

# STEREO

THE GERMAN HIFI MAGAZINE

ISSUE #3 2016

› **KEF Blade 2**

## Cutting-edge speaker design

› **Portrait: Jürgen Reis**  
**MBL's**  
**Mastermind**



**REVIEWS: EINSTEIN THE AMP ULTIMATE +++ AKG N90Q +++**  
**BRINKMANN EDISON +++ DIGIBIT ARIA PREVIEW: HIGH END 2016 MUNICH**  
**COMPARISON: COMPACT vs. FLOORSTANDING SPEAKERS**  
**INTRODUCING THE STEREO TEAM: WHO WE ARE**



# NIGHTHAWK

AROUND-THE-EAR SEMI-OPEN HEADPHONES



audioquest®

# THE TEAM IS THE STAR



Visit us at: [facebook.com/stereo.hifi.magazine](https://facebook.com/stereo.hifi.magazine) 

STEREO Magazine is definitely no one-man show – we leave that to other publications! Our team consists of about a dozen highly enthusiastic, highly experienced and highly specialized buffs and experts who tackle the various responsibilities for the production of our magazine professionally and passionately.

All of them are full-time employees, and live and breathe STEREO – that’s the only way to write well-founded articles with the greatest possible level of objectivity, and to give the results a pleasing look.

We thought you might like to go behind the scenes, to get to know who these people are, where our passion for HiFi comes from and what music we like listening to, so we’ve dedicated a part of this issue of STEREO Magazine to introducing our team – from editorial to logistics.

But it’s not all about us – again, unlike some other publications! As always with STEREO, this third edition of our magazine is packed with exciting reports about exciting products.

If you have any comments, questions, complaints or suggestions, let us know - we are looking forward to your feedback. If you like our work, please tell everyone you know –and spread the word of STEREO!

Enjoy!

**Michael Lang**  
 editor@stereo-magazine.com

All prices listed in this magazine are German retail prices incl. VAT valid at the time of evaluation.



### KEF Blade 2

In KEF's in-house ranking the Blade 2 is only the second fiddle – but in the listening room, the story is very different.



### Digibit Aria

A versatile digital source, both stylish and with a convincing operating concept: with this CD ripper/streamer STEREO has struck gold.



### Einstein The Amp Ultimate

Outstanding technology, perfect workmanship and with an uncompromising phono section, together creating Einstein's "ultimate amplifier".

### Comparison Compact vs. Floorstanding Speakers

Should you go mini or maxi? STEREO has listened carefully, and has the answers.





**Brinkmann Edison**

New products from Brinkmann are rare, but the new Edison phono stage proves they're always worth the wait. A special kind of experience!



**AKG N90Q**

Superstar musician and producer Quincy Jones helped in the development and voicing of a completely new headphone concept – we listen.



**Portrait Jürgen Reis (MBL)**

For three decades sound engineer and music lover Jürgen Reis has developed MBL's products. He takes us behind the scenes.



**Preview High End 2016 Munich**

The best Hi-Fi fair in the world takes place in Germany from the 5th of May. Here's what you can expect – and why you should go.



**The Stereo-Team**

STEREO isn't the work of one person, but the result of perfect teamwork. Meet the familiar names, and the vital people behind the scenes.

MUSICAL FIDELITY

## NU-VISTA CD PLAYER



### State of the art design for reference level reproduction

The Nu-Vista series is a passionate labour of love for all of us at Musical Fidelity.  
We hope that at least you get a chance to hear this combo because we  
consider it the ultimate expression of our art.

Experience it for yourself at your local Musical Fidelity dealer.

# DEEP BLUE



Independent of its reference line, KEF every now and then puts out design pieces which also show reference qualities. The „BladeTwo“ project is definitely one of them.

As Hi-Fi editor, I've found that speaker tests usually deal with wooden boxes outfitted with drivers – that's not a value judgement, just an observation. And of course there are good reasons for this: rounded corners, conically tapered housings, curved walls, yes, even mitres and 'lean back' front baffles are pretty expensive. For this reason, sculpted speakers like DALI's Fazon, a Vivid, or the KEF Muon or Blade are both rare, and a very welcome sight.

But why is this KEF line called „Blade“? Take a look at the lateral silhouette of the speaker then, as I did, consider Japanese sword play and you will get it. The eye of a Kendo or Iaido practitioner can easily recognize the shape of the blade and even the floor plate as the Tsuba, the handle protection, of a Japanese or Chinese sword.

Or, if you're more mechanically-minded, take a look at the blades of an old aeroplane's propellor, lovingly hand-sculpted by a craftsman from wood, and you might just see another reason for the name.

As with almost every speaker KEF makes, the approach here is defined by the company's Uni-Q drive unit, refined over almost 30 years as the ideal point source. In the Blade version, a 25mm aluminium tweeter dome, its dispersion controlled by a proprietary 'Tangerine' waveguide and damped to the rear with a separate housing, sits at the centre of a structured 12.5cm alloy cone midrange driver.

Uni-Q creates a common acoustic center with coincident sound generation centers covering the range from bass to high treble. This gives the speakers in which it's

used outstanding timing: the drivers for the different frequency ranges work completely synchronously and have zero offset in time and space. In the Blade Two, this principle of a point source is pursued further with the positioning of the additional side-mounted bass drivers: there are four of these 16.5cm units, mounted together in horizontally opposed pairs in what KEF calls a 'Force-Cancelling' configuration.

We found setting up the Blade Two uncomplicated: with the two speakers placed the same distance from the wall (measured precisely with a meter stick) and very slightly turned inward it played perfectly, as was proven in our measurements.

### Construction particularities

We will need a little aside to discuss the bass equipment and arrangement, not least because, placing the woofers on the sides of the enclosure instead of a forward-firing acoustic baffle assembly can lead to special structural problems which affect the phase behavior and thus the timing of a speaker.

Just in terms of space, a woofer and/or its sound generation center usually sits behind the already faster treble and tweeters. But this can be compensated with electronics if the designer wants to do so and takes the corresponding steps. The frequency response of the Blade 2, which we measure as standard, proves that the KEF

engineers did exactly that – and with success. The five drivers (six, including Uni-Q) form a practically coherent unit.

Another particularity of the Blade construction lies in the use of four bass drivers with somewhat smaller membranes rather than a single generously dimensioned unit. In fact, the membrane surfaces add up, but with the advantage that each individual driver can be lighter, more agile, and easier for an amplifier to control, than a large one.

Some will object that even when coupling several smaller chassis, one cannot achieve the same depth as with one large driver, but it seems this is also wrong: the Blade 2 can get down to 30 Hz, and unleashes tremendous physical pressure. It is probably a question of coordinating the suspension defined by weight, travel, and spring stiffness and thus the effective resonance frequency as well as the wiring through the crossover. This construction,



▲ The terminal block is designed with a special link mechanism to enable it to do without 'jumper bars' for single-wiring.

which makes an essential contribution to the slender look of the Blade 2, can safely be deemed a „success“.

### Form follows function

The shape of the Blade 2 is the result of a co-operation between the KEF designers and New York-based Ecco Design, and of course has a method to it. The extremely rigid housing, with two generous bass reflex openings to the rear, is made of very low-resonance material – unlike the „boxes“ mentioned in the beginning. The curved shape prevents standing waves, and the structure is self-damping, avoiding negative effects through housing resonances.

