

FIDELITY

international



12

english



12

01/2019 • February/March/April 2019

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



„This is how music is
supposed to sound.“

JACOB COLLIER



Photo: Physics.com

What audiophile tube lovers dream of these days was originally born out of necessity. During World War II, anode plates for WE 300Bs, popular due to their power, became scarce and hence expensive. This led people to briefly switch to anodes woven from alternative conductive materials into the shape of a mesh grid. ►

1869 Elisha Gray and Enos N. Barton took over the Gray & Barton store.

1872 The store relocates to Chicago and changes its name to Western Electric Manufacturing Company.

1924–1933 Hawthorne Experiments take place with the discovery of the Hawthorne Effect.

1859 George Shawk founded an electrical store in Cleveland, Ohio.

July 24, 1915 The Eastland Disaster occurs in which more than 800 people die on the steamship the Eastland during a WE company outing.



► These days you can find a whole host of good and not-so-good replicas of the WE 300B, including those with so-called mesh-plate anodes. As is the case in our image, the majority of the models have, however, perforated sheets. Real mesh plates are, in contrast, very rare.

1925 Victor Orthophonic Victrola, the first phonograph (also) for domestic use, is available.

1936 WE-91A triode amplifier

1979 Jean Hiraga publishes an initial article on the WE 300B, thus triggering its renaissance.

2018 The WE 300B is reissued for its 80th anniversary.

1925

1950

1975

2000

2025

August 5, 1926 The Vitaphone provides the sounds for the premiere of the silent movie Don Juan.

1933 WE 300A 1938 WE 300B

1988 End of WE 300B production

1997 Faithful, exact replica of 300B is produced by Westrex Corporation in Kansas City

Formula xHD

- Proprietary Optologic DAC
- Pure FPGA-based R2R Ladder
- Fully-floating (isolating) D/A converter system
- Hybrid USB xCore 200 (dual core) in Bit Perfect up to 768 kHz PCM and DSD 512
- Filterless Non-oversampling digital architecture



Unconventional DNA



La Voce S3 dac



La Scala Optologic dac



Formula xHD dac



La Diva cd transport

Carsten Barnbeck,
Editor in Chief



DEAR READERS,

That network technology and streaming will revolutionize music playback is as certain as hearing an amen in a church. The effects of this development can no longer be ignored or brushed aside. Despite this growing realization over the years, even we were amazed when the Bundesverband Musikindustrie (Federal Music Industry Association, or BVMI) published its annual inventory for the past calendar year in mid-January. In a nutshell: The BVMI is the most important representative of the German music industry's interests. Its annual numbers game carries huge weight and delivers a clear message in the domestic market. The latest surveys show that the compact disc has again lost massive market share, this time 23 percent. That puts CDs in second place behind streaming platforms (Spotify, Youtube, etc.), which in turn gained record-breaking 40 percent. At this juncture, we should point out that these figures do, of course, only apply to the German market. We know that in many countries the baton had already been passed on quite a while ago. For example, in Scandinavia, the home

of Spotify and Tidal, the CD has lost all relevance. We Germans are known for being somewhat traditional and like to stick with what we're used to. We just don't like to give things up so quickly. For 36 years, we've remained faithful to the compact disc. During this time, more sales have been generated and discs produced than all other recording media combined. That makes these recent losses all the more serious. And their message is loud and clear: It's time to say goodbye to those shiny silver media carriers. Recent forecasts predict they will disappear from the market in the early 2020s. But don't worry: Physical media won't disappear completely. The vinyl record has conquered its niche and the analog boom appears to be here to stay for some time.

Best regards,
Carsten Barnbeck



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01/2019
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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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Please note: All items are listed with German retail prices (including sales tax) at the time of equipment evaluation.



WARWICK ACOUSTICS—FORMERLY KNOWN AS SONOMA ACOUSTICS—HAS LAUNCHED ITS VERY FIRST PRODUCT EVER, THE ELECTROSTATIC M1. WITH IT, THE COMPANY AIMS TO SET A NEW BENCHMARK IN TERMS OF SIGNAL FIDELITY. WHEN PUT TO THE TEST, THIS HIGH-QUALITY HEADPHONE SYSTEM WILL HAVE TO PROVE IT'S A FAITHFUL SERVANT FOR AUDIOPHILES IN SEARCH OF MUSICAL TRUTH.





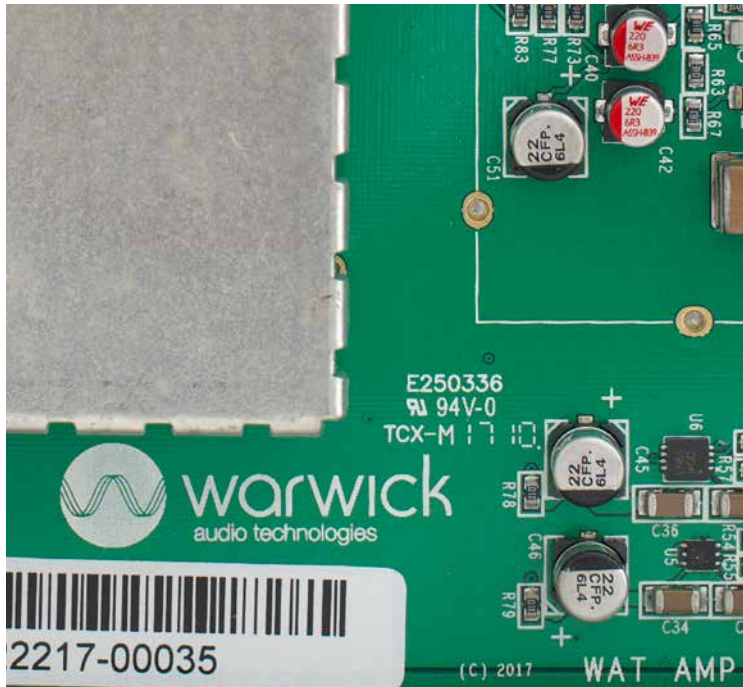
The Sonoma from Warwick Acoustics

DEBUT PRODUCT FROM SEASONED PROFES- SIONALS

By Harald Wittig. Photography: Harald Wittig







WARWICK
ACOUSTICS, THE
DEVELOPERS BEHIND
THE SONOMA
SYSTEM, HAS THEIR
FINGERPRINTS
ALL OVER THE
CIRCUIT BOARD.



A high-quality Coilcraft transformer is, of course, part and parcel of the high-quality circuitry.



The XMOS DSP is responsible for equalizing the incoming signals, and processes them to ensure optimum sound quality.

Headquartered in Warwickshire, in the UK, Warwick Acoustics is pursuing a very ambitious goal with its only product released to date, the Sonoma electrostatic headphone system: The company aims to thrill even extremely sensitive high-end fans who are addicted to all things hi-res, and it intends to do by delivering sound quality so impressive it'll make these folks' bat ears prick up. The name "Sonoma Acoustics" was a shrewd choice. After all, the Sonoma Workstation, the only professional DSD recording and editing system for SACD production on the professional audio scene, caught everyone's attention back in the day. The mastermind behind the Sonoma headphone system from Warwick Acoustics, Dan Anagnos, sought advice from the Sonoma workstation developers at the Super Audio Center in Colorado for designing and fine-tuning the Sonoma headphone system and got their blessing to use the name. Although this is not a product from SAC (Super Audio Center, which owns the Sonoma Workstation), the expertise of SAC's skilled team certainly contributed to the development of Warwick Acoustics' first-ever product to hit the market. The fine-sounding name is therefore anything but an audacious marketing gimmick. The Sonoma headphone system was developed by Warwick Acoustics Ltd. They came up with the concept behind the Sonoma system, which consists of the headphones (based on the electrostatic design principle) and the dedicated amplifier. Unlike, for example, the electrostatic forerunners from Stax, this headphone unit can only be powered by its own

amplifier, and for a good reason as we will soon see. Just to briefly touch on this point, the Sonoma system can be yours for a cool €5,700. Whether or not the system can be deemed a "good value for the money" will soon become apparent.

Let's start with the headset: The HPEL (High-Precision Electrostatic Laminate) transducer is truly unique and revolutionizes the electrostatic design principle, which, for a long time, was thought to have reached its full potential. In addition to the diaphragm being made from a 15-micrometer ultrathin film that provides the perfect conditions for achieving exceptional impulse response, the HPEL transducer manages with just one stator grid. Unusual for electrostatic headphones, a single stainless-steel mesh grid forms the antipole to the diaphragm in the Sonoma system. This enables the sound to reach the listener's ears directly and faithfully, the developers state. This would mean an initial step in the right direction has been taken in terms of signal fidelity. This, however, constitutes merely a baby step as sacrificing a second stator and not using the symmetrical design approach, which has stood the test of time for good reason, can result in unwelcome distortion. For this reason, the music signal is pre-equalized in the system's amplifier unit upfront. This action is handled purely digitally by means of a powerful DSP from XMOS that works with multicore computing power and is optimized for digital signal processing. Of course, analog signals need to be digitalized beforehand. This job is carried out by high-quality AKM converters that work

with a high resolution of 32 bit/384 kilohertz, high converter linearity, optimum dynamics and extremely low static. And while we're at it, let's mention the output side, too: the Sonoma headphone system uses two ESS Sabre Reference stereo DAC chips, each supplying one channel in mono mode in our Sonoma system.

Of course, an (analog) high-voltage amplifier is needed to drive the HPEL transducers. The manufacturer has gone all out here and has provided a discretely constructed FET amplifier that counterbalances the electrostatic converters' inherently capacitive load: For this reason, the 1,350-volt bias and the music signal, which has an amplitude of 145 volts thanks to the high-performance Class A power amplifier, optimally match the HPEL diaphragms. An obligatory look at the inner workings of the amplifier unit reveals a sight for sore eyes: a very clean circuit board layout. This backs up the manufacturer's claim that, during the design process, particular emphasis was placed on minimizing interfering signals.

Digitally rectified

Warwick Acoustics wanted to create an exceptionally neutral-sounding headset—that is, one with exceptional signal fidelity. Consequently, they tasked the DSP with linearizing the signals. The developers did not, however, lean toward a straight-line free-field frequency response, which, in their opinion, would have been unrealistic anyway. Instead, they opted for the definitive ideal setup in the form of an ultralinear loudspeaker playing ▶

THE AMPLIFIER ACCEPTS
ANALOG SIGNALS,
WHICH ARE DIGITIZED BY
AKM CONVERTERS, AND
DIGITAL SIGNALS WITH A



RESOLUTION OF UP TO
24 BIT/192 KILOHERTZ
ARE PERMITTED THROUGH
THE S/PDIF INPUT.



in an acoustically optimized yet lively space. Achieving something like this using analog technology would have required a huge amount of effort. Digital technology makes this easier, more efficient, and, in the end, cheaper. Hardened analog enthusiasts will turn up their noses in indignation at such an idea, and I don't mind admitting that though I'm also a digital fan, I also felt a little resentful myself. But I also reminded myself that digital photography, for example, uses software to correct the residual errors of modern high-performance lenses, and this results in incredible images—all without überexpensive components and time-consuming, high-cost detailed manufacturing. So, why not use the latest technology for the benefit of great sound quality? Exactly! Despite digital equalization, the construction-related effort that went into the actual headset is significant: The diaphragm surfaces are, very noticeably, divided into eight honeycomb-shaped cells by the spacer made of Formex. The Sonoma developers did this to achieve a particularly beneficial resonance frequency. And the reason is clear: Instead of one single large resonance frequency, eight small resonance frequencies do the job. The overall average of these frequencies apparently only has a negligible effect on the frequency response. An extensive series of tests led to the different cell shapes and sizes and, according to the developers, the Sonoma's film diaphragm can be optimally processed—that is, shaped.

The headset itself is equally impressive. The unpretentious spot color is a stylish silver-gray, and the material of choice for the driver housing and the striking protective grids over the diaphragms is lightweight yet resilient magnesium. The headband also shimmers in silver-gray, but it's made from nylon; the internal steel band features a titanium coating. The headband pad and ear pads, made from top-grain sheepskin, definitely won't please any vegans out there, but they do ensure a lovely snug fit on your head. Interestingly, the ear pads are hand-stitched in Germany, though, in contrast, the words "Assembled in China" are openly and honestly embossed on the amplifier. At this price, does it really need to be assembled in China? Presumably yes, as otherwise—taking a quick glance at rival products out there—Warwick Acoustics wouldn't be able to sell the Sonoma system at this comparatively reasonable price.

While the headset does feel comfortable (I, that is, my head, could personally do with a little less contact pressure, however) because it weighs a mere 300 grams, the amplifier unit weighs in at a hefty 2.5+ kilos. The thick-walled housing made from solid, high-purity aluminum is sure to be partly to blame here. It consists of a U-shaped bottom section and a finger-thick aluminum cover panel with ventilation slots that match the protective mesh grids on the headphones. A

stand-out on the mirror-finish, thick front panel is the centrally positioned fader that, pretty unsurprisingly, serves as a digital volume control. A cute toggle switch is available for selecting the input, and there's a jack for the headset's connector cable. Specialist Straight Wire provided the cable, which boasts low capacitance and features a self-latching connector and overall workmanship that inspires confidence. The USB cable, made by the same company and supplied as standard, boasts the same level of workmanship as well. The amplifier also works as a USB interface with a maximum resolution of 32 bit/384 kilohertz. This requires a special driver for Windows PCs (which can be downloaded from <https://warwick-acoustics.com/headphones/support/>), however Mac users can simply plug and play. And that's exactly what we did.

From strength to strength

Admittedly, I had to accept one little fly in the ointment: The Sonoma interface doesn't allow you to circumvent the internal jitter killer; it always generates its own clock by means of a clearly high-quality Crystek oscillator and TI/Burr-Brown chip. My benchmark interface, the Mutec MC-3+USB, initially supplied the Sonoma with digital signals, but it didn't leave them untouched. Okay, yes—if everything with the sound is going swimmingly, then... ▶

AN INSEPARABLE PAIR: THE SONOMA
ELECTROSTATIC HEADPHONES
AND THEIR AMPLIFIER/INTERFACE.
A STRIKINGLY SOLID ALUMINUM PANEL
WITH DISTINCTIVE VENTILATION
SLOTS PROTECTS THE AMPLIFIER'S
HIGH-TECH INNER WORKINGS.



A MANDATORY PART OF THE SONOMA SYSTEM IS THE HIGH-VOLTAGE AMPLIFIER, WHICH EQUALIZES AND LINEARIZES ALL SIGNALS IN THE DSP. IT CAN ALSO BE USED AS A USB INTERFACE WITH 32-BIT/384-KILOHERTZ MAXIMUM RESOLUTION.



THREE STATUS LEDs LET YOU KNOW WHICH INPUT IS ACTIVE. IF THERE IS A SIGNAL, THE LED TURNS FROM RED TO WHITE.



The Sonoma from Warwick Acoustics
Thanks to innovative and exclusive technology, this is an electrostatic system delivering extreme signal fidelity—perfect for anyone with a passion for details.

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

ACCOMPANYING EQUIPMENT

USB interface and DACs: Mutech MC-3+USB, Mytek Digital Stereo192-DSD DAC, Violectric V800 | **Computers:** Apple MacBook Pro/Wortmann MultiBook | **Software players:** Audirvana Plus 2/Foobar 2000 | **Headphones:** AKG K 702 Studio, Beyerdynamic T1 | **Headphone amplifier:** Violectric HPA V200

Armed with a standard HD edition (24 bit/192 kilohertz) of one of my favorite test pieces, “Yours Is No Disgrace” from the outstanding album *Yes* by the legendary British progressive rock band of the same name, the Sonoma system made it crystal clear that the sound quality was actually expansive. The opening lead-in chords, which always remind me a bit of the *Bonanza* theme song, sounded so precise and fully dynamic that I felt like my ears had broken out into a massive grin—and I really delighted in the ability to detect every little detail, and I mean, every little detail. Seldom has Steve Howe’s solo homage to Wes Montgomery sounded clearer, never has Chris Squire’s sublime Rickenbacker licks or Bill Bruford’s jazzy drumming had a richer tone, never have the vocal harmonies sounded more opulent, and never has Jon Anderson’s tenor voice reigned over the dense music with greater self-assurance. So I decided to say “Yes” to *Yes* and picked out the recently released 24-bit/192-kilohertz version of the classic *Close To The Edge* and fully immersed myself in the rich sound produced by the Sonoma system.

For the second time, the electrostatic system put its outstanding impulse response to good use, ensuring my ears picked out the transient attacks by the guitar and bass and the drummer’s characteristic rim shots. In addition, I noted extraordinary spatial representation—a phenomenon rarely achieved even by top-of-the-range headphones—and a bass remarkably deep for this type of headphones. The selectivity corresponds, in a figurative sense, to the modulation transfer of a Leica lens: All sound events are separated with exemplary precision; the Sonoma does not withhold anything and is, all in all, an outstanding servant for audiophiles in search of musical truth. This does, however, also mean that this system mercilessly lays bare any production weaknesses. The sound butler only gingerly picks up inherent audio-related youthful indiscretions and brings them to your ears’ attention with a contemptuously raised eyebrow. That butler’s right though—fair enough. So it’s best to only listen to top productions and let the high-quality Sonoma bathe you in the sounds of *Standards Vol. 1* by the Keith Jarrett Trio, Eric Johnson’s masterpiece

Ah Via Musicom, and Frank Sinatra’s *Come Dance With Me!* (all in 24-bit/192-kilohertz resolution). Make no mistake: The Sonoma system is worth its price tag if you have a fetish for high musical fidelity delivered straight to your ears. ■

Headphone | The Sonoma from Warwick Acoustics

Functional principle: electrostatic headphones featuring an open-back, circumaural design with customized DSP-optimized amplifier with USB interface functionality | **Digital inputs:** 1 x S/PDIF coaxial | **Digital outputs:** USB output | **Analog inputs:** 2 x unbalanced (RCA), 1 x 3.5 mm stereo jack | **Maximum resolution:** USB interface 32 bit/384 kHz and DSD64 and DSD128 via DoP | **Special features:** innovative electrostatic HPEL converters with just one stator grid, fully digital 64-bit fixed-point signal processing in the amplifier unit | **Finish:** magnesium ear cups, nylon headband, pad-and-ear headband, hand-stitched sheepskin pads | **Included as standard:** high-quality power-supply unit, connector cable, and USB cable from Straight Wire | **Headset weight:** 303 g | **Amplifier dimensions (W/H/D):** 19/5.7/29 cm | **Amplifier weight:** 2.5 kg | **Warranty period:** two years | **System price:** €5,700

<https://warwickacoustics.com/headphones/>



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

BROWSER

№ 01



Modern classic

It's tiny and flat as a flounder. Nevertheless, you shouldn't dismiss Pro-Jects MaiA2 (€ 500) as half a portion: The handy amp delivers 2 x 38 watts and offers a balanced spectrum of analog and digital inputs. Also on board are Bluetooth, USB for computers and—for the Austrian vinyl specialist—a matter of honour!—Phono MM and MC. The regulated output can even be used to drive a subwoofer. Should you prefer incognito listening? A full 6.3mm headphone jack was also thought of.

www.project-audio.com

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BROWSER № 01



Audiophile PC Retrofit Kit

We had already written off the era of classic sound cards. But there are still some and even some really exciting ones: A few weeks ago EVGA announced the “Nu Audio”. The heavily shielded plug-in card in PCIe format was created in cooperation with Audio Note and features circuits and components derived directly from the concepts of the sonorous British. Also on board is a top-class AKM converter, which we know from many superb HiFi DACs. The list price of € 230 is very digestible.

www.evga.com, www.audionote.co.uk

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BROWSER № 01

Room bender

Bohne Audio recently presented the new BB-10L. The attractively packaged floorstanding loudspeaker is handmade and is equipped with an active crossover and a dipole ribbon according to Bohne's in-house recipe. The custom-made external amplifiers are available in two versions: First as an integrated BA-250 (around € 3600) with Dirac room equalization and then as a dynamic preamplifier combination consisting of the four-channel BA-200 power plant (around € 3200) and the Dirac room correction via miniDSP SHD preamplifier (around € 1590).

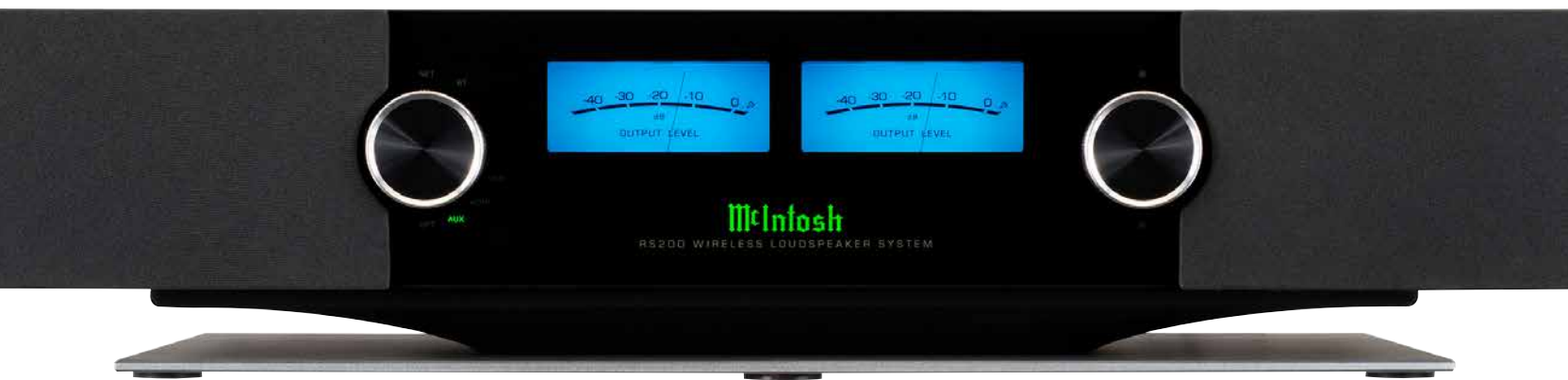
www.bohne-audio.com

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BROWSER

№ 01



Wireless music chest

On the occasion of its 70th anniversary McIntosh seems to develop a real play instinct when exploring new case formats: With the “Wireless Speaker System” RS200, the Americans package state-of-the-art technology in the most classic console case. The system has internal loudspeakers and is driven by a massive 650 watts of power. The focus lies on cordless music: Streaming via Airplay2, Bluetooth, Play-Fi or DLNA—power: plug into the wall and off you go. But don’t worry—of course there are also analogue and digital inputs for classic stripping goods. The price is not official yet, but there is a rumour on the net that it is “around 3000 US dollars”.

www.mcintoshlabs.com

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BROWSER № 01



HiFiMans Junior

The name of the great senior stands for a mythical place where eternal harmony and contentment reign. Nomen est Omen: whoever dives into his music with the sublime “Shangri La” might think he is quite close to these feelings. Now the busy headphone pros bring in... ahem... “small” model with the name suffix Junior (Jr.), which is technically based on the finesses of its ancestor and also has an elaborate tube food part along with amplification. The individual prices are € 5000 (electronics) and € 4500 (handset), the package costs € 8500 and comes in a stylish and harmonious flight case.

www.hifiman.com

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The intersection between the general and high-end markets? The BB-15's woofers openly reveal their housings. And even when it comes to their playback, they don't lean toward cosmetics.

Bohne BB-15

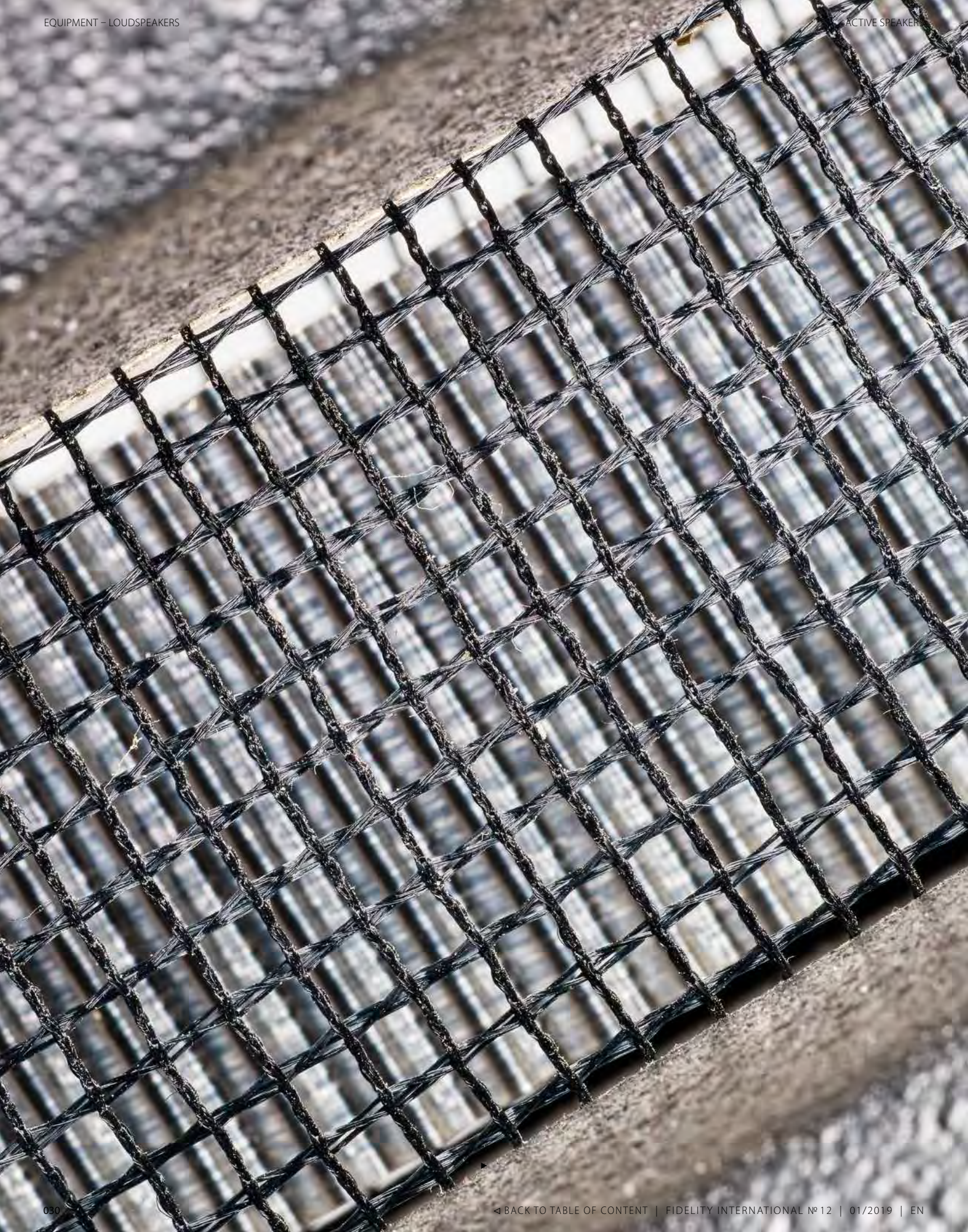
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By Helmut Hack. Photography: Ingo Schulz



LOUDSPEAKERS LIKE THE BB-15S ARE JUST THE LAST LINK IN THE INNOVATIVE BOHNE SYSTEM'S CHAIN.

▶





A necessary transformer elevates the impedance of the razor-thin ribbon to an amplifier-friendly level; openly exposed, it's secured to the back wall of the BB-15's housing.

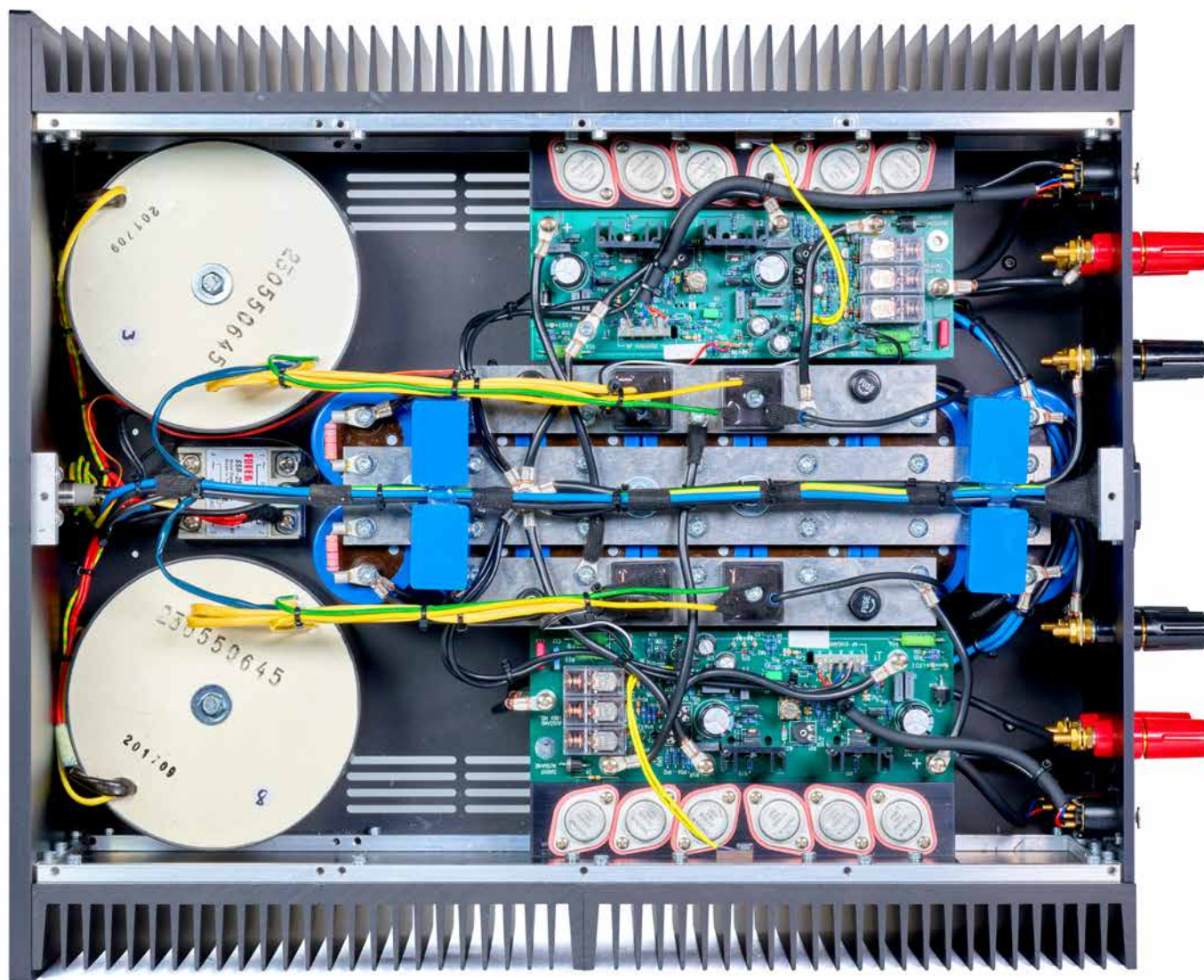
Partially active or fully active and digitally equalized. For years, I've been adjusting to the major revolution on the loudspeaker market that saw a return to amplification and sound conversion forming one single optimized unit. But the pace of technical development is accelerating and the capabilities of digital active crossovers are growing faster than what's evident in terms of market penetration. High-end

customers are clearly sticking to the often tough, laborious, and tedious process of pairing amplifiers and passive loudspeakers. Fully active, digital systems such as those from Jörg Bohne do, however, really demonstrate precisely what modern, perfectly coordinated components are capable of. And no matter how many times you read the taboo word "digital" in the product description, the BB-15s still don't lose any of their charming qualities.

