 HIFI EXCLUSIVE FLOORSTANDING SPEAKERS



ONE SPEAKER, ANY AMPLIFIER

Efficiency means freedom, and that's what Avantgarde Acoustic's new Zero TA delivers - the freedom not to have to worry about the critical interaction between amplifier and speaker!



Are you using a tube amp full of character with a power output in the single-digit range of watts, a versatile midrange amplifier or a real powerhouse? Whichever it is, Avantgarde Acoustic's new Zero TA doesn't care: it can cope with any amplifier and make the most of it. With this characteristic, the new Partial Active overcomes the only point of criticism that would have crossed our minds with its great role model, the Zero 1.

But first let's refresh our collective memory: almost two years ago, Avantgarde Acoustic, based in the southernmost German state of Hesse, launched its groundbreaking full active model, the Zero 1. Exciting for its extraordinary appearance, which can even withstand demanding design environments, the Zero 1 also has DSP-controlled frequency response linearization, giving it



▲ One knob, two push buttons: With this minimum configuration you can easily jump through the countless preset memories of the Zero TA. The filter programming is better done on a PC.

an extraordinarily clean and coloration-free character to convince even critical high end users. And last but not least, the use of three powerful amplifiers in collaboration with two horns (for treble and midrange) provides performance data beyond question. It is not without reason that the Zero 1 has been the

undisputed top reference in its loudspeaker segment since it was tested in STEREO 9/14.

However, a full-active approach poses a fundamental problem for potential customers: despite all the technical sophistication offered by the onboard electronics and DSPs, it may make the much-loved

PROFESSIONAL HELP FOR OPTIMUM SPATIAL SOUND

In principle, the bass optimization of the Zero TA can also be programmed with a little practice and sensitivity directly at the back of the speaker. There are ten freely definable equalizers with adjustable filter quality (should the EQ work narrow or broadband?) as well as one high and one low pass. However, the result will hardly reach the perfection we experienced in our listening room, as room acoustics consist of more than just the frequency response. One has to consider, for example, that a bass boost, no matter how narrow-band, has an effect on frequencies with which it has a harmonic relation.

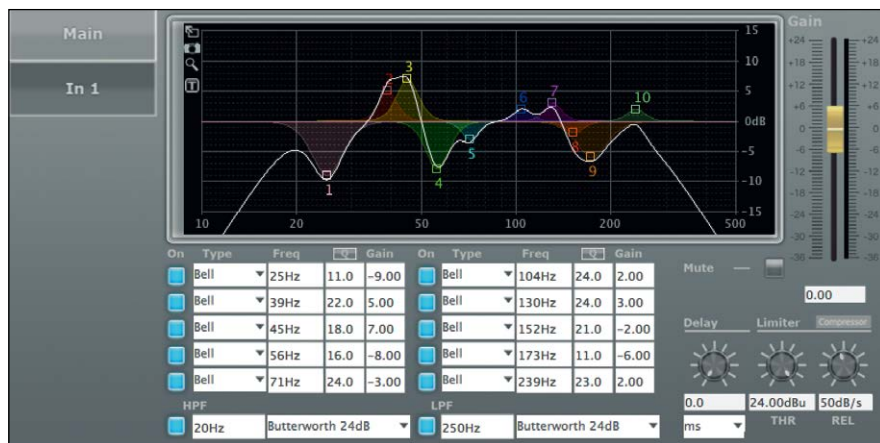
In short, experience is required to be able to estimate where correction makes sense and when it simply tortures the amplifier. In order to leave no doubt about this, we relied on the professional help of Avantgarde Acoustic's Armin Krauss, who assisted us from the multi-point recording of our room to the installation of the correction functions. This service is, of course, also available to customers and should be noted if looking for a 100 percent solution.

However, the correction always refers to the current spatial conditions, so if you are renovating or even moving your listening room, the

process should be repeated – which is why it's worth asking the about costs and practicalities before buying.



▲ Armin Krauss from Avantgarde Acoustic captured acoustic fingerprints of our large listening room from a total of five different positions.



◀ Based on these frequency gradients, he created individual bass corrections for each of the two loudspeakers, which we were able to load into the Zeros via the free app.

integrated amplifier superfluous – which is exactly where the Zero TA comes in.