The 'cabinet' of the Blade not only looks like a sculpture, it also stays completely out of the way of the music. Only the drivers create sound: the housing is acoustically dead.

The original Blade was and is a bit larger and equipped even more generously with four 22.5cm bass drivers, but – to be honest – the Blade Two impressed me more here than any performance of its big sister I have heard so far. And it's more practical: it handles realistic spaces like the 20m<sup>2</sup> STEREO sound booth, whereas the larger version apparently requires a tremendous amount of breathing room.

The bass drivers may be smaller, but the „Two“ is no wallflower in the lower registers. The bass is very precise and makes the room shake at high volumes while massaging your stomach rather pleasantly. In contrast to some competitors, this superbly springy bass has no problem keeping up.

#### KEYWORD

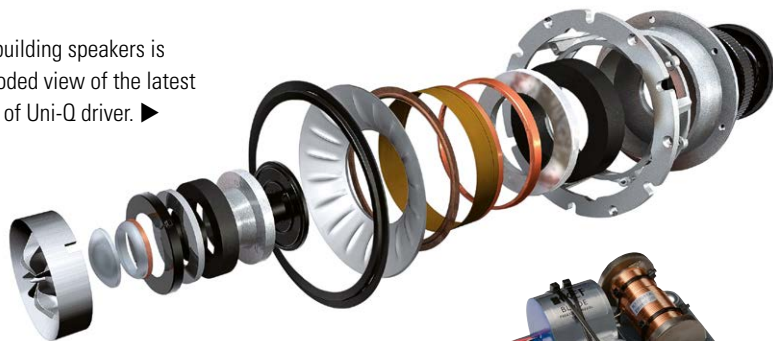
**Coincident driver (Uni-Q):** special speaker design in which drivers responsible for different frequency ranges are nested in each other with a common acoustic core, to create a 'point source'.



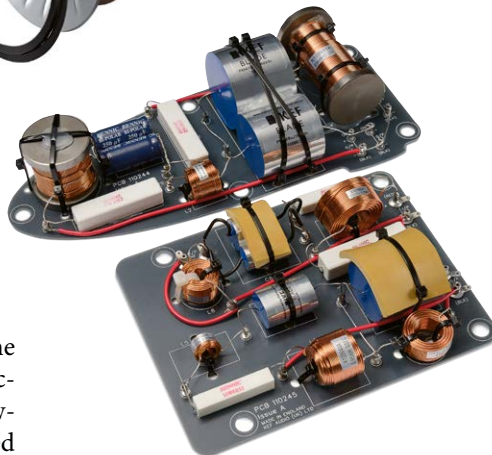
▲ The Blades come with a comprehensive package of manual, warranty information, tool kit, and accessories.



Who said building speakers is easy? Exploded view of the latest generation of Uni-Q driver. ▶



The quality of the components in the two-part crossover shows the attention to detail in the Blade 2 design. ▶



### Pleasant timbre

The overall timbral coordination of the KEF, in common with its totally convincing timing, is well very balanced. However, the developers apparently decided to give it a slightly warmth, minimal from bass to high range, and continuously decreasing. Reminiscent of the old „Klangwaagen“ proposal of Hi-Fi journalism grandfather Karl Breh, it creates a pleasant impression, meaning the speaker never feel analytic, sterile, or even nervous. Instead, the Blade – for all its vivacity, detail, and color – is as integrated as it is passionate and organic.

It is striking how much the Blade Two ‘steps back’ when playing music, becoming virtually invisible and allowing the sound to unfolds clearly above the Uni-Q as well as to the left and right of the baseline. This this effortless matter-of-factness and authenticity astonishes, showing what good timing can do. For example, Eva Cassidy’s voice is incredibly soild: at turns delicate, then again radiant and colorful.

The incredible bass sequences in „Oh Yeah“ by Yello leave the Blade entirely unperturbed but impressively „physical“, while further illumination sets in when the input is complex – say with a Dvorák symphony. The KEF accepts the challenge, simply showing the resolution it can offer while projecting a breathtaking and clearly delineated depth in time and space.

I have to admit that this speaker fascinates me – visually, acoustically and technically. It’s a huge success and a top selection in its price class!

**Tom Frantzen**

◀ The Blade Two in white, open, and as CAD model: the sword shape becomes very clear here.



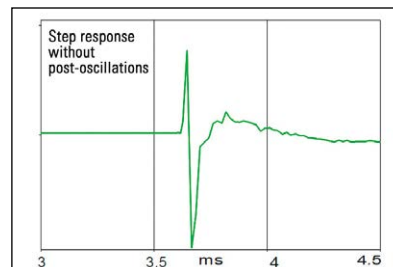
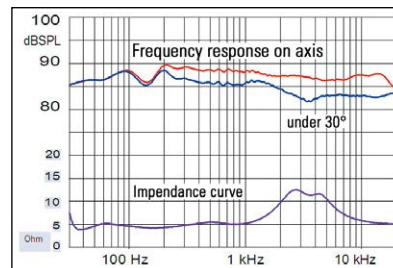
### KEF BLADE TWO



Pairs starting at €20,000  
Dimensions: 34x146x47.5 cm (WxHxD), Guarantee: 5 years, Contact: GP Acoustics, Phone: +49 201/170390, www.gpaeu.com

The „Blade“ concept, scaled down but also improved in details (especially the Uni-Q driver), is designed as a point source, optimized in time and space. It gets out of the way of the music and in doing so shows its great musicality. Superb!

### MEASUREMENT RESULTS



Nominal impedance	4 Ω
Minimal impedance	3.2 Ω at 35 Hertz
Maximum impedance	17.5 Ω at 2600 Hertz
Nominal sound pressure (2.83 V/1 m)	86.4 dB SPL
Power for 94 dB (1 m)	16.8 W
Lower cutoff frequency (-3 dB)	33 Hertz
Distortion at 63 / 3k / 10k Hz	0.3   0.1   0.1 %

### LAB COMMENTS

On axis, the Blade displays a balanced response up to a slight dip around 150 Hz, with a steady characteristic rolling off only very minimally toward the high treble. The step response, which displays the timing, shows the drivers working together very well, and without reverberations. The impedance remains within the 4-Ohm norm, but as the minimum lies in the low bass, good amplification is required.

### STEREO - TEST

SOUND QUALITY	97%
PRICE/PERFORMANCE	
★ ★ ★ ★ ☆	
<b>EXCELLENT</b>	



*Burmester*

## Phase 3 Loftstyle

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



Dual mono design in the phono stage: the extra RAC socket accepts the supplied load resistor.

# AMP WITH SUBLETTER

Separation and commonality can probably not be implemented more consistently than in Einstein's combination of 'The Amp Ultimate' integrated amplifier and 'The Little Big Phono' phono stage. How's that? Read for yourself ...

Integrated amps with an optional phono stage have been very much in fashion of late. However, the bandwidth of such options ranges from puny IC solutions which found their way into the actual amp based on marketing recommendations to very high-quality products which permit tailored solutions based on MM or MC pick-ups. The ongoing 'vinyl boom' both

informs the cynical former inclusion, and makes possible the attraction of the latter, better solution.