You could do a lot worse than turn to a 15-inch JBL chassis, modified by none other than Bohne himself, when creating the basis of your full-range loudspeaker. The luxury chassis is assembled in such a way that the BB-15 instantly indicates it has no plans to blend in quietly or just assume the role of accommodating pleaser. The woofer's screws could've also been concealed behind a cover or the woofer itself could have been screwed into ►

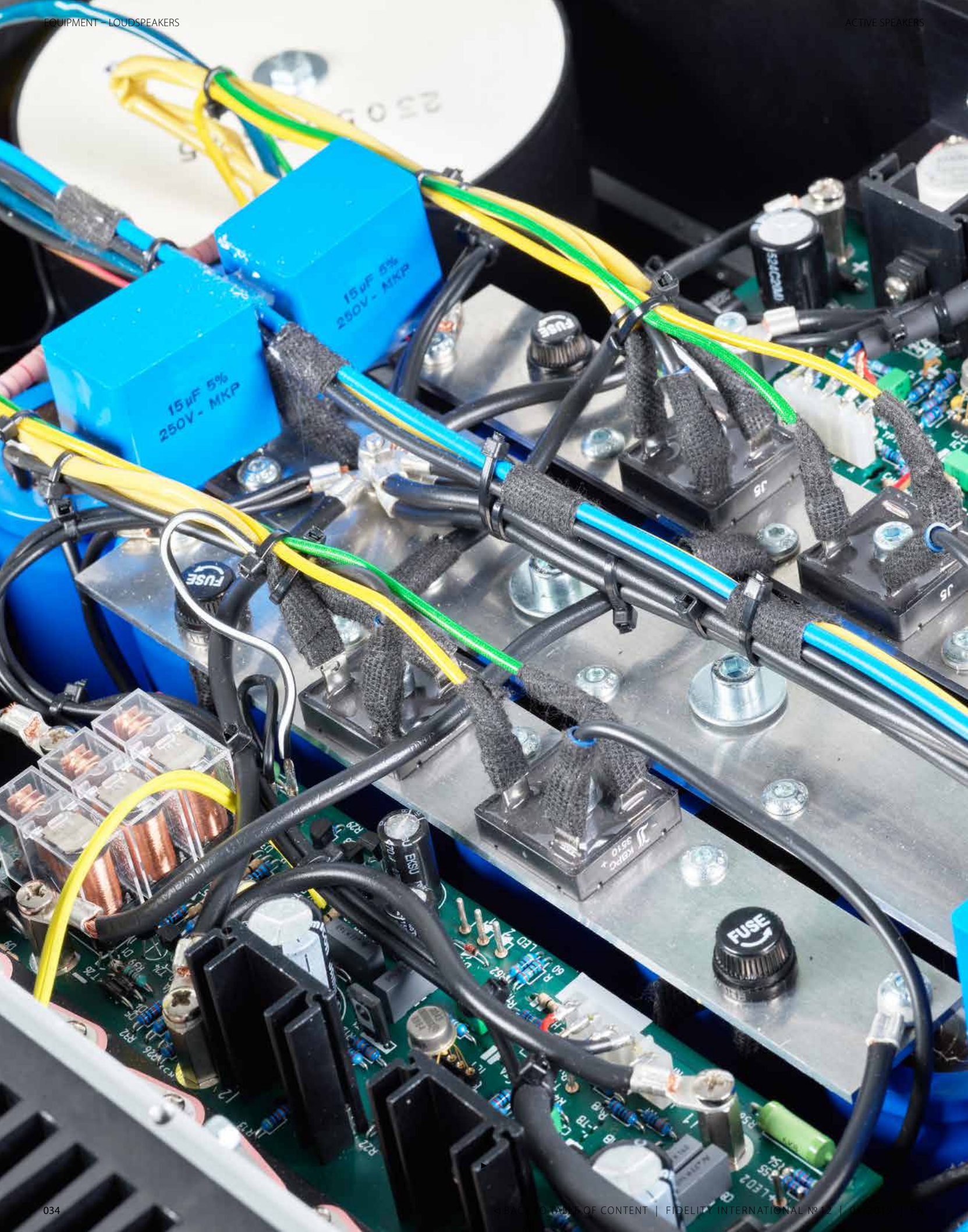


Bohne Audio's sophisticatedly constructed and robustly built BA-300 MOSFET power amplifier left an outstanding impression...



...and as a whole performed far beyond its price. BA-300 and BB-15 form a unit of two parts perfectly attuned to each other, but nevertheless it's theoretically possible to pair these with other four-channel power amplifiers as well.







a waveguide from behind. The BB-15 does not, however, feature any superfluous embellishments—an observation that also applies to the sound it produces. The chassis's main selling point is and remains the long mid-range tweeter ribbon, which was fully developed in-house at Böhme Audio and enjoys at least an equally long history. You should also know that when it comes to tweeters, Böhme really is the man. He's been responsible for creating entire family units of silk dome tweeters and family trees of related ribbons. Only the most resilient models survived with him longer than the intro to "Stairway to Heaven;" the majority took the elevator, just to stick with the same metaphor. Böhme has nothing against horns (a possible solution to the dilemma), but he does see them as outdated. Compensating for insufficient amplifier power means applying efficiency, which in turn comes at the price of tonal discolorations; the original reason for using horns has since, however, grown obsolete as amplifier power is now virtually unlimited. Böhme also didn't want to forgo the high resolution of a ribbon tweeter just because there wasn't a sufficiently resilient model available on the market. What's more, his two-way concept had been determined, and many air motion transformers (AMTs) or such

qualitatively comparable alternatives as ion or beryllium tweeters can only be used in excess of 2,000 hertz. This meant he had no other option than to develop his own ribbon.

The BB-15's specially coated aluminum ribbon is 30 centimeters long and kicks in as early as 650 hertz, joining the musical event with a very steep slope. For this type of mid-range tweeter that is extraordinarily low and provides an indication of the Böhme system's power-handling capacity. The ribbon is housed in a sturdy structure that uses simple socket outlets and plugs for the electrical connection and is locked into place in the bass reflex's body. It also has a specially wound transformer in the, not to be ignored, *open* back—so it's a dipole ribbon. Such two-way concepts with ribbons often lack pressure and color in the mid-range, particularly when large-diameter bases are involved. Luckily, the same cannot be said of the BB-15, which delivers high resolution in the treble and liveliness in the mid-range in equal measure, however both without any added extras, embellishments, or artificial warmth. The BB-15 creates that live sensation, which also means there's a sense of absolute dryness and directness—an effect that could initially prove rather disconcerting for hi-fi-conditioned ears.

And that essentially pretty much sums up the sound description. Otherwise, you'll get the impression you're reading a standard loudspeaker test report. However, a test with the main goal of trying to assess the developer's sound philosophy on the basis of his or her fine-tuning is out of the question for the BB-15. Those of us used to passive loudspeakers with conventional crossovers need to change our thinking: Apart from insulating materials, the inside of a Böhme BB-15 consists of just the JBL PA driver; even the ribbon isn't protected by a resistor or capacitor. That means both chassis are, so to speak, directly attached to the loudspeaker cable if you disregard the ribbon's necessary transformer. I would take this moment to remind you of the atrocities from Böhme's past and urge you to learn the relevant lessons from them: Don't simply connect an output stage to the BB-15 or fail to pay enough attention to the cabling. This can spell the premature end of the ribbon.

Fully active and digitally equalized playback must begin with amplification in order to assign the drivers their operating ranges. That doesn't mean you have to abandon your beloved output stages or refrain from carrying out sound comparisons between different manufacturers' amplifiers. It just ►

Through its modular design, the Böhne ribbon is simply plugged into the socket and affixed to the bass-reflex body.

The specially coated mid-range tweeter ribbon developed by Jörg Böhne is the centerpiece of the BB-15. It measures at 30 centimeters and makes its presence within a given music experience known at a high frequency of 650 hertz.



Bohne BB-15
The BB-15 couldn't care less about noble restraint. The first row in front of the stage is this device's favorite reserved spot.

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

ACCOMPANYING EQUIPMENT
Turntables: Seismograph 1, AVM Inspiration 2.3, Transrotor Alto, Audio Note TT2, Acoustic Solid Solid Wood MPX, Clearaudio Innovation and Performance DC | **Tonearm:** Jelco SA750L, SME 5009, WTB 213, Clearaudio Universal and Tracer | **Headshell:** SteinMusic Ametrin-1 | **Cartridge:** Etsuro Urushi, Clearaudio Jubilee MC and DaVinci, Transrotor Merlo Reference, Ortofon MC 30 Supreme | **Phonostage preamplifiers:** Trinnov Amethyst (integrated), Esoteric E-02, Lyric Audio PS10, Einstein The Phono Amp, Cambridge Audio Duo | **CD-Player:** Ayon CD-3sx | **Preamplifier:** Trinnov Amethyst, Audia Flight Strumento No. 1 Mk II, Cambridge Audio Edge NQ | **Power Amplifier:** Trinnov Amethyst, Audia Flight Strumento No. 4 Mk II, Cambridge Audio Edge NQ | **Loudspeaker:** B&W 603, Piega Coax 511 | **Cable:** Tara Labs, Lehr Audio, in-akustik, AudioQuest, Vovox | **Accessories:** Audio Replas, Clearaudio, SteinMusic, IsoTek, Subbase Audio, Solidsteel

means it doesn't make much sense anymore once you've heard Bohne Audio's full package. This includes a DSP preamplifier, in our case the top, most expensive model, the Trinnov Amethyst, as reviewed in FIDELITY No. 33. The term "DSP preamplifier" does not, however, do it justice as the Amethyst is in fact a powerful Linux streamer with AD/DA converter and phono preamplifier and is super easy to operate despite its complexities: It streams simply and wirelessly, and is fully compatible with Roon. As delivered by Bohne, this extremely multi-talented control center of the future fundamentally knows about crossover frequency and damping thanks to an active two-way crossover, and yet it gives listeners plenty of freedom to adjust the sound profile to meet their own specific needs.

This starts with room correction using a 3-D microphone. Experienced hobbyists could definitely manage this themselves with the Trinnov, but Bohne likes to keep a firm grip on this important task himself. Even in the FIDELITY listening room, the very likable developer started by first creating optimum conditions. Our sofa usually sits on two euro pallets, thus raising its height by just under 15 centimeters, as in particular powerful floor-standing loudspeakers

often sound better like that. The pallets actually got the chop before the room measurements were even started. Thanks to Bohne's tried-and-tested routine, the entire process took less than 15 minutes: first position the measurement microphone, then analyze the frequency response in the room using optimizer software and correct immediately. He quickly identified and ironed out any problematic exaggerations. In my opinion, the result was clearly discernible and significantly better.

Bohne Audio offers even more cost-effective solutions as alternatives to the Trinnov preamplifier; but of course any standard and commercially available digital signal processor could essentially be looped in. However, the Amethyst is so easy to operate and its equalizing presets make it such a practical option that it left an unforgettable impression on me. Moreover, you've got to assume that such a largely digital preamplifier will also have an impact on the sound. Bohne had, of course, also brought along the compatible BA-300 four-channel MOSFET power amplifier, manufactured in-house. Its black aluminum cuboid housing leaves it looking rather unremarkable, but it does contain very sophisticated circuitry and did make an excellent overall impression.

During the first hour after Bohne had successfully installed the BB-15s in the editorial team's listening room, I flipped more or less arbitrarily through the Amethyst's presets. Such flat frequency response may seem suitable for long listening sessions but paradoxically it can get boring rather quickly; a small increase of three decibels over the entire process afforded the playback a certain shine and spiritedness, but it also demanded attention; with playback that fills the room with a slight drop in the treble level you can, in contrast, easily hold a lively conversation. The dilemma inherent in this loudspeaker test became apparent right at the start: The way the BB-15 sounds depends precisely on how you drive it. There are no irreversible errors in the wiring that you could reinterpret as strokes of genius.

You can only see the BB-15's true colors through abstraction. Silky treble, juicy mid-range, gnarly bass (the usual game) won't cut it here; as the listener, you have these parameters in the palm of your hand. To assess the Bohne BB-15, you have to search for the faint nuances or perhaps even the original shape of the sound. Streamed hi-res files actually sound fantastic, but you can't create mood lighting with neon lights, if you get my drift. In any ▶



case, despite all the attractive options, the source of the choice for breaking it in for my colleague Hans von Draminski's fastidious ears was mostly the Seismograph, complete with Jelco arm, SteinMusic headshell, and Clearaudio Jubilee MC cartridge.

You first have to torture yourself with hysterical and lethargic musical jumbles such as "Leaving California" before being rewarded with such real gems as "A Woman A Man Walked By," the title track of PJ Harvey's album. It seemingly all begins harmlessly with a chicken recipe, but quickly escalates into a furious reckoning

and revenge with all the little meaty parts—and that's actually the least terrifying interpretation—before a cheerful instrumental slow train picks up and removes the remains of the song. Suddenly, string and wind instruments, familiar from horror films and contemporary classical music, destroy the idyllic moment again, and as the fade-out starts, you feel a sense of relief gain. I wouldn't say the BB-15s transport you onto this musical roller-coaster ride by "sweeping you away." No, they rather push and shove you without warning to a place where you're left to fend for yourself. These loudspeakers create a bone-dry live

atmosphere that's miles apart from overly sophisticated high end. The dynamics of the unbridled ribbon proved to be breathtaking, and even in the mid-range, where PJ Harvey's voice meandered between menacingly resentful and psychopathically screechy, there was unquestionably one person, one voice, one (post-) punk sound source on the stage. Two tracks later, in "Pig Will Not," in which she yaps like an exceedingly snappy lapdog, the Bohne ribbon didn't sugarcoat a thing, and with her "fuck you, I'm more fucked up than you" attitude she extends a musical nod to Iggy Pop, not for the first time. ▶



The powerful drum accompaniment was perfect for the JBL woofers: Completely faultless, despite bass reflex no sign of any delay dragging along behind, short and to the point, brief and concise, but full, physically tangible, without booming. I don't want to sound overly gushy, as the successful room correction must have played a part in this, but, excluding actual live concerts, I can count on one hand the number of occasions when I've heard such uncompromisingly dry low-frequency playback. In contrast, many high-end loudspeakers, even in the highest price categories, sound downright like they were developed to move away from creating any impression of being live. To the best of my knowledge, I can say that overdamped competitors are mercilessly outranked by the punchy BB-15s.

It almost seems a little unfair that the mid-tweeter ribbon so seamlessly connects to the powerful bass range. Of course, its offset location on the speaker wasn't arbitrarily selected, and besides it's calibrated to the listening position; but it remains especially

astonishing how this thin strip of aluminum can replicate the body of an acoustic guitar, a grand piano, or a voice so perfectly even though the woofer's solid base provides plenty of opportunity for it to seem too light. In contrast with PJ Harvey, Katie Melua sounds like a Disney version of a songwriter, nonetheless "Wonderful Life" somehow came across quite well afterward. And it's revealing for the thrilling crossover range of the BB-15s. This track begins with nothing but a bright voice accompanied by an acoustic guitar, which let the ribbon freestyle and show exactly what it's made for: As directly and innocently as a flower child, Melua warbled away as if she just happened to be sitting in front of me on a flokati rug. It was as if no technical production stood between us. At that moment I would have actually felt guilty about criticizing the overly pure voice glossing over the track's nasty sarcasm. It was as if the casting-show winner could hear me as clearly as I could her. After around 30 seconds, the bass line kicked in and a second layer was added to the Black cover. The sound

profile experienced more pressure but didn't grow any fuller, the spotlighting and the musical fill level of the room no longer changed, the crossover range of the two very dissimilar chassis could not be discerned.

Opting for a loudspeaker concept like the one offered by Bohne Audio must be a conscious decision. The BB-15 will always tend to resist attempts to degrade it to a background sound system. Its unadorned, pared-down look commands attention and rewards you with a profound, enthralling musical experience. Loudspeakers for music lovers, not for high-end fans. ■

Loudspeaker | Bohne Audio BB-15

Functional principle: active two-way loudspeaker, bass reflex | **Frequency range:** 25 Hz–24 kHz (–3 dB) | **Equipment:** patented mid-range tweeter ribbon, modified JBL 15-inch woofer | **Sensitivity:** 97 dB (woofer), 99 dB (high-performance ribbon) | **Max. sound pressure level:** 123 dB | **Crossover frequency:** 650 Hz | **Finishes:** various veneers | **Dimensions (H/W/D):** 120/54/65 cm | **Weight:** 60 kg | **Warranty periods:** ten years for the loudspeaker and five years for the electronics | **Price for the pair:** €21,900 (test package: €32,500)

www.bohne-audio.com



KEF LSX

By Harald Wittig. Photography: Harald Wittig





_____The KEF range features a new active system. Called LSX, this digital stereo system aims to particularly appeal to fully digitalized, fashion-conscious music fans and convince them “high-resolution stereo speakers” are the right choice. This means, of course, each pair of LSXs can be operated the old-fashioned way with cables or wirelessly. The speakers are naturally also Bluetooth and Wi-Fi or network compatible and able to handle streaming thanks to a special app. KEF uses a master-slave configuration for this. As the system’s boss, the master has all the relevant interfaces, including an analog mini-jack input and a digital TosLink input. This also acts as the control center, while the slave, ever the

obedient subordinate, just offers a communication jack to create a secure connection between both partners using a standard LAN cable.

But the loudspeakers can communicate wirelessly as well thanks to their proprietary 2.4-gigahertz transmitter. The resolution is, however, then reduced to 24 bits/48 kilohertz, whereas the wired setup has a data rate of 24 bits/96 kilohertz. Nevertheless, the wireless option is a whole lot of fun as the system can be fully operated even with the pared-back remote control. The KEF Control app is an even better remote-control option. It’s available both in an Android and an iOS version and is exceptionally intuitive and user friendly. Its broad ►



use of instructional imagery ensures that all users, no matter their native languages, should be able to successfully work with the app. Streaming, whether over your own network or the online services Tidal and Spotify, requires a second app called KEF Stream. This may sound cumbersome and involved but actually isn't as the KEF Control app ultimately only needs to be used at the beginning and end of each listening session.

Signals are processed purely digitally, and the internal resolution is 24 bits/192 kilohertz; here, DSP—or, more specifically, the patented Music Integrity Engine—is employed to improve sound dispersion and reduce distortion. You can adjust the LSX system to the

listening room using downloadable software profiles. And, of course, manual fine-tuning can be done by ear. As standard, the loudspeakers are also fitted with KEF's signature feature, the coaxial Uni-Q driver array. Special designs are used for the LSX system: They consist of a 19-millimeter tweeter with aluminum dome and a 115-millimeter midrange bass with a magnesium-aluminum diaphragm. The chassis are certainly quite attractive. The LSX system, available in five vibrant colors, is definitely very impressive and something to show off. The housing features a nice color-coordinated textile fabric cover by Kvadrat that lends a visual pop to overall package. This makes the smartly clad active loudspeakers the perfect fit for any decor, especially given how ►



X-ray vision reveals an interesting design detail: The Uni-Q chassis is mounted to an interior support that secures it on the back. The result is a front panel without screws.

agreeably small they are and how nicely they can sit on any desk. Incidentally, “agreeably small” is not a description that applies to the speakers’ sound. These little beauties seriously pack a punch. For starters, the little KEFs are able to achieve something that normally only high-end systems’ loudspeakers can: The music detaches from the loudspeakers and floats with meticulous definition in the room. In terms of breadth and depth, the spatial representation is excellent, with a strong phantom center. That alone should provoke interest in these KEFs among those who move with the times and encourage them to chuck out their hip Bluetooth noise-makers.

Those of us who set extremely high standards attest to the LSX system’s well-balanced reproduction: remarkably powerful in the bass and ear-caressingly restrained in the presence range. It provides the perfect conditions for the grandiose opulence of *La Luna de Alejandra*, the latest release from flamenco guitarist Daniel Casares. The guitarist’s CD is a surefire hit for the 2018 “Best of” list while the KEFs have earned the prestigious label “highly recommended.” ■

Active wireless loudspeaker system | KEF LSX | Price for the pair: €1,199

<http://us.kef.com/>



ARTISTRY, THEORY AND PRACTICE ALL UNDER ONE ROOF

By Patrick Pohlmann. Photography: Manufacturer, Cai Brockmann (+), Ingo Schulz







Dieter Molitor



Volume up or down?

D. M.: *Up.* | **M. R.:** *Both.*

Analog or digital?

D. M.: *Analog.* | **M. R.:** *Both.*

Tube or transistor?

D. M.: *Tube.* | **M. R.:** *Both.*

Vinyl or download?

D. M. and M. R.: *Vinyl.*

Cross-country run or gym?

D. M. and M. R.: *Cross-country run.*

Trends or tradition?

D. M. and M. R.: *Tradition.*

Tea or coffee?

D. M. and M. R.: *Coffee.*

Salad or steak?

D. M.: *Salad.* | **M. R.:** *Steak.*

Wine or beer?

D. M.: *Both.* | **M. R.:** *Beer.*

Mountains or the sea?

D. M.: *Mountains.* | **M. R.:** *Both.*

Book or screen?

D. M. and M. R.: *Music!*

Jazz club or opera house?

D. M. and M. R.: *Jazz club.*

Bach or Beatles?

D. M.: *Beatles.* | **M. R.:** *Both.*

Wagner or Wacken?

D. M. and M. R.: *Wacken.*

Stand-by or plug out?

D. M.: *Plug out.* |

M. R.: *Stand-by.*

Volume up or down? ▶

A very quick interview with Dieter Molitor (D.M.) and Markus Reitz (M. R.), Owners of LIVE ACT AUDIO, where we wanted them to respond as fast as possible.



THE WAY WE DEAL WITH THE THINGS THAT HAPPEN TO US IN LIFE WILL OFTEN DEPEND ON HOW WE SEE THEM. MANY EXPERIENCES THAT INITIALLY MIGHT INFURIATE US TURN OUT, IN HINDSIGHT, TO BE A BLESSING IN DISGUISE. TAKE WHAT HAPPENED TO DIETER MOLITOR, FOR INSTANCE—HE SPENT YEARS WAITING FOR AN EXPENSIVE LOUDSPEAKER TO BE DELIVERED, ONLY TO BE BITTERLY DISAPPOINTED, BUT AT THE END OF THIS EXPERIENCE HE NOT ONLY FOUND HIS DREAM SPEAKER BUT EVEN SET UP HIS OWN HIGH-END MANUFACTURING COMPANY.



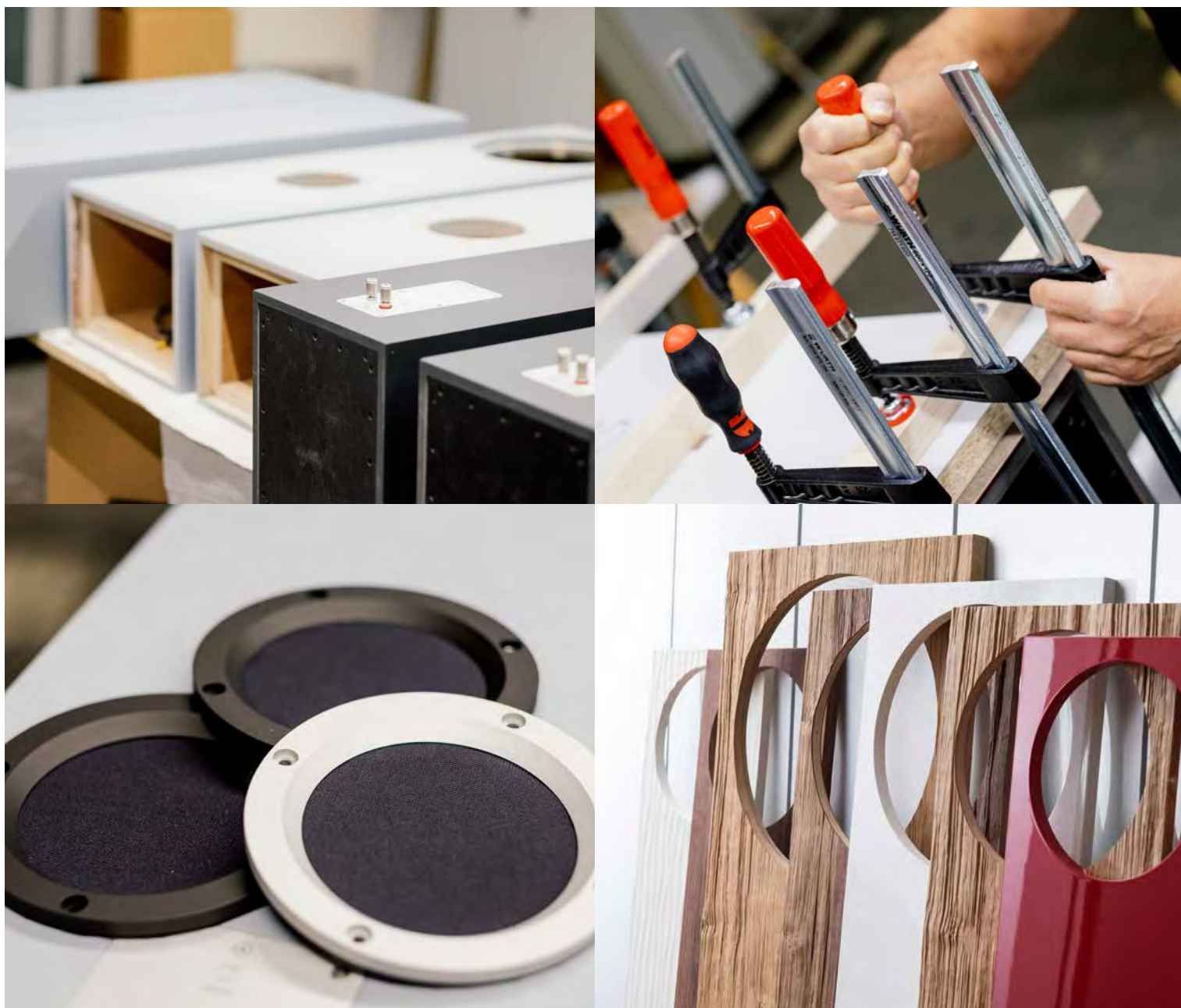


When Dieter Molitor placed an order for a coaxial speaker in 2012, which would spark the idea for him to set up his own loudspeaker brand three years later, he was actually winding down towards early retirement. After more than 25 years as the co-owner of one of Germany's largest bike stores, he was more than ready to stop working and concentrate primarily on his passion for music and all things hi-fi. Yet, six months later he sold his share in

MHW Bike House in Schwäbisch Hall and moved with his wife to Sonthofen in the Allgäu where he immediately set up the company MHW Audio. Initially for Molitor this was just a continuation of the hi-fi studio that he had previously been running alongside his cycling business. In addition to various brands of vinyl cleaning machines, turntables, amplifiers and headphones which Molitor showcased and sold in his living room, in-house produced loudspeakers

were soon added to the range of products for sale both in the showroom and online.