Externally it's only distinguished from its sister by tiny details – the dimensions and finish are absolutely identical, right down to the chrome-plated base – and as with the fully active model, the enclosure of the TA (the abbreviation stands for partial active) is made up of two cast polyurethane segments that are perfectly interlocked, and whose complex inner bracing ensures maximum damping and rigidity. The two large horn openings, for the 25mm tweeter and the midrange dome driver, are molded directly into the front panel, with the funnel of the remarkable 12.5 cm midrange driver protruding so far into the cabinet that the actual driver is fixed to the rear of the cabinet, with a separate cover standing proud of the rear panel. In the profile photo at the bottom right you can see how far it projects out of the loudspeaker.

In accordance with Avantgarde's CDC (Controlled Dispersion Characteristic) concept, the midrange dome has been tuned so precisely to its area of application that it regulates itself exclusively via its natural bandwidth limitation. The driver plays up to about 2.5kHz before gently rolling off, handing over to the 25 mm Mylar dome tweeter. This means that, unlike most other speakers, The Zero TA needs no crossover in the crucial mid/treble region, bringing audible advantages in terms of timing and phase linearity.

active bass

If the new Zero passively had been all-passive, it would probably have become a very challenging load for most amplifiers, for while the midrange and treble horns deliver excellent efficiency, the amp would have had to work hard to deliver adequate bass, and not just low-powered ones such as the APPJ tube model in our lead photo – even significantly more powerful amps could stumble in the face of such a combination.

That's exactly why the developers decided to use their XD bass module, also employed in the company's larger models: specifically, the module here is the XD-500, where the number corresponds

TEST-COMPONENTS

CD-PLAYER/STREAMER: Audio Data Music Server MS II, T+A MP3000HV
D/A-WANDLER: Brinkmann Nyquist
FULL AMPLIFIER: APPJ PA901A, NAD C388, Luxman LX-380, T+A PA 3100 HV
LOUDSPEAKER: DALI Epicon 6, Dynaudio Contour 60
CABLE: Avantgarde Acoustic (current), In-Acoustic LS-2404 (LS)

to the wattage of the integrated amplifier, driving a 30cm woofer with an impregnated paper cone.

As well as giving DSP low-pass filtering, which can be bypassed using a switch to allow the speaker to be connected to amplifiers offering a dedicated filtered subwoofer output, the TA is also equipped with the same room processor that we introduced in detail during the Uno XD test in STEREO 10/16. The computing unit can straighten deficiencies in the frequency response up to 500 Hz. This isn't full range correction, but even those with only a rudimentary familiarity with room acoustics will know this should cover the majority of circumstances. And there's plenty of scope for adjustment: the DSP allows a lift or cut of up to 24dB.

The speakers are connected in the classic way via conventional cables into the sockets of a concealed terminal panel, which also provides an XLR input for those amps with a subwoofer output. There's also a USB connector, not for audio signals but to allow programming of the DSP.

Integrated room processor

After the measuring procedure, which was carried out by Avantgarde Acoustic's customer support professional Armin Krauss (see box), the analyzer created an individual correction function for each speaker, which we transferred to the loudspeaker via a laptop and Avantgarde's free control app. The whole process took less than five minutes, helped by the fact we already knew the procedure from the Uno XD.

In the system memory of our Zero TA, the new spatial adjustment was arranged in a phalanx of 20 ready-made combinations of crossover frequencies and bass accentuations or attenuations, and even without the expert's input, you can still draw from a rich pool of ready-made presets. With a little bit of skill, you can also create your own specifications using the software or the control panel attached to the back of the housing. The Zero TA's preset memory offers ample space for experimentation.

However, we felt that there was no need for more work on the correction functions, as the linearization settings for our acoustically very good STEREO listening room concentrated on a few well-known room modes. With a total of ten equalizers, the



▲ Slim silhouette: The outstanding cover conceals the midrange driver built into the back of the cabinet.



▲ The large fabric dome of the midrange driver lies in a horn opening measuring 40 centimeters at the outer edges.

system was able to dampen this problem excellently, while a slight lift at 47 Hertz compensated for the subtle bass drop. In the screenshot on the previous spread you can see the final correction function.

