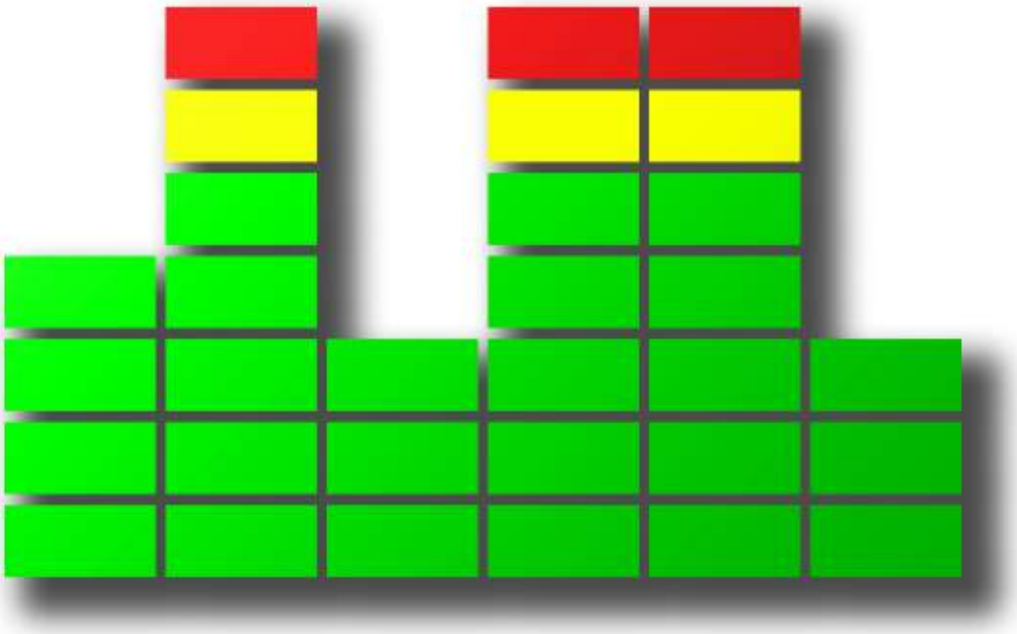
HEDD
Heinz Electrodynamic Designs

REVIEW: HEDD TYPE 07

Two-way 7" active studio monitors, by Maxim Liadov



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The German company HEDD | Heinz Electrodynamic Designs is a small family-owned business with its own production, located in Berlin. Head and Director is Klaus Heinz, the Co-founder and VP his son Frederik Knop. Read more in our news regarding HEDDs Type 05, Type 07 and Type 30 active studio monitors (the line is called Series ONE).

Klaus Heinz is our old friend, we interviewed him many times in Frankfurt where he confessed us his love for Russian classical music. More importantly, Klaus Heinz is the man who did bring the AMT transducers to the world of studio monitors, more commonly known as the "Heil transducer", recognizable by the yellow ribbon folded in a square tweeter. He has spent more than 20 years improving the original idea of Dr. Oskar Heil. Basically, Klaus has more than 40 years of experience in the R&D of Hi-End speakers. So it was very intriguing to see what the German developer team would amaze us with this time.

