

FIDELITY 17

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english

01/2021 • Summer 2021

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

The Next Generation



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Concentrated Energy



Photography: Ingo Schulz, FIDELITY Media GmbH

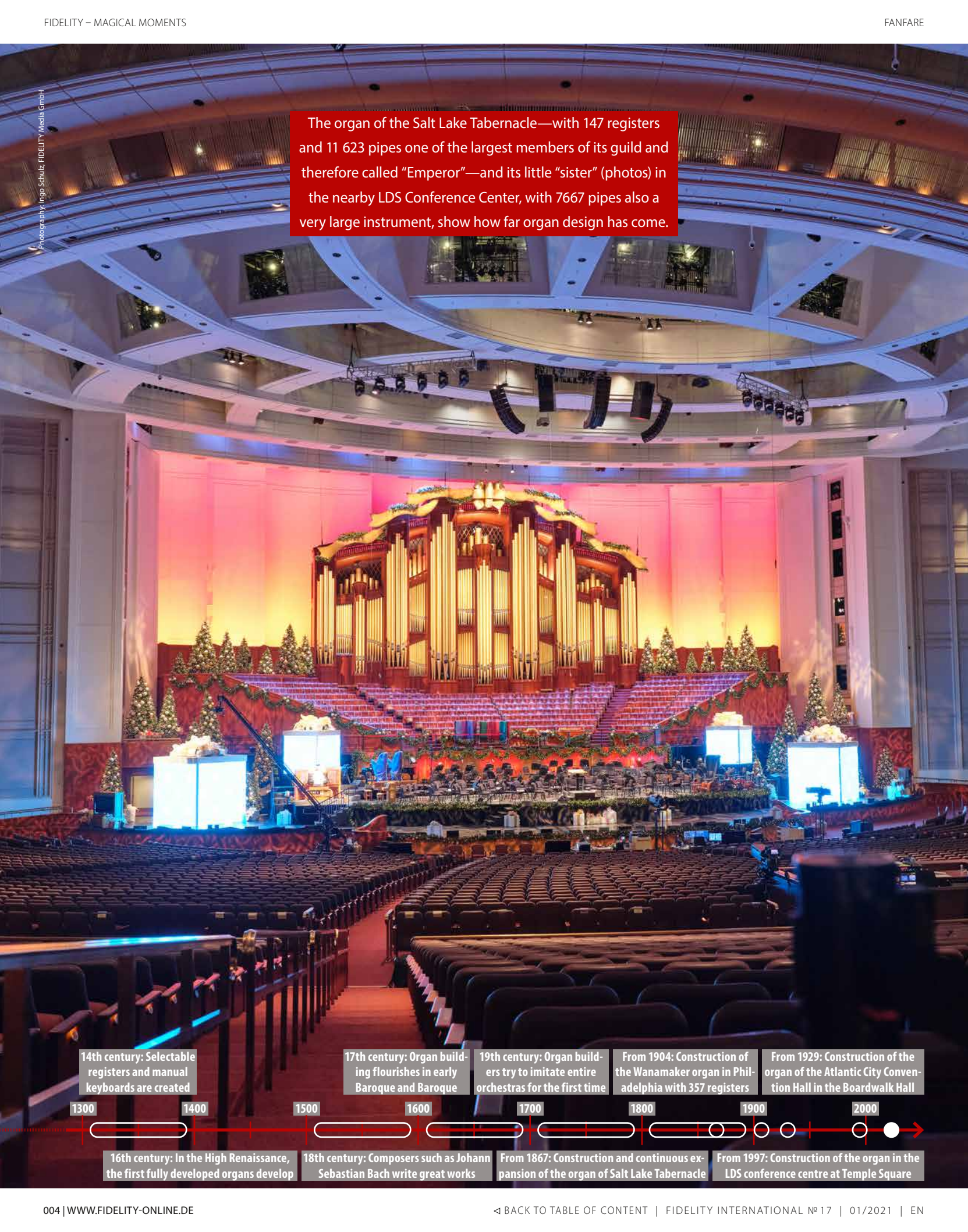


Church organs are called "Queen of Instruments" with the appropriate respect because they were home for an entire virtual orchestra in their registers yet when synthesizers not even were a bold dream. ▶



The organ of the Salt Lake Tabernacle—with 147 registers and 11 623 pipes one of the largest members of its guild and therefore called “Emperor”—and its little “sister” (photos) in the nearby LDS Conference Center, with 7667 pipes also a very large instrument, show how far organ design has come.

Photography: Ingo Schulz, FIDELITY Media GmbH



14th century: Selectable registers and manual keyboards are created

17th century: Organ building flourishes in early Baroque and Baroque

19th century: Organ builders try to imitate entire orchestras for the first time

From 1904: Construction of the Wanamaker organ in Philadelphia with 357 registers

From 1929: Construction of the organ of the Atlantic City Convention Hall in the Boardwalk Hall



16th century: In the High Renaissance, the first fully developed organs develop

18th century: Composers such as Johann Sebastian Bach write great works

From 1867: Construction and continuous expansion of the organ of Salt Lake Tabernacle

From 1997: Construction of the organ in the LDS conference centre at Temple Square

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 „I really came to love her sound.“ *Philipp Schneckenburger, Hifi EinsNull (Karlotta)*
 „One of the most audiophile speakers overall.“ *Malte Ruhnke, Stereoplay (Karlina)*
 „Can easily keep up with the world’s best.“ *Hans v. Draminski, Fidelity (Karl)*
 „This speaker makes you want to listen to music without end.“ *Thomas Schmidt, Hifi EinsNull (Karlos)*



This is the future of the loudspeaker:
 A lossless symbiosis of perfect mechanics,
 masterful acoustics, integrated signal processing, and
 directly coupled amplification.

For sound quality gains in every dimension,
 ideal room adaptation and classy interior aesthetics.

DEAR READERS,



Photography: © FIDELITY

You talk to someone about a topic and suddenly it feels like a strange curse: Your friends and colleagues permanently confront you with it. I understand that this has to do with sensitization and is not a chain of weird coincidences. Recently, our conversations revolved conspicuously often around the sense and nonsense of music. It may sound strange, but as a hi-fi editor, one develops an ambivalent relationship to sound carriers. With all my passion and personal preference, music is for us a fuel to fire our test equipment with. You can't imagine how deeply the relationship with an artist changes when her or his songs are used for listening tests every day. What increasingly amazes me, however, is the intense discussion lead about worthy and unworthy music. Time and again (and more frequently in the nearby past) it happens that manufacturers or readers complain because authors cite songs that are "not at all suitable" for judging a system. These are probably the signs of a

creeping but increasingly obvious generational change in hi-fi industry. I must confess that I have no problems with that development. If someone listens mainly to metal or pop, she or he will be able to get a solid impression of the test equipment with this music. Admittedly, there is no need to discuss that jazz and classical music often are recorded and mixed in a more sophisticated way—which is why they should be part of every test. The music we mention in our articles has an exemplary character. In the course of a test that lasts three or four weeks, you will hear dozens, if not hundreds of titles with the hi-fi component you are dealing with. My kind recommendation: Listen to your favourite kind of music regardless what provenience it has!

Carsten Barnbeck

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

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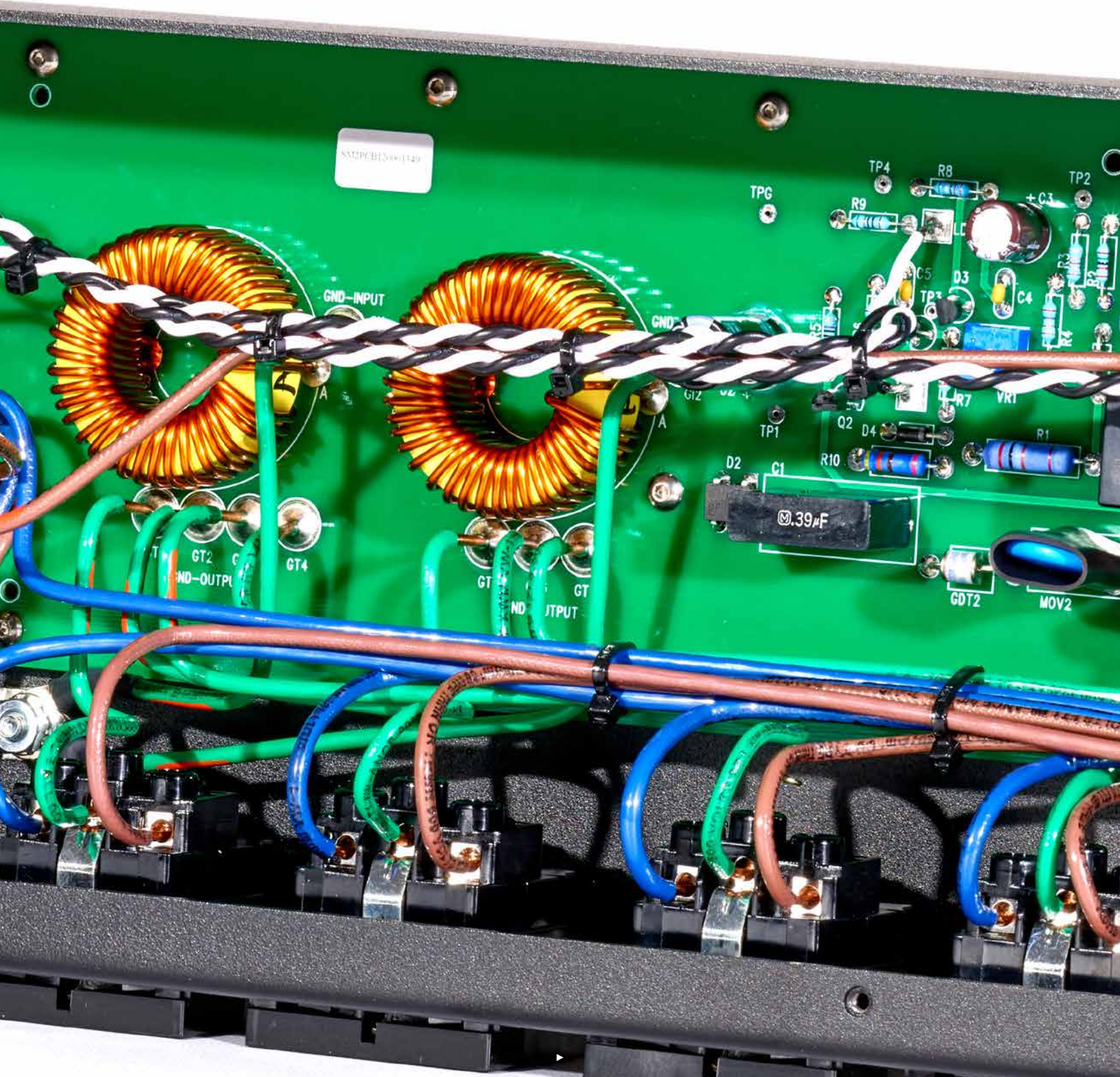
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AudioQuest Niagara 1200

WHEN IT COMES TO PURITY, SIZE DOESN'T MATTER

By Michael Vrzal. Photography: Ingo Schulz



THE CABLE SPECIALISTS AT AUDIOQUEST ARE MAK- ING A NAME FOR THEM- SELVES AS EXPERTS IN POW- ER CONDITIONING.



I live in the city, and my apartment contains an almost countless number of switched-mode power supplies. With the notable exception of one floor lamp still sporting conventional light bulbs, I'm surrounded by electronically controlled LEDs and fluorescent tubes. I really should consider using a power conditioner here.

And just like that, I'm holding one in my hands that seems to be precisely what I need: the Niagara 1200, the compact Low-Z Power Noise-Dissipation System from AudioQuest. The smallest of the four models in the Niagara range, it goes for just under €1,000 and offers a mature filtering solution for up to seven components. That's enough even for more complex systems that entail separate amplifiers and several source devices. In my case, I've attached a turntable, phono equalizer, streamer/DAC, CD player, preamp, and power amp.

What I mean by a "mature" solution is that the Niagara 1200 features integrated surge suppression. The inlets and outlets boast an excellent grip on plugs (using silver-plated beryllium copper) and come with socket safety covers. Constructed essentially from a single sheet of metal, the aluminum housing makes an especially robust impression while retaining a stylish appearance.

The seven outlets are arranged into two groups: Labeled "High Current," the first two (counting right from the socket for the power cord) are intended for devices with high power demands, such as power amplifiers, integrated amplifiers, and active speakers. The filter topology of the remaining five outlets differs slightly and is intended primarily for equipment with low or more consistent power requirements, such as preamplifiers and source devices. This arrangement seeks to avoid any dynamic loss problems that using a power filter might cause. This is an aspect of great importance to its developer, Garth Powell, who had previously worked for one of the most renowned power conditioning specialists on the pro audio scene before joining AudioQuest. It's also the reason why his Level-X Linear Noise-Dissipation System, responsible for broadband filtering from 20 kilohertz through to 1 gigahertz, is only used for the five source device outlets mentioned above. Powell's Ground Noise-Dissipation System is, however, employed for all outlets. This patented method for reducing ground-related noise aims to prevent modulation of the useful signal caused by high-frequency interference.

The Niagara 1200 has given my CD player, an Electrocompaniet EMC 1 UP—practically a classic source device—a new lease on life. ▶

WHICH FILTER TICKLES YOUR FANCY? THE NIAGARA PROVIDES SEVEN OUTLETS IN ALL, DIFFERENTIATED BY FILTERING METHOD RATHER THAN OUTPUT VOLTAGE. TWO OUTLETS ARE OPTIMIZED FOR HIGH-CURRENT INTEGRATED OR POWER AMPLIFIERS; THE OTHERS SUPPLY SOURCE DEVICES WITH CUSTOMIZED POWER.





The sound profile has improved significantly in terms of both openness and three-dimensionality. To test the device, I turned to the Tin Hat Trio's *Helium* CD and selected "A Life In East Poultney," a piece that has the group playing violin, accordion, and banjo to produce eccentric, folksy, and minimalist melodies. The AudioQuest power conditioner projected the instruments onto a large sound stage and vividly presents them against a black background. I was really impressed with the clarity of the violinist's double-stops: Without filtering, I heard an almost muddy mixture of sounds. When I attached the CD player to my unfiltered power strip, the banjo had a definite tinny quality. The AudioQuest, on the other hand, endowed it with body and timbre. I noticed a remarkable enhancement in richness across the board. The power conditioner gave

brass instruments, whose notes always display a more or less distinctive airflow component, greater sound depth and more overtones. But what did my other digital components gain from the power filter? Using the Roon app, I next instructed my Innuos Zenith Mk III to play the wonderful *Graces That Refrain* album by the Norwegian quintet Music for a While. Here I used the Aqua La Voce S3 as DAC to convert the Tidal stream (16 bit/44.1 kilohertz FLAC). As soon as I plugged in the streamer and DAC into the AudioQuest filter, I noticed an immediate surge in musical tension. Acoustical instruments continued to reverberate throughout the room until their absolutely final fading moments. Low bass, with which the album (produced in the famous Rainbow Studio in Oslo by the legendary ECM sound engineer Jan Erik Kongshaug) ▶



was amply endowed while also sounding clearer and firmer than when the devices were attached by way of my usual power strip. Without the power filter, Tora Augestad's voice appeared tired and pallid. Adding the AudioQuest filled it with vigor.

I got the same result when I attached analog devices such as the dps turntable, Bauer phono preamp, and Silvercore tube preamp to the Niagara 1200. It brought increased spatiality, an emphatically more open and finer sound, cleaner timbres, and greater clarity. Several videos feature Powell demonstrating the effect the power filter has by holding his hand in front of his mouth while speaking and then abruptly removing

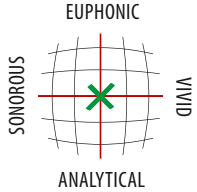
it. I regarded this as a somewhat theatrical exaggeration—but that was before I started to systematically examine what this smallest of the Niagara models can do. Powell is absolutely right: His filter does remove an obstruction to the music.



But how does the AudioQuest device cope with raw dynamism? The power conditioner amply demonstrated it can deal with the finest subtleties, so I deemed it time to connect up the Rowland power amp. The amplifier's Class A rating meant it would consume a lot of power even at lower settings, so I attached my entire system to the Niagara 1200. With the power amp, though, I just had to switch around between ►

POWER STRIPS AND FILTERS HAVE BECOME COMPONENTS IN THEIR OWN RIGHT. AUDIOQUEST'S NIAGARA IS ONE OF THOSE RARE POWER FILTERS THAT CLEARLY LOOKS LIKE IT BELONGS IN A RACK—AND “SOUNDS” NOTICEABLY MORE RELAXED WHEN YOU PUT IT THERE.



AudioQuest Niagara 1200
An affordable power conditioner for an entire system that looks like an entry-level model but commands the greatest respect for its ability to enhance the sound.



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



my power strip and the power filter. With the amp connected to the AudioQuest rather than the power strip, the dynamic power of Friedrich Gulda's concert piano on the MSP production *As You Like It* was a touch more cultivated yet boasted a greater structure in sequences and chords. When the double bass kicked in, the Niagara 1200 could distinguish it much more clearly from the piano's bass tones. On the *Toy* album by Yello, the crashing electronic performance appeared less excessive, but gained in structure and lucidity.

The AudioQuest Niagara 1200's ability to open up and release sound while leaving no acoustic fingerprint of its own makes it an exceptionally effective tool for ascending to the next level of musical enjoyment. Owners of power amps with an even greater hunger for energy should go for larger power conditioner models, such as the Niagara 3000 or even 5000. Everyone else, however, will be quite happy with the unassuming little 1200. ■

Power Conditioner | AudioQuest Niagara 1200

Concept: active power filter with surge protection | **Outlets:** seven sockets total (2 x integrated/power amps, filtering—Ground Noise Dissipation; 5 x source devices and preamps, filtering—Level-X Linear Noise-Dissipation and Ground Noise-Dissipation) | **Maximum load:** 15 amps | **Casing:** anthracite aluminum | **Dimensions (W/H/D):** 50/9/19 cm | **Weight:** 7 kg | **Warranty period:** five years | **Price:** about €1,000

AudioQuest | Hoge Bergen 10 | 4704 RH Roosendaal | Netherlands | Phone +31 165 54 1404 | info@audioquest.com | www.audioquest.com

ACCOMPANYING EQUIPMENT

Turntable: Bauer Audio dps 3 | **Tonearm:** Bauer Audio Tonearm | **Cartridge:** Lyra Kleos | **Phono preamplifier:** Bauer Audio Phono | **CD player:** Electrocompniet EMC 1 UP | **Music server:** Innuos Zenith Mk III | **DAC:** Aqua La Voce S3 | **Preamplifier:** Silvercore linestage two | **Power amplifier:** Jeff Rowland Model 2 | **Loudspeakers:** Ayon Seagull/c | **Cables:** Fadel Art, Sun Audio, TMR, HMS, Phonosophie, ViaBlue | **Accessories:** DIY rack

Photography: Brandon Patoc



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

LOUISE M. DAVIES SYMPHONY HALL, SAN FRANCISCO

—Nobody may travel at the moment I write this, so let our dreams take us to faraway shores, our only possible escape. That's the reason I won't write about some concert hall in Bielefeld, Nuremberg or Dresden.

For about 70 years, the San Francisco Symphony Orchestra was wandering from concert hall to concert hall, rehearsing under raw conditions, having to play wherever a concert hall was free to use. Then, finally, the time for salvation came: In 1980, the Louise M. Davies Symphony Hall became the adequate home for the SFSO. After

seven years of construction, the hall was opened as part of the San Francisco War Memorial and Performing Arts Center. Despite the considerable expense, it shared the fate of many new concert halls—it didn't sound that good in the beginning. That was changed about ten years later, when the overall acoustics were thoroughly overhauled under the direction of Kirkegaard Associates, who also oversaw the beneficial remodeling of the Royal Festival Hall in London.

Since then, the Louise M. Davies Symphony Hall is enabled for all kinds of musical

usage. Of course, a hall with over 2700 seats is not as cosy as Salzburg's Mozarteum, nor would it be my first choice for small ensembles. Not because of the acoustics that are fine without any question, but because of the lack of atmosphere. Although this hall feels really big and powerful from the stage, a personal connection to the audience seems not possible.

On the other hand, the stage offers an enormous amount of space, so that even the largest configurations of instruments may be situated there without any problems. When playing, one can actually put endless power ▶



Photography: Brandon Patoc

into the instrument without even coming close to putting the acoustics in distress. Even massive entries remain transparent, garnished with the pleasant pressure of an incipient acoustic overload, which, however, never quite sets in. Marvellous. Unfortunately, I haven't been to Davies Hall that often, and Brahms was the most extensive in terms of scoring that I've had the pleasure of playing here so far. A Mahler or Shostakovich is certainly a feast in this hall! Backstage the Louise M. Davies Symphony Hall is pleasantly spacious, the paths are not

too long, the dressing rooms are sufficiently dimensioned. Besides the enormous fun of playing on this stage, one of the greatest advantages of the Louise M. Davies Symphony Hall, however, lies just outside the doors: San Francisco! From the hall, it's just a few steps north to Japantown, where I had the pleasure of eating the best sushi and Kobe beef outside of Japan to date. To the east, the Theatre District beckons, north of it lies Chinatown, along the piers you may find countless bars. San Francisco is always the highlight of a long concert trip. And it is

indeed fortunate that there is no good hotel of the big chains in the immediate vicinity of the hall. Because that's how we usually get to enjoy a breathtaking view of San Francisco Bay from our room. ■

Music tip — recording with characteristic concert-hall sound of the Louise M. Davies Symphony Hall | Mahler symphonies: with the San Francisco Symphony Orchestra directed by Michael Tilson Thomas (SFS/Warner), incidentally recorded in 5:1 surround sound by the Stuttgart studio Tritonus, whose sound engineer we have interviewed some time ago. www.fidelity-online.de/classidility-besuch-bei-tritonus/



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

Audio Physic Cardeas

IT'S ALL ABOUT THE MUSIC!

By Carsten Barnbeck. Photography: Manufacturer, Ingo Schulz

The new Cardeas loudspeaker captivates any listener with its unparalleled vigor and vibrancy. Built by Audio Physic—based in Brilon, Germany—this new, top-end model is one of those rare speakers that makes the world around you disappear. But the new Cardeas has many more tricks up its sleeves...