Dieter Molitor was born in 1957 in Stuttgart but was brought up in Schwäbisch Hall and was crazy about music from a very young age. It was in 1976, during an apprenticeship as part of his training to become an industrial business manager, that he got his first taste of the hi-fi industry. Despite ▶

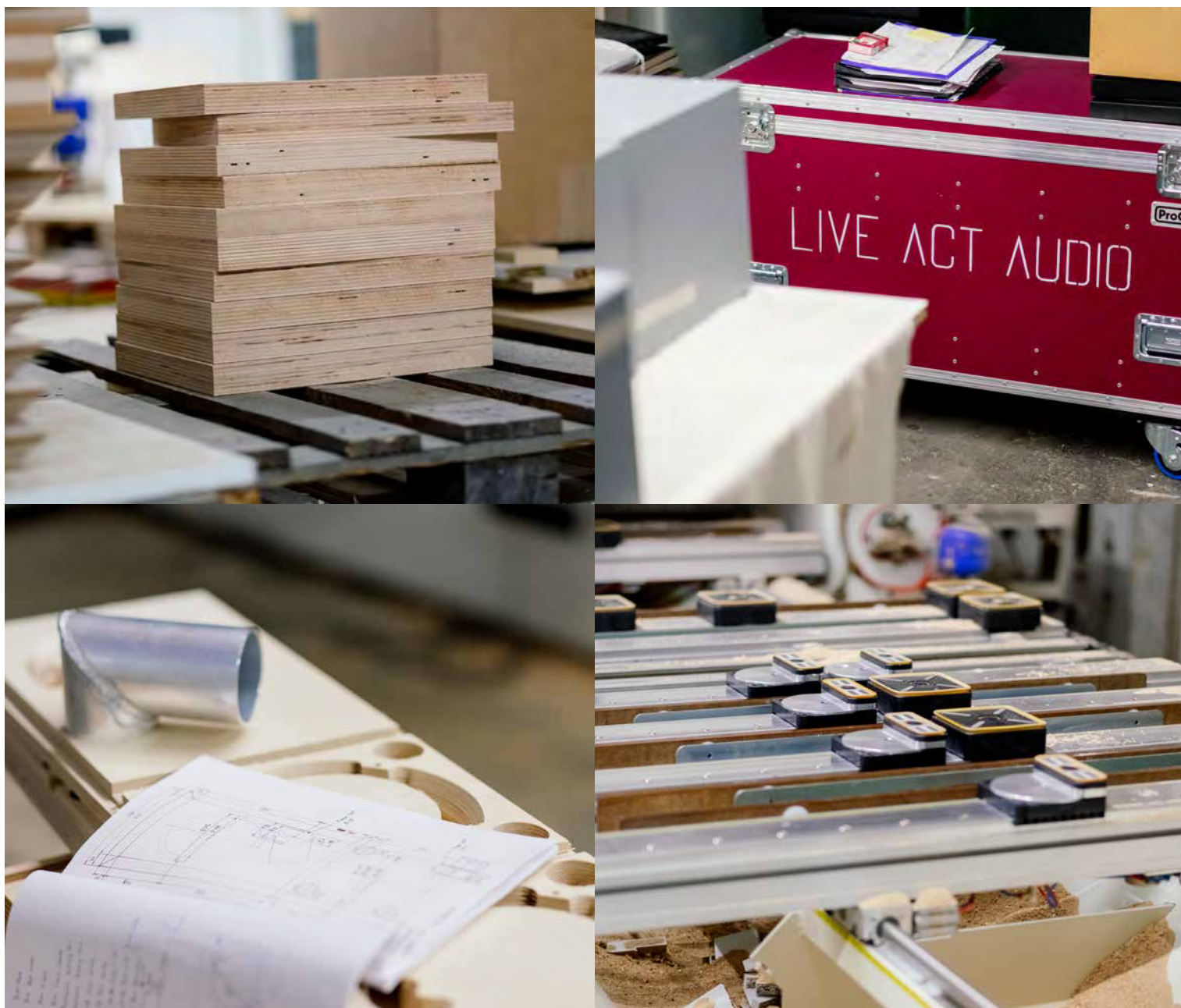


the fact that he had become fascinated with the world of audio technology, he decided to forge a career in the industry of his other great passion, cycling. Over the decades that followed, Molitor built himself a top-class, high-end system but never seemed to be able to find any speakers that truly wowed him. In 2012, he thought that he had finally found what he was looking for when a company whose electronic components he was very keen on presented

him with the EUR 120,000 loudspeakers he had ordered seven long years ago. However, the first listening session left him once again feeling totally deflated. In his frustration, Molitor explained to loudspeaker developer Jürgen Schön, whom he had known for many years, that this just felt like déjà vu all over again. After Schön had explained to him in a matter of minutes exactly what the cause of his dissatisfaction was and how a loudspeaker that would meet

all his expectations would have to be designed, Molitor commissioned him there and then to develop the best loudspeaker that he could design. Five months later, Schön had finished a prototype based on which the overjoyed Molitor immediately ordered five more pairs which he was then able to sell in next to no time.

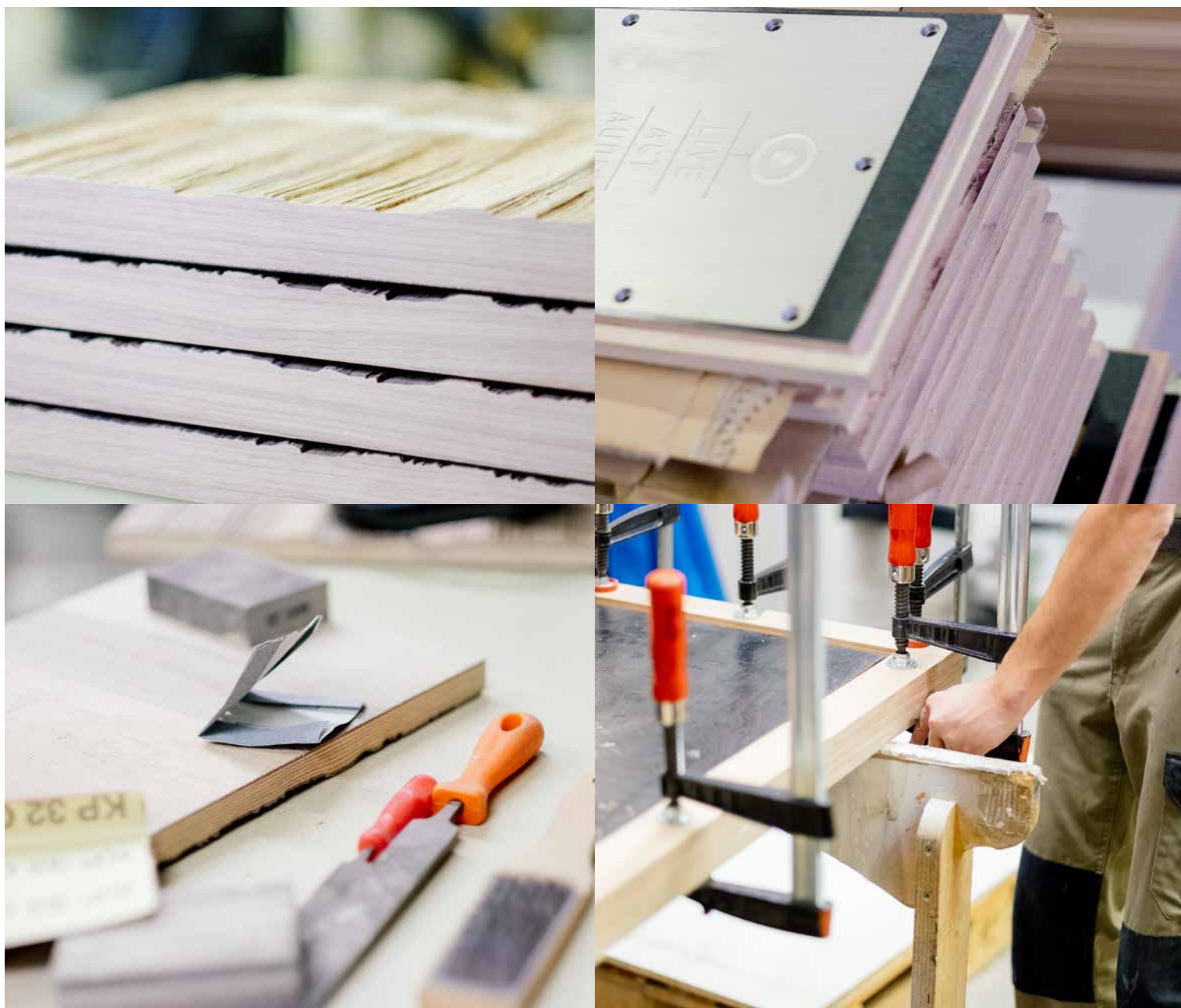
One of Molitor's first customers was entrepreneur Markus Reitz, who ►



was so bowled over by the loudspeakers that he immediately ordered the larger model which was still at the planning stage and for which there wasn't even a prototype yet, and in 2015 he decided to found LIVE ACT AUDIO GmbH together with Molitor to manufacture and sell the speakers. Although unbeknown to him, Mark Knopfler had a hand in the naming of the company:

at one of the former Dire Straits front man's concerts, Molitor instinctively thought to himself that he should aim to reproduce music in living rooms exactly as it comes across during a live concert. Whilst Molitor was primarily in charge of communications, Reitz, who was born in 1960 in Markdorf near Lake Constance, not only contributed his business experience to ensure that

the fledgling company had a professional approach but also made good use of his expertise as a timber engineer for the construction of the loudspeaker housings. Even Jürgen Schön, who had previously worked as a freelancer primarily in the professional audio sector, joined the Live Act Audio team at the end of 2015. Qualified designer Alexander Marcu is responsible for the ►



visual design of the speakers, and even created the company logo, the stylized representation of a coaxial chassis. According to the LIVE ACT AUDIO bosses, the coaxial principle is the optimum solution for achieving as authentic a spatial sound as possible as the various different frequency components can only be emitted with perfect timing with a point-source loudspeaker. Also, according to Molitor, when the various parameters relating to the design of the loudspeakers were

set, maximum vivaciousness and emotionality were favored over purely theoretical ideal values—after all, music playback doesn't benefit from a speaker that demonstrates impeccable frequency response but exudes a sense of stuffiness and boredom that fills the listening room. Live Act Series now includes the two product lines Emotion Line, with four two-way systems consisting of bass and mid-range tweeter, and Reference Line, with three three-way systems

consisting of bass, bass mid-range and mid-range tweeter. The Reference Line models also have additional basses and bass reflex openings; the 312 and 512 models can be equipped with an active crossover. Domes with beryllium diaphragms are used for the mid-range tweeters which, according to Molitor, ensure extremely impressive dynamics and liveliness mainly on account of their high resilience and sound conduction speed and produce a very solid sound profile thanks to ►





their extraordinary dimensions. From 2018 onwards, the passive models should be delivered with active analog bass equalization as standard, with which the low-frequency range can be adjusted to the space in question and personal preferences.

The company currently has five in-house employees and a handful of freelancers working for it. Production is carried out at a carpentry workshop in Schwäbisch Hall. Schön, Reitz and Molitor are responsible for the

time-consuming assembly work which on average takes three days per individual speaker. The company owners even regularly transport the products to the customers themselves, which can often be back-breaking work when you consider the long drives involved and the fact that the speakers weigh in excess of 100 kilos when you include the packaging. On such occasions, Dieter Molitor will often remember the motto printed on a greetings card that a friend of his gave him when he opened his cycling business: “Per aspera ad

astra” which means “Through hardships to the stars”. As such, remarkable parallels can be drawn between the two seemingly very different worlds of cycling and hi-fi. ■

LIVE ACT AUDIO GmbH | Burgsiedlung 1 | 87527 Sonthofen | Germany | T +49 8321 6078900 | www.live-act-audio.de

This is a reprint from “WHO IS WHO IN HIGH FIDELITY” — Vol. 2, the compendium from FIDELITY MEDIA GMBH, to highlight the heavyweights as well as the little guys who still pack quite a punch, and to introduce you to the people behind, to bring some order to the ever-expanding high-end business. Ask for your copy.

MISSION QX-2

By Niklas Knüpling. Photography: Ingo Schulz



Despite its sensational pair price, the QX-2 features outstanding craftsmanship and high-quality assembly.



British hi-fi manufacturer Mission was founded a little over four decades ago. And during those 40 years, the audio specialist has held fast to the guiding principle that there's no need to compromise when it comes to providing high-quality products to those of more modest means. That approach has led to numerous award-winning loudspeakers over the years, loudspeakers that, in most cases, have managed to stand up to the competition. That gives the new QX-2 bookshelf speaker a lot to live up to. It makes a great first impression as the housing, available in blackwood, rosewood, walnut, and white, looks very attractive and exceptionally well crafted. The top and bottom plates are aluminum, which, in addition to providing a futuristic look, is also intended to enhance sound quality by stabilizing the housing. The rounded corners are elegant while also improving sound dispersion. Together, the trio of wood, aluminum, and the fabric used for the magnetically attached front

cover creates a modern, well-coordinated look. Despite its elegant appearance, the QX-2 is no lightweight: With a surface area of 30 centimeters by 22 centimeters and a height of 32 centimeters, each individual loudspeaker weighs in at nearly nine kilos.

In addition to the impressive-sounding QX-2, the new Mission QX series includes another bookshelf loudspeaker, three floor-standing loudspeakers, a subwoofer, and a center speaker. The series also features Mission's in-house-developed Reverse Geometry Driven Design. Here, the treble unit is not positioned above as is typical, but rather below the bass-midrange driver. Mission asserts this supports more harmonious interaction between the drivers and thus even more accurate playback. Even without being able to accurately determine the implications of this topology, the QX-2 loudspeakers clearly prove right from the start that the sound tuning is, on the whole, bang on. ►



With a frequency range of between 44 hertz and 24,000 hertz, a 6.5-inch bass-midrange, and a 3.5-inch diameter tweeter, the Mission loudspeakers look extremely good on paper and don't disappoint when actually put to the test. The straightforward approach, which works well for the design, also applies to the sound quality. Without employing any unnecessary gimmicks, Mission delivers the usual high quality: powerful, accurate bass, clear treble, and a colorful midrange; the sound is harmonious and unquestionably fun. Whether the volume is cranked or turned low, the QX-2 loudspeakers know how to wow their listeners over the long term. They

seem to feel right at home with rock, alternative rock, and hip-hop; even switching to classical music or blues doesn't throw them off course. Mission's QX-2 is a classic compact loudspeaker that, thanks to modern technology, provides listeners with a superb musical experience and really captivates its audience. With its new series, Mission is positioning itself right at the front of the pack in the highly competitive market for loudspeakers in the lower-to-middle price category. It just makes us hungry for more. ■

Compact loudspeaker | Mission QX-2 |
Price for pair: €480
<http://www.mission.co.uk/qx-series/>



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

Inklang Advanced Line 13.3

COLOR- FUL MOOD ENHANCER

By Georg Jatta. Photography: Ingo Schulz





Pops of color and feel-good sound to counter the weather-induced blues



Great set-up: Aluminum bass, state-of-the-art driver with D'Appolito configuration. Bi-wiring terminals and double bass reflex ports

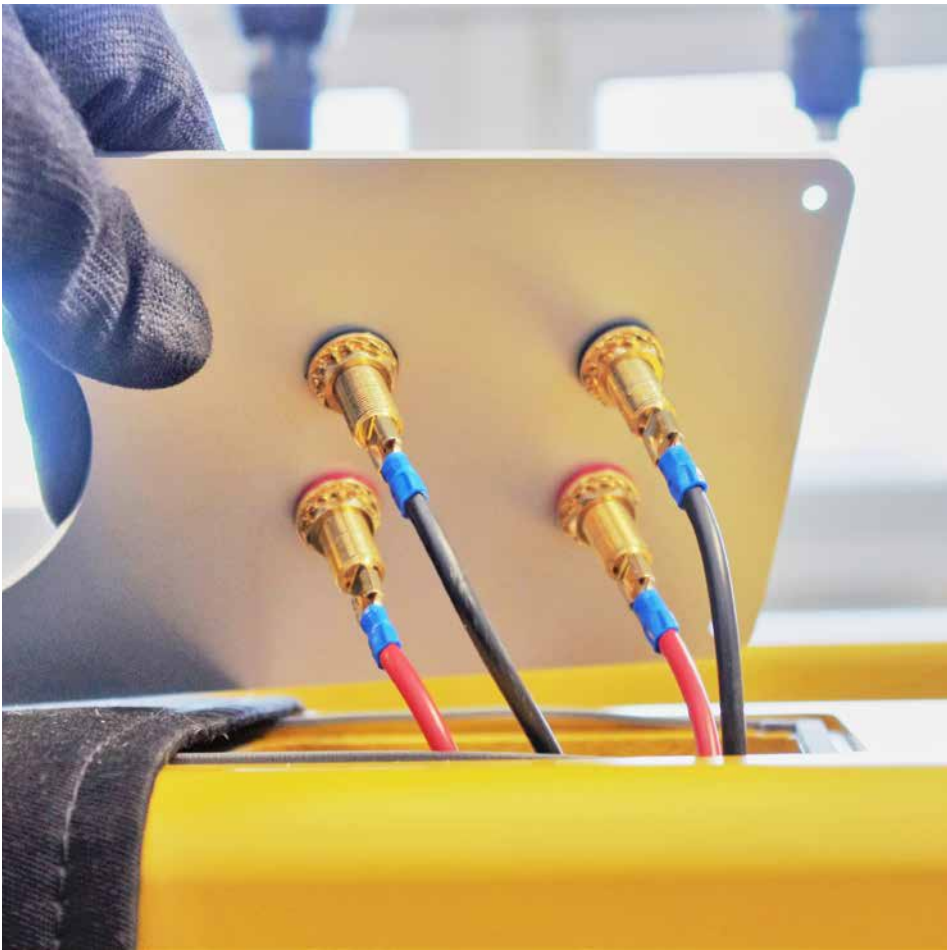
A small flag marks the worthwhile reference upgrade



Back when Henry Ford started the automotive assembly-line revolution, deciding on the color of the paintwork was easy: You could pick out whatever color you wanted, but in the end you always got your Tin Lizzie in black. The Hamburg-based loudspeaker manufacturer Inklang, on the other hand, offers an almost unlimited range of options so you can choose the optimal color for your very own dream loudspeakers. You get the choice of seven trend and three accent colors (for a surcharge of just under €70 a pair). If your partner or interior designer needs more choice, Thomas Carstensen and his team will find the perfect solution—whether that involves colors from the Natural Color System or from Farrow & Ball; and even customized blends can be arranged for a painless surcharge of about €120. Those wanting to develop an even more intimate relationship with “their” loudspeakers can have a hand in the final

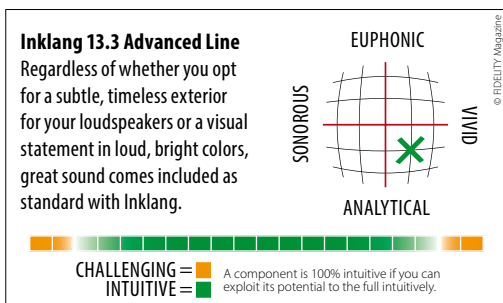
assembly process for a small fee of €200, with celebratory champagne to toast the “birth” of their little ones included.

To ensure you always maintain an overview of all the options, Inklang’s online configurator helps you find the ideal loudspeaker. You start with the room size, define the desired location in your home, and then choose the performance range of your current or planned amplifier. The number of models in the running gets smaller and smaller each time you input more information. This helps prevent anyone from making a terrible acoustic mistake, such as toying with the idea of squeezing three-way loudspeakers like the top model, the 17.5 (www.fidelity-magazin.de), into an attic space. Once the most suitable model has been determined, the search for the perfect color gets rolling. The 10 regular colors ►



Insight into the production—anyone that wishes can witness the production of its loudspeaker at first hand.





ACCOMPANYING EQUIPMENT

Turntables: Scheu Cello, Thorens TD 280, Acoustic Solid Vintage | **Tone-arm:** Scheu Classic Mk II, Thorens TP 28, Acoustic Solid WTB 213 | **Cartridge:** MC Scheu S, Clearaudio Jubilee MM und Charisma V2, Ortofon Quintet Red | **Phono preamplifier:** Acoustic Solid phono preamplifier, Trigon Vanguard III | **CD-Player:** Marantz CD 17, Marantz CD 62, Marantz CD 50 | **Amplifier:** Einstein The Tune, NAD C 390DD, Trigon Exxceed | **D/A converter:** Audiolab M-DAC Mini | **Power amplifier:** Lehmann Black Cube Stamp | **Loudspeaker:** Audio Physik Seemon, Opera Seconda Mk II, ALR Nummer 2 | **Cable:** German Highend, Audioquest, T+A, Horn Audiophiles, Black & White, Isotek | **Accessories:** Sun Leiste, Steinmusic, Millenium Carbon-Matte, bFly-audio, Simply Analog

should, as a rule, be sufficient for finding an amicable solution. Anyone, for example, who tends toward mood swings in the darker months of the year might want to place mustard-yellow loudspeakers in front of an apple-green wall, like me. Other practical options, such as front grilles; the choice between sitting the speakers on spikes or, preferably, floor-friendly stand feet; in-house-manufactured loudspeaker cables; and a Family Care Package mean you can customize your speakers to your heart's content.

The editorial team ordered pretty much a fully loaded version of the Advanced Line 13.3: accent color mustard yellow (€70), ReferenceUpgrade for crossovers (€360), and black anodized base plate and stand feet (alternatively in natural aluminum for no extra charge). This brought the final figure to around €4,000, so not a small amount by any stretch of the imagination yet, in view of the exclusivity, workmanship, and quality of the components, an attractive deal—although the loudspeakers hadn't made a sound yet. That was all about to change, but, anyway, the visuals were definitely on the money.

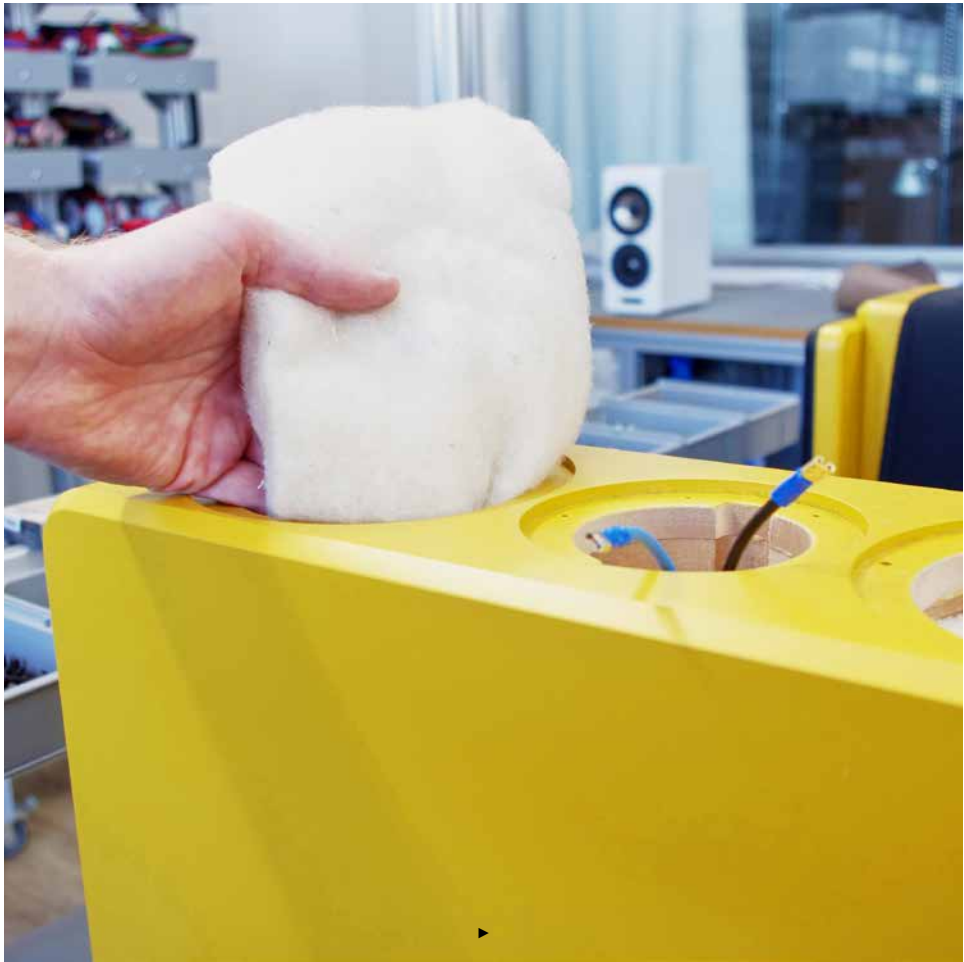
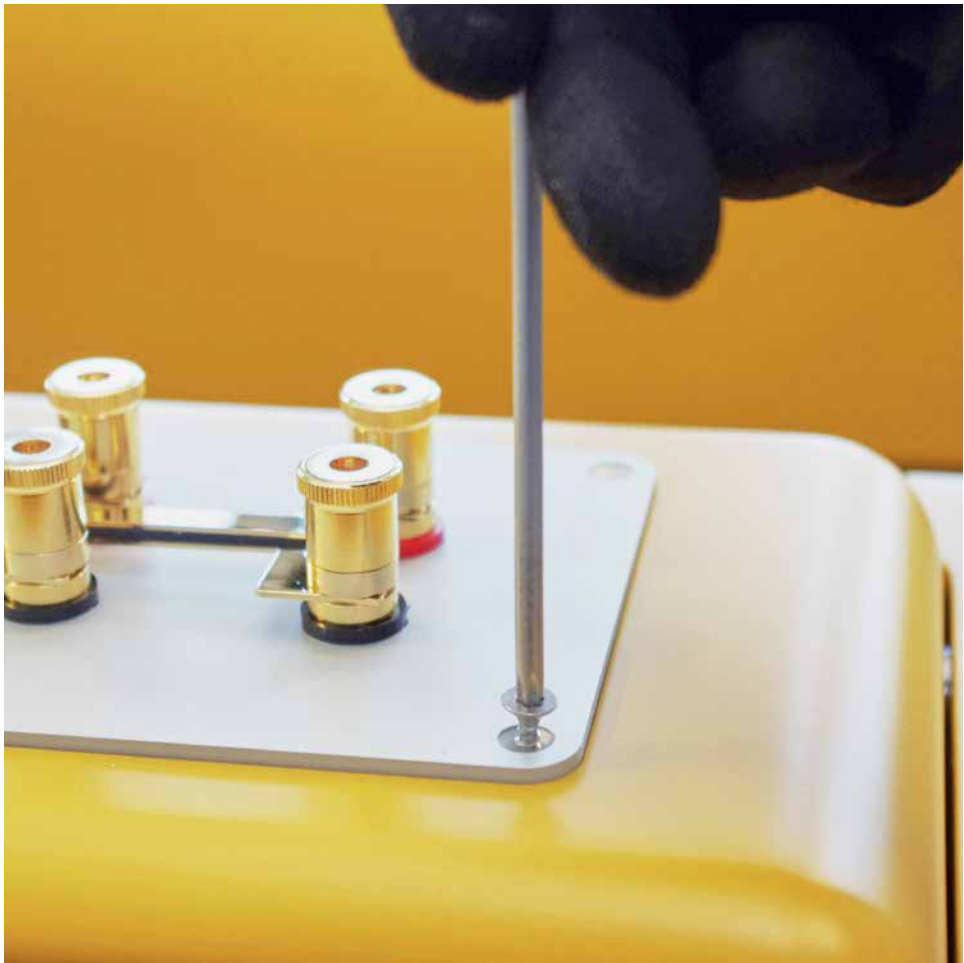
As soon as I saw the perfect five-layer lacquering, I realized just what kind of effort that went into finishing these products. The closer I got to the loudspeakers, the more obvious the attention to detail: Both the chassis and the mounting plate of the loudspeaker connections sat nicely flush in the semimatte surface. A confidence-inspiring aluminum platform appeared seamlessly connected to the housing base, providing each slim speaker with all the stability it needed. I particularly liked the smooth threads of the stand feet, which made it a breeze to achieve a balanced setup. The company's passion for designing perfect products is evident in details like these and truly makes you feel like you've invested in something built to last.

On the back you'll find the trumpet-shaped bass reflex openings and solid loudspeaker connections with sufficient clamping force even for heavy

cables and solid connectors. The double sets of connecting terminals allow for all types of technical cable experiments to be carried out or the loudspeakers to be driven by several power amplifiers at the same time. Even if there's nothing technically wrong with spending your money on meters of loudspeaker cables or additional power amplifiers, I tend to prefer quality over quantity here. Two clear candidates emerged: The newly arrived Trigon Exxceed proved to be the lighter and airier option, lending my "little" Einstein the ability to pack a bit more boom in the bass. Compared with the entry-level prices of some high-end manufacturers, Inklang offers products reflecting exceptional effort in terms of construction and workmanship, and a really impressive level of customization—the accompanying equipment also has to be a good match here. It doesn't have to be expensive, but it does need to be good.

Another impressive aspect of the loudspeakers is their housing construction: Given how elegant and slim they look, it's hard to believe both speakers together weigh nearly 50 kilograms. Up to four-centimeter-thick MDF, plus internal flow-optimized bracing, is used to guarantee a pounding, direct playback. The lining with heavy foil effectively suppresses unwanted resonance, which is most certainly conducive to the precision of the reproduction. To ensure stray sound energy cannot have any microphonic influence on the crossover (equipped with top-quality Mundorf components), it lives in a pressure-resistant self-contained annex on the ground floor of the housing.

In the case of our mustard-yellow gems, ReferenceUpgrade frequency dividers (in the eyes of our editorial team, an incredibly cost-effective and therefore indispensable investment into achieving yet more sensual playback), equipped with Mundorf induction-free Supreme capacitors, audiophile top-class molded resistors, and flat wire coils, assume responsibility for distributing the signal to the individual chassis. The typical setup of these chassis in accordance with Joseph A. D'Appolito's configuration routinely minimizes early ceiling and floor reflections, thus ▶





resulting in the 13.3's intriguing three-dimensionality. A tweeter with a 29-millimeter dome occupies the central position around which sit two bass-midrange drivers with dainty-looking 15-centimeter diaphragms. Scandinavian specialist SEAS delivers the chassis with their characteristic magnesium diaphragms to Hamburg for final assembly.

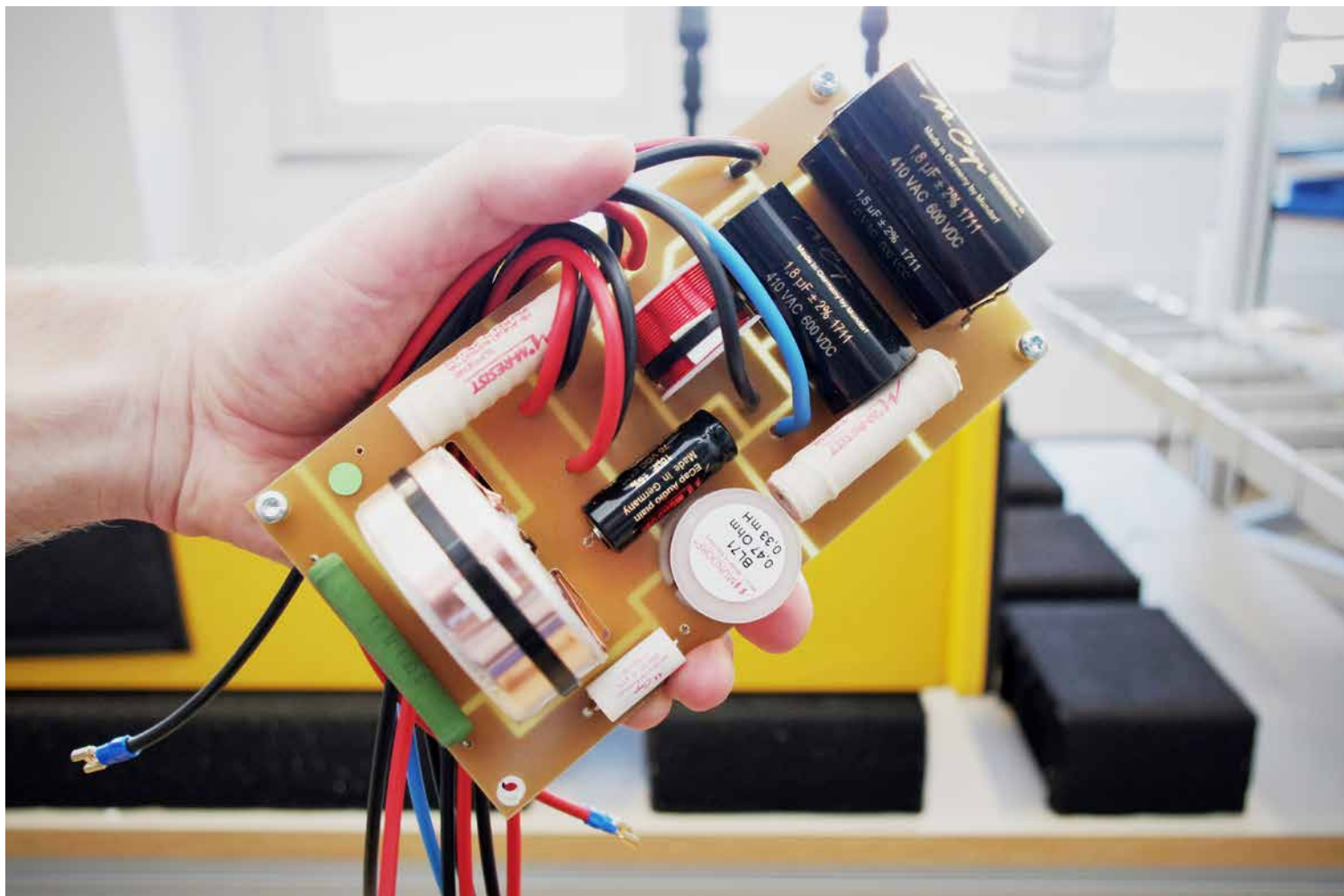
To be able to deliver proper bass despite the negligible diaphragm surface area, the voice coils of the bass-midrange drivers allow for extremely long throw. The aluminum phase plug is therefore not a decorative accessory but a vital component: At forced levels, a large proportion of the electrically supplied power is converted into frictional heat that must be dissipated from the voice coils as quickly as possible. Thanks to its mechanical construction and the clever choice of chassis, the 13.3 is capable of achieving exemplary holographic spatial reproduction; it

does, however, need an electrically stable partner to do so. In principle, 40 watts are enough for the 13.3, but experiments with somewhat more powerful amplifiers showed it can also happily take three-figure watts of power. But the same applies here: quality over quantity! Adequately equipped, the 13.3 showed off its potential in terms of a low-frequency foundation that, considering the slim housing, reached almost absurdly deep levels and packed a crisp punch.

