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01/2020 • Summer 2020

The German Voice of Premium Audio... a free online magazine





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Burmester

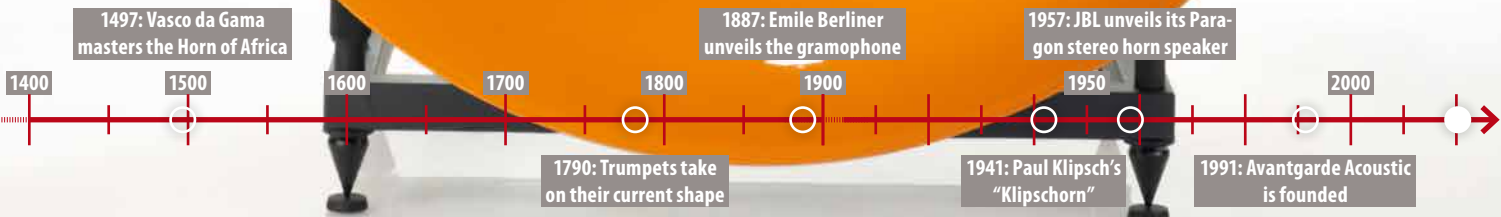
An explosion of color. There's no other way to describe this Fanfare image. We're looking into the throat—sorry, flare—of the bass horn of Avantgarde Acoustic's "Trio" loudspeaker. The operating principle of high-fidelity horns is as simple as it is efficient: A conventional driver triggers a pressure wave that moves through the horn opening and on its way "holds the sound together." ▶



Photography: Dynaudio A/S | Denmark | www.dynaudio.com



In the process, the sound energy is focused. But a horn doesn't just amplify the sound energy at the listening position. If you ask fans of this technology, they'll tell you that it also pushes dynamics and emotions to their limits.



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Unconventional DNA



La Voce S3 dac



La Scala Optologic dac



Formula xHD dac



La Diva cd transport

DEAR READERS,



Carsten Barnbeck,
Editor in Chief

Fotografie © FIDELITY

We travel often and over far distances and get in touch with interesting developers and HiFi fans. Frequently we gain breathtaking insights into avantgarde technologies and new products. This lets our treasure of anecdotes worth telling grow from issue to issue. But not only regarding HiFi. When this photo was taken, we had been awake for 36 hours while trying to make our way from Munich to Copenhagen and back: several delayed flights before we reached our destination and after a far too short stay the same again. This time garnished with an overbooked flight and a taxi ride through half of the Scandinavian Kingdom. So please forgive the tired look on the photo. And before you say: “You should have expected this

when traveling in such crazy times”—the experience was a few weeks before shutdown.

By the way, our visit was targeted to an absolute dream factory that builds top class cables, amplifiers and loudspeakers in the far north of Denmark. High end of the kind that won't let you go even days and weeks after listening. We are happy to share our impressions with you in this issue. But enough talking for now... enjoy the new FIDELITY International.

Carsten Barnbeck



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Please note: All items are listed with German retail prices (including sales tax) at the time of equipment evaluation.

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Børresen, Aavik, and Ansuz

IN FULL SWING

By Carsten Barnbeck. Photography: Ingo Schulz

Børresen, Aavik, and Ansuz are fledgling brands, however the exclusive Danish products are the result of three decades of experience, research, and findings as well as some amazingly innovative approaches.





_____ “The British first cottoned on to it during World War II,” Michael Børresen stated in the production room at his company, where the several tables dotted around us were filled with employees busy soldering cables, fitting circuit boards, and preparing assemblies. “Their radar planes should have actually been faster and more effective at discovering enemy U-boats,” he continued. “Several thousand meters up high in the sky, they had all the cards stacked in their favor.” Theoretically yes, but the reality was quite different: “Destroyers down below, on the water, actually turned out to have the best noses for sniffing out U-boats,” he said, waving his fingers in front of his facet.

On the workbench in front of us I spotted a striking and strange-looking construction: an open Aavik P-300. The relatively compact power amplifier had two opposite-facing rows of large filter capacitors. Nothing out of the ordinary so far. But in between those rows, arranged on a separate circuit board, I could see a whole armada of spiral-twisted cable sections. “Researchers ultimately discovered that it all came down to the incessant, unrelenting waves of the Atlantic,” Børresen explained. “Ships continuously bob up and down on the water whilst planes glide forwards straight through the air.” Børresen began to wave his hand in front of his face again. “Waves create modulation, which in turn ensures the ▶



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BØRRESEN





Scandinavian-style division of labor: Michael Børresen (top left) is in charge of the development side while Lars Kristensen (top middle) is in charge of sales. And the rest of the team twists cables ... most of the time, anyway.



ship's radar continuously changes its position and, to a certain extent, its angle of view. It's similar to holding my hand in front of my face: If I hold it still, my fingers obscure part of my field of vision; but if I constantly move them up and down, I see everything. I receive all the information. And that's precisely what sets our electronics apart."

We had arrived at Aalborg Airport not three hours earlier. If you briefly set aside that Greenland is part of the Kingdom of Denmark, you could say that the idyllic city of Aalborg is located at the northernmost tip of Denmark. Lars Kristensen had picked us up after our flight and taken us straight to a restaurant tucked into a picture-perfect location on the Limfjord: to our left a marina, to our right a view of a drawbridge, and in between our little eatery with its bustling terrace. Three years ago Kristensen became the co-owner and sales director of the trio of companies Børresen Acoustics apS, Aavik Acoustics, and

Ansuz Acoustics. And he's a born salesman, that I can attest to from my own experience. When I attended my first-ever HIGH END, which must have been back in 2001, I found myself watching a demonstration by Nordost pretty much as soon as the doors had opened. Kristensen had held a similar sales role at Nordost at the time. Not more than five minutes had past at that demonstration and I became totally convinced I absolutely needed a Valhalla loudspeaker cable in my life or else it wouldn't be worth living. Today, though, he was recommending something less expensive, but every bit as capable of hitting the spot: Grimbergen, which we thoroughly enjoyed. Ironically, not a Danish beer, but Belgian. The year after we had first met, Kristensen joined Børresen's company Raidho Acoustics. Together, Kristensen and Børresen really made waves, causing a stir in the high-end segment with their exquisite fleet of speakers. But then in 2017, some differences of opinion led to the two founders leaving their company and taking some of their team ▶



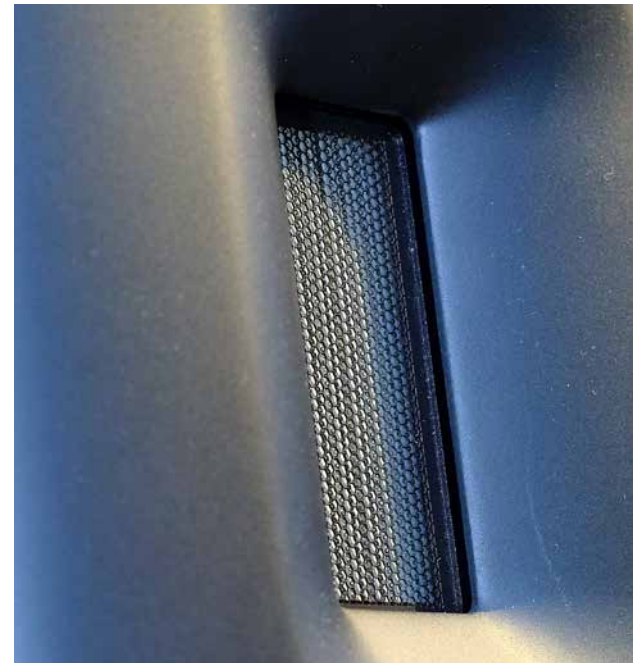
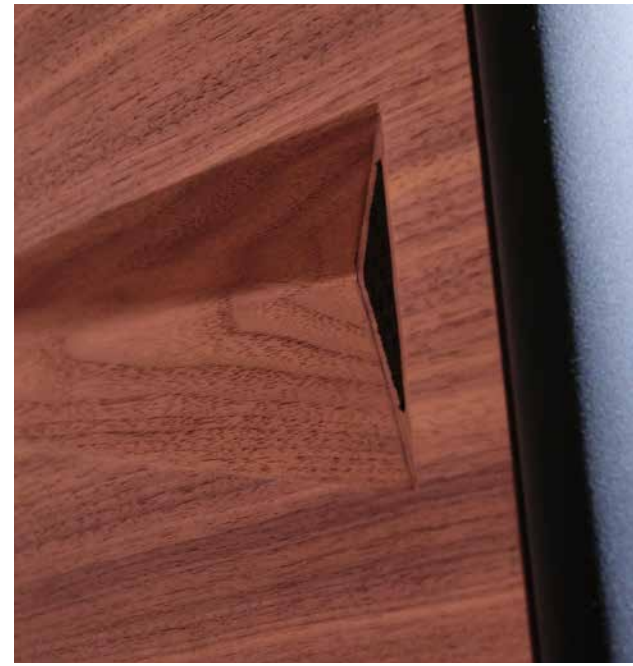
This bloody jitter: The small cable coils are used (admittedly in a different form) in the components of all three brands, even in the Anszu cables, which take dozens of hours to assemble.

with them. From then on, they've dedicated themselves to the "holy trinity" of their new full range: Børresen for loudspeakers, Aavik for amplification and lastly Anszu for cables as well as all necessary accessories. In fact the only thing that they've never dabbled in and have left for others to perfect is source devices.

"Why three separate brands?," we asked. "There are two reasons," Kristensen explained: "Firstly, it provides a safeguard. If one of the three divisions doesn't go as planned, we can pull the plug on it without it affecting the other two unnecessarily. And it's also designed to make a statement. Our products do, of course, complement each other exceptionally well and are designed to work together. But you could also operate an Aavik

amplifier with non-Børresen loudspeakers—and vice versa. The different brand names are there to remove any obstacles that might prevent people from accessing our exclusive range of products."

We had hardly said cheers and clinked our glasses when the man who had lent his name to the speaker company walked into the bistro. Michael Børresen extended us a warm welcome, sat down, ordered his food, and got straight down to business by waxing lyrical about capacitors, amplifier circuits, and chassis and loudspeaker designs. His technical descriptions went into such depth and complexity that I kicked myself for having left my notebook in the car. Not because I ▶



wanted to take notes, but because I wanted to give him the opportunity to illustrate exactly what he was talking about by making a few sketches. But in the end, there actually proved to be no need. As the description at the beginning of this article indicates, he's one of those developers who dedicates his time to solving practical problems and challenges and who can describe the technology he uses so well that he helps his listeners to conjure up vivid mental images. Despite having been on our feet since 4 a.m. that morning and being pretty annoyed about our outbound flight being delayed, it was an absolute pleasure to follow his extremely descriptive and animated explanations.

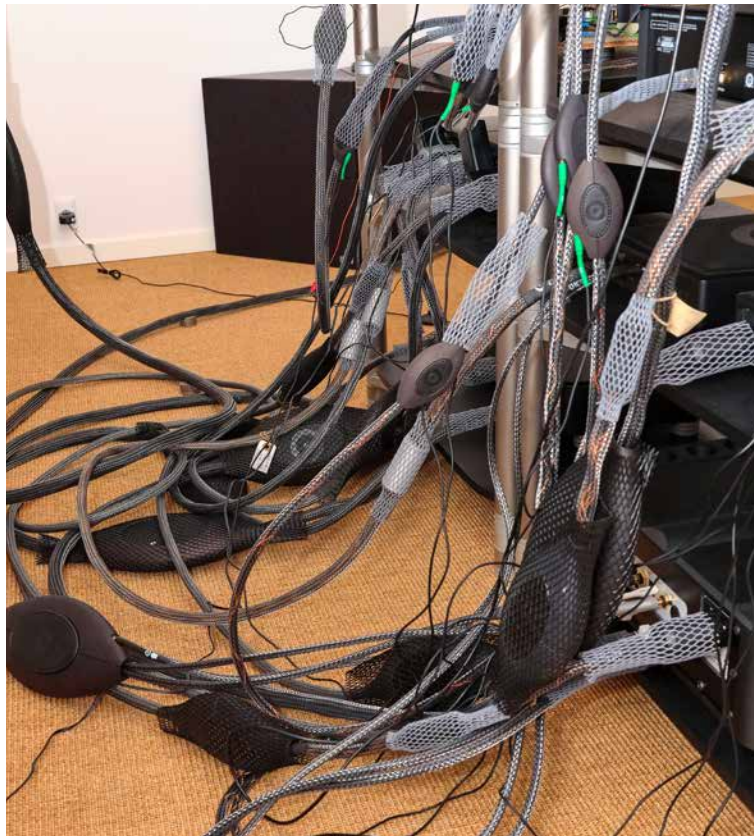
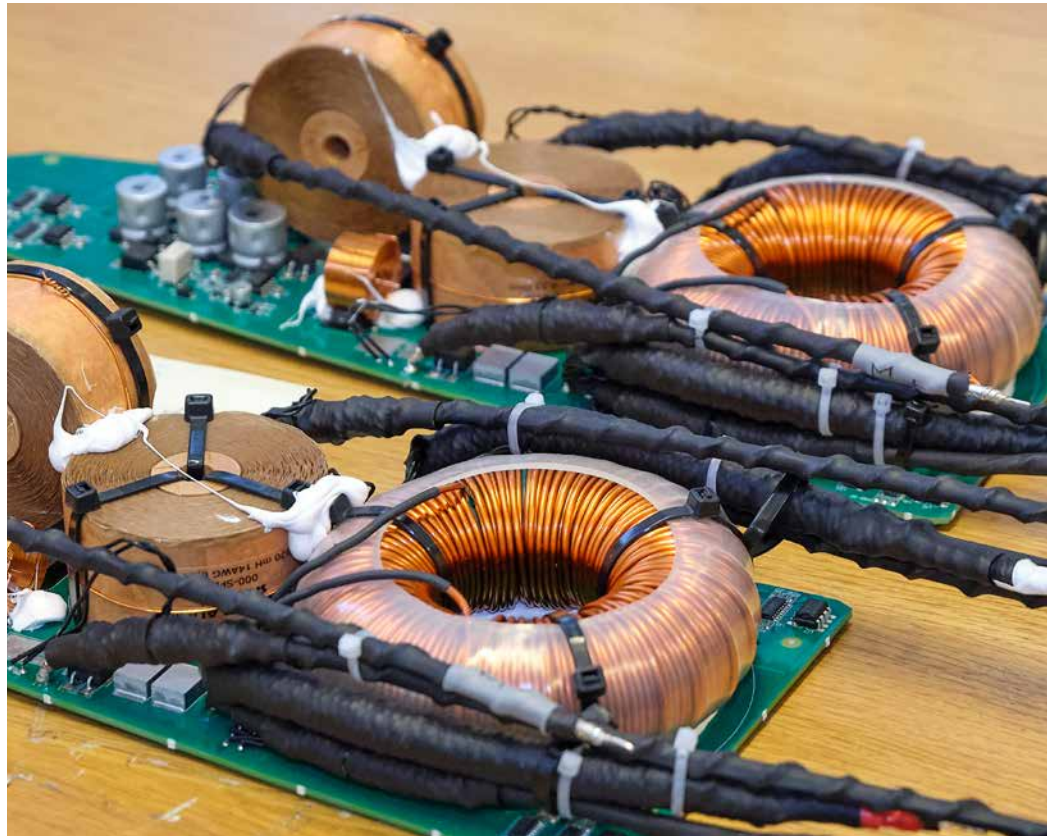
Before lunch (which consisted of some delicious fish) had even been served, we discovered Børresen designs his chassis without using any iron. A permanent magnet made from the metal would apparently change its behavior depending on the distance to the coil. And since the coil is continuously moving, no constants could be realized. To achieve a more consistent drive, he therefore uses several pricey neodymium magnets that are anchored in a cage made from aluminum and other nonmagnetic metals. The housings of Børresen's loudspeakers are also equipped with an innovative bass reflex port. Instead of one large cross-section, they have several small outlets that hold small tubes ▶

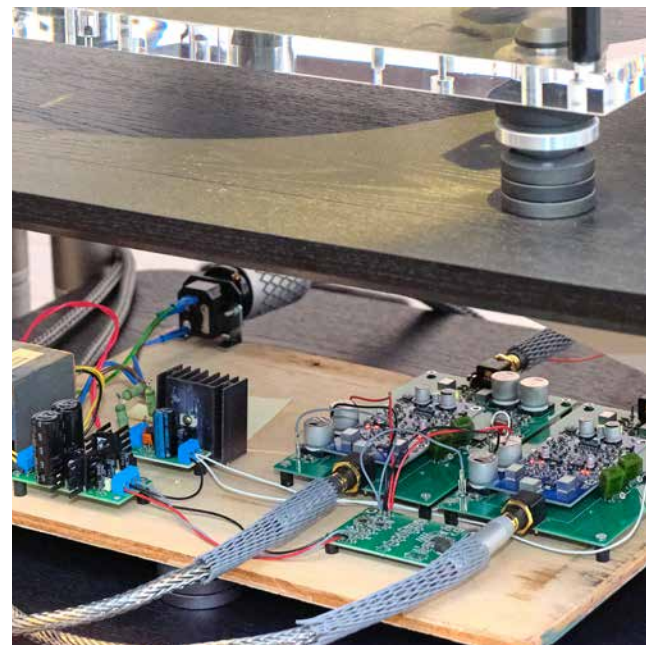
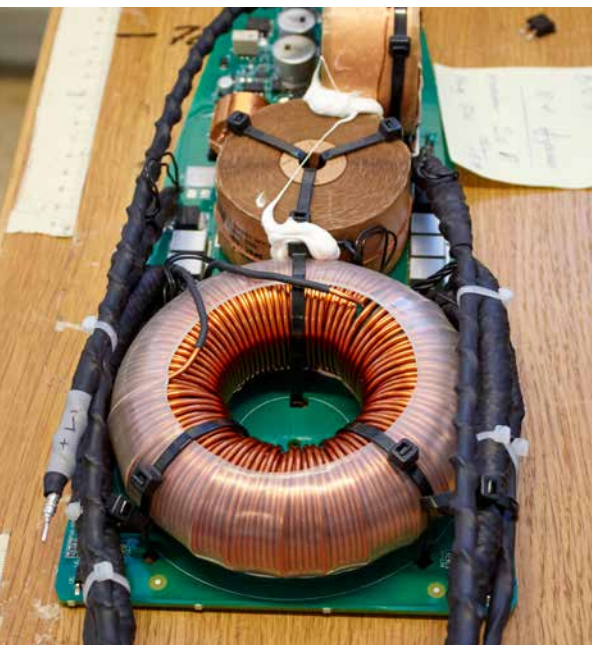
WE MADE OURSELVES COMFORTABLE FOR OUR EXTENSIVE LISTENING SESSION IN THE IMPRESSIVE LISTENING ROOM. EVEN IF AT FIRST GLANCE THE ACOUSTIC SETUP LOOKED



SIMPLE, THE ACOUSTICS WERE INCREDIBLE. THE EVENING WAS HOSTED BY THE IMPRESSIVE BØRRESEN 05, WHICH FASHIONABLY SPORTS ITS REFLEX PORT ON THE SIDE.







Apart from the housings, all products are made on-site in Aalborg. The circuit boards (top middle) belong to the large Ansuz power cables that can be seen in use in the photo below. When we get the chance, we really ought to total up what the cabling in the large listening room is worth.

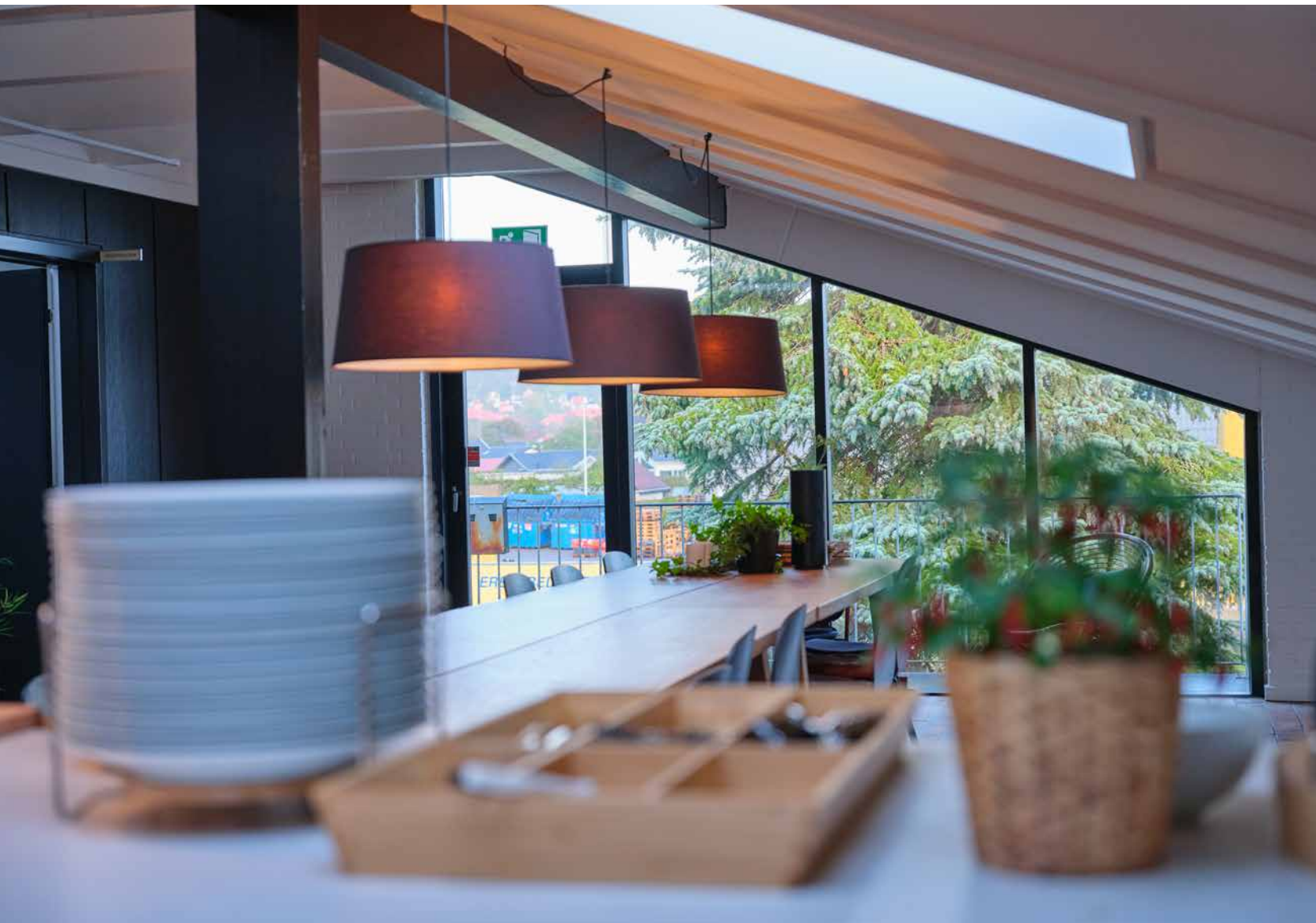


of varying lengths. “This enables us to break up the bass port’s resonance and, instead of one single problematic resonance, obtain several small resonances that are way above the operational range of the reflex port,” he explained. Børresen’s slogan, “Re-Think Loudspeakers,” truly seems to be a passion.