In view of the technological progress since the 1960s, one fact is inescapable: no really good phono section is developed just on the side – and therefore such a stage isn't going to be cheap. OK, that's two facts, but you get my point...

The lesson is thus to be careful when your choice of amp, possibly with a price tag in the upper 4 or even 5 figures, offers a „compatible“ add-on for your analog favorite for just a few hundred euros. Such stages will do your prized recordings no favours, and in many cases digital remains the winners in terms of sound through no fault of the analog medium – it is simply burnt by the use of a poor phono stage.

This risk can be ruled out in the concept of the Einstein Audio „Little Big Phono“. And that's not just because Volker Bohlmeyer, head of the fine manufacturer in Bochum, and his head of development

Rolf Weiler, have been working with analog devices for decades and phono stages and pick-ups have been part of the program forever. No, what sets this one apart is that the two also have a private passion for tickling maximum music out of a record's grooves.

**Uncompromising phono**

This explains why, when they started looking for a phono solution able to satisfy their very high standards for their integrated amplifier, „The Amp Ultimate“, they found it right under their noses – in the Little Big Phono. Usually available as a standalone unit, housed in two separate aluminum housings for the perfect channel separation, it has been integrated with the Amp Ultimate by the simple expedient of giving the integrated amp two power sockets to supply its highly delicate add-on.

This way you can select the ideal position for the phono section, ruling out humming from a powerful power supply or occasional noise from a converter. Exclusively designed for moving coil cartridges, the Little Big can be optimised for the cartridge in use with a resistor plug, avoiding the contact problems sometimes encountered with more commonly used dip-switches. A standard 470 Ohm is available to the pick-up without the terminal plug.

In order to amplify even quiet MC cartridges such as the higher-end Benz models without hissing, Einstein uses 48 selected field effect transistors in parallel, to ensure his high overmodulation stability and absence of noise are maintained. The initial stage of the Little Big Phono has very low resistance, as confirmed in our lab tests, so that one also



▲ Symmetric circuit design of the Circlotron circuit here implemented with transistors.

can experiment with longer cables, and while negative feedback loops are not used at Einstein, the measurements are still impeccable thanks to the careful circuit design with the shortest signal paths.

Furthermore, to avoid microphony especially for the extremely quiet signals supplied by the cartridge, the amplifier modules are embedded.

**A circuit like not other**

The integrated amp itself has tubes – but only in the input area: transistors generate the power. But chief developer Rolf Weiler has built a circuit designed to come as close as possible to the sound character of tubes: the Circlotron circuit. By using the same, strictly selected transistor types for positive and negative halfwaves, even harmonics are thus already eliminated by the circuitry, ensuring an especially natural transparency over the entire frequency range.

It's not exactly the cheap way to design such an amplifier, but Weiler says the significantly higher circuit expenditure

is justified by the resulting sound. The design team also had to perform another small miracle to ensure a high signal-to-noise ratio despite „hovering“ supply voltages – which again they have achieved admirably.

The very wide bandwidth of the tube input stage in triode circuitry makes do without a negative feedback loop, while the output stage has a weak feedback in order to achieve a good compromise between damping factor and bandwidth. In addition, the circuitry is designed so there is no potentiometer in the signal path, maintaining the same signal-to-noise ratio and low distortion, whatever the volume level potentiometer does not lie one the signal path.

Completing the design is a large power supply to ensure the amplifier won't be fazed by the connected load, and a channel-separated topology with short signal paths.

**Watt per Euro? Not for you**

Since all the above comes together with



◀ The massive remote control fits snugly in the hand

an exquisite and beautiful housing and is designed and built exclusively in Germany, let's talk price: it's €17,800 for the complete package with phono stage, or €16,000 for the integrated amp alone. For that you get an amplifier delivering 2x100 watts, and while that won't get power-fetishists to jump for joy, I guess they'll have to look somewhere else. However, it's worth noting that the complete variant (with phono stage) we tested is €1200 cheaper than if you bought the integrated amp and phono amp separately.

### Dancer in the storm

Once we found the on-switch – it's hidden front left on the bottom – about three minutes elapsed until the first sound, giving us just enough time to look for something to listen to. We started with Steven Wilson on vinyl, and what an opening! The delicate, initially tangled webs of sound on „Transience“ very quickly revealed their fascination, thanks to the integrated and light presentation of the Einstein. Again and again we asked ourselves where this man gets his ideas, wondered how he holds these dozens of strings so skillfully and pulls on them just in the right moment.

The Einstein was so fleet of foot that it almost gave the impression either got information about the incoming music ahead of time or that it had some sort of clairvoyance circuits – it was so much fun and even put the Musical Fidelity VYNL (also described in this issue and in its own right outstanding beyond its price range) in its place.

### Substance yes, brute force no

When connecting a quality CD player like the 3000 series T+A and the exceptional Bowers&Wilkins 802 D3 (with Audioquest, Silent Wire, and Ansuz cables), we discovered that the Einstein – for all its meticulous precision – never bit down too hard, and always played with great expression and tons of detail while exposing the sometimes quite subtle character differences between the cables.

The wild combination of different ensembles in Hazmat Modines „Whiskey Bird“ was reproduced thrillingly in all its tonal and rhythmic complexity, with a wide soundstage and openness, the Einstein harmonizing beautifully with the B&W. It also and also produced pleasing synergies with the Soltanus electrostats when the gentlemen of the Cuban Buena Vista Social Club made their appearance in the sound booth.

As long as it is not abused as to power loud parties, this amplifier will meet any demands with ease: even exhausting bass attacks such as Yuri Honing's „Walking on the moon“ were effortlessly pushed through the B&W into space, albeit just a hint thinner than the transistors of the top class would.

If you prefer the soft sound of tubes or love to sink into a thick orgy of basses, you may have to look elsewhere; if, however, you like playfulness, lightness, and tonality strictly oriented on the ideal, this amplifier will make you happy.

Just steer clear of speakers choosing to place themselves in the „Efficiency? What's that?“ category.

*Michael Lang*



▲ The rear-panel layout echoes the symmetrical design, right through to the separate channels of power supply for the phono stage.

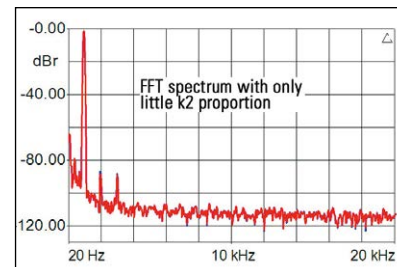
### EINST. THE AMP ULTIMATE



starting at € 16,000;  
test version € 17,800  
Dimensions: 43 x 20 x 49 cm (W x H x D)  
Warranty: 3 years (6 months on tubes)  
Contact: Einstein  
Phone: +49 234/9731512  
www.einstein-audio.de

This stylish offering from Einstein also convinced us in the sound booth. The phono stage sounds outstanding, while the well-thought-out and practical design completes the positive image.