THIS PHOTO SHOWS THE PROTOTYPE FOR AN OPTIONAL ACCESSORY. THE LIGHT-COLORED RING AROUND THE TWEETER ENDOWS IT WITH SOMEWHAT GREATER BRILLIANCE AND HELPS WITH FINE-TUNING.

Three out of four drivers that convert Audio Physic's magical sound into air movement. The midrange driver (left) is the real wunderkind. Its membrane/surround unit stretches over an aluminum ring. The resulting pretension dampens membrane resonance and centers the entire driver unit. Next to it is the midwoofer (middle) and one of the two ultra-flat woofers (right).



Drifting away on a current of sound, without a worry in the world. This is when our instincts kick in, with no debates over whether it's the right type of music. You're a fan of classical music and jazz? Just pop it into the CD player. Or is Techno your genre for relaxation? Perfect! During your first session with a new speaker, let your feet guide you rather than your head. If you don't have goosebumps or aren't tapping along after the first few seconds, you need to start adjusting your set-up and checking your cables. But if you're already resonating with the sound and giving yourself over to the groove, for hours on end, then you're listening to a loudspeaker that's akin to the Cardeas.

This new Audio Physic speaker system is one of those extraordinary yet straightforward products that immediately captivates its audience and completely dominates the senses. When the chest-high speaker was delivered to us on a sunny day in December, it felt like a block of ice. We quickly carried the Cardeas into the listening room and hooked it up to our Lyngdorf TDAI-3400 amplifier. Because we wanted to give the speaker time to acclimate, we didn't fiddle too long with fine alignments. This clearly didn't worry the Cardeas either—it sprang into action

without a care in the world. The first piece of music, picked at random by the Roon server, was the "Fate" track from Boy Harsher's *Careful* album. Grating bass and the laid-back charm of the 80s flooded the room. Vocalist Jae Matthews' dark whisperings were tangible, and possessed a truly rare intensity. The clean and distinct timbre of the speakers also revealed numerous details of the mix. But what really knocked me out was the amazing reproduction depth, the profound gravity of the bass and the perfectly graduated, superbly detached stage projected by the speakers—that hadn't even been properly positioned yet!

I can't pretend that the incredible Cardeas took me completely by surprise. After all, I know what Audio Physic are capable of. Moreover, I had already briefly listened to the new Cardeas a couple of months beforehand. This was at the company's headquarters in Brilon, in the very room where the new product was developed and finely tuned. The visit imprinted on me a lasting impression of the speaker's incredible musicality and vividness. However, when compared with the sleek black and white structure present in FIDELITY's listening room, the prototype I first saw was incomplete, lacking parts of its final housing. Nevertheless, it already projected that singular aura of a top-of-the-line speaker. ▶

Some design details from the Cardeas. The housing was built with a somewhat unusual combination of materials: the wood/honeycomb panels (top left) also receive an interior dampening coating. In the middle of the bottom row are the tweeter's cage and unusual surround. To the right is one of the terminals utilized in the Audio Physic's drivers. Coated with high-carat gold of course—what else!



If you're familiar with Audio Physic's products, then you will know that this is the second one with the Cardeas name. And you're probably wondering why the new product wasn't given a version number or "Mark II" designation. But I wouldn't read too much into this name-sharing. Any similarities are confined to dimensions and status—the first Cardeas was also chest-high, and carried the same top-of-the range accolade. The new Cardeas has inherited everything else from the speaker that Audio Physic unveiled in 2016, called the "Structure". Therefore, this new product redefines the "Cardeas class" rather than simply standing in as a "Cardeas II". The Structure heralded a new era at Audio Physic that would cement Manfred Diestertich's reputation as a materials researcher and uncompromising builder. But the redefined Cardeas hasn't simply incorporated the Structure's specifications, it has also refined them—and added decisive new elements in essential areas. The role model has had its day, and the Structure has since passed on the torch of innovation to the Cardeas. The designers have thrown many old conventions overboard with their new flagship. Instead of utilizing a single material, the enclosure is constructed with a multi-layer approach. Inside, this involves honeycomb lightweight polymer panels, coated on both sides with 3-mm multiplex sheets. On the outside, the cabinet is housed in large glass panels. These

have been attached with special glue and lengths of climate-resilient adhesive tape, doubling as spacers. The housing maintains a single (bass reflex) opening between the front panel's lower section and the body. The air-pocket between the housing and the glass reduces sound-travel through the housing, similar to double-glazing. Then, to hinder airflow, the housing openings have been sealed with ceramic foam. This amazing material is a silicon carbide. Nearly as hard as diamond, it is normally employed by the metallurgical industry to separate molten steel from slag. In the Cardeas, it has a somewhat less demanding function. Not only does it control airflow at all housing openings, but also several panels have been installed as absorbers directly behind the drivers and elsewhere. Numerous internal struts stabilize the supporting frame and isolate volumes for the four drivers. These struts have been constructed using the honeycombs that contain multiplex plus additional ceramic foam features. The materials were chosen for the specific requirements at each location—and, in the end, for what sounded best.

The basic design clearly indicates that the box was built to provide the highest quality sound. With decades of experience behind them, Diestertich and his team developed their solutions through an arduous trial and error process. This speaker was created in the listening room, not on ►

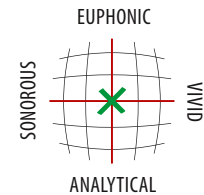
THE BOTTOM LINE: WITH THE SPEAKER ON ITS SIDE, YOU CAN SEE THE CERAMIC FOAM PANELS CONTROLLING DOUBLE SUB-WOOFER'S AIRFLOW.





Audio Physic Cardeas

The uncompromising musicality, superb spatial reproduction and extremely distinct timbre of the Audio Physic Cardeas deliver everything desired from a flagship product—and so much more.



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



the computer. During my visit to Brilon, I examined various artifacts that stand as testament to the many laborious years required. For example, Wolfgang Lücke, the company's Managing Director, showed me a cupboard crammed full of various adhesives. These were all investigated in the team's long search for the perfect sound, a drive that even included finding the best "sounding" adhesive for gluing together the individual components. All of these efforts coalesced to create a speaker housing that produces no characteristic sound of its own. Conversely, the damping construction also ensures that the Cardeas withstands impact noise and other external influences. Other contributing factors on this front include the asymmetrically arranged drivers and the backward-sloping front panel, which help counteract run-time differences. The speakers stand on black aluminum outriggers terminated by screw-in VCF feet. Their powerful magnets, held by duct tape, enable the Cardeas to "float" above the floor. To further minimize vibrations, the outriggers are attached to the housing via neoprene dowels. Attention is paid to even the smallest detail!

When I asked Manfred Diestertich (during a video conference) to choose the feature of the new flagship that he regards as the most remarkable, he immediately indicated the midrange driver. He worked many years to develop a chassis without a centering spider, and his efforts have finally paid off. The design centers on an anodized aluminum membrane held by an innovative surround. This membrane/surround unit stretches over an aluminum ring with a larger external diameter than the U-shape in the surround. The resulting pretension dampens membrane resonance and centers the entire driver unit of membrane, voice coil and surround, thereby eliminating any typical resonance, ringing and reverberations. In

fact, this innovative driver was so impressive that it inspired the creation of a new top-of-the-range model. This is how the new Cardeas was born. The unique driver now lives in the best possible company. To transfer the outstanding midrange driver's qualities to higher ranges, Audio Physic developed a novel aluminum tweeter also held in place by a surround. The Codex and Structure have more conventional 27-cm woofers. The dual 28-cm woofers in the base have never been utilized by Audio Physic before. These two ultra-flat drivers operate back-to-back based on the push-push principle: canceling each other out and delivering remarkably deep bass without unnecessarily vibrating the box. An additional mid-bass driver ensures clean transitions between the bass and mids. This means the Cardeas has two mid-woofers in its arsenal. Like the new woofers, they also operate without conventional spiders. A second rubber surround (called a "double surround") prevents any potential wobbling.

In addition to the aforementioned ceramic foam, a further innovative material was developed: a copper foam that implemented as a signal conductor on the crossover. Carved into thicker layers, this material also features in the capacitors. It must be stated that Audio Physic is one of the few manufacturers that specifies and produces its own electronic components. The only components not originating in Brilon are Audio-Quest's internal wiring and the excellent WBT single-wire terminals that utilize its new PlasmaProtect production technology.

The new Cardeas resides among those very few loudspeakers we have reviewed that have been so cleverly devised and lovingly implemented, or have made such a unique and palpable impression. What I find most astonishing is that a rigid "form follows function" approach brought ▶



forth an object of such timeless beauty: Cardeas also seems to have ideal proportions, due in part to an intelligent design that could be fitted into a relatively slim housing. The asymmetric driver arrangement is balanced by the front section's delicate lines, and the white glass panels diminish the somewhat hefty silhouette. These exquisitely finished boxes will probably show their best face in rooms with a modern decor.

But all of this is supplemented by a sound that can scarcely be surpassed in terms of balance, breadth and clarity. Its spatial reproduction disperses even the largest orchestra magnificently across the stage, invites that intimate “live club” atmosphere direct into the living room, and transports listeners to the floor of a dance hall filled with throbbing rhythms. The Cardeas produces bone-shaking bass effortlessly. And, with an efficiency approaching 90 decibels, it isn't choosy of its amplifier partner. Furthermore, the positioning need not be too finicky, as the excellent phase fidelity of its drivers ensures exceptional nuance and uncompromising musicality. The new Cardeas resounds as a wonderfully down-to-earth speaker, and it also stands to reason that competitors in this class will

have a hard time generating rival products. This is the best box we've ever had from the folks in Brilon! ■

Loudspeaker | Audio Physic Cardeas

Type: 4-way floor-standing loudspeaker, passive | **Drivers:** 2 x 28-cm woofers (push-push configuration inside the box), 18-cm mid-bass, 15-cm midrange (HHCM SL, spiderless), 39-mm tweeter (HHTC III+) | **Terminals:** Single-wire with WBT PlasmaProtect | **Frequency range:** 25 Hz to 40 kHz | **Impedance:** 4 Ω | **Efficiency:** 89 dB | **Recommended amplifier power:** 40 to 350 W | **Finishes:** Glass White, Glass Black, Walnut (price € 36,550 per pair), plus Black Ebony High Gloss, Rosewood High Gloss, Glass Red, Glass Anthracite, Glass Pearl White or Glass Silver Gray (costing an additional € 1,440 per pair) | **Weight:** 63 kg | **Dimensions (W/H/D):** 25/128/43 cm | **Warranty:** 10 years (if registered) | **Price:** € 36,550 (€ 37,990 for special finishes)

Audio Physic GmbH | Almerfeldweg 38 | 59929 Brilon | Germany | Phone +49 2961 961 70 | info@audiophysic.com | www.audiophysic.com

ACCOMPANYING EQUIPMENT

Amplifiers: VTL IT-85, Lyngdorf TDAI-3400, Trigon Exceed | **Sources:** T+A MP 1000 E, Audiodata MusikServer MS II, Melco N1A, Auralic Altair | **Loudspeaker:** Wilson Audio Sasha DAW | **Rack:** Pagode Edition MK II, Creaktiv Midi Reference | **Cables:** AudioQuest, Chord Company, Wire World

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I-580

YOUR CONTROL AND POWERHOUSE

Experience the unprecedented dynamic speed and balanced stability which reflect even the finest sonic details.



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The Copper Interview

PAUL BRETT: GUITARIST, DESIGNER AND COLLECTOR OF RARE INSTRUMENTS

By Russ Welton | Text and pictures from Copper magazine issue 135

Paul Brett is a renowned guitarist, performer and recording artist. He's also an instrument historian and designer, a journalist, and a collector.

Paul has played with the Strawbs, the Crazy World of Arthur Brown, Roy Harper, the "King of Skiffle" Lonnie Donegan and others, and here he shares some of his musical highlights spanning the decades.

FIDELITY cooperation with *Copper* magazine: <https://www.psaudio.com/copper/>

Read this article also in *Copper*: <https://www.psaudio.com/copper/article/paul-brett-guitarist-designer-and-collector-of-rare-instruments/>





1800s Edward Light harp lute



Irish traveling harp made by John Egan

Russ Welton: What is your favorite instrument from your collection?

Paul Brett: Funnily enough, it's not a guitar! A couple of years ago I acquired an excessively rare Irish traveling harp made by the legendary John Egan. I can't play harp but as a collector, I couldn't resist getting it as there are very few about and none I can find outside of museums. There is something magical about it and it looks great. It was sold as part of a household clearance and the seller was after antique furniture. They did not know who the harp actually was made by, so I picked up a bargain! Guitar-wise, I have a couple of early 1800s harp guitars by English luthier Edward Light. These were the forerunner of the harp guitar as we know it today. Its big brother emerged in the early 1900s. My 1916 Gibson Style U harp guitar is a museum-quality example and recently won first prize in the Britain's Rare Guitars Show.

Apart from these, my favorite actual guitars in my collection are a Lead Belly-size 1930s Oscar Schmidt Stella 12-string, and a 1938 Stella Westbrook 12-string played by the legendary

Blind Willie McTell. I am also in love with my self-designed Vintage Viator 12-string. I have just completed an original 15-track album using it with a string quartet.

RW: Which acoustic instruments have you found to be significant milestones in the development of the guitar itself, and in your own playing?

PB: To define the beginning of the guitar is impossible. 3,500 years ago, a tomb was discovered in Egypt containing the mummified corpse of a musician named Har Mose. He was clutching a three-stringed tanbur with a wooden pick attached. It looked like a paddle or cricket bat but was obviously playable. It is currently residing in the Museum of Egyptian Antiquities in Cairo. So, if we take this as a start, a three stringed instrument with a pick, then we can progress the development from there. We can thank the Moors for bringing the oud into southern Spain, from which all hell broke loose regarding its morphing into the guitar and its various guises throughout the ages. It would take a very large book to list all the manifestations and styles of the guitar's rise through the

centuries and we haven't got the space here to cover it. Throughout my career as a guitarist, I have never limited myself to one style or genre of playing. I always learned the many different aspects of what that piece of wood and metal was capable of, and I still do today.

RW: Who would you say have been the most popular voices in the development of pop music during your career, and how so?

PB: If your question refers to modern popular music, then you would have to mention Bill Haley, Elvis Presley and other greats from that 1950s birthing era. I would include someone who I had the pleasure of playing lead guitar with, Lonnie Donegan. Without Lon's input in the UK, certainly British popular music would not have taken the path it did (he was Britain's biggest artist before the Beatles), I was influenced by many players and artists. In the early days, Duane Eddy, The Shadows, Charlie Byrd, Segovia, Wes Montgomery, even jazz sax players like Ben Webster.

I would have to say the standout artists who have influenced my career, especially in the formation of Paul Brett's Sage, have to be Ritchie ▶



Paul Brett

Havens and to a lesser extent, Crosby, Stills, Nash and Young, insofar as the use of vocal harmonies were concerned.

RW: What inspired your own development of your own line of guitars through guitar company Vintage?

PB: When I was playing with 12-string blues legend Johnny Joyce in the '60s and '70s in various line ups, I caught the bug from him regarding the makes and models of guitars the blues legends played. These were not top-of-the-range name brands, but many fell under one brand, Stella. These were made in New York City by a German immigrant, Oscar Schmidt, who set up a factory there. From 1939, they were made by Harmony. They were considered “workingman’s guitars” as they were cheap. Many were made of birch and ladder-braced in

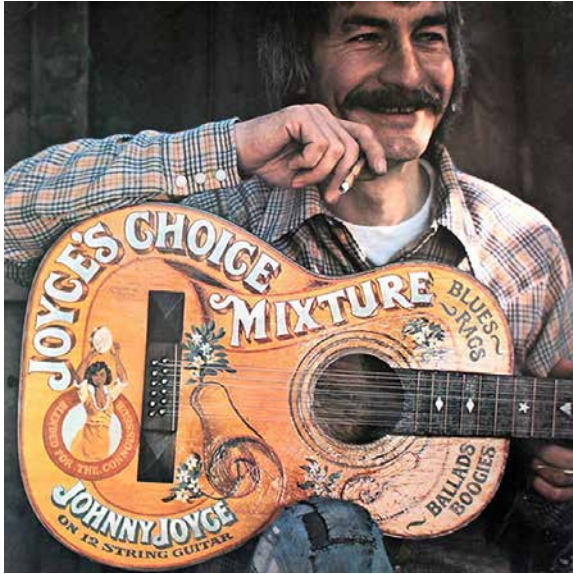
construction. (This is an earlier way of reinforcing the top of a guitar, as opposed to the “X” bracing and other types used today.) Back in the 60’s in the UK, it was almost impossible to find one of these Stellas.

We only heard these early Stellas on crude recordings of American blues pioneers like Leadbelly, Blind Willie McTell, Blind Lemon Jefferson, Son House and others. So, we trawled the junk shops and found some, which Johnny repaired, and we were caught in their spell, as they produced what is now referred to as “That Sound,” especially for blues. From that time till now, I have made it my mission to collect, record and film as many of these early iconic guitars as I can. This was the main influence of my guitar designs for Vintage.

RW: How do you decide on which instruments to develop for Vintage?

PB: I look at gaps in the market. I use my collection of old guitars as references, and come up with design ideas and present them to operations director Paul Smith at Vintage, who then seeks the go-ahead to put them into production from managing director Dennis Drumm. If approved, we send the designs to be made. At Vintage, we are always conscious of keeping the quality up and prices down. Hence, we have adopted the old principle of workingman’s (and woman’s) guitars that are affordable and offer great value for money.

RW: You have 20 Paul Brett Signature models in the Vintage range. How would you advise new players on choosing which ones to play? ▶



Johnny Joyce



Paul Brett with guitars

PB: Just look at the range of acoustics and acoustic-electrics. See which one might fit the bill for what you are looking to achieve and if possible, try one out. I have uploaded lots of videos to YouTube of all my Vintage range, plus loads of early Stellas and many other brands that were popular in earlier times. So, you can see and hear them being played and not just see ads and photos of them.

RW: Which instruments does Phil Beer of Show of Hands play?

PB: Phil is one of our best all-round players. He endorses and plays the Viator travel guitars, both the 6- and 12-string models. He has posted videos of him playing these models in a different style to what I play, showing the versatility of these little powerhouses. Gordon Giltrap, Steve Tilston, Carrie Martin and others also play Viators.

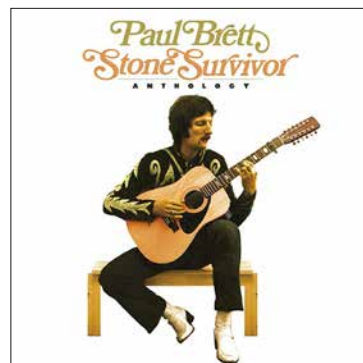
RW: Toby Lobb of the UK shanty group Fisherman's Friends plays your guitars. Tell us about that.

PB: Toby uses my instruments on the group's records and videos, and his solo CDs. I am happy he has chosen to play my guitars and it spreads them to another genre. They are the leading group in that genre in the UK and one of my favorite live bands. One of the most enjoyable concerts I have been to prior to lockdown. No hype, just good old sea shanties delivered by genuine people who know how to present their art in live performance.

RW: You have a new album coming out and it's a compilation on Cherry Red Records, who have released artists and records like the debut Genesis album (*From Genesis to Revelation*), Toyah, Sir Lord Baltimore, Hawkwind and others. Tell us about your album.

PB: I was approached by John Reed of Cherry Red Records to sign up my catalogue. Once we had made the deal, John suggested putting out a 4-CD anthology that represents a selection of my recorded works from the 1960s until now. It was released on March 29.

I am very pleased as I did not realize I had done so much over the years. It's only when I sat and listened to 94 tracks across 50-plus years of recording that I took in the variety of styles and genres and the bands and musicians I had played with over the years. Here is the link if anyone wants to get a copy:



<https://www.cherryred.co.uk/paul-brett-explore-stone-survivor-the-very-first-anthology-of-the-works-of-paul-brett>

RW: You will soon be making an appearance on Netflix. Tell us about your involvement.

PB: Dennis Drumm of Vintage was approached by an American production company to make a film about vintage guitars for Netflix. The producer requested that I take part and show some of my instruments. This will be happening imminently.

RW: What future projects can you tell us about?

PB: I am currently liaising with a TV production company to make a six-part TV series based on the "History of Guitar" series of articles I wrote for *Acoustic* magazine. Vintage and I are also in the process of designing a tribute 12-string in memory of Johnny Joyce. ■

For more information about Paul please visit:

www.paulbrettguitarist.co.uk



Special thanks to Copper magazine



Børresen Z1

THE SECRET OF THE Z

By Michael Vrzal. Photography: Ingo Schulz, manufacturer



ENGINEERING
AN AWESOME
LOUDSPEAKER
IS EASY.

YOU SIMPLY
HAVE TO DO
EVERYTHING
YOURSELF AND
IN A DIFFERENT
WAY THAN
EVERYBODY ELSE.

Everything affects everything, or, more specifically, everything has a bearing on everything else. So says Michael Børresen, the brains behind the Danish boutique loudspeaker manufacturer that bears his name. In turn, because everything affects everything else, the Børresen Z1 two-way compact monitor loudspeaker sways gently on its dedicated stand when you tap it. This slim-line, brilliantly multicomponent stand is, of all things, made of wood. In particular, it is made of HDF, the firmer (denser) sibling of the popular MDF. Every material has its own tone, Michael Børresen explains. And, when it comes to compact loudspeakers: “The tone of the stand is very important.” That’s the reason for the reduced, multicomponent HDF design, rather than a welded metal design, possibly even filled with sand or lead shot. Børresen says this is because a heavy stand means a heavy sound. So he placed the

Z1 on four steel spheres, with adapters located on the upper face of the stand and the lower face of the speaker. Then, to ensure that it all doesn’t become too unstable, the speaker can also be screwed to the stand. The makers of this speaker have really thought of everything.