And his understanding of vibration is pretty much second to none: Børresen studied engineering in Aalborg, even majoring in resonance and vibration patterns, before later also putting his knowledge to good use for innovative developments outside of the hi-fi industry. The aim of his development work, he explained to us, was to better understand and control the resonance behavior of loudspeakers and devices. Resonance can’t be avoided, so developers need to ensure it takes place in frequency ranges in which it can’t cause any harm. This, of course, requires

extensive knowledge of how the materials being used behave. We’d soon find out the level of detail involved Børresen’s research into materials.

But first, a tour of the company headquarters, a building located in the southern outskirts of Denmark’s northernmost city: It’s clear from the way the space was divided up inside that this was a company—sorry, three companies—that have quickly outgrown themselves since being founded not all that long ago. The main entrance led straight into a well-structured shared office space where the development, sales, marketing, and distribution work was all being carried out at just four desks. Through a door on the left, we reached the compact electronics production room where we had the opportunity to see the half-assembled P-300 mentioned earlier. The numerous mouse-gray cable ▶



The company's stylish kitchen—just minutes before a huge pizza delivery arrived

sections caught our attention ... whereupon Børresen launched into his interesting World War II stories:

“The electric fluctuation brings more acoustic information into the listening room,” he said. By “fluctuation” he meant a tiny time axis modulation: The many small coils formed part of an oscillating circuit that would constantly shift signals. “Just to make sure I understand it correctly,” I quickly interjected, stunned at what I was hearing, “the amplifiers create jitter?” “No,” Børresen responded, “jitter distorts the phase and the timing inside a signal. Our circuitry modulates it in its entirety. It jitters on the time axis, but remains unaffected itself.” But one question remained that hadn’t been addressed during our tour: How on earth does someone come up with such a thing?

The circuitry isn’t only being used in the amplifiers. It soon became clear at one of the other workstations that Børresen also incorporates it (admittedly in a different form) in cables and power distributors and in the new Ansuz LAN switches. Each of the little cable coils has been cut to length, twisted, wound, and welded onto the circuit boards by hand in the production room. Depending on the device in question, this could

involve several hours’ work. We’d never come across components, signal cables, or loudspeaker cables involving more intricate craftsmanship.

We returned to the office space. Another door led into a small warehouse and then on to the chassis production area. Børresen not only had worked as a developer for his previous company Raidho, he also develops drivers and loudspeakers for Scansonic. Anyone familiar with the models produced by the three small-scale manufacturers will immediately be able to spot similar visual characteristics. In fact, there’s also significant cross-over in terms of the technology involved. All loudspeakers use ultralight ribbon diaphragms as tweeters. The rest of the chassis are made from an extremely rigid composite material that’s also as light as a feather. “Such powerful drivers wouldn’t have been feasible 20 years ago,” Børresen said as we inspected a few finished units. Despite their similarities, each of the three brands is distinct. “The indentation on the side of the Børresen loudspeakers was inspired by the BMW M Series models,” revealed Kristensen as we spotted one of the large top-of-the-range models in the warehouse. The Bavarian cars have a similarly ▶



During the second day, we focused more on the Aavik amplifiers. Present were the U-380 (black) and the U-150 (silver). The balls above are part of the Anszuz Darkz absorbers.



shaped opening right by the fender, next to the doors. Incidentally, it not only looks great—at the front edge of the recess sits the multiflowport. Our tour wasn't over yet though. "A while ago, we rented another wing of the building, which we're currently converting," Kristensen stated. We exited the small warehouse and entered an enormous room that would one day become the main warehouse. An unimposing door led us into the impressive in-house listening room. Once there, both gentlemen invited us to make ourselves comfortable on the large sofa. Kristensen then stated a system's various components should be considered as a whole. Amplifiers, players, loudspeakers, racks, and cable supports, for example, all add resonance, alter the existing patterns, and influence the behavior of the entire playback chain. To demonstrate that, we treated ourselves to some Billie Eilish on vinyl. The amplifier in use was the Aavik U-380, which drove the Børresen 03 2.5-way floor-standing loudspeakers. In the blink of an eye, a deep thudding, thunderous

bass had put us fully under its spell. After just a few seconds, the young singer's voice sounded holographic, natural, and so beguilingly deep and vivid in the listening room that you would've been forgiven for thinking she was actually there. If the Danes had asked us what improvements we thought could be made to the system, we would probably have helplessly shrugged our shoulders.

The track had hardly finished fading out before Kristensen showed us a small collection of vinyl weights related to the cable lifters and device feet of the Darkz Resonance series. They're not yet available in the Anszuz range. We asked Billie several times to repeat her performance, and each time we used a different weight. The corresponding quality levels of the other Darkz items have the references A, C, D2, and D·TC affixed to their names to represent the different material compositions—from aluminum and copper through to titanium. The effect of the weights truly blew us away. In clearly discernible gradations, they tightened up the ▶



Above, the Danes' two top-of-the-range power distributors—and more balls...



bass and made the playback sound more vivid and neat. They also made the electronic production sound unbelievably natural. We left it at that for the time being...

The following morning, we found ourselves in the new part of the building climbing some stairs we hadn't even noticed the day before. They ushered us up to a large communal kitchen and a closed conference room. Passing by a large wine refrigerator, the stairwell brought us to another listening room where we continued our listening session. On that second day of our visit, Børresen had another meeting to attend and couldn't stay with us, but was represented in the smaller of the two test rooms by his compact monitor, the Børresen 02. It was also driven by the Aavik U-380 integrated amplifier, and once again the focus was on the Anszu accessories. The plausible explanation for this was they could simply be changed more quickly than an integrated amplifier or a loudspeaker.

To kick things off, we indulged in the new LAN-PowerSwitches, relatively expansive network distributors for up to seven devices; port number eight was commandeered by the router. Even the switches are available in four versions that differ on the basis of the materials used and the complexity of their "fluctuation circuitry." This time we listened to a broader

selection of tracks from the in-house demonstration samplers: some Leonard Cohen, Trentemøller, and other well-known artists who represent high-end standards but haven't been played to death. Our impressions were the same as on the previous day: The impressive performance of the visually stylish and discreet chain got discernibly better with every step taken toward the supreme version of the LAN switch.

The loudspeaker cables were up next: Once again here, Kristensen and his team showcased a whole range of different materials and features, from a straightforward aluminum casing through to the "D-TC wiring version with titanium connector capsules. Also containing the fluctuation circuitry, the latter made the playback sound incredibly open, transparent, and three-dimensional. Above all, the top-level configuration of the chain possessed a sense of naturalness and "swing" that left us completely forgetting the fact we were listening to digital media in CD quality over a computer network. As such, the "additional information" promised by Børresen became tangible. The previous day, he had told us the music has always been there on the CD, you just have to extract it... ■

More information on the three manufacturers' products can be found at www.borresen-acoustics.com, www.aavik-acoustics.com, and www.ansuz-acoustics.com

Photo: Stefan Gawlick



Professional musician Stefan Gawlick travels the world and knows almost every major concert hall around the globe. In this series, he reports on the acoustics and other characteristics of famous venues—both in the auditorium and on stage.

OPERA CITY CONCERT HALL, TOKYO

_____You can't talk about Tokyo and its concert halls without mentioning the famous and truly superb Suntory Hall. It is without question one of the world's best concert halls and, though it's exceptionally famous, it's been on the scene for a surprisingly short amount of time—just 34 years. Yet in that time, it's managed to turn Japan's capital city into one of the world's major concert hubs. Any self-respecting orchestra must be able to say it's been in the Suntory Hall at least once. The fascinating Bunka Kaikan, with its picture-perfect setting, is, unfortunately, all too often overlooked. And then of course there's the Opera City Concert Hall, which many colleagues swear

is their favorite hall of all time. It's located in a central hot spot just 20 minutes' walk from the hustle and bustle of Shinjuku Station. Anyone who jumps straight on the orchestra bus back to their hotel after a performance doesn't know what they're missing as there's a whole host of wonderful bars and restaurants to enjoy. Golden Gai, a fascinating little area lined solely with bars, is located behind the station and provides people with probably the most stylish setting on earth in which to raise a glass and celebrate what is sure to have been a wonderful concert experience. Opened in 1997, the concert hall is part of a complex that houses art galleries,

a shopping mall that actually consists purely of restaurants (sic!), and Tokyo's seventh-tallest building, the Opera City Tower, which features a panoramic terrace open until 11 p.m. for anyone keen on soaking up some stunning post-concert views. As is the case with many Asian concert halls, the arrival by bus is somewhat "clinical": The bus enters the building underground and from there you take an elevator up to the concert hall. As a result, you don't necessarily have to have any contact with the city if that's how you like to do things. Narrow corridors and windowless dressing rooms are tucked behind the stage — the less said about them the better. ►

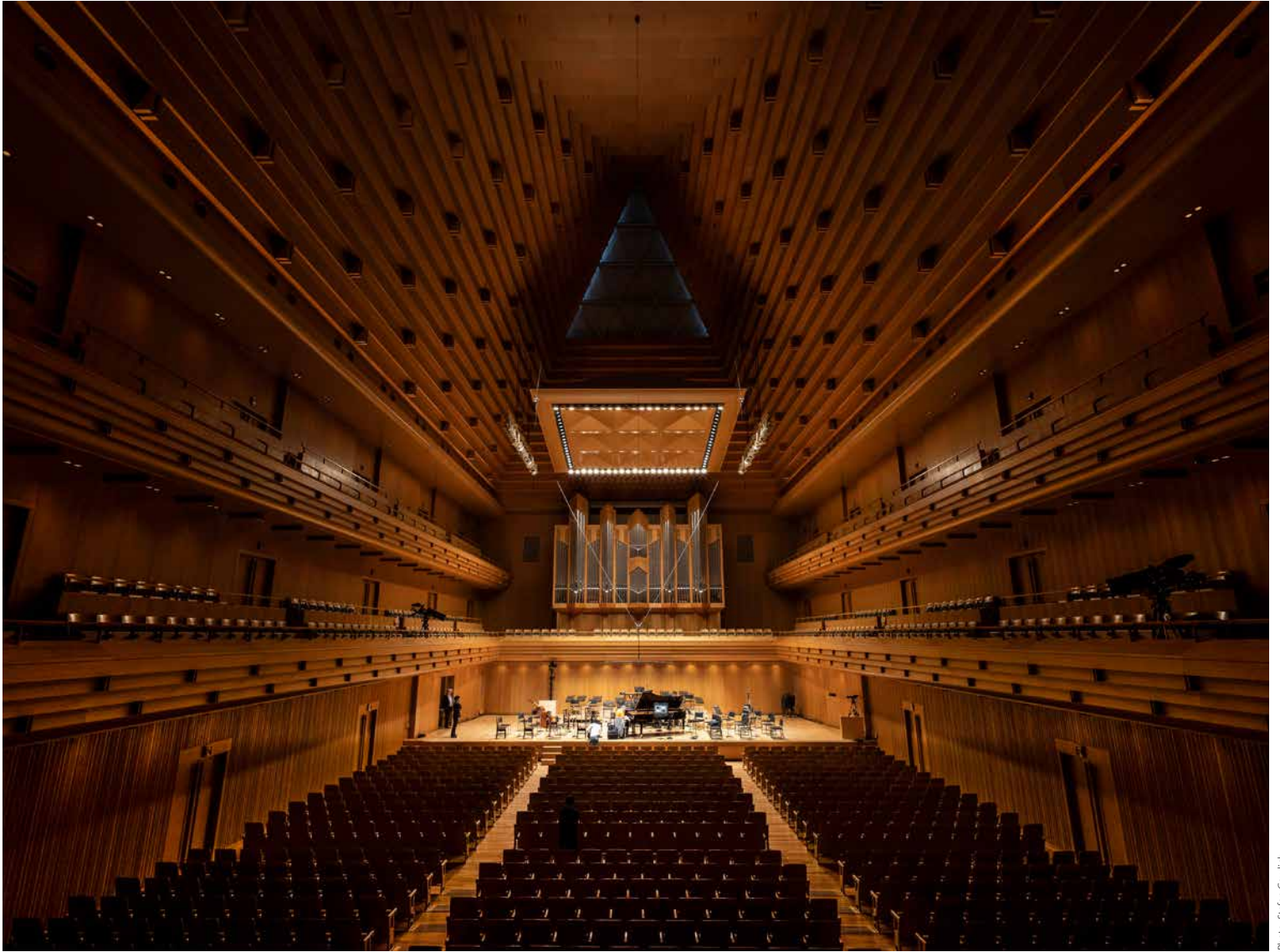


Photo: Stefan Gawlick

The concert hall can seat an audience of just under 1,650 people and its church-like architecture will mesmerize you as soon as you step inside. I've never seen a ceiling like it in any other concert hall — if you have, please enlighten me. The “church” association is probably not all that coincidental and doesn't end there as the hall was actually inaugurated (or, shall we say, “christened”) with a performance of Johann Sebastian Bach's St. Matthew Passion. The sound produced in this hall is nothing short of spellbinding. It's not too soft, yet

not too analytical; it produces amazing blends and achieves incredible nuance of sound, all without seeming to have any flaws at all. However, what's truly amazing is the reverberation. In almost every single concert hall I've ever been in, I've found the reverberation ends up having at least some effect on the sound. Some concert halls end up sounding a little metallic and some a little muffled, but in the Opera City Concert Hall the sound simply gets quieter. That's all. Two seconds of pure magic unfold as the sound simply fades away while staying

fully true to itself. It can be quite addictive once you've experienced it as it strips away any artificial layers from this highly sophisticated art form, humanizing the sound and touching you poignantly. It's one of very few concert halls that are truly worth traveling to see. ■

Music tip — recording with characteristic concert-hall sound | Norio Fukushi: “Dancing Flower Leaves in a Forest,” CMCD-28128

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WHICH AIMS TO OFFER AN
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NOTE'S WORLD (OF VALVES).





Audio Note Zero

ZERO
BY NAME,
HERO
BY NATURE

By Hans von Draminski. Photography: Ingo Schulz



PURISTIC? CERTAINLY NOT—THAT'S ALL YOU NEED TO BE ABLE TO ENJOY MUSIC AT THE HIGHEST LEVEL. THE ACTUAL FEATURES ARE TO BE FOUND ON THE INSIDE OF THESE THREE ZEROS: NO-COMPROMISE AUDIO NOTE TECHNOLOGY AT AFFORDABLE PRICES.

“Aren’t they cute!” exclaimed an opera singer acquaintance of mine, only just in her early twenties, which says a great deal about about the high WAF rating inherent in Audio Note UK’s entry-level equipment. WAF? Well, ahem, “wife acceptance factor”—in many cases, the ladies have been known to have different tastes. And those more than man-sized loudspeakers, the power amps with the dimensions of a child’s coffin, which outdo others in bringing quality sounds to your living room at home, don’t necessarily appeal to the female eye. But valve specialist Audio Note UK has developed a series that’s different: the Zero. No trace of equipment as tall as a tree. The CD Zero disc player, R Zero/II MM phono stage, and I Zero integrated amplifier all appear in that stylish, living-room-compatible, half-size format very much en vogue around here in the 1980s. My test system is white, by the way. No boring silver, no standard black—just pure wedding dress white. So high-gloss as only a carefully finished plastic surface can be. Simplicity lies at the heart of the Zeros’ design: A seamlessly integrated red LED on/off indicator light is all that adorns the front of the phono amp. This light is joined by an input selector and volume control button on the amplifier. While the finger-caressing buttons on the black version gleam in a contrasting resplendent gold, my

stack carries on with the theme of white. Lending a dash of color to the CD player, and not just to its exterior, the pleasantly large and therefore easily readable display is bright blue while key controls appear in brushed aluminum. These parts enable the cute little digital player, whose centerpiece features a valve output stage with a 6111WA dual triode, to be operated even when the less than dazzlingly designed dark gray plastic remote-control unit, which falls short of looking at all premium, happens not to be at hand. At any rate, these compact units from the UK that were devised in the Baltic states (see also our interview below) impressed me. Perhaps that’s because my first serious piece of hi-fi equipment, bought with money I received as confirmation gifts, was a cassette deck from Grundig’s now legendary Mini series. Years later, I added the matching tuner and pre-/power amp combination to that MCF 100. Provided the capacitors got a rejuvenation treatment from time to time, the miniature system definitely produces a very decent sound, even by today’s standards. Still, it wouldn’t stand a chance against Audio Note’s 2019 valve electronics. And this is true despite the UK manufacturer truly holding back from engaging in a component orgy on its entry-level offering. After all, these small white cubes earn

their money from a rational reduction on their insides, too. In no way do they flaunt the fact they’re valve units. So forget about glass bulbs warmly glowing in the dark that can end up burning your fingers badly if you don’t handle them properly.

In the amplifier, four ECL82s raise the line signals of the source units to a loudspeaker-compatible level. Given the nearly eight watts per channel, the speakers attached here should be pretty efficient. Because that certainly doesn’t apply to every sound transducer, Audio Note followed a logical train of thought and packed a suitable sound transducer with the pallet that arrived from Partridge Green near Brighton: The J/D Hemp is a black compact loudspeaker that rests on incredibly steady (and damn heavy) stands. And while its blue bass-mid-range driver made from hemp fibers (hence the addition of “Hemp” to the name”) don’t make it a poser, it certainly is an eye-catcher. Now back to the electronics: The amplifier resists any attempts to operate it by remote control. The four-source input selector that satisfyingly engages when using it and the volume control that operates without a scratch are crying out to be touched and turned by hand — a pleasure given the firm feel but one that nonetheless forces you to get out of your listening armchair from time to ▶



time. This dynamic is actually well worth the effort: What starts off quietly and gently can end up a series of real acoustic explosions, especially considering nobody believes me when I say there are only eight watts sine power per stereo channel. My female neighbors were long since subjected to a rude awakening, which I actually hadn't intended to do.

The desktop-compatible system was not primarily designed to blast dance floors with loud music, even though I can operate it at really hefty volume levels without risk to the speakers but, however, with undoubtedly considerable risk to my and others' hearing. If, for example, I let Dire Straits earn some "Money For Nothing," the stunning passage of guitar play following

the ethereal intro exhibits a surprising immediacy to it that causes me to flinch, even though I've known this legendary album really well for long enough. In this respect, the valve combo is in no way inferior to the best transistor amplifiers. Anything else would have surprised me. After all, the specialists in Partridge Green have extensive valve design expertise that other ►



manufacturers will still be dreaming about for decades to come and that's also clearly reflected in the successful design engineering from the Baltic states. I see the sound transducers as the most likely candidates for potential improvements with the recommendation, depending on the financial options, for a “keep it in the family” upgrade to models that offer a more powerful bass.

Just to be clear again: The Zero series currently represents the definitely most affordable opportunity for entering the Audio Note cosmos with a carefully matched audio chain. The phono amplifier can indeed “only” handle

moving magnet (MM) cartridges, but it does this so really well. AN also does matching step-up amplifiers, but their price places them beyond the entry-level category. No expense was spared in terms of the Zero's sound quality, though. As you would expect, it unmistakably gravitates toward the sound of the big Audio Note combinations.