Conversely, however, this also means that these loudspeakers will want to breathe. They need a fair bit of room. If they are placed too close to the rear wall or squeezed into a corner, the fundamental tone will thicken up. But who would hide such fancy eye candy in a corner anyway? No one. Especially not me. It seems the 13.3 can even work in a 15-square-meter room as long as you do a bit of tinkering with ►



Highly regarded drivers from SEAS with a sophisticated low frequency upgrade



the room acoustics—, I managed, for instance, to turn my space into a music room. After two hours of puttering around, a lot of the furnishings had made way for diffusing and absorbing elements, the office area had been downgraded to a furniture storage space, the sweet spot had been located, and the height of the back rest had been adjusted in line with the tweeter. Once I had made these improvements, the Inklang 13.3 Advanced Line immediately managed to pull off the feat of finding the key to Björk's musical mind's eye during the work in *Dancer in the Dark*. Tall, wide halls full of noise swapped with oppressively narrow corridors. All around I heard whizzing, whirring, chirping, stomping, and whimpering without being able to recognize the source of the sound. Despite the signal color, the loudspeakers disappeared from a sound perspective altogether. The Inklang 13.3 superbly managed to reproduce intricate, interlaced sounds without pushing them into the foreground; it sketched a spacious, airy soundscape that found precisely the right support in the wonderfully balanced fundamental tone. The slightly oversized floor-standing speaker worked astoundingly well

in my compact room and impressed me both in terms of depth and precision. Even devious assaults on the voice coils such as Yim Hok-Man's "Poem Of Chinese Drum" from a superbly produced Burmester Sampler left the Inklang completely cold. It felt like the reverberation of the drum heads following each powerful blow was almost physically in the room with me, though the transported room dimensions mocked the reality of the location. The grandmaster of traditional Chinese percussion sounded out the dynamic spectrum of his ensemble in its fullest breadth, which at times led to short moments of shock during my enjoyment. A splendid feeling made all the more splendid given seldom you get to experience it in this piece.

The built-in reference crossover is actually perfect for the playback of high-resolution sources, which didn't prevent me from looking for the odd piece of new music on YouTube. A great song is a great song, even at 128 kilobits per second. A prime example is "Days Like This" by the Australian Genevieve Chadwick. People say she could be the musical ►



lovechild of Janis Joplin and John Lee Hooker. Here, armed with just her voice and a guitar, this young lady managed to paint rainbow-colored arcs, bridging the genres of folk and blues, which brought me a little ray of sunshine on that bleak, dark day. The raw, direct-sounding canned music off the internet at that point gave me more goosebumps than the recording of the Norwegian Radio Orchestra I had previously listened to as a DSD file, despite all the transparency and three-dimensionality the Inklang conveyed along with it. But this is nothing more than a personal preference—the Inklang 13.3 Advanced Line fully convinced me of its general qualities a long time ago.

You have to congratulate Carstensen on the decision to offer a uniform, sometimes aesthetically underwhelming product such as loudspeaker boxes as highly customizable and well-proportioned design statements. Thanks to modern design, a whole host of attractive colors, and the useful optional extras, this Hamburg-based company's concept has

all the necessary characteristics to impress all the design lovers out there—my partner, in any case, is already totally hooked on the visuals and the colors. Sounds lovers, on the other hand, will be addicted to the nimble, wiry fundamental tone that snuggles up with light and airy yet clearly structured treble. The illusion that the sound from loudspeakers disappeared behind the music was unusually believable in my room. ■

Floor-standing loudspeaker | Inklang 13.3 Advanced Line

Functional principle: two-way bass reflex; passive, D'Appolito configuration | **Impedance:** 4 Ω | **Recommended amplifier power:** from 40 W | **Frequency range:** 45 Hz to 25 kHz | **Finish:** to order, large choice of colors from the NCS system or from Farrow & Ball | **Special features:** optional reference crossover, optional extras (spikes, design front covers, Family Care Package) | **Dimensions (W/H/D):** 26/102/32 cm | **Weight:** 24 kg | **Warranty period:** five years | **Price for pair:** from €3,600 (test version €4,030)

<https://www.inklang.de/en/>

RECORDS AS HISTORICAL TIME MACHINES

By Jeremy Kipnis. Pictures: Copper Magazine



FIDELITY cooperation with Copper magazine: <https://www.psaudio.com/copper-magazine/>
Read this article also in Copper: <https://www.psaudio.com/article/records-as-time-machines/>





Alexander Kipnis (from 1946): https://youtu.be/DN4oBF_YJuM

Over the years as a producer and engineer, I've come to expect the unexpected, even when it's something as familiar as the sound of my grandfather's voice. Astute listeners can easily tell the difference between good and bad sounding recordings; and a great artist is immediately evident vs. a mediocre one, even many decades after their rise to stardom and notoriety has faded. Likewise, the style of music and it's particular performance affectations almost always come and go with the era in which they were first invented or embraced. So it goes that classical music has been replaced by Jazz and then supplanted by Rock and Pop, Metal, Fusion, Rap... an entire legion of different

worldwide trends in music making over the last century and a half has come and gone with people's fancies, year in and year out. But names like Enrico Caruso, Judy Garland, Frank Sinatra, and (as it turns out) Alexander Kipnis live on, especially because their career's were luckily captured on commercial picture and sound medias of the time, and now distributed through our own version in the form of YouTube, Vimeo, and other streaming media sites.

When I was growing up, the Stereo LP, Open Reel Tape, and even Cassette tapes were the media of the day, and we (as a family) were lucky enough to hear and see so much it, thanks to my father's

being a keyboardist and a reviewer at the once famed *Stereo Review* magazine, for nearly 30 years. And still, we also listened to 78s: the big, heavy and fragile 12" disks that were the state of the art until 1948 or so when the long playing (LP) record first made it's debut. So monumental was the sonic improvement (still in Mono, though) that critics and amateur listeners alike both hailed the LP as a sonic revolution. Yet here we are today mostly thinking that 78's, LPs and analog tapes are vintage formats, incapable of living up to today's best efforts, digitally in particular, or otherwise; the assumption being that newer technology must provide better fidelity, and the evidence would mostly seem to support that contention.





Photo: Camden County Historical Society Archives

CAMDEN, N.J. -- In late 1900, in his small workshop in Camden, Eldridge Johnson perfected a stable spring mechanism for his hand-cranked player and he started the Victor Talking Machine Company. The firm's first commercial music machine is shown above. It bears the "His Master's Voice" Nipper logo and was called "The Toy." It sold for \$3.00.

Well, my grandfather turned out to be quite a famous musician, a bass at the Metropolitan Opera in NYC (during the end of his long career) and also a touring soloist of the world music scene for over four decades. And his recorded legacy is profound and amazing for two reasons: 1) his career spanned the early part of 78's—known as the Acoustical Era (all analog—no electricity in the signal path) but also the later part—the Electrical Era (with microphones and amplification); two very distinctive

sounding eras in our worldwide recorded history. And 2) he was a performer of immense presence and stature, subtle in delivery and inflection but also quite emotional and often humorous—a true emoter of feelings in his work. Quite simply, he was as famous as Caruso or Sinatra in his day and was featured on numerous recordings, like them, distributed all over the world on many different labels.

Enrico Caruso (from 1906):
<https://youtu.be/t936rzOt3Zc>

It is possible, therefore, to use these historic formats as an acoustical time machine, capable of transforming our present into the past that these musicians lived and worked in. Of course, I hear someone saying, “these historic formats sound restricted in frequency and dynamics, and often have ridiculous amounts of surface noise, clicks, pops, swish, and other distortion in addition to being monaural (one channel).” Well, as much as I personally have already realized the contrary growing up—that





A 1926 Victrola Credenza Phonograph

older formats (like 78s), are properly played back, they can offer just as much and even more of a sonic illusion to reality as anything we have today and for the last 50 years, I recon, it wasn't until the day I was invited to hear Ambiophonics (a specialized stereo delivery process) at inventor, Ralph Glasgal's, house that I truly understood the full capability of both the Acoustical 78 RPM Disk and my grandfather's actual performing capabilities.

Ralph had staged a genuine Victrola from the mid-1920's in his living room: a tall and wide space with plenty of furniture and a few carpets amongst the artwork adorning the walls. The phonographs of this period were either tabletop models most have seen with a fluted horn or this larger stand-alone piece of furniture the contained the turntable on top, with a hand operated arm and stylus made of cactus needles (or often steel), and a large

radiator horn located below venting out the front past twin doors which opened to reveal it, and a library of 50–60 disks below. From this library, Ralph withdrew and played some amazing examples of my grand papa singing at his finest! To say I was charmed by this demonstration would be to put it mildly. You see, the combination of my grandfather's recording played back on a music system of the same time period made all the difference since both the tone, authority, dynamics, and brilliance of his performances were easily and clearly on display... but with a total absence of any audible surface noise, pops, clicks, or swish. In fact, the presentation verged on being realistic at a fidelity and volume level we hardly if ever hear from recordings, today; regardless of when they were made or the equipment and engineers involved.

Judy Garland (from 1942 in Stereo):
<https://youtu.be/6ShowRENIPs>

Why should this be? It turns out that the state-of-the-art back in the mid-1920's was pretty good, and in fact with no electrical amplification in the signal path all the way from the original performer(s) through to the playback horn in this Victrola, the fidelity was stunning. And the way the producers and engineers of the day balanced the sound of an entire orchestra against my grandfather's voice so they both are easily heard together is really quite simple and functional: the orchestra was located farther away from the recording horn (not a microphone but an acoustical lens) in the same room while my grandfather was physically much closer. The inherent limitations and strengths of the 78 rpm shellac disk were well known and (apparently) well considered and compensated for in the recording and playback chain of the day. Thus, when the needle hit the groove, and the first notes emanated from the Victrola's horn, my grandfather sounded





Victor Talking Record recording session (c. 1926)

magnificently alive, transparent, immediate, and scintillating... like he and the orchestra were in the room, with us!

Now I understand if most of you reading this are thinking something like, “Poppycock! There is no way a 78 rpm disk is going to sound like real life, better in some ways than anything recorded and played back in the last 60 years in Stereo, and just plain out ridiculous if you think we or anyone is going to buy any version of this tale.” But I reiterate that this playback scenario (1920’s recording played on 1920’s Victrola Turntable) is unusual and that most astute listeners will give some credibility to Ralph’s commitment for historic sound recreation. Yet perhaps the most striking part of this demonstration was how well I already knew the

sound of my grandfather’s voice through the study of his career and recordings, or so I thought. You see, here I was ear to horn and slack jawed at the apparent effectiveness of a 1920’s aural illusion of my grandfather performing the likes of Brahms, Mussorgsky, Tchaikovsky and Mozart (with orchestra) like I had never heard them or him, ever before.

As a professional Tonmeister, I’m fascinated with the way in which certain technology (even that which doesn’t use any electricity) can effectively record and playback sound like it was a sonic time machine. In fact, it is a time machine, of sorts; offering the remote listener a chance to hear both people and performances that have long since past into obscurity through time/space. All at

once, using the right combination of a state of the art analog phonograph from almost 100 years ago to play 78 records of that same period produces an entirely new level of musical and emotional understanding; one that is only rarely hinted at in most people’s daily listening to digital audio these days. You see, by the mid-1920’s, cylinder and 78 phonograph records (competing formats just like VHS vs. Beta or Apple vs. Microsoft) had actually been commercially available for nearly 35 years (starting in late 1889). And so had become quite refined given that technology (again, all acoustic analog) in addition to being extremely popular as a form of home entertainment; all over the world!

Frank Sinatra (from 1946):
<https://youtu.be/TZNIKZdoehE>





What this ultimately boils down to is a very specific level of emotional communication that, with the help of a higher temporal transcription speed (reading and writing at a 78 rpm speed), and careful understanding and compensating for frequency and dynamic limitations of the sound coming from many pre-electrical (1926) albums offers simply stunning audio recreations when heard through optimal playback equipment of the period. The degree to which the hairs on the back of my neck, arms, and back rise up in response

to my recognition of the music and performance and it's level of personal connection to me is really unbelievable. That is, I get *more* human connection to the music and performers through an all acoustic, all analog, not electrically transformed recording and playback process than I do most any other type short of hearing the very best of the best recordings played back under obscenely expensive and carefully produced conditions... or live (assuming one can find a good sounding and affordable seat).

So... You heard it here, folks. In my opinion, we were actually ahead of the sonic game in so many ways using the more ancient recording and playback technology because the most important aspect was the emotional connection to the music, your music and by your artists, whenever you wanted (and wherever, too) to hear them. And while stereo and multichannel with many microphones and speakers used to capture and replay (in the home environment) are supposed to get us all transported more *into* the performance and the





Victor Talking Record Player (1926)

space where it took place... taken by the ear (if you will) to the venue and time of the performance and placed within a song or album to luxuriate... well, few are willing to spend the full attention this approach actually demands and so people's attention wanders while they get used to listening to worse and worse sounding excuses for music and it's delivered sound quality. Whereas, and again based on my long experience

of nearly 50 years as an astute listener and then a professional producer and audiophile engineer) the older technologies from almost 100 years ago were all about conveying the music and the performance to the remote listener. When reduced to it's most important aspects, the 78 RPM acoustical record may have provided the closest experience to listening live that we may ever get because everything *was* recorded *live*

and intended to recreate that very same experience at home.

I think my grandfather would be proud knowing his legacy survives in such resplendent quality to this day, allowing people he could never have known to enjoy music and performances in a way that is all but lost to time and entropy. And if you are strolling through a tag or yard sale (or even at the Good Will or





Nipper & The Victor Talking Machine (1905)—“His Masters Voice”

Salvation Army stores) you might take a gander through the used records—now ancient media that was recorded and distributed to benefit all of mankind. Well, amongst those ancient formats like LPs, cassettes, and even 8-track tapes, you may well find an album or two of 78s; shellac records made so many generations ago that they seem extremely distant to our own lives, today; even to be almost totally foreign. But you know... it all comes down to liking the music and the performances, and sitting down and really listening to them, exclusively. And if you listen closmely, even if it is through streaming sources instead of playing an actual record or 78 disk, please remember

that you are experiencing a time machine, an historical window of sound that can transport one to times and places that don't exist anymore. Just try to imagine another form of communication that can tell you as much about what Caruso, Garland, Sinatra, and Kipnis actually sounded like... when they were household names! ■



BROWSER

№ 02

Analog Digital

What makes a good DAC? We'd say that sound is what counts most, along with the dull digital number games. Some would even speak of „sound“ and not disrespectfully. With nothing you can conjure up a stylish sound and light-footedness in a D/A converter than with a tube output stage. The makers of Vincent know this and combined their new DAC-7 (around 1500 Euro) with two delicious preamplifier cups. The binary brain of the middle heavyweight is based on an AKM4490 and masters „maximum bit“ sampling up to 32/384 as well as DSD256. If you like, number 7 can also be operated in more neutral transistor mode—a switch on the front of the case makes it possible.

www.vincentshop.co.uk

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BROWSER

№ 02

Wall lover

You are looking for the sound of a large floorstanding loudspeaker, but—hand on heart—have no room for it at all? Then Larsen's number 9 could be exactly what you are looking for. The hip-high speakers have to be operated directly on the wall and make full profit from this position: the two basses work with the sound amplification function of the nearby brickwork and make the subwoofer superfluous—up to 22 Hertz.

www.larsenhifi.com

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BROWSER № 02



Professional update

Yamaha's MusicCast family is one of the most comprehensive and flexible multiroom concepts. The manufacturer is now opening up its model range to professional installers. The two new XDA models—the pure streamer QS5400RK and the streaming amp AMP5400RK—can be screwed into the 19-inch rack and can supply up to 32 room zones simultaneously. Of course, the super streamers can also be combined with the already available Convenience siblings.

www.yamaha.com

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BROWSER № 02

Before, beside, behind... and above you

Let's be honest: Anyone who thinks that the functional overviews of current AV receivers are about as accessible as the list of the protagonists of Tolstoy novels, raises his hand. But one can also formulate it positively:

With allrounders like Pioneer's new VSX-934, you just don't have to think anymore. From room correction (MCACC) and streaming to 3D audio, he can do just about anything. With its „upmix“ modes of Dolby and DTS, it can even distribute stereo signals in three-dimensional space.

www.pioneerelectronics.com

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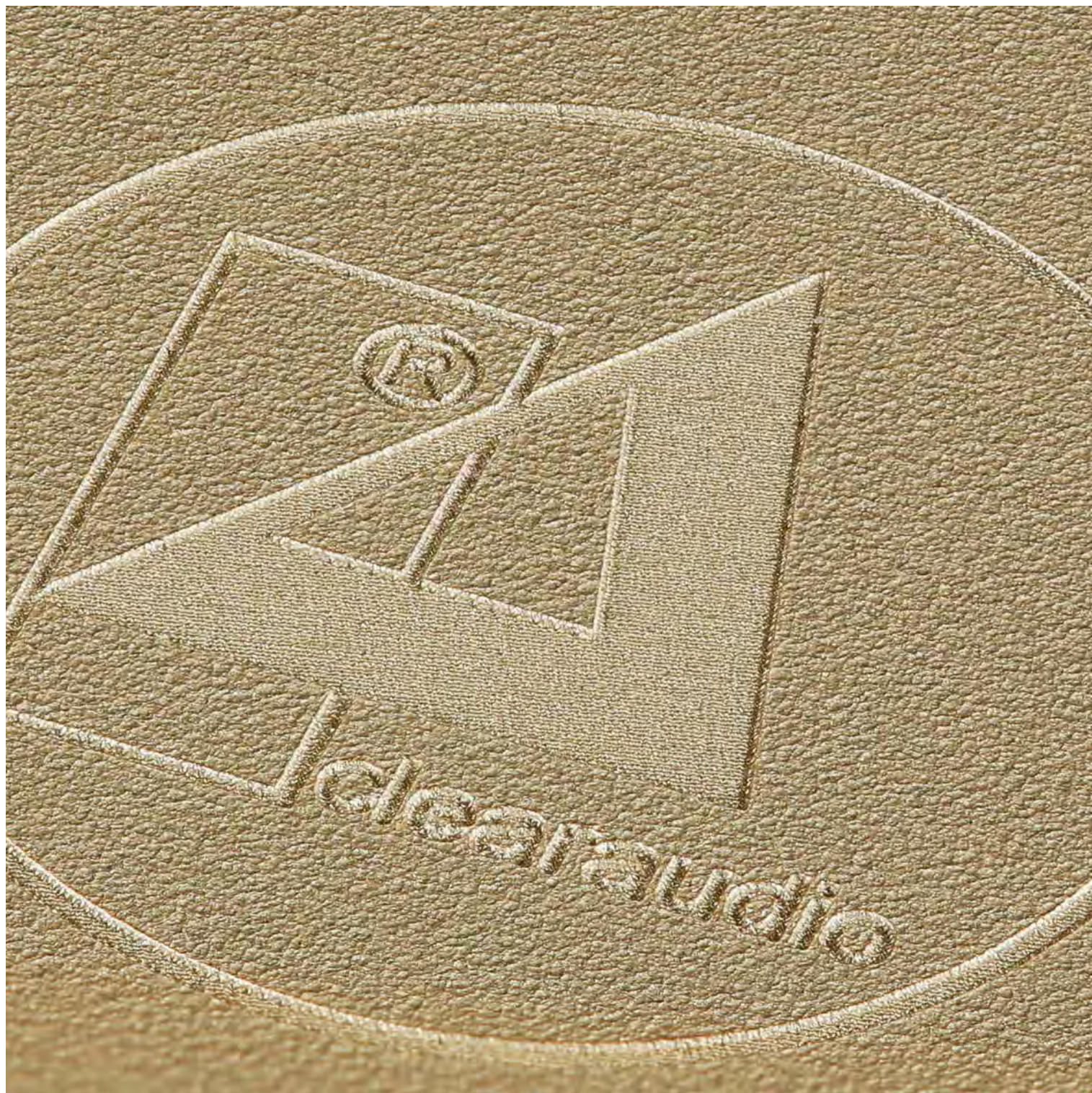


...and now for something completely different...

Clearaudio Performance DC

A TURNTABLE FOR CREATURES OF COMFORT

By Hans von Draminski. Photography: Ingo Schulz, Manufacturer



WHAT I'M ABOUT TO DO HERE
ISN'T EXACTLY WHAT YOU'RE
SUPPOSED TO DO. YOU SEE, THE
WHOLE THING IS DESIGNED TO BE
DONE QUITE DIFFERENTLY: SIMPLY
SET UP, SWITCH ON, SIT BACK, AND
ENJOY. BUT ANALOG EQUIPMENT
BRINGS OUT MY PLAYFUL SIDE.
AND FOR THAT REASON, I ASK FOR
YOUR FORGIVENESS UPFRONT.







CD players have made us lazy. And soft. And sometimes even a little bit dull-minded. That's because these machines and their successors, which have completely done away with physical music media simply don't challenge us anymore. It's pretty much a case of set up on a flat, level surface, connect the power and signal cables, and there you go! There's no comparison with the care and attention, know-how, fine motor skills, and dexterity demanded by a proper turntable. Well, in most cases,

that is. After all, there are some gems of precision engineering out there made for reading black (vinyl) disks that are actually plug-and-play versions. A particularly attractive model is the Performance DC from long-established Erlangen-based manufacturer Clearaudio. Not only is it delivered to the customer as a preadjusted complete package that includes tonearm and cartridge, it also looks like a totally normal turntable and not some scaled-down oil-drilling rig or a boomerang being used for an unintended purpose. It features a simple, rectangular body with a sandwich design that allows for

a larger number of color options and combinations. Enthroned atop this sits the platter, admittedly much thicker than those of standard turntables. A little garland of four blue-lit buttons for the settings "78," "45," "33," and "Off" lets you easily select the desired speed—this, incidentally, comes as standard for Clearaudio models from more expensive lines; manually transferring the drive belt is not something they want to ask their premium-product customers to deal with. You can choose your tonearm when placing your order. The Performance DC comes as standard with ►



the Clarify tonearm (and Virtuoso V2 MM cartridge), however the factory fitted our test device with the formidable new Tracer tonearm, which my colleague Boris Fust certified in FIDELITY No. 36 as a tonearm displaying exceptional tonal authority—and he has a point, it should be noted at this juncture. Since the Performance turntable is, for all intents and purposes, a smart downsized version of the Erlangen-based company's larger Innovation line and I'm in the fortunate position of having access to various Clearaudio tonearms, I innocently

asked during the editorial meeting if I might “play around a bit” with the Performance DC. Though I think “tinker with” or “screw and unscrew” would have been more fitting words. Although by offering various packages, the manufacturer itself is suggesting the Performance DC–Tracer combination doesn't have to spell the end of the story.

Even those of you who'd prefer to order the performance DC as a ready-to-go finished product might still like to read on at this point as the results of my series of tests will no doubt

contain some useful advice on what to purchase.

Luckily, Clearaudio tonearm fixtures are rock solid and, above all, standardized. They can be changed pretty swiftly with average dexterity with a screwdriver, a set of precision engineer's tools, and a steady pair of hands. Round one: Performance DC with the “little” TT5 tangential tonearm, which, together with the Concerto V2 MC cartridge, is responsible at my place for reading the grooves of vinyls on the Innovation Basic and performs its jobs quite brilliantly. Since the ▶





Performance DC is, in many respects, like a very moderately pared-down Innovation (from the aforementioned platter right through to the optimally synchronized maximized drive and the patented magnetic bearing), the differences compared with the turntable's big brother in terms of sound quality are also, I'm pleased to say, very limited.

Whenever I'm testing for spatial precision, cleanliness in the bass range, and sheer low-frequency pressure, I always turn, time and time again, to the MFSL pressings of albums by the jazz singer and fusion expert Madeleine Peyroux—LP reissues that, from experience, sound better than the original issues thanks to some

meticulous remastering. With the Performance DC, the voice of this chanteuse, whose evolution has been so fascinating to watch over the years, retains its immediacy, its compelling presence, and its lascivious smokiness. The "room" feels, if anything, just a few centimeters narrower and a tiny bit shallower than with the Innovation Basic-TT5 combination.

This tendency continues when I try a major symphony. Just recently, a reissue found its way onto my desk that I'm also loving to listen to on repeat: the recording of violin concertos composed by Wolfgang Amadeus Mozart and Max Bruch featuring the legendary Hungarian violinist Tibor Varga (1921–2003), which the virtuoso with

the unmistakably impressive violin sound recorded long ago with his own chamber orchestra—in the process also staging some great moments in vinyl history. The reissue published with Philharmonia (PA 451 V2N002) is a delight, featuring a largely impeccable pressing and a tremendously light and airy sound profile that is pleasingly brilliant in the mid-range but never piercing or over-emphasized in the treble. Varga's instrument, a Guarneri del Gesù from 1733, has body and substance and the relationship with the orchestra sounds perfectly balanced. From a tonal perspective, this issue published in France most definitely remains on the safe side. In short, it constitutes a fine audio-test LP, ►



A DREAM PARTNER:
THE TRACER ARM AND
PERFORMANCE DC
COMPLEMENT EACH
OTHER EXCELLENTLY.





Well-balanced. The Virtuoso V2 MM system is pre-calibrated upon order as the perfect addition to your set-up.

with which even a turntable-tonearm combination can be optimally examined with a stylus.

The Performance DC with the TT5 completes this required task so well that I simply can't find fault with it and can let myself just relax into the music. I find myself wondering where the charismatic violinists akin to Varga can be found these days.

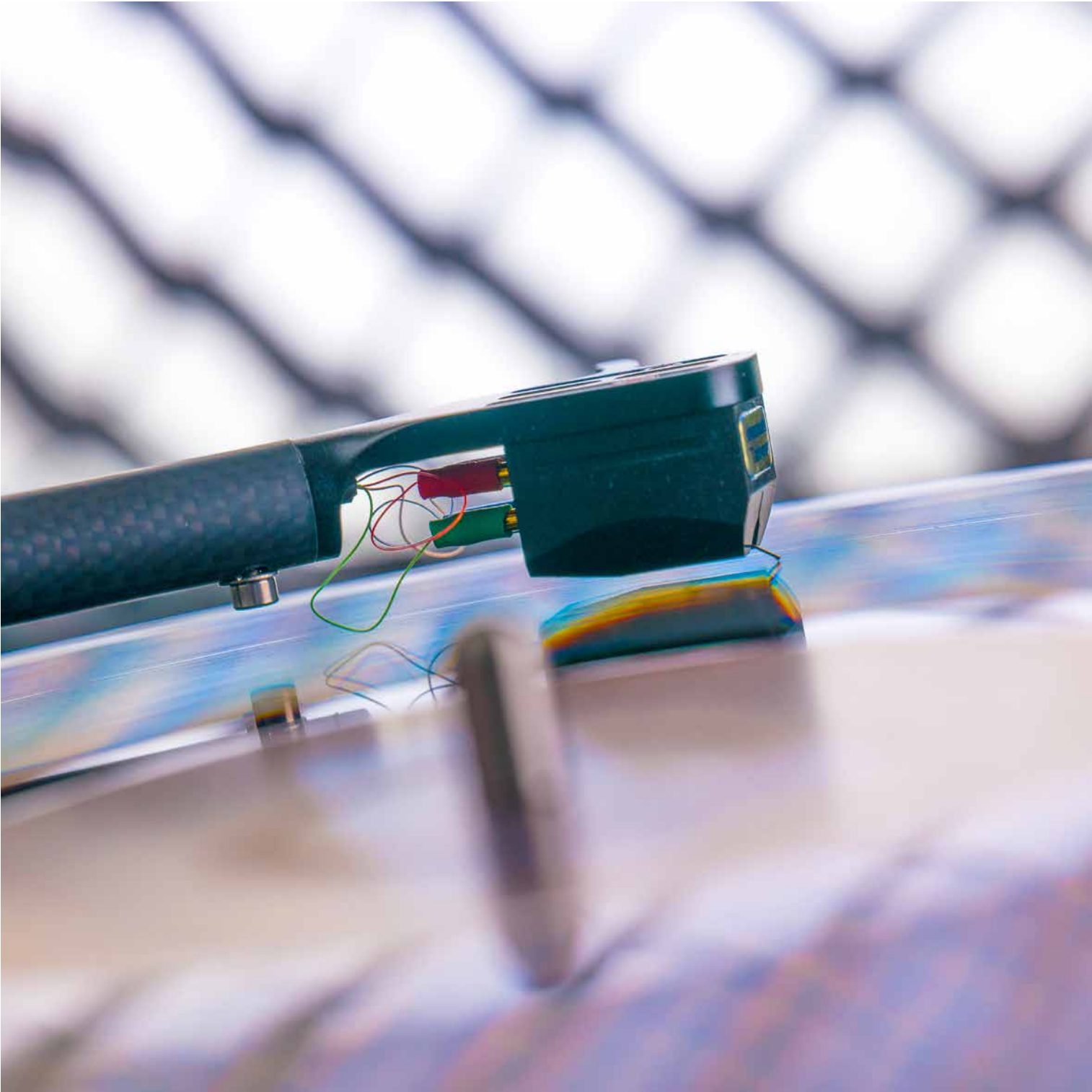
Resting on the rack in front of me in the listening room is an LP encased in a suspiciously jet-black cover that a colleague must have left behind. How exciting! Should I take it as an invitation or perhaps as a tip for something to try out? Or was it intentionally "forgotten"? The five-man rock band Souls Revival recorded a selection of their explosive, high-octane, guitar-driven songs, which hit you right in the belly and knock you off

your feet, "straight2tape," as the series with the same name from Swiss label 2inchrecords is titled. Anyone who has ever suspected that Swiss hard rock not only stems from the Saint Gotthard Massif has all the confirmation they're looking for here: What singer Giovanni Pontillo, guitarists Stefan Schroff and Sandro Pellegrini, bassist Tevfik Kuyas, and drummer Marc Friedrich have recorded here using a Trident 80b mixing console and a Studer tape recorder from 1971 asserts a very authoritative sound that's just as transparent as it's powerful. And the Performance DC doesn't experience the slightest problem with it. The classy Clearaudio pulls through like a powerful sports car with a massive V12 engine.