### MEASUREMENT RESULTS



Continuous power at 8   4 Ohm/76   111 Watt per channel	
Pulse power at 4 Ohm	138 Watt per channel
<b>Distortion factor</b>	
at 50 mW   5 W   Pmax -1	dB 0.008   0.01   0.02 %
<b>Intermodulation</b>	
at 50 mW   5 W   Pmax -1 dB	0.01   0.04   0.1 %
<b>Signal-to-noise ratio CD at 50 mW   5 Watt</b>	85   102 dB
<b>Channel separation at 10 kHz</b>	62 dB
<b>Damping factor at 4 Ohm</b>	90
<b>Upper cutoff frequency (-3 dB, 4 Ω)</b>	>80 kHz
<b>Electrical supply data</b>	practice-oriented
<b>Crosstalk Tuner/CD (10 kHz/5 kOhm)</b>	75 dB
<b>Timing error volume control up to -60 dB</b>	0.1 dB
<b>Power input</b>	
On / Standby / Idle	0 / 2 / 78 Watt

### LAB COMMENTS

Excellent measurement values in all relevant areas. Output power not huge but sufficient for all but the most demanding applications.

### FEATURES

Five line-level inputs, one of which uses balanced XLRs, remote control, power supply for phono stage; matching resistor for phono; gloves and user manual. No labeling on phono stage.

### STEREO-TEST

<b>SOUND QUALITY</b>	<b>100%</b>
<b>PRICE/PERFORMANCE</b>	
★ ★ ★ ☆ ☆	
<b>VERY GOOD</b>	



# Gryphon Pandora

Reference Dual Mono Preamplifier



[www.gryphon-audio.com](http://www.gryphon-audio.com) · email: [sales@gryphon-audio.dk](mailto:sales@gryphon-audio.dk)



US distributor invited

# THE GROOVE-MASTER



With tubes and transistors, balanced and single-ended connections, MM and MC inputs and adjustable transducer, the Edison is undeniably well-equipped. Is perfect sound also part of the package?

It's rare enough to hear news from Helmut Brinkmann. He rejects the notion that this is because he's spent most of his time living "la dolce vita"; rather it's due to his approach to development, which is completely independent of standard product cycles and marketing strategies. In fact, sometimes years can pass before an idea becomes a (small) series product, which Brinkmann then presents to the public – as is the case with the Edison phono pre-amp here.

## Doesn't know the meaning of the word 'hurry'

In a recent interview (STEREO 8/11), Brinkmann explained why it sometimes takes so long: simply, it's his conviction that everything affects the sound. This means every new development finds him confronted with a puzzle of seemingly infinite pieces which he has to put together through a recurring rhythm of installing, listening and correcting. And as if that wasn't tortuous enough, sometimes Brinkmann simply makes individual components himself in the in-house machine shed.

In addition to the desire for the best-possible sound, Brinkmann had

another target for the Edison: to offer a complete set of accessories for analog operation. In today's world that's as much about several inputs with variable impedance and amplification factor as it is to do with providing a remote control.

Yet the most demanding of analog aficionados (at the princely sum of €9,000 only they can be considered serious buyers for the Edison) demand even more: just to attract their attention requires capabilities and details which make the extraordinary nature of the object of desire apparent just by reading its brochure.

All Brinkmann products are characterized by the quality of their workmanship: flawless and full of attention to the smallest detail, they combine a subtle visual appeal with a similar tactile allure. This is achieved as much by the granite plate under the device as the view provided into the meticulous interior granted by a glass plate.

Next to the sophisticated green wax paper capacitors, you first notice the two **transducers**, recognizable by their silver covers, while another technical particularity is almost concealed: two PCF 803 tubes are used per channel. These were developed in the 1970s, and used the receiver

section of Telefunken televisions to boost the incoming antenna signal with as little noise as possible. Tube connoisseurs know them as **multiple tubes**.

Brinkmann places them in a key location of the Edison: between its two systems the exact RIAA rectification (so important for phono amps) takes place. In addition, the tube works as so-called

### KEYWORD

**Transducers:** Adjustment of the very small impedance of a system to the downstream electronic device. This adjustment already includes an increase of the volume.



▲ The tubes hide in the cooling area.



▲ This silver droplet is one of the two high-quality transducers.

cathode follower in the circuit, delivers a linear signal with very small output impedance, and is also used for the symmetrical signal processing.

Brinkmann leaves the amplification and impedance adjustment of different pickups to the transistors and transducers, and says he feels a minimal deviance of the signal-to-noise ratio from the optimum is acceptable as a trade-off for an especially harmonic sound. Despite its apparently generous handling of decibels, the test lab can confirm that the Edison is quite free of interference.

The ingenious circuit board layout, and the power source on the side, contribute to this. Let's not forget that the balanced design is resistant to interference of any kind, and that – thanks to the included low-loss adapter – the balanced output of the Edison can also be connected to a conventional single-ended input on the downstream pre-amp. In addition, the contact of the ground plug can be removed from the device in order to allow the connection of one or more ground wires.

**KEYWORD**

**Multiple tube:**  
Combines two amplifying systems (triode and pentode) in a single glass tube.

**Free of affectations**

If the knobs in the back are set to the right impedance values and the optimal amplification factor has been found on the jog dial in the front plate, the result is a sound able to draw the listener into the musical experience with irresistible gravity. It will then monopolize the attention for hours, and then leave a lasting feeling of having experienced something extraordinary.

After a brief warm-up phase, the Edison starts up quietly and reliably. Select input and turn on the transducers for real balanced operation. You should really consider the latter option depending on the system you use.

In contrast to many other great-sounding rivals, this phono preamp shone due to its complete absence of foibles: no special demands when setting up the phono stage or power supply; no fuss when

connecting to different preamps; no more or less intensive noise depending on the position of the cables carrying the signal; and no unwanted temporary reception of radio signals of unknown origin!

None of this is accidental: instead it's the result of a design informed by experience collected over the years.

**Music you can feel**

What you get is not just music to the ears: The listener is instantly transported into a musical orbit beyond the scope of most rival components. Remember the report on the Musical Fidelity M1 Vinyl in STEREO 12/11, in which I said it could take you quite a way towards Hi-Fi Nirvana?

The Edison will take you the rest of the way: Brinkmann has built an amp whose qualities never push themselves into the foreground, but whose presence can be felt in every sound.

You don't even need audiophile recordings: it's more than able to demonstrate its exceptional abilities with the Sisters of Mercy or the brooding Smiths, and while Its authority in the bass range is exemplary, this doesn't come at the expense of "swing." Ella Fitzgerald and Louis Armstrong exude a playfulness and intensity in "Makin' Whoopee" which is infectious, while "Flamenco Fever", a live recording from 1978, becomes an experience with unrestrained dynamics, attack, and spatial authenticity.

Even the Tingvall Trio, considered too soft and harmonic by hardcore jazz fans, suddenly shows an inner tension, perfect tonal balance, and fine spatial reproduction in all three dimensions when played via the once played by the Benz LPS and the Edison. It's enough to make even non-jazz fans emotional!

The fusion of characteristics essential for experiencing music is here managed in an exemplary manner, and when you add in the workmanship and flexibility here, you will soon you forget your desire for "more".

*Michael Lang*



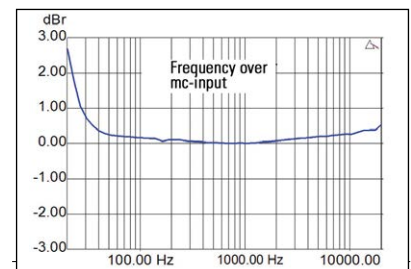
▲ The terminal impedance is finely adjustable, the variety of connections impressive.