That is to say that the three Zero components working in tandem with the Hemps reliably produce a feel-good sound. If Audio Note does anything in the way of reproducible family characteristics, then these would include an immense wealth of timbre coupled with clearly

defined spatial mapping and fine-tuning that fundamentally gravitates toward warmth. “Valve detritus,” does not, however, stand a chance here: Voices are expressed acoustically with exactly the same precision as one would experience either with other chains (good) or live (better). That works as harmoniously with Mark Knopfler's throaty rock voice from the Dire Straits oldie album mentioned above as it does with the clear-as-a-bell soprano of the young British baroque soprano singer Rowan Pierce, who made her solo debut in 2019 by releasing a recording of a remarkable Purcell recital under the Linn Records label. ▶

THE TECHNOLOGY AND SIGNAL PATHS OF THESE WHITE-COLORED SIBLINGS WERE REDUCED TO THE BARE NECESSITIES. FROM LEFT TO RIGHT: CD PLAYER: CD ZERO, AMPLIFIER: I ZERO AND PHONO EQUALIZER: R ZERO/II



As the months passed, the Zero chain became an integral part of my office and served me well not only as I listened to a broad cross-section of new CDs and albums — the Audio Note minis also make listening to vinyl a real pleasure. I know of just a few pieces of equipment that are able to play my keyboard of emotions as perfectly, especially when it comes to listening pleasure after a day's work. Only as the small white blocks departed my home and headed toward the FIDELITY photo studio did I come to realize that other audio chains take

a considerably more analytical approach to the reproduction of preserved sound events. More honesty may well prevail as far as other amplifiers, CD players, and phono stages are concerned. But the question is only this: Do I actually want to ultimately have the inadequacies and faults of a recording shoved under my nose every time I listen to it? The scintillating tonal splendor of Gustav Mahler's Eighth Symphony performed by the Hesse Broadcasting Symphony conducted by Eliahu Inbal (Denon), the

emotion-stirring presence of José Carreras and Dame Kiri Te Kanawa as they let their world-class voices shine through in their performance of Tony and Maria in Leonard Bernstein's *West Side Story* (Deutsche Grammophon), and the crisp "Hoagascht" (informal folk music event) atmosphere captured on the South Tyrolean folk trio Cordes y Butons' 2019 CD *Gimpl* (Preiser/Naxos): Each finds a circumspect, skilled partner in these compact Audio Note sound boxes that amplify what is good and attractive while elegantly masking out what ▶



doesn't work quite as well. One of the tracks on *Gimpl* includes a well-crafted, pensive version of Sting's "Fields of Gold." If I listen to this very subtly performed pocket version of the song using the Audio Note Zero chain, the cultural transfer the three South Tyrol musicians had in mind in their elegant cover version is perceptible. Pop music full of effects is transformed into scrutinized, well-crafted, and stirring (in the

best sense of the word) soul music, celebrated with solely acoustic instruments and recorded as puristically as the arrangement itself is presented. And there I found myself no longer sitting in front of a stereo system, but really close to three very musical people from my second home who are performing a gentle private concert for me that expresses all their dedication and devotion. Just an illusion, sure enough. But an incredibly perfect one. Addictive. ■

(MM) systems with twin 6112WA valves | **Dimensions (W/H/D):** 30/10/27 cm | **Weight:** 3 kg | **Warranty period:** two years | **Price:** about €1,640

Integrated amplifier | Audio Note I Zero

Concept: Stereo integrated amplifier with four ECL82 valves, four cinch inputs, and single wire terminal | **Input impedance:** 100 k Ω | **Input sensitivity:** 400 mV | **Output (6 Ω):** 8 W RMS per channel | **Channel balance:** ± 0.3 dB | **Dimensions (W/H/D):** 30/10/27 cm | **Weight:** 7 kg | **Warranty period:** two years | **Price:** about €2,430

Loudspeaker | Audio Note J/D Hemp

Concept: two-way compact loudspeakers | **Average impedance:** 6 Ω | **Frequency range:** 25 Hz to 23 kHz, ± 6 dB | **Recommended amplifier power (6 Ω):** 7–150 W | **Dimensions (W/H/D):** 33/59/24 cm | **Weight per speaker:** 13 kg | **Warranty period:** two years | **Price for pair:** about €5,850 (stands about €630)

Audio Note Deutschland UG | Soltau Str. 44 | 29646 Bispingen | Germany | Phone +49 5194 5050599 | www.fair-audio-trade.de

ACCOMPANYING EQUIPMENT

CD players: Mark Levinson 390s | **SACD players:** Marantz SA14 V1, Sony SCD 333 ES, Pioneer D6, Denon CX2 | **Turntables:** Clearaudio Innovation Compact, SoReal Audio Seismograph, Dr. Feickert Volare | **Pickups:** Clearaudio Da Vinci and Jubilee MC, Denon DL-103R | **Integrated amplifiers:** Marantz HD-AMP1, Mark Levinson 5805 | **Preamplifiers:** Mark Levinson No. 385, Trigon SnowWhite, Marantz SC-22 | **Power amplifiers:** Mark Levinson No. 27, Marantz MA-22, John Curl JC3, Trigon Dwarf II | **Phono amplifiers:** Musical Fidelity M-VNYL, Clearaudio Basic | **Loudspeakers:** Infinity Kappa 7.2 Series II, MuSiCa NoVa PlethorA | **Accessories:** spikes and equipment mats from ViaBlue

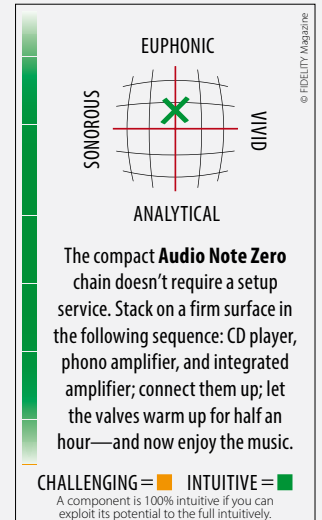
CD player | Audio Note CD Zero

Concept: Redbook CD player with a Philips DAC TDA1543 featuring a nonoversampling digital filterless circuit | **Valve complement:** 6111WA miniature dual triode in the output stage | **Output impedance:** < 2 k Ω | **Channel balance:** variance < 0.25 dB | **Dimensions (W/H/D):** 30/10/27 cm | **Weight:** 3.5 kg | **Warranty period:** two years | **Price:** about €2,440

MM phonostage | Audio Note R Zero/II

Concept: Phono preamplifier for moving magnet

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THE ZERO SYSTEM IS SMALLER BUT NOT INFERIOR

Andy Grove, product developer at Audio Note, on the challenge of creating a premium entry-level stereo chain.

FIDELITY: The Zero system is affordable, but certainly not “cheap,” and it exhibits many of the positive qualities we’ve come to appreciate about Audio Note products. What does it mean for an experienced high-end product designer to design an “entry-level chain” and where were cuts or compromises made?

Andy Grove: To start, one should bear in mind that more budget-priced products generally feature lower profit margins and that the manufacturer hopes to sell greater quantities on the basis of the price in order to make the product line profitable. That’s why manufacturing costs need to be lowered. The Zero system largely adheres to the philosophy that also characterizes the rest of the Audio Note portfolio and does this without sacrificing too much. Take

this as an example: Where things normally start getting expensive—namely with the amplifier—we decided to reduce the output power. That means we could reduce the size and weight of the power amp section, which is expensive and complicated to produce. For this reason the Zero system is in many respects smaller than but not inferior to the other Audio Note products. And when the price of a component really mattered, we didn’t make the decision lightly. We used a TDA1543 in the DA converter instead of a AD1685 converter IC, for example.

When a piece of equipment is sold in large quantities and it’s designed to have a long product life, it doesn’t only matter how the component reacts in terms of electronics and sound, it also matters that the supply of spare parts is secured and sufficient stocks for repairs and follow-up orders are available. Furthermore, the plan with the Zero system has always been to create a

system in a smaller-than-standard format — and that also has certain consequences.

Like practically all Audio Note equipment, the Zeros are also based on valve technology. Which criteria were employed to select the valves for the “minis” and are the 6111/12WA and the ECL82 used for the amplifiers bought-in components or do you manufacture them in-house?

As with all our products, we have taken the utmost care to use valves for the Zeros that not only produce a superb sound, but also do their jobs reliably. In the Zero system, we’ve used miniature valves that have military applications: The 6111WA and 6112WA “rocket” models (which, for example, have been and still are installed in guided weapons, hence the term) have long service lives, are small, and sound excellent — and we have sufficient stocks we well. The I Zero integrated amplifier uses the ECL82 triode/pentode valve, which can be easily purchased new on the world

market. It also delivers a superb sound.

The R Zero phono amplifier that dovetails with the chain restricts itself to processing signals from MM cartridges for high-level input purposes. What should MC users like me buy? An MC step-up transformer? Or an Audio Note preamplifier from one of the larger equipment ranges?

Of course it’s possible to construct an MC phono preamplifier using valve technology. There are certain valve types and circuitry designs for that purpose. One alternative in this respect is, in fact, using a transistor circuit. But the R Zero was intentionally designed as a pure MM amplifier because we assume it’s used in conjunction with cartridges, as featured in Audio Note’s IQ range. Of course, it’s up to every Zero owner to decide whether he or she wants to buy an MC step-up transformer from one of our larger ranges. If your budget is very tight, then the transistor solution does the job, too. ■

BROWSER

Nº 01



The contour of "i"

Esotar 2i is Dynaudio's new tweeter. And the recently introduced generation of the popular Contour family is named after it. The i-models naturally have more to offer than "just" an updated tweeter. The bass and midrange drivers have also been revised, which ultimately required a complete redesign of the crossover. Added to this are the seductive real wood finishes that already made the Special Fourty a beauty.

www.dynaudio.com

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BROWSER N° 01



Slim power

What power! The name of PS Audio's new power amplifier M 1200 says it all: The slim monos of the Stellar series deliver a whopping 1200 watts of sine wave into four ohms. Of course, this only works with space-saving Class D technology, which the manufacturer claims to push to the limits of what is possible.

However, a loudspeaker that such a powerhouse surrenders to has yet to be invented.

www.psaudio.com

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BROWSER Nº 01



Upgrade or new product?

An upgrade usually includes small improvements to existing components. Lindemann offers such an upgrade for its older Musicbooks. But whether to call it an upgrade...? The Musicbooks get an exchange board and thus reach the technology, sound and level of the current "source" models. According to their designation, the upgrade offer is called "Source 2020" - new goods in the existing case, so to speak.

www.lindemann-audio.de

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BROWSER № 01



And another 100 more...

Slowly but surely the complete HV series from T+A carries a "100" in its name. This marks the second generation of the flagships. This time the P 3000 preamplifier has been upgraded to the P 3100 HV. According to the Herford-based company, this new addition is a completely new development, with an improved pre-amplifier layout and countless refinements to details. "No half measures", as the Westphalian says...

www.ta-hifi.de/en/

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2020 FIDELITY AWARDS

CRÈME DE LA CRÈME

By Carsten Barnbeck and Hans von Draminski. Photos: Ingo Schulz, Harald Wittig, and manufacturers



FOR THE SECOND TIME EVER,
FIDELITY IS HONORING THE BEST
HI-FI PRODUCTS, MANUFACTURERS,
AND TECHNOLOGIES FROM THE
LAST COUPLE OF YEARS: CURTAIN
UP FOR THE 2020 FIDELITY AWARDS



Although “only” two years have passed since the previous awards (which covered a whopping six-year period), shortlisting a select few from all the potential candidates and eventually picking the winners in the various categories was anything but easy. Well over 250 devices were in the running this time, and we had to think long and hard about them all. The process included plenty of discussions and sometimes even arguments before we managed to agree on our final favorites that would receive our coveted laurel wreaths.

As you can see from our table on page 038, we’ve divided the products into categories and subcategories as well as an AWARD category. The table is designed to provide you with a clear overview, but it shouldn’t be viewed too narrowly and it doesn’t assert any claims of exclusivity: Our AWARDS are designed to honor not only outstanding sound quality but also innovative ways of thinking as well as interesting technological innovations and improvements to existing concepts. With amplifiers, players, and loudspeakers each comprising a wide variety of different components, a few overlaps can, of course, occur here and there. Once again, this couldn’t be entirely avoided. You may have also noticed that we’ve not weighted all the categories equally. This has to do with the ever-changing market: For example, the number of CD player tests carried out has recently fallen dramatically while the number of active loudspeakers out there is starting to skyrocket. In addition, the products and technologies considered for the awards had to meet a range of various criteria to be eligible.

What are the FIDELITY AWARDS?

Every two months, we shine the spotlight in our magazine on a number of different components and loudspeakers as well as a diverse range of accessories, too, if something innovative has caught our eye. We also draw from an continuously growing number of exclusive reviews available on FIDELITY online. All of these published tests and reviews form just the tip of an otherwise enormous iceberg. We are constantly offered devices from manufacturers or receive them “just because” or “to try out” or “with no strings attached.” It’s really exciting for the editorial team; but since space is at a premium here at FIDELITY, we have to be extremely, sometimes even brutally, selective, which, of course, is a real shame.

So it’s safe for you to assume that any products featured in the magazine or online rank among our favorites.

But we would also like to stress that just because a product didn’t make it into any of our publications doesn’t necessarily mean it’s not good. It’s often simply the case that it wasn’t suitable for the issue. Since FIDELITY needs to show a representative cross section of the market, we can’t just showcase four turntables or four loudspeakers in one issue. We have to get the right balance. Other times we’re given access to a component that, due to its importance on the market, absolutely must be included and therefore nudges another candidate out. This has led to us having a sizable waiting list—one long enough to fill several FIDELITY issues. Sometimes, manufacturers simply can’t spare their test devices any longer and ask for them back. So, as you can see, there are lots of different, and sometimes even trivial, reasons why products might not make it into our publications.

Who is eligible to win a FIDELITY AWARD?

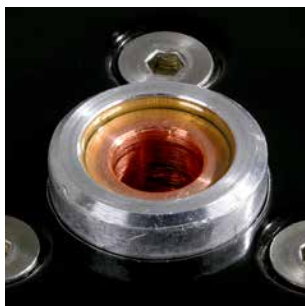
This section is simpler and involves three conditions: Essentially, all the devices, accessories, and technologies for which we were able to issue our objective opinion were eligible for the 2020 FIDELITY AWARDS.

That, of course, includes all the products we had in the office as well as a select group of components that we got the chance to extensively test during visits to company premises. The second condition is that our assessments had to have been published—an exception was made for the pool of tests that had already been completed and have since been released online or appear in this very issue. The time frame for eligibility ranges from FIDELITY issue No. 37 to issue No. 49 and includes online tests undertaken during the same production period—i.e., from March 2018 to March 2020. As a third condition, the products still have to be current: All successful candidates were still available in stores at the time the winners were determined. Please bear in mind that the HIGH END trade show, which has been canceled this year, is an important and firm fixture in many manufacturers’ product cycles. New generations of products may therefore now exist that we were unable to foresee in our selection process. And with that, we hope you enjoy reading about the 2020 FIDELITY AWARDS. ▀





With its three motors and sophisticated mechanical design, the TT Three sets new standards in terms of smooth operation and balance. Equipped with the in-house-developed tonearm, this turntable leaves listeners feeling like they can see deep into the reproduction of the recording. The Three can turn any vinyl into an audiophile's dream.



The TT Three has a sophisticated design: The platter transmits its vibrations via an extraordinarily long bearing piston into the sub-chassis. The three motors have absolutely no mechanical connection with it.





Audio Note's build quality speaks for itself: The exceptional stereo power amplifier has been designed to achieve exceptionally short signal paths, and the components (including the valves) are either made by the manufacturer itself or especially for it. This all results in an almost unfathomably natural, laid-back character. Truly benchmark-setting stuff!



The perfect reproduction of a recording is the ultimate goal of hi-fi products, right? No, not at Audio Note. The Brits there are more concerned with providing listeners captivating experiences they'll never forget. Musicality, character, and sophisticated sound quality constitute the all-important features here.





Use of the high-voltage amplifier, which is supplied as standard, is absolutely mandatory. Its DSP equalizes and linearizes the signals for the headphones.



Electrostatic headphones with a customized power supply unit that boasts textbook-perfect high-fidelity characteristics: extreme signal fidelity and finely detailed, nuanced sound.



This active loudspeaker sounds unbelievably relaxed and confident, covering an incredibly broad range. Activating the built-in digital room correction function results in an incredibly dry bass.



The built-in correction system can be set up using any standard computer. Even the uninitiated can benefit from room correction thanks to the "step-by-step" user guide.



All you need to know about the Cobalt is that it's an absolutely benchmark-setting micro DAC. AudioQuest took the design of its existing DragonFlies (USB DACs with integrated headphone amps) and sprinkled in some great new ingredients: a Sabre³² converter chip and faster signal processors. This means the tiny pipsqueak achieves sound that many full-size DACs would be jealous of. What's more, the minijack output also functions brilliantly as a line tap. This little DragonFly is simply perfect.

The ES9028 Q2M (to give the amazing Sabre³² DAC its official name) gives the DragonFly wings. To ensure optimal plug-and-play characteristics, the manufacturer limited the chip to a nice-sounding maximum of 24 bit and 96 kilohertz. However, it can process MQA files with even higher data rates thanks to their special format. AudioQuest's programmed minimum-phase digital filter adds an enhanced degree of musicality to any situation.



Melco (a brand associated with the IT giant Buffalo) was one of the first manufacturers to build ripping-capable servers explicitly for hi-fi environments. The N10 is a two-box solution that pushes the Japanese designers' recipe to the extreme while also being capable of acting as a streaming bridge: a thoroughly uncompromising player with no integrated DAC.



Double duo: The N10 has just four connections, two USB and two LAN. One of each of the terminals is intended for communicating externally and serves back-up media or the network router, for example. The other is intended for dedicated audio partners such as USB DACs or streamers. A subtle detail that you can really hear!





AudioQuest's "Mythical Creatures" series redefines bi-wiring and, in our experience, turns listening sessions into unforgettable experiences. This cable duo covers different bandwidths and achieves fine detailing and nuances of sound that were previously impossible. If you've been looking for solid proof that cables are just as important as components, then ThunderBird from the Mythical Creatures series is exactly what you're after.



What is the difference between the two ThunderBirds? The ZERO is a full-range cable and has conventional shielding. It's used for the treble or for single wiring on its own. Conversely, the shield of the bass is capacitively coupled to the internal conductors. This improves the power transmission between amplifier and loudspeaker—and, as everyone knows, you can never have too much of that in the low frequency range. In short, this cable gives the bass more thrust and oomph!



To enable us to conduct a direct comparison under objective conditions, WBT provided us with an in-house-developed control box that allows two cable sets to be connected to one source. A few rounds were all that was needed to prove that the Suprema cables with PlasmaProtect™ have set a new standard.



Visually, it's impossible to tell the new Suprema series RCA cable and its predecessor apart. The difference is a little detail that is, however, instantly noticeable in the listening room: HMS was the first German manufacturer to test WBT's PlasmaProtect™ and immediately started using the innovative surface finishing for its top range of cables. The increase in naturalness and homogeneity HMS achieved has to be heard to be believed.





Never before has there been such a cost-effective option for entering the impressive hi-fi universe of Mark Levinson. But the ML 5805 still makes no compromises whatsoever in terms of craftsmanship and sound quality. By pairing it with the corresponding No. 5101 network streaming SACD player or the No. 5105 turntable, the American company has managed to create perhaps the most exciting hi-fi combo of recent years.

Discretion has always been a top priority for Mark Levinson, and the 5805 is no exception: Like its larger siblings, the 5805 has physically separate amplification stages. It also has separate, individually adjustable phono inputs for MM and MC cartridges.





VIABLUÉ is an accessories specialist based in Malsch, southern Germany. They are real experts when it comes to getting the best out of loudspeakers and other devices. And we are not just referring to the sound achieved by using a smart and highly efficient material mix. VIABLUÉ's spikes and absorbers ensure that vibration and resonance are bundled and lead out of speaker and device housings. The available screw fittings generally ensure a perfect fit. Finally, the more than reasonable prices offered for the sets of four are just as important.



VIABLUÉ designs have little in common with exclusive high-end esotericism. The various models of the UFO absorber series are built from high-quality, high-end material. They complement each other perfectly. UFO absorbers help loudspeakers achieve additional contour and fine detailing. Listeners feel like they could reach out and literally grab the recording.





Genuin Audio's phono equalizer is a masterpiece boasting uncompromising execution of the balanced signal path. It's a thrillingly musical studio-quality phono equalizer.



A playground for analog enthusiasts: The amplification of Genuin's Pearl can be configured separately for MM and MC cartridges—and even individually for each stereo channel.



Compact and exceptionally discreet: Valvet's mono power amplifiers not only split the channels into separate housings but also the signal processing and the powerful 500-VA power supply units as well.



The new "e"-generation relies on stable feet from Alto-Extremo to boast impressive sound quality. The 65 watts at 8 ohms ensure the sound is incredibly dynamic and stable.





Lifetime Achievement

JOCHEN RÄKE

Transrotor

There is absolutely no mistaking the fact that Jochen Räge is one of the top masterminds in the hi-fi industry. His brand Transrotor has a well-deserved worldwide reputation for contributing German engineering ingenuity, an uncompromising high level of craftsmanship, and excellent sound quality to any hi-fi system — a reputation developed over more than 50 years. The level of accuracy achieved by his turntables is of course no coincidence: In fact it's testament to the founder's desire to continually drive improvements with a meticulous eye for detail.

The skilled mechanical engineer started working in the hi-fi industry in the early 1960s and it didn't take long for him to assume responsibility for sales and distribution for a British company making PA systems. A few years later, Michell's consumer-division products were launched in Germany, which led to Räge selling his first Transcriptor turntable in 1968. Even then he was sure the wide turntable wasn't really suitable for people's homes in Germany. So, he picked up a pencil and piece of paper and developed a whole range of solutions and improvements that would help boost the Transcriptor's success in next to no time. These concept modifications ultimately resulted in the creation of Transrotor in 1976. A large number of stand-alone models were subsequently released,

some of which were truly groundbreaking: Such as the Quintessence released in 1986, which signaled the birth of the audiophile nonsuspended turntable. It was the first-ever turntable with a separate tonearm base and several separate motors. Over the years, innovative developments have been made to this basic concept, including magnetic bearings and the gimbal suspension of the large top-of-the-range model. More recently, Räge developed his first very own tonearm to complete his company's portfolio.

Transrotor's high level of craftsmanship is just as legendary as its sophisticated and meticulously designed products. The company not only sets new standards but is uncompromising down to the tiniest of details: You could take a turntable such as the Alto apart and wouldn't find a single hole, however insignificant, that wasn't polished by hand to a high-gloss finish. This is the kind of quality the tireless all-round optimizer continues to reach in setting new standards through to this day. FIDELITY is therefore honoring the Transrotor founder with the 2020 LIFETIME ACHIEVEMENT AWARD.

Congratulations, Jochen Räge! ■



...and now for something completely different...

Lindemann Musicbook Source

THE BOOK OF BOOKS

By Harald Wittig. Photography: Harald Wittig





LINDEMANN AUDIO'S
ACCLAIMED MUSICBOOK
SERIES HAS JUST RELEASED
ITS NEXT GENERATION.
THE MUSICBOOK SOURCE
AIMS TO SWIFTLY TOP
THE BESTSELLER LISTS
AND BECOME THE
"BOOK OF BOOKS" FOR
DISCERNING HI-FI FANS.





“The times change and we change with them” is a proverb that traces all the way back to Ovid. Yet it is also clearly the driver for development at the high-end manufacturer Lindemann Audio. Our test object, the new Musicbook Source, is the company’s answer to the current hi-res streaming megatrend. This elegant product also displays passionate connectivity, with three analog inputs—including phono MM—and two digital inputs. Available for around €3,300, the Musicbook strives to be the kingpin of any hi-fi system to which it is added. And it more than measures up to the task.

Versatile and multi-talented

The Source has ushered in a significantly leaner form to the Musicbook series overall. This handy, reference book-sized device can easily replace all other previously released Musicbooks thanks to its all-around capabilities. It not only partners with the Power 500 and

Power 1000 Class D power amplifiers, but also previous models in the series can be transformed into streaming 4.0 platforms via hardware upgrade (such as the Musicbook 25 DSD streamer) or the addition of the Limetree Bridge adapter.

Company mastermind Norbert Lindemann emphasizes streaming technology’s important role at the company: “Those acquainted with me know how open I am to new ideas. Before too long, we will only be listening to music from the internet—of this I am certain. For the younger generation, physical media such as LPs and CDs are simply a retro fad. Most of the time, music is being streamed. Even though I’m a real vinyl fan myself—and the new Musicbook Source reflects this—I am aware how excellent hi-res streaming has now become. Our devices take this realization to its logical conclusion.” This statement leaves us unsurprised to discover that our test device has a network player with pre-installed TIDAL, Qobuz, Deezer, HighResAudio and

Spotify Connect streaming services, and can also play music from NAS music servers and other storage media in studio master quality. Of course, Musicbook is also “Room ready”, and a “Connect” button on the reverse side links to the user’s WiFi router within seconds. Those preferring wired connections can establish instant connectivity with the supplied LAN cable. But what about those die-hards who still want to play their beloved CDs? Norbert Lindemann hasn’t left them out to bemoan technology’s relentless advance: they can play their precious discs using an external CD-ROM drive (connected via USB). And, thanks to DSD re-sampling (more about this later), the sound quality is also enhanced.