Now I want to figure something out and spend a few hours dismembering

my Innovation Compact to which I've attached two Magnify tonearms for comparison-test purposes. The model housing a carefully adjusted Clearaudio Da Vinci makes its way over to the Performance DC—and the sun comes up: The extent to which this combo further improves resolution and homogeneity is astonishing. Missing in the background though is a little bit of that blackness that comes from the teller weight in the large Innovation models. The Da Vinci's attention to detail and pouncing dynamics harmonize wonderfully with the nimble approach of the Performance DC. After Souls Revival had turned my ear canals inside out and rinsed them, I opt for a gentler alternative: Régine Crespin singing *Nuits d'Été* (*Summer Nights*) by Hector Berlioz, accompanied by the Orchestre de la Suisse ►







Clearaudio Performance DC
High end for everyone is what this is all about: smart plug-and-play package with uncomplicated analog technology featuring superb workmanship. Sounds splendid.

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

EUPHONIC

SONOROUS

VIVID

ANALYTICAL

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ACCOMPANYING EQUIPMENT
Preamplifier: Mark Levinson No. 38s, Musical Fidelity M1 CLIC, Pass XP-12 | **Power amplifiers:** Audio Note P2SE, Mark Levinson No. 27, Musical Fidelity M1 PWR, Pass XA25 | **Integrated amplifier:** Hegel H360, Marantz PM-10, and HD-AMP1, NAD M32, Vincent SV-238 MK | **Loudspeakers:** Audio Note "E" Spe HE; Bowers & Wilkins 800 D3; Burmester B18; Dynaudio Special Forty, Infinity Kappa 7.2 Mk II; KEF LS50, R900, and Reference 3; MartinLogan Expression ESL 13A, Phonar Veritas 10p, Wilson Audio Yvette | **Cables:** Audio Note, AudioQuest, HMS, in-akustik, Vovox | **Accessories:** Harmonix, Subbase Audio

Romande. A sun-drenched song cycle underpinned by strong emotions that became an enthralling self-reflection and vocal tour de force with Crespín, an exceptional artist. A soprano range that soars to almost stratospheric heights yet remains effortlessly floating freely above everything. And Crespín's delivery sounds significantly more weightless than Hildegard Behrens' much more recent performance of *Sommernächte* (*Summer Nights*) also released on Decca—subtle differences the Performance DC accurately depicts, along with the Magnify and Da Vinci.

Yes, you're quite right: It is a bit odd to combine a mid-range turntable with a tonearm and a cartridge that cost significantly more than the base itself. The

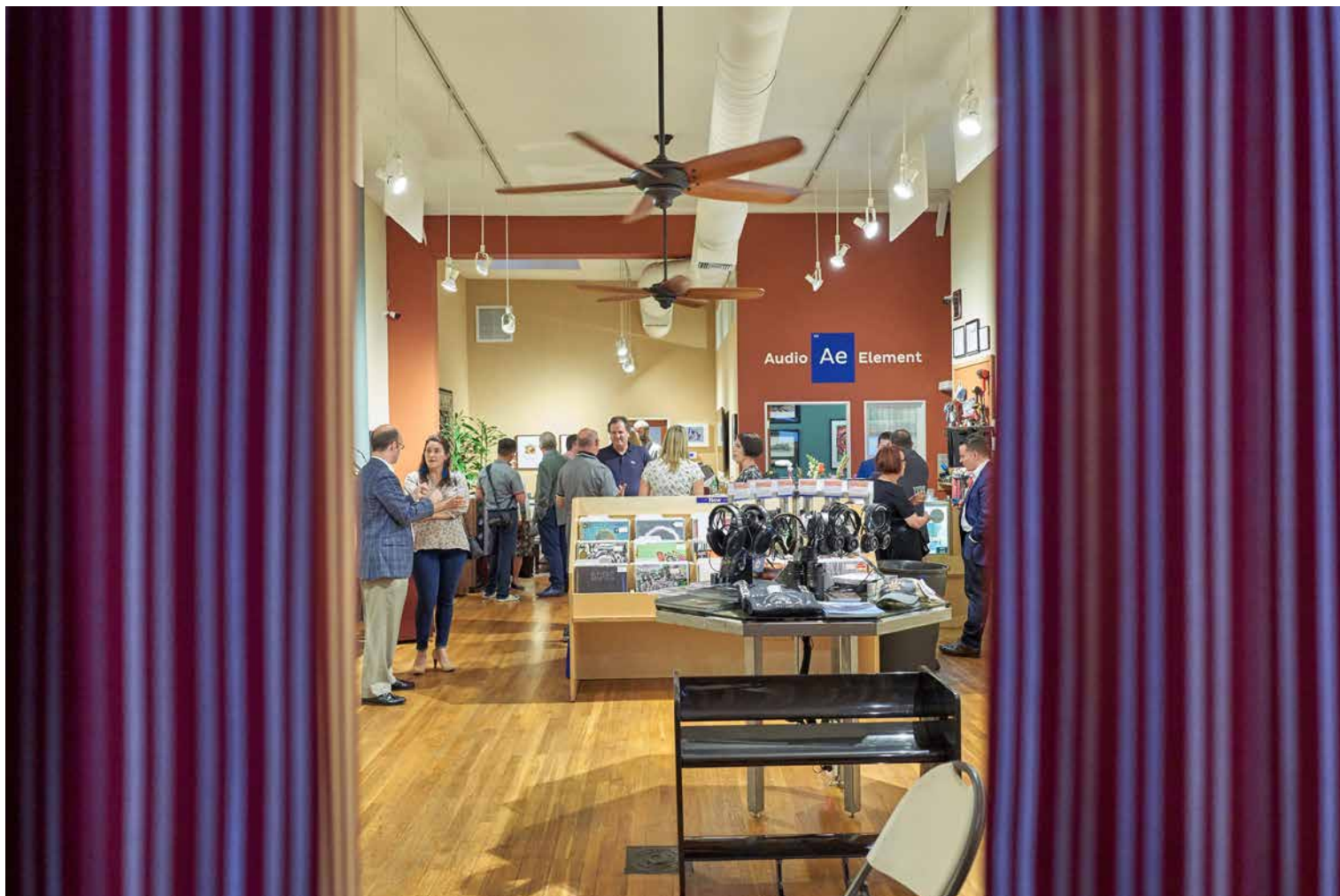
fact the experiment worked, though, says something about the quality of the rock-solid construction and proves Clearaudio sets high standards, even for their "smaller" products. You can get your hands on a complete Performance package with preadjusted components for under €3,500 and therefore can more or less put the topic of turntables, including in high-quality systems to rest. It's no coincidence that the Clearaudio Performance DC's visuals, especially in the super-chic rose-gold finish, are every bit in the same league as those champagne-colored heavyweights thought of as "high end" purely because of their glossy housing. From a sound-quality perspective, it also doesn't need to take a backseat behind top-class components either. And

with better tonearms and cartridges it has the potential "to grow" and to accommodate its owner's increasing requirements. What more could you want? ■

Turntable | Clearaudio Performance DC

Functional principle: belt-driven nonsuspended turntable | **Speeds:** 33, 45, and 78 rpm | **Special features:** plug-and-play package in multiple variations, electronically controlled synchronization, platter with magnetic bearing | **Finishes:** aluminum platter and base plate in black, silver, or rose gold, chassis in silver, black, or wood (rose gold: dark red wood) | **Dimensions of turntable without tonearm (W/H/D):** 42/33/12.5 cm | **Weight:** 11 kg | **Warranty period:** two years | **Package price for Performance DC turntable with Clarify tonearm and Virtuoso V2 MM cartridge:** from €3,400

<https://clearaudio.de/en/direct/index.php>



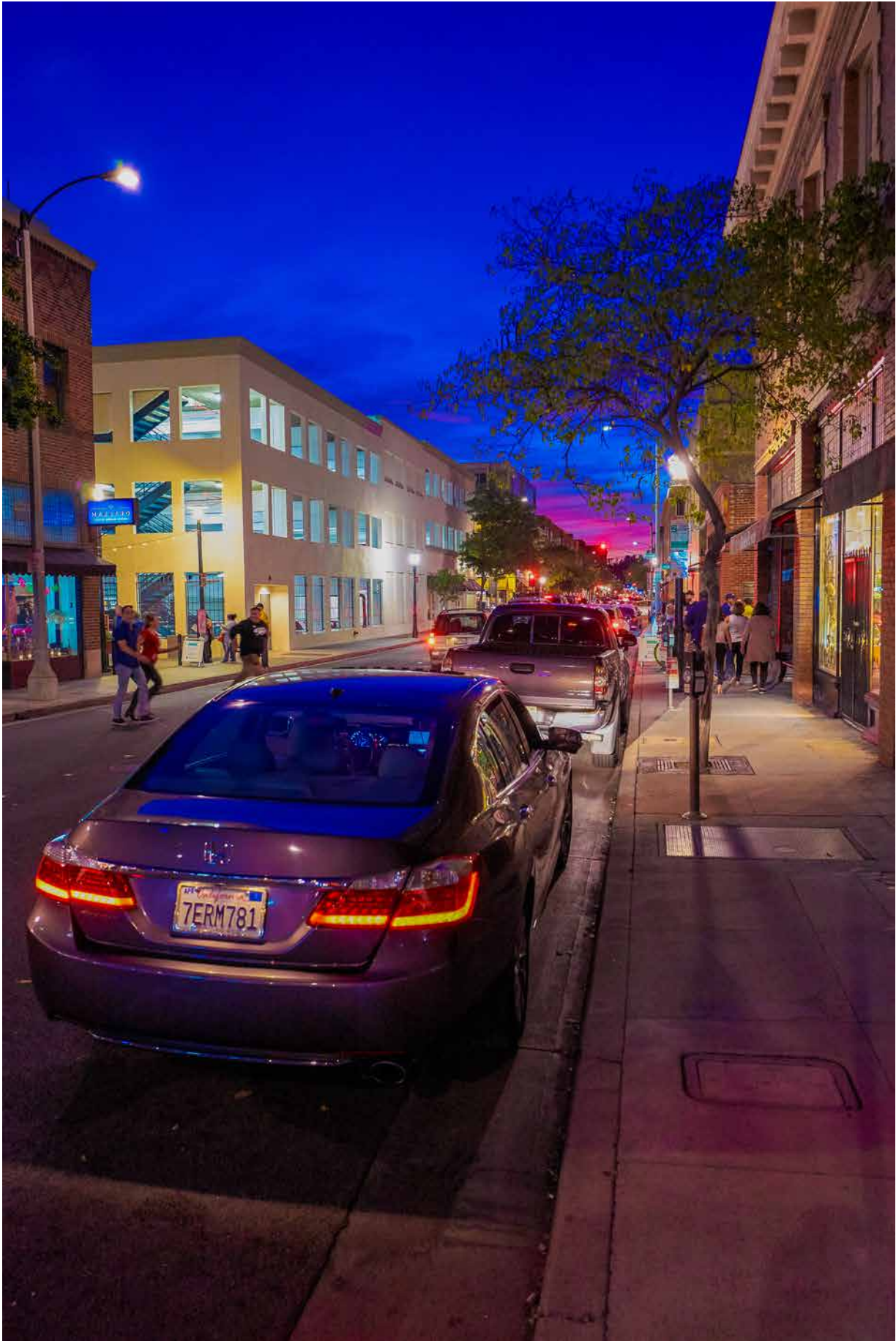
TWICE ABOUT TOWN

By Danny Kaey. Photography: Danny Kaey

Twice. That's how often I've been out on assignment these past few months. Not that I have anything to complain about: meeting new and old colleagues, reporting on the coolest, hippest and latest trend setters in the world of HiFi; things could be far worse. Thusly, 2018 closed out with a bang. First up was Audio Element's 5th year anniversary celebration. Audio Element, helmed by none other than Brian Berdan, himself the son of LA's analog guru Brooks Berdan who had built up one of the most loyal followers during several decades of HiFi retailing, nestles itself among the busy cobble stone streets of old town Pasadena, a famous neighborhood across the Hollywood hills. When Brian, a genuine HiFi hipster, opened up his audio salon, his plans were somewhat risky business. Rent in a high-end shopping district is naturally high; foot traffic and door swings only mean something if you are able to

convert them to cash, yet, it was precisely here where Brian sought to set firm footing.

Unlike other retail operations, Brian immediately knew that while selling megabuck systems fills the coughers nicely, it is the entry level gear which will keep doors, lights and registers open. Thusly, entering the store you are welcome with tons of entry level gear; the big boy toys are further out back in a purpose-built demo room. Here, rubber belts for turntables are replaced with direct drive varieties of the Grand Prix Audio kind; bits and bytes are decoded by dCS and high-end tube electronics VTL keep Wilson Audio loudspeakers leashed to front the main system. Retailing HiFi is tough—merely staying in business is a good sign these days—all the more reason to celebrate Audio Element by recognizing ►





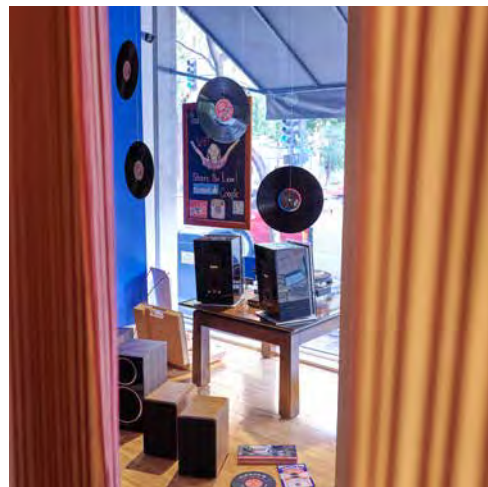
that Brian and team not only kept the doors open but succeeded in a highly competitive LA market to boot. Where Brian and team add value is in the attention to detail and customer service they provide. Naturally, this being a mostly experiential driven industry, going the extra mile generally yields the extra return. Here, Audio Element maintains the edge: energetic, young and stylish to boot, you feel invited to come join them for a stroll, a break, a whiff of what playing back your favorite records or digital files is all about. No matter your tastes—or budget—you'll find something at Audio Element, which is to say you'll likely strike gold.

The system setup for this special event was built around the aforementioned Grand Prix Audio Monaco turntable, a mighty dCS Bartok frontend, and just launched all new Wilson Audio DAW loudspeakers, which have now replaced the current status quo Sasha Series 2 model. Expertly tuned by Brian and his team, the

sound was simply awesome. No matter the track or title, this system rocked and then some. While I likely would have chosen a far more daring color—my own pair of Wilson Audio Alexx are finished in pur sang rouge, a gorgeous, deep and rich red tone, not too dissimilar from Louboutine shoes—Sasha's replacement sounded nothing but superb that evening. More of a downsized Alexia Series 2 in my opinion than a straight Sasha swap, DAW punched well above its weight and size with images realistically scaled to size. Wilson's typical holographic style imaging was seen and heard in full force. Bass output and volume clearly pushed DAW into new territories. Sasha owners beware: upgrading to DAW will undoubtedly supercharge your system.

A nice evening stroll to a fantastic restaurant completed the evening with food and libations to match the sound we had just been reveling in hours prior. Hats off to Brian and team for having ►

WELCOME TO AE!



2nd row: Luke Manley, VTL | John Quick, dCS USA | Bill Peugh, Wilson Audio
3rd row: Garth Lear, Musical Surroundings | Brian Berdan, Audio Element



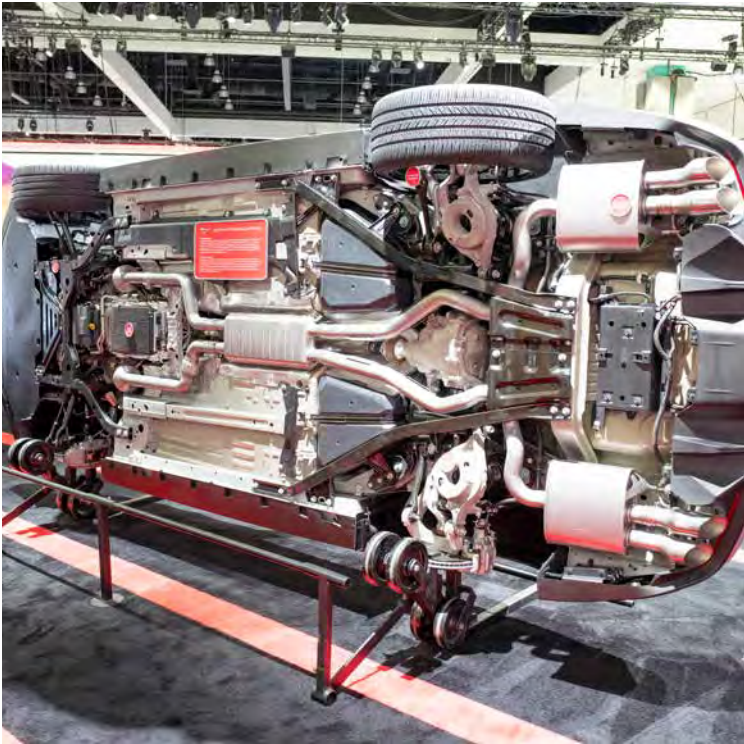


thrived in LA's retail HiFi market for five years—a feat that's challenging to muster, to say the least. Here's to five more and a round ten-year anniversary coming up. Time flies!

Not two weeks went by and I was already off to my next assignment, somewhat different and altogether on a whole different level: covering Automobility LA, America's premier auto show. To wind the clock back a bit, I slid into car reviews, nay, car HiFi reviews, quite by accident some years ago. When in the mid 2000s, Audi announced their then yet unheard-of partnership with Bang & Olufsen for their flagship A8 sedan, car HiFi jumped what was there before in what can only be described as a giant leap forward. That Audi co-sponsored 2007 press junket in Chicago at Bang & Olufsen's US headquarters was something HiFi companies really can only dream of: genuinely high-end soup to nuts, the event drew

reporters and writers from not only the usual car press, but many lifestyle publications and technology publications as well. Indeed, whereas today we have a literal sea of luxury focused lifestyle publications to choose from, the market in 2007 was quite different. Fast forward several high-end car reviews later, including Audis, Ferraris, Lamborghinis, Aston Martins, etc., I remained connected to the industry and throughout the years have enjoyed frequent visits to many such press junkets. While car HiFi is something new and a bit left field for Fidelity, I intend to bring some level of focus to it in the near future with reviews and deeper coverage of this thriving industry.

Frankly, covering a show circus like LA's Automobility event always seems somewhat daunting: the sheer size of the venue—held annually at the LA Convention Center—seems downright ►















mind boggling compared to even the largest of HiFi shows, the annual Munich High-End gathering. The experience is of course very different too: show budgets in the millions of dollars that our little—trivial—industry couldn't hope to pay off with loans in three lifetimes, are reflective of the environment. Here, the Maseratis, Audis, Mercedes, Volvo et al, create genuine experience centers with representatives schmoozing the press, vloggers and bloggers to get that extra minute of online time or video time. Here, impressions, views, clicks and click throughs are measured in the tens of millions; screen time is everything for the competitor's budget spend on press junkets, shows and all is well into double digit millions of dollars. Quaint, ain't it?

This year was really no different from years past: as cars infotainment systems have become more and more integrated, so have their features. No longer a mere afterthought, in-car HiFi is now part and parcel of the car's design from blueprint CAD files to clay models—no corner is left unturned to eek out that little bit

of acoustic performance. Translated this means that today's car interiors feature some of the absolute best HiFi experiences you could imagine. Sitting in Mercedes latest S-Class, Burmester's computationally fronted three-dimensional sound field envelopes you like nothing you've ever heard before, gargantuan hundred-plus thousand-dollar speakers and amps can't possibly recreate this sort of sonic nirvana.

Care to export this to your weekend getaway Maserati? No problem. Have an errand to run in your new Rolls-Royce Cullinan and you just read the blog about the new remix of the Beatles White Album? Press play and you'll hear it—and feel it—like never before. Naim, Bowers & Wilkins, Burmester, Bang & Olufsen all have a hand to play in this wild adventure. For music lovers who also happen to seek the best the automotive world has to offer, there has frankly never been a better time to listen to your favorite tracks while driving down Pacific Coast Highway. Definitely more to come on this angle, stay tuned! ■



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



PS Audio in Boulder, Colorado

A QUINT- ESSENTIALLY AMERICAN SUCCESS STORY

Text and photography: Ingo Schulz





The spacious new headquarters of PS Audio is being built just a stone's throw from the Rockies.

Flying to the US from Europe is pretty involved, so it makes sense to pack in a number of meetings while you're over there. Attending the 2018 Rocky Mountain Audio Fest provided the perfect opportunity for us to make a welcome detour to visit long-time legendary amplifier manufacturer PS Audio in Boulder, Colorado. CEO Paul McGowan personally greeted the FIDELITY team at the gargantuan construction site that was soon set to house PS Audio's new company headquarters. Production was already back in full swing and the parts warehouse, essential to this high-end manufacturer, had already been stocked and neatly organized. But in other

nooks and crannies of the company's newly occupied premises, laborers were still hard at work setting screws, driving nails, and sawing wood. The company's to-do list also included a large recording and production studio on the second floor of these impressive company premises—a feature that sounded like it had been taken straight out of McGowan's autobiography.

As a soldier in the US army, McGowan was sent to Germany in the early 1970s and between 1971 and 1973 was stationed in Munich, Stuttgart, Bremen, and Frankfurt. If you ask him these days about his time there, he usually responds with a short wink and says ►



Music lover Paul McGowan maintains a large music collection with original master tapes. He recounts the history of his treasures in his autobiography.



he was “not a good soldier.” The young McGowan was more interested in cool music than military drills and worked as a DJ for the army radio in Germany. His long hair was, of course, strictly forbidden in the US military, but McGowan got round this rigid rule by wearing a short-haired wig under which he hid his long locks.

In Munich—back then considered by some to be Germany’s underground musical capital (the likes of Queen, David Bowie, and members of The Beatles, which had already split up at that point, were known to hang out here)—McGowan met the Urtijëi-born music producer and pop supremo Giorgio Moroder. McGowan produced the music of many big stars on the pop scene in the Arabellapark Studios (also known as the Musicland Studios) with and for the South Tyrolean

“Father of Disco.” The perfectly matched duo founded a joint production company and even rented a villa in the fancy neighborhood of Grünwald where the plan was to set up an ultramodern recording studio. To this day you can still find precious master-tape copies in McGowan’s office, copies of songs such as Elton’s John’s “Rocket Man” that provide insights into this most formative period in McGowan’s life. The bubble burst, however, when McGowan did a few silly things the army couldn’t tolerate in view of his position as a soldier. The wig issue provided the straw that finally broke the camel’s back: McGowan was dishonorably discharged and given 48 hours to leave Germany. His planned project with Moroder was now dead in the water; once back in California, he had to essentially start all over again and began DJing on a rock ‘n’ roll radio station. ▶



As a music producer, the man with the keen ear had learned that high-quality music recording and playback heavily relied on the specific devices in use. And since the vinyl playback at the aforementioned rock station was far from ideal, McGowan developed a phono preamplifier for the small-scale broadcaster that was unable to afford any expensive equipment. From a sound-quality perspective, it was better than pretty much everything available to buy in at store at the time, and it was put to use straight away.

At this time of major upheaval, McGowan met self-confessed audiophile Stan Warren, a guy who was earning his living installing water beds. Warren listened to

McGowan's phono preamplifier and compared it with his own Dynaco equipment—and decided to sell his van for \$500 and invest it in setting up a new company with McGowan.

The rest is history: The “PS” in “PS Audio” stands for “Paul and Stan.” Back at the beginning in 1974, the company issued 10 phono preamplifiers on the basis of a 709 op-amp and passive equalization. The fact the 709's output stage ran in Class-B operation did, however, result in undesirable roughness that affected the sound. Every time the signal crossed the zero line, the output stage would momentarily power off, which, in turn, produced unbearable distortion. To get the 709 “to sing,” ▶



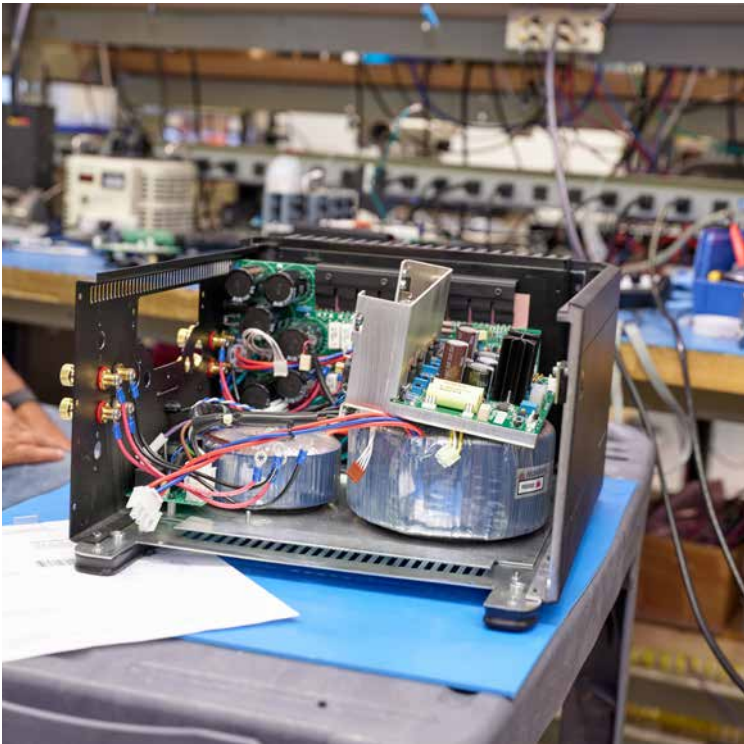
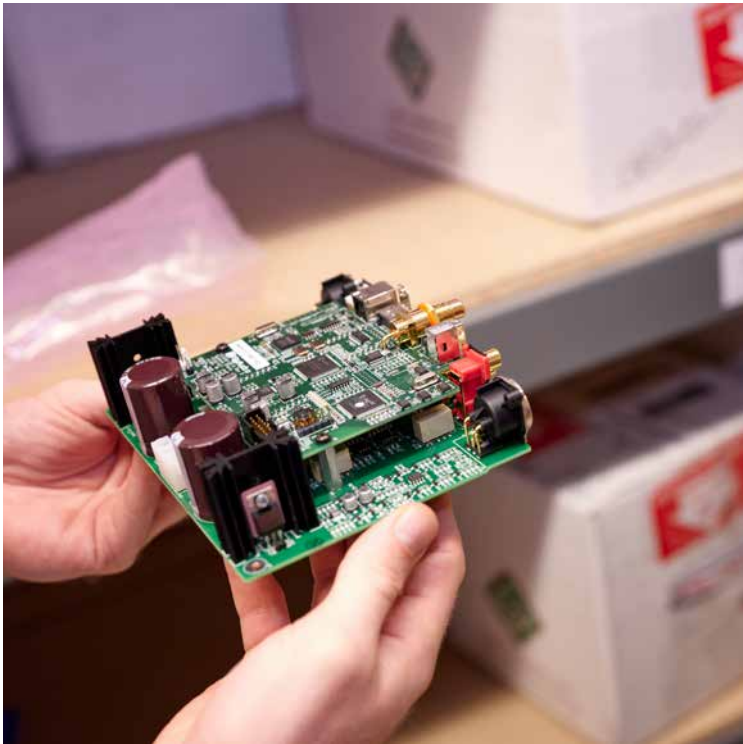
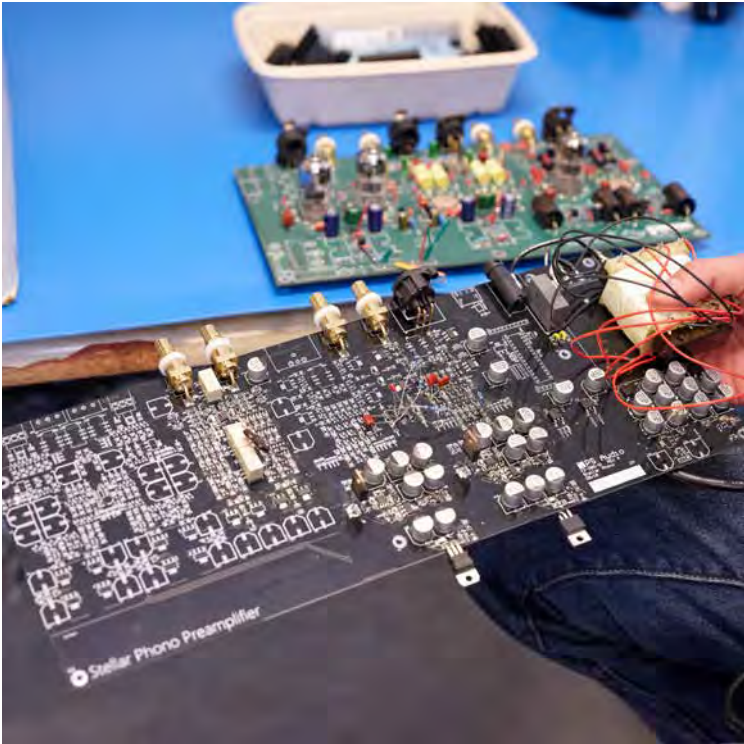
McGowan pulled a technical trick out of his hat: Instead of providing the op-amp with a balanced voltage supply, he provided it with an unbalanced voltage supply. This meant the output stage no longer had a zero-crossing and the direct-current voltage potential was decoupled by a capacitor. The result was a small, simply constructed amplifier for the cartridge's fragile signals that was easily able to compete with the "big names" on the high-end scene in the US, which was at the time starting to take shape. As a reminder; Back then, similar beginnings shaped amplifier manufacturers such as Mark Levinson and Pass Labs, which, like PS Audio, are still seen as icons on the amplifier construction scene.