And that’s the way it should be, because the Z1 and its optional (but actually indispensable) stand are an expensive affair. A pair of these passive two-way units can be yours for around 10,000 euros, while the stands cost 2,500 euros more. That’s a lot of money, to be sure, but at that price the workmanship of the HDF, of which the Z1’s housing is made, is fantastic. Regarding look and feel, you would easily believe that solid aluminum had been milled, sandblasted and anodized to make this product. At a fleeting glance, the ribbon tweeter and the mid-bass driver cone, featuring a carbon-composite diaphragm, indicate that no ►

WHILE THE Z1 CUTS A SLIM-LINE FIGURE, IT'S HARDLY A COMPACT OR SHELF LOUDSPEAKER: BY TERMING IT A "STAND MOUNTED LOUDSPEAKER", BØRRESEN STATES IN NO UNCERTAIN TERMS THAT ITS SURPRISINGLY COMPLEX BASE IS INTEGRAL TO THE SOUND CONCEPT.



Børresen Z1
Possibly the world's smallest "big" loudspeaker. The Z1 stands as both an engineering and a tonal statement that's priced accordingly and not unreasonably.

EUPHONIC
SONOROUS
ANALYTICAL
VIVID

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

© FIDELITY Magazine





massed-produced items are being used here. Nonetheless: 12,500 euros! That requires a closer examination.

The Z1's drivers are proprietary designs by Michael Børresen. They are based on chassis, which Børresen first created more than 20 years ago at loudspeaker manufacturer Raidho. The rectangular tweeter ribbon has even older roots, harkening back to a patent taken out by electronics multinational Philips in the 1980s. However, the Z1's tweeter has barely anything in common with that earlier incarnation. Børresen uses materials that the Dutch firm could only have dreamed about back then. On the one hand, there's the powerful neodymium drive, and on the other, the mechanically and thermally resilient diaphragm based on an ultra-thin foil made of polyethylene naphthalate, or PEN for short. The Børresen tweeter consists of a six-micrometer conductive aluminum layer laminated to the PEN foil, which is only five micrometers thick. This results in a surface area that exceeds any dome tweeter, yet at a fraction of its mass—the perfect prerequisites for maximum resolution.

The mid-bass driver's diaphragm, at a diameter of 13 centimeters, consists of two carbon fiber layers around a four-millimeter-thick Nomex core. Incidentally, a thin Nomex honeycomb core, laminated on both sides with spruce and cedar layers, is also used in the double-top guitar-making. Concert-standard double-top guitars deliver a vivid, dynamic sound thanks to their rigid yet very light tops. Of course, Børresen is not tailoring the loudspeaker diaphragm's carbon/Nomex sandwich to achieve an appealing range of resonance, rather to achieve maximum non-resonance. Moreover, both the diaphragm and the guitar benefit from this design's extremely low mass.

The Z1 mid-bass driver's drive unit is a streamlined version of the spectacular motor used in the company's top-range loudspeaker models. In fact, Michael Børresen designed and engineered a dedicated magnet system for them. Iron pole plates can be found in nearly all dynamic loudspeakers. Their function is to concentrate the magnetic field in the magnet gap where the voice coil is in motion. Since Børresen rates the metal as having an adverse distortion range, he found a way of doing without this and nevertheless obtaining the necessary coil field intensity. Needless to say, creating a non-iron drive system is a complex and expensive process. The Z1's chassis includes pole plates and four copper rings to linearize impedance and minimize "iron distortions".

Furthermore, the copper-coated aluminum voice coil sits on a ventilated titanium support, the coil winding is 8 millimeters long and the magnet gap is 12 millimeters long. Thanks to the copper rings, the magnetic field is concentrated on the gap's edges, thereby enabling control to be maintained in the event of major deflections, when the coil partially exits the gap. Børresen states the drive system's inductance is 0.06 millihenry—a spectacularly low figure, which are said to be undercut even by the non-iron chassis.

Next, the audio crossover springs a surprise. The second-order filter manages with a small handful of components—but something else lives on the circuit board, a circuit that I am familiar with. It is the "secret ingredient" used by Aavik, Michael Børresen's electronics hotbed, and it is also used in the power products provided by his Ansuz accessories label. Only Børresen knows exactly how it works. The general idea is that a microcontroller generates a square wave frequency, the electromagnetic by-products ▶



BALL BEARING MOUNTED: FOUR MASSIVE STEEL TAWS CONNECT THE Z1 TO ITS STAND. TO SAVE THE COMPACT UNIT FROM UNINTENTIONALLY TAKING FLIGHT, IT IS SECURED IN PLACE VIA A CENTRALLY POSITIONED SCREW. YOU CAN VAGUELY MAKE OUT THE FASTENING DETAIL IN THE SECOND PHOTO.





of which impact an audio circuit interference. But that is an active circuit, while the Z1 is a passive loudspeaker. What the hell? Michael Børresen provides clarification, and I can see him grinning down the phone line. The amplifier power feed covers every base, and the circuit barely consumes any power. Børresen talks about “noise cancellation” in the loudspeaker, about neutralizing the cables’ antenna effect. That is truly unique!

But let’s have a listen. I place the Z1 where my Ayons are usually positioned. The four aluminum disks on the HDF stand’s bottom end are adapters for the Ansuz Darkz feet. Given that a set of four costs almost as much as an individual Z1, I decide to dispense with this tuning aid. Considering the elaborate concept applied, I expect nothing less than absolute excellence, even without the Darkz.

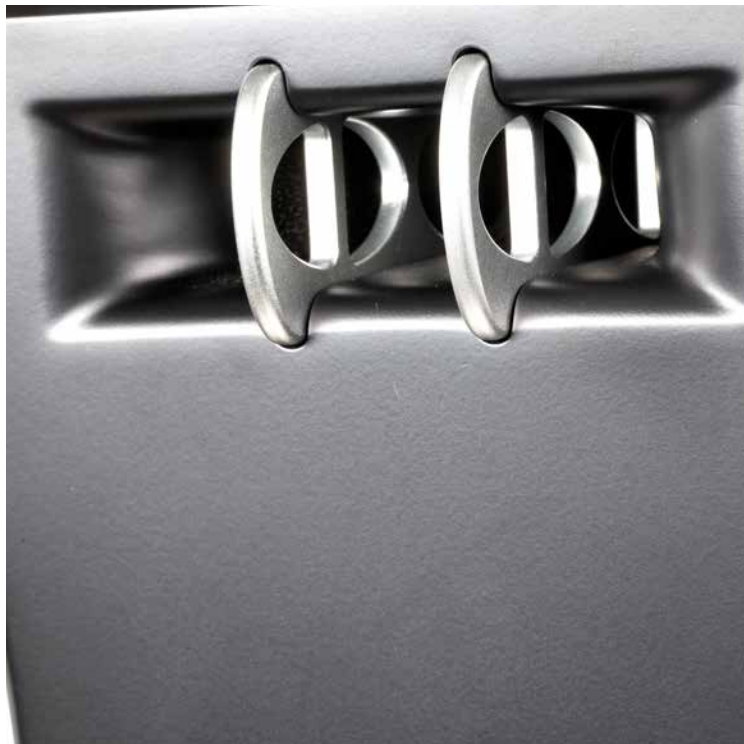
The live recording of Gidon Kremer’s performance in Prague in June 1980 (Praga PR 50024) is ideal for sounding out a loudspeaker’s tonality.

Kremer’s violin was recorded on analog audio tape, and plays such an ample harmonic range, that any tweeter will inevitably reveal its true colors. When played through the Z1, the instrument sounds exactly as you would expect given the technical effort behind it: accessible, clear, poignant or soft, just as Kremer intended it to be. The baroque cello of Pieter Wispelwey and the fortepiano of his duet partner Dejan Lazic (Channel Classics CCS SA 2260S) back up that solid first impression. Both instruments gracefully occupy the space, the illumination is bright and, in spectrum terms, definitely “white light”. The cello conveys less resin and gut string “twang” than I am familiar with when reproduced via conventional sound transducers. In dynamic terms it is awesome—if you can say that about a Beethoven cello sonata.

Now I equally enjoy listening to the legendary *Horowitz in Moscow* album on account of the spectacular special expression and irresistible ▶

ENTIRELY DIFFERENT AND GUARANTEED IRON-FREE: TO ACHIEVE A ZERO-DISTORTION DRIVE SYSTEM, THESE INDUSTRIOUS DANES AVOIDED USING ANY FERRITE AND NEODYMIUM. A SPECIALLY DEVELOPED ALUMINUM AND COPPER MIX GUARANTEES AN APPROPRIATE DRIVE SYSTEM. NOT VISIBLE IN THE PHOTO IS THE EXCEPTIONAL AUDIO CROSSOVER, THE PARTIALLY ACTIVE ELECTRONICS OF WHICH NEUTRALIZE THE LOUDSPEAKER CABLE'S ANTENNA EFFECT.





musicianship of this master pianist. Coughing was seldom more audio-ophile, doors were seldom slammed in a more high-end manner than on this Sunday in April 1986 at the Great Hall of the Moscow Conservatory. The Z1 superbly involves the space. The vast ambient noise does not manifest separately, but integrates entirely naturally and unspectacularly into the big picture through myriad, almost microscopic transient and decay processes, which other loudspeakers evidently suppress. The result is an extraordinarily relaxed listening experience, an exhilarating feeling of being there. Magnificent.

But Børresen's smallest speaker has other talents. Roger Waters' *Amused to Death* album does the rounds on the Bauer Audio DPS 3. What more can one say—it bangs, it rocks and Waters' voice is so clearly the center of attention, as if he gargled once more before every take. When the drums get going, you just want to rub your eyes. Indeed, where does the Z1 conjure this broadside from? This compact unit is evidently no complex encumbrance, as my Rowland power amplifier can get stuck in with relish here and show its worth. At last, the birdsong at the end of the record comes through so airily that you can nearly smell fragrant woodland air.

Børresen's bass reflex design must be applauded at this moment. During our conversation, he emphasizes this design in terms of response qualities and tonal forthrightness—he uses the wonderful term “springiness”. The Børresen reflex solution is a wide rectangular aperture at the top end of the rear panel. It has an aerodynamically efficient shape, with the lateral inner surfaces composed of sound-absorbing foam. Two inserted, perforated metal components are designed to generate turbulence, thereby breaking up any final resonance so that absolutely no sound coloration, let alone flow noise, can occur. I check out Børresen's claim with

the helping hand of Berlin DJ Ricardo Villalobos' album *Re:ECM* and turn up the volume. The subwoofer declares heroic cadences, while the deep bass is clean as a whistle. Simultaneously, the sample quality finds itself anew. Villalobos is an obsessive sound nerd, whose studio (which I had the privilege of briefly visiting several years ago) features only the finest production and listening equipment.

The Børresen Z1 is truly an impressive piece of engineering. The more time you devote to this compact speaker and the ideas within it, the more you understand its deserved price tag. Michael Børresen has created an impressive, thoroughly idiosyncratic sound transducer, yet it lacks any undo airs and graces. The Z1 performs as clearly as a mountain stream, is extremely high-resolution, makes quick dynamic headway and provides a highly satisfying listening experience. ■

Loudspeaker | Børresen Z1

Concept: dynamic, 2-way compact loudspeaker, passive | **Equipment:** self-made ribbon tweeter, self-made mid-bass driver (13 cm carbon/Nomex conical diaphragm) | **Frequency response:** 50 Hz to 50 kHz | **Impedance:** 6 Ω | **Sensitivity:** 86 dB | **Connections:** single wiring terminal | **Special features:** technically and tonally adapted stand (optional, price for pair, about € 2500) | **Color finish:** gray, white | **Dimensions (W/H/D):** 18.5/37/34 cm (Z1), 28/101.5/36 cm (Z1 + stand) | **Weight:** 11.6 kg, stand 3.3 kg | **Warranty period:** 5 years | **Price for pair:** about €10,000

Børresen Acoustics ApS | Rebslagervej 4 | 9000 Aalborg | Denmark | Phone +45 5365 5987 | www.borresen-acoustics.com

ACCOMPANYING EQUIPMENT

Turntable: bauer audio dps 3 | **Tone arm:** bauer audio Tonarm | **Cartridge:** Lyra Kleos | **Phono preamplifier:** bauer audio Phono | **CD player:** Electrocompaniet EMC 1 UP | **Music server:** Innuos Zenith Mk III | **DAC:** Aqua La Voce S3 | **Preamplifier:** Silvercore linestage two | **Power amplifier:** Rowland Model 2 | **Cables:** Fadel Art, Ansuz, Sun Audio | **Accessories:** DIY rack, granite bases



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

thx to twitteringmachines.com

Denafrips ARES II DAC

OUT STANDING IN A FIELD

By Michael Lavorgna. Photography: Michael Lavorgna

WHEN LISTENING TO MUSIC ON
THE HIFI, I WANT TO FEEL AS IF
I'M IN A VOID WITH JUST ME AND
MY MUSIC. NO DISTRACTIONS,
NO THOUGHTS OF SOCIAL
MEDIA, LIKES, VISITS, OR COM-
MENTS. JUST ME AND MY MUSIC.





The Denafrips ARES II turns bits into analog waves using a series of ultra-precise (0.01%) resistors in an R-2R configuration, a longer way of saying the Ares II is a resistor ladder DAC. All of the incoming bits are first sent to a high-speed RAM buffer, using adaptive FIFO technology, and re-clocked by the internal Femto Crystal clock before being passed on to the 24-bit R-2R DAC. You can think of this process as being very much like a very busy car wash with a traffic cop.

Inputs consist of 2x Coax S/PDIF, 2x Toslink, and a lone USB. The USB input is a proprietary Denafrips solution, while the data from the S/PDIF inputs is sent directly to the FPGA for processing. The ARES II can operate in NOS (nonoversampling) or OS (oversampling) mode with two filter choices for OS mode, Sharp or Slow. The Ares II supports PCM sample rates up to a whopping 24-bit/1536kHz (!) and native DSD1024 over USB, while the S/PDIF inputs max out at

24-bit/192kHz. Both single-ended RCA and balanced XLR outputs carry the converted signal to your amplification device of choice.

The Ares II's metal case comes in black with a black faceplate, while measuring a svelt 8.4" x 9" x 1.7". The front panel houses a total of nine buttons for power/standby, input selection, phase, and mute. These buttons are also used to select operating mode and, for OS mode, the filters. Under all but the Standby button reside teeny tiny red LEDs showing selection status and input sampling rate.

I like the rather plain looks of the ARES II which follows the why call undue attention to myself approach. I paired the ARES II, via its RCA outputs, with a few different integrated amplifiers including the Ayre EX-8, Jadis DA50S), and the Cambridge Edge A all paired with the DeVore Fidelity O/93 speakers. The Primare NPS Prisma network player fed the ARES II the bits over a length of AudioQuest Coax cable. ▶



Filters And Modes

I don't see the point in describing, in painful detail, the differences between a piece of gear's options. Why? Because they're options available to everyone and, you know, people are people so why should it be that you like NOS and I OS?

For 99% of the duration of the review period, I listened to the ARES II in OS mode, using the Slow rolloff filter. Why? I very much preferred what I was hearing using this configuration. In short, music sounded bigger, richer, and fuller.

Out Standing

Why beat around the proverbial bush? The Denafrips ARES II is my favorite DAC anywhere near its price. I could live with the ARES II as my only DAC. Easily. Happily.

The ARES II is one of a few DACs that adds a bit of musical magic into the mix, turning bits into living breathing waves of analog richness. I am loving, loving, Dry Cleaning's new record *New Long Leg* for all of Florence Shaw's slow spoken attitude backed by crunchy guitars, bass, and drums. The little ARES II presented this relatively simple music with

dimensional purity, tonal ripeness, and bold force. The musical event was laid out in a nice sound field, sounding solid and as punchy as Dry Cleaning. And they are punchy.

Another new record that's getting a lot of Barn time of late is *Ex:Re with 12 Ensemble*, a lovely string reimagining of Ex:Re's debut album. The ARES II does a lovely job rendering the 12 Ensemble's various string voices with a sense of purity and body that belies this music's digital origins. The music on Ex:Re with 12 Ensemble swings and swoons, with Elena Tonra's vocals also sounding embodied in full voice, with everyone inhabiting an airy, easy to visualize space. I experienced many a magic moment listening through the ARES II, where music and me became the only things that didn't fade away. I love, and live for, this kind of thing.

The logical comparison for the ARES II, even though its not very logical, was to see how it stacked up against its cousin, the totaldac d1-tube DAC/Streamer (roughly US\$8600 review). I fed the latter with the same streaming source, Primare NP5 via Coax, to stay on an apples to apples playing field.

In a word, more. With the totaldac, music expanded, became more saturated, more nuanced, delicate, and lived in bigger, airier places as compared to the ARES II. My friend, mentor, and colleague Herb Reichert ►



described the difference between Denafrips's pricier DAC, the Terminator, and the ARES II by saying the ARES sounded like a Terminator that shrunk in the laundry. Yea, what Herb said.

That being said, I bought a wool overshirt a few years ago, I love overshirts, that was too big because the next smaller size was too small. While I like my shirts big, this wool number was even too big for my (over) size preference. So I stuck it in the wash. Yea, all wool, right in the wash. Dryer too. What can I say, I live on the edge. When it came out of all the spin cycles, all warm and toasty, it was denser than pre-wash, a welcome change, and it now fit perfectly big.

The ARES II essentially gives you everything the totaldac has to offer, only less of it. It sounds smaller and denser and less technicolored. Which didn't really bother me during the weeks of listening time I devoted to the ARES II, playing all manner of music with nary a care in the world. As a matter of fact, I could easily live with the ARES II, something you may have heard before.

Raves and Giant Killers

If you want excitement from your digital music, the ARES II does that. If you want natural beauty, the ARES II does that too. If you want to stop chasing bits and fretting over sampling rates, file formats, and DAC topologies, the ARES II offers a cure. Finally, if you want to sit down with your music and let the world slip away for an albums- or days- or weeks-worth of time, the Denafrips ARES II is your little red pill.

That the Denafrips ARES II delivers all of this goodness for \$780, seven hundred and eighty smackers!, is cause for celebration. Bravo! ■

DAC | Denafrips ARES II

Price: \$780 (seven hundred and eighty smackers!)

Company Website: Denafrips (<https://www.denafrips.com/>) | **Distributor's Website:** Vinshine Audio (<https://www.vinshineaudio.com/>)

BROWSER № 01



It's...complicated

When it comes to Auralic's nomenclature, it's easy to get confused. The Altair name stands for a streamer combined with an externally accessible DAC and preamp. However, the new G2.1 is not the successor of the excellent G1 but a premium version of its predecessor. Consequently, it offers all the refinements the manufacturer can implement: luxury clocks, an exquisite PCB layout, and the perfectly shielded case of the G2.1 models. And, last but not least: top sound!

www.auralic.com

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BROWSER N° 01



Headroom!

Even if it sounds crazy at first, computing for a processor is pure stress. The only way to relax: more performance.

That's why manufacturers upgrade the processors of their actually well-functioning streamers permanently. Bluesound does the same with its new streamer Node and the streaming receiver Pownode. Both have a powerful Cortex A53, whose headroom can also be noticed. In addition, there is HDMI ARC as well as an optimized DAC and a streamlined operation. That should extend the lead of the two versatile machines.

www.bluesound.com

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BROWSER

Nº 01



All-rounder

Six inputs, eight selectable impedances (MM) or capacitances (MC), multi-stage pre-gain, subsonic filter, and a switchable output boost of 6 or 12 dB...are you asking for more from a phono stage? Before you answer with yes, take switchable equalization curves (RIAA, NAB and Columbia) in conclusion that are also included in Violectric's new PPA V790.

www.cma.audio/en/violectric

+++

BROWSER N° 01



Two ways of power

If a power amplifier comes along with the designation X-A220 EVO, how many watts can it produce? Corrrrrrrrect—220 watts (at 8 ohms). What's much more exciting, though, is that the new power cell from Advance Paris smoothly switches from Class A to Class AB operation—that means excellent sound at low levels and outstanding efficiency in peak situations.

www.quadral.com/en/

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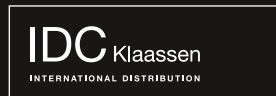
JUST ARRIVED FROM THE DARK SIDE.



KIM

Uncomplicated, melodious and musical. The KIM demonstrates with incredible sophistication just how mature and full compact loudspeakers can sound. Mission accomplished, Ensign KIM!

Review by Rudolph Schmenner © 2021 FIDELITY Media



www.idc-klaassen.com



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Finite Elemente Pagode HD03 Edition MK II

ORDER AND COMPOSURE!

By Carsten Barnbeck. Photography: Ingo Schulz

Hi-fi-racks are nearly the only things where a lack of character is not only tolerated but in fact required. It might sound strange, but the Pagode HD03 Edition MK II is a true master of this art.