Which brings us swiftly to our next observations. Norbert Lindemann prizes the newly developed DAC as the “central component” of this device. The converter chip used is the much-praised AK4493 from Asahi Kasai Microdevices (AKM): a 32-bit 2-channel ▶



THE NEW MUSICBOOK SOURCE HAS THREE ANALOG LINE INPUTS, INCLUDING A PHONO INPUT. AS A STREAMER AND ALL-AROUND MUSIC PLAYER ALL HOUSED IN ONE UNIT, IT IS IDEALLY SUITED TO BE THE KINGPIN OF ANY DOMESTIC HI-FI SYSTEM.

DAC with “Velvet Sound” technology allowing for low-level distortion characteristics and a wide dynamic range. The DAC integrates an OSR Doubler switched capacitor filter, enabling it to support wide signal range and achieve low out-of-band noise, all while using low power. The digital input supports up to 768 kHz PCM data and 22.4 MHz direct stream digital (DSD) data (also known as DSD 512). According to AKM, this makes it ideal for high-resolution audio source playback. Norbert Lindemann says: “These specifications are actually not so important for the sound—they’re more useful for advertising purposes. However, I was totally won over by the chip’s sound and lack of distortion at low volumes. In optimizing the production process to enhance the sound, the Japanese manufacturers have completely rewired the AK4493. Comparing it to my reference media—vinyl—the AK4493 comes extremely close to the

original analog source. Up to now, this is the most impressive sound result I’ve heard in my over 25 years as a development engineer.” Yet another innovation in this device is that all relevant components are controlled “locally” via “outstanding voltage regulators.” According to the manufacturer, the converter’s reference voltage has less than 0.1 μ V noise. High resolutions depend on this because the converter generates the output signal from this voltage.

“Analog” digital signals

The Musicbook has two AK4493s, both operating in mono mode. These combine to create the stereo signal—an extra step that enhances the sound quality. But in order to achieve the absolute pinnacle of sound, the Musicbook utilizes Lindemann’s distinctive “DSD re-sampling” feature, first used in the CD 1 player in 1999.

This special technology was born from the fact that some CD drives, digital sources and codecs have serious systemic jitter problems. And, in DACs without re-sampling, this can seriously impact the sound quality in a negative way. The Lindemann solution is simultaneously brilliant and idiosyncratic: the digital data is read into a first-in, first-out buffer then output with a new clock rate. An ultra-precise MEMS Femto Clock is used as clock reference. In contrast to the familiar upsampling process, the Lindemann system operates synchronously, ensuring the input and output signals have the same sampling rate without any jitters. This means that all digital sources should sound equally pristine with the Musicbook.

DSD re-sampling enables the converter chip to act as a pure filter circuit—the internal DSD or Delta Sigma converter is not used. Conversion to the 1-bit DSD signal already takes ▶

IT COMES WITH TWO ANTENNAS FOR WIRELESS CONNECTIVITY (WIFI AND BLUETOOTH) AND A LAN CABLE TO CONNECT DIRECTLY TO THE ROUTER.



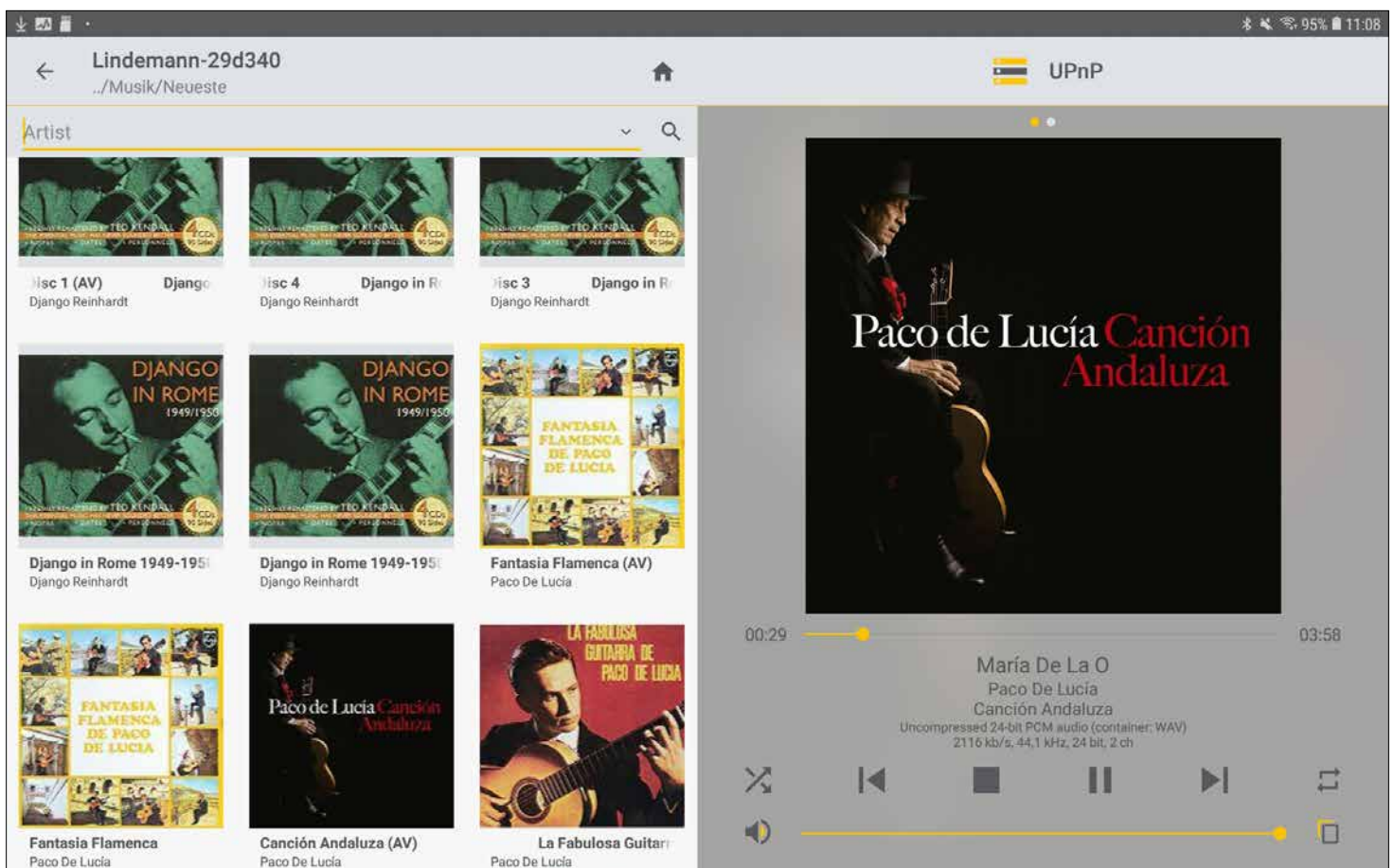
IN ADDITION TO USING THE SUPERB LINDEMANN APP, THE MUSICBOOK SOURCE CAN ALSO BE CONTROLLED MORE TRADITIONALLY BY TURNING/PRESSING THE LARGE MULTI-FUNCTIONAL JOG WHEEL ON THE FRONT RIGHT OF THE CASING.

place in the sample rate converter. We are told that from then on there is an “analog” digital signal that simply needs to be filtered. Because DSP filtering doesn’t occur during playback, impulse and high-frequency reproduction are said to be far superior. Moreover, because analog filtering only becomes active at 100 kHz, no frequency and phase errors exist in the high-frequency range during reproduction. Lastly, because the DSD signal speed is 12 Mbit/s, impulse response is significantly better than PCM. Exclusive, practical and exceptional While waiting feverishly for the serene sound of the Musicbook, we distracted ourselves with the sleek looks of the housing. Milled from a solid block of aluminum, the manufacturers have somehow made the newest family member even more elegant. But let’s focus on the sound and examine the unit’s connectivity options. As mentioned above, it has three pairs of analog line inputs, one of which is even implemented as phono MM. The

manufacturers refer to it as an especially high-quality, audiophile analog section, and for premium streaming the Musicbook Source also boasts an impeccable preamp and headphone amp. Norbert Lindemann calls the phono input for MM systems or high-output MCs “truly excellent.” The lack of an MM system lead us to decide against verifying this, or indeed undertaking any unfair comparison with the high-end Violectric PPA V600. Aligning ourselves to the zeitgeist, we focused on the Musicbook’s digital aspects. First we looked at the Lindemann app, available for both iOS and Android, that transforms any smartphone or tablet into a fully-functional remote control unit. We were already familiar with this app, developed with major contributions from Lindemann Audio, from our Limetree Network testing, and found ourselves very impressed. We were excited to use it again, and we were not disappointed: everything has been implemented in a completely intuitive and self-explanatory way. So

much so that we had to ask ourselves why all other manufactures are incapable of supplying apps of a similar standard. For example, at the touch of a button the app finds all high-resolution internet radio station streams. We dive right in with the Linn Jazz radio station, enjoying an exquisite LP from the Linn artist and superb jazz guitarist Martin Taylor. This is balsam for ears like mine that still haven’t fully recovered from their recent overexposure to “Last Christmas” et al. Although the app is superb, I am pleased that the Musicbook can also be operated conventionally by pressing/turning the large jog wheel (on the right)—at least for converting incoming digital signals, playing CDs on the connected Teac drive or listening to the stereo signal from the aging Technics RS B70S on the Geithain active loudspeakers. Perfect for audiophile “book worms” It’s a little premature of us to intensively scrutinize the Musicbook’s sound, so let’s bring it back to the beginning. Connecting the Lindemann ▶

THE INTUITIVE APP MAKES THE MUSICBOOK AN ABSOLUTE JOY TO USE—WHETHER YOU WANT TO LISTEN TO YOUR OWN MUSIC SERVER OR THE INTERNET RADIO STATIONS.





© FIDELITY Magazine

Lindemann Musicbook Source
The new Musicbook is a cutting-edge streamer and all-around music player capable of replacing several other devices all at once. It avoids any digital coolness and expresses tones of analog warmth.

CHALLENGING = [orange square] INTUITIVE = [green square]
A component is 100% intuitive if you can exploit its potential to the full intuitively.

“book” to the network router via a LAN cable, I access the Audiodata MS II music server through the app. My listening session begins with the great Paco de Lucía’s *Canción Andaluza* album using the Source’s headphone output. Working in DSD conversion mode—naturally—the test device expresses the absolute warmth of this delicate and reserved album, recorded by the flamenco genius in his own studio shortly before he passed away. In order to enhance the sound, his Pro Tools system’s DACs had been replaced with softer, more “analog” modules. Paco’s soft guitar sound melds with intimate vocals, while oud, mandola, mandolins and a Pepe Romero guitar with cedar soundboard generate a sublime tonal palette. The Musicbook reproduces every tonal subtlety, with extremely precise transients and a truly remarkable three-dimensionality. Listening to music from the Lindemann “book” is a delightful wash of sensory experience, much like settling into a comfy chair to become

totally engrossed in a more conventional paper volume. The headphone amplifier is certainly comparable to the HPA Violectric V200—the reference in this area—without quite reaching the same superb level. And the bliss continues when I switch to the active loudspeakers. After selecting *Standards Vol. 1* by the Keith Jarrett Trio in 24 bit/192 kHz, the first gentle Steinway tones reveal the Musicbook Source to be a devoted supplicant of the music goddess, able to reproduce the recording in all of its glory. But does the original LP sound better? Hard to say. My solemn judgment is that both deliver true gold to the listener’s ears. However, the Musicbook Source in conjunction with a server is certainly more convenient. That’s why this device is truly a must-have for discerning “book worms” with a digital bent. ■

Preamplifier/Streamer | Lindemann Musicbook Source

Type: Network player/streamer with preamplifier | **Digital interfaces:** LAN, WiFi, USB

for an external CD-ROM drive, Bluetooth | **Analog inputs:** 3 x unbalanced (RCA), including 1 x phono MM | **Digital inputs:** 1 x coaxial, 1 x optical | **Analog outputs:** 2 x balanced XLR, 2 x unbalanced RCA; 1 x 3.5 mm stereo headphones | **Maximum resolution:** PCM up to 768 kHz, DSD up to 512 | **Converter/re-sampler chips:** 2 x AK 4493, 1 x AK4137 | **Supported formats:** all common formats, DSD-compatible | **Streaming services:** TIDAL, Qobuz, Deezer, HighResAudio, Spotify plus internet radio and Podcasts | **Special features:** DAC mode DSD, unibody casing, new HPA and analog preamplifier, Roon ready | **Included as standard:** PSU, power cord, LAN cable | **Dimensions (W/H/D):** 28/6/22 cm | **Weight:** 2.6 kg | **Warranty period:** 2 years | **Price:** approx. € 3,300

Lindemann Audiotechnik GmbH | Am Anger 4 | 82237 Wörthsee | Germany | Telephone +49 8153 9533390 | www.lindemann-audio.de

ACCOMPANYING EQUIPMENT

USB interface and DACs: Mutec MC-3+USB, Mytek Digital Stereo192-DSD DAC, Violectric V800 | **Headphones:** AKG K 702 Studio, Beyerdynamic Aventho Wireless | **Headphone amplifier:** Violectric HPA V200 | **Music server:** Audiodata MS II | **Active loudspeakers:** Geithain RL 906, Kii Audio | **Cable:** Chord Company, Vovox, AudioQuest

“This big loudspeaker has a massive, uncompressed, live soundstage quality, with more than a hint of a classical large professional monitor about it.”

Martin Colloms, HIFICRITIC OCT | NOV | DEC 2019



BORG: MUSIC SOUNDS BETTER WITH YOU



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Miller & Kreisel MPS 2520P

BIG THINGS
SOMETIMES
COME
IN SMALL
PACKAGES

By Stefan Gawlick. Photography: Ingo Schulz





OR PERHAPS IT'S JUST THAT REAL PROS KNOW EXACTLY HOW TO PUSH THE BOUNDARIES.

It all began with a pretty innocent request. A musician, sound wizard, and all-around perfectionist needed a better subwoofer to be able to mix what was already an exceptionally well-recorded album and make it even better. So he asked a small and still relatively unknown company that had, however, already gained some experience in the construction of loudspeakers. They put their heads together and ended up creating something that, for its time (1973), was a fantastic subwoofer. Referred to as “balanced dual drive,” the principle behind it is similar to the isobaric principle and, in a further refined form, continues to this day to ensure M&K’s current subwoofers achieve THX-certified bass. This is a good reminder just how easy it is to forget how many great developments over the last few years and decades have never been publicized for one reason or another. The album needing mixing that

featured in our story was *Countdown to Ecstasy* from Steely Dan, and the musician in question was Walter Becker. The rest, as they say, is history. This benchmark-setting model catapulted Miller & Kreisel to fame, making them one of the biggest names on the studio scene. This makes it all the more surprising that here in Germany their name still doesn’t ring too many bells.

Outside of the German market, Miller & Kreisel has grown into a real giant, in particular in the American studio market, so you’ve probably all come across something produced using these loudspeakers: The full post-production for *The Lord of the Rings*, the first three *Star Wars* episodes, *Pearl Harbor* and other award-winning films for sound quality was carried out using these speakers. ▶

The three tweeters not only maximize transparency and resolution. Their phase can be changed at the flick of a switch, which in turn, alters the sound dispersion. This means the directivity of the 2520s can be optimally adjusted for a close-range setup or for more of an open-space setup.



Miller & Kreisel MPS 2520P
Compact and exceptionally professionally developed monitors that perfectly bridge the gap between studio and living room, head and heart.

© FIDELITY MAGAZINE

CHALLENGING = ■ A component is 100% intuitive if you can exploit its potential to the full intuitively.
INTUITIVE = ■

ACCOMPANYING EQUIPMENT

Turntable: Transrotor Apollon TMD with SME 5 and SME 3012 among others | **CD player:** Mark Levinson No. 390s | **DAC:** Merging Technologies | **Integrated amplifier:** Lavardin IT | **Preamplifier:** Crane Song Avocet | **Power amplifiers:** digital power amp based on ICEpower, Accuphase P-4200 | **Loudspeakers:** Spondor Classic 3/5, FinkTeam Borg, Wilson Audio Sasha DAW, Sky Audio 2.2 System | **Cables:** Vovox, AudioQuest, Audio Note

What is it about these surprisingly tiny, unassuming-looking boxes housed in modest, unpretentious matte lacquered cabinets? They don't seem to even try to fit in with the glitzy, glamorous US production world? These aren't giant boxes designed to create the Wall of Sound, but rather precise, sophisticated tools evidently made to support successful projects.

The front of the almost cube-shaped, sturdy housing is adorned with three silk dome tweeters as well as two bass-midrange drivers measuring 15 centimeters in diameter and made from glass fiber mesh. Multiplying the number of drivers is seen by many purists as a betrayal of classic teachings, but this clever setup means you can expect to benefit from several advantages: For one thing, the diaphragm stroke is significantly reduced while retaining the same level of sound pressure. This simply translates into less distortion: With accurate synchronization, Impulses can be expressed even more crisply because the chassis in turn only have to hop a bit and don't have to jump far. What's more, proper wiring in the crossover enables the sound dispersion characteristics of the speakers to be adjusted with meticulous precision. In our case, this meant the MPS 2520Ps focused the sound more vertically. Reflections from the floor, the ceiling, or a studio desk are, as a result, of less consequence. A room's interior design can be appropriately less technical if, for example, it's meant to be a beautiful living room. The vertical directivity of the treble can still be adjusted using a toggle switch on the rear amplifier. While in the living room I preferred the wider version, in the studio I was able to fade out the desk with a single click.

I found the rear of the speakers to be otherwise unremarkable as the usual connections and setting options were all present and correct. However, what I did find unusual were the output jacks through which the signal passes and to be then fed into another pair of MPS 2520Ps.

The use of similar or the same drivers across all models as well as of conceptually identical crossovers demonstrates this is a professional setup that takes a "customer-friendly" approach in the truest sense of the phrase. This ensures consistent sound quality across the entire portfolio, which makes your life a hell of a lot easier when setting up multichannel systems. M&K call this "timbre matching."

I feel absolutely compelled to highlight a simply marvelous feature of M&K's MPS 2520P while also conveying a little message to the manufacturer: I'm sure you all know what a headache setting up and positioning new loudspeakers can be—getting all the distances spot on and all the angles just right before you can declare the speakers are finally exactly where they need to be. Well, I've now managed to make the whole process of getting the right distances much easier by treating myself to a laser distance sensor. When the distance from a specific point in the listening position to both tweeters is the same, it's nearly on impossible for anything to go wrong. My usual process for perfectly angling loudspeakers is this: I place the distance sensor exactly in the center on top of the first loudspeaker. Next, I place a microphone stand in, in front of, or behind the listening position depending on where the intended axes of the speakers should cross. I turn the loudspeaker until the laser beam hits the microphone stand and then mark the point with a sticker or rubber band. Then I place the laser on the other speaker and turn it until the point lands on the microphone stand and I then align it vertically so the beam hits the marked spot. It's incredible how well a sound profile clicks right into place if you put in the extra effort from the start. But then life has its own cruel way of throwing curve balls ... You might continually find that one of your children, pets, or friends, for example, will gently knock a loudspeaker, nudging it ever so slightly that you wouldn't even be able to spot it with your eye but you might with your ear as the sound quality will be ever so slightly affected. In some cases, though, it might be so slight that you won't actually notice it straightaway, and so it's worth regularly checking the exact alignment. That said – I have to admit even I don't do that. But get this!: The little LED in the M&K loudspeakers that lets you know the internal electronics are working properly by shining a blue light is set so deep inside a narrow hole that you can only see it fully if the speaker is aligned perfectly with the listening position. I can't think of a single way to make this helpful tool any simpler or more effective. Kudos and thanks to the manufacturer!

Once both loudspeakers are positioned (ideally with the tweeters pointing outwards), connected to the preamplifier in a balanced setup and neatly aligned, the fun can really start. As true professional tools I found they take a little time to warm up (around 10 to 20 minutes); but from the very second you switch them on, you know straightaway they are the real deal. In my setup, they function as satellites (which is what they ▶



Eighty percent power-supply unit, 20% signal processing: Note the 2520s manage without any DSP. This is a rare feature among today's active speakers. Another nice design detail is the partition walls between the power supply and the signal circuit boards. You would be hard pressed to achieve a greater sense of harmony in such a small space.





were made to do given they have a built-in fixed 80-hertz, 24-decibel high-pass filter) in conjunction with my Sky Audio subwoofers.

Massive Attack's *Mezzanine* was on the turntable and when transmitted through the Miller & Kreisel speakers, the album gave my room and me a proper grilling. Very quickly a first impression formed that would actually grow into a lasting impression as the listening session continued. The MPS 2520P speakers demonstrated an absolutely mind-blowing dynamic spectrum. It's truly a rare moment to come across speakers that can perform "very quiet" and "very loud" so close together. And they do it with such apparent ease—which is the next standout feature. These handy little loudspeakers knocked out every single *fortissimo* with such ease that I couldn't help but think there must be no limits to what they could do. The individual layers of this already special production

were peeled back and revealed with meticulous archaeological precision yet without ever destroying the overall sense of continuity tying the whole thing together. These little Miller & Kreisel beauties managed to pull off the feat of highlighting every single detail in all its glory while simultaneously maintaining the overall bigger picture. This was stunning with the laid-back jazz I moved onto next as it increased the credibility of the reproduction. Such a pronounced level of sensitivity with dynamic nuances can only be achieved if the loudspeaker itself operates in a very low-resonance, "dry" manner. Any overshooting of the chassis blurs a small contrast level again. The Miller & Kreisel speakers were also in their element when I listened to a few Strauss operas. In particular *Elektra*, an unfathomably complex work in so many passages, can sometimes be quite strenuous to experience because overwhelmed loudspeakers that are out of their depths cease having the ability ▶



to provide any perspective. You find your brain has to try to fill in the missing or masked bits of information, which, after a while, gets rather stressful. This was never the case with the MPS 2520Ps. They explored and shed light every little nook and cranny of this magnificent recording with Christian Thielemann and “his” Staatskapelle Dresden orchestra. Small secondary voices remained audible even when the brass section was blaring, and I was still able to distinguish a violin part even when a soprano commanded most of the attention at very similar frequencies. In direct comparison, it was clear that elaborate tweeters like the ribbons of my loudspeakers are able to achieve slightly more detailed, finer differentiation in the highest of realms, but they lacked the American speakers’ firepower.