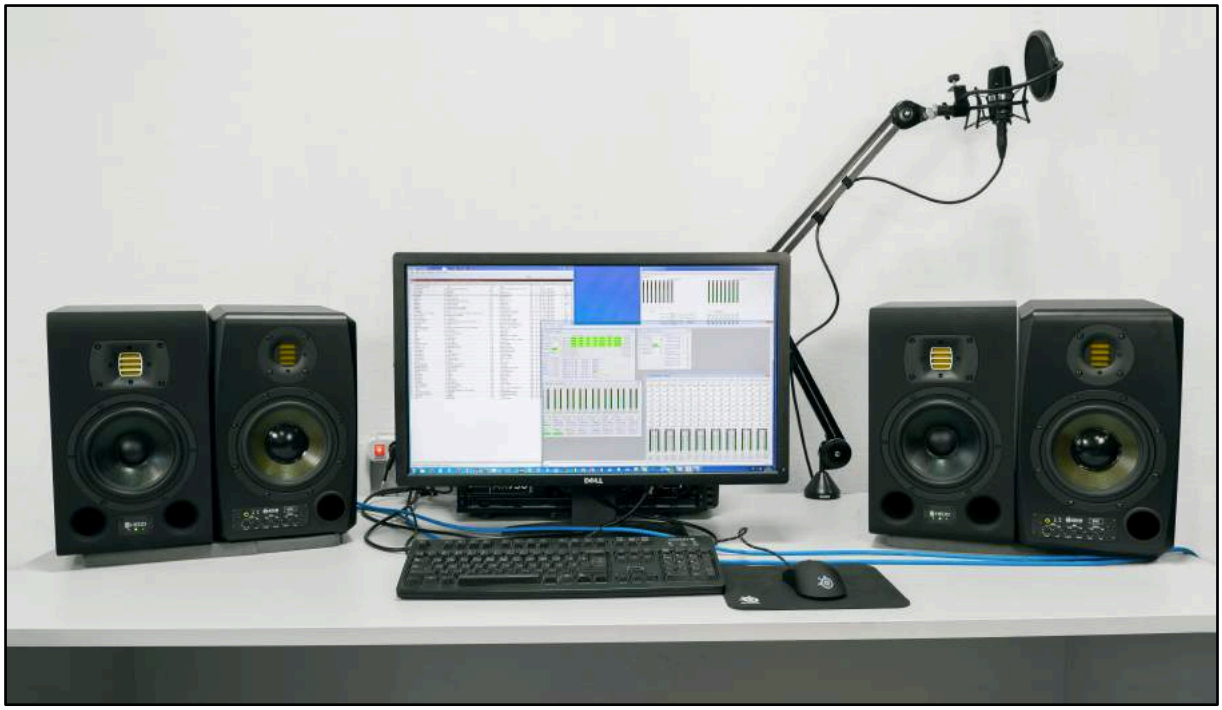
We met with the second man, Frederik Knop at the HEDD booth at Musikmesse 2016. In our view, the more open-minded young Frederik perfectly complements the conservatism of his father. After all we saw an impressive German tandem of experience and enthusiasm. Whereas Klaus Heinz is drawn to the piano and classical music, Frederik is a musicologist and mastering engineer of modern music genres, so he knows very well all the needs of producers, for example, of club music with deep bass. And that can be heard in the musical talent of the new monitors.

Since the HEDD brand has not been advertized much yet, the most popular and time-proven two-way 5" and 7" monitors were chosen for the start. They are the most

affordable and compact, but at the same time not budget models. These are high-grade professional monitors, very powerful and rather big in size, competing with any other powerful brand independent from whatever price tag. By the way, right after the successful launch of two-way monitors, the company launched a three-way monitor called Type 30, and they do not intend to stop here. Step by step, we expect them to complete the product line with all the necessary professional models, including the most expensive main-monitors for the top studios.

Although one of the most important feature of HEDD monitors is a bridge for all kinds of digital connections, you are not forced to use it. Out of the box you'll have time proven XLR and RCA connectors. The HEDD Bridge is just an option. It is clear that the implementation of studio level DAC on a tiny extension PCB – is a very complex task. However, for some situations, for example in the broadcasting world or in multi-channel configurations, the digital option can be very useful. Perhaps in the future we will see a further expansion of functions and applications of the HEDD Bridge. We already see hints on the official website...

Anyway you can manually specify which input is active, XRL, RCA or digital. Installing a HEDD Bridge card does not prevent you from choosing an analog connection. We were very worried about this for a moment. Fortunately, our fears were unfounded.



Specifications HEDD Type 07

Speakers	
Woofer	1
The diameter of the basket mount	7.2 "(182 mm)
The diameter of the coil	1.5 "(38 mm)
Cone Material	Ultra Honeycomb Composite (honeycomb composite)
Tweeter	1
A type	HEDD AMT (HEDD Air Motion Transformer)
equivalent diameter	2 "(56 mm)
inputs	
The analog balanced / unbalanced	XLR / RCA
Digital option HEDD Bridge	USB2, AES67 / Ravenna, Dante, AES3 / EBU
Common information	
Amplifier (ICEpower)	2 x 100 W
Adjusting the input level	-30 DB ... + 6dB
HF EQ> 2 kHz	± 4 dB (20 kHz)
EQ LF <200 Hz	± 4 dB (50 Hz)
frequency response	38Gts - 50kHz
FR with ± 1.5 dB	45Hz - 20kHz
THD 90dB / 1m> 100Hz	≤0.5%
Maximum SPL sine 100Hz - 3kHz / 1 m	≥107 dB
Maximum peak SPL pair of monitors with 1m	≥116 dB
Crossover	2.3 kHz
Input impedance balanced / unbalanced	10k / 47k
weight	9.6 kg
Dimensions Width x Height x Depth	220 mm x 370 mm x 300 mm
Guarantee	2 years

So, the extended frequency response and big dimensions clearly show us, that this model is a direct competitor of the ADAM S2X / A8X, rather than of the A7X. This was confirmed by the first world-wide media reviews, where the Type 07 clearly outperformed the A7X. And here we must pay tribute to the A7X, they are older and a bit more affordable. And yet the premium line ADAM S2X is the real competitor. We have the lucky opportunity to provide a face-to-face direct comparison of these two models.