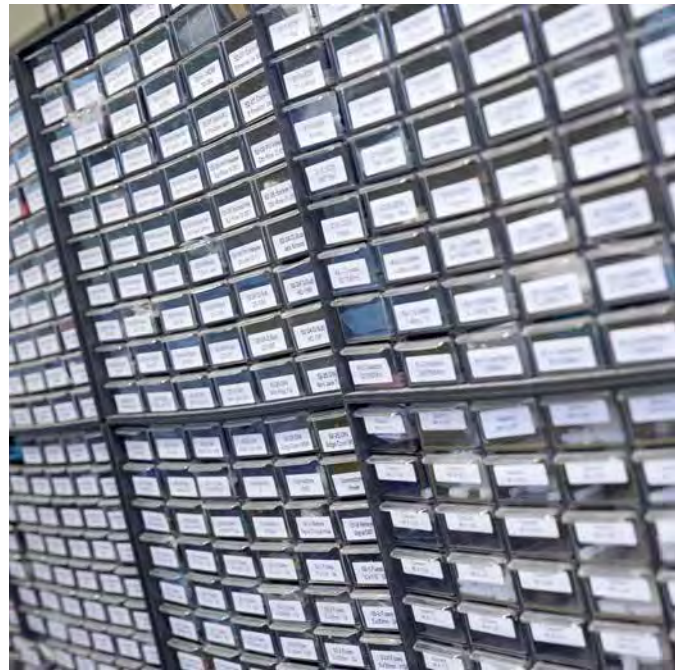
Despite their initial technical success, McGowan and Warren experienced tough times early on as local hi-fi dealers didn't want to display the duo's phono

preamplifier in their windows. The two young entrepreneurs had to hear the words "you are a nobody" on more than one occasion. But giving up wasn't an option; instead, they looked for a solution in direct sales. So they placed ads on credit in the audio magazines in circulation at the time, and pretty soon the first few PS Audio phono preamplifiers found their way to end customers for \$59.95 plus shipping. PS Audio was the first American audio company to offer a money-back guarantee if the customer wasn't satisfied. "Not a single piece of equipment was sent back," remembered McGowan with a huge grin.

Small batches of 10 units quickly turned into production runs running into the hundreds. In just two years, the high-end start-up built 3,000 units. Since just under \$60 per amplifier didn't come close to covering costs, ►

Despite PS Audio still in the process of moving, production is in high gear. A large warehouse stores all the components for the circuit boards, which are assembled by hand.

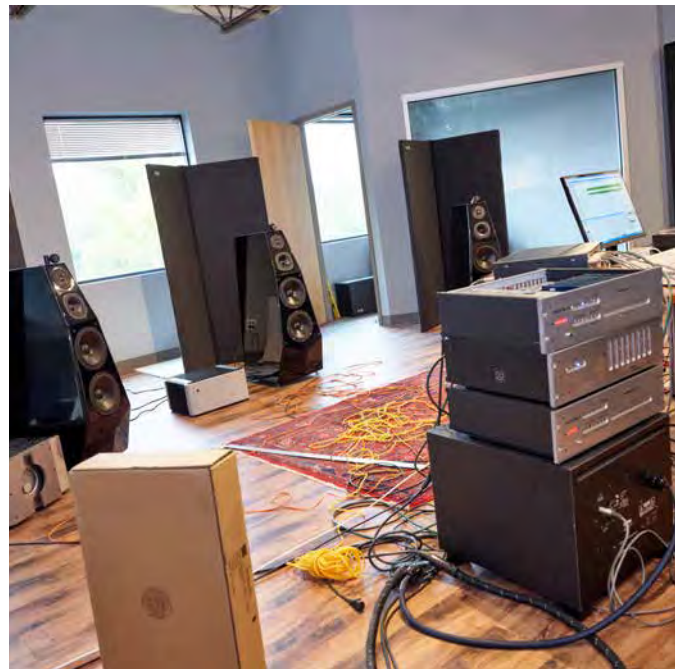
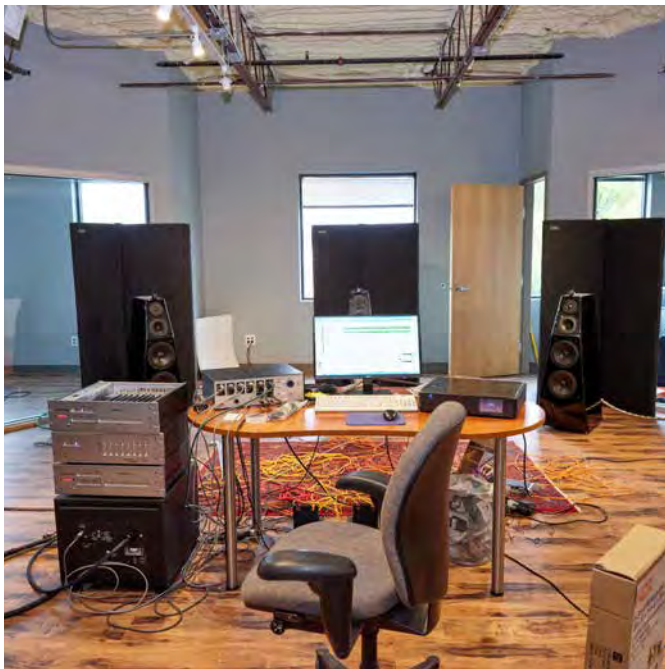
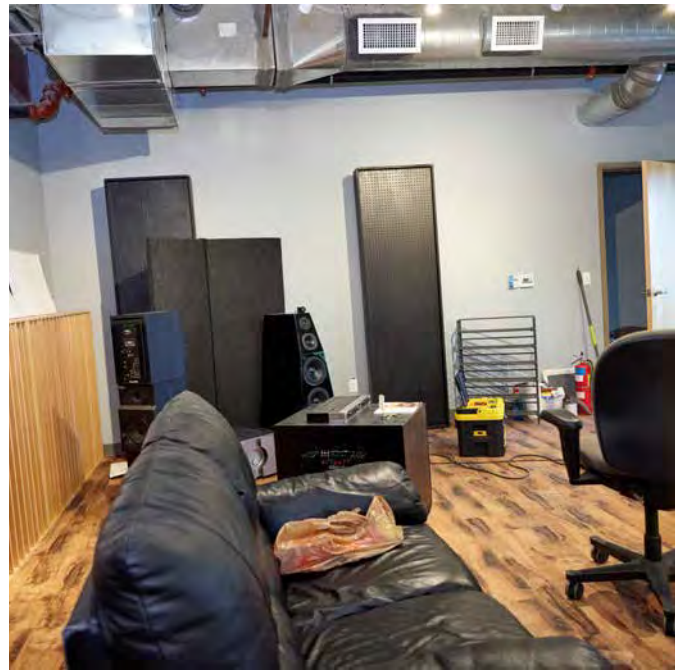




PS Audio quickly doubled the price to \$120, which didn't seem to stem the flow of orders for the company's products.

After the phono preamplifier came the Linear One, a line-stage preamplifier, which PS Audio quickly followed with the corresponding 70-watt power amplifier called The Model One. With the phono stage and pre-amplifier sharing a housing in the PS4, the portfolio was growing organically. Anyone keen on getting an insight into the range of devices offered back then will find a practically complete collection of PS Audio products neatly lined up on racks in Boulder.

Early on, the only thing PS Audio struggled to do was stay in the black. Its mountain of debt simply grew and grew and there came a point when the company could no longer afford to pay employees' wages. At this stage, in 1981, Warren decided to separate from his business partner and went on to found his own company, Superphon. That's when McGowan and his wife, Terri, took the reins and decided to determine the fate of PS Audio and its approx. 20 employees. A new co-owner, Bob Odell, joined from Harman Kardon. They managed to stabilize PS Audio to a modest degree, but the business situation continued to remain "rather shaky" for the next while, as McGowan put it almost 40 years later. ►



Back to the Roots: At the heart of the building is a recording studio where high-profile recordings will be made in the future.

In 1989, one of the company's main sources of revenue was the production of crossovers for the loudspeaker manufacturer Infinity. Through its charismatic head developer Arnie Nudell, McGowan met the founder and editor in chief of the leading high-end trade journal *The Absolute Sound*, Harry Pearson. This was also the hi-fi journalist who called McGowan when Nudell, the creator of legendary speakers like the Infinity Kappa 9, left Infinity behind him. Nudell's incredible drive led to the founding of the company Genesis Technologies in 1990. McGowan wanted in and left PS Audio for a total of seven years.

When McGowan and Nudell went their separate ways in 1997, PS Audio had been financially run into the ground. McGowan bought back his debt-ridden former company for a symbolic dollar and boldly restarted under vastly different circumstances. Rather than concentrate on amplifiers, PS Audio was to now focus on power-supply components. In Vail, Colorado, at the end of the 1990s, devices known as "power regenerators" were being introduced, including the P300, P600, P1000, and powerful P1200 models—which are still used by many music fans today. A short time later, PS Audio relocated to Boulder. ►



The most recent relocation to the company's brand-new premises took place in September 2018. PS Audio's product portfolio once again includes classic audio components, which account for around 70% of the company's overall equipment range. The remaining 30% is composed of power conditioners and similar devices designed to ensure a clean power supply, for which there is steady demand.

At the end of 2012, McGowan was still multitasking as company manager and developer—exhausting multifaceted responsibilities that his son Paul has since relieved him of. Specialist experts have found their way to PS Audio, which certainly hasn't harmed the quality of the devices or the company's revenue, as the elder McGowan himself put it. After all, PS Audio is now a very healthy company with excellent growth prospects and is very gently branching out to become a full-range manufacturer. Modern devices such as hi-res streamers

are proof PS Audio has been keeping pace with the times for some years now.

What is quite unusual for these modern times, though, is the emphasis placed on service and advice in Boulder. McGowan enjoyed telling us the story of a customer who was not entirely happy with his PS Audio power amplifier: Each time the volume hit moderate levels, the circuit breaker would kick in and the amplifier would switch off. Repair attempts were carried out to no avail as no defects could be found. Then a question about the loudspeakers in use shed some light on the matter: Acoustat's electrostatic loudspeakers may produce impressively refined sound and look gorgeous, but they have quite lousy load response with abnormally low impedance. Without hesitating, McGowan purchased a pair of the electrostatic loudspeakers and modified their response characteristics—problem solved. ►





Aware of the past: For the final inspection, Paul McGowan uses the huge multiple driver system Infinity Reference Standard 5 from his late friend Arnie Nudell.

This kind of thing can only be done when you develop and manufacture in-house. To this day, PS Audio components are still “Made in USA,” or, more specifically, “Made in Boulder, Colorado.”

When it comes to sound-quality fine-tuning, McGowan has remained loyal to his friend and mentor Arnie Nudell, who sadly passed away in 2017, and uses his huge Infinity Reference Standard 5, a multiway system released in 1985 that has enormous space requirements and sound volume to match. “This gigantic system reveals an amplifier’s tiniest details, as though you were listening through an acoustic magnifying glass,” McGowan stated. Even tube and transistor amplifiers can be easily differentiated in a blind listening test. And so it is no wonder that PS Audio will soon release a tube

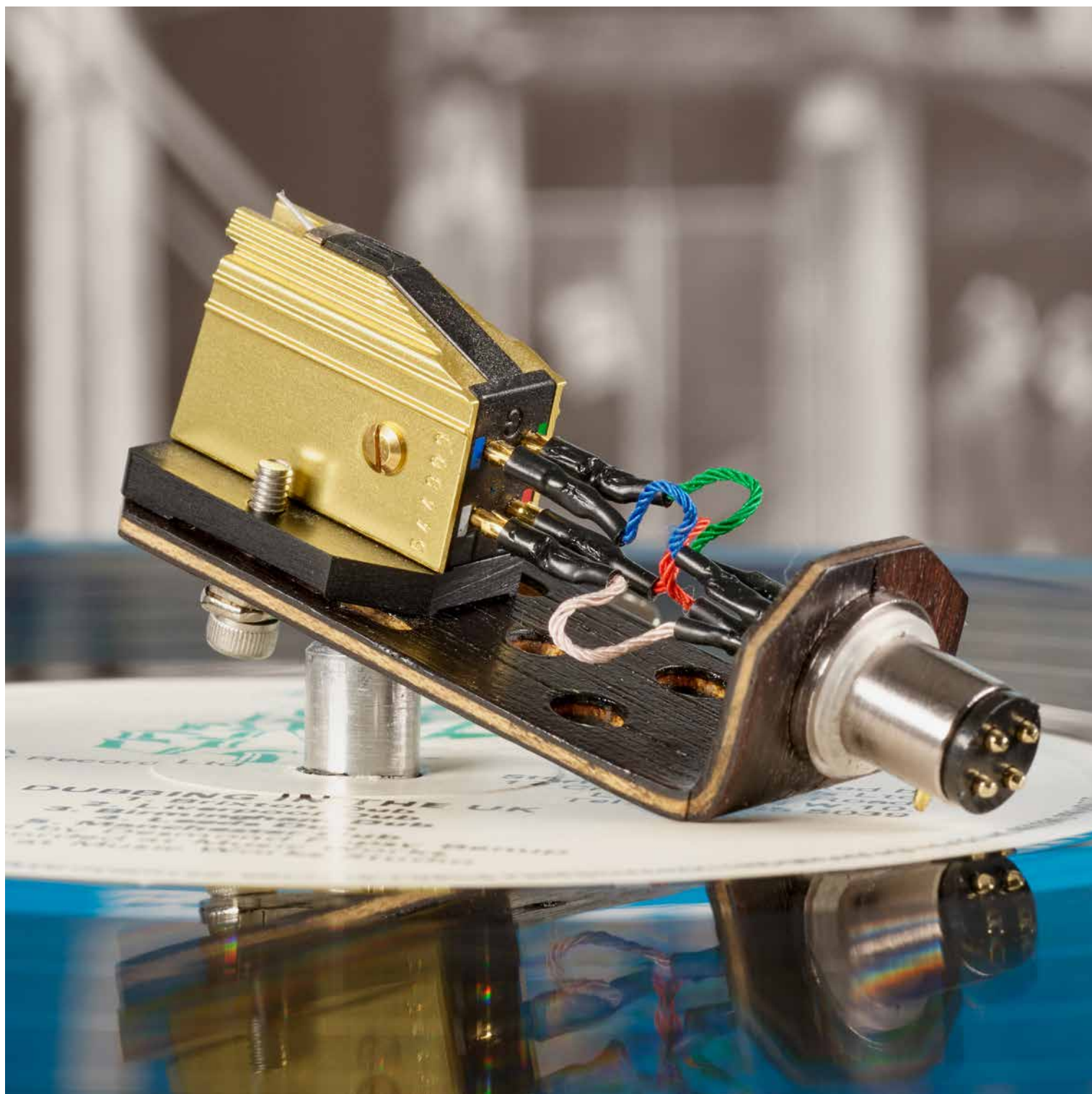
phono preamplifier designed by phono guru Bascom H. King.

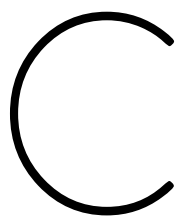
A living legend is also set to grace the recording studio mentioned earlier: Gus Skinas, who has already produced for stars such as Madonna, Bruce Springsteen, Billy Cobham, and Peter Gabriel. McGowan is planning a close cooperation and joint releases, which will most certainly meet the highest of audiophile standards. Given McGowan’s life so far, we can definitely expect them to rock. The PS Audio mastermind has, by the way now committed that life to paper. The printing presses managed to function properly despite all the stress over the holidays, and McGowan’s autobiography, *99% True*, is now be available. It’s an amusing read full of audacious stories that are sure to make you chuckle. ■

Headshell

STEINMUSIC AMETRIN-1

By Helmut Hack. Photography: Ingo Schulz





heaper headshells with an SME connector and coupling nut are available by the dozens from DJ equipment suppliers. They fit well, are nicely made, and fulfill their purpose without having to make any compromises. They work so well that Technics, the brand name of the global corporation Panasonic, for example, has even stopped making its own. Yet despite all that, the market for high-end accessories features an almost excessive variety of these headshells. And this isn't as crazy or eccentric as it might sound at first. The initial contact that delicate phono signals have with the unyieldingly material world takes place precisely at the interface between headshell and cartridge.

The makers of SteinMusic's Ametrin-1 have created a headshell that fundamentally differs from all other headshells I've ever known—regardless of the material from which they're made. To be honest, this poses no real surprise: The products that emerge from Holger Stein's think tank in Mülheim are often the result of new ways of thinking outside the box or taking unconventional approaches. Warp resistance usually has top priority, as ultimately steps should be taken to prevent the cartridge's housing from diluting the stylus's impulse. The Ametrin-1 is, however, rather flexible—which is not to say it is bendable, though. The

construction, composed of five layers made from three materials, is stable but not as solid as aluminum. The core consists of a layer of pear-tree wood, which is enclosed both above and below by a layer of carbon fabric; the external layers consist of rosewood, a material that fulfills its main function while also going very easy on the eye. This CNC-milled sandwich is bent into shape over several days with the help of steam before being forced to merge under two tons of pressure at 400 degrees Celsius. And then the SteinMusic maestro lacquering achieves just what it set out to do.

Stein informed me on the phone that there was no blueprint for this mix of materials but, after long listening sessions, pear-tree wood had turned out to be the perfect choice in terms of sound quality. The idea of adding stability to the design by introducing carbon was an obvious solution, as other industry sectors had already successfully done this. By combining them with rosewood, Stein believes he has found a way to complement the warm tone of wood with transparency through swift energy dissipation over the carbon inlay.

The quality of the workmanship immediately impressed me at the start of the listening test: All contacts sat with no play, yet the cartridge's delicate stranded wires fit so tautly I had no need to worry about bending the connectors or pins. The elongated holes for incorporating the

cartridge were manufactured cleanly and everything was at the correct angle to the vinyl. Without the finger lift, the Ametrin-1 weighs a mere 6.0 grams, and two alternative lifting handles weighing 2.3 grams and 1.15 grams and made from bronze and aluminum, don't make much of a difference either. As a first step, I swapped the 12-inch Jelco's counterweight for a smaller one. With Clearaudio's MC Jubilee freshly removed from its packaging and mounted, Aretha Franklin's "Chain of Fools" sounded so unshackled and vast, so unmuffled and lacking dullness, I immediately felt a deep sense of inner satisfaction in two respects: Getting my hands on the hefty reissue of *Lady Soul* had cost me a pretty penny, and the first time I listened to it on another turntable I was bitterly disappointed. However, this time, "A Natural Woman" was suddenly full of life, spirit, melodiousness, and soul. Congratulations, Clearaudio! But hats off to SteinMusic as well: What I heard there made a lasting impression on me!

For me to classify everything rationally and sensibly, I need to let our longstanding workhorse, the Ortofon MC 30 Supreme, have a go. Due to the design, it didn't sit flush with the headshell, but when I gave the screws a good tighten, the Ametrin-1 yielded a little. Stein states he has solid little mounting plates available for such cases. They are, of course, also suitable for increasing the moving mass should the headshell can not

be properly adjusted when using a very light cartridge.

My next step was to place an audiophile live recording from the legendary Hamburg jazz club "Onkel Pö" on the Seismograph. The dry Bohne BB-15 loudspeakers diligently assisted in maintaining the atmosphere, and the ol' Ortofon proved exactly why it's such a sought-after classic. Johnny Griffin and Eddie "Lockjaw" Davis must have had the tiny club really swinging in 1975. With side two and "Stomping At The Savoy," it even felt like the FIDELITY listening room had been turned into a basement jazz club. I'd never experienced the Seismograph turntable like this before. The feverish saxophone solos of the two jazz giants literally jumped between the loudspeakers, I felt the live atmosphere almost coursing through my veins, and the powerful Bohne Audio loudspeakers played as if they couldn't help but hurl the quintet, complete with their snappy original dynamism, into the room, as if they had to fill the dance floor in the blink of an eye. With the Ametrin-1, Stein has managed to achieve something that far exceeds standard stability and geometry requirements. The Ametrin-1 gives the cartridge a basis that hugs it, supports it, and stimulates it. ■

Ametrin-1 headshell in accordance with SME standard, five-layer construction using pear-tree wood, carbon, and rosewood, weight: six grams (without finger lift) | Price: €400
www.steinmusicstore.com



Fresh off the press: Holger Stein's new multilayer headshell is bent under steam and then pressed under high pressure.



HEADSHELL STEINMUSIC AMETRIN-1



Burmester

Phase 3 Loftstyle

PHASE 3 is an extension to the traditional Burmester product lines, joining ultimate demands on sound quality with musical culture and modern lifestyle in a perfect blend. The designoriented concept incarnates both the timelessness of the Bauhaus style steel tube furniture and the industrial charm of modern lofts.

John Coltrane's album *Both Directions At Once* resurfaces.

THE JAZZ WORLD EQUIVALENT OF A BLUE MAURITIUS



_____OMG!! A new album from John Coltrane!! It's almost like finding a long-lost Vincent van Gogh covered in dust in a dark attic somewhere. Or discovering a Blue Mauritius someone once inadvertently stuck to a letter that never reached its intended recipient. The story behind how *Both Directions At Once* got lost went something like this: On March 6, 1963, the tenor and soprano saxophonist John Coltrane (1926–1967)—who, back then, was as famous as today's superstars—and his Classic Quartet headed to Englewood Cliffs, New Jersey, or, more specifically, to the studio of legendary sound engineer Rudy van Gelder. Gelder had made a multitude of recordings for Blue Note and also regularly worked for other major jazz production companies such as Impulse!, the label that Coltrane was signed to at the time. The fact that

Gelder himself sat at the controls that day in March as “Trane” recorded both old and new material alongside McCoy Tyner on piano, Jimmy Garrison on bass, and Elvin Jones on drums is evidenced by a bit of dialog from Gelder where he can be heard counting in the musicians and giving them instructions.

Not that Coltrane would have needed much direction though. The charismatic jazz musician was a manically, super-driven individual, at times a heavily drug-addicted workaholic, a genius practically bursting with creativity, who mind-bogglingly often flitted between recording sessions and live concerts yet still found the time to explore the boundaries of jazz, push them, and, in the process, always break with convention. One year after the “long-lost album,” i.e., 1964, *A Love Supreme* was released, ►

John Coltrane
Both Directions At Once
 Label: Impulse!/UHQCD (via JPC)
 Format: two CDs, two LPs



a hefty, complex masterpiece that for jazz was at least as defining as it was perplexing as Miles Davis's *Kind of Blue* had been in its time. Incidentally, that was an album that heavily featured Coltrane's saxophone playing. Coltrane's producer Bob Thiele knew exactly how to put Trane's gargantuan output to good use and got additional studio time for him, thus making so many recordings possible that would have otherwise never made it. On the downside, Coltrane's high productivity meant that at some point the musician himself had probably lost track of what he had fed into the tape recorders all that time. The original master tape of *Both Directions At Once* (incidentally, it was Coltrane's son Ravi who came up with the name for it after it had resurfaced; it's intended to symbolize Coltrane's crossroads between styles at the time) was initially left in the Impulse! archives. This was probably because the label had productions by their jazz top seller, Coltrane, that were capable of selling more copies. At the start of the 1970s, ABC, Impulse!'s parent label, pushed to have many unpublished jazz productions simply disposed of in order to cut down on storage costs. Presumably, the master copy of *Both Directions At Once* also landed on the trash heap.

But Trane had taken a mono copy home with him, as he quite often did. The tape "survived" for decades after Coltrane's death, in the possession of his first wife, Juanita Naima Coltrane, but wasn't rediscovered until 2017—to the joy of countless jazz fans all over the world. It's worth buying the deluxe version of the album with two CDs or two LPs: You see, John Coltrane was a meticulous perfectionist who was hardly ever happy with the first take of a recording session. The deluxe

version lets you enjoy lots of alternate takes that have their own unique character.

What can you look forward to on this rediscovered album? For starters, a wonderfully laid-back jazz interpretation of Franz Lehár's "Vilja-Lied" from the operetta *Die Lustige Witwe* (*The Merry Widow*). Then there's the only known studio recording of "Impressions," a piece that when Coltrane and his combo would play it live would never fail to transport the audience to another world. Two previously unknown tracks were simply given the numbers of the master tapes by the team responsible for creating a publishable hard-copy version of the album. Even Ravi Coltrane didn't want to come up with names to replace the concise numbers. After all, they would have just been plucked out of thin air anyway, especially since *Both Directions At Once* is a transitional document: Melodic bliss meets edgy, unpredictable, sometimes disturbing solos that allow you to gain a front-row seat to experience Coltrane's venture into new realms. How does it sound? Thanks to pristine remasters, it sounds magnificent: always with a sense of presence, precise tonal balance, and a wealth of detail that's actually crying out for an SACD or hi-res release. Since neither was available at the time this article was written, I "made do" with the Japan Import UHQCD double CD, which gets 99 out of a possible 100 points for sound quality. When I listen to the densely packed track "One Up, One Down," which people previously only knew of thanks to a wretchedly noisy and muffled-sounding bootleg from the club Birdland, I get goosebumps. First, because the sound time machine works so shockingly well. And second, because there's no longer a veil between the past and the present. ■

Hans von Draminski

FRONT AND BACK OR LEFT AND RIGHT?

AT LAST! BY ETTA JAMES IS THE PERFECT ALBUM FOR A STEREO VERSUS MONO COMPARISON.

Etta James
At Last! The Stereo & Mono Versions
Label: Green Corner/inakustik
Format: two LPs (180 g) or one CD



_____Singer Etta James landed a few hit singles in the R&B charts in the 1950s. Around this time, shellac was replaced by vinyl, and most LPs were available in stores as both mono and stereo pressings. In 1961, Phil and Leonard Chess produced Etta James's debut LP: *At Last!*

At last indeed! The Chess brothers had realized her voice was far too expansive to be confined to just the Afro-American music market. So they put together a repertoire that perfectly showcased Etta James's jazz, rock 'n' roll, soulful pop, and, first and foremost, blues qualities. In the process, Chess Records firmly set its sights on the crossover charts for which Elvis Presley's manager, Colonel Parker,

had softened up his protégé so much that he had lost all his bite and gone bland; yet while the fully ripened Elvis freaks were simply fed more country slop and sickly sweet Hollywood hits, every track on *At Last!* proved meaty and substantial.

Take, for example, the blues-rock classic "I Just Want to Make Love to You." The stereo mix accentuates the dialog between the rich and luscious lip-smacking saxophone in the left channel and the more restrained violins responding from the right, creating a truly wonderful ping-pong effect! Yet the singer lacks some dynamic reserve needed to express her true soul power, at least on the CD *At Last! The Stereo & Mono Versions*. As a

result, the mono track on this digital disk is recommended because it makes the wind section and the strings sound exactly as if they had been positioned at the back of the recording studio, allowing James to shine through at the front. The CD version includes both mixes of her debut album plus four mono bonus tracks that were recorded with the same studio musicians in 1960.

For the vinyl double album bearing the same name, the two different mixes were each pressed on a 30-centimeter disk. "I Just Want to Make Love to You" on the stereo LP also sounds extensively fanned out yet the singer compellingly comes across as the person running the show. Her voice sounds

just as rich and full-bodied as it does soft and smooth—for fans of James's "soul pipes," perhaps even a little too soft and smooth. The drum elements are accentuated crisply in stereo. In the early 1960s, some mixing engineers had already come to believe in the success of stereophonic sound.

Yet with the next track, the title track, James displays her strengths more convincingly in monophonic sound. The mono vinyl also makes for a more enjoyable listening experience and may well be suitable for life's romantic soft-rock moments. Anyone keen on being able to keep a sharper ear trained on the musicians will, however, prefer the stereo mix. ■

Winfried Dulisch

Interview: Sophie Hunger

INTELLIGENT MOLECULES

By Roland Schmenner. Photography: Marikel Lahana

Swiss singer-songwriter Sophie Hunger is a true chameleon of the international music scene. At times mostly inspired by jazz, then influenced by the blues, next motivated to again project a lonely-guitar-hero image, Hunger is

always reinventing herself, sometimes even several times on the same album. Fans who enjoyed her previous albums may well be astonished by the reinvention on her latest album *Molecules* as she has taken a decidedly electro route, a

direction she refers to herself as “minimal electric folk.” FIDELITY author Roland Schmenner had an opportunity to speak with Hunger about her most unusual and best album to date while the artist was in Berlin.





FIDELITY: I have to say, I was both confused and impressed by your new album. It's not the same Sophie Hunger from your previous albums. The singer-songwriter vibe and jazz style have all but disappeared and been replaced with a strong sense of electronica.

Hunger: You're totally right. Last year, I spent a lot of time in the US working on electronic sound design and, above all, Proteus X. I generally wanted to become more independent and work with drum machines and synths on my own. At the same time, however, I also wanted to create some tight constraints for myself in order to really hone in on my musical ideas. That's why you'll only find drum machines, synths, a guitar, and vocals on the new album.

FIDELITY: Nevertheless, as a listener you get the impression you're still predominantly taking a classic approach to songwriting: That is, melodies and harmonies serve as the starting point for the ideas behind the songs. Or does the album have songs based primarily on a sound or beat concept?

Hunger: Yes, I still write the songs the traditional way: with a guitar. But the album does have the odd track or two: like "Tricks," for example, where a specific beat concept actually first came to mind, in this case a classic krautrock beat. After I had come up with the initial ideas and finished some test recordings, I looked for a producer who could assist me with the idea of adhering to the restrictive constraints I had set myself; Dan Carey proved to be the perfect partner.

FIDELITY: The beginning of the album in particular brings back childhood memories of the typical analog sounds of the late 1970s, specifically "Magic Fly" by Space. How did you come up with this specific signature sound?