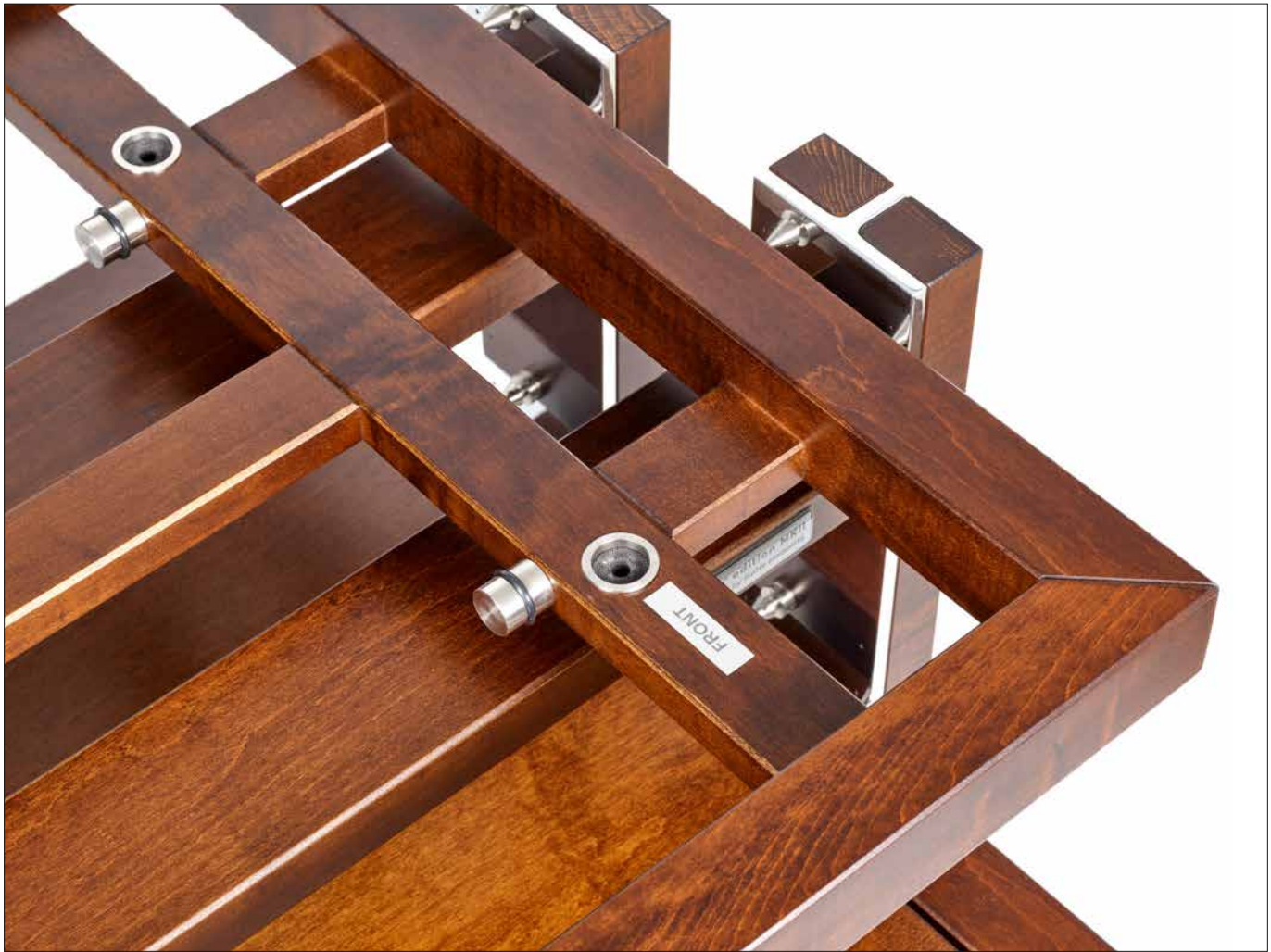
_____When the talk turns to racks and bases then vibration is the name of the game. The focus centers on the mechanical properties of electrical components and how they behave when the listening room is blasted with pulsating bass. These phenomena generate a distinct microcosm, not because their effects are so infinitely tiny, but because this area of our hobby is so deeply shrouded in mystery. Are you raising your eyebrows at me right now? Well, next time you can (we recommend a family get-together), tell your less hi-fi-savvy friends and family that you have treated yourself to a fancy new rack in order to remove unwanted

vibrations resulting from your devices. Their looks of total disbelief to real concern (which surely you've seen before) won't have gone back to normal even days later. And yet, this is all based on well-established physics. We may not be able to see, taste or touch these physical laws, but we can confirm their existence through measuring technology: mechanics and electricity are condemned to a forced marriage. Magnetic fields form wherever an electric current flows, and, because we prefer alternating current, the surrounding fields' polarity constantly changes. As there is always metal somewhere nearby, everything from the

most delicate conductor track to the chunkiest transformer will vibrate. Electronics cause movement, and externally-caused impact noise and excitation can conversely impact electricity. None of this would be worth mentioning if it weren't for how excitable materials react to certain oscillation periods—of course, we mean their resonant frequencies. Whenever battle lines are drawn and two heavy hitters (in this case, electronics and mechanics) are irreconcilably driven against each other, a mediator is advisable. This is precisely where a rack comes into play. It absorbs, dampens or channels away the vibrations and ideally ►

Removing one of the inserted shelves reveals the rack system's intricate construction.

The shelves' ceramic feet sit in small metal troughs in the frame which is decoupled from the external supporting frame with spikes. Resonators sit in the metal plugs that are steadied with rubber rings. One can be seen in the picture on the previous page.



ensures that the individual components can really harmonize and cohere gracefully. And now we find ourselves presented with the true master of this art. In the early 2000s, the hi-fi world was rocked when Finite Elemente launched its Pagode line. This shelving system was so cleverly devised that, when placed next to most of its contemporary design concepts, it looked like alien technology. Until then, most equipment racks maintained a conservative design: metal frame, sometimes heavy, sometimes light as a feather, a few spikes here and there, with any real character derived from the shelving materials. It is no coincidence that hi-fi furniture was now deemed to be a full-fledged

component once Pagode arrived. Recently, well over 15 years later, the manufacturer decided that it was time to push its racks to the next level with a few subtle but extremely effective changes, culminating in its second-generation (MK II) models. While the changes are hardly noticeable on the outside, let's dive into the structural design.

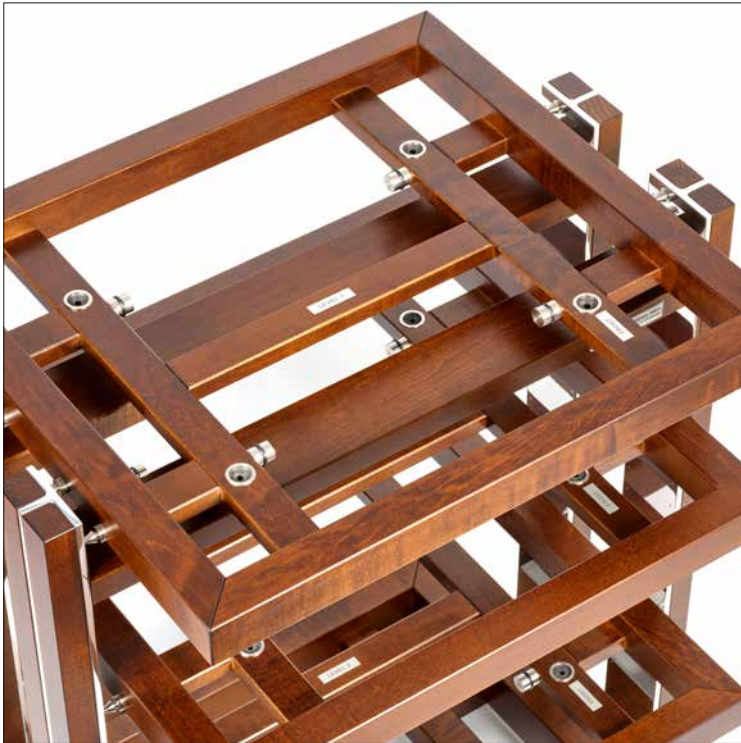
The Pagode Principle

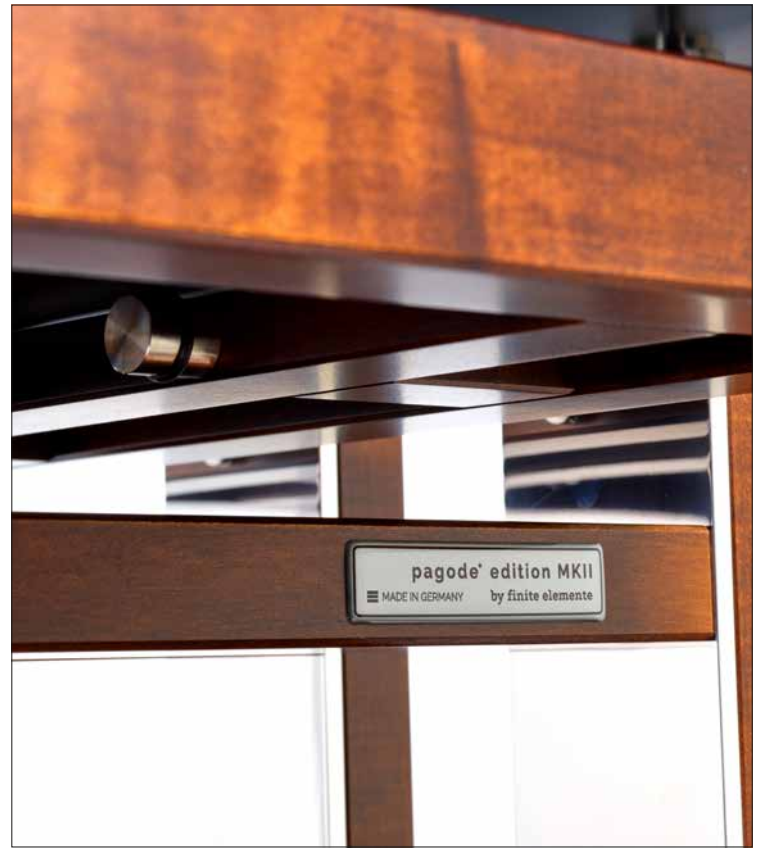
A sturdy Canadian maple wood frame forms the solid base for all Finite Elemente racks. This "floor level" easily supports an impressive 120-kilo load. Four aluminum T-sections

are screwed into the sides and, for the swish "Edition" model, are also maple paneled. These beams are available in different lengths, meaning that the unit can be purchased either as a simple base or as a rack with one to three "upper levels". The higher levels are identical to the bottom level, but they can "only" support 60 kilos because they are suspended: eight adjustable spikes hold them in place. This ensures that the levels have only minimal contact with the other rack components. Each frame contains several wooden struts that provide reinforcement as well as incorporate inserted shelves. The latter are composed (and this is a key improvement of the generation II models) ►

WITNESS THE FULL PAGODE EDITION
IN ALL ITS GLORY: THE BOTTOM LEVEL
SUPPORTS ALL OTHER UPPER LEVELS. THE
FINITE ELEMENTE RACK NAMES ONLY
INCLUDE THE NUMBER OF "SUPPORTED"
SHELVES, SO AN HD03 HAS A TOTAL OF
FOUR SHELVES. QUITE LOGICAL, NO?







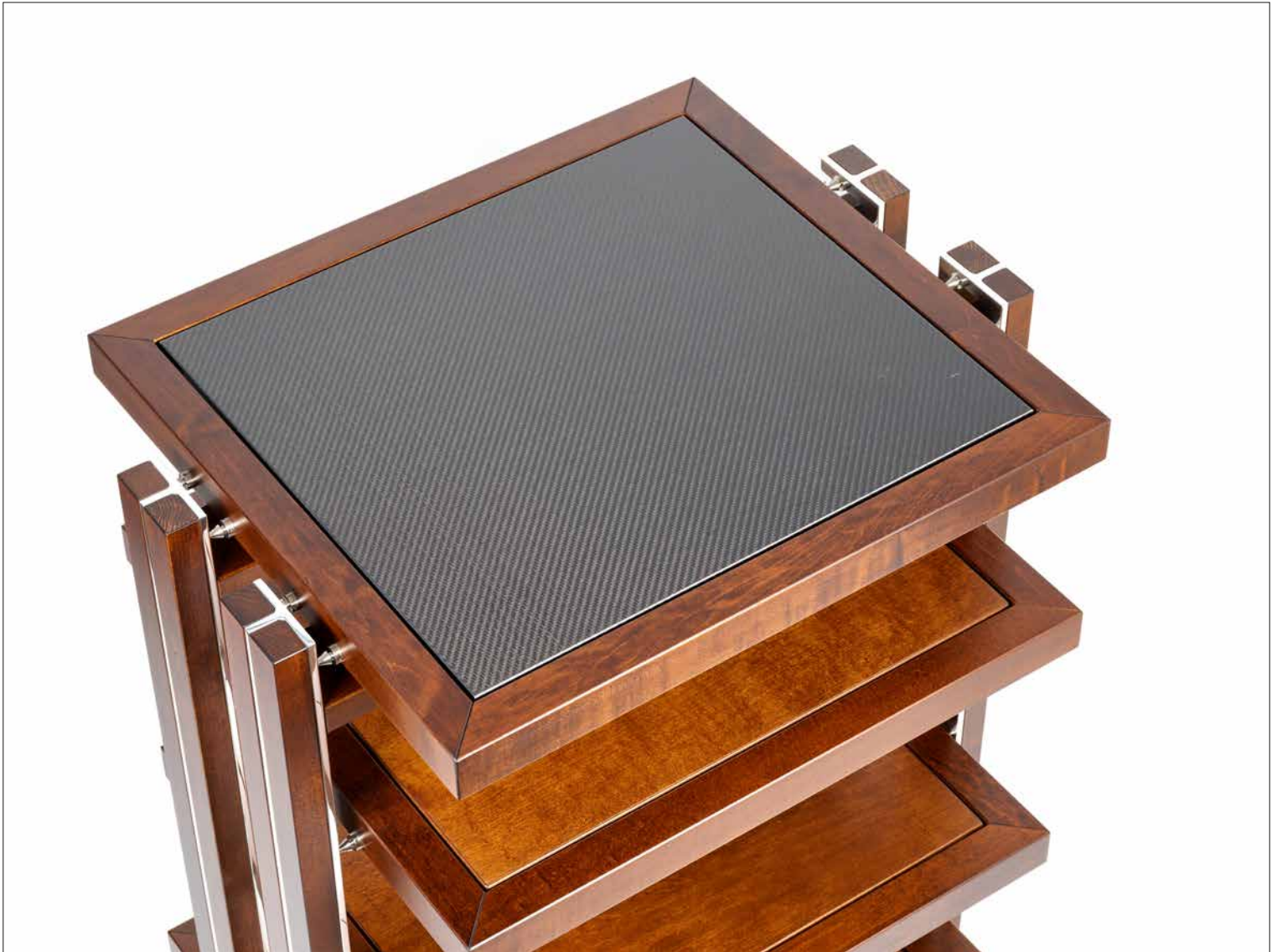
of an MDF-covered honeycomb structure and rest (another innovative feature) on four height-adjustable metal pins, at the end of which sit ceramic balls. These rest on small metal recesses located in the internal frame. The entire rack stands on Finite Elemente Cerabase feet which are decoupled via ceramic balls. Not only does the whole assembly look fantastic, but also from each individual level to the floor every component is decoupled threefold. The lightweight materials superbly absorb and divert vibrations and resonances. This means that devices placed on the different shelves cannot exert any undue influence over one another, and impact noise and loudspeaker energy are almost completely absorbed.

This alone would be adequate to establish the Pagode rack as a high-tech piece of furniture and confirm it as the undisputed leader in its

field, but we haven't even gotten to the best bit. The manufacturer went to town on its design, working with Dortmund University of Applied Sciences and Arts to analyze every component level's natural resonance via highly sensitive sensors. This is quite different from one level to the next. Then, armed with this data, Finite Elemente developed customized resonators that (as was revealed in the final measurements) absorb approximately 90% of natural vibration and 70% of the resonance caused externally by "forced excitation". The resonators are small metal pins sitting in sockets—four customized plugs are inserted into each level's struts. Therefore, our test rack's levels were not only completely resonance free, but also the four levels were equalized via their customized adjustments and behaved identically. Furthermore, unlike comparable furniture pieces, it doesn't matter how you fill the rack.

Can You Hear the Silence?

It's not too easy articulating the Finite Elemente Edition's impact. And we mean that as a huge compliment. The Pagode system doesn't add even the slightest bit of character to the components it holds, but rather provides perfect foundations for amplifiers and sources to shine as bright as possible. Of course, this doesn't become apparent until transferring them from any other rack onto the Edition. I found that the MK II ensured incomparable order and depth in the sonic image. Voices stood out clearer from the background and deep bass frequencies growled gnarlier, tighter and drier. Esoteric's K-03XD, housed on the rack's top level, maintained more composure and tangibly gained in breadth and stage depth and, as part of the comparison, seemed to reach its full potential only with this set-up. To keep ▶



us from badmouthing the defenseless competition, Finite Elemente kindly provided the decommissioned MK I version to enable our direct comparisons. While also better than all the competition, the older model didn't stand a chance in hell. The honeycomb shelves, with their ceramic feet, made the music remarkably vivid and nuanced. And this generational gulf could grow even wider: as an alternative to the standard shelves, Finite Elemente sells carbon fiber shelves, which subtly improve stage size and tangibility.

Such a sophisticated system, so intelligently designed and intricately crafted down to the tiniest details, of course comes at a cost.

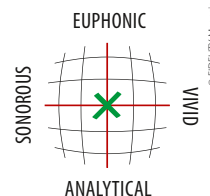
However, considering its performance credentials, the price is thoroughly justified and it wouldn't be too much to say that anyone who has not heard their components on the Pagode Edition MK II doesn't actually know how great they can sound! ■

Finite Elemente Pagode HD03 Edition MK II hi-fi rack | **Concept:** hi-fi rack with multiple decoupling and resonator technology | **Levels:** 2 to 4, also available as a pure power amplifier base | **Load-bearing capacity:** 120 kg (bottom level), 60 kg (levels 1–3), optionally level 1 can be constructed for heavy-duty loads (load-bearing capacity of 120 kg, for an additional fee) | **Materials:** Canadian maple, aluminum, honeycomb and MDF | **Usable shelf space:** 52 x 47 cm | **Dimensions (W/H/D):** 71/59/85 cm | **Warranty period:** 5 years | **Price:** from €6,680 (2 levels),

test model approx. €10,450 | **Options:** highly polished aluminum (€960), carbon fiber shelf (€690), heavy-duty level (€1,590)

Finite Elemente | Am Heimekesberg 11 | 33106 Paderborn, Germany | Telephone +49 5254 64557 | info@finite-elemente.eu | www.finite-elemente.eu

Finite Elemente forges a fresh **Pagode** concept with its second-generation models. The "Edition" maintains virtually zero intrinsic character and frees the components to truly sing with breathtaking order and clarity. Arguably the best rack system on the market!



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

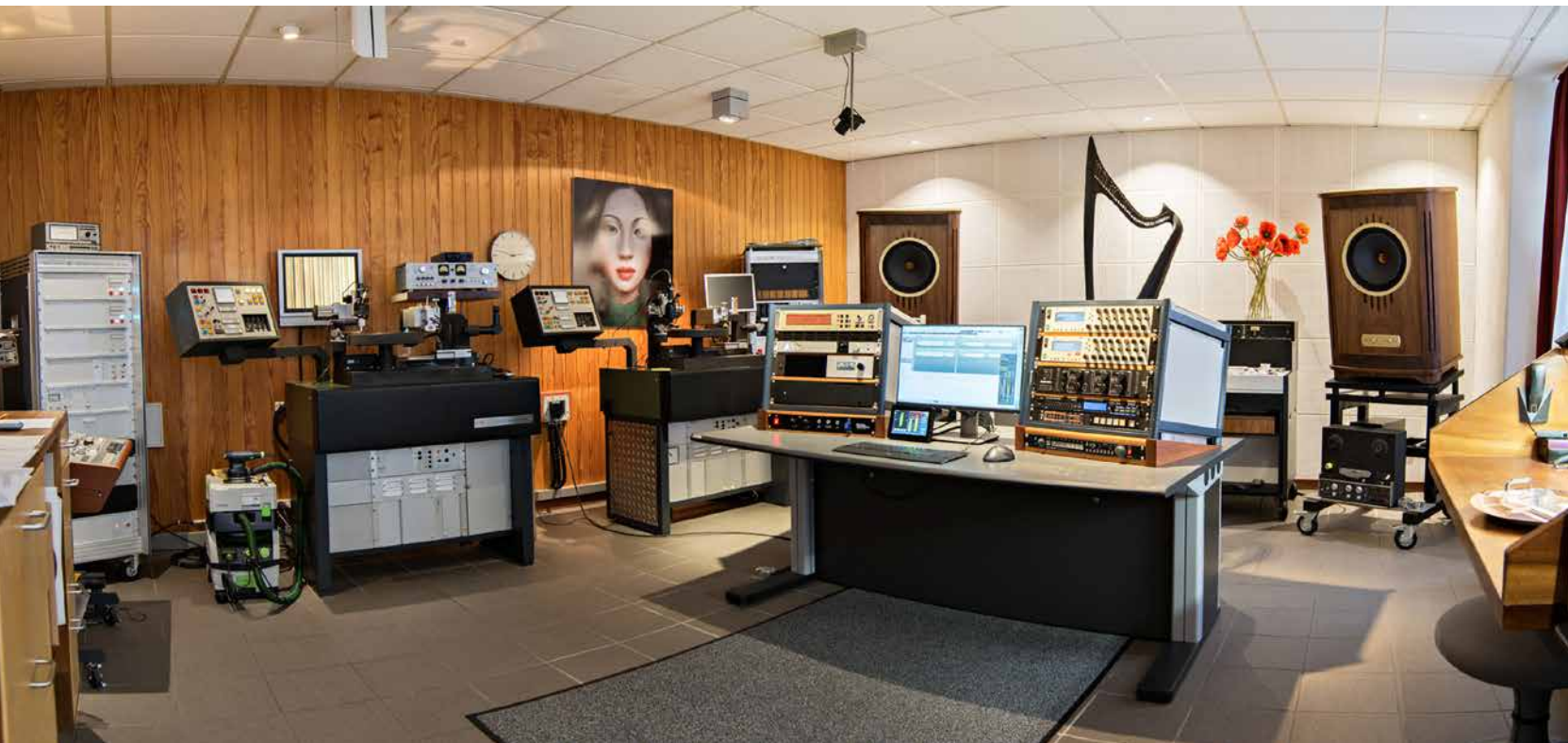


...and now for something completely different...

Copper Listens to Copper: Stockfisch Records' DMM Dubplate Vol. 1

FRANKLY SPEAKING

By Frank Doris. Photos courtesy of Emre Meydan



Stockfisch Records is an audiophile label established in Germany in 1974 by owner/producer/engineer/Günter Pauler. The label has been releasing recordings on vinyl, DSD, SACD, Blu-ray and other formats and their artist roster includes Werner Lämmerhirt, David Qualley, Sara K., Allan Taylor, Carrie Newcomer, Katja Werker and a number of others. They also offer their TTC-Pro True Transmission Cable speaker cable.



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Stockfisch DMM Dubplate Vol. 1



_____ I'd known of Stockfisch, but nothing could have prepared me for the record I recently received: Stockfisch's DMM Dubplate Vol. 1. The disc is made from copper-plated steel and has a literally dazzling copper surface. It comes in a beautifully-presented box with a detailed booklet—and a pair of white gloves for handling the disc. The box is specially-designed to keep the record as pristine as possible, with a foam surround and a silicone top plate that holds the record securely in the box. I have never seen anything else like it. The record is slightly larger in diameter than a standard vinyl disc and has some weight to it.