The monitors were installed in a studio of 50 squaremeters with a height around 4 meters. Wooden floor, false ceiling with mineral tiles, almost no furniture, except open shelving, plasterboard coated false walls. No flutter echoes and reverberation. There are a couple of small resonances at the low frequencies resulting from the square geometry, that we keep in mind. Being set 50cm away from the wall and near the table top, an excess of low frequency was very effectively corrected with the available shelf-filters on the rear side of the HEDD monitor.

If you think that these monitors are small, this is just an optical illusion coming from the huge studio and the 27" LCD monitor. Actually it's really a big speaker with 7.3" drivers.

We hooked up the monitors with 4 of the same analog balanced XLR-XLR Cordial cables to the Lynx Studio rack interface Aurora 8. We decided not to adjust the volume in the digital domain at all and put a high fixed volume level. In order to eliminate the influence of the well-known "the louder, the better"-factor, we used a professional sound level meter and applied pink noise. So all four monitors had the same sound pressure level, with 0.1 dB tolerance. We worked with a rather high overall music level,

which is typical in a studio scenario, like in a studio room with special damping materials on the wall and ceiling. The monitors were positioned in a 1-2, 1-2 scheme, to create equal stereo imaging and equal distance to the listeners. The preparation took about 1.5 hours, the testing phase more than 3 hours. Switching from one speakers to another was, without exaggeration instant, with just one mouse click on the control panel of our audio interface. We must say that we realized our listening test with great care and responsibility (no listening "on the run" in an unfamiliar room or with unfamiliar music tracks).

We listened to various tracks, mostly classical and jazz. First of all, both the HEDD and ADAM monitors were on the level of the highest professional monitoring solutions. We liked them both very much. The sound was "the way it should be". They were sounding professional, natural, with lots of detail and a good stereo image. It is safe to say that both models of monitors are suitable for the most serious tasks.

The differences are mainly in the upper midrange region. The model S2X sounds more aggressive, detailed, but with a slightly greater distortion. The model Type 07 has less distortion, but is at the same time a little less detailed (in this particular range). In some compositions the HEDD monitors sounded more preferable and natural, sometimes ADAM monitors went forward. Most often it was difficult to tell which monitors were more appropriate with regards to a certain reference, for which we imagine the natural sound of instruments (violin, saxophone, drums) and vocals. In electronic music, where we haven’t got a reference point like that, the better sound quality can be considered

as one with the better sounding instruments in the mix, and where 3D effects are more expressive. The stereo image was a little bit wider with the ADAMs.

It is worth noting here that we may be biased. ETON hexagonal cells transducers have been a part of our lives for a long time (for 10 years we bought 3 different ADAM monitors), so that their strengths and weaknesses have actually become a part of us. HEDD monitors use a similar, but slightly different midrange speaker. Thus the character and temperament of the sound is a little bit different. In our opinion, it moved closer towards Focal, Neumann (K&H), and other well-known manufacturers. If you missed this in ADAM's monitors all the time, it is your chance to get a product based on the most recent R&D from the same German engineers. If someone likes just to listen to the music on the monitors (not being a producer), but suffers from excessive aggression by speakers in the middle frequencies, then you should also listen to HEDD monitors, maybe it's "your sound". Personally, we like both models and find it difficult to make a clear choice between the Type 07 and S2X.

Concerning high frequencies, the SX series has such a high quality tweeter that it is difficult to outperform it even when the designer is Klaus Heinz. If the HEDD sounded better than ADAM, than not much. Both were great. Of course, if you remember ADAM's A-, then AX-Series, the progress in HEDD monitors is clearly audible.

In the very low frequencies it is very difficult to prefer a specific model, since the range is too extended in our opinion. Two-way monitors with this size have physical limitations in the LF range, so that the sound quality of the bass would be inevitably worse than 8, 9, 10, 12" monitors. It's Ok. It is necessary to understand basic physics and use the bass range with caution when producing the music. It would be better to use the two-way monitors in exactly the way that they were originally designed for and monitor your bass separately on the main monitors. Anyway, the bass range, in general, sounded fairly good for the 7" form-factor, and you should not worry much about this.