Hunger: The lion's share of the album was actually recorded in London, but we also took a technology trip to Switzerland. Fribourg is now home to one of the largest collections of analog synths you can find. Over the last 50 years, Klemens Trenkler, a musical equipment

dealer and collector, collected pretty much all there was to collect in terms of synths. He's now donated these objects, really a one-of-a-kind collection in the world, to the SMEM [Schweizerisches Museum für elektronische Musikinstrumente, or Swiss Museum for Electronic Music Instruments]. But these aren't defunct museum pieces. They can actually be played. The collection includes the legendary Yamaha CS 80 from the 1970s, for example. I used this synth when producing the album. The exciting thing about working with these devices is that they have a certain unpredictability about them but also provide a frequency range that's unbelievably multifaceted compared with today's machines.

FIDELITY: I hear a lot of enthusiasm for these analog devices in your voice. Are you just as fascinated with analog music playback? Do you feel like CDs, vinyls, hi-res files, MP3s, and the like are all the same or do you have a favorite format you prefer to hear your music reproduced on? ▶

Sophie Hunger
Molecules
 Label: Caroline International
 Format: CD, LP



Hunger: No, of course they're not all the same. In an ideal world, CDs would've never been invented. If you've ever listened to a vinyl copy of *A Love Supreme* by John Coltrane on a seriously good system, you can't help but cry. Everything else pales in comparison with that perfect sound, a sound that's pure gold. I've noticed that a lot of people are no longer able to deal with a broad dynamic and frequency range. They think that only playback with a lot of treble coming straight out of a smartphone is good. By contrast, though, the groove is the mask of frequency, and the transience of the groove triggers emotions. My fascination with vinyl does, however, also stem from a very personal vocal experience. My vocal frequency profile has a small gap in the upper midrange, so for recordings I sometimes have to get a bit of help from an equalizer. It's much more noticeable on digital recordings and with digital playback than analog reproduction, which sounds more complete.

FIDELITY: Let's talk about your current album now. This time everything is in English with no digressions into different languages like on the previous album. Does that have anything to do with the fact the album was produced in London?

Hunger: Actually, no. Stripping it back to just one language was also related to the idea of restricting everything to the bare essentials. This was the first time I'd ever set myself some clear rules before production. Until recently, my albums were quite eclectic, both in terms of music and language. The challenge this time around was sticking to the constraints. The British record label and the recording location

of course played a role, but ultimately the whole album needed to be cast from the same mold.

FIDELITY: So you didn't deviate from the main concept of electronic music?

Hunger: Only indirectly. First, we recorded the beats in the studio. Then, Julian Sartorius, probably the best drummer in Switzerland, came and laid out all sorts of unusual percussion instruments and sound generators on the floor and improvised live with the finished electronic beats. We then edited and compiled those recordings with the original versions. In part, we also sampled and electronically modified his acoustic sounds until they had a technoid feel to them, which ensured the album's overall character remained intact.

FIDELITY: How will the album be presented on tour? Will you play the beats and sounds live? Will you run samples and loops alongside the vocals? A live concert for this album would surely have to be a bit different from your previous concerts, wouldn't it?

Hunger: Of course we're keen to play everything live. We'll have four musicians on stage, including me: two drummers for the electronic pads and one for the standard drum set; all the musicians will also play keyboards, and I'll be playing the guitar and, of course, singing. There might also be an acoustic instrument or two thrown in for good measure.

FIDELITY: I assume you'll also play your older songs during the live sets and all this will presumably affect them, won't it?

Hunger: Definitely. We're currently working hard on experimenting. Some of the results are astonishing and even serving up some surprises for us.

FIDELITY: Since this is a high-end magazine, I have to pose a question about sound quality, of course. I found it really good on your new album. Generally speaking, what's your experience in the recording studio been like in terms of the sound quality of current productions? Do you support the notion that the sound quality of recordings these days is getting worse and worse?

Hunger: Yes, to a certain extent. I sometimes feel as if the skilled craft of sound engineering is a dying art, at least in terms of sophisticated listening and balancing.

FIDELITY: Artist friends of mine keep telling me that record labels continue to up the time pressure. Is this true for you, too?

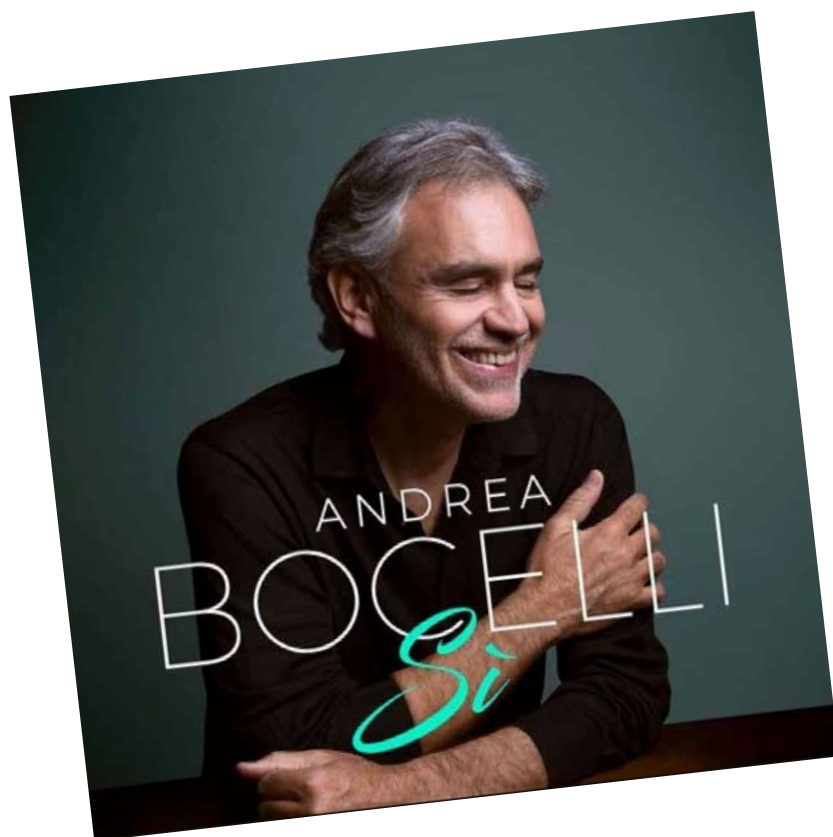
Hunger: I'm in the fortunate position that I can pay for my production work myself up front. That gives me decision-making power over the production process. And, as a musician, sound quality is sacrosanct for me, which is why I might be investing more time and money in it than is typical for the industry.

FIDELITY: Not your average recording situation then.

Hunger: No, not at all. But I'm certain all the effort and commitment will pay off in the long run. I also couldn't imagine anything worse than listening to one of my old albums and thinking it sounded like it had been thrown together cheaply. We make music because it's important to us. This also includes the overall aesthetics, of which sound quality is part and parcel. Anything else would be insincere.

FIDELITY: Thank you very much for talking to me and the best of luck for the upcoming tour. ■

Bocelli, various composers
Si
 Andrea Bocelli, various orchestras
 Matteo Bocelli, Ed Sheeran, Dua Lipa, etc.
 Label: Decca
 Format: CD



WARM HUES
 AND FEEL-
 GOOD SOUND
 TO COUNTER
 THE WEATHER-
 INDUCED BLUES

ANDREA
 BOCELLI: "SÌ"

When the *Brothers in Arms* CD has finally given up the ghost, you've finally figured out the meaning behind all the "Hotel California" lyrics, the goosebumps you used to feel when listening to "Stimela" have begun to give way to a sense of neurotic trepidation and you'd rather look at the covers of the heavy Diana Krall albums than actually play the LPs, it's high time for some new test music. But what exactly? FIDELITY knows what.

———Andrea Bocelli. Oh, come on. Really? The blind singer and troubadour of tacky—kitsch factor guaranteed? In FIDELITY??? As recommended material for an audio test of a different sort a million miles away from *Jazz At The Pawnshop* and Diana Krall????

Yes, seriously. In the eyes of JVC's remastering bigwigs, Bocelli's 1996 album *Romanza* was worthy of an XRCD a few years ago. It has since become a very sought-after and, if found (which is rather unlikely), expensive version. It works on all players but, thanks to a few sound-tuning tricks, is considerably closer to SACD and hi-res files than a conventional CD. Provided you like Bocelli's baritone-tinged tenor voice and his balancing acts between classical music and pop, it's a surefire hit. But this article isn't supposed to be about that album, but rather his brand-new album: *Si*, released on Decca Records. Even audiophiles can safely and confidently say "yes" to this CD, and they will note the comparatively significant amount of studio effort that went into it: Those involved in producing it will have been well aware that "light classical music" fans, who also buy Bocelli's music, tend to have a slightly sharper ear than rock

and pop fanatics who probably permanently damaged their hearing in their younger years.

Of course, listeners have a few fibs to watch out for here as Bocelli's voice gets its share of artificial reverberation, the treble is softened, and the bass is elegantly raised just a few little decibels. But *Si* generally gets the thumbs-up as acoustic instruments sail from the loudspeakers imbued with purely natural tones; even this previously polarizing voice, which split the world down the middle into Bocelli lovers and Bocelli haters, sounds recognizable and authentic. Provided the source, amplifier, and loudspeakers are a good, compatible match, that is. Mismatches will be quickly revealed: If a system's tonal balance is off, then *Si* will quickly scratch and scrape. That's because the studio engineers really went to town on the mixing (more subtly than during the glory days of ghetto blasters, I'll grant you that, but still...) and remained committed to the full-fat end of the scale with the choir and orchestra, in the process settling Bocelli's voluminous instrument on a dark red-velvet carpet. This can brutally drive feeble power amplifiers into experience clipping and mercilessly cause low-level modest speakers, which have no problems handling small ensembles or anemic singer-songwriters, to rattle until the chassis kicks the bucket. So I worked out a pretty formidable dream team, a combination consisting of a Trigon SnowWhite preamplifier, Dwarf II monoblocks, and my old Infinity Kappa 7.2 II loudspeakers. Thanks to them, I immersed myself quite nicely. Kitsch? Hell, yes. But classy, too. And that just has to be allowed from time to time... ■

Hans von Draminski



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



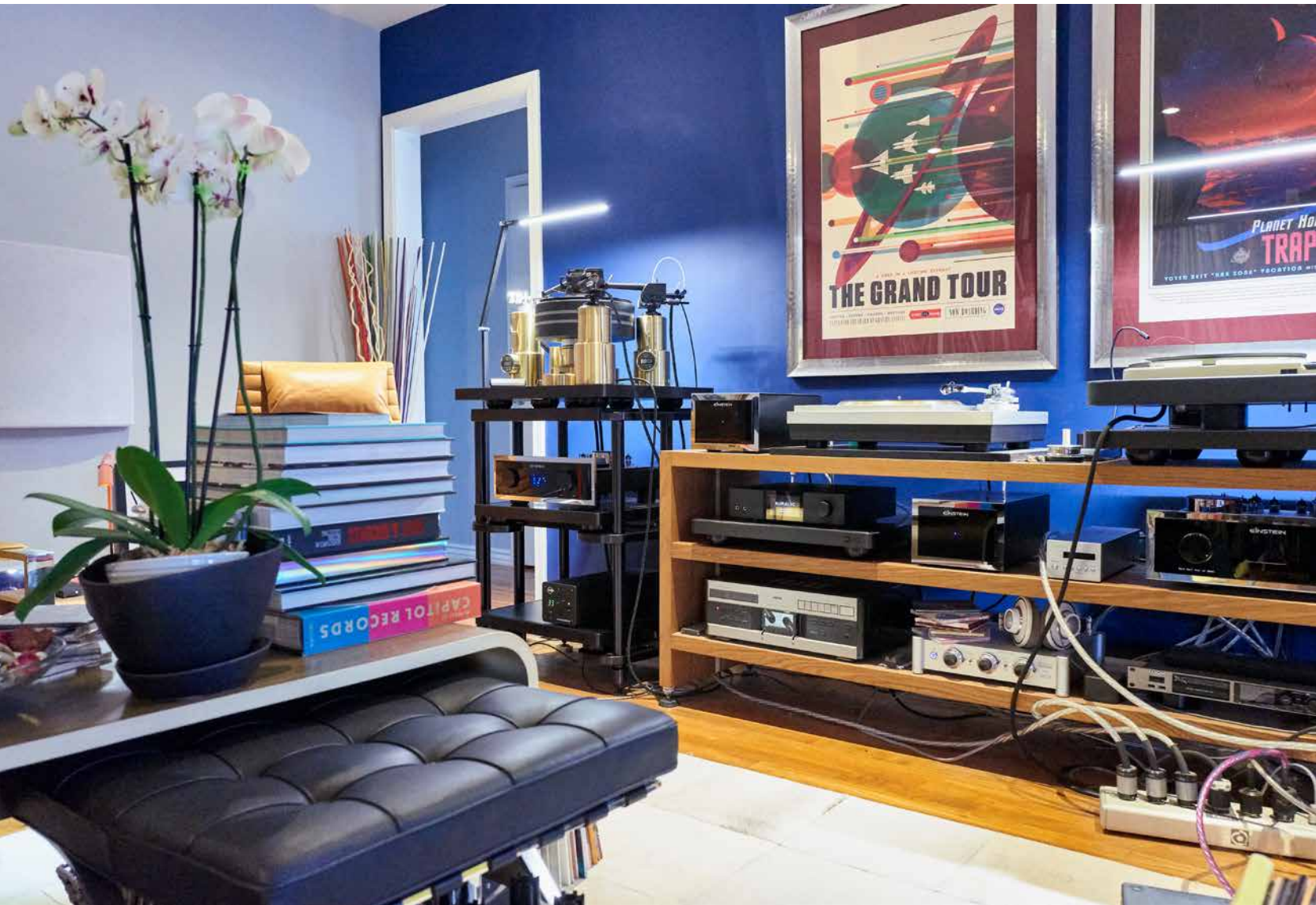
Harmonic Resolution Systems SXR rack, M3X2 and S3 isolation base

UP THE LADDER

A CONFESSION

By Danny Kaey. Photography: Danny Kaey





My history with HiFi component racks is perhaps most closely matched to that of my quest to understand and learn HiFi cable design and theory, neither of which, might I add, were something I really paid much attention to when first I spelunked into this HiFi journey. Frankly, the allure of cables or racks never really reached boiling point until I had my first real high-end HiFi, ca. 2003. Fast forward a decade-ish and a year here or there, and we arrive at today's state of the union at chez K: indeed, HiFi racks (and cables) should not only be given mandatory considerations when choosing your HiFi, they in fact, ought to be valued as part of the component list in first place.

Following my decade plus experiences with different types of racks ranging from solid steel to wood to carbon fiber, to acrylic to some combination thereof, I always felt that even as some of these racks produced audible benefits, they all somewhat missed the mark as a genuine solution, whereby solution implies that said rack system would allow for easy changes, adjustments or extensions (say from a single wide triple height to a double wide, etc.). In reality, none of the racks I had ever used made this easy or even possible. You can't take a wood rack to a carpenter and have it reconfigured; adjusting a purpose-built steel rack requires more than just loosening a bolt here or there; and carbon fiber? Well, let's leave that for another day. ►





HRS was a company I had been admiring for some time: watching Mike Latvis work his HiFi show magic and always seeing HRS associated with only the best sounding of systems, I knew instinctively that he was on to something. When, a few years later, I purchased an HRS M3X base for my Brinkmann Balance, a combination that Helmut Brinkmann has been raving over for as long as I can remember, it became very clear that Mike Latvis and his team had indeed developed something very special. In fact, it was the first purpose-built base which had completely eliminated footfall and feedback loops I had been having major issues with in my home. Having tried just about everything from vibration absorption cups to isolation devices to other bases, I grew frustrated since none of them seemed to work. The HRS M3X? Completely eliminated the problem. No, seriously. Immediately following this literal revelation, I had purchased M3X bases for all of my other components and even though I was using these without an HRS rack, the sound profited tremendously from just the base upgrades. No matter the component, including various

digital and analog sources, all benefited from a dramatically lowered noise floor, better dynamics; I was smitten indeed. The combination of M3X and my solid wood based, built in Germany, Tabula Rasa rack seemed to do the trick.

Then, in late 2017, I received my Kuzma XL DC with 3 arm pods. Clocking in at some 240-ish pounds, it dwarfed the mighty Brinkmann Balance in just about every way. Even though my existing 21 x 23" M3X base/Tabula Rasa rack was doing the trick, I knew—Mike and his team no doubt sending me subliminal messages—that I could squeeze out even greater performance by adding a dedicated HRS SXR rack and a custom built, larger footprint 21 x 25" M3X base. Given I would still have two additional shelves left, a second source—my Einstein The Last Record Player (CD player)—and perhaps the Kuzma's power supply would also fit and benefit from the SXR rack system. A phone call to Mike solved the rest and the SXR rack with two M3X2 shelves and an S3 ►





shelf were dispatched. Setup for the SXR is straight forward and simple, which is to say that you can't help notice the impeccable engineering and quality HRS products exude. Take for example the threaded spike level system on each of the four columns: frankly, I have never seen a more precisely machined set of threads and corresponding cups, which make leveling the rack a literal breeze. I opted to add the SXR Solid Brace insert for the 21 x 25" top M3X2 shelf which would add further mass, stiffness and absorption qualities to not only the top shelf, but the rest of the rack as well. Further, adding additional SXR Solid Brace inserts across the remaining two shelves at once or over time, yields the SXR Signature rack configuration, which according to HRS, gets you closer still to HRS' top of the line MXR rack system. Thus, a customer could start off with say a two shelf SXR and work their way up to a five shelf SXR Signature rack during any point of their HRS journey. Modularity hits home. Cost effective and only increasing the value add, I find this one of the most appealing performance features of HRS rack systems in general.

With no other setup to perform—the SXR comes completely preconfigured to your specs in a wooden crate—it was time to assemble the Kuzma and place the Einstein CD player on the SXR. The all black anodizing (also available in silver), the dark grey polish of the M3X2 granite inserts, the genuinely best in class craftsmanship show off an overall quality fit and finish that is state of the art. Sitting—standing!—next to

my Tabula Rasa triple wide rack, the SXR adds a striking visual esthetic to music room 1; so much so, that—spoiler alert!—I am already mulling adding a second SXR rack for music room 2, though more on that later. Whereas adding the Einstein CD player was accomplished with minimal fuss, setting up the Kuzma proved a bit more involving. Given that the 21 x 25" M3X2 has 6 isolation footers (footers come in matched sets, corresponding to the weight of the component to be placed on the base), each with their own suspension design, you have to take your time to set-up the Kuzma XL DC in such a way that the base remains level once all 3 arm pods are moved into place, especially when one of the arms holds the Kuzma Airline air bearing tonerarm which requires an absolutely level platform to perform. Thus, the next half hour or so was spent moving each of the arm pods and the XL's DC motor in such a way as to ensure that the shelf was perfectly level. That said, I was all set and done within an hour and ready to consume my first track.

Mike Latvis views isolation as the key job his rack systems and shelves have to accomplish. Isolation from airborne, structural and internal energies is key to performance and every part of an HRS system is designed from the outset to combat these problems. Here, the SXR rack acts to provide a structurally rigid and very solid isolation platform; the M3X2 and S3 bases are then decoupled from the rack via their cupped, radial suspension footers. At each level of the system, Mike ►





and team calculated the exact, precise mechanical interactive elements necessary to achieve the desired results. You see, Mike views isolation as not just one singular element that will do the trick; instead, it's careful consideration for multitudes of different engineering solutions that will then create the best possible isolation platform—with scale.

I place a record on the Kuzma, cue up the Airline arm and lower the stylus: silence. A faint pop. A tiny amount of background noise. A quick press on the Einstein remote raises the volume to pretty loud. Driving Wilson's Alexx is my reference pair of Einstein The Silver Bullet OTL amplifiers. Then suddenly, the opening salvo of Chad Kassam's first ever record reissue, *Le Cid Ballet Music*, released in 1992. My friend, ear-witness to the ceremony, startled to his bone, literally jumps from the Eames aluminum group chair. He turns his head, looks at me and throwing a massive grin gives me a firm two thumbs up. About a minute into the cut, I turn the volume back down to merely loud and, equally stunned, proclaim this to be the most realistic I had ever heard this particular piece of symphonic ecstasy. Having already anticipated a knockout performance the second the Transfiguration Proteus stylus hit the record, I knew that this was a giant leap from the very same setup that just a week prior had been sitting on another M3X firmly planted on the Tabula Rasa rack.

Shocked at the initial results, I didn't even let *Le Cid Ballet Music* end, instead, I lifted the Airline arm and placed Yello's 12" 45 rpm, ca. 12 min long run of "The Race" on the platter. You heard it a million times. A knock-out hit for the Swiss duo, "The Race" is a complex piece of electronic layering, pro-tooling and mastering. I know what this can sound like on non-optimized setups: slow, smeared, even shrill with overblown bass. Following the occasional groove tick, the sound of a roaring race car starts appearing far left field—far beyond the speaker and wall limit—growing louder and louder, literally roaring through your living room, only to fade to the right side just as ferociously as it had appeared. Then, the percussive elements begin as the rest of the 12 minute single starts to take shape. Dieter Meier's supremely sublime baritone voice hits with just the right depth, weight and tone. Even when the Kuzma'd M3X was on my Tabula Rasa rack, the detail retrieval simply wasn't what it is now. No way. Yes, all of the same qualities were easily identifiable, but the level of contrast, the shear dynamic explosiveness, bass depth and finely positioned percussive cues simply didn't have the impact as they do with the Kuzma'd M3X2 placed on the SXR rack.

Not to be outdone, I cued up Marian Hill's *Unusual* in the Einstein The Last Record Player. A no holds barred reference, and in ►





all likelihood probably the last CD player I'll ever buy, the Einstein does one thing and one thing only: it plays CDs. No USB input, no ethernet, no Toslink, nada. A CD is what you can play and 16/44 sound is what you will get. The build and sound quality is typical Einstein, which is to say fuss-free, extended and very open sounding. Placed on the SXR, the match is quite striking from a visual perspective. Sonically, it's a whole new CD player, even as I was intimately familiar with it. I always felt that high-speed spinning disc drives need special isolation—imagine the rotational energies and forces being transferred internally from the disc drive to the electronics; a proper isolation device ought to do wonders here, and with the SXR/M3X2 combo, it in fact does just that. Playing the aforementioned Marian Hill track, “Subtle Thing”, you are presented with downtempo, massively powerful bass lines that—provided you have full range sound—couple the room with deep, electronically generated dubstep bass. Added to the mix are sparingly used finger snaps, layers of synth and of course Marian Hill's sensual, delicate, yet powerful voice. The presence here is nothing short of stunning, the Wilson's generating so much powerful bass, whilst at the same time properly conveying the delicacy of Marian Hill's vocals. Delicately resolved, the percussive elements form a singular part of the track, yet each individual color palette—though I have to doubt that much of what you are hearing are actual instruments—is clearly visible across the positively Cinemascope soundstage. What's not to love?

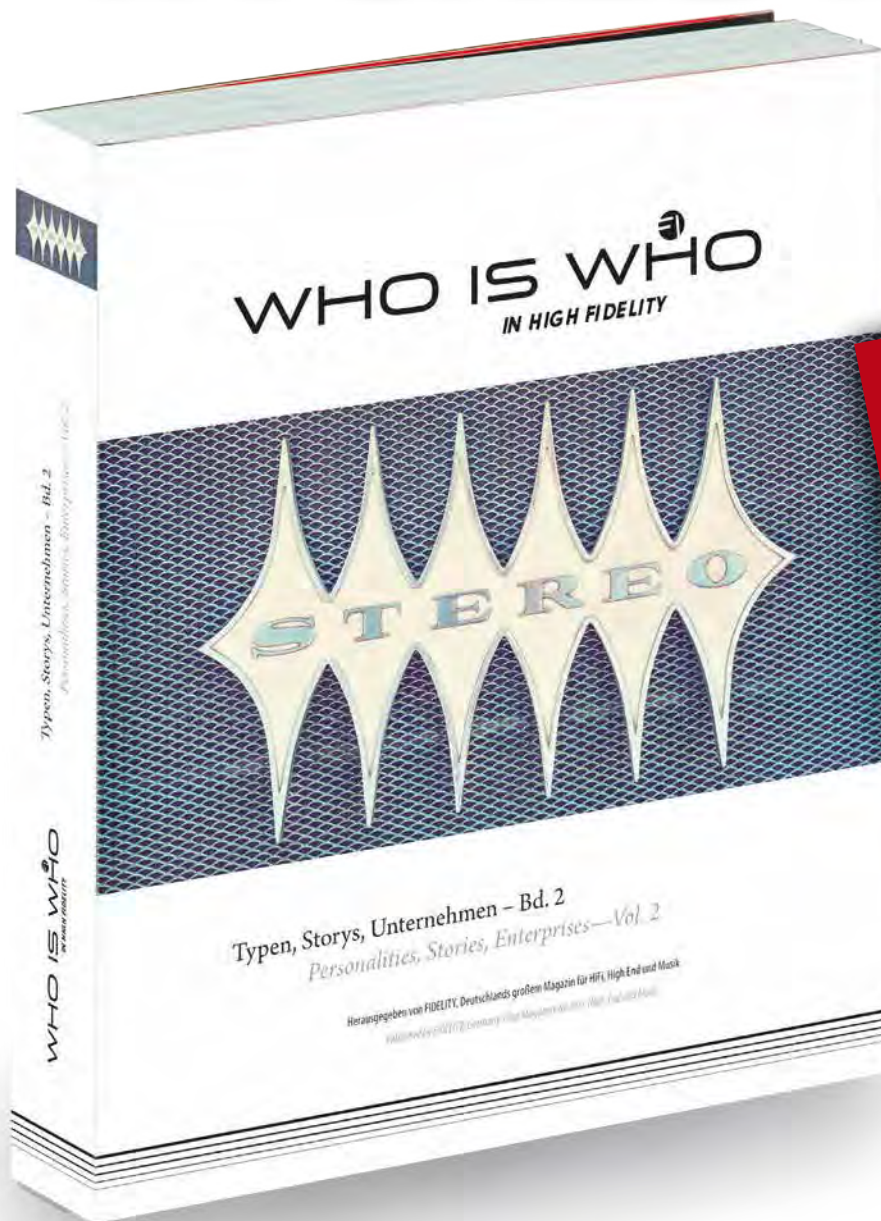
The team behind HRS, led by Mike Latvis, is one that places musical integrity above all else: pace, rhythm, timing are the essential components

of what we traditionally perceive as music. The benefits of an HRS rack—the SXR reviewed here, though this speaks to any of the racks they manufacture—are multifold. As with everything, the carefully designed individual components and systems make up that which becomes a genuine isolation solution that also happens to be modular, can scale to size up or down and to boot is among the most simple to configure as an end user. To put succinctly, no other rack/isolation system I had used in the past was this well designed, engineered and implemented to its logical conclusion. Already on my list of upgrades are additional SXR Solid Brace inserts for the Einstein The Last Record Player/M3X2 shelf and the S3 shelf which houses the Kuzma power supply. Finally, you better believe that as inexplicable as it may seem, placing the Kuzma power supply on the S3 base of the SXR, in fact proves to be an audible—though subtle—improvement. Don't ask me why, I just report on what I hear. Even as the S3 base leaves some of the higher-end details of the M3X2 out to make it more affordable overall, the basic isolation principles HRS advocates for are all still present. Some things just need to be taken at face value.

Kudos then to the HRS team, as they created the single best rack and isolation system I have come across. My advice would simply be this: if you can't yet go with the SXR, start with HRS component shelves as I did and work your way up the ladder. Guaranteed performance wins are what you will net. An absolute recommendation—I couldn't resist keeping the SXR and promptly sent a check to Mike—case closed, though by no means permanently. A+++ ■

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EINSTEIN AUDIO

THE PERFECT MATCH

By Frank Neu. Photography: Ingo Schulz, Frank Neu





Let's start right from the very beginning, with the whole unboxing experience. The pure MC phono preamplifier, The Perfect Match, arrived wrapped in beautiful black packaging that, in addition to the company logo, featured the words "Handcrafted German Excellence Since 1988." This inspired confidence.

I removed the outer packaging and discovered The Perfect Match, complete with a separate solid power-supply unit swathed in the most beautiful black paper. Here, too, head designer Annette Heiss had insisted the packaging ribbon sport an Einstein logo and be tied in a bow. It reminded me of the kind of thing you'd expect from an Italian haute couture fashion house. Lying next to an extraordinarily high-quality power-supply unit were also some operating instructions, but you definitely won't need them.

As soon as I had wired it up, I placed The Perfect Match on my rack and the solid power-supply unit at an appropriate distance one shelf below.

Now all I had to do was put on a record, sit back in my listening chair, and relax... but wait! Wasn't there something else I was supposed to do?

Usually with MC phono preamplifiers you have to adjust the cartridge before you can enjoy the music. You normally do this using fiddly DIP switches or adjustable RCA connectors. No need to do any of that here, however; mastermind Volker Bohlmeier has devised a very special current input concept for The Perfect Match: With conventional phono preamplifiers, the cartridge is first subjected to a predetermined load impedance to then drive a comparably high-impedance amplifier. In the Einstein circuitry, the MC cartridge feeds the signal current into a very low-impedance amplifier input, and only then is the signal converted into voltage. This is done by a current-to-voltage converter that, in practice, meets a current feedback operational amplifier connected to the input. The cartridge then works with the induced signal voltage over its own





internal impedance and delivers a signal that is largely free from interference. Incidentally, this also significantly reduces cable influences, which, in the process, optimally dampens the cartridge system. With the Einstein concept, The Perfect Match's input stage involves not only the current-to-voltage conversion, but the treble reduction required for the RIAA equalization as well.

In addition to a level increase, the second amplifier stage also handles the remaining phono equalization between 50 hertz and 500 hertz. The third amplifier stage ensures at the end an extremely low-impedance signal at the amplifier output that still has sufficient current reserves. Naturally, all the circuitry is systematically configured to be dual mono and, thanks to the compact housing, boasts exceptionally short signal paths.

How well it all worked became clear to me after hearing the first few bars of Nils Frahm's song "My Friend the Forest." In this recording, and helped by The Perfect Match, the piano's action

mechanism was so beautiful and clear that I felt as if I was sitting right next to Frahm at the grand piano. One of The Perfect Match's major strengths lies in its spatial reproduction. It reproduced Buena Vista Social Club's classic "Chan Chan" with such authenticity and vivid-sounding space that I literally expected a Cuban bartender to bring me a Mojito.