The idea behind DMM Dubplate Vol. 1 was, like conventional direct metal mastering (DMM), to remove a number of the steps involved in physically mastering and pressing standard vinyl records (the need to produce a mother, father and stamper), and eliminate the generational loss resulting from the multi-step

process. Stockfisch takes the idea further—the DMM Dubplate Vol. 1 is the master: it's directly cut from the mastering lathe!

DMM Dubplate Vol. 1 includes five tracks from Chris Jones, Carl Cleves & Parissa Bouas, Ewen Carruthers and Sara K. Only one side has music, because the back side is not plated so music can't be cut into it.

Before going any further, I know what you're thinking, the same thing I did: will this metal record damage my stylus?

According to Stockfisch, no, and more on that later. I will admit being a little hesitant in dropping the needle of my not-inexpensive Grado cartridge onto the surface.

At first, I thought I had forgotten to turn my phono stage on. I heard nothing but quiet—no groove noise, no pre-echo, no nothing. But,

no, my system was working; it was just that the surface of this copper-clad disc was remarkably quiet. I moved the tonearm further into the record...

I was astounded by what I heard.

I've been listening to records since I was a baby. I've heard hundreds, thousands, including a good portion of the audiophile classics—Casino Royale, The Sheffield Track Record, Mobile Fidelity Ultradiscs, you name it. Still, I was floored by the purity, dynamic impact, tonal richness and the stunning presence of the music. The impact is immediate—you just know you're hearing something special; let the analytical brain kick in later.

There is an intimacy and, well, directness to the sound that really is remarkable—and will take any seasoned audiophile about five seconds to ►

Inés Breuer, Hendrik Pauler, Hans-Jörg Maucksch and Günter Pauler of Stockfisch Records



hear. For example, on the first cut, Chris Jones “No Sanctuary Here,” the bass has real weight and harmonic richness, not just “bass extension.” His vocal is upfront and palpable, in the midst of a deep soundspace. When the acoustic guitar takes a solo, there’s a point where you can hear the “ping” of the string plucked against the fret, one of many moments of startling realism here

On Carl Cleves & Parissa Bouas’ “Into the Light,” the presence of her vocal is so full and lush that I almost laughed out loud. Can a dobro sound lush? Yes, it can. Chris Jones’ “Fender Bender” is a dazzling, virtuosic duet between acoustic guitar and electric bass, with instrumental accompaniment, and here, you really feel the pace and drive of the music, and the guitar and bass remain totally distinct from each other even at breakneck speed. The fourth cut, Ewen Carruthers’ “When the Time Comes

Around,” is simply gorgeous; I felt like I could walk into the sound.

I went into listening to Dubplate Vol. 1 with the preconceived notion that because of the reduction of the steps in the record-pressing process (and the elimination of generation loss), that what I’d hear is more of the “audiophile” stuff—more detail and low-level resolution. While there’s plenty of that, along with a remarkable absence of noise, what struck me the most is the increase in the palpability of the vocals and instruments, of the weight, of the tangibility of the sound. Everything sounds incredibly present, more real, more convincing.

The fact that this was cut from digital is going to make many LP purists take pause. I can tell you, it’s made me re-think the whole record manufacturing thing. How much of the record-pressing process is responsible for which

sonic aspects? I thought I knew. Maybe not. How many times can you say that listening to something has been a learning experience?

Sure, the price of Dubplate Vol. 1 isn’t cheap, but then again, I’m sure the cost of manufacturing isn’t either. (Full disclosure: I don’t know anyone at Stockfisch. I requested a disc because I was intrigued by the technology. I didn’t know what it cost until writing the review.) I’m happy that Stockfisch even did this, a boundary-pushing attempt at achieving better sound, the kind of bold effort that makes the pursuit of high-end audio so thrilling at times.

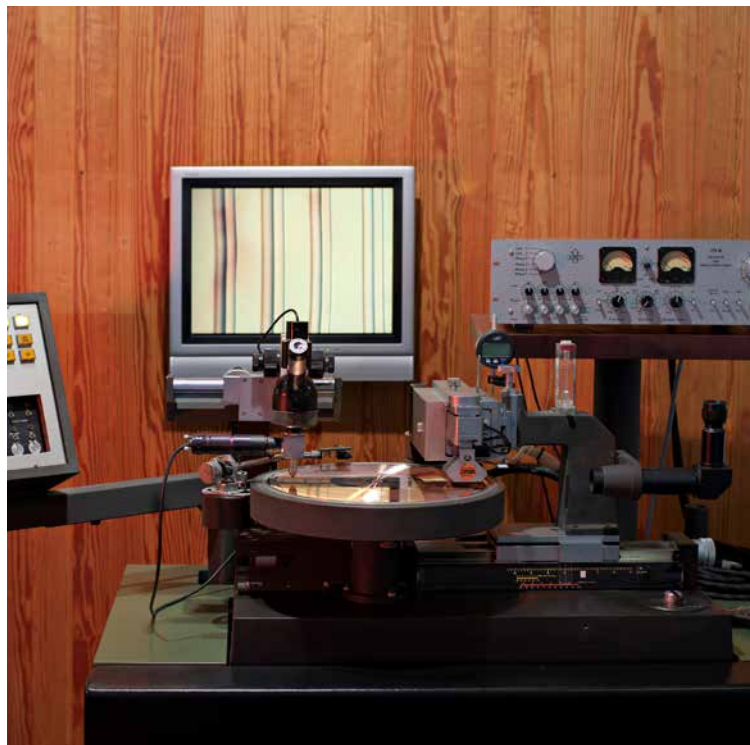
I asked Stockfisch’s Günter Pauler to provide us with more detail on the disc.

Günter Pauler: We [have] cut 14-inch DMM masters that are sent to pressing plants for the production of vinyl records. We listen to these DMM cuts every now and again, comparing ▶

Cutting engineer Hendrik Pauler at work



Neumann VMS-82 cutting lathe



them with the vinyl LPs that have been pressed from the DMM master. We observed that the sound quality of the pressed vinyl always fell disappointingly behind the original DMM master.

Thus we came up with the idea for a 12-inch Dubplate, which we thought might be interesting for companies that develop and produce pickups for record players, because with the Dubplate they would be able to evaluate the true performance of their products by avoiding the pitfalls of pressed vinyl. Unfortunately no pickup producer was interested in this possibility. But the reaction we received from high-end listeners was just the opposite.

The 12-inch Dubplate is cut one at a time, just like its 14-inch counterpart [record master] that is sent to a pressing plant. The copper blank is made of a 1mm-thick stainless steel disc, which then receives a 0.1mm-thick galvanic plating of phosphate-copper. The 14-inch blank discs are not exactly flat, but rather a bit concave and uneven, because the melding of two different metals creates tension on the disc.

On 14-inch blanks this imperfection does not negatively affect the cut, because the disc is pulled flat under vacuum on the Neumann VMS DMM [cutting] lathe. Our 12-inch Dubplate, however, has to lie flat on the turntable of a record player, where only a maximum of 0.6 mm vertical movement is allowed. For this reason, our 12" steel blanks are made flat by means of a roller press which applies several tons of pressure. Not only is this procedure expensive, but we still discard about 30 percent of the blanks as not suitable. That's why we sell the DMM Dubplate for a relatively high price of 700 Euros. We can only produce about five Dubplates each week, as that's about the number of good blanks we receive per week.

The music on Vol. 1 comes from a digital master. On our Neumann VMS-82 we have a digital preview delay made by Daniel Weiss that is capable of 96 kHz. We could just as well use an analog tape as source, but it [would] have to be converted to digital in order to work with our machine.

We have played back the DMM Dubplate around 200 times, using test tones such as pink

noise. There was no hearable loss in sound and no measurable wear on the stylus. On a regular pressed vinyl there's a considerable loss of high frequencies after just 50 plays. ■

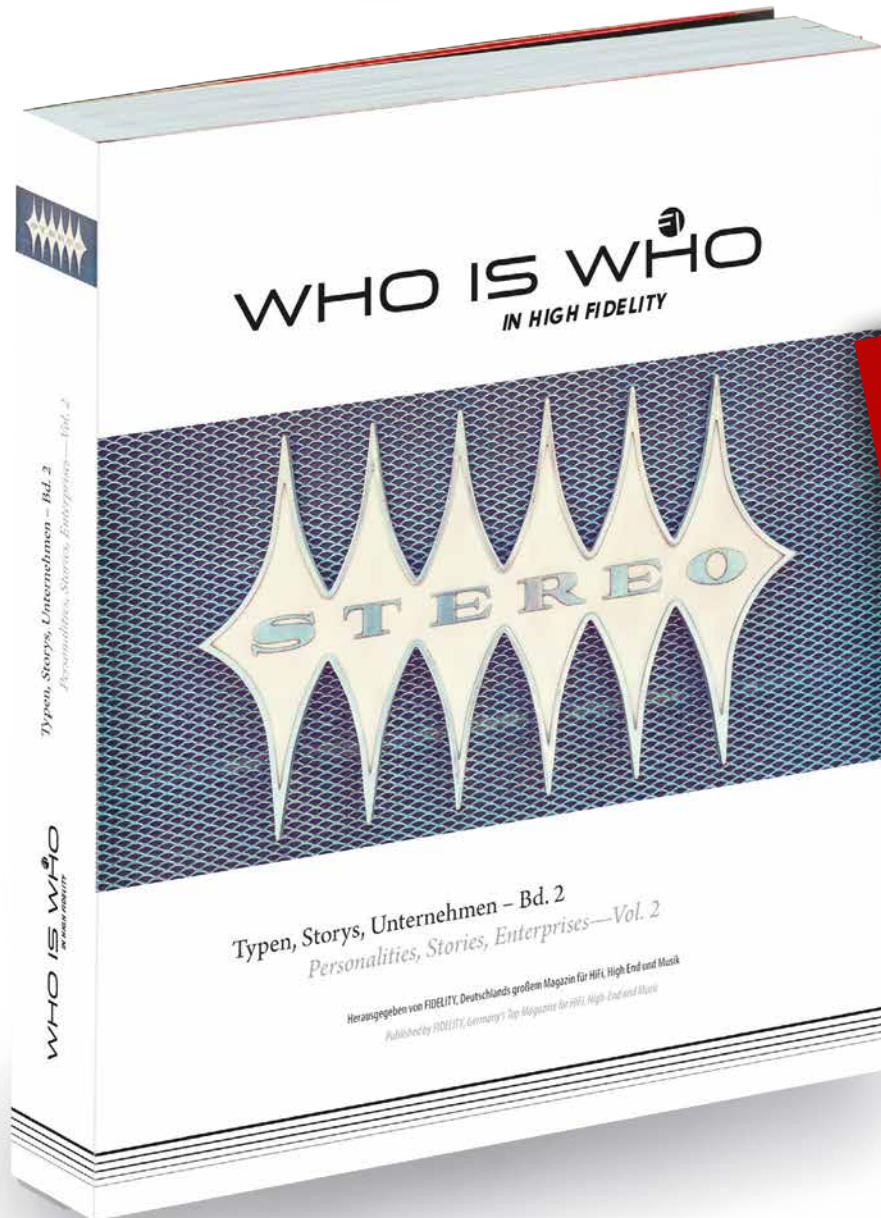
The equipment used to create DMM Dubplate Vol. 1 includes the following: Neumann VMS-82 cutting lathe | Neumann SAL-74B cutting amplifier | Weiss DLY101 cutting delay and D/A converter | Weiss EQ1 mastering equalizer | Waves Audio MaxxBCL signal processor | Merging Technologies HAPI audio interface | Benchmark AHB2 power amplifier | Tannoy Prestige Canterbury Gold Reference loudspeakers

Stockfisch-Records | Am Münster 30a | 37154 Northeim | Germany | Tel.: +49(0)5551 61313 | Fax: +49(0)5551 8020 | e-mail: info@stockfisch-records.de



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HIGH END ALSO
REFERS TO THE
IMPRESSIVE ARTISTRY
OF INTERPLAY. SO WHY
NOT HOUSE ALL THE
EQUIPMENT INVOLVED
UNDER ONE ROOF?





Thrax Ares

THE SUM OF ITS PARTS

By Michael Vrzal. Photography: Ingo Schulz





Ever more high-end small-scale manufacturers are focusing on all-in-one devices and fully integrated digital-analog devices that cover all the bases without compromising any of the essentials. Thrax is no exception. Based in the Bulgarian capital of Sofia, this small-scale manufacturer launched its first venture into this field in 2018. Or, if we're completely accurate, we should say "ventures", plural. Thrax has many feet through the tubes door as it boasts both the "Enyo" model, with an amplifier section utilizing fascinating and rare Russian GU-50 pentodes, as well as the purely transistor-based version named "Ares".

According to Thrax, the Ares is a "modular audiophile system". Now, I already had an idea of what that might mean. And I was already aware of Thrax's distinctive and well-respected in-house metal working. But I wasn't prepared for what the delivery company unloaded in front of my building: a flight case on a mini pallet, housing a 30-kilo partly solid aluminum cuboid

housing hosting a 200-watt Class A-type power amplifier inside its centimeter-thick walls. Let alone all of the optional extras available: a digital module with fully HD-capable DAC and streamer and an MM/MC-compatible phono equalizer.

The beating heart of the Ares is its amplifier. Unlike most highly integrated monoblock systems, no space and energy-saving Class D power amplifiers are utilized here. Instead, two formidable toroidal transformers fuel a high-performance, power-hungry Class A circuit. However, a true, 100% Class A circuit would reduce the Ares to a cooktop and even the nicest wooden rack into an ash pile. With this in mind, Thrax utilized an in-house developed circuit loosely inspired by Japanese A derivatives from yesteryear that has been designed to retain the ideal low-distortion operating mode sound without any excessive bias current. But don't get me wrong, there's absolutely nothing lukewarm about the Thrax—after only an hour of use, the Bulgarian aluminum

block will heat up as fast as Granny's old tiled cocklestove.

The digital section is modular in design. The in-house developed R2R DAC is accompanied by a powerful AK 4137 sample rate converter and an exceptional streaming module from the Korean specialist mconnect. The DAC utilizes four 16 bit IC resistor networks, reaching a maximum resolution of 24 bit and a sample rate of 384 kilohertz. The user chooses between three digital filters (Sharp, Slow, Bypass) that are easily selected via the large front panel display. There is no smartphone app available. But thanks to its clearly structured and heavily pared-back menus, and with the help of an Apple remote control, this user interface demonstrates that you can still get away without one. Incidentally, while the Ares hardware supports Roon and MQA, the manufacturer was not yet licensed to utilize either when our review was conducted. According to the developer, Rumen Artarski, they are currently in talks with Roon—so, if you're not keen on streaming ▶

IT IS UNCLEAR FROM THE PHOTO, BUT UNAMBIGUOUS SYMBOLS COMMUNICATE THE FUNCTIONS OF THE SIX TOUCH-SENSITIVE BUTTONS ON THE SOLID FRONT PANEL. ON THE LEFT-HAND SIDE: ON/OFF BUTTON, MENU BUTTON AND INPUT SELECTION BUTTON...



...ON THE RIGHT-HAND SIDE: VOLUME DOWN BUTTON, SELECT/MUTE BUTTON AND VOLUME UP BUTTON. ALTERNATIVELY, YOU CAN UTILIZE THE INTUITIVE APPLE REMOTE CONTROL.





The bulky housing walls (that make the amplifier absurdly heavy) leave less room inside than you might think. However, Thrax perfectly utilizes the available space: the signal path is clearly identifiable, from the central current control through to the transformers and the identical monos (right and left).

via UPnP/DLNA, you should discuss the status of the Roon issue with your hi-fi dealer or the German sales team. On the other hand, after expressing initial enthusiasm, the Thrax team now feels that the MQA algorithm, which is not without its critics, is unnecessary and will not be activating the decoding.

The phono input is designed around a low-noise operational amplifier (op-amp), the OPA211 from Texas Instruments. The RIAA equalization is passive—you switch between

MM and MC via the user interface—but the device must be opened for MC mode impedance matching. Numerous values between 54 and 980 ohms can then be chosen via DIP switches. The device is preset to 300 ohms and the gain is an equally practical 62 decibels.

The felt pads on the feet of the Ares helped it slide smoothly onto the rack (plus point) but immediately annoyed yours truly, who hadn't read the operating instructions simply because it was not possible to select the source (minus

point). Aha! First I had to select an option with one button and then confirm my choice with another button. The display was nice, large and easy to read (plus point), however the navigation buttons were small with a shiny chrome finish so that I could only determine their functions by getting up close and personal (minus point). The connections were high quality and tightly screwed into the housing. This device didn't just *look* solid—it really was built to last. If it were ever to fall off the rack, you can bet your bottom dollar that it would keep on ▶

Preamplification and input selection are located right beside the rear housing wall. Almost all functions (DAC, streamer, Bluetooth, USB etc.) are housed on their own circuit boards in the modular design. This means that upgrades and straightforward repairs can be easily conducted.



playing completely unfazed in the middle of the huge crater that it had created.

The Ares is a professional musician in the truest sense. It is neither a romantic, a dissector nor a fan of anything in particular. As such, the integrated amplifier stands as a neutral (but never detached or disinterested) audio information communicator. As soon as the first note played, the Ares demanded respect by effortlessly demonstrating that it can give excellent and

expensive separate components a run for their money.

To kick things off, I opted for The Oscar Peterson Trio's *We Get Requests*. I was convinced that the musicians were actually there in my listening room. The recording, now almost 60 years old, sounded remarkably fresh and nearly modern. The drums seemed completely independent of the left-hand speaker and, regarding perspective, seemed to be located

exactly three meters behind it. Conversely, the double bass on the right seemed to have moved closer to the microphone. It seemed to be one meter behind and slightly off-center beside the right-hand speaker. Right up the middle was Peterson's instrument, with this particularly muffled, blunt and warm tone, sparkling throughout the room like velvet. The focus here tonally was clearly the miking—and, as a result, the spatial reproduction. The grand piano was obviously much closer to its mic than the rest ▶

AT FIRST, THE BACK SIDE SEEMS A BIT BUSY, BUT IT'S ACTUALLY WELL ORGANIZED: ON THE TOP IS DIGITAL (3 X S/PDIF PLUS LAN AND USB), ON THE BOTTOM IS ANALOG (3 X RCA INCL. PHONO AND 1 X XLR). FURTHERMORE, THE LOUDSPEAKER OUTPUTS ARE ARRANGED WITH SO MUCH ROOM THAT ANY TERMINALS, BE THEY BANANAS OR EVEN CABLES AS THICK AS YOUR ARM, CAN BE CONNECTED WITHOUT ANY PROBLEMS.



PURE UNDERSTATEMENT! THIS FULL-VIEW IMAGE ONLY GIVES YOU A TASTE OF THE IMPRESSION THAT THE ARES MAKES FACE TO FACE. RARELY HAVE WE EXAMINED A DEVICE ON THE RACK AND ALL AGREED: "NO OTHER WORKMANSHIP COMES CLOSE TO THIS!"



of the trio were to theirs. The drums occupied considerable yet controlled spatial volumes, and the bass recording was perfectly balanced to a degree rarely experienced, with overtones and, simultaneously, a true low-frequency punch. The Ares conveyed all of this information unequivocally.

I had just listened to digital music from my Innuos Zenith Mk III, with the data being fed

via USB into the DAC input of the Ares. When I connected the Innuos to my converter, an Aqua La Voce S3 (incidentally also an R2R DAC), and sent the analog signal via an RCA connector to the Thrax, a marked difference in character arose: the musicians seemed to loosen their ties, undo the top buttons of their shirts and roll up their sleeves. Peterson's Trio had suddenly relaxed. The guys were a bit less focused on precision and allowing themselves

to smile here and there with a charming grin, bopping along to the beat. As a technical artifact, the recording had become less impressive and the instruments not as sharply defined. As such, the swing and flow of the performance were captivating. In short, it sounded different—but hardly less attractive.

I would be reluctant to attribute these differences purely to the two DACs. We can't forget ▶

Rumen Artarski on the amplifier section technology:

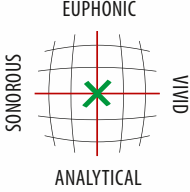
People have previously referred to this amplifier type in many ways, such as “Super Class A” or “Class AA”. What happens is the output transistors never switch off, thereby eliminating the crossover distortion issue and its consequences. The amplifier has no overall negative feedback. In principle, what we have here is a passive volume control/source switch that serves the input stage and in turn is followed by both a driver stage with unity gain and without negative feedback as well as our in-house developed output stage. The amplifier is not load-sensitive, meaning that it can drive any loudspeaker.

On the DAC and filter options:



Each filter sounds distinctly different, so we leave it to the listener to decide. However, we may change this one day as people sometimes make the wrong decisions. You will get the best sound from DSD with a deactivated filter (Bypass) or PCM formats with at least 88 kilohertz with an activated filter (Slow). Likewise, the Sharp filter should be selected for CD-quality material. While the Dither option helps out earlier digital recordings produced with 14-bit resolution.



Thrax Ares
Anyone who's sick of piling up different boxes but doesn't want to compromise on quality will strike gold with the indestructible Thrax Ares which is controlled the old-fashioned way.



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



that the Ares benefits from perfect internal signaling lines. The cabling of the Aqua DAC, the set-up—it can all make a huge difference. But, on the other hand, that is precisely the argument for the all-in-one solution: peak performance, just as the manufacturer intended. Anyone keen to simply sit back, relax and enjoy the music instead of fiddling, tuning and optimizing will rejoice with the Ares. I played around somewhat with its provided digital filters. The Slow setting quickly became my favorite, whereas the Dither option (addition of inaudible noise) wasn't utilized. As a result, the sound developed a remarkable combination of flow and openness.

Moreover, the phono input worked exceptionally well. Rumén Artarski modestly said that the MC input is “suitable for top of the mid-range turntables”, but my Lyra Kleos on the Bauer dps 3 easily found smooth dynamics and exceptional resolution in the Thrax. Previously,

I had listened to quite a lot of music with tube devices—their tendency to launch charm offensives is not something you would associate with the Bulgarian beast. Here, it's all precision and neutrality. Artarski gave me another piece of advice: use a decent MC transformer and select the lower MM setting amplification. Then things really got going...

