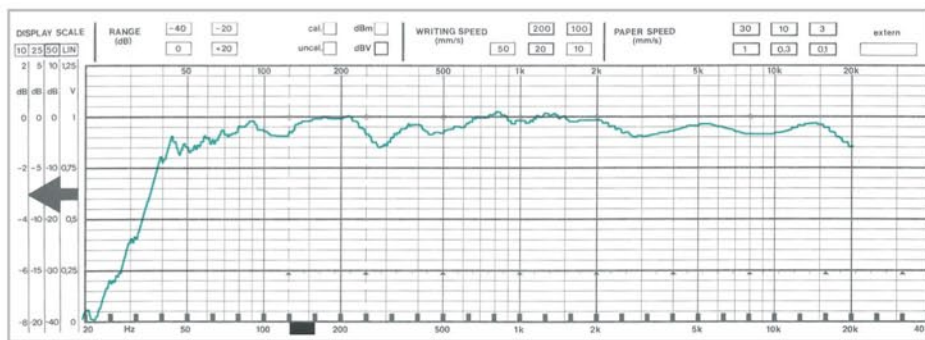
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The Type 07's frequency response is exemplary.

cursor of the ADAM A7X – the A7 (see Professional audio review 10/2006). This model had a wonderfully flat frequency response curve as well but decayed in the lower frequency range below 50 Hz relatively early.

The sound

Apart from the instantly noticeable, well-balanced sound performance during our listening session in a stereo set-up, we liked the three-dimensionality and the nuanced spatial unfolding of the sound, both in width and depth. Furthermore, the Type 07 has an excellent impulse response not only in the treble range (thanks to the HEDD Air Motion Transformer) but also in the midrange and at low frequencies. The overall sound image can be described as very detailed, organic and balanced. The monitor itself is, despite of being used in a near field setup, not apparent until medium volume output level has been reached. Only when we turned the volume dial distinctly further, we could hear the noise floor blending into the signal. The all around balanced, precise and truthful sound consists of very tight, dry, transparent and – measured against cabinet and membrane size – also very low reaching basses, balanced mids, and very nuanced, fastidious but pleasant highs. All the low-frequency listening material we had on hand for the test stunningly showed to advantage, even the lowest bass notes sound clear and precise, yet comparatively unpretentious through the Type 07. Nevertheless, they are in place and therefore a subwoofer for low frequency extension is not necessarily needed, unless more volume in this frequency range is desired. In most mixes the Type 07 should cope easily without the help of a subwoofer.

The bass reflex system, sub/midwoofer and tweeter are perfectly geared to each

other. Nothing is being exaggerated, swept under the table or beautified. Because of that, the Type 07 qualifies as a remarkable reference speaker when it comes to validating mixes or checking for intrusive elements. The Type 07 is not in any way unnerving; this speaker reproduces exactly the things it is fed with. The width of the sweet spot of these monitors in a near field stereo setup is average but with still enough room for the listener to move within this spot, the tolerance range is limited though. Nonetheless we think that even long listening sessions become enjoyable and efficient with these speakers. It is only the texture of the sound that we feel misses a sprinkling of the subtlety and refinement we can hear on higher-end monitors every now and then. Apart from that, the Type 07 presents itself as

a superb solution especially for users on a smaller budget, too. With 1.300 Euro (\$1,698 US) for the pair, the budget is absolutely well spent. Should there be a digital connection desired in the future, this can be retrofitted at any time, thanks to the HEDD Bridge (please see description box in this article). This option allows all owners of the Type 07's, the path to digital interconnectivity in the future.

What is it good for?

The Type 07 is suited for the higher-end home studio as well as professional and project studio environments. Thanks to its balanced and linear demeanor this monitor is proper for editing as well as mixing and even for the mastering process. Because of its compact dimensions, it is also worth considering of being part in a surround sound setup.

Conclusion

By introducing the Type 07, Klaus Heinz and Frederik Knop show they have what it takes to make their new company HEDD, a serious player in the studio monitor market. The Type 07 brings everything we are looking for in an analog near field monitor at a reasonable price and thanks to the digital upgrade option, even more ...

HEDD TYPE 07 PROFILE

Distributor	HEDD Audio GmbH info@hedd.audio www.hedd.audio
Model type	Active two-way loudspeaker
Dimensions W x D x H (mm)	220 x 300 x 370
Weight (kg)	10
Price (€ / \$)	649,- / 849,-

HARDWARE FEATURES

Number of drivers	2
Sub/ midwoofer (in)	7
Tweeter (mm)	HEDD Air Motion Transformer, equivalent 56 mm
Amplifiers	2
Output power sub/ midwoofer (W)	100
Output power tweeter (W)	100

CONTROL OPTIONS

Volume	•
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High Shelf Filter	• above 2 kHz ±4 dB
Low Shelf Filter	• below 200 Hz ±4 dB
Controls	3x Control dial 1x Switch
Display	6x LED

INPUTS/ OUTPUTS

Inputs	1 x XLR (bal.), 1 x RCA (unbal.)
Outputs	–

ACCESSORIES

Power cord, Digital/ HEDD Bridge options:
Input cards available for AES67 Ravenna, Dante, AES3/EBU

RATING

Features	Very good
Handling	Very good
Measured data	Very good
Sound	Very good

Overall score	Top of the range/ Very good
Value for money	Very good