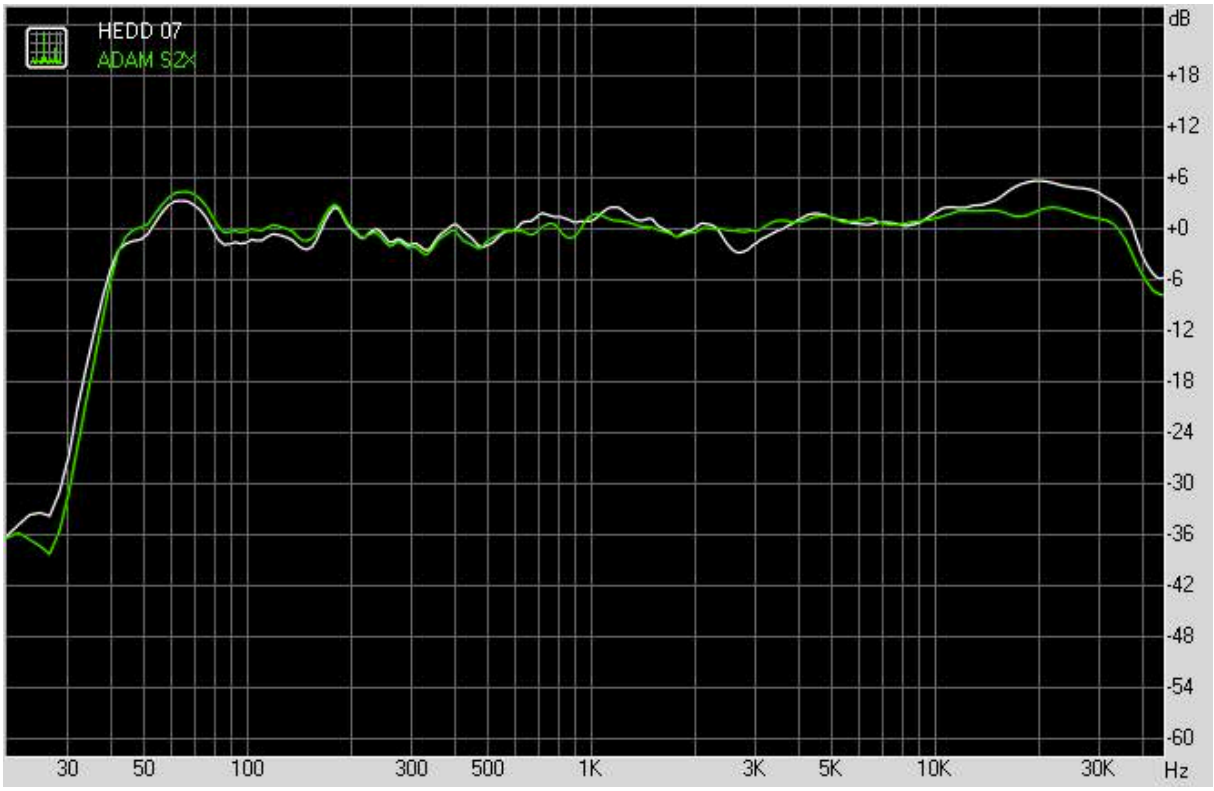
Both monitors did comfortably operate at medium and low levels - everything was well heard. Near the crossover frequency, we have not felt any failure or transducer interference problems. Everything was great. It is understood that 3-way high-end monitors could possibly give you a more detailed middle frequency response because of the dedicated speakers for MF and LF. Therefore, if your budget is unlimited, it is clear that you should probably opt for 3-way monitors. However, one must be prepared for the fact that for any, even the tiniest improvement, you need to pay a high price. Literally several times the price. Therefore 2-way monitors seem like a perfect compromise, and so they are very popular among all musicians and music lovers.

Frequency response measurements

For our measurements we used the RightMark Audio Analyzer ™ (PRO) . Highest quality Earthworks M50 measuring microphone were used, with passport data:

- Serial Number: 9291C
- Sensitivity at 1 kHz: 26.4 mV / Pa
- Ripple in the range of 20 Hz - 20 kHz: 0.2 dB
- Ripple in the range of 3 Hz - 50 kHz: + 1 / -3 dB (roll-off from 45 kHz)

We measured the frequency response of both models at the same position. The rise of +3 dB just above 60 Hz results from a geometric resonance in the room (5.5 meters short wall). The FR diagram is basically a line. The same you feel by ear. However, measuring the frequency response of the microphone, even when it is very expensive and accurate, will never replace a listening expertise. We reaffirm the passport parameters (bass is guaranteed from 40 Hz and a flat frequency response).



VERDICT

HEDD Audio continues the tradition of providing people with the highest quality monitors at a very reasonable price, without overpaying for the brand or a "professional" label. The monitors are affordable for literally anyone, even though they are made manually in Germany.

HEDD Type 07 surprised us with high sound quality that we did not expect to get at this price tag. We saw, felt and heard a strong progress in R&D, and every new feature resulted in a strong audible advantage.

HEDD Type 07 demo monitors were provided to us by their Russian official partner, distribution company ARIS PRO.