When I used the two M&K monitors as part of my home cinema setup, it suddenly became clear why Lucasfilm uses these loudspeakers for its mixing work. No extreme jumps in dynamics, no explosions, and no sopranos who could ever push these loudspeakers into a cold sweat. Given their size, this is nothing short of amazing.

But they’re not just great for reproducing sounds from stomping dinosaurs and roaring Godzillas. Even quieter films—or perhaps I should say, in particular quieter films—such as the magnificent *Melancholia* written and directed by Lars von Trier, have another layer of distance between the medium and the recipient stripped away thanks to the directness and immediacy of the sound, which I experienced as more credible, believable and “real.” Although you can listen to these loudspeakers at an incredibly high volume, I found myself enjoying movies at a much lower volume—simply because the speech intelligibility was so brilliant even at a lower level. ■

Active loudspeaker | Miller & Kreisel MPS 2520P

Concept: two-way active monitor | **Amplifiers:** 200 W RMS/400 W peak (bass), 180 W RMS/360 W peak (treble) | **Equipment:** 2 x 15-cm bass-midrange drivers (glass fiber), 3 x 2.5-cm tweeters (soft domes) | **Frequency range:** 80–12 kHz ± 1 dB, 12–20 kHz ± 2 dB | **Maximum output level:** 110 dB/100 Hz | **High-pass filter:** fixed 80 Hz (24 dB) | **Dimensions (W/H/D):** 33/27/40 cm | **Weight:** 18 kg | **Warranty period:** five years | **Price for pair:** about €5,400

Audio Reference GmbH | Alsterkrugchaussee 435 | 22335 Hamburg | Germany | Telephone: +49 40 53320359 | www.audio-reference.de



...and now for something completely different...

Genuin Audio Ava

AVANT-GARDE

By Michael Vrzal. Photography: Ingo Schulz



CALLING THE GENUIN AUDIO AVA AN ACTIVE LOUDSPEAKER IS LIKE CALLING A LAMBORGHINI A CAR.

Genuin Audio, located in Cottbus, Germany, is probably the only high-end full-range manufacturer whose portfolio consists of precisely one model for each type of device. Owner and CEO Thomas Wendt is clearly a fan of the age-old adage “do it once and do it right.” This helps to explain what the Ava loudspeaker is: not *a* compact active loudspeaker but *the* compact active loudspeaker in Genuin Audio’s product range.

The term “compact” is relative though. Ava stands a good half meter tall, weighs 27 kilos, and sits ideally on bases that feel like they weigh a good metric ton and that were specially designed by the experts at Liedtke-Metalldesign. The top plates incorporate the speaker’s design, so together base and speaker look as if they were cast from a single mold. A pair of these stands will set you back almost €1,000, however they’re not optional: They’re an absolute must!

The three-way speaker’s design skillfully bridges the gap between studio and hi-fi. The NEXTEL coating on the front panel is

reminiscent of professional wiretapping applications. The elegant tapered shape to the front panel and the two-toned design available in various real-wood veneers mean the loudspeaker is genuinely (yes!) suitable for use in the living room.

While the housing is made of thick to very thick MDF, the front panel is an internally damped plastic molding that has been perfectly attached to the wooden structure. The top section contains a coaxial chassis made by BMS, a manufacturer based in Hannover, Germany, and one of the top names in dynamic high-end drivers offering impressive efficiency and extreme resilience. The coaxial chassis used in the Ava combines a 165-millimeter diameter bass-midrange cone and ferrite magnet with a neodymium-tipped 25-millimeter ring radiator that works on a small metal horn. This leads to an enormous efficiency gain in the treble section—an incredible 110 decibels per watt and meter according to the manufacturer.

A long-excursion chassis by the Italian manufacturer La Voce coupled with a 20-centimeter diaphragm was chosen as the bass ►

A mistress of disguise: the Ava may look discreet and unassuming, however, measuring just under 56 centimeters tall, weighing 27 kilos, and boasting system power of 1,000 watts, it's a real compact heavyweight.



driver for reaching depths below 170 hertz. In the iron grip of two 500-watt power amplifiers and supported by the rear reflex port, the side-mounted woofer demonstrates some wicked subsonic qualities. This is one of the reasons why the Ava, a compact speaker in name only, can be used in larger rooms without any problem whatsoever.

Class-D power from Denmark

The Ava's beating heart can be found in the electronics module embedded in the rear panel. Here, four power amplifiers (total power: 1,000 watts) per loudspeaker drive the three chassis—two in a bridge circuit for the bass and one each for midrange and treble. Genuin Audio has opted for class-D amplifiers from Pascal, a

Danish manufacturer of technology also found in the components of various other renowned high-end brands.

The power amplifiers are not positioned before but rather after the crossover, as should be the case for an active loudspeaker. But this is no ordinary analog circuit here as a powerful digital board is connected upstream of the amplifiers. And with that, dear friends of the British minimonitor, we are entering a world of unimaginable possibilities.

Allow me now to delve a little into the sound quality: This loudspeaker is the most accurate and most high-resolution sound-analysis device to have ever graced my listening room. The Avas are able to convey the length, breadth and depth of recording studios with a positively tantalizing sense of ease. They paint ▶



The 165-millimeter coaxial chassis from BMS is complemented by a side-mounted 20-centimeter beautifully crafted Italian bass. Together, this flawlessly results in a three-way system driven by four class-D power cells—the bass gets twice the power.





sound events so clearly and distinctly within the stereo picture that you surrender in no time to the spectacle surrounding you and just want to let yourself get lost in the seemingly boundless depths of the recordings.

This is no accident. As you may have already suspected, the secret lies in the digital technology being used.

Analog music signals are digitalized immediately upon entry. The outlay in technology involved in this discipline is so huge at this point, there's absolutely no chance of any loss of resolution or dynamics. Per channel, two A/D converters, each working with 24-bit resolution, provide a dynamic corridor of 128 decibels. Even the best analog signal can't make sensible use of any more than that.

All supplied chassis are individually tested at Genuin Audio. The result is an individual "fingerprint" of each driver that captures even the tiniest linearity errors. The data is recorded in the digital board's memory. These subtle deviations from the ideal are rectified by activating the amplifier modules. To my knowledge, this is the only company that gives each chassis its very own uniquely tailored special treatment.

The crossover is executed digitally. It's all about the clever combination of FIR and IIR filters. FIR (finite impulse response) algorithms don't have a negative effect on the phase response and, as a result,

enable a constant group delay across the entire frequency range. They take care of chassis equalization. The aim is for the loudspeaker to achieve absolute time alignment. According to Genuin Audio, this is the key to achieving authentic-sounding music reproduction.

What else can be done with a built-in 32-bit DSP? Where an ultra-smooth frequency response can be calculated, defined deviations are, logically speaking, a piece of cake. Control software appropriate for the Ava's electronics enables the loudspeaker to be adjusted according to the room's acoustics. But before all that, measurements do, of course, need to be taken in order to have a basis to make the necessary and/or desirable change. Genuin Audio provides a service for this, available for a fee. Anyone who thinks action may need to be taken really ought to call the experts in. Having observed the measurement procedure in my listening room myself, I can tell you experience and expertise are necessary.

Wall clearance required!

In my room, the Avas created, well, movement. As initially indicated, they didn't sound right to at first. Quite the opposite. With the usual tried-and-tested setup, they sounded overambitious in every sense: too heavy in terms of the bass and too explicit in terms ▶



The BMS from Hannover, Germany (left), and the Lovace from Italy (right). Both are waiting patiently to be incorporated into the ultra-stable MDF housing.



of the resolution and dynamics. Attempts to rectify the situation by adjusting the frequency response quickly proved to be nothing more than me unhelpfully fiddling about with the symptoms of the problem. I soon found I wasn't going to make any progress with that setup. I had only one option to sort it all out properly: I had to completely rearrange my entire listening room. The system and the seating (listening) position had to be realigned with the aim of creating greater distance between the walls and the speakers and the speakers and the listener.

The result exceeded all my expectations. The previous room correction needed due to overwhelming room modes could even yield to the linear factory preset. All I had left to do was to get the angle of the speakers set properly to the very millimeter for perfect stage reproduction and delicately adjust the bass level by moving the seating (listening) position centimeter by centimeter.

I want to once again point out that the Genuin Audio Ava is a speaker designed and made with absolute perfection in mind. Hence the Pascal power amplifiers, which were chosen for their low level of distortion even in the limit range just before the clipping limit. Hence the elaborate digital equalization of the chassis,

which in themselves are nothing short of outstanding. Hence the phase-linear FIR filters on the coaxial driver, which is known for its innate excellent depiction and reproduction properties. And the fact the shape of the housing is completely subordinate to the sound-quality requirements: not to be overlooked. And, lastly, the powerful room-correction function so as not to leave anything to chance.

Incomparably masterful

There's no doubt about it: All the hard work has paid off. I'm sure the Ava could single-handedly outperform much more expensive combinations of human-sized passive speakers, amplifiers that weigh a ton, and ultra-fancy cables. This unassuming-looking loudspeaker fires off dynamic rounds in a flash without even breaking a sweat. No compression, no pressure on the ears, and not even a trace of distortion. Its crystal-clear transparency on the other hand makes it an outstanding speaker at low volumes. Something that definitely helps here is the dispersion characteristics of the treble cone, which itself sometimes actually seems to physically latch onto your eardrums. ▶

Signals are fed in via analog format or via AES/EBU. Don't be fooled by the USB port: it's only for programming the electronics. The display shows the system status.

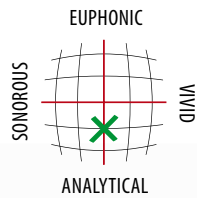


Music enthusiasts who are more of the old “pipe and slippers” persuasion are therefore not the Ava’s core target group. Drawing a comparison from the world of photography, let me pose this question: Would you buy a medium-format camera with 100-megapixel resolution and fully corrected ZEISS lens to then just screw on a soft-focus filter in front of it? No, you wouldn’t. Amazingly, modern compressed pop tracks played over the Ava excited me almost as much as meticulously produced jazz and

classical music. I had a huge amount of fun with Beyoncé’s track “Hold Up” from her album *Lemonade*: The air horn exploded far beyond the speakers’ confines and then the synthetic bass drum after the intro pulled me me up and off the sofa. My time with the Ava lasted several weeks, and during it I became seriously addicted to well-recorded drums. This loudspeaker reproduces cymbals, in fact anything metallic, so realistically it gives you goosebumps. My latest gem of a discovery in this genre, and something I would ▶

Genuin Audio Ava

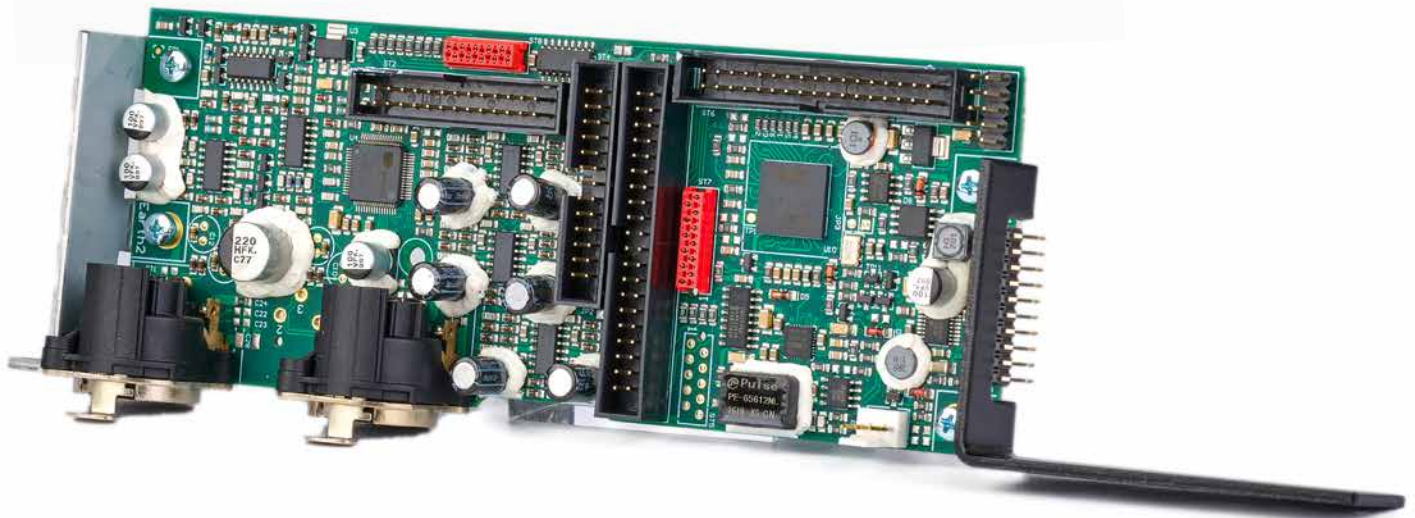
An almost full-range monitor classified as a compact monitor that lays everything bare, does not embellish anything, and sounds incredibly impressive.



ACCOMPANYING EQUIPMENT

Turntable: Bauer Audio dps 3 | **Tonearm:** Bauer Audio Tonarm | **Cartridge:** Lyra Kleos | **Phono preamplifiers:** Bauer Audio Phono, Einstein The Phonoamp | **Music server:** Innuos Zenith Mk III | **D/A converter:** Aqua La Voce S3 | **Preamplifier:** Silvercore linestage two | **Cables:** Fadel Art, Sunaudio, Music Line | **Accessories:** DIY rack, granite bases

The top image shows the Ava's four-channel power house, and the bottom image shows the input phalanx along with the digital signal polishing.



really recommend you listen to, is the album *Origami Harvest* by US trumpeter Ambrose Akinmusire. Combining a string quartet with a jazz ensemble and a rapper is as crazy as it's amazing! As is the case with all concepts pushed to the extreme, the only recommendation I can make with regard to the Ava is to listen to it play. This unassuming-looking active speaker could be the perfect find for all those who've been hunting for years, if not decades, for a sense of three-dimensionality, acoustic holography, dynamics, and resolution. Conversely, to those who've only just embarked on their hi-fi enthusiast journey, I can only recommend that they seek out the Ava experience at trade fairs or specialist retailers. It's the right direction to make. It's the perfect destination to reach.

Music reproduction can really be so vivid, so pure, and so direct. I'm seriously impressed. ■

Active loudspeaker | Genuin Audio Ava

Concept: three-way active monitor | **Amplifiers:** four-channel UMAC Class-D modules | **Total power:** 1,000 W | **Equipment:** 1 x BMS coaxial driver (25-mm ring radiator, 165-mm cone), 1 x Lavoce woofer (20-cm cone) | **Inputs:** 1 x analog (XLR balanced), 1 x digital (XLR AES/EBU), USB (controller only) | **Finishes:** front panel NEXTEL, body natural oak, smoked oak, sapelli, ash black, satin matt black and white | **Options:** matching metal stands (about €1,000), on-site measurement service (from €400) | **Dimensions (W/H/D):** 26/56/44 cm | **Weight:** 26.6 kg | **Warranty period:** two years | **Price for pair:** about €17,500

Genuin Audio | Byhlener Str. 1 | 03044 Cottbus | Germany | Telephone +49 355 38377808 | www.genuin-audio.de/en

BROWSER

N° 02



Two amps, one case

Advance Paris gives its portfolio a fresh top model. Well, at least among the integrated amplifiers: X-i1100 is the name of the battleship. Its stately 440 watts (4 ohms) comes along with plenty of brains. In addition to selected components, a double amplifier circuit ensures top sound. It works with Class A at low power requirements and increasingly fades into Class AB.

The best of both worlds. A DAC including USB is also on board.

www.advance-acoustic.com

+++



BROWSER

№ 02

Show me your feet

Wilson Audio knows about material properties. The Americans were among the first to be convinced that the materials used have a direct influence on the sound of a loudspeaker. Models like the Sasha DAW are made from a complex mix of different high-tech materials. Now, their many years of experience have been incorporated into a new product line: Pedestal is the name of the feet - and they are not intended for speakers. However, with a load-bearing capacity of around 11 kilograms each, they were designed for components and not for speakers. Their resonance behaviour is controlled by a design inspired by the case of the new WAMM Chronosonic XVX. The unit feet are supplied in a three-pack. Additional feet can also be retrofitted individually.

www.wilsonaudio.com

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BROWSER № 02



Magnetically enhanced

Vertere is the new brand of the former Roksan owner Touraj Moghaddam. Those who know spinners like his legendary Xerxes, might guess that Veteres DG-1 is a darn exciting spinner. And it has recently been upgraded: For several months already (at first still in silence) the turner has been delivered with the in-house scanner "Magneto". This is a derivative of Audio Technica's VM 520EB, which was previously the standard equipment of the "small" Verteres. The special advantage of the pickup is its insensitivity to "older" records. Just the right thing to bring the mothballed vinyl collection out of the cellar after decades...

www.vertereacoustics.com

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BROWSER № 02

Phono reference

Air Tight's new phono flagship ATE-3011 features five legendary equalizer curves, including RIAA, NAB, AES, FFRR and a flat curve, which should please collectors of exotic vinyl relics. The preamplifier offers connections (RCA) for three consumers, which can be tuned individually. In addition to the elaborately shielded tube circuitry, the design also provides for sound culture, according to the manufacturer: the one-piece housing minimizes resonances and calms the electrical circuits inside.

www.airtight-anm.com

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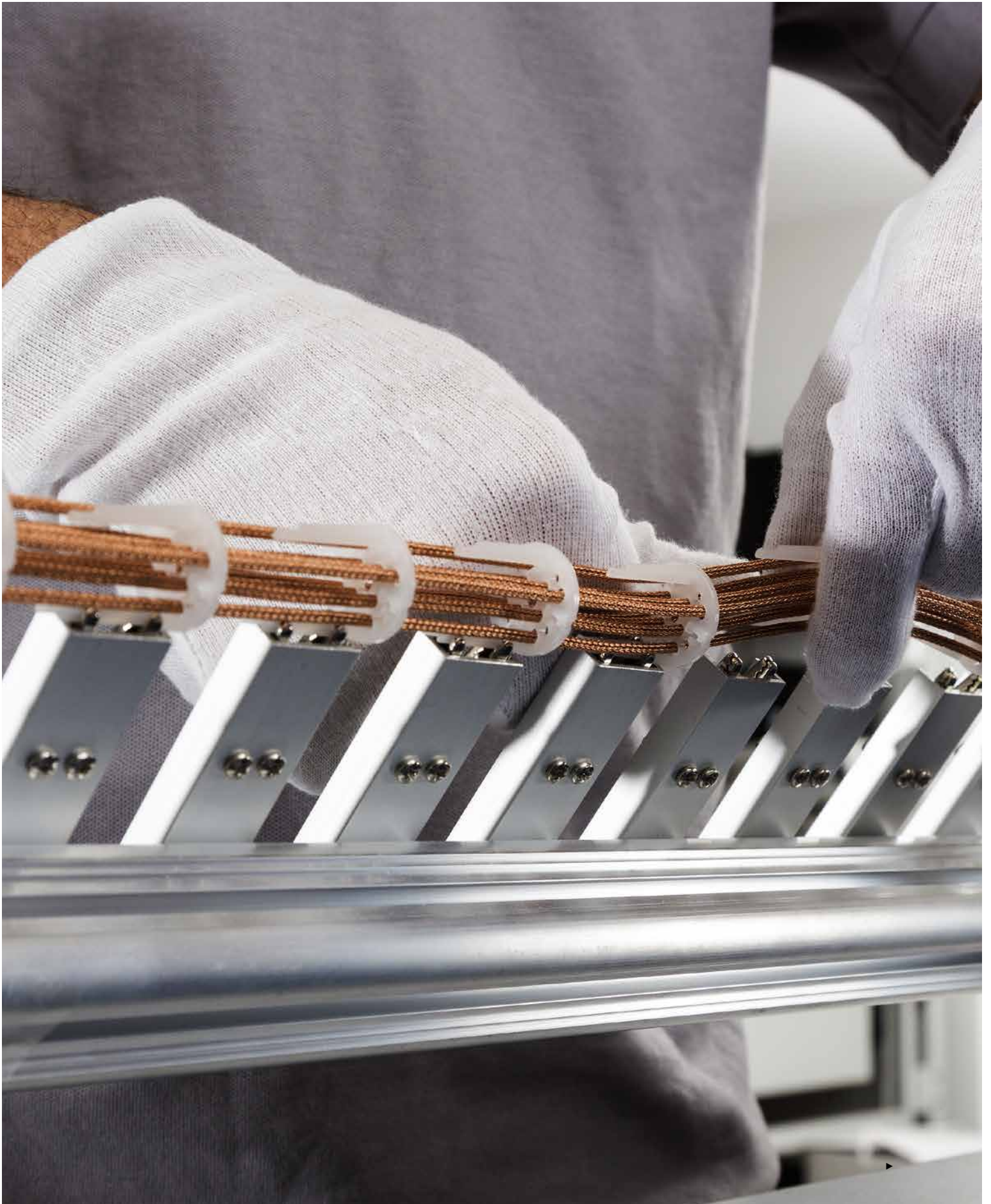


in-akustik / Dieter Amann

IT'S SOLID PHYSICS

...





NOT A FOOL'S PARADISE

By Hans von Draminski. Photography: manufacturer







Volume up or down?

A very quick interview with Dieter Amann where we wanted them to respond as fast as possible.

🔊))) OR 🗣️

Volume up or down?

Up.

Analog or digital?

Digital.

Tube or transistor?

Transistor.

Vinyl or download?

Download.

Cross-country run or gym?

Cross-country run.

Trends or tradition?

Tradition.

Tea or coffee?

Tea.

Salad or steak?

Salad.

Wine or beer?

Wine.

Mountains or the sea?

The sea.

Book or screen?

Book.

Jazz club or opera house?

Jazz club.

Bach or Beatles?

Beatles.

Wagner or Wacken?

Wagner.

Stand-by or plug out?

Plug out.

YOU COULD TAKE IN-AKUSTIK FOR A MERE ILLUSION. UNTIL YOU TAKE A CLOSER LOOK.