Exciting dynamics

The first few minutes after activating the bass correction we can record as a real aha-experience. In fact, the DSPs made sure that a quiet clatter that we occasionally hear from our ceiling tiles at high listening levels had disappeared completely. In addition, voices and solo instruments stood out much better from the rest of the sound. For example, Natalie Merchant's haunting vocals on "Diver Boy" (STEREO Hearing Tests CD IV) were placed with a razor-sharp outline

between the speakers, while the instruments took up an astonishingly wide stage behind them. This solidity and fluidity even remained unimpaired when the deep bass and the dramatically rebelling instruments at the end of the title merged to form an impenetrable web.

We found a fantastic demonstration of the speed and stability and level stability of the TA in the punchy "Green Chimneys" from "Monk - A NYC Tribute": the Zero carried the deep percussion from the intro cleanly into the pit of our stomachs, with rapid attack and without any trace of compression. The solo saxophone, with its metallic-bright character, forms a strong contrast and whips out of the loudspeakers without ever appearing oversharp or even brash, the Zero succeeding in relentlessly revealing every detail of the music without becoming fatiguing.

And those active bass electronics mean the speaker's dynamic capabilities are completely independent of the power and load stability of the amplifier used. Even with our tiny mini tube amp with just under four watts of power, the Zero clenching its fists and hit hard, but most of the time, the TA played in the listening room on the end of Luxman's 17-watt LX-380: like the tiny one, this contributed a good portion of tube charm, which the Avantgardes underpinned convincingly. The combination with Audionet's extremely spatial "Watt" was both incredibly fun and probably the most dynamic of all the combinations tried.

As I said: Avantgarde Acoustic's uncomplicated Zero TA knows how to perfectly show off every amplifier – and do so without limits. **Carsten Barnbeck**



▲ One speaker input and a separate subwoofer-in. The USB socket is only used for programming the EQs. Incidentally, the enclosed power cable has a phase marker.

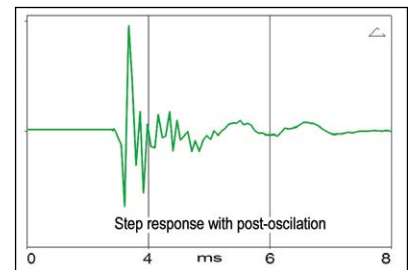
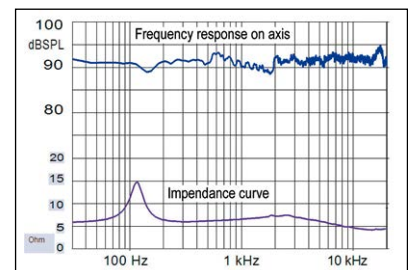
AVANTGARDE ACOUSTIC ZERO TA



at 10500 €
 Dimensions: 49 x104 x32 cm (WxHxD)
 Warranty: 10 years
 Contact: Avantgarde Acoustic
 Tel.: +49 6254 306100
 www.avantgarde-acoustic.de

Super workmanship, timeless design, level without end and a turning on character - the Zero is also partially active a hit!

MEASUREMENT RESULTS



DC resistance	4 Ohm
Minimum impedance	4,5 Ohm at 15000 Hz
Maximum impedance 1	5 Ohm at 125 Hz
Sound pressure level (2.83 V/m)	93 dB SPL
Power for 94 dB SPL	2.2 W
Lower cut-off frequency (-3dB SPL)	adjustable Hz
Distortion factor at 63/3k/10k Hz	0.3/0.1/0.1/0.1 %

LAB COMMENTS: Due to their DSP delay, we had to measure the TA with noise. The frequency response with deactivated EQ proves to be of exemplary linearity, and its impedance response uncritical. The step response is typically horn-like, naturally, but all three drivers work accurately. The two reverberations of six milliseconds are down to room acoustics.

FEATURES

Banana LS inputs, XLR-in, USB (programming only), 12V trigger input; power cable included

STEREO-TEST

SOUND QUALITY	91 %
PRICE/PERFORMANCE	
★ ★ ★ ★ ★	
OUTSTANDING	