I then put Talking Heads' live version of "Psycho Killer" on, a track that is less audiophile but no less dynamic. And even here, as Einstein's smallest phono preamplifier reproduced the hectic, complex rhythm, it proved it can hold its own in the big leagues.

A perfect match? You better believe it! ■

Phono preamplifier | Einstein Audio The Perfect Match MC

Special features: Current input circuitry | **Dimensions (H/W/D):** 6/21/6.5 cm, power-supply unit 6/14/21.5 cm | **Weight:** 1.5 kg, power-supply unit 2 kg | **Warranty period:** three years (tubes six months) | **Price:** €2,800

www.einsteinaudio.com

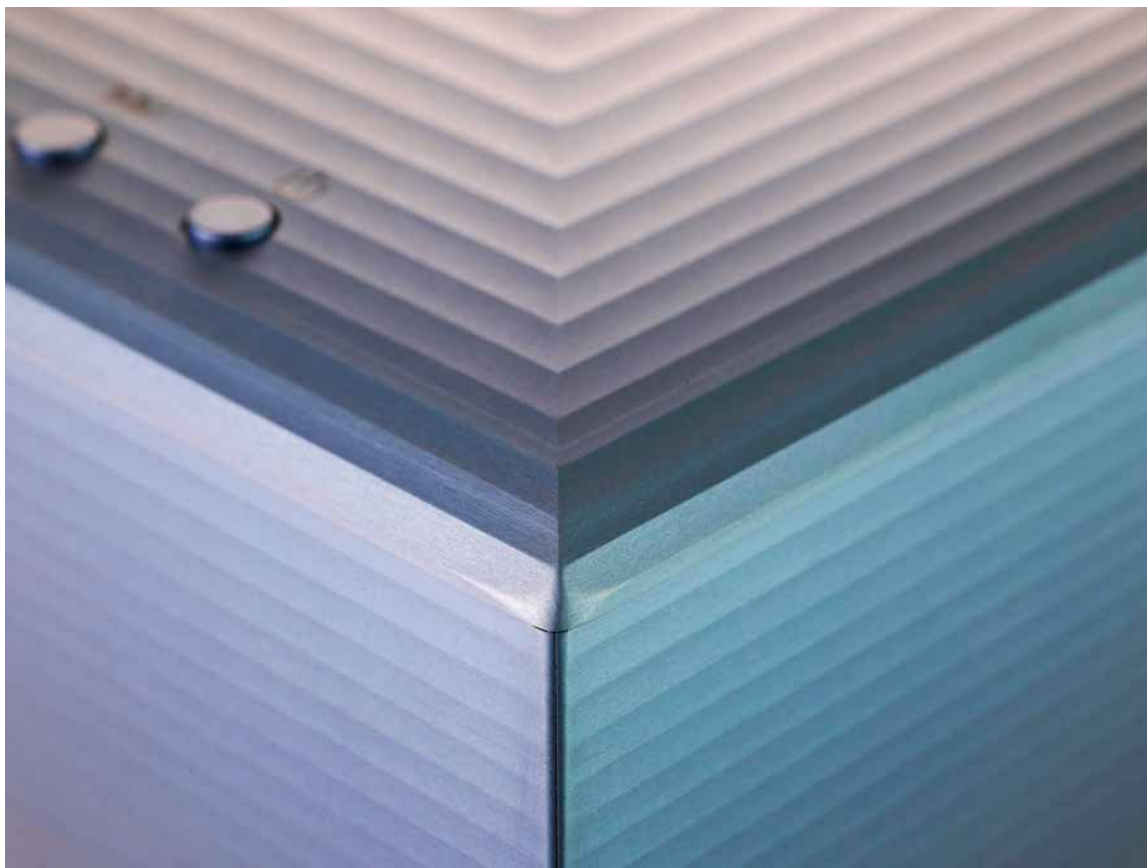
Playback Designs MPS-8 Dream Player

AS GOOD AS IT GETS

By Roland Schmenner. Photos: Ingo Schulz

PLAYBACK DESIGNS HAS
REDEFINED THE PARAMETERS OF
DIGITAL MUSIC PLAYBACK.





———Wow! What an unorthodox, but elegant color and what a dynamic, but singular shape! As soon as I had placed all 18 kilos of Playback Designs' current top-class (SA)CD player and DAC combo in position, it captured my undivided attention. And when you learn as well that the people behind Playback Designs are none other than the digital mastermind Andreas Koch, who was significantly involved in the development of SACD and DSD, and Bert Gerlach, a qualified doctor and engineer who was responsible for all the post-conversion processes in the MPS-8, you can't help but stand there feeling awestruck. You might also find yourself standing there rather dazed when you learn the MPS-8's hefty price tag weighs in just shy of €28,000. But I'd hardly gotten finished with integrating the device into my home system when the tough critic in me took over

and quickly brushed aside all that previous information. My plan was to see if the Dream Player really lived up to its name.

Sublime drive quality

You may think my approach to top-of-the-range and luxury audiophile products is a little punctilious or just typically German; but when it comes to devices in lofty price categories, I like to start with properly inspecting secondary qualities such as look and feel and, above all, workmanship. You see, I've had to endure more than one unwelcome surprise in my life as an audiophile. For me, the litmus test for assessing a CD player's production quality will always be the amount of noise generated by the drive, especially since this supposedly ►

secondary quality has a direct effect on the primary quality of the sound being produced. Regardless of whether it's a front or top loader, I see the critical emission distance starting at 50 centimeters. Even with John Cage's piece 4'33", where the musicians have to abide by the musical direction "tacet" for the entire duration of the performance (see title of the piece), I don't want to hear a peep out of the device, even when I sit right next to it. And this brings us to the aspect of the MPS-8 that impressed me more than that of any product for quite some time: From my listening position, I couldn't hear a single noise, even when I held my ear directly over the player. A deathly silence had descended. This was technology at its best, real state-of-the-art stuff. On that note, I do have to add that the drive is not actually an in-house development but a studio-line creation from Marantz-Denon. That said, it's the seamless integration and precisely tailored shielding that really make all the difference. And it goes without saying that the player's external bodywork makes it a phenomenal

head-turner. Frank Pietersen from the company's German sales team also told me that the housings for Playback Designs' products are developed and produced by a shipbuilder that boasts a portfolio brimming with luxury yachts, which explains quite a few things.

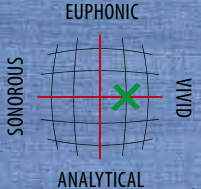
Musicality through technical innovation



It's not often you see a commitment to quality kept to such an impressive degree as this. And what about the sound quality? In the end, what use are superior mechanics if the data read emerges unsatisfactorily from the converter? After just the first few bars of Eiji Oue's benchmark-setting recording of Leonard Bernstein's *Divertimento for Orchestra*, I stopped mulling this question altogether and just let my ears take command of the moment. If I were to now simply say that everything sounded correct—that everything sounded just as it ►



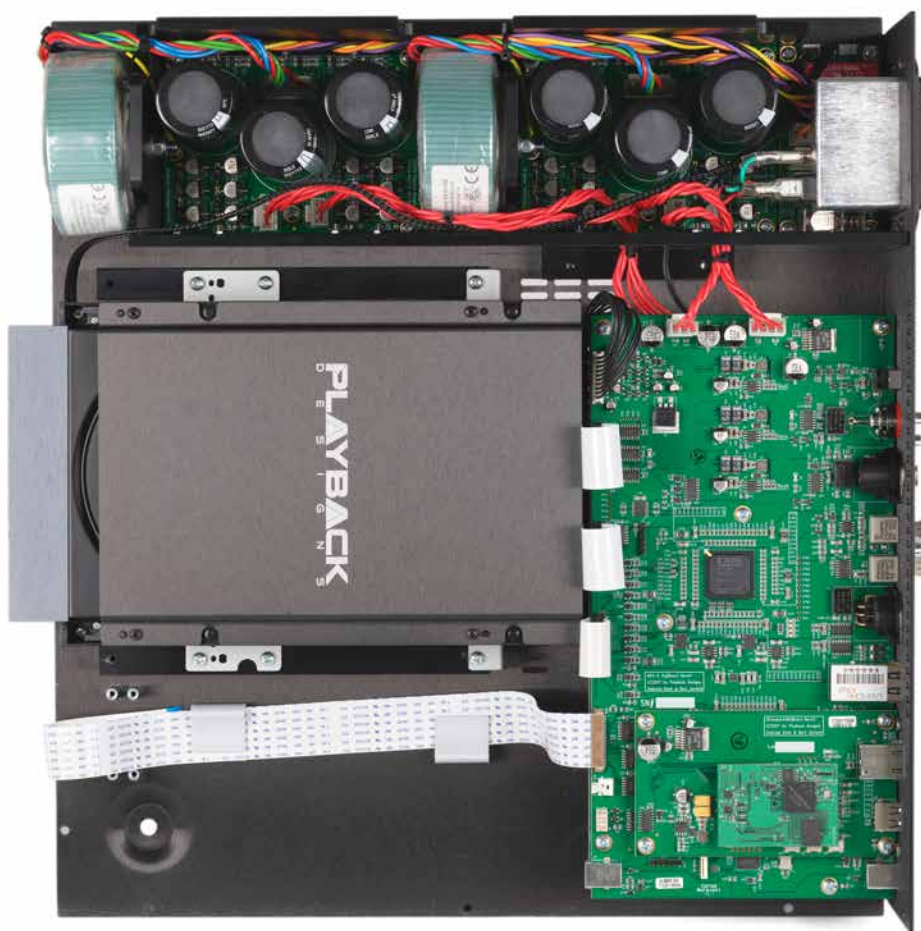
Respectable bow wave: The housing designer at Playback Designs is also a shipbuilder and designs luxury yachts — you probably guessed it.

Playback Designs MPS-8 Dream Player
Whether you use CDs, SACDs, or data files, Playback Designs' MPS-8 converts digital files and takes them to unprecedented musical heights, impressing w/ a degree of workmanship that's hard to beat along w/ a strikingly bold choice of color.



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

© FIDELITY MAGAZINE



The (SA)CD drive of the MPS-8 emits absolutely no mechanical sounds. Digital and analog sections have separate power supplies. For exclusively digital listeners: The output stage, adjustable with a remote control, can make even high-quality preamplifiers obsolete.

was supposed to—you might retort by saying that this device was perhaps a pedantic number cruncher, a buzzkill from the mid-studio category. But if you did assert that, you'd be way off the mark. You see, the resulting sound is first considered correct when the ideal instrument gradation, perfectly balanced spatial volume, complete absence of tonal discoloration, and natural ease go hand in hand with a deeply relaxed flow—only then can rumination about the degree of perfection be squelched. And that was precisely the case here. Okay, okay. The Reference Recordings CD was also pretty perfectly produced, which means a lot of things need to go terribly wrong to make it sound like a mediocre recording. So I shot straight over to the poison cabinet and popped in some rock CDs from the mid 1990s, blessed with the era's typical digital-dentistry sound. I wondered what the MPS-8 would do with them. No, it didn't polish or warm them up. If that's what you're after, you'll have to opt for a device with intentional phase manipulation or tube output. With the MPS-8, the authentic early digital sound remained intact. But because the music sounded

like it had this laid-back ease to it, my ears were directed straight to the musical flow, which meant that any tonal shortcomings in the recordings were not obtrusively noticeable. I have to admit I'd never experienced this in such a way before, not even with analog playback. As Hanns Eisler and Bertolt Brecht both said, it's the simple things that are hard to do. It follows then that the effortlessness of the MPS-8's music reproduction is fueled by a technical masterpiece and all manner of innovative digital inventions. Contrary to the mainstream doctrine, it isn't discrete components that carry out the conversion work but special ICs. Andreas Koch has programmed the algorithms of these FPGAs so they increase the sampling rate to many times the standard DSD rate. This is the only way to implement sophisticated digital filters, known as "adaptive apodizing filters," that are responsible for the naturalness of the sound. The nice thing about this is the absence of trying to achieve any supposed "higher, faster, farther" ideals in terms of resolution, and the technical know-how serves the listener's ability to enjoy the reproduction and that alone. ►



The drive is controlled with small buttons right on the device or by means of the huge transmitter.

Upsampling included

I also wondered how the MPS-8 would behave when faced with files fed by USB. I primarily stuck to FLAC files with different bit rates as the availability of DSD files in the relevant download stores is still pretty limited. Unlike with the upsampling of an (SA)CD, the files being played here would essentially get upsampled to 352 kilohertz. In theory, the USB input should be superior in terms of sound quality. Bert Gerlach is confident about the results produced by the in-house-developed PDFAS (Playback Designs Frequency Arrival System), which is designed to reliably eliminate jitter. I wasn't, however, able to make out any real difference compared with CD playback using the internal drive. I could hear the already familiar effortlessness and perfect transparency when I played Rolf Kühn's new album *Yellow + Blue*. Mean-spirited high-end fans sometimes like to focus on trivial matters relating to the music in order to draw conclusions about the quality of their system's playback. Some developers

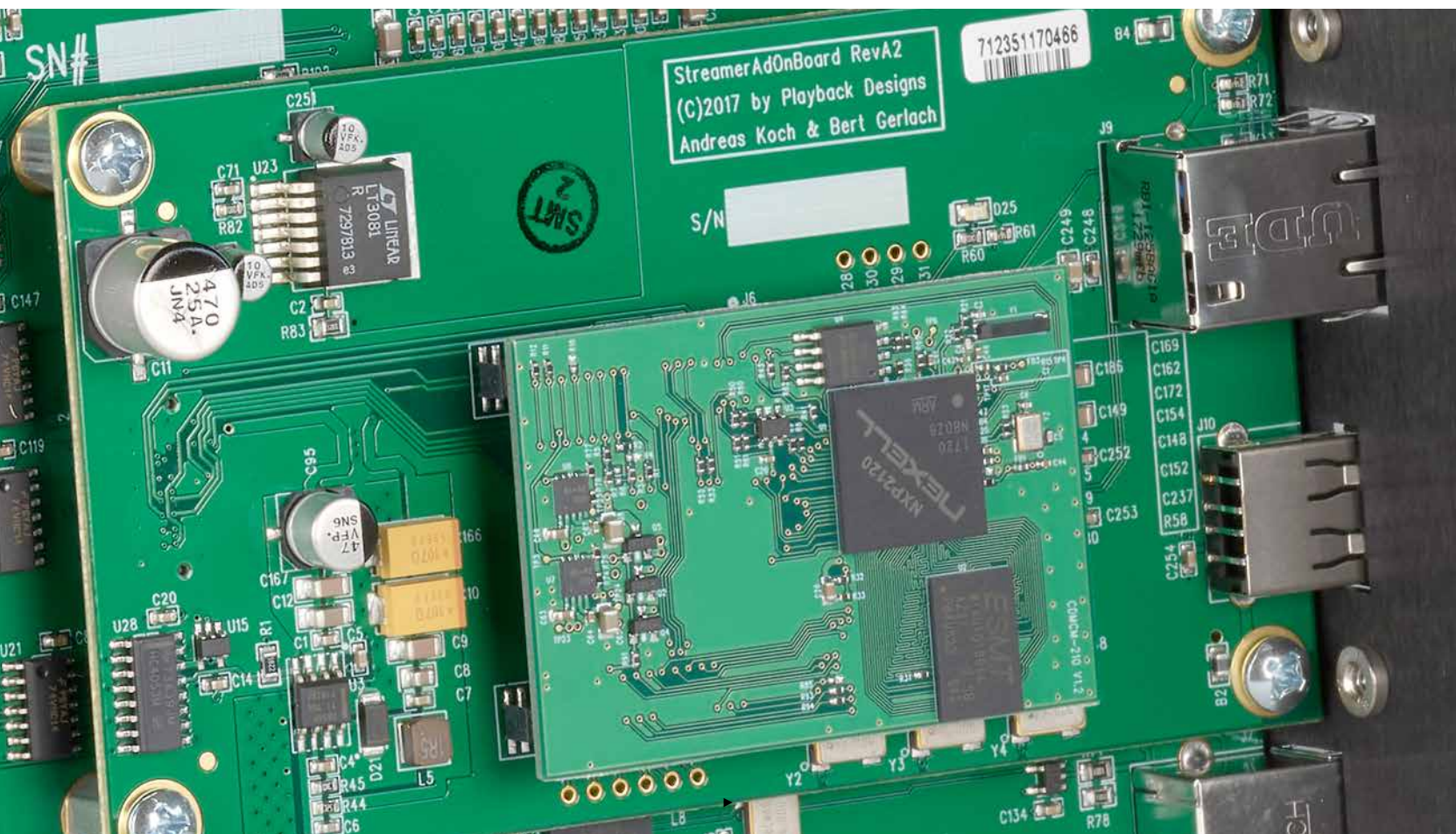
capitalize on that by deliberately placing a strong focus on chuff or the movement of an instrument's keys; this ultimately results in audiophile razzle-dazzle taking over. Of course, I could also make out Kühn's chuff and heard the clearly recorded sounds made by his clarinet's keys, but that never sounded excessively prominent and was embedded in the general flow of the music. I also got the impression the upsampling resulted not in a higher resolution but in more natural playback.

Unexpected amplifier qualities

On the advice of the sales team, I also used the MPS-8's preamplifier section. Alternating between connecting the device to my power amplifier and my active studio monitors, I was amazed at the immediacy that could be achieved like this. I quickly realized there was absolutely no need for an additional preamplifier unless you wanted to achieve a specific sound or connect additional devices, that is. Slightly more direct and a tad more dynamic: ►



Two FPGAs (field programmable gate arrays) on the digital boards provide upsampling and symmetry; the analog side also has one of the specially programmed ICs.





The Dream Player from Playback Designs: sparse in front, but ready for anything in back.

The music seemed a bit different to me, which I personally liked even more than before with my own preamplifier. Using the remote control, the volume was easy to adjust at the tiniest of increments. As a result, anyone who prefers a purely digital setup should definitely consider the minimal configuration of MPS-8 plus active loudspeakers; in view of the player's attractive design, this is a tantalizingly minimalist option in terms of style, too. Before I wrap things up here, I should mention the additional streaming module available for €3,000, which I didn't have for this report. With it, you can also directly integrate the usual services and portals. Since I'm a fan of direct computer connection, I wasn't all that bothered about not having it. But regardless of how you operate the MPS-8, you'll definitely find this really is as good as digital gets. The name "Dream Player," is no exaggeration. It's a validation. ■

SACD player/DAC-streamer | Playback Designs MPS-8 Dream Player

Digital inputs: USB (PCM up to 384 kHz, DSD up to 11.2 MHz), AES (PCM up to 192 kHz, DSD over DoP), 2 x S/PDIF (coaxial PCM up to 192 kHz, DSD over DoP or TOSLINK PCM up to 96 kHz), PLINK optical link (PCM up to 384 kHz, DSD up to 11.2 MHz) | **Digital outputs:** PLINK optical link, AES (PCM up to 192 kHz, DSD over DoP) | **Analog outputs:** balanced (XLR), unbalanced (RCA) | **Dimensions (W/H/D):** 46/13/43 cm | **Weight:** 18.2 kg | **Price:** €27,900

<http://www.playbackdesigns.com/>

ACCOMPANYING EQUIPMENT

SACD player: Denon DCD 2000AE | **Turntable:** Technics 1210 MK II (modifiziert) | **Tonearm:** SME 309 | **Cartridge:** Clearaudio Concept MC | **Phono preamplifier:** Audionet PAM | **Streaming:** Mini Mac with Audirvana Plus | **DAC:** Schiit Bifrost | **Headphone amplifier:** Schiit Valhalla | **Integrated amplifier:** Classé Audio CAP-151 | **DAC, headphone amplifier, preamplifier:** Grace Design M 903 | **Power amplifier:** Yamaha P2500S | **Passive loudspeaker:** Magnepan 1.5, Triangle Zerius | **Active loudspeaker:** Adam Audio Tensor | **Headphones:** Focal Utopia, HIFIMAN HE-400i | **Cables:** Van den Hul, Voxox, Sommer, Guerilla Audio | **Accessories:** Oyaide, Oehlbach

Photo Credit: The picture of the two musicians is taken from the album 'Confession' The Blues (BMC/Universal)



We can only speculate as to what advice Chuck Berry must have given to Mick Jagger on November 28, 1969, before the Stones' concert in Madison Square Garden. Possibly something along the lines of: "You folks stole my music, but you're still good guys. Don't destroy it."

FAMOUS BATON
HANDOFFS

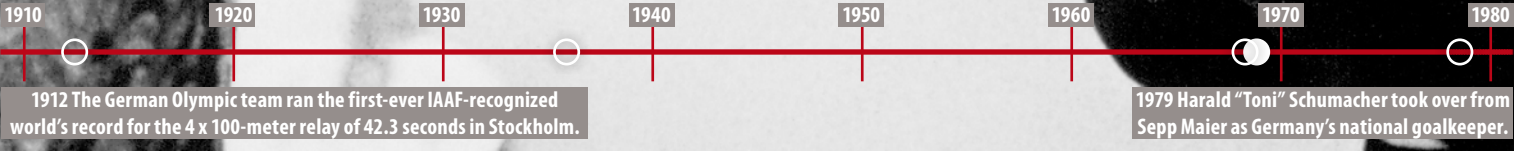


Photo Credit: The picture of the two musicians is taken from the album 'Confession' The Blues (BMC/Universal)



And The Rolling Stones didn't. They forever cherished the black legacy of the blues and proved themselves to be worthy bearers of the rock 'n' roll baton.

1982 Ace Frehley left KISS (returned 1996), and studio guitarist Vinnie Vincent stepped in.

1997 Kofi Annan took over as United Nations' Secretary-General from Boutros Boutros-Ghali.

2003 Madonna kissed Britney Spears on stage at the MTV Awards.

2011 Ashton Kutcher took over a beach house in Malibu from Charlie Sheen in the series Two and 1/2 Men.

1970

1980

1990

2000

2010

2020

1987 Frank Elstner handed over the wildly popular German TV show *Wetten, dass...?* (Wanna Bet?) to Thomas Gottschalk.

2012 The Jamaican Olympic team achieved the first-ever 4 x 100-meter relay under 37 seconds at the London Olympics.

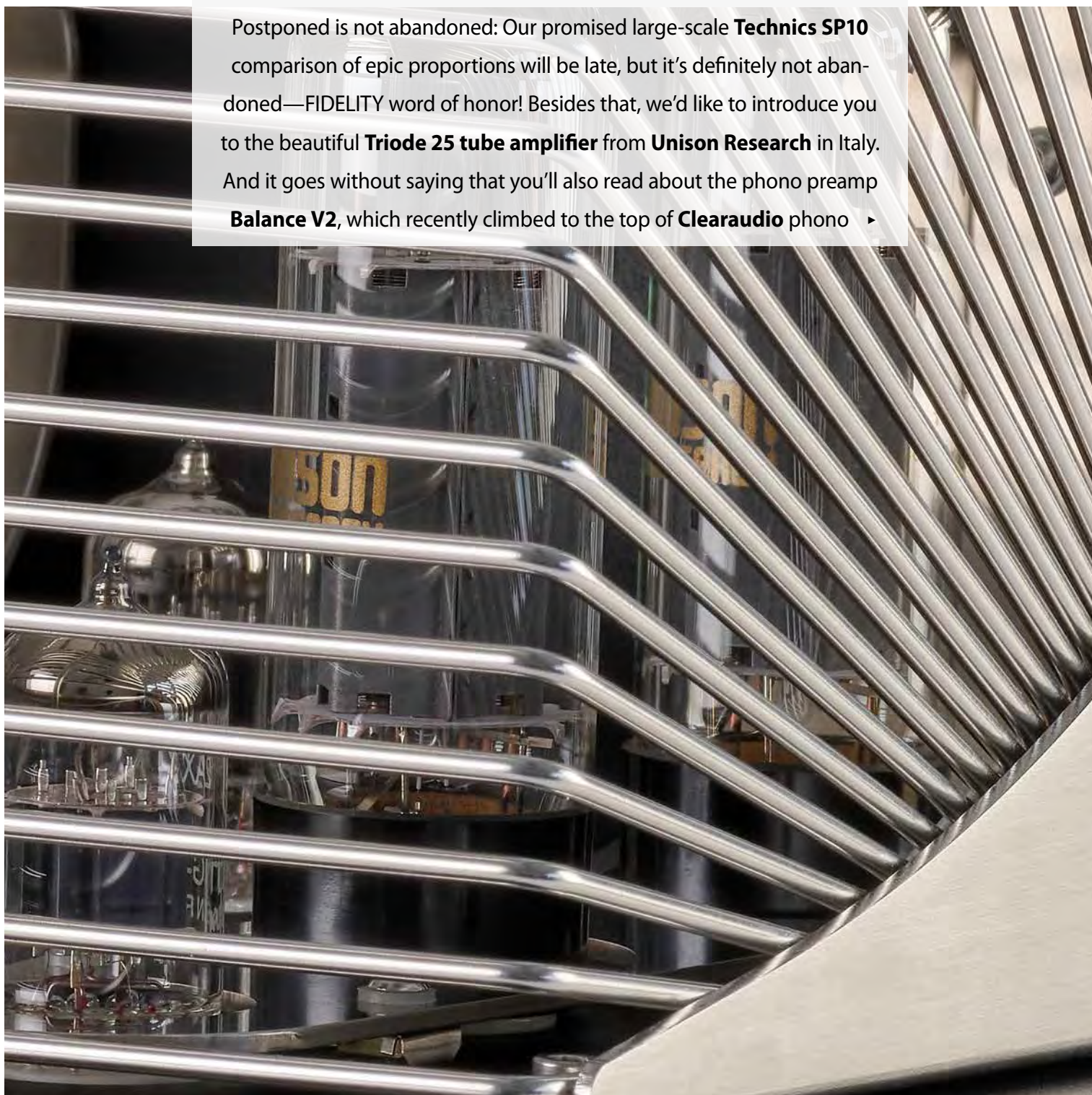
2018 Horst Seehofer handed relinquished the role of Minister-President of Bavaria to Markus Söder.

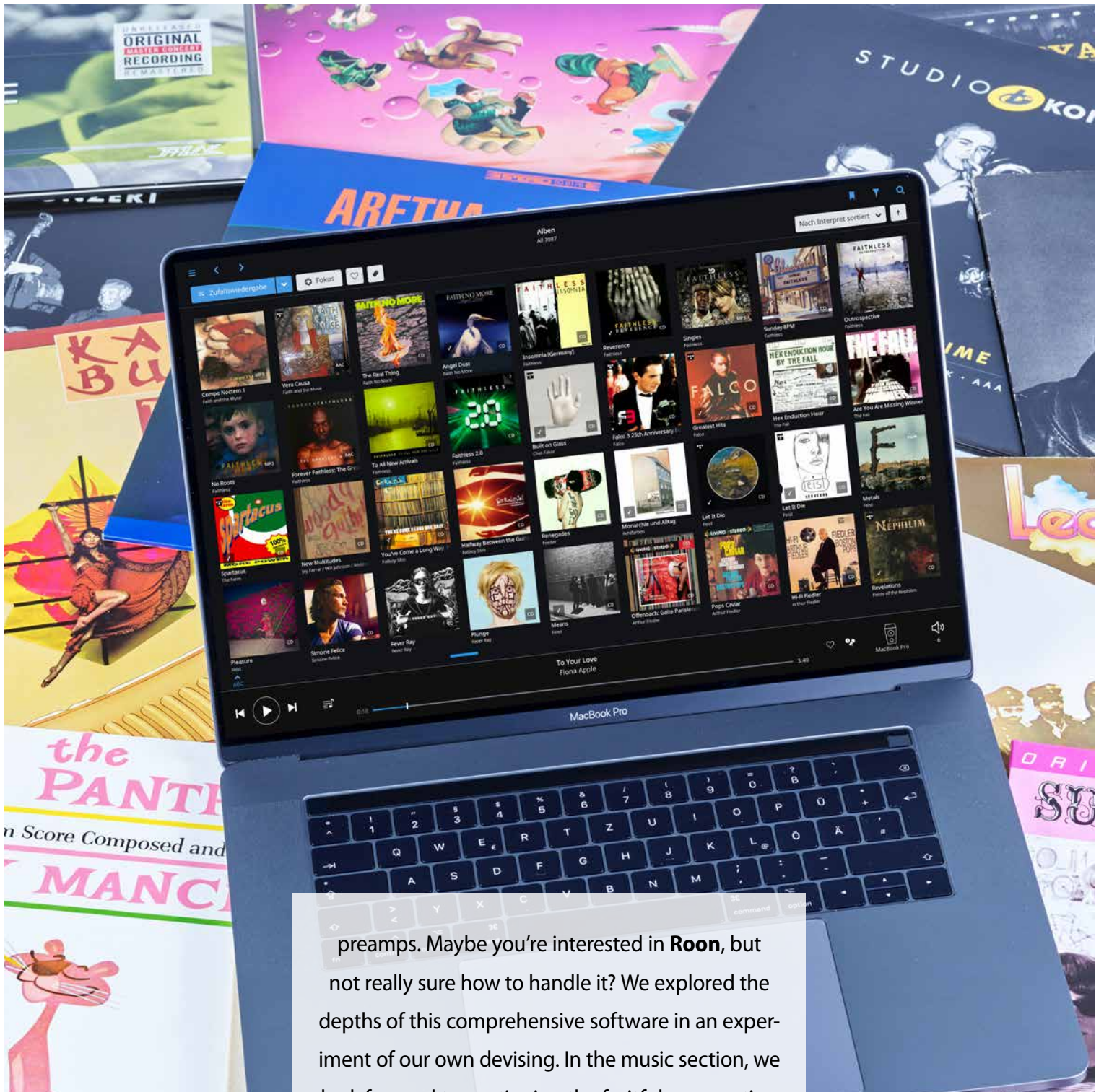
PREVIEW

FIDELITY international No. 13

Dear Readers,

Postponed is not abandoned: Our promised large-scale **Technics SP10** comparison of epic proportions will be late, but it's definitely not abandoned—FIDELITY word of honor! Besides that, we'd like to introduce you to the beautiful **Triode 25 tube amplifier** from **Unison Research** in Italy. And it goes without saying that you'll also read about the phono preamp **Balance V2**, which recently climbed to the top of **Clearaudio** phono ▶





preamps. Maybe you're interested in **Roon**, but not really sure how to handle it? We explored the depths of this comprehensive software in an experiment of our own devising. In the music section, we look forward to continuing the fruitful cooperation with *Copper Magazine*.

FIDELITY international issue 13 will be available at the end of May 2019. Or whenever it's ready.



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THE END

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