**BRINKMANN EDISON**

Price: about €9,000  
Dimensions: 42x8x41 cm (WxHxD)  
Warranty: 3 years, Contact: Gaudios  
Phone: 0043/316337175, www.gaudios.info

World-class phono preamp, comprehensive equipment, excellent workmanship. In view of if the flexibility, effort and quality, the price seems fair.

**MEASUREMENT RESULTS**



Distortion at 0.5 mV/1 kHz/1 kOhm(MC)	0.07 %
Intermodulation at 0.8 mV/8 kHz/60 Hz	0.02%
<b>Signal-to-noise ratio</b>	
Phono MM/MC at 5/0.5 mV/1 kHz/100 Ohm	73/68 dB
<b>Channel separation at 1 kHz</b>	63 dB
<b>Overload stability MC 1.5mV (60 dB amp.)</b>	
<b>Electrical supply data</b>	practice-oriented
<b>Output impedance at 1 kHz</b>	500 Ohm
<b>Power input</b>	
On / Standby / Idle	0 / 5 / 29 Watt

**LAB COMMENTS**

2 x XLR + 1 x RCA input, XLR output, switchable transducers. Amplification factor adjustable from 43 to 67 dB, external power supply, impedance adjustable over a wide range. Remote control, German manual.

**STEREO-TEST**

**SOUND QUALITY** 100%

**PRICE/PERFORMANCE**

★ ★ ★ ☆ ☆

**VERY GOOD**



▲ The back shows single ended and balanced inputs and outputs and impedance adjustments





ART - SOUND - TECHNOLOGY

[www.ventureaudio.com](http://www.ventureaudio.com)

Made in Belgium  
Since 1986

When Art

meets Sound

and Technology



Booth A17 Hall 1



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# DAVID VERSUS GOLIATH

Compact or floorstanding speaker – which is better?  
To answer this question, STEREO put both versions of  
the same line by Canton, Dynaudio, Q Acoustics, Rosso  
Fiorentino, and Wharfedale in the sound booth  
and let them duke it out.

*By Tom Frantzen and Michael Lang*





**We tested the following:**

Canton Chrono 513/519 .....	20
DC Dynaudio EMIT .....	22
M20/M30 Q Acoustics .....	24
Concept 20/40 .....	26
Rosso Fiorentino Elba/Giglio .....	28

# TWO-TIMING

Canton has replaced two of its previous lines with the new „Chrono“ range, using more precise drivers at competitive prices.



**T**he question is simple: do you buy a compact speaker, or a floorstanding model? The answer, of course, depends a lot on the size of the room: just as you wouldn't enjoy any of the floorstanding speakers in this test in a broom closet, it would be just as silly to try to fill a dance hall, say, or an aircraft hangar, with the little compact speakers here.

## Proven ingredients

At Canton, as you would expect, the tweeter used across the Chrono line-up is the same – anything else would make little economic sense. The proven ADT-25 model, with its aluminum-manganese dome diaphragm has been used time and again across the years, albeit with subtle improvement and development over time, and has even found its way into higher-class Canton ranges. As a result, the high-frequency measurements are (almost) the same across the range, the floorstanding models merely having slightly greater efficiency and are a tad better linearity.



Similarly there's a commonality of drivers in the midrange and bass departments, the aluminium-coned AM-180 driver used as a mid/bass in the 513 'bookshelf' mode being joined in the 519 DC by two longer-excursion AW-180 drivers of a similar construction for a clear enhancement of the dynamic capabilities and bass extension. Both drivers use Canton's Wave Surround, its multi-curved profile designed to reduce resonances while allowing that longer 'throw'.

Both designs should be used with a slight toe-in toward the listening position in order to achieve an optimally balanced, linear result, although this proves more critical for the larger model. The 519 DC also demonstrates more linear impedance possibly due to the company's Displacement Control DC technology used not only as a subsonic filter to suppress superfluous subsonic frequencies, but also to refine the overall fine-tuning.

The fact that the compact Canton (of course also supported by bass-reflex loading) is designed to sound like a small floorstanding speaker is shown by the difference in the lowest cutoff frequency, which is only 8Hz higher than that of its floorstanding 'big brother'. This is only half of the disparity between, say, the large and small speakers from Q Acoustics or Wharfedale.

The floorstanding 519 DC three-way speaker created the more balanced sound when placed free-standing in our living room facsimile, but both speakers sound very similar in the mid-to-high range – no doubt about it. In fact, you can't miss it! However, the combination for the (almost) identical mid and bass drivers in the 519 DC, and its greater cabinet volume, combine to give a harmonizing effect, as the fuller low-end of the large sister speaker delivering an optimal counterbalance to the open, vivacious high frequencies. It is the literally a more grown-up speaker, with effortless, tremendous volume reserves, and clearly higher efficiency.

The compact, somewhat „brighter“ 513 is still well-balanced, but can be caught out by music with excessive presence, so we'd recommend placing it a bit closer to the wall, which helps even things up appreciably. Used this way the small Canton sounds similarly complete and almost as impressive as the larger model. Guitar, violin, and even Gudrun Walther's voice on the Cara album „Yet we sing“ receive more body and still stay just a tad more open. Maybe the driver arrangement – classical 'tweeter above midrange' in the compacts, but with the midrange driver above the tweeter on the larger model – plays a role in this.

The 519 DC is the bass-heavy flagship of the Chrono line, so one should avoid push the large Canton speaker (with its downward venting port and absorbing pedestal) too close to the wall. And when it comes to finding the best one to suit a room, its worth remembering that the 513 and 519DC are separated not only by €1,100 but also by two intermediate models: the 517 and 518 DC use smaller 16cm 160 series mid and bass drivers in place of the 18cm units found here.

**Overall**

The two Cantons maybe siblings, but they're not what you'd call close: the price difference between them is largest of the quartet of pairings in this test. They're different, but both have their merits, the lively little 513 being are a recommendable all-rounder for small to medium rooms while the imposing 519 DC can definitely fill larger rooms and shake the walls come party-time. Each is excellent in its own way, and a highly involving listen.

*Tom Frantzen*



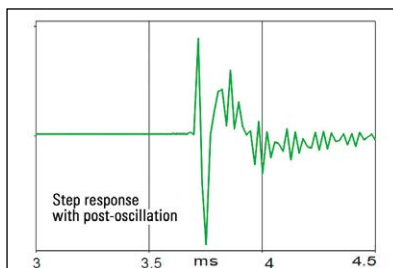
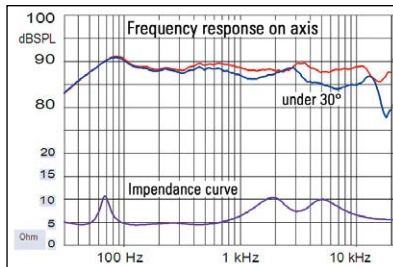
▲ The proven Canton metal-dome tweeter uses dispersion control measure including a grid and a medium "lens"

**CANTON CHRONO 519 DC**

Pair starting from €1800  
(ash black or white, each with polished acoustic baffle)  
Dimensions: 25x105x30 cm (WxHxD)  
Contact: Canton  
Phone: +49 6083/2870  
www.canton.de  
Warranty: 5 years

Canton's Chrono flag ship is an assertive, well-balanced all-rounder with consistent audiophile virtues at a good price.