_____What do detailed model trains and elaborate high end equipment have in common? At in-akustik, a great deal—because under the roof of the Württemberg-based Braun Group, a family company since 1948, they both exist—in absolutely captivating quality. The BRAWA brand has a legendary reputation in model train circles: The company first began building model train accessories in the post-war years—everything from cable strands to lighting fixtures; they later entered into the model train car business with models from the absolute premium, large-series class; in doing so, they represented the pinnacle of what can be produced in a price range that can still be considered reasonable.

This is precisely what they have in common with the products from in-akustik, the company founded in 1977 by Ilse and Günther Sumser in Ballrechten-Dottingen near Freiburg—based on the realization by the two passionate music and hi-fi enthusiasts that the best quality music playback also requires superior device connections.

In-akustik has long been one of the top names in sound and image, for music and media. Particularly for NF, speaker and digital cable, in-akustik represents a globally positioned full-range supplier active in many business segments, one which can provide useful solutions for every need and virtually every pocketbook. And in this connection, in-akustik points out that the “Made in Germany” label is not affixed to the reverse side for decorative reasons, but because it corresponds to the facts.

For their raw materials, in-akustik benefits from the expertise within the company group, the foundation having been laid by “Braunkabel”, the company that has produced cables for almost every need since 1972. The company thus covers not only the recreational segment with products for play (model trains) and entertainment (device connections), it also supplies the sports segment, among others, with useful accessories. For instance, with special uniform cables for fencing that enable reliable electronic strike detection during matches.

Where audio and video applications are concerned, the cable experts at in-akustik see

themselves as innovative problem solvers. The Breisgau firm’s portfolio also includes products that can’t be found for love or money anywhere else: For instance, one-of-a-kind audio cables with the name suffix “Air”, in which the ideal dielectric—air—is actually utilized. With in-akustik, it’s about the pure sound, razor-sharp video images and the feeling of doing everything the right way with the company’s cables—not least thanks to the carefully conceived technical solutions that are consistently based on solid physical know-how. One reason that users, including those and particularly those in the professional segment, rely on in-akustik products disproportionately often is that they are among the best in the market—not only for sound, but also in terms of mechanics.

What head developer Holger Wachsmann (“hocus-pocus is not our thing”) dreams up is transformed into reality on machines, not few of which were designed and built in-house because the defined standards could not be executed on conventional industrial machines. Holger Wachsmann has occupied himself ▶

Test runs utilize the best hardware in the world, such as speakers from the premium Swiss maker Piega and electronics from Primare, whose creations are consequently sold by in-akustik in Germany as well.



with hi-fi since he was twelve years old and had his personal “aha” moment in the late nineties, when a friend and colleague invited him to compare sounds with standard accessory kit cables versus higher-quality cables. Company co-founder Dieter Amann, who manages the business of in-akustik in close collaboration with Braunkabel head Günter Braun, emphasizes the importance of consistent quality—ensured through meticulous final inspections—at the cable manufacturer, which has long-established worldwide networks. This seems all the more impressive given that the premium product lines at in-akustik involve countless hours of professional and technical craftsmanship of maximum precision—as would be stereotypically expected from a company in the Black Forest, particularly a family business. Incidentally, the in-akustik family includes 35 employees with an average age of approx. 48 and who can count an average of 15 years of employment with the company.

A good example of the amount of work and development at play here are the cables with the company’s own “Referenz Air Technology”. These are all about low inductivity and high conductivity, the high art of (cable) braiding and the fact that air is still the best possible dielectric. But the way in which in-akustik

approached the isolation problem and ultimately found an extremely satisfactory solution sounds like a technical mystery novel: In 1999, foamed PE in combination with PVC was used as an isolator for what was then sophisticated stranded cables. In 2004, Wachsmann and Co. left out the PVC; in 2011 the team devised the “PE tube” with a lot of air—and refined the concept further. The development of today’s top cables, such as the NF 4004 that was introduced in 2017, is yet more complex than earlier designs: Stranded cables made by a “Strickliesel” spool knitter (or rather, woven into a double helix much like our human DNA) are threaded by hand onto specially developed spacer clips and then again manually sized into various connection variants. Anyone observing this at times extremely intricate manufacturing process would also recognize that production capacity is limited—the premium cables from in-akustik could never become mass-produced products.

Incidentally, its suppliers also include the disabled workshop of Caritas in the neighboring town. Its social commitment to society’s most vulnerable is a perfect match for the company’s philosophy in which there is no place for loud cheering on one’s own account. Instead, attention goes to the consistent development of new

ideas that are intended to make life easier for both hi-fi enthusiasts and those who work with music professionally. For instance, in-akustik has banana plugs and cable lugs with an integrated joint, meaning that users will never have the problem of deciding between angled or straight connectors. Nor is the thorough Black Forest firm interested in participating in half-baked rush jobs: As was the case with the aforementioned 4004 Air, from the first ideas to the final products, a good one-and-a-half years can pass during which they are tinkered with, tested, thrown out, and then tinkered with and tested again, until the result is one-hundred percent. Test runs utilize the best hardware in the world, such as speakers from the premium Swiss maker Piega and electronics from Primare, whose creations are consequently sold by in-akustik in Germany as well. Reliable barometers for the quality of the cables being tested—if anything is lacking here, the sound converter used in the test is simply eliminated as a potential source of trouble.

Incidentally: Although the upper end of the cable series from in-akustik may at first glance resemble a boa constrictor the size of your forearm, these premium connectors are incredibly flexible and relatively lightweight. It is also gratifying that at in-akustik, the ratio between ▶





The premium cables from in-akustik could never become mass-produced products.

exceptional sound and reasonable pricing always stays in balance; even in the consumer segment, in-akustik offers a great deal of sound and tactile quality for the money—for instance, stable outer isolation with textile material that not only looks and feels good, but also makes the cable very resilient against outside influences. The sensible Exzellenz series, which also includes outstanding digital cables, Made in Germany, and are still affordable, make for worry-free purchases.

Because the best electronics and best device connectors are nothing without the appropriate software, in-akustik also offers music—from their own inakustik label (this time without the hyphen), or from one of the many record companies for which in-akustik does sales.

Illustrious names include Chesky Records, Ruf, Stockfisch and Telarc, just to name a few. The company also produces samplers and special editions on behalf of big names from the hi-fi and high-end audio segment. The common denominator is the audiophile recording quality that is quite naturally presumed. It is probably not necessary to point out that in-akustik equipment is used with disproportionate frequency in music studios. By the way, in-akustik is not only consistently on the search for record labels that match the active sales concept, they are also on the lookout for young bands and solo artists with potential to take under their wing and develop. The music division's media store currently holds more than 5500 different titles, including recordings of greats such as

American conductor Erich Kunzel with his Boston Pops Orchestra, folk singer Sara K. and German acoustic guitarist Friedemann Witecka.

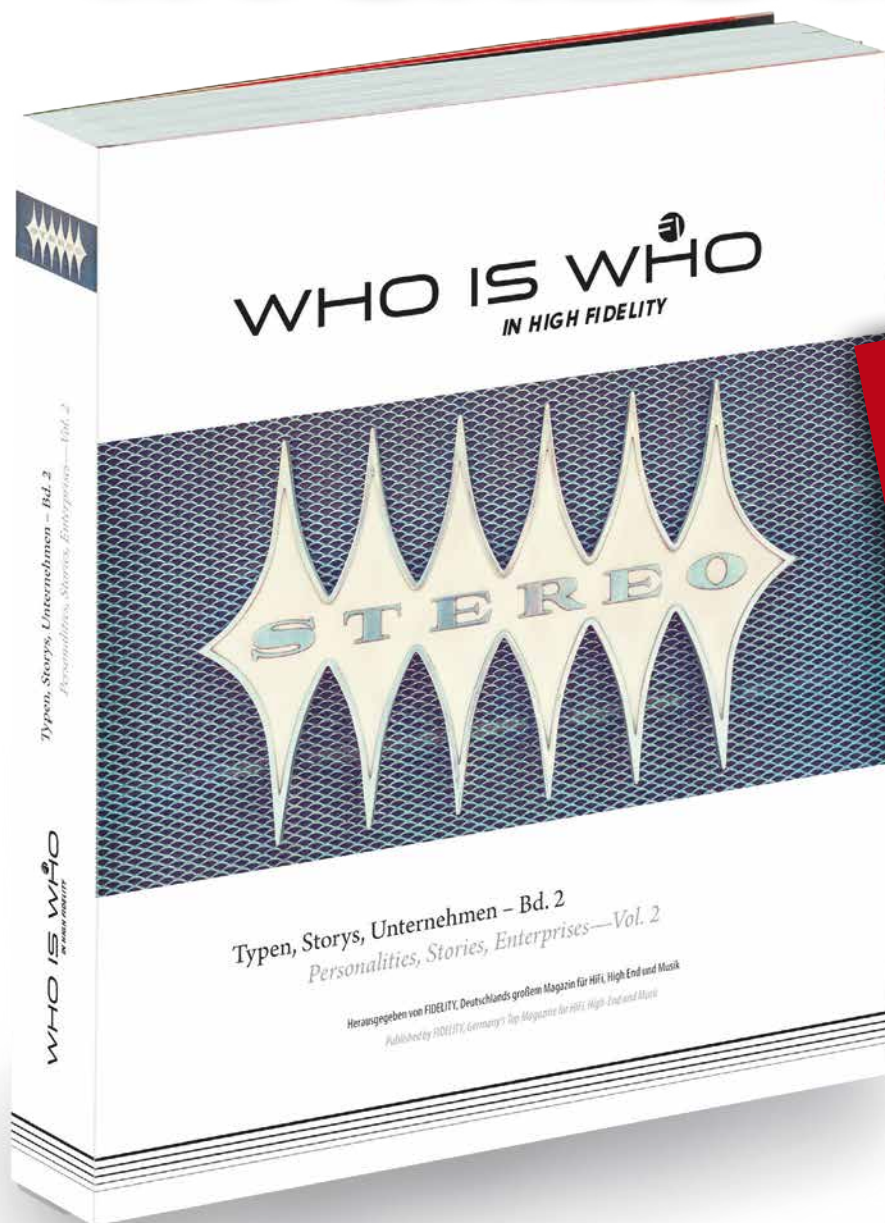
Music that is known to create its own magic. And the only thing at in-akustik that can't be explained by the laws of physics. ■

<http://www.in-akustik.de>

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Music'al Notes

BINGHAMTON

By Roy Hall, Copper Magazine



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Main Street, Binghamton. © Photo courtesy of Wikimedia Commons/Tom Vazquez.

_____My first impression of America was Binghamton, New York. With the exception of a few hours' layover in JFK, (*Green Acres* was playing on the TV and I seriously considered returning home) this town in western New York was to become my home, not for the three weeks planned, but for the next year. My bride to be, Rita, was waiting at the Greater Binghamton Airport for the delayed arrival of my plane. We had met a few months prior in Scotland where we fell in love and I now I had come to be with her in mid-September 1970.

Our first home was a railroad apartment, shared with two roommates, Miriam and Suzy. To me, starry eyed and besotted, this slum was paradise.

The neighborhood consisted of cheap wooden houses with various types of siding. The streets were unkempt and the population looked poor.

The day following my arrival, Rita had to go to school so I explored downtown Binghamton. I found a bar and had my first American beer, Genesee Cream Ale. I recall the name because coming from Scotland where beer has flavor, this beer tasted like watered down cat's piss. As I wandered the streets that day, I realized that downtown was rundown.

We were evicted from that apartment. Mr. Tesla, our Ukrainian landlord, seemingly disapproved of a man sharing the apartment with his girlfriend (apparently

the walls were thin and the sound of our lovemaking distressed him) and he soon gave us our marching orders.

We hired a U-Haul and moved to nearby Conklin Avenue to a house overlooking the Susquehanna River. In contrast to Mr. Tesla, Mrs. Pagano, our new, heavily-accented, Italian landlady, would bring us a tray of home-made lasagna every Sunday afternoon. Sometimes it was ziti but it always tasted the same.

The house had a record player and listening to music was a constant activity. Crosby, Stills and Nash had less than a year prior released their first album. James Taylor had just come out with *Sweet Baby James*. Elton John's self-named second album appeared ▶



Harpur College, Binghamton.

© Binghamton University: special thanks to Binghamton University—HARPUR COLLEGE OF ARTS AND SCIENCES <https://www.binghamton.edu/harpur/about/history.html>

© Harpur University, picture from 1961 - The campus moved across the Susquehanna River to Vestal. Growing enrollment and a reputation for excellence led to the selection of Harpur College as one of four doctorate-granting University Centers in the state system.

in stores. Judy Collins' Whales and Nightingales was popular. We played Nashville Skyline from Bob Dylan (remember "Lay Lady Lay?") I was introduced to Laura Nyro (what a songwriter and that fabulous voice!) and Joni Mitchell. Livingston Taylor, James's brother, performed at Harpur College and we bought his first album. Two songs come to mind, "Lost in the Love of You" and "Thank You Song." I also grew fond of Biff Rose, an oddball songwriter/performer whose songs are difficult to describe but one resonates with me, "Just Like a Man," a poignant, bittersweet lullaby from his first album. There was music everywhere; and what music. This period, the late sixties, early seventies was, in my opinion, music's most fertile time since the Great American Songbook era of the 1920 – 1940s. I reveled in it and it became the soundtrack of my new life.

Life in Binghamton was bliss. I was in love, attended classes at Harpur College at SUNY Binghamton and had a locker in the gym. I was, to all intents and purposes a student, albeit unofficially. Security was lax in those days and the guards were probably as stoned as the students. My favorite subjects were "An Appreciation of Classical Music" and a history class with a fabulous professor called Norman Cantor. He was a teacher of medieval history and his eloquent portrayal of those times made the period come alive.

In March of the following year, we traipsed through the snow (Binghamton was in the snow belt) to the courthouse for our wedding. A local judge presided and our two roommates were witnesses. That evening I spent forty of my forty-eight dollars on a lobster dinner to celebrate our marriage which has lasted forty-nine years.

The other day, due to the Coronavirus lockdown we are experiencing as I write, I started to play "Binghamton Music." I had recently set up one of my best turntables, (the Music Hall MMF9.3* in walnut) and it sounded so good I was inspired to play album after album. Out came Laura and Joni and James and Livingston. But when the needle touched the groove and "Your Song" from Elton John started playing, I was transported back to Conklin Avenue where I sat with my arms around Rita watching the swollen waters of the Susquehanna River flow by. ■

* find the review in the German print magazine FIDELITY № 50



Special thanks to Copper magazine

AudioQuest William Tell

SOPHISTICATED AND DEADLY ACCURATE

Text: Hans von Draminski. Photography: Manufacturer

WHEN CRUNCH TIME CAME, SWISS FREEDOM FIGHTER WILLIAM TELL EASILY MANAGED TO HIT THE APPLE AND NOT HIS SON'S HEAD.

_____AudioQuest's loudspeaker cable bearing his very name (part of its Folk Hero series) has pretty much inherited this famous Swiss precision. It combines meticulous focus with tonal elegance despite the fact it's not the product of Swiss craftsmanship. I didn't exactly make things easy for the William Tell, which would set you back a cool €3,500 in the standard assembly (2 × 3 meters). My system at home, which currently involves plenty of American equipment but is by no means an "all-American" setup, features very decent low-capacitance cables made by the US firm Morrow Audio. They're not the company's top-of-the-range cables, but they're also not their entry-level cables either. They're somewhere between top of the mid-range and bottom of the top range—exactly the position aimed at by AudioQuest's William Tell cable.

In addition to other types of key technology and the combination of materials carefully selected by the American manufacturer, this cable boasts another quintessentially AudioQuest feature: A battery pack forms the insulation. According to AudioQuest's developers Bill Low and Garth Powell, insulation works as a dielectric and can, if left to its own devices, wreak havoc by primarily influencing the timing or, more precisely, the phase of the signal flow. Performing with a



voltage of 72 volts makes the electromagnetic behavior of the insulation predictable, and the phase and timing of the music signals literally remain in time.

It becomes apparent just how good the high-end hero really is once it's gone and the common folk have to become reacquainted with their old faithful friends and make do with them. Spaces that previously seemed immensely vast, stretched out far beyond the confines of the loudspeakers and literally seemed to remove the walls of my listening room, which suddenly appeared a few meters shorter and narrower again. Renée Fleming no longer sings her Handel arias so sweetly and Billie Eilish's unmistakable voice emerges nowhere near as perfectly from the tangled mass of electronic effects surrounding it as it had before. Once you've had the pleasure of experiencing and hearing the precision delivered by the William Tell, you won't want to be without it ever again. ■

Read the detailed test of AudioQuest's William Tell cable in FIDELITY online.



<https://www.fidelity-online.de/audioquest-william-tell/>



...and now for something completely different...

Kii THREE and BXT

BREAKING ALL THE RULES

By Carsten Barnbeck. Photography: Ingo Schulz and manufacturer



KII AUDIO DEFIES THE LAWS OF PHYSICS. THE ACTIVE MONITOR SPEAKER THREE SOUNDS SO CLEAN, LINEAR, AND LIVELY IN ANY ROOM IT FEELS LIKE THE WALLS HAVE DISAPPEARED. THE BXT BASS EXTENDER LENDS THE SYSTEM EVEN MORE VERSATILITY.

_____ There are times in an editor's daily work life when opportunities arise that put an ear-to-ear smile on his face and that just can't happen soon enough—but then also lead to a bit of heartache at the same time. As an old hand, he knows that if he spends three weeks with the product in question, it will be a long time, maybe even donkey's years, before he can even begin to feel satisfied again with his own system back at home.

When Kii Audio asked us in the summer if we'd like to test the THREE along with the BXT module, I knew it would turn out to be a euphoric while painful experience. This loudspeaker is so different there's literally nothing to compare it with. Thanks to the chassis configuration and the exceptional work of the DSPs, a pair of THREE loudspeakers sounds as direct and precise as a set of headphones — the kinds with perfect soundstage. Although they are comparatively compact, the speakers belt out frequencies toward your listening position with such force you'd be forgiven for imagining they might be full-sized giant loudspeakers. What's more, they work well in any room. In a nutshell: Once you've become addicted to them, you could suffer irreparable damage to the

way you view your own system—a fate that could end up costing you a pretty penny.

As you read on, you'll get a good idea of the suffering they've caused me. To understand the advantages these exceptional active loudspeakers offer, we first need to brush up on some basic principles of physics.

Darned geometry

Broadly speaking, there are two types of loudspeakers out there in the world: The ones you remove from the factory packaging, place in front of the intended listening position, and listen as off they go, hell for leather. And then all the others: The ones you need to work on, where every single millimeter of difference results in subtle yet sometimes crucial nuances in terms tonality, timing, and stage graduation. Cynics label these two categories as “low maintenance” and “fiddly” or even “sweet natured” and “difficult,” whereby such paradoxical claims prove these self-proclaimed experts have no idea what they're talking about. Whether loudspeakers belong to ▶



Slide on top, connect, and away you go! Short patch cables link the THREE to the BXT. That means no tangled up wires all over the place.



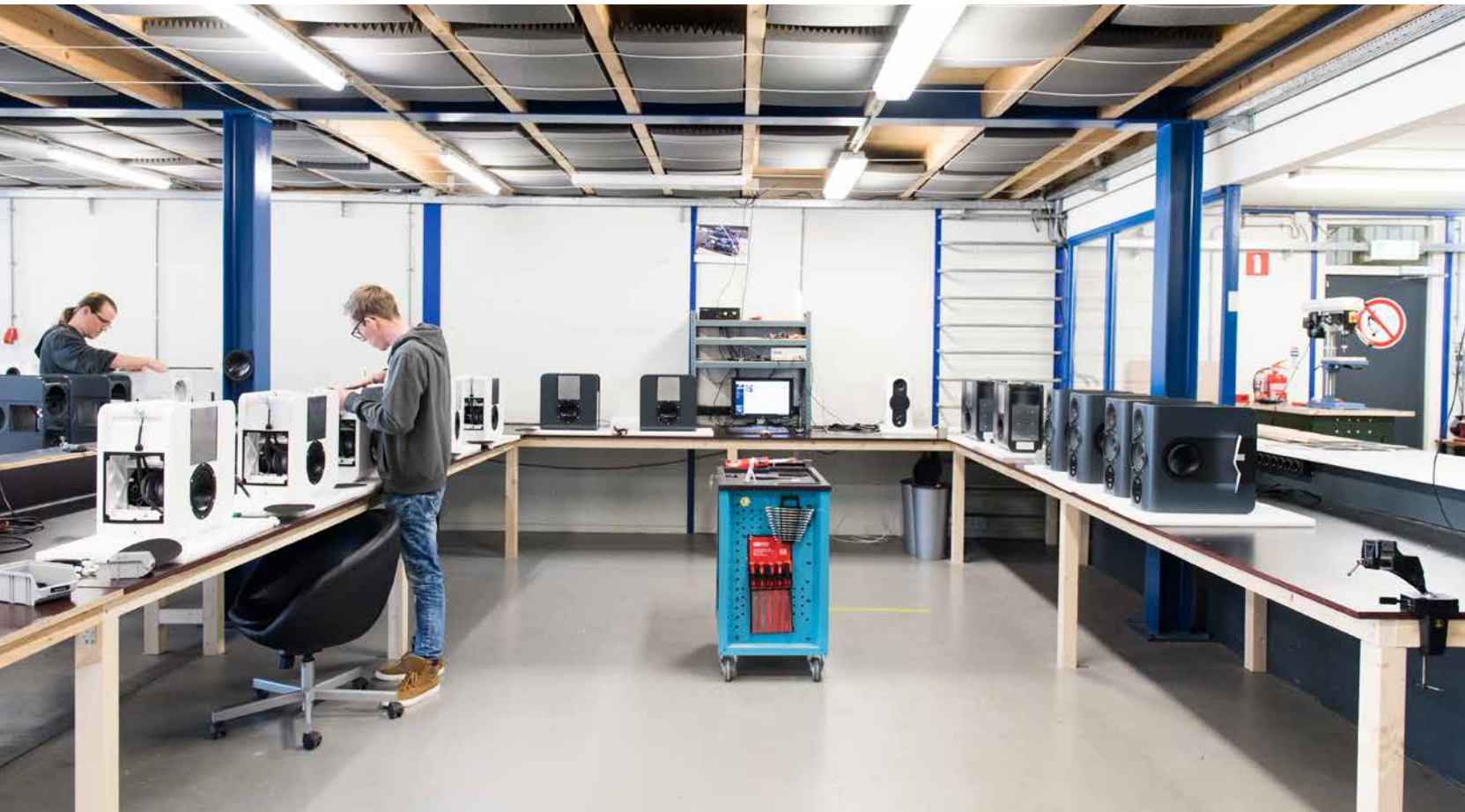
one grouping or the other has no bearing whatsoever on quality. Loudspeakers themselves can't do anything about how they behave in a room.