Thrax has a true high-end, all-in-one statement piece with the Ares. The device is, in every respect, a bona fide heavyweight in the ring. Tonally, it utilizes a precise and focused approach, featuring the high-level workmanship you would expect on a tank. I really hope that the Roon certification gets sorted soon. After that, in my opinion, there wouldn't be a single reason not to recommend wholeheartedly this Bulgarian god of war. ■

Network receiver | Thrax Ares
Concept: Class A integrated amplifier featuring a

modular design with optional phono equalizer, DAC and streamer | **Analog inputs:** 3 x line-in (RCA), of which 1 x convertible to phono-in, 1 x line-in (XLR) | **Digital inputs:** 1 x S/PDIF coaxial, 1 x S/PDIF optical, 1 x XLR, 1 x USB-B | **Analog outputs:** 1 x loudspeakers (screw terminals) | **Bluetooth:** “hi-fi-Bluetooth” (option) | **Network:** Ethernet (option) | **Output power (4 Ω):** 2 x 200 W | **Special features:** IR remote control, streaming option for €3,200 (AirPlay, UPnP/DLNA), phono option for €1,100 (MM/MC) | **Finish:** silver aluminum | **Dimensions (W/H/D):** 43/12/45 cm | **Weight:** 30 kg | **Warranty period:** 2 years | **Price:** from €11,000

WOD Audio | Westendstraße 1a | 61130 Nidderau | Germany | Telephone +49 6187 900077 | info@wodaudio.de | www.wodaudio.com

ACCOMPANYING EQUIPMENT

Turntable: Bauer Audio dps 3 | **Tonearm:** Bauer Audio Tonearm | **Cartridge:** Lyra Kleos | **Phono preamplifiers:** Bauer Audio Phono, Hagerman Trumpet MM, Jensen MC Step-up | **CD player:** Electrocompaniet EMC 1 UP | **Music server:** Innuos Zenith Mk III | **DAC:** Aqua La Voce S3 | **Preamplifier:** Silvercore linestage two | **Power amplifier:** Rowland Model 2 | **Power conditioning:** AudioQuest Niagara 3000 | **Loudspeakers:** Ayon Seagull/c, Dynaudio Special One | **Cables:** Fadel Art, Anszu, Sun Audio, AudioQuest, Solidcore | **Accessories:** DIY rack, granite bases



— Formula xHD rev. 2 —



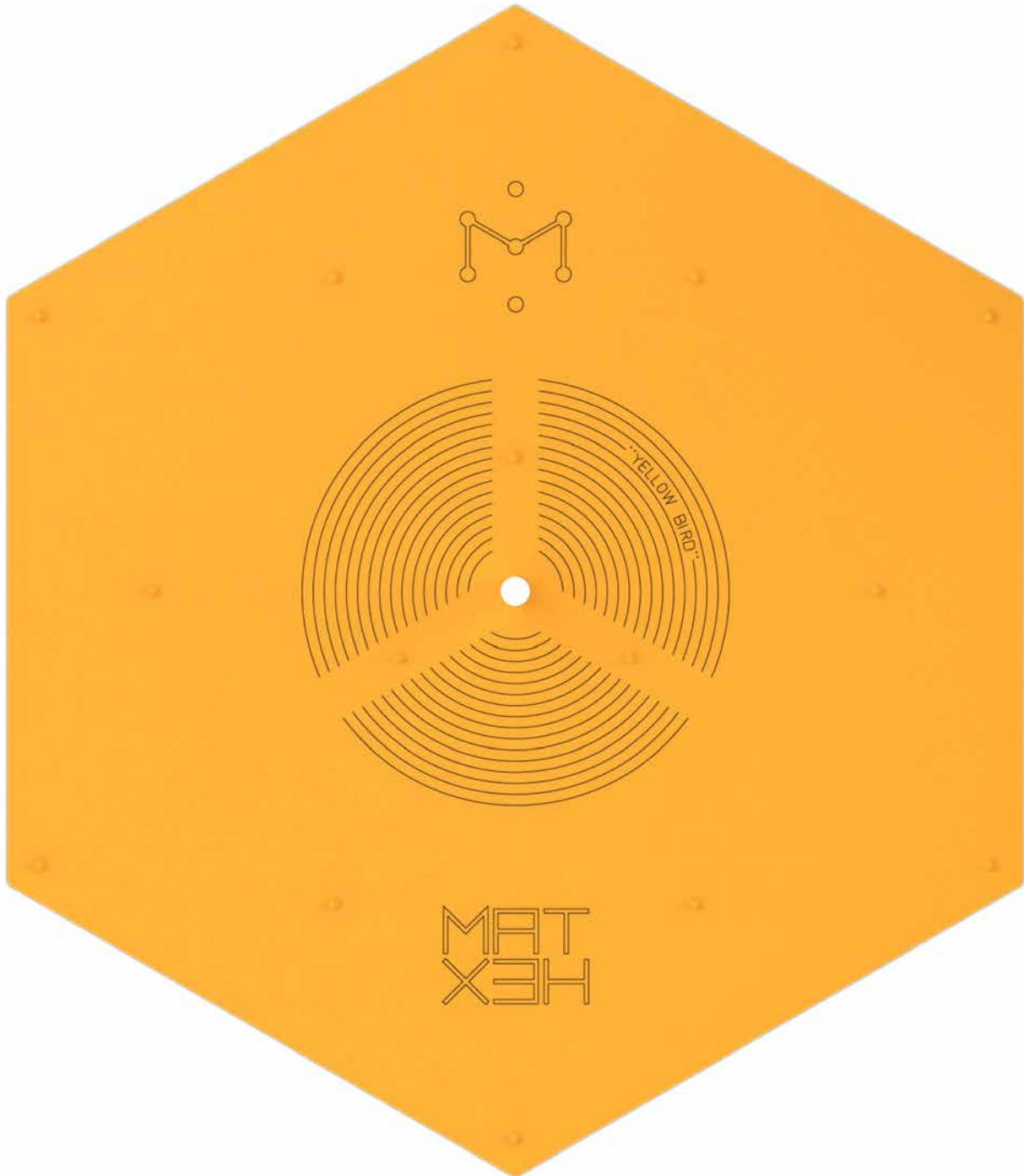
“MAGICAL EXPERIENCE”

Review: Andrew Everard
Lab: Paul Miller

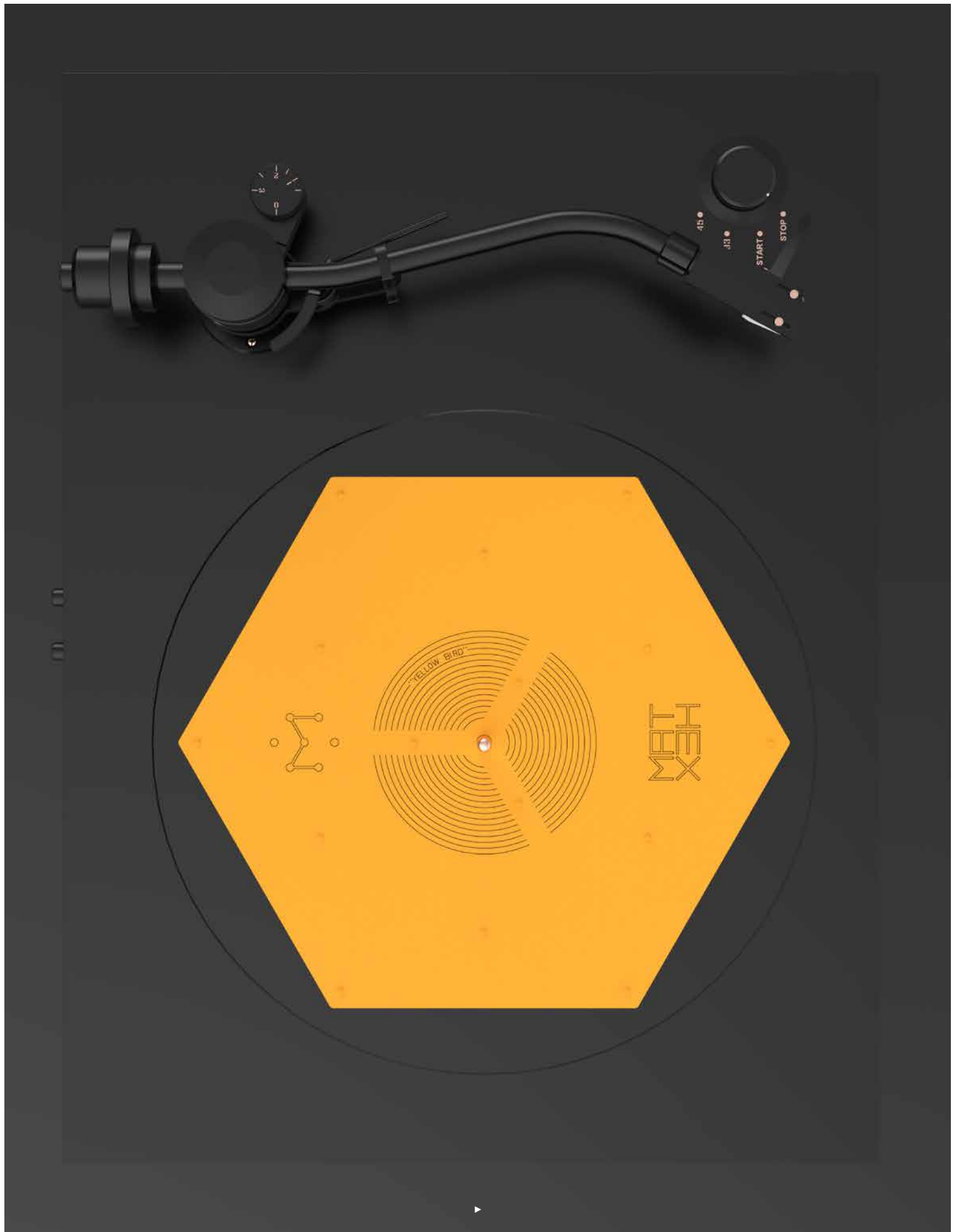
Hexmat Yellow Bird

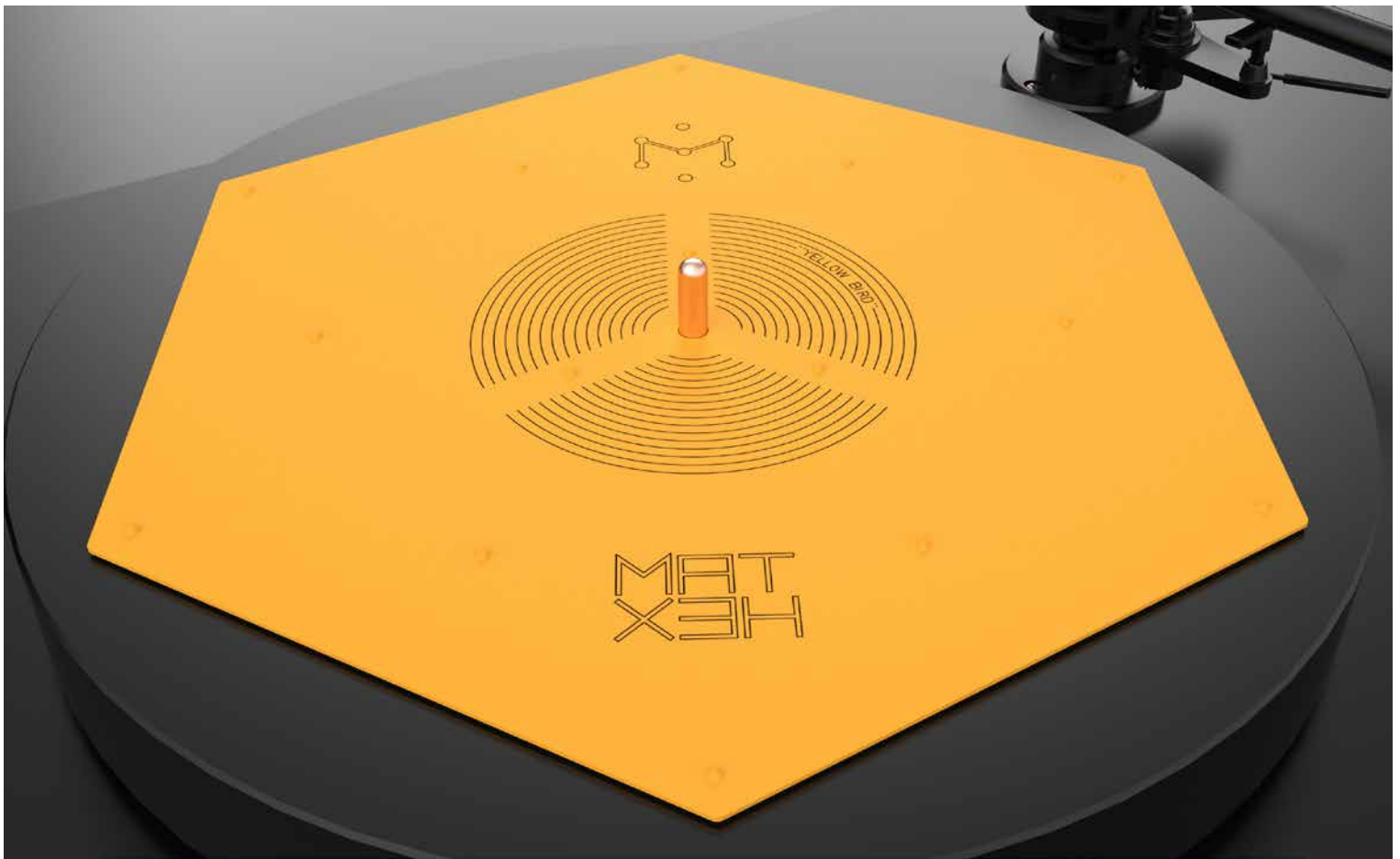
CLEVER ACCESSORIES

By Hans von Draminski. Photography: Manufacturer









_____ This disturbing color! This irritating yellow! Something is wrong in here! Stop. No more negative comments on this very special tool. The Hexmat Yellow Bird belongs to the rare category “clever accessories at an affordable price”. The flat bright yellow Hexagon was developed by the Hungarian hi-fi engineer Zsolt Fajt. His idea: Especially with records, with their microscopically fine “data storage”, efficient vibration prevention or dissipation is absolutely essential for good sound. No contradiction here.

Fajt’s solution: His turntable support is designed to reduce the contact area between the record and the turntable to near zero. The Yellow Bird carries a large number of very small, comparatively widely spaced nubs on both sides. According to Fajt, the effective contact area between the platter

and the record is now only one to two square millimeters, without affecting power transmission or drive torque. “The record almost floats,” Fajt says.

What initially sounds like marketing gobbledygook works amazingly well in real life. For approximately 140 euros, you can get very few turntable supports that influence the sound as audibly as the Hexmat Yellow Bird. The musical events immediately seem noticeably slimmer and more elegant, more transparent, more lucid when the yellow hexagon does its job. Regarding sound details, Hexmat does not take anything away, as one might assume. It cleans the sound up in an astonishing manner. The bass, for example, doesn’t become thinner, although one could easily get onto this slippery slope in the first few minutes of listening. Hexmat’s Yellow Bird takes

out those subtle thickenings, those hints of loudness effects that, at least for me, have so far been quite obviously added by the turntable/record system.

About the test setup: Normally I operate my turntable from the German turntable manufacturer Clearaudio without any rests, fix the record with the simple but effective Clever Clamp and let the magnetic bearing and the sheer weight of the platter take over vibration control. Many supports I tested over the years had second to none effect on the sound, no matter if they were made of felt, leather, elaborated material mixes or even vinyl.

The Hungarian canary is different. It embodies a significant improvement. Not only does the bass come out of the speakers as crystal clear yet punchy as if the record

washing machine had put in an extra shift – space and clearness also increase. Voices protrude more clearly and compellingly in front of the accompanying instruments – whether it’s a jazz piano and an upright bass, a big rock band or a whole orchestra, whether a rough-voiced bard like Sting laments about the “soul cages” or Hildegard Behrens evokes the “nuits d’été”. The unspectacularly served detail can keep up with any HiRes file. Seriously.

Conclusion: For me, the Hexmat Yellow Bird stays on the turntable. Period. And I don’t see the color anymore when a Longplayer covers it. Which will be the case more often now. ■

Turntable Platter Mat | Hexmat Yellow Bird

Price: around 140 € (order by e-mail directly from the manufacturer) | info@hexmat.net | www.hexmat.net



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

thx to twitteringmachines.com

Riviera Audio Laboratories Levante:

MEASURED RICHES

By Michael Lavorgna. Photography: Michael Lavorgna



Two of the principals of Riviera Audio Labs, Luca Chiomenti (audio designer and engineer) and Silvio Delfino (sales and marketing) spent a few decades talking about the kind of amplifier they'd like to make, if they ever decided to make one. Five years ago, on their drive from Italy to Munich High End 2016, they decided to do just that and Riviera Audio Laboratories was born.





¹ See the Riviera website for more on their approach to [Technology](#).

Luca and Silvio's amplifier would be designed beginning with its ideal measured performance, which was not driven by test equipment response, it was driven by how our ears work. In a nutshell, Riviera describes this approach as follows—*we think that an amplifier generating a distortion spectrum similar to that of the human ear will result in extremely transparent and clean [perceived sound], even if its THD level is relatively high.* [footnote 1] In effect, the company set about building an amplifier whose performance was optimized on the test bench in strict relation to the listening experience.

A few additional, and more traditional, building blocks were also defined including Zero Overall Feedback, Class A amplification at every stage, and Hybrid circuitry with a pair of parallel ECC81/12AT7 triodes for signal processing and solid state (Bipolar Junction Transistors and Mosfets) for the power stage. They would design and build everything in-house, including the custom designed transformers, to laboratory instrument-grade quality.

When it came time for production, the amplifier had to satisfy all of these goals on the test bench and in the listening room—a *long and accurate musical and bench optimization (with*

continuous shift from the bench to the listening room and vice versa).

The new Levante Integrated Amplifier is the company's first integrated and sits at the entry level of the overall product line. The Levante offers 30 Watts of output power into 8 Ohms (60W into 4 Ohms) when run in Class A. The Levante can also run in Class A/B for 120 Watts with the turn of a knob on the unit's front panel. As mentioned, a pair of ECC81/12AT7 triodes are used as the driver stage for the BJT/MOSFET output, while preamplification is of the passive variety.

The Levante offers five line-level inputs (4x RCA, 1x XLR) which are joined by a pair of speaker binding posts, power toggle switch, and IEC inlet on the unit's back panel. An optional built-in MM/MC phono stage is in the works. The Levante measures 17" x 19" x 7.5" (w x d x h) and weighs in at a very dense 66lbs. Heat sinks run down both sides of the Levante's all aluminum body to dissipate that Class A heat, and the top plate is slotted for the same reason.

The front panel houses a (big) volume control knob, headphone jack (1/4"), Class selector knob (A or A/B), input selector, 2 buttons to

engage/disengage the headphone amp and Night mode, and a power button. An included aluminum remote controls volume. While a picture may be worth 1,000 words, none of the photos included here can tell you about the experience of interacting with the Levante on a physical level, which I found to be on the exquisite side of the spectrum. That large volume control knob turns with silky yet measured smoothness, and even after hours and days of 24/7 play, the top plate remained warm to the touch, about the same temperature as the belly of a living thing soaking in the sunlight.

The Levante spent its time powering the DeVore Fidelity O/93 speakers, while the Totaldac d1-tube DAC/Streamer and Weiss DAC501 took turns with the bits to analog conversion. Let me say upfront that the DeVore's are an easy load for any amplifier, so I ran the Levante in Class A for the duration of this review.

Tube Rolling

Let's begin in the middle. The review unit was shipped with a pair of Mullard ECC81s installed, while the stock JJ ECC81s remained boxed. The company recommends at least 400 ▶



² If you're wondering why different tubes sound different, it has to do with their physical construction, so says Captain Obvious. Further, the same tube can sound different in different amplifiers due to different operating environments (e.g. bias, plate voltage, load, etc. . .) found from amp to amp. Which is all to say that if ever you hear someone declare a "best" tube, they are talking out of their assumptions.

hours of initial run-in time, the US Distributor, Tone Imports, put some miles on the review sample before its journey to the barn, and about 30 minutes of play time after it's been powered off before the unit reaches thermal stability. I spent a good amount of time listening with the Mullards before switching to the JJ triodes to let the Levante settle into the barn and for me to settle into the Levante.