**MEASUREMENT RESULTS**



Nominal impedance	4-8 Ω
Minimal impedance	4.7 Ω at 120 Hertz
Maximum impedance	11 Ω at 68 Hertz
Nominal sound pressure (2.83 V/1 m)	88 dB SPL
Power for 94 dB (1 m)	6 Watt
Lower cutoff frequency (-3 dB)	36 Hertz
Distortion at 63 / 3k / 10k Hz	0.8 / 0.3 / 0.1 %

**LAB COMMENTS**

The Canton 519 DC displays a well-balanced frequency response, especially on axis, with efficiency slightly above average and bass reaching below 40 Hertz. Not only is the impedance easy on the driving amplifier, it also has no major fluctuations, something vacuum tube and Class D amps appreciate. The 519 sounds good in medium to larger rooms and not too close to the wall. There's minimal timing lag, typical for three-way speakers, and slight, but non-critical, high-frequency resonances beyond the audible range.

**STEREO - TEST**

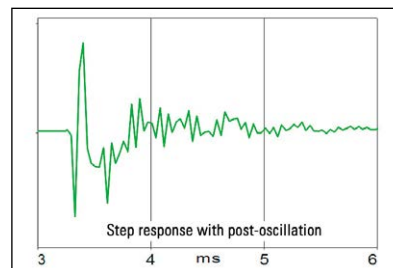
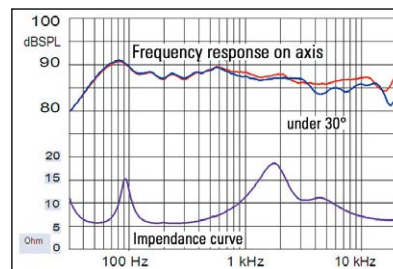
SOUND QUALITY	65%
PRICE/PERFORMANCE	
★★★★☆	
<b>EXCELLENT</b>	

**CANTON CHRONO 513**

Pair € 700  
(ash black or white, each with polished acoustic baffle)  
Dimensions: 19x36x27 cm (WxHxD)  
Contact: Canton  
Phone: +49 6083/2870  
www.canton.de  
Warranty: 5 years

This is a surprisingly mature-sounding compact speaker with very good, vivacious fine-tuning. It benefits from use on a stand (LS 600) not too far from the back wall.

**MEASUREMENT RESULTS**



Nominal impedance	4 Ω
Minimal impedance	5.4 Ω at 220 Hertz
Maximum impedance	18 Ω at 1800 Hertz
Nominal sound pressure (2.83 V/1 m)	84 dB SPL
Power for 94 dB (1 m)	31,3 Watt
Lower cutoff frequency (-3 dB)	44 Hertz
Distortion at 63 / 3k / 10k Hz	1.0 / 0.2 / 0.1 %

**LAB COMMENTS**

The amplitude-frequency response of the compact Canton 513 is well-balanced and reaches below 50 Hertz. It has average efficiency and the impedance is not amplifier-sensitive. The step response displays good timing and light, uncritical high-frequency resonances above the audible range. It becomes rather more full-bodied when used closer to the wall. Recommended for small- to medium-sized rooms.

**STEREO - TEST**

SOUND QUALITY	80%
PRICE/PERFORMANCE	
★★★★☆	
<b>EXCELLENT</b>	

# DRESSING DOWN

How can a manufacturer make a more affordable product while retaining quality? Dynaudio's Emit line shows how it's done.



**D**anish manufacturer Dynaudio faced a seemingly impossible task: it wanted to keep the qualities of its acclaimed Excite line while making the prices significantly more accessible. Tough, huh?

Of course, the folks from Skanderborg know all the tricks when it comes to cutting costs: simpler cabinets with a foil wrap instead of pricier paint or real wood veneers, avoid variations, lose the magnetic grille-mounts, use lower-cost simple metal spikes instead of expensive aluminum cones, fix with black screws instead of painting them to match the color of the chassis – all the usual stuff. And it's also possible to make cuts the customer won't see but will definitely hear: thinner cabinet walls, simpler internal bracing, lower-quality crossover components, less expensive internal cabling, and finally simpler chassis designs for the drivers.

The Danes, however, lived up to their self-stated reputation for honesty and simplicity: as makers of their own drivers,

they saved in only one area – development costs! To put it simply, they raided the corporate parts-bin, as far as possible drawing only on their kits of existing drive-units, meaning that cabinet dimensions and construction required only small adjustments. Instantly, development costs – usually one of the largest items budget for a new speaker range – were made significantly smaller, to the extent that there was even money left for internal cables made of 2.5 mm OFC copper and a satin lacquer finish for the cabinets.

In fact, only the smaller M 20 model needed to forego its aluminum cast chassis for the woofer, and standard metal piece being used instead – beyond that the aluminum voice coil, symmetric magnet arrangement with pole piece hole, Magnesium Silicate Polymer cones, and coated textile soft dome tweeter are all present and correct, meaning none of the usual Dynaudio ingredients for the „Danes don't lie“ sound are missing. Neither is the linear impedance design, aimed at making life easier for the upstream amplifier, even though the power needs especially of the smaller M 20 suggest you should be generous when picking the wattage of the amp to drive this 'bookshelf' model. The liquid-cooled 28 mm soft-dome tweeter and the 17cm mid/bass unit with its huge 75 mm voice coil were never considered especially efficient.

## Routine, but with verve

As was the case with its more expensive competitor, the Toscana Giglio, the sound room showed the M 20 (at € 700 almost spectacularly cheap by Dynaudio standards) to be a watt-hungry unit – though our all-purpose weapon, the Exposure 3010, was up to the task. What was also striking was the care with which speakers are tuned in Denmark: the characteristic components of the company's DNA are always recognizable, both in technology and in sound, and the M20 and the larger M30 floorstander were very close in character.



The M 30, on paper barely 2 dB more sensitive than the smaller M 20, reacted significantly more spontaneously and convinced us with its ease over the entire mid-range, making us somewhat doubtful that it belonged in this price class. A little on the warm side, benefitting from a bass peak at about 100 Hz, it was able to extend well into the bass range and still sound clean. True, it began its charm offensive a bit hesitantly, but then proved to be a consistent performer, and we also have no complaints about its spatial projection. It sounds spacious and yet precise, which also applies to the M 20 when placed on a stand.

By the way, that comment about the use of stands applies to all the compact speakers in this test field: small does not necessarily mean „stick it on a shelf“! It’s simply that the more discreet and elegant looks are usually achieved at the expense of party volume, simply because the amp has to do more work and the threshold volume of a small bass driver is reached earlier than that of several bass drivers or one large woofer. However, up to that limit every listener will enjoy them: a piano can be recognized as such over all frequencies, just as its size is conveyed with remarkable credibility. Pop music of any type, from Köster & Hocker live to Laurie Anderson, are easygoing and the lyrics easy to understand, whether on the smaller M20 or the heftier M30. At the advertised prices, both should be on the shortlist of any music lover on a budget.