Okay, they can do something, but only indirectly. In general, small, slim speakers excite a listening room less than colossal, human-sized speakers with diaphragm surface areas measuring two square meters. You don't have to be a physicist to understand that correlation. The more a room is excited by sound energy, the stronger the room emerges as an audible source. And that's really a drag because the undesirable reflections aren't distributed harmoniously across the frequency range. While the treble and upper mid-range reach the listening position bunched relatively close together (that is, rather indiscriminately), low frequencies are dispersed spherically. The result is utter chaos: Some frequencies aggregate and reverberate uncontrollably while others are obliterated, creating tonal gaps and ultimately distorting the signal reproduced by the converter.

So if excitation is responsible for so many issues, why don't people pay more attention to it? I'll tell you why: Because the only way to prevent it is to set up an anechoic chamber, a room that, with all its acoustic modules, is about as comfortable as a recording studio control room. It may be okay for working in but you wouldn't want to live there. Active technology and smart signal processors (DSPs) can provide some relief: Systems such as Audyssey and Dirac measure any detrimental effects resulting from the interaction between the speakers and the room, compensating and correcting whatever needs to be compensated and corrected. This works well, sometimes it even works wonders, but at the end of the day it is nothing more than damage control.

This is precisely where Kii Audio comes thundering in—a bolt out of the blue to stop us in our tracks. You already guessed this twist was coming, didn't you? The creative minds at the innovative fledgling company have come up with a clever trick that's not only ▶





able to limit excitation but takes one step further to completely prevent all of its most harmful effects. The compact THREE loudspeaker emits sound toward the listening position over a tweeter and a mid-range, while the basses have been positioned on the sides and back of the housing. Altogether, each stylish and colorful active loudspeaker features four identical 16.5-centimeter bass drivers as well as the pair on the front. And thanks to its bundled dispersion, the spatial effect of all this can be disregarded. Each chassis is driven by its own 250-watt amplifier section, which receives its signals directly from a discrete D/A converter — so six drivers, six amplifiers, and six DACs. There's also a circuit board with a central brain in the form of a DSP as well as an A/D converter: You can control the THREE over its single XLR connection either with AES/EBU or an analog input. Given the speaker's compactness, it's easy to imagine just how tightly all the equipment and electronics inside the closed housing are packed in.

Now for the actual trick: The two bass channels in the rear section are delayed to such a degree by the signal processor that their phase-inverted sound overlaps with that of the side drivers. While the Kii blows direct sound forward into the room unhindered, the bass next to and behind the loudspeaker is completely eliminated. The high-energy bass frequencies can't excite the room until they've passed the listener as direct sound — after all, the walls behind and to the side of the listener's position are ultimately still

reflective surfaces. The resulting parasitic noise created there is, however, differentiated by our brains because it lags far behind the direct signal. Kii leverages a blessing in our sense of perception to its advantage: Even if something were to boom or rumble in the room, our gray matter would interpret the actual music signal as flawlessly clean and linear.

We can easily put the DSPs' work to the test by supplying the THREE loudspeakers with some hefty material. Let's get started with London Grammar's dark and richly textured track *Hey Now*. It has precisely the kind of deep low frequencies that are great fun but cause all sorts of issues in many rooms. This doesn't pose a challenge for the THREE, which turns the song into a mesmerizing massage for the ear in our listening position. The deep rumbling bass sounds jet-black, tight, and yet so rich that we feel as though we could almost reach out and touch the air pressure with our hands. The voice of singer Hannah Reid, the electric piano, and the occasional percussion effects appear so stable, vivid, and sharp in between the loudspeakers we could trace an outline of the stage. Getting up and going over to the side of one of the loudspeakers results in the thunderous bass surprisingly breaking off rather abruptly. And the situation is the same when we go around to the back of the THREE. The drivers on the sides and on the back of the speaker operate with visible throw but seem not to emit ▶



Clean room atmosphere: The solid empty housings are gradually filled with electronics and chassis before the striking aluminum inlays are added. Even the CONTROL remotes are assembled in-house by Kii Audio.



any sound. “Fascinating,” as Mr. Spock would conclude. We call this kind of sound dispersions “cardioid” (see box), and Kii Audio names all the sophisticated technology behind it “Active Wave Focusing.”

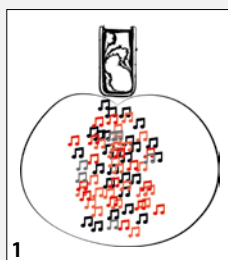
Everything’s under control

To gain perfection in the THREE’s active wave focusing, the speaker needs to know how far away from the walls it is. You can provide those parameters using a switch with 14 presets that’s located next to the terminal. Directly next to that is another microcontroller with 17 preconfigured frequency settings. But there’s an even easier way to change these settings: By using a small device called the “CONTROL.” This is a wired console-type remote control that handles various functions.

It provides the THREE with extra inputs, for instance: On the back of the Kii CONTROL you’ll find an S/PDIF connection (like the AES/EBU connection on the loudspeaker, maximum 24/192) and a TOSLINK connection (maximum 24/96) as well as a USB port for connecting computers, servers, and the like (maximum

32/384 as well as DSD64/128). In addition to programing the wall distance (“boundary” settings), the small, razor-sharp display also makes it possible to configure the shelf filter (“contour” settings). Another important menu item is Phase Correction. The DSP of a Kii not only monitors elimination of the bass at the back of the speaker, it also carries out calculations to ensure the signals audible from the listening position have perfect timing — and the THREE’s sound is so on the money, any attempt by listeners to refrain from tapping their feet or getting lost in the music is completely and utterly futile. As cool as that may be and as fast as the processor may work, it does, in fact, cause some system latency. It may be irrelevant for music playback, but home cinema enthusiasts will be irritated by the delay. The CONTROL can, however, be used to adjust the phase calculation from Linear to ‘Low Latency and then the playback will be in sync with the on-screen images. To ensure maximum precision, the more precise Linear mode should, of course, always be used when listening to music. Ultimately, the CONTROL can also be used to adjust the volume by turning the central rotary knob, or it can be pushed to mute or dim the volume; and if the DIM function has been selected, ▶

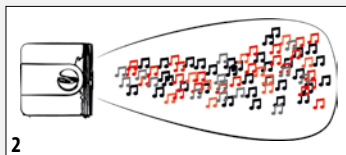
A LOUDSPEAKER WITH HEART



1

The THREE uses cardioid dispersion. Does that term sound familiar? It derives from the Greek word “kardio,” meaning “heart.” In fact, when viewed from above, the dispersion pattern of the active loudspeaker looks a bit like a heart (1): The speaker focuses its sound, emitting it forward, and the level noticeably drops on the sides. This is terrific as it practically

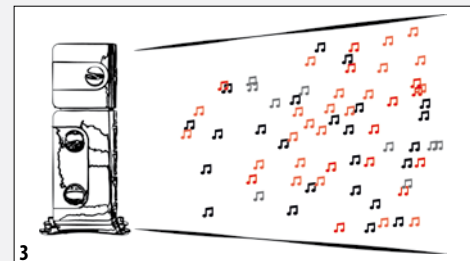
doesn't excite the walls next to or behind its housing. The concept does, however, have a weakness: If you



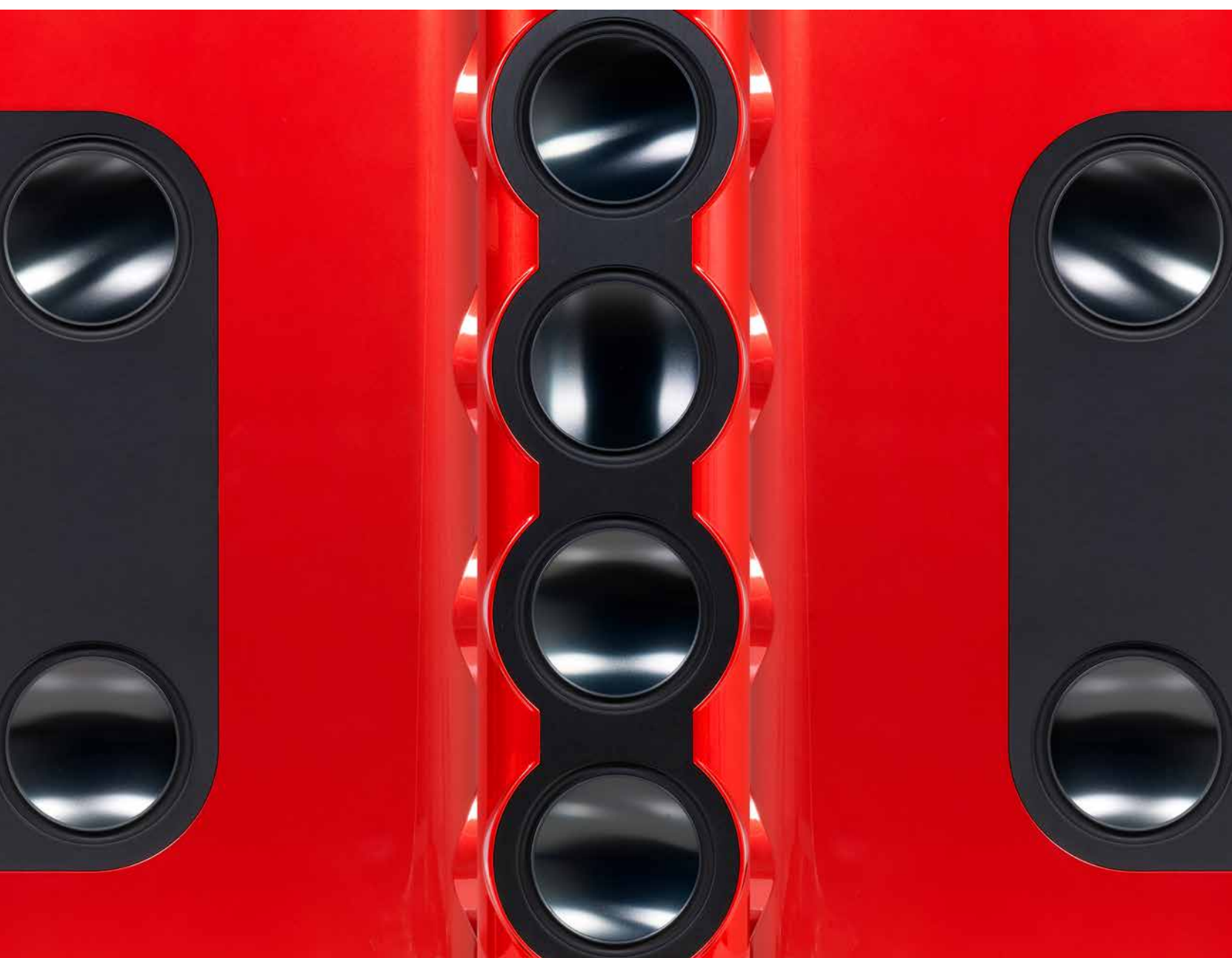
2

view the dispersion from the side (2), it's shaped more like a club: You get optimum sound quality when you sit in front of the speaker. The BXT eliminates this compromise by turning the THREE into a line source that more uniformly covers the space in the room(3).

There are, however, no issues with reflections because the BXT's side drivers and those in the back of the THREE also ensure Kii's “Guided Wave Focus.”



3





pushing the central rotary knob reduces the volume to the user's preferred preset decibel level. The system boasts a high-precision digital volume control that let's you directly control up to five sources — Bluetooth is also included. The Kii CONTROL does not, however, really possess a handy remote control. The THREE is wired in daisy-chain format: The source is fed into one of the two speakers and the second monitor receives its signal portions with a long data cable through the KiiLink interface. The remote control is also connected to the KiiLink; it even depends on it for its power supply. Sadly there's no getting around the umbilical cord. If other sources are connected to the CONTROL, you have no option but to leave it on the rack. That's why the manufacturer has also integrated an RCS interface into the loudspeaker that is compatible with many customary transmitters. The THREE is also able to receive control signals from the stylish Apple remote (approximately €25).

Not a subwoofer... and don't you forget it!

At this point it's time for us to slam on the brakes—you've probably got smoke billowing from the top of your head after reading about all the basic principles and features. Besides, it's about time to clear the stage for the second act in this performance: Let's now have a look at the BXT, or "bass extender." This also gives us a great opportunity to talk about processing. To get right to the point, the processing is not from this world: The housing of the Kii speakers

feel exceptionally smooth and high-end. All the paint options have a subtle yet glamorous look to them and a sense of depth that makes you want to try to reach right inside the loudspeakers. The BXT comes supplied with a black anodized aluminum base plate that can be balanced with the adjustable spikes as well as an accurate guide rail. The Bass Extender is placed on top from behind and, with the application of very little pressure, glides forward to slots neatly into place with a quiet yet satisfying "click." The THREE is positioned on the BXT the same way. The connection feels very delicate and smooth during the setup process and yet exceptionally sturdy and stable as well. You can tilt the floor-standing speaker quite far to one side without ever having to worry it might come apart and take a tumble. Signals and power are transmitted to the THREE speaker from the Bass Extender over short patch cables.

And this brings us to the BXT's major stumbling block: With a total of eight bass drivers, you would be forgiven for instinctively thinking the rather large substructure is a subwoofer — and yet you'd be quite wrong. As its very name suggests, the Bass Extender extends the diaphragm surface area and provides a total output of 2 kilowatts. It does increase the sound pressure level but minimally at best (the DSPs ensure balance with the tweeter is maintained), and it doesn't extend the THREE's bandwidth downward even by a single hertz. So what *does* it do?

This is where the cardioid dispersion comes in, which does do some incredible things but focuses on a sweet spot and reaches its limits in large rooms. The BXT turns the THREE into a ▶

ACCOMPANYING EQUIPMENT
Sources: T+A MP1000E, Audiodata MusikServer MS II, Melco N1A, Auralic Altair | **Racks:** Creaktiv Midi Reference, Solidsteel Hyper-spike | **Cables:** AudioQuest, Chord Company, Wire World

Kii Audio's complete system **THREE** gives us a glimpse into the future of music playback: This high-precision complete system has an exceptionally linear, swift yet emotional character.

© FIDELITY Magazine

CHALLENGING = [orange square] A component is 100% intuitive if you can exploit its potential to the full intuitively.
INTUITIVE = [green square]

The THREE's directness and precision also leaves a positive impression in the recording studio. The list of users is growing all the time and includes Jacob Collier, Mario Bondi, and other top-class singers, famous producers, and even Grammy Award winners.



“line source.” As a result, the loudspeaker disperses the sound in a completely different way that penetrates wider and deeper into the room without altering the sound itself. You might think that would only be relevant for large rooms, but it's also beneficial for small rooms, too. For one thing, more listeners can sit next to each other in front of the Kii. What's more, they can also move around in front of the loudspeakers without prompting any major tonal changes, making the Kii even more suitable for everyday use. And the BXT not only helps eliminate the bass in the rear area of the loudspeaker: As its drivers go all the way down to foot level, the BXT also limits floor reflections in front of the speaker. That means it practically makes no difference at all whether you have carpet or smooth parquet flooring in the room. And this magic trick can't be performed by any other loudspeaker out there.

Facts on the table

At this point, you may well be asking yourself “Why does he keep talking about physics so much? Is he trying to get out of writing a proper review?” If that's what you're thinking, you've caught me red-handed. Describing the characteristics of this exceptional system is actually very tricky. I've listened to lots of loudspeakers that employ special concepts: open baffle speakers, wide-frequency horn loudspeakers, and coaxial loudspeakers to name but a few. The THREE belongs in this group as it sounds completely different from conventional multiway loudspeakers — but then again, it doesn't belong to this group because it lacks the sometimes irritating strong self-will of the aforementioned concepts. The THREE works like a magnifying glass that reproduces exactly what the recording specifies. And it does this with a directness that brings pain to a listener if the recording is rotten and nothing but joy if the recording is good. A prime example here would be when the melancholily vibrating strings in Liszt's “Hungarian Rhapsody”

float through the listening room (on *Stokowski — Rhapsodies*, Sony Classical Originals). Next, the beat of Fever Ray's “Now's the Only Time I Know” pulsates through the room with the snare drum actually just a short, snappy pulse that the THREE directly blasts straight into my skull when the volume is nice and high. Anyone who's ever sat next to a guitar amp and experienced “pick attack” at a really high volume will know what I mean: The THREE has really disturbingly fast attacks. It also sounds extremely neat. It ensures the fragile, seemingly endless reverb trails of the percussion instruments are crystal clear and fade into eternity without even the tiniest bit of compression.

It's riveting right from the very first second. But it does take a couple of hours before you hear all the dimensions of the THREE's directness and linearity. We're so used to accepting the room as part of the playback that the directness of this loudspeaker means we have to rethink things now. But as soon as you start to pick up on this dimensionality, well ... there's no going back ... ■

Active loudspeaker | Kii THREE and BXT

Concept: three-way active monitor (bookshelf/floor-standing loudspeaker) with optional Bass Extender for optimizing sound dispersion and spatial illumination | **Equipment:** 1 x 2.5-mm tweeter with waveguide, 1 x 14-cm mid-range driver, 12 x 17-cm woofers, 14 x D/A converters (250 W), 1 x A/D converter | **Features:** switchable distance control (14 settings), high and low shelf with 17 presets or freely programmable using the Kii CONTROL, volume control (RC5 compatible), programmable mute | **Connections:** XLR (analog and AES/EBU), KiiLink, optional S/PDIF, TOSLINK, and USB on the CONTROL, the DAC processes max. 32/384 (only USB), Bluetooth | **Frequency response:** 20 Hz to 25 kHz | **Finish:** high-gloss white, graphite matte metallic, other colors available for an additional fee (starting at €950); test model: red metallic | **Accessories:** stands (€1,000/pair), wall mounts (€270/unit) | **Dimensions (W/H/D):** 20/120/40 cm | **Weight:** 51 kg | **Warranty period:** two years (five years after registration) | **Price:** about €30,350 (THREE + BXT including CONTROL), about €13,500 (only THREE including CONTROL)

Kii Audio | Drosselweg 45 | 51467 Bergisch Gladbach | Germany | Telephone +49 2202 2356289 | www.kiiaudio.com

The 25 best tips for better listening—Part III

HAVE A LISTEN TO THIS!

By Jochen Reinecke

RELAX!

OR: GETTING ALONG WITH THE NEIGHBORS.

Of course, anyone who knows a thing or two will immediately ask: Why 25 tips? Why not 100, 1000 or some other number that looks much cooler than this arbitrary 25? Why not 1001?

It goes without saying, that for a true high-ender, when it comes to getting a better sound from a hi-fi system, no expense is too high, no explanation is too abstruse, and no wallet is too thick. It is easy to get lost among all the temptations.

Now and then, it's simply time to approach this incredibly cool hi-fi-system thing "from scratch" (once again). But perhaps you also want to introduce a brand-new hi-fi acquaintance to the basics of your hobby without immediately scaring them off with crazy sums or bizarre rituals. That comes later. Maybe. Hopefully.

This 25-part quick guide for better listening is intended as a brazen, entertaining (re-) introduction to the topic. Here, even those

who think they already know it all are given fresh food for thought, things to discuss, and suggestions. Of course, we are aware that as you get deeper into this topic, each new experience also raises new questions and demonstrates new aspects. Eventually you reach a point where not even 1000 tips are anywhere near enough.

On that note, have fun! And welcome to the second-most important topic in the world. Here is part three: tips 5 and 6. ▶

№1 NA HÖREN SIE MAL!
DIE 25 BESTEN TIPPS FÜR BESSERES HÖREN

Die 25 besten Tipps für besseres Hören

Have a listen to this!
The 25 best tips for better listening

NA HÖREN SIE MAL!

Technics

EDITION FIDELITY

Tip 7 Size Matters

Laufsprecher

7 Size Matters

KOMPAKT- ODER STANDBOX?

Angenommen, eine gute Fee kommt vorbei, drückt Ihnen 2000 Euro in die Hand und fordert Sie auf, sich speziellen Gegenwert zu entscheiden, Was nehmen Sie: Die Standbox, oder? – Reingefallen.

Viele Menschen glauben, dass große Lautsprecher mit vielen Treibern besser klingen als kleine. Oft genug ist es im gleichen Preissegment – exakt andersherum. Je größer ein Gehäuse, desto schwieriger und teurer ist es, dieses frei von ungewünschten Vibrationen zu halten. Je größer das Gehäuse, desto teurer ist es in der Herstellung – und desto weniger Geld bleibt übrig, um den Rest (Treiber, Frequenzweichen, Innenverkabelung, Dämmung) zu finanzieren. Und wenn Sie vier statt zwei Treiber mit dem gleichen Budget einkaufen müssen, dann leidet logischerweise die Qualität der Treiber.

Dies ist kein Generallösungsgriff auf Standlautsprecher, sondern ein Plädoyer dafür, auch Kompaktlautsprecher eine Chance zu geben. Das kann nämlich sehr lohnend sein. Bei Kompaktlautsprechern erleben wir – zusätzlich zu den oben genannten Vorzügen – auch häufig eine kohärentere Mischung, desto geringer sind die Laufzeitunterschiede, werden Phasenschieferungen zwischen den einzelnen Treibern, Resonanz von Verstärkern, Abstrahlung bestimmter Größen und Abstrahlwinkel weniger als bei Kompaktlautsprechern. Auch können sie oft den Raum gleichmäßiger und flächiger mit Klang füllen. Und wenn Sie Kinder haben: Nicht zuletzt reagieren sie etwas stoischer auf das Anprallen eines Bobblycars als ein Kompaktsystem auf einem fragilen Stand. Der Stand, das ist in der persönlichen Gesamtbudget mit aufzunehmen, wenn es denn eine Kompaktsystem sein soll.

Fazit: Gehen Sie unvoreingenommen an die Boxenfrage heran und legen Sie sich nicht schon zuvor auf Stand- oder Kompaktsystem fest. Das sollten Sie erst tun, wenn Sie ausgeübte Probe gehört haben – und zwar beide Varianten.

Size Matters.
Compact or tower speakers?
Let's assume for a moment that Lady Bountiful stops by and hands you 2000 euros and challenges you to decide, between tower and compact speakers priced at that level. Which do you go for? The tower, right? – Fooled you.