Lael Neale sings in the soprano range, leaning towards the upper registers, at times reaching into 'Soprano C' range (around 1k). As such, her music is a nice test for the reproduction of these frequencies. On "How Far Is To The Grave," from her lovely album *Acquainted with Night*, her voice jumped out more and became sharper sounding using the stock JJ tubes. I bring this specific song up because it so nicely highlighted the main difference between the Mullards ECC81 and JJ ECC81 tubes—sharp (JJ) versus sweet (Mullard). My distinct

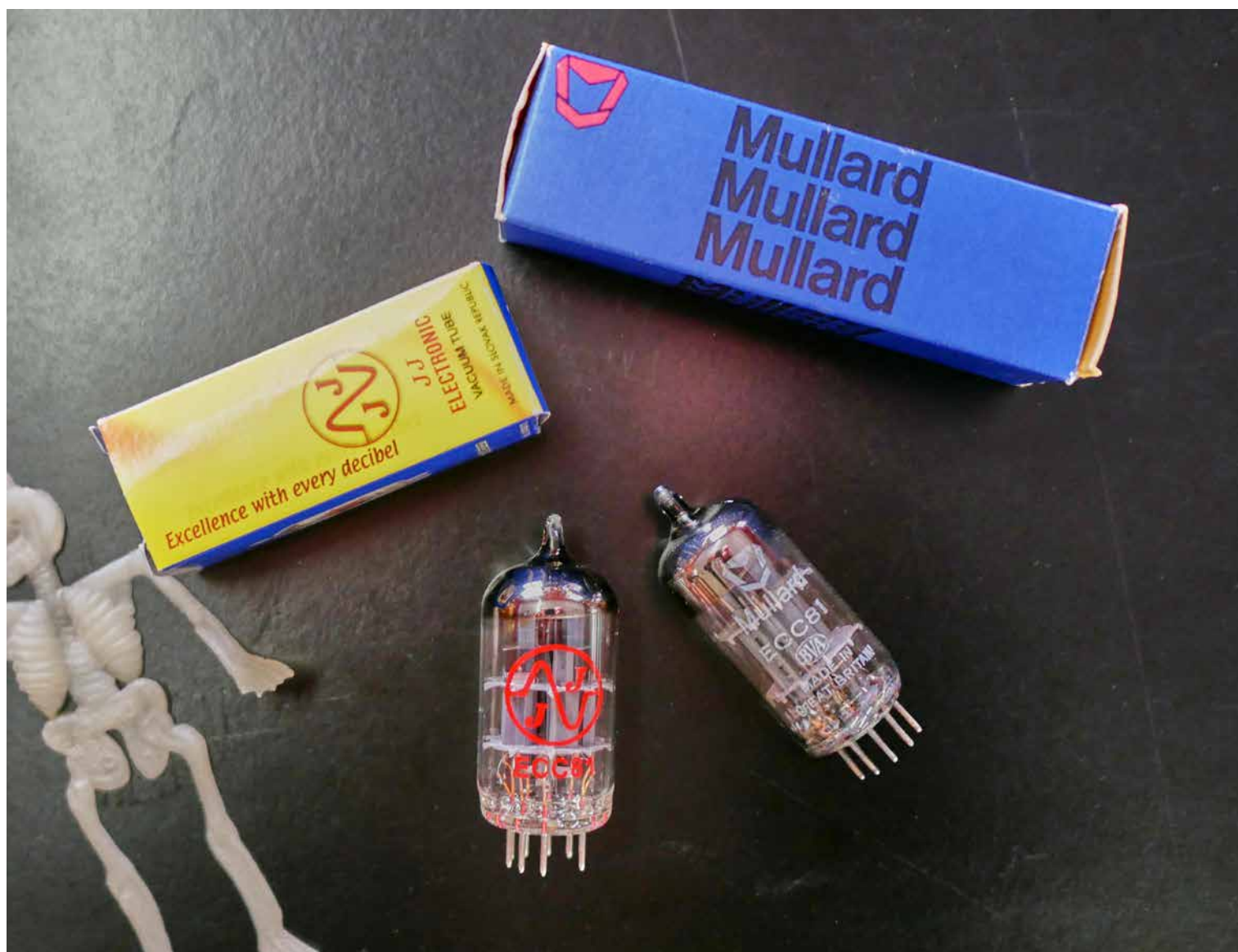
preference clearly lay with the Mullard's softer, rounder, and sweeter sound, which made Neale, and all of the other music for this comparison, sound less strident, less sharp. [footnote 2]

Of course tube rolling, especially in the case of the Levante where the tubes are used as the driver stage for the transistor/Mosfet output, does not offer night and day differences. Rather, different tubes act like subtle spices in a complex dish. Season to taste. The bulk of my review time with the Levante was spent with Mullards in play. What can I say, I have a sweet tooth (ear?).

Thus situated, with the Mullard's running the driver stage, I settled in for a few weeks of listening. To clarify, this means the Levante was playing music for weeks on end and I spent days in the sweet spot doing nothing but listening and, at times, comparing. The reason I take this kind of time with most things I review

is so that my preferences don't overwhelm my perceptions. I firmly believe that our initial impressions are comparative in nature, so with hifi we tend to fixate on the differences between what we normally listen to and the new thing. Of course this kind of listening and judging has very little to do with the enjoyment of music and I've found, through years of experience, that listening over time naturally eliminates comparative mode thus allowing the thing under review to speak for itself.

The Riviera Audio Laboratories Levante speaks with great authority. Here, I'm talking about that sense of controlled, unlimited power that makes music feel dangerous, surprising, and capable of real delight. It's as if the amplifier and speakers have morphed into one music-making machine. This kind of amp/speaker symbiosis is not all about power, far from it. It is about give and take, a mutually beneficial voicing. With the Levante, the most startling thing ▶



about its sound in my system was something I heard, loud and clear, but nevertheless took me time to formulate. To process.

I've heard amplifiers with authoritative voices in the barn, most recently the Line Magnetic LM-845iA Integrated Amplifier comes to mind. But one of the unique tricks the Levante had up its sleeve revealed itself after days of listening and thinking about those listening impressions—a fully developed and dimensional sense of harmonic rightness. Or to put in earthier terms, the Levante introduced me to music's deeper, richer character.

The Levante also reminded me of some of the standout bits and pieces of other integrated amplifiers I've had through the barn, all rolled into one. It offered the wonderful nimble and nuanced silk-appeal of the Kora TB140, the power and gusto of the LM845, the clarity and

quickness of the Ayre EX-8, and more. As time went by, I realized the Levante was actually giving my music more of all these things as the sum of these reproductive parts are much more engaging when found in one whole. This kind of slow and steadily growing appeal has greater staying power as compared to the wow-factor of some single glaring aspect of reproduction. Balance is sexy.

I want you to picture, and hear, the soundtrack to the original *Blade Runner* film, composed by Vangelis, with particular attention paid to those slow airborne panning scenes of the city's dark rain soaked foggy profiles where the accompanying music cascades up and down like water bending over impossibly long arches. If you need help beyond memory, feel free. One difference between the Levante and every other integrated amplifier that's come through the barn announces itself by making those Vangelis

crescendos feel like physical travel through time and space. Music is presented with a fullness, clarity, and force that made me feel like I was being moved, physically, by the sound of music in a near cinematic way. As if my other senses were being lured in for the ride. As if I was falling.

A *Winged Victory For The Sullen* is a band that strikes all of the right chords with me from their 2011 self-titled debut LP to their recent album *Invisible Cities*, which was composed for a dance theater production based on Italo Calvino's novel of the same name. *Invisible Cities* has a clear relation to the *Blade Runner* score on the level of describing a city with synth-heavy sound, and I find *Invisible Cities* as cinematic, rich, and beguilingly beautiful. Listening through the Levante / DeVore system, this music takes on extra-musical qualities where voice, nuance, and movement describe ▶



space and time. It really comes down to the Levante's ability to convey an organic wholeness in reproduction as opposed to ticking off items on the Chinese menu of sound qualities.

Let's go big! And complex! Ever since I read Hermann Hesse's *Steppenwolf* oh so many years ago, Mozart's *Die Zauberflöte* has taken up special residence in the magical mysterious section of my brain. I cued up Claudio Abbado's version on Deutsche Grammophon and let her rip, pumping up the Levante's volume well passed my normal listening level and strapped myself into the red chair for the ride. Erika Miklósa's Queen of the Night's dizzying heights on "Der Hölle Rache kocht in meinem Herzen" pierced my heart with carnival-like Hell's vengeance. Scale, drama, power, beauty, and a sound image as rock solid as I've heard took up residence in the barn much, much larger than life. As Mozart's movements filled the barn and I got deeper and deeper into *Die Zauberflöte*, my reviewer brain suddenly kicked in and presented me with one word, like a gift, to add as another important attribute of the Levante's performance: Finesse. The Levante moves with the music like Fred Astaire in zero gravity.

In terms of comparisons, I do not have another integrated amplifier that comes anywhere

near the Levante's rather hefty price tag and I certainly have no interest in putting any of the fine amplifiers I have on hand in the unenviable position of telling you all about what they don't do that the Levante does. What would be the point.

To put an even finer point on it, like pinning a butterfly to a page, I was most taken with the Levante's ability to reproduce harmonic content beyond anything I'd heard before, making each and every instrument, voice, and sound sound more fully formed. Listening to simple powerful music like the Reverend Gary Davis performing "Let Us Get Together Right Down Here" from *Harlem Street Singer* drives home the Levante's ability to present a Reverend-sized Gary Davis as a solid sound image planted right here in the barn as if my hifi turned into a Star Trek transporter.

OK, here's a comparison—imagine the sound of lesser amplifiers as the Star Trek transporter getting interrupted by your favorite alien villain, so you are left with a relatively vague, particulated Reverend as opposed to the in-the-fleshness of the Levante's Gary Davis and his big, badass Gibson Hummingbird sounding so fully-formed you can nearly stick your hand in the sound hole.

Seduction

The Riviera Audio Laboratories Levante Integrated Amplifier is the most seductive piece of hifi gear to spend time in the barn. For those with the requisite wallet, you'll be doing yourself a great service by letting the Levante introduce you to your music's endless riches. ■

Integrated Amplifier | Riviera Audio Laboratories Levante

Class A / Class AB switch | Pure Class A power 2x30W into 8 ohms | Class AB power 2x120W into 8 ohm (2x200W into 4 ohm) | Zero Feedback | Hybrid circuit | 1 balanced line input (XLR) | 4 unbalanced line inputs (RCA) | Speaker and headphone outputs | Optional phono card | Remote control | Dimensions: 44 x 49 x 19.5h cm. | Weight: 30 Kg | Price: \$16,500

Company Website: Riviera Audio Laboratories (<https://www.rivieralabs.com/>) | US Distributor Website: Tone Imports (<http://toneimports.com/>)

See the Riviera website for more on their approach to Technology.

If you're wondering why different tubes sound different, it has to do with their physical construction, so says Captain Obvious. Further, the same tube can sound different in different amplifiers due to different operating environments (e.g. bias, plate voltage, load, etc...) found from amp to amp. Which is all to say that if ever you hear someone declare a "best" tube, they are talking out of their assumptions.

BROWSER

№ 02



Technology transfer

Rotel has announced new incarnations of its integrated solid state amplifiers A14 MKII, RA-1572 MKII and RA-1592 MKII (Fig.). This is no complete reinvention, but the circuit design was revised and many design changes were made, based on experience with the Michi models in Rotel's top range. The DAC boards were consequently replaced and are now capable of 32/384, MQA, BT AptX and Roon in their latest state of confinement.

www.rotel.com

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BROWSER

№ 02

Sealed

AudioQuest's JitterBug FMJ not only corrects timing errors, in its spare time it also acts as an efficient power filter. And it works not only directly in the signal path, but also on mains distortions of the entire USB department of a component, so it can improve the sound even if it is plugged solely into the service jack of the device. More to that, the device knows how to „dejitter“. The new FMJ with its valuable metal housing can also be used as a classic loop-through device.

www.audioquest.com

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BROWSER № 02



Does size really matter?

Experts have been arguing about this question for as long as they exist. Lyravox says „definitely no!“. Instead of impressive dimensions, the Hamburg team prefers to give its new active speaker Karlsson the finest ingredients—such as drivers from Accuton or (for the first time) an ultra-solid housing made of cast stone. DSP-equalized amplifiers with a total of 500 watts per speaker provide enough energy and peak power in all situations. The workmanship comes as excellent as usual and can also be customized. For even more power, an array of power devices can be cascaded.

www.lyravox.com

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BROWSER

№ 02

ARC ahoy

For a long time, some say for too long by far, it was quite tricky to integrate smart TV sets into an High End setup in an unobtrusive way. Cambridge Audio's new EVOs 75 and 150—the names stand for the wattage of the two all-rounders—can do that, too. In addition to the television device, a variety of other analog (including phono) and digital sources can be connected to the streaming receivers. Regarding the app remote there is a giant display for smoother operation and the multi-axis level control is a welcome heritage from the sophisticated Edge series.

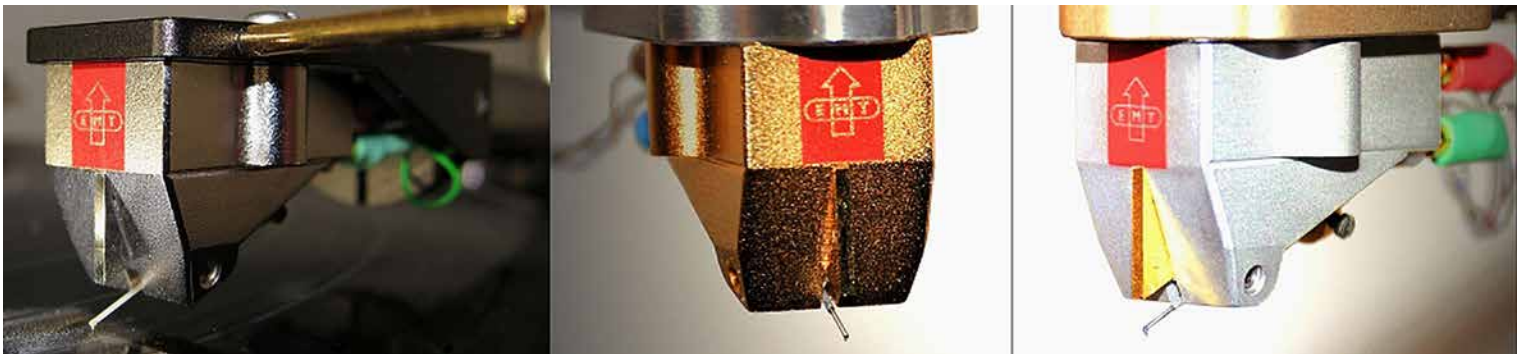
www.cambridgeaudio.com

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EMT

PROFESSIONAL TECHNOLOGY FOR THE HOME



MANY PROFESSIONAL STUDIO DEVICES CAN INDEED ALSO BE FOUND AND USED IN PEOPLE'S HOMES. EMT HAS BEEN PRODUCING THE STUFF OF ANALOG FANS' DREAMS FOR 75 YEARS, BUT ONLY INTENTIONALLY FOR THE LAST 10!



The following article is a reprint from the book *Who is Who in High Fidelity*—Vol. 1, the compendium from FIDELITY MEDIA GMBH, 2017





_____ EMT is somewhat of an institution when it comes to professional audio engineering and metrology. In 1940, engineer Wilhelm Franz founded “Elektro-Mess-Technik,” or EMT for short, in Berlin. The very first EMT product, a test voltmeter called the PV62, is still featured as a stylized measurement device in the company logo. The company soon earned itself a good reputation for developing and producing highly sensitive monitoring and measurement instruments for broadcast and communications engineering. Bombings in Berlin forced EMT to relocate the business to Lahr in the Black Forest in 1943. There, in addition to

measurement and testing devices, broadcast studio technology and professional record playback machines were added to the range of products on offer. The 1950s were a time of new-found prosperity for EMT and the company also entered into a close partnership with Swiss company Studer. For decades, the two companies established a global sales and distribution network together and equipped broadcast and recording studios with premium products from both of their ranges. Several EMT machines from that time have since become sought-after collector’s items, for example the EMT 927 studio record player. Launched ▶



in 1950, its enormous turntable, designed for the acetate vinyl records which were common at the time with a diameter in excess of 40 cm, was driven with a friction wheel by a hugely powerful motor. Danish company Ortofon supplied the first tonearms and phono cartridges at the time. Later, EMT began to sell its own tonearms and systems, such as the dynamically balanced 997 tonearm, also known as the “banana” on account of the striking shape of the arm. In light of the rapid new-found popularity of the long-playing record with a diameter of “just” 30 centimeters, in 1956 EMT unveiled a considerably smaller and more economically designed yet still fully sized record player. The EMT 930 turned out to be a big seller and lots of them are still used today, often in a “historical audiophile” context, or the home of a style-conscious high-ender, although these are often one and the same. 1959 saw the launch of the company’s first own pick-up cartridge, the EMT “O-Tondose,” and a stereo version, the EMT TSD 12K, followed in 1961. EMT then developed the TSD15 pick-up cartridge, an absolute classic from the world of audio technology, which has been on sale with hardly any modifications since 1965 and was instrumental in EMT acquiring legendary status. After several years of research, in 1976 EMT unveiled a device with an extremely powerful direct drive and very light turntable, the EMT 950. Three years later saw the launch of the EMT 948, a more compact and less expensive spin-off of the direct drive model. In 1982, the EMT 938, another broadcast record player, hit the market, offered by Thorens specifically for DJing and with an almost identical design under the name TD 524. For seasoned

musicians and studio old timers, EMT is also famous for a very different specialty: the world-famous EMT 140 reverberation plate was, for decades, the standard device in broadcast and television institutions and the studios of the record industry. The EMT 240 reverberation foil “with the golden sound” was smaller and lighter, and, in 1976, the world’s first fully-electronic reverberator, the EMT 250 with digital signal processing, was unveiled.

EMT founder Wilhelm Franz, born in 1913 in Bremen, died in 1971, and Erich R. Vogl replaced him as the new Managing Director. In 1989, EMT was taken over by Belgian company Barco and the company name was changed to Barco-EMT. In 2003, Barco sold the EMT arm to Walter Derrer, a former Studer manager and graduate sound engineer, who systematically set about modernizing EMT Studiotechnik GmbH. In 2007, however, Walter Derrer lost his life in a tragic airplane crash. Since then, the company’s previous head developer, product manager and marketing manager has alone been heading up EMT Studiotechnik: Jules Limon. As owner and managing director, he has a wealth of experience under his belt. The skilled radio and television electronic engineer, born in 1953, studied marketing and management in St. Gallen and was already running his own hi-fi studio at the age of 20. The Swiss also worked as technical manager at TEAC/TASCAM amongst other roles, was in charge of professional marketing and strategic reorientation “in the post-Willi Studer era” at Studer and spent years in and out of the world’s most famous radio, TV and recording studios. ▶

Volume up or down?

A very quick interview with Jules Limon where we wanted him to respond as fast as possible.



OR



Volume up or down?

Up.

Analog or digital?

Analog.

Tube or transistor?

Tube.

Vinyl or download?

Vinyl.

Cross-country run or gym?

Neither.

Trends or tradition?

Tradition.

Tea or coffee?

Coffee.

Salad or steak?

Steak.

Wine or beer?

Beer.

Mountains or the sea?

The sea.

Book or screen?

Book.

Jazz club or opera house?

Jazz club.

Bach or Beatles?

Beatles.

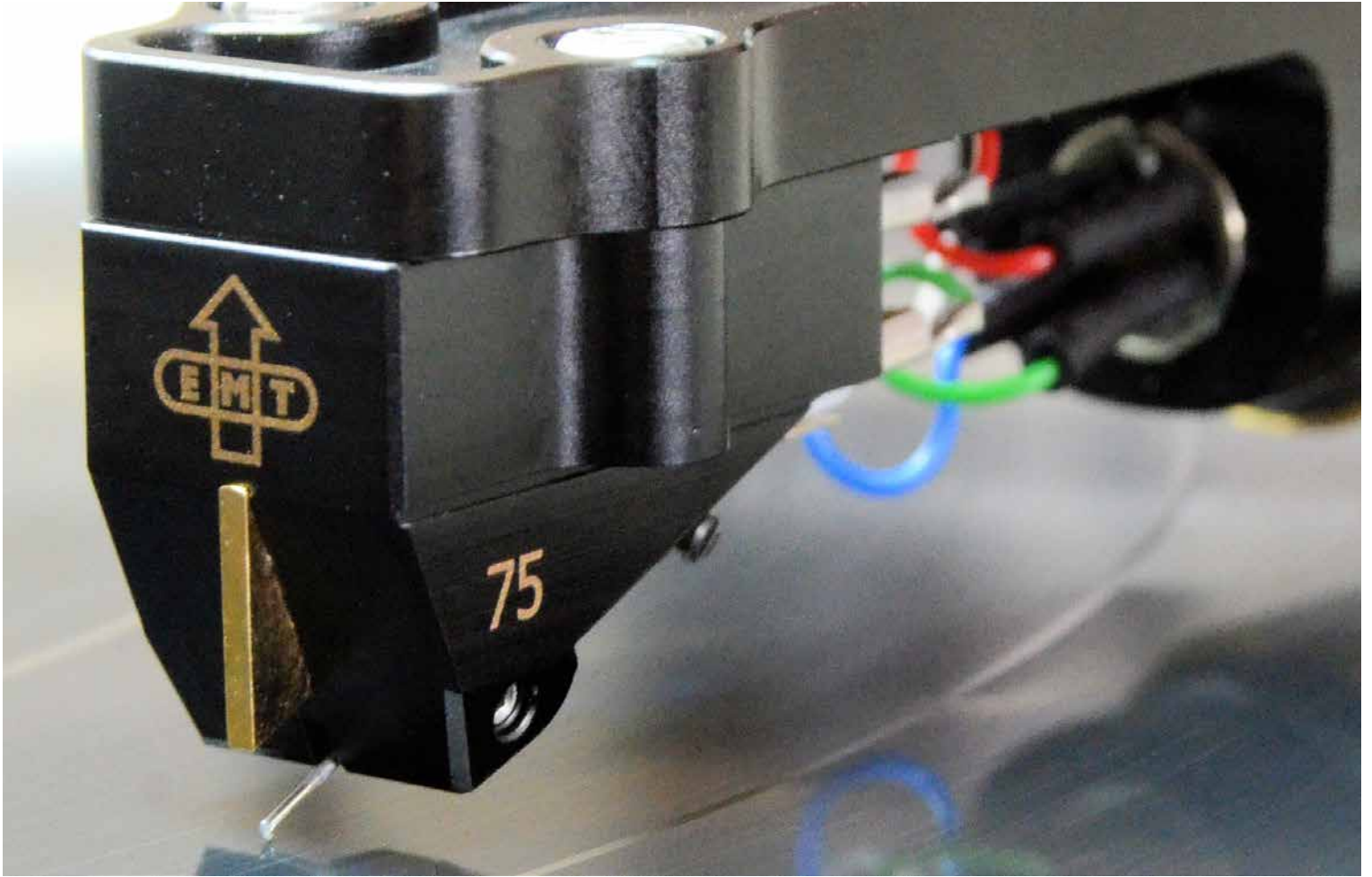
Wagner or Wacken?

Wacken.

Stand-by or plug out?

Pull the plug.





EMT founder Wilhelm Franz (on the left) with his brother Walter Franz.