*Michael Lang*

Single-wiring, bass reflex, the need for stands: commonalities and differences in the M 20 (l.) and M 30 ►

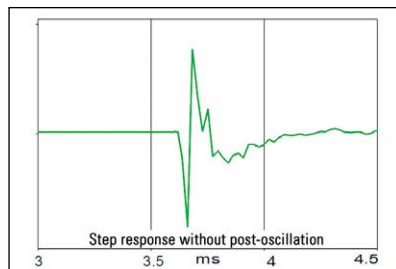
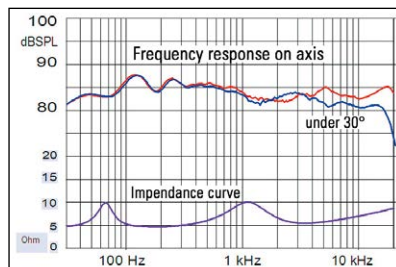


**DYNAUDIO EMIT M 30**

Pair € 1500  
 Dimensions: 17.2x108x29.5 cm (WxHxD)  
 Contact: Dynaudio  
 Phone: +49 4108/41800, www.dynaudio.de  
 Warranty: 5 years

The M 30 is twice as expensive as its compact sister, which gets very close but of course demands additional spending on stands. This larger speaker is definitely money well spent!

**MEASUREMENT RESULTS**



Nominal impedance	4 Ω
Minimal impedance	4.9 Ω at 190 Hertz
Maximum impedance	10 Ω at 1200 Hertz
Nominal sound pressure (2.83 V/1 m)	85.5 dB SPL
Power for 94 dB (1 m)	14.8 Watt
Lower cutoff frequency (-3 dB)	39 Hertz
Distortion at 63 / 3k / 10k Hz	1.0 / 0.1 / 0.1 %

**LAB COMMENTS**

The frequency response shows the decent bass boost at just over 100 Hz, and the dip between 1000 and 2000 Hz, but all other values are very good and above criticism, provided a slight toe-in toward the listener is used to achieve balance in the high frequencies. The precise step response underlines the speed of the Emit M 30, while the impedance response – hardly ever below 5 Ohm – plus decent efficiency make them suitable for many amps. Spikes are included, and should be used, while the speakers should be about 30 to 50 cm from the rear wall – closer, and the bass becomes a bit muddled.

**STEREO-TEST**

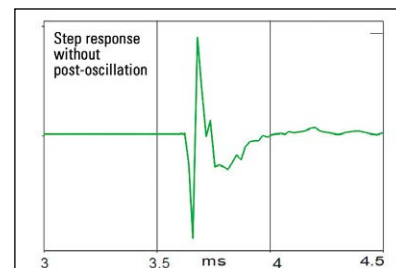
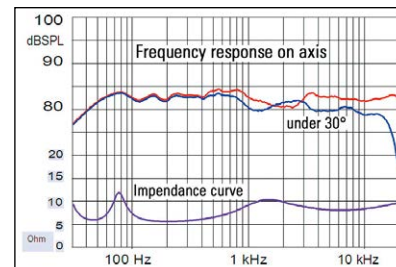
**SOUND QUALITY 65%**  
**PRICE/PERFORMANCE**  
 ★★★★★  
**OUTSTANDING**

**DYNAUDIO EMIT M 20**

Pair € 700  
 Dimensions: 17x32x26 cm (WxHxD)  
 Contact: Dynaudio  
 Phone: +49 4108/41800  
 www.dynaudio.de  
 Warranty: 5 years

A lot of people will wonder: ‘How do they do it?’, but the Danish designers will gladly explain: their motto is ‘Make savings, yes – but use some common sense’. Top sound at a price to make you smile!

**MEASUREMENT RESULTS**



Nominal impedance	4 Ω
Minimal impedance	5.3 Ω at 200 Hertz
Maximum impedance	12.5 Ω at 77 Hertz
Nominal sound pressure (2.83 V/1 m)	83.3 dB SPL
Power for 94 dB (1 m)	28 Watt
Lower cutoff frequency (-3 dB)	58 Hertz
Distortion at 63 / 3k / 10k Hz	1.0 / 0.2 / 0.1 %

**LAB COMMENTS**

The frequency response of the Emit M 20 is more linear than that of the floorstanding M 30, and the impedance is also non-critical. However, while the speaker is power-hungry you won’t go wrong with at least 100 real Watts per channel, depending on the size of the room. Clean workmanship, great step response, hardly any distortion – toe the speakers in slightly towards the listener and enjoy. But don’t forget to use stands: the M 20 clearly underperforms when just stuck on a shelf.

**STEREO-TEST**

**SOUND QUALITY 82%**  
**PRICE/PERFORMANCE**  
 ★★★★★  
**OUTSTANDING**

# Q FOR A SONG

As quartermaster and armourer for the top agent of Her Majesty's secret service, "Q" always has a trick or two up his sleeve. The products of the very British Q Acoustics are no less sophisticated

At about ten years old, Q Acoustics (part of Armour Home Electronics) is a relatively young player in the Hi-Fi world. I personally didn't know much about them other than the name when I saw the interesting and affordable "concepts" of the Brits for the first time in the booths of distributor DC Klaassen at the High End show. Curiosity quickly gave way to recognition of their unconventional solutions when we tested the Concept 20 in STEREO 11/15. For instance, both the Concept 20 and the larger sister model Concept 40 use an intermediate gel layer (Gelcore) between the (double) housing shell of the cabinet, essentially creating a "box within a box" approach. Such sophistication is remarkable in speakers at €500 and €1400 per pair.

## Gellin'

The special material is designed to ensure that parasitic (i.e. unwanted) sound emissions are mostly damped, and thus eliminated, by the resonant housing of the speaker, the effect being strongest in the midrange, which is so important for music listening. In effect, the design is aimed at

taking the cabinet out of the sonic equation, while the aluminum baffle with another layer of sub-padding made of butyl rubber also serves for better sound, and even the magnetic mounting of the grilles adds elegance, as does the choice of gloss lacquer black or white finish. These details – as well as the drivers, the crossover, and the overall construction – carry the signature of Essen-based Karl-Heinz Fink, one of the most hardworking and in-demand speaker designers in Europe.

There are times when it would seem quicker to list the companies Fink hasn't worked for as a consultant(!), but among the prominent designs in which he has had a major role are legendary models such as the Mission Pilaastro and Naim Ovator, and his consultancy has been working for Q Acoustics for a many years. The Q Acoustics twins here use the same 25mm tweeter and 12.5cm woofer, with the larger Concept 40 adding a second 12.5cm unit and of course greater cabinet volume, delivering no less than 13 Hz more extension, down to 53Hz in place of the smaller speaker's 66 Hz.

Over-dimensioned magnetic "motors" are designed to give all the drivers the best-possible conditions for spectacular dynamics, and when you add to that a balance of honest, neutral openness and yet smoothness, you have a sound able to prevent and even long listening sessions from dissolving into analytic torture. These speakers are supposed to sound relaxed and natural, but without stinting on involvement – and they do. The „twins“ impress with their very clear, solid, well-differentiated sound – and beautiful timbres.

On the mechanical side, we found it a bit disconcerting that banana plugs don't seem to go deeply enough into the terminal, although they remained in place; that said, the stabilizing 'outriggers' on the floorstanders and the optional stands for





the M20sa– which incidentally use that Gelcore construction for their top-plates – look sensational.