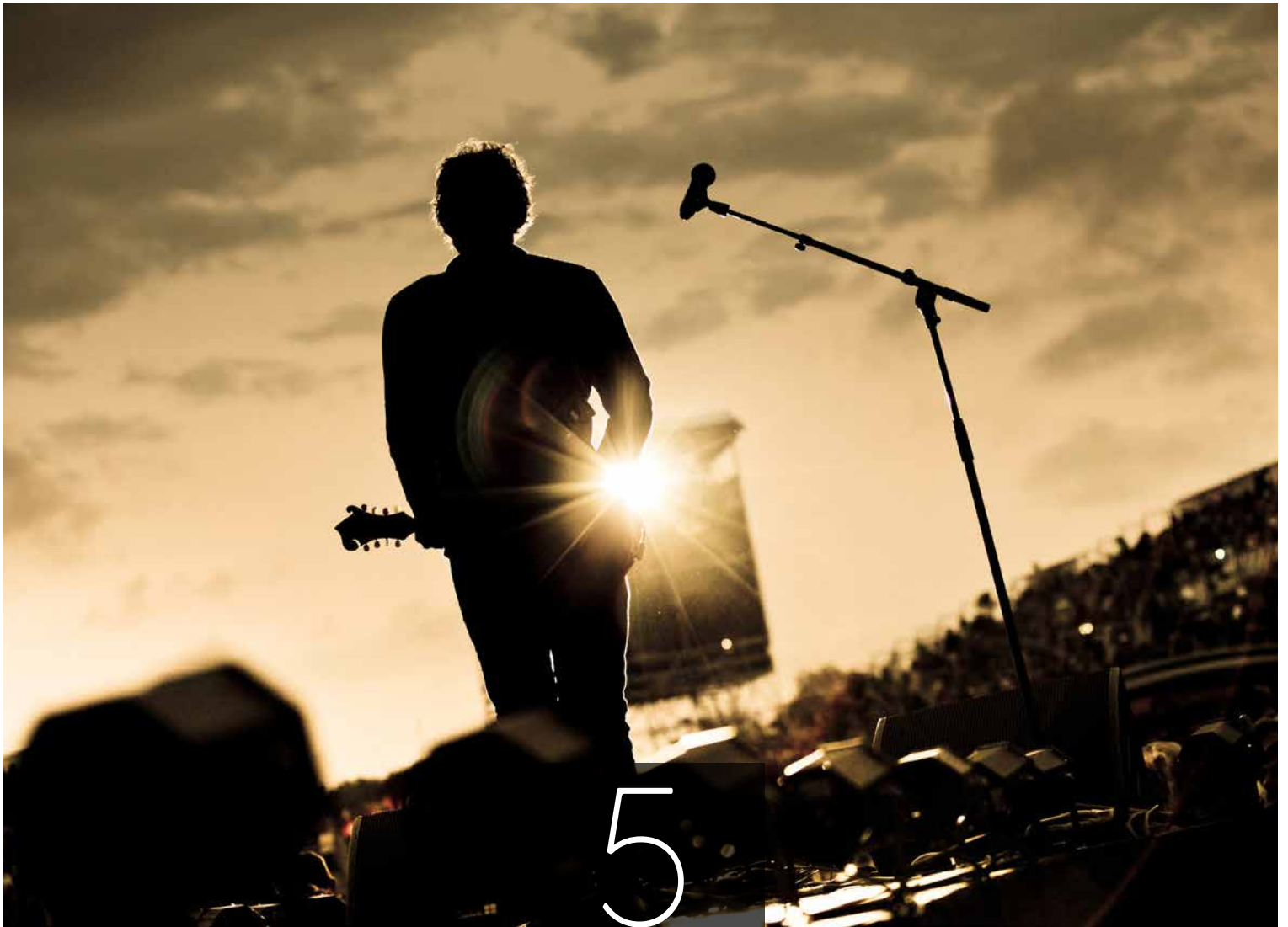
A lot of people believe that large, multi-driver loudspeakers deliver a better sound than small ones. Often price segment. The bigger a cabinet, the harder and more expensive it is to keep it free of unwanted vibrations. The bigger the cabinet, the more expensive it is to the rest (drivers, crossover, internal cabling, insulation). And if you have to purchase four drivers instead of two with the same budget at your disposal, then obviously the quality of the drivers will be compromised.

This is no all-out attack on tower speakers, but rather a plea to give compact loudspeakers a chance too, because they can be very much worth your while. In our experience compact loudspeakers also frequently provide a more coherent sense of spatial expression – in addition to the above-mentioned benefits. The fewer the number of drivers that need to be "coordinated", the lower the run-time differences and phase shifts between the individual drivers.

Of course tower speakers also feature a range of benefits: Starting at a certain size and listening volume, they can simply deliver a deep bass sound better than compact loudspeakers. They can also often fill a room with a more uniform and extensive sound. And if you have children, but not least they can take the impact of a Bobblycar more to their stride than compact speakers on fragile pedestals. Admittedly you still have to factor the pedestals into your total budget, if compact speakers are what you want.

Conclusion: Approach the matter in an unbiased way and don't decide on tower or compact speakers before you even get started. You should only do that once you have conducted an extensive number of listening tests – and indeed on both versions.

Die 25 besten Tipps für besseres Hören – 013



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AS YOU LIKE IT. WHICH SYSTEM DOVETAILS WITH WHICH KIND OF MUSIC?

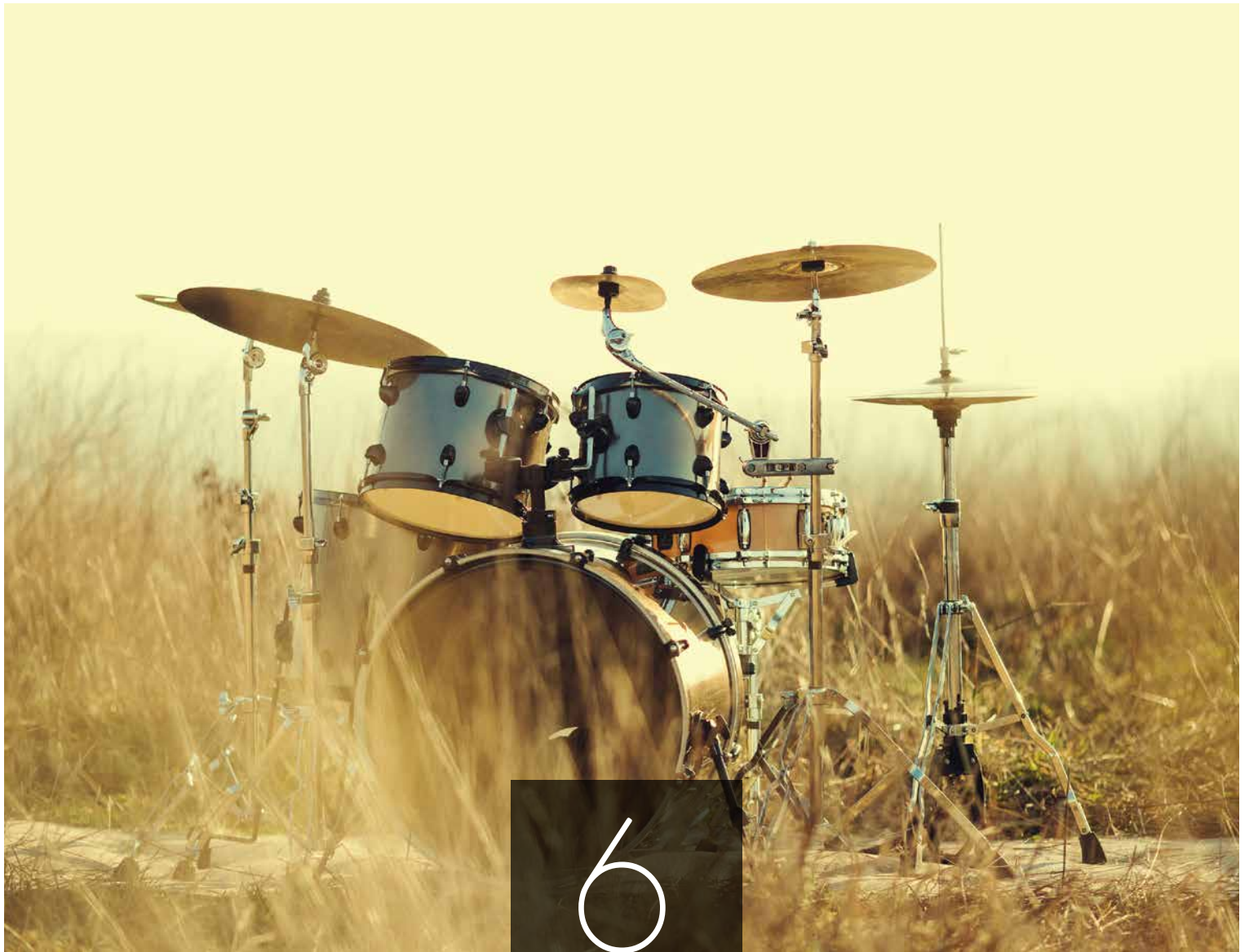
(You can skip this Tip if you are one of those “listeners with an eclectic taste in music”, if Johann Sebastian Bach is to be found right next to Joy Division and Joy Fleming in your CD-rack.)

When people set about configuring a hi-fi system, the one issue that amazingly they don’t address with any degree of frequency is their preferred style of music. That is astonishing, because if you buy a car for instance, you have a clear idea of what you intend to use it for. If you have four children and live on a farm, you would presumably not purchase a Triumph Spitfire as your main automobile.

If you have a definite musical preference and listen predominantly to classical music, jazz, electronic (synthesizer) or hardcore sounds, it makes sense to consider what particular characteristics your favorite music has. As far as classical music is concerned, relevant issues here include high-resolution/high-definition, auditory spaciousness and dynamic

range. As far as jazz is concerned, dynamic range is also a key issue, but so is a certain “live sensation”. If you listen to electronic or hardcore sounds, you need “steady” electronics and loudspeakers, because both musical genres involve a great deal of bass.

So before you sally forth to buy a new hi-fi system, just spend a few days taking stock, listen to your favorite music and give some thought to what you like about the system you have right now—and about what you don’t like. And what about the naturalness of the sound—do the instruments sound authentic? What is voice reproduction like? Do you sense enough bass boost? Does the stereophonic platform convey a sense of being broad or narrow? How does your system cope with high-to low-volume jumps? Contrast your observations with the playback characteristics that are essential for the enjoyment of your favorite music. Then you have made useful progress and, by applying the following Tips, can now find the hi-fi components and loudspeakers that best accentuate your musical tastes. ▶



"JUST DO AS YOU PLEASE!" WHY NOT BUY ONE, TWO, SEVERAL SYSTEMS!

Are you always in such a good mood? Or do you sometimes feel lucky, sad, tired, mad and in love? There are many moods and the same applies to the music that you like listening to depending on what mood you are in.

That can also be applied to stereo systems. If you are currently intending to invest a larger sum of money in such a system, then not every piece of equipment has to be the biggest, the most expensive or the most prestigious version available. Perhaps spare a thought about what it might be like to own a main and an ancillary system.

In many audiophile households the secondary system trend is gaining popularity. The main system, which delivers not only better performance but also more potential cachet, is often located in what civilized people call the “lounge”. And in the bedroom or home-office/workroom you often find a slimmed-down, specific-purpose mini-chain, consisting for example of a digital iPod dock and an active loudspeaker with digital

input port. Or of a CD-player along with triode amplifier and broadband loudspeakers.

A pretty funky alternative is to use a music server connected to a number of clients in several living areas. This enables you to fill your lounge, bedroom, dining room, kitchen and home-office/workroom with sound from a central source—and depending on what type of device you have installed with different music too.

Whatever the case may be—such solutions not only allow you to base your choice on different sound characteristics but also enable you to listen to premium-quality music in a relaxed fashion, if your partner is occupying the lounge by staging her afternoon coffee party or a round of poker with his buddies.

So pause for a moment before you allocate your budget and think about your day-to-day routines—and how you get the issue of hi-fi to dovetail with those routines. ■

Photo Credit: © www.outofthebox.art, Olivier Carrel



Anyone who happened to be passing by Munich’s Ostbahnhof station on January 24 must have been shocked to say the least. There, if they’d looked up, they would have seen a grand piano dangling midair from a construction crane—all part of the Out Of The Box Festival performance titled “Piano Vertical.” ▶

64: Emperor Nero’s (alleged) spontaneous concert during the Great Fire of Rome

1912: The Titanic sinks – with the Ragtime Ensemble playing until the very end

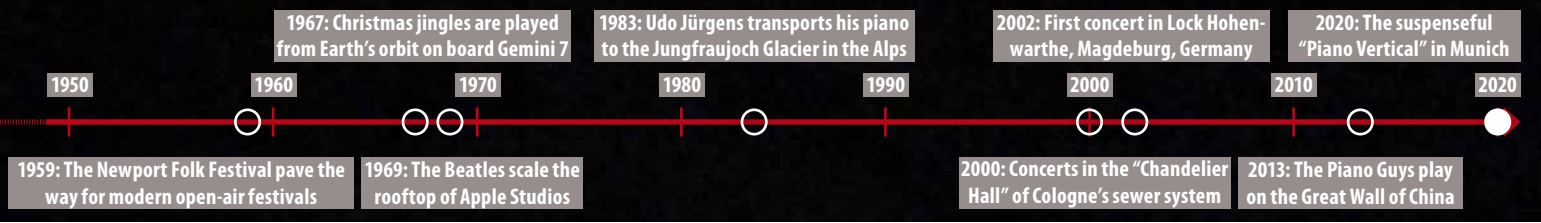


1717: Handel’s *Water Music* perform on the River Thames

Photo Credit: © www.outofthebox.art, Olivier Carrel



The Festival had been thrilling its audiences with numerous extraordinary events. The man at the keys hanging in the air sat was Swiss pianist Alain Roche, and it wasn't just his position that was unusual: The audience had gathered at 6:30 in the morning in the excavation pit for the new concert hall in Bavaria's capital — while all around them, construction work steadily picked up the pace.

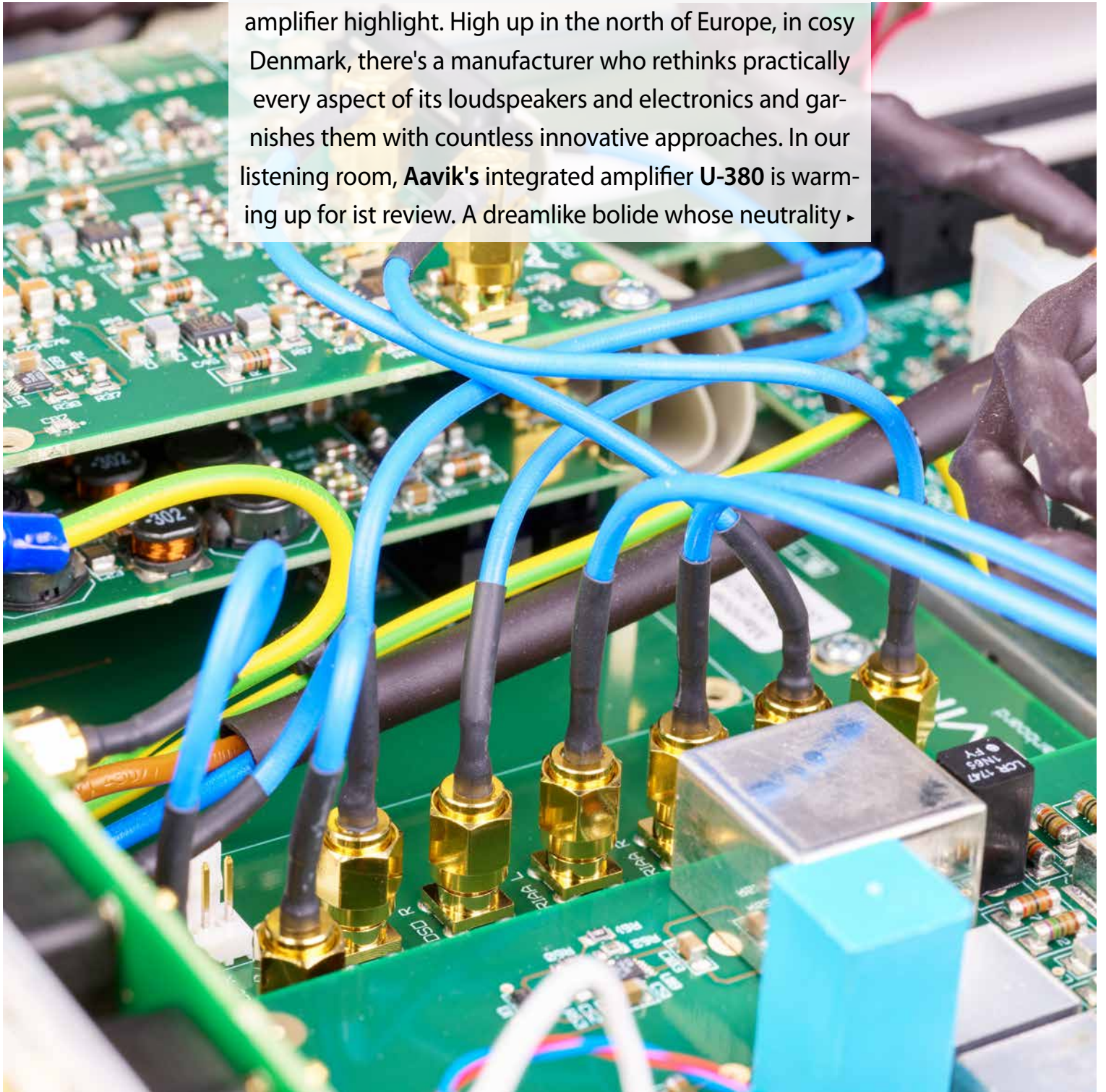


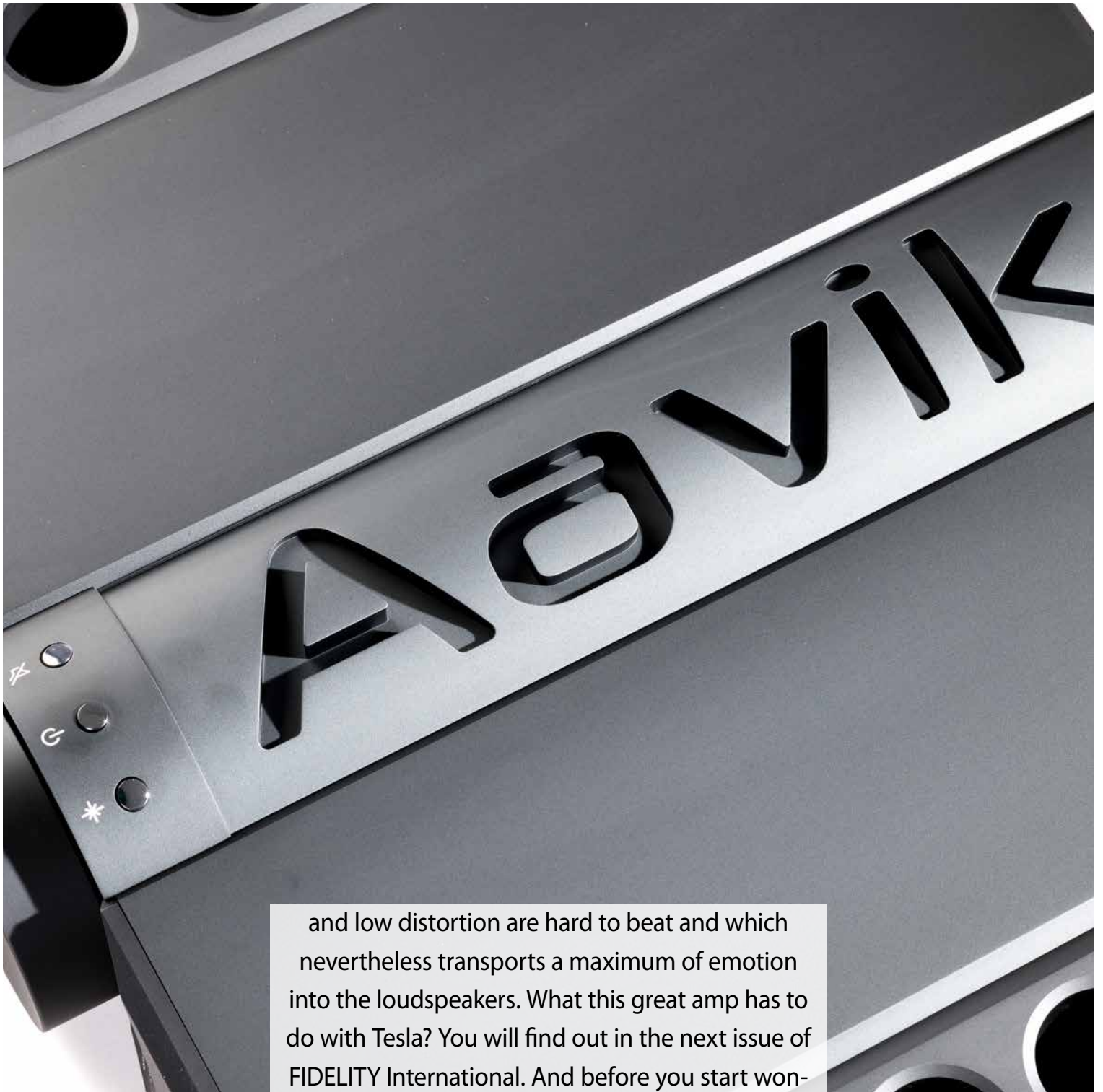
PREVIEW

FIDELITY international No. 16

Dear readers,

For the upcoming issue we have secured the ultimate amplifier highlight. High up in the north of Europe, in cosy Denmark, there's a manufacturer who rethinks practically every aspect of its loudspeakers and electronics and garnishes them with countless innovative approaches. In our listening room, **Aavik's** integrated amplifier **U-380** is warming up for its review. A dreamlike bolide whose neutrality ▶





and low distortion are hard to beat and which nevertheless transports a maximum of emotion into the loudspeakers. What this great amp has to do with Tesla? You will find out in the next issue of FIDELITY International. And before you start wondering whether we will dedicate the entire issue 16 to this one amp: No, of course not. Let us surprise you with the highlights we have planned for the future... FIDELITY international issue 16 will be available by the end of 2020. Or whenever it is ready.



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THE END

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