Since his first full-on encounter with a cousin's QUAD system back in the late 1960s, Jules Limon has been fascinated with high-quality audio technology and joined Walter Derrer and EMT Studiotechnik in 2005. Since then he has worked hard to establish a name for the company's products not only in the professional studio environment but also in terms of hi-fi and high-end systems. Limon's commitment is possibly best reflected in the design and development of the "J" components—also the development of the Jubilee series is attributable to him. The professional pick-up cartridges modified specifically for hi-fi purposes were unveiled by EMT as part of the 66th company anniversary celebrations in 2006. The extremely elaborate JPA66 preamplifier, released in the same year, is a striking cornerstone of the "new EMT" and a completely new development by Jules Limon. In addition to its two line inputs, the two-part

high-end device has no less than four phono inputs, and its complex and variable control options enable all imaginable playback curves and pick-up cartridges to be perfectly equalized and preamplified. In the signal path, exclusively selected tubes take charge of the music signal, and the JPA66 is of course designed to be fully symmetrical and can optimally drive and control any power amplifier.

To celebrate the company's 75th anniversary, many details of the JPA66, which has been produced for nearly a decade, were improved. It was not, however, renamed, but just given a discreet MkII. More importantly in this regard, there will be a few other products, which will enhance EMT's 2015 anniversary year, for example the pick-up cartridge systems JSD S75 and TSD75, both of which are additions to the existing range. Under the leadership of Jules Limon, the EMT team will also continue to ►



provide the high-end community with high-quality products which are made to last. They are produced in Western Europe, without exception, and are uniformly and painstakingly made by hand using small-scale production. The company's professional approach is not about badmouthing the competition but about doing things better themselves. Does the head of a professional manufacturing firm with audiophile impact have any time left for hobbies? The passionate cinema and concert-goer grins, sits in his convertible and lets the wind rush through his hair. After the spin in his car, he will either take care of his private audio technology museum or will crank up the volume and listen to his favorite vinyls. They are sorted into his favorite genres of jazz and funk, but rock 'n' roll and blues also feature heavily, and records range from Miles Davis (*Tutu*), Nils

Landgren and Philipp Fankhauser to rock classics by Deep Purple. And has anyone mentioned Led Zeppelin and "Kashmir" yet? Bingo! ■

EMT Studiotechnik | A division of | EMT Intl GmbH | Industriestraße 25 | D-77972 Mahlberg | Telefon 07825 87947 0 | www.emt-studiotechnik.de

This is a reprint from "WHO IS WHO IN HIGH FIDELITY"—Vol. 1, 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.



Ars M1 Record Clamp

WONDERS NEVER CEASE...

By Stefan Gawlick. Photography: Ingo Schulz





———A record clamp. Dear listeners, you would undoubtedly struggle to imagine the levels of “excitement” for authors like me when we have to review the latest record clamp. To start, there’s usually not much you can write about them—they’re small, hosting no special functions, cannot be controlled, and tend to be fairly boring. After all, these components don’t usually result from particularly intensive development work and, instead, are created simply to complete the product range. As such, they’re often just unexciting turned parts, with materials and designs customized for the turntable, though not to support any functions. Yet,

all these makeshift solutions seem to serve their purpose of weighing the vinyl down on the platter and somewhat preventing vibrations. However, these measures are not generally helpful solutions, as their individual material properties are heavily reflected in the sound profile, where they may—or may not—blend in. But that’s where the folks at Ars Machinae have developed a record weight integrated with the actual turntable design process. However, it’s not a fancy add-on, rather an essential component of the overall vibration technology concept. Ralf Wölfel, who studied engineering at university, strove to optimize

turntable resonance behaviors as much as possible via specific measurements. This led him to team up with the Fraunhofer Institute of the University of Bayreuth to utilize systematic resonance measurements in the development of exact requirements for the clamp. Together they dampened the vibrations in the vinyl caused by airborne noise, the pick-up process, and the bearing’s little friction noises as much as possible. A shotgun approach would have been useless, as many frequencies simply do not occur in vinyl vibrations. Hence, the many measurements, as precisely the right range and subsequently the perfect cure had to be found. ►



Ars Machinae is now sure that they have succeeded and sells the ARS M1 record clamp for the hefty sum of EUR 780, which incidentally works out to exactly EUR 1 per gram.

The body is constructed from aluminum and the part that contacts the vinyl is a cured-on silicone layer. However, the essential secret lies inside. A powder of some kind with varyingly shaped particles is heavily stimulated by the expected resonance peaks, thereby converting these vibrations into kinetic and thermal energy. Which powder? Which shapes? Which frequencies? As Ars Machinae is currently knee-deep in the long, drawn-out utility model

protection process, their pro-active crew is keeping quiet for now so as not to save their competitors from having to do all their own expensive development work. Fair enough. I tested the ARS M1 clamp on three different nonsuspended turntables and one lighter turntable. While I didn't have any sub-chassis devices available at the time, I doubt these would be the ideal partners given the clamp's weight.

Individual tone definition and clarity audibly increased on all of the turntables. Each sound was that much more neatly defined and, accordingly, the space more cleanly arranged. Unlike most other weights, to my surprise and

delight there was no tonal coloring with the ARS M1. Normally the right accessories must be found to suit your turntable, but this was the perfect fit from the outset, never interfering with the sound of the music and simply getting on with its job of tidying up.

Obviously this record weight carries a hefty price tag, but it is definitely worth it given the resounding effect that it has. Let's admit it, on the high-end scene we've all shelled out quite a bit more for a lot less. ■

Record weight | ARS M1 | Price: €780

Ars Machinae | Gnellenroth 10 | 96215 Lichtenfels | Germany | Telephone +49 151 67512026 | www.arsmachinae.de



S5 SERIES
30TH ANNIVERSARY EDITION

Thanks to its “historical DNA” Solidsteel realized a 30th Anniversary Edition of the highly appreciated S5 Series Hi-Fi Racks.

This line is the more complex of the S Series range regarding engineering and technical features.

The new colors are the Silver/Black combination and the Silver/White version.

They come from the original finishes of the old-school 5 and 6 Solidsteel line to give homage to those glorious products, originally made with a fixed and welded frame.

Today the S5 Series represents the perfect evolution of those features, with a consolidated modular system and custom expandability in the heights between the shelves, with extra weight added on the whole units.

Tubes: painted aluminum (anodized) filled with damping material

Hardware: stainless steel

Terminals: Iron AVP treated with zinc to eliminate the risk of rust

Shelves: MDF wood, polymer laminate
Sustainability for each shelf: 60 kg tested

Weight: 37 Kg | 81.57 lbs

Outer Dimensions mm | inch:

W 584 (23) H 1010 (39,7) D 430 (16,9)

Inner Shelves Dimensions mm | inch:

W 500 (19,7) H 205/205/305 (8/8/12) D 430 (16,9)

Colours:

Silver/Black [30th Anniversary Ed]

Silver/White [30th Anniversary Ed]

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The 25 best tips for better listening—Part V

HAVE A LISTEN TO THIS!

By Jochen Reinecke

RELAX!

OR: GETTING ALONG WITH THE NEIGHBORS.

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

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

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

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

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

On that note, have fun! And welcome to the second-most important topic in the world. Here is part five: tips 9 and 10. ▶



If you are interested in buying the bi-lingual booklet with all the 25 tips feel free to contact us: info@fidelity-magazine.com

№1

NA HÖREN SIE MAL!

DIE 25 BESTEN TIPPS FÜR BESSERES HÖREN

Die 25 besten Tipps für besseres Hören

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

NA HÖREN SIE MAL!

Technics

EDITION FIDELITY

Tip 7 Size Matters

Laufsprecher

7 Size Matters

KOMPAKT-ODER STANDBOX?

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

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

Dies ist kein Generallösungsgriff auf Standlautsprecher, sondern ein Plädoyer dafür, auch Kompaktlautsprecher eine Chance zu geben. Das kann nämlich sehr lohnend sein. Bei Kompaktlautsprechern erleben wir – zusätzlich zu den oben genannten Vorzügen – auch häufig eine kohärentere Mischung, desto geringer sind die Laufzeitunterschiede, werden Phasenschiebungen zwischen den einzelnen Treibern, Standlautsprecher haben selbstverständlich auch eine hörbar höhere Lautstärke können sie im Tiefbass schlicht und einfach oft den Raum gleichmäßiger und flächiger mit Klang füllen. Und wenn Sie Kinder haben: Nicht zuletzt reagieren sie etwas stoischer auf das Anprallen eines Bobbys als ein Kompaktdesign auf einem fragilen Ständer. Der Ständer, das wollen wir gerne zugeben, müssen Sie natürlich auch in der persönlichen Gesamtbudget mit aufzählen, wenn es denn eine Kompaktdesign sein soll.

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

Size Matters.

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

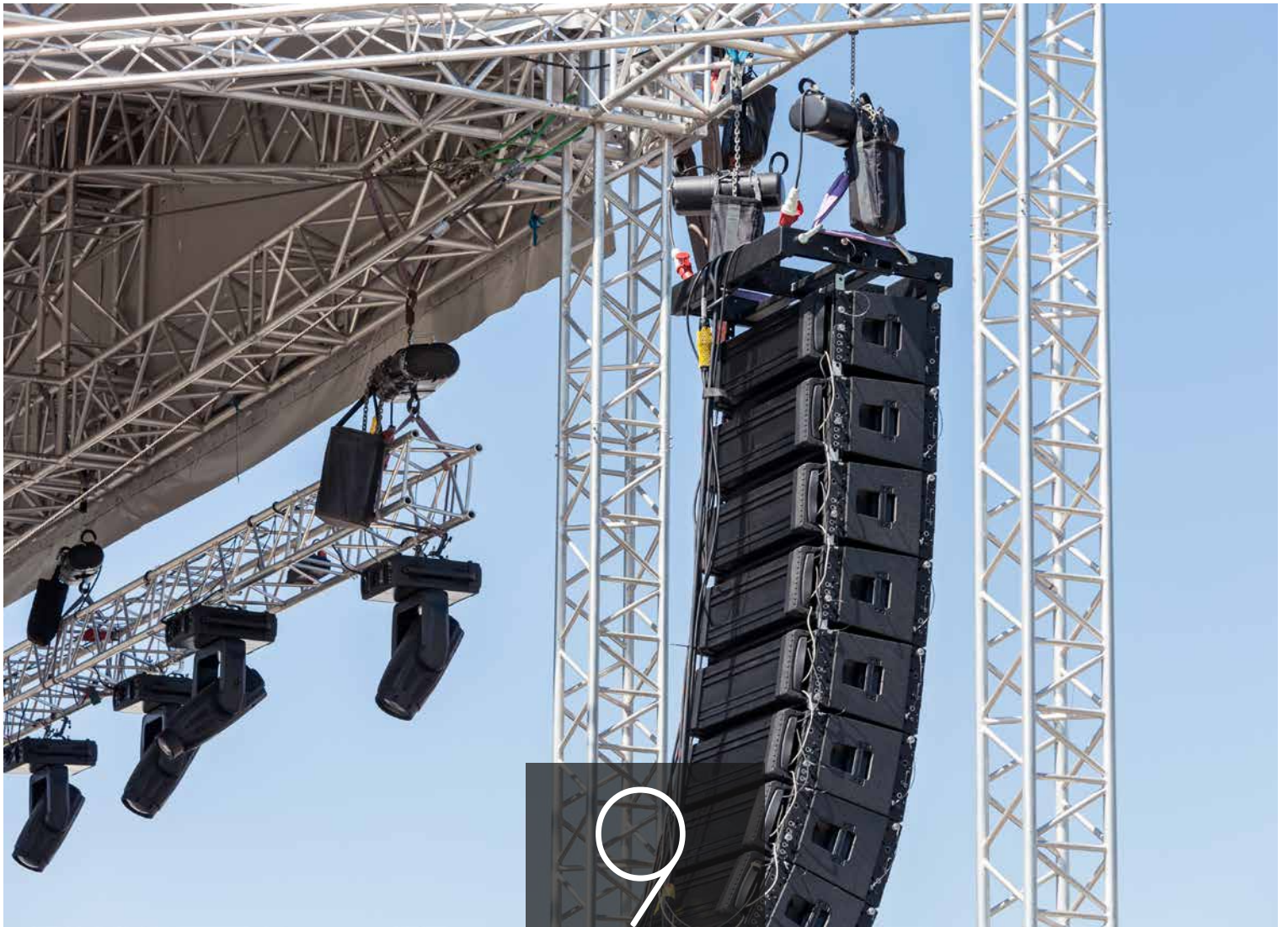
A lot of people believe that large, multi-driver loudspeakers deliver a better sound than small ones. Often price exactly the opposite applies – in the same segment. The bigger a cabinet, the harder and more expensive it is to keep it free of unwanted vibrations. The bigger the cabinet, the more expensive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

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

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

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

Die 25 besten Tipps für besseres Hören – 013



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© Mr. Twister, fotolia

SHARING THE WORKLOAD

HOW MANY HI-FI COMPONENTS DO YOU NEED?

Do you still remember those fearsome compact systems in the 1980s, which enabled you to carpet-blast both your teenagers room and the basement party room with sound? Good that those days are gone now. Modern compact systems have nothing in common with those bellow-boxes of the past.

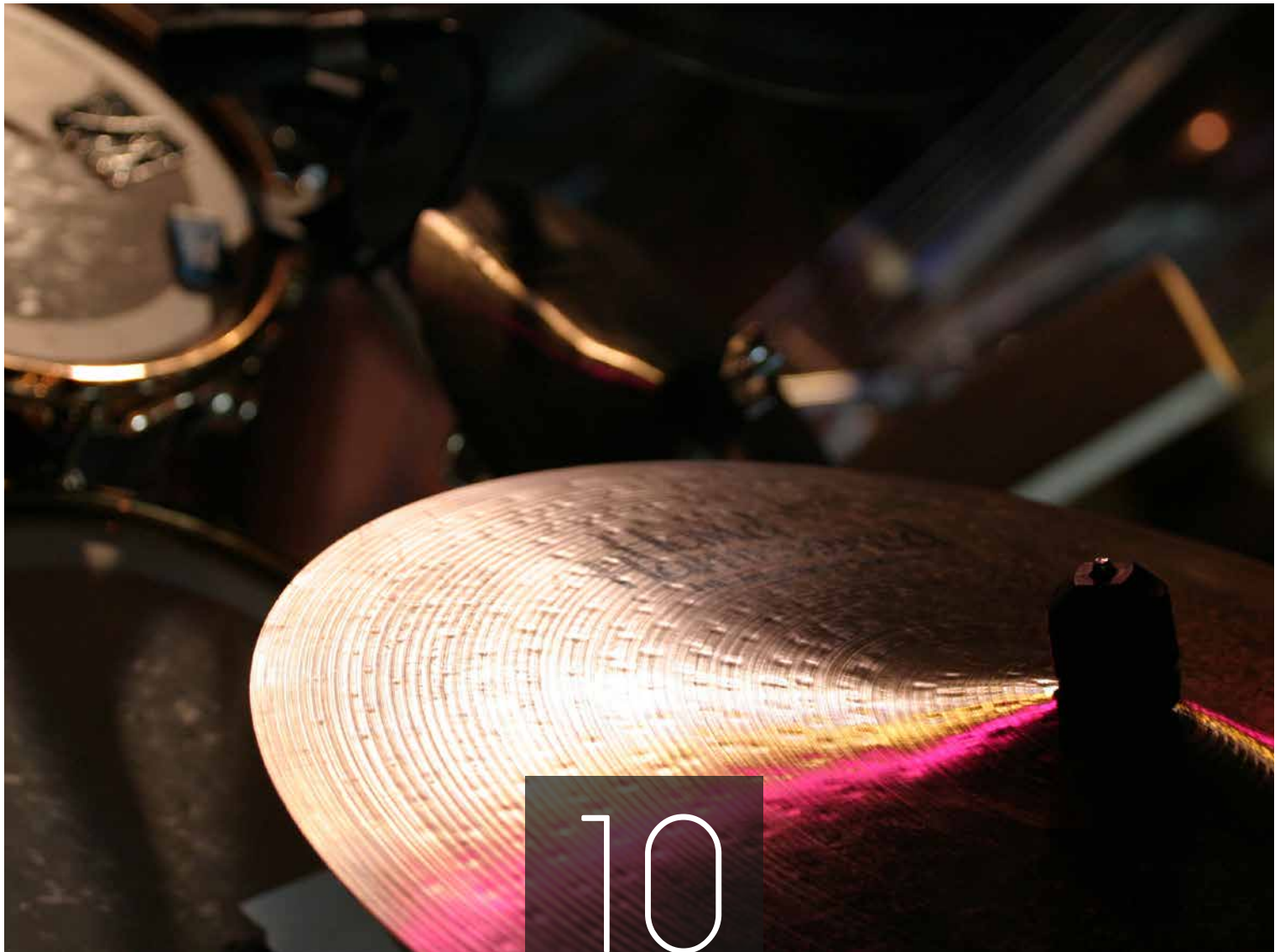
If it's a great sound and ease of handling you're after and if you or your partner are not keen on full-to-the-gills phono furniture, then a multi-functional system not only makes value-for-money sense, but is also a very worthwhile purchase from a hi-fi perspective. And the choice of equipment featuring so many different functionalities and designs has never been as wide as it is today. Irrespective of whether you're looking for a receiver with CD-drive and built-in hard-disk or a streamer with USB-hub and digital iPod-dock, you're guaranteed to find what you're looking for. Thanks to Class D amplifier technology, even really small pieces of kit can produce a surprisingly full-bodied, neutral and crisp sound, given they operate at higher levels of energy efficiency. Our tip: Think carefully about what sources you want to use and specifically select

the device you want based on those criteria. The fewer unnecessary bells and whistles you pay for, the greater the likelihood that you will be more satisfied with the sound delivered within any given same price category.

Things look a little different if you regard a hi-fi system as work in progress. If you start with a decent entry-level system, but want to scale the audiophile heights by gradually replacing individual hi-fi components, you are definitely recommended to purchase individual components.

Of course compromises are also available: nearly all multi-functional systems offer, for example, a pre-out. This means you can always buy a more premium power amp at a later stage and integrate your existing set-up. Or you can even loop in a premium-caliber external DAC at a later stage.

Conclusion: Don't buy the first piece of equipment that you come across, even if the test reports make a fantastic read. Instead just ask yourself this short but hackneyed job-interview question: "Where do I see myself at in 3 years time?" ►



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MUSIQUE NON-STOP

KEY INFORMATION ABOUT STREAMING

Most people still regard listening to music as having a ritual, tactile quality. Put on a record or CD, take a seat in your wingback chair, listen—and start to enjoy. But meanwhile there is a growing horde of hi-fi fans, who couldn't care less whether their music comes in some kind of physical form, i.e. on a tangible recording medium.

Instead of filling your apartment up with record and CD racks, you can simply store all your music files on a single central data storage medium and then play them using the right streamer for the job. The benefits: A not inconsiderable portion of your hi-fi system is out of sight and you can conveniently select whatever track you want to listen to using a smartphone or tablet computer. You can compile playlists, ply the one or the other room with music as you see fit—and you don't even need to get up out of your wingback chair to do all of this.

Ever since streaming providers first started offering gigantic non-compressed-quality music libraries, you as the consumer have not had to

lower your sights soundwise. And last but not least, streaming players offer you access to the big wide world of Internet radio and podcasts, which can be conveniently played with just a few taps of your finger.

The choice of streaming players is staggeringly huge. Therefore it's all the more important that you don't "pick the wrong one". If your top priority is maximum sound quality, then you should definitely choose a device that is high-resolution- and bit rate-compatible—and get used to the fact that in practice everything only functions via a cable connection (RJ45 Ethernet cable). CD-standard streaming via any WLAN is usually not a problem; if significantly higher audiophile standards need to be met, then at-home WLANs can quickly get out of their depth.

Unfortunately, these days we still can't take interruption-free playback as a given. If you like reveling in 60-minute prog-rock albums, then before buying you should definitely check whether the player you have set your heart on provides a gapless rendition of your audio format. ■

Photo Credit: © Udo Pippner, Germany



Blues, jazz, rock...none of these styles would be the same without the warm, down-to-earth sound of the Gibson Les Paul. The "Paula" shown here was made in 1958 as a goldtop. Dickey Betts, guitar player for the Allman Brothers Band, acquired it in 1970 and had the manufacturer repaint it. He later played the instrument on the legendary live album *At Fillmore East*. Presumably but never officially confessed, it was also used for the recording of "Jessica" in 1974. ▶

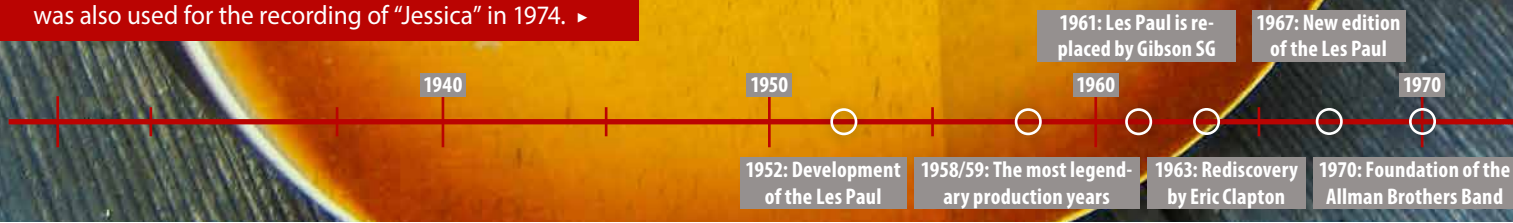


Photo Credits: Udo Pippel, Germany

In the eighties Betts gave it away to his co-guitar player Dan Toler, before the precious instrument came to Germany in 1999. Our author Udo Pippel, who also took the photo, had “borrowed” it for a year at that time. Nowadays it belongs to a French store for vintage guitars. Blues icon Joe Bonamassa stated in an interview that he was infected with the Les Paul virus when he heard Dan Toler playing this guitar at an Allman Brothers concert—the legend lives on...



PREVIEW

FIDELITY international No. 18

Dear readers,

From integration to separation: Only a few manufacturers succeed in integrating all components of an amplifier into one housing at such a high level. ▶





A short time ago, Aavik convinced us with its U-380 that the Danes are masters of integration. Now, with the new I-580, they deliver the proof that it can be done even better. The integrated amplifier is a pure analog statement. Phono stage and DAC come in separate housings. The result? Find out in the upcoming FIDELITY International No°18.



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THE END

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