In the listening test, the Q sisters astonished us – they sound almost identical, or at least their timbre is very similar. Yes, the larger speaker quickly corrects that initial, fleeting, and subjective impression as soon as the two models are challenged by volumes, complex structures, and/or basses: good though the smaller speakers may be, even they can't evade the laws of physics when pushed to the limit with the likes of guitars and singing voices. The compact speakers also sometimes strain a bit when placed in free space in a large room, but the larger ones are effortless. In fact, the similarity has an easy explanation: according to QA, both are of two-way bass reflex construction, with only the crossover frequency changing between the two, from 2.9kHz in the Concept 20 to 2.3kHz in the larger model.

**New Superstars**

I can't help but conclude that the smaller QAcoustics Concept 20, at € 500, is possibly the best deal. However, the big pair at just €1,400 is the superstar in this field when you take into account all the parameters like design, workmanship, technology, and of course most of all sound. It is certainly not the non-plus-ultra, but it does present almost incredible audiophile value, and one of my colleagues bought them – she beat me to it. How will I tell my wife?

*Tom Frantzen*



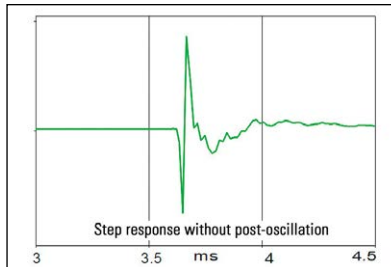
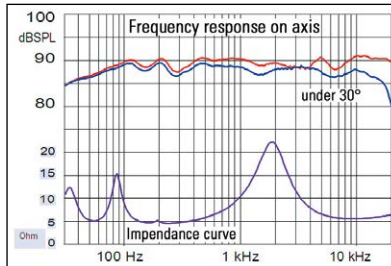
▲ The fleet-footed „outriggers“ on the Q Acoustics floorstanding speakers really make them more stable.

**Q ACOUSTICS CONCEPT 40**

Pair about € 1400  
 Dimensions: 17x97.2x29 cm (WxHxD)  
 Contact: IDC Klaassen  
 Phone: +49 231/9860285  
 www.idc-klaassen.com  
 Warranty: 5 years

Musical, confident, with greater bass authority than its smaller sibling (which otherwise sounds completely comparable) and better suited for larger spaces, the Q Acoustics Concept 40 is a veritable „favorite killer“ in its price class. And with its good looks, it will win hearts all over the place. Respect

**MEASUREMENT RESULTS**



Nominal impedance	4 Ω
Minimum impedance	4.5 Ω at 250 Hertz
Maximum impedance	23 Ω at 1800 Hertz
Nominal sound pressure (2.83 V/1 m)	89 dB SPL
Power for 94 dB (1 m)	7 Watt
Lower cutoff frequency (-3 dB)	53 Hertz
Distortion at 63 / 3k / 10k Hz	0.8 / 0.3 / 0.1 %

**LAB COMMENTS**

In terms of measurements, the Q Acoustics floorstanding speaker is very well balanced, its bass reaching down to just about 50 Hz. Again, toe-in toward the listening position will achieve the most linear high frequency response. The impedance response of the Concept 40, while relative easy-going, is not quite as linear as that of the compact Concept 20 speakers, but the timing, measured in the step response, is practically identical.

**STEREO-TEST**

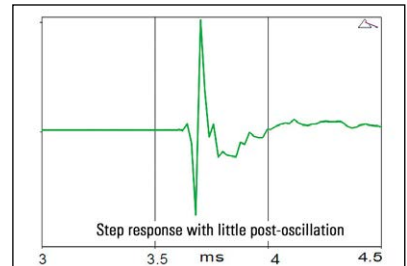
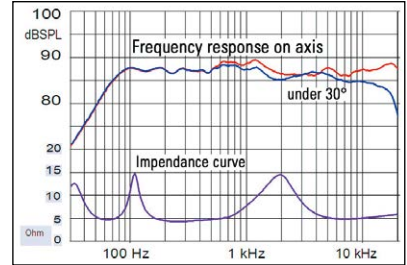
SOUND QUALITY	65%
PRICE/PERFORMANCE	
★ ★ ★ ★ ★	
<b>OUTSTANDING</b>	

**Q ACOUSTICS CONCEPT 20**

Pair starting from € 500  
 Dimensions: 17x26x26.5 cm (WxHxD)  
 Contact: IDC Klaassen  
 Phone: +49 231/9860285  
 www.idc-klaassen.com  
 Warranty: 5 years

Extremely agreeable, crystal-clear, and even-tempered compact speakers: painstaking construction and know-how ensure enormous value, in the form of spectacular musicality and precision.

**MEASUREMENT RESULTS**



Nominal impedance	4 Ω
Minimum impedance	4.5 Ω at 260 Hertz
Maximum impedance	15 Ω 115 Hertz
Nominal sound pressure (2.83 V/1 m)	89 dB SPL
Power for 94 dB (1 m)	5.8 Watt
Lower cutoff frequency (-3 dB)	66 Hertz
Distortion at 63 / 3k / 10k Hz	1.0   0.3   0.1 %

**LAB COMMENTS**

Measured on its axis – again, would toe-in the speakers slightly to ensure the listener is on-axis – the frequency response is very balanced, which backs up our impression of a neutral sound. Despite its compact dimensions, the speaker can reach down to 70 Hz, while impedance response makes life easy for amplifiers – it never exceed 15 Ohm – as does 89 dB efficiency. The step response, without noticeable reverberations or resonances, delivers good timing.

**STEREO-TEST**

SOUND QUALITY	79%
PRICE/PERFORMANCE	
★ ★ ★ ★ ★	
<b>OUTSTANDING</b>	

# ROSSO FIORENTINO – FLORENTINE SOUNDS

Compared to the somewhat prosaic names of its competitors, the Italians are ahead of the game with „Elba“ and „Giglio“..

In terms of name recognition, small manufacturer Rosso Fiorentino cannot compete with the rest of the field, but has the distinct advantage that its name already sounds like music. And after exhaustively testing the two pairs of its speakers which entered this contest, we can confirm that name is no empty promise.

More about that later, but let's first take a closer look at the two speakers, which are of course actually made near the Italian city from which they take that melodic name. Developer Francesco Rubenni, who learned his trade in England, has designed unusually stiff and well-insulated cabinets, made from high density fibreboard (HDF) with strategic internal bracing and rear venting bass reflex ports, and with aluminum, rubber, and leather around the two drive units. The drivers themselves are

very similar in terms of efficiency and are manufactured to Rubenni's specification by Scan Speak, thus avoiding a lot of tedious design time in 'making them work'. The components in the crossover, which works with twelve decibels of slew rate per octave, are of extremely high quality, including the use of Mundorf capacitors – all part of the goal of creating a technically clean and at the same time non-fatiguing sound.

## No speaker is an island

There are obvious similarities between the two speakers: like its little brother Giglio, the floorstanding Elba was named after an island in the Mediterranean, and while the smaller speaker is a two way, using a 25mm soft-dome tweeter and a 15.5cm mid/bass unit with a coated glassfibre cone, the Elba adds a second woofer, this one covering the lowest bass frequencies below 60 Hz. That makes Elba a 2.5-way design and, while the smaller speaker has a single bass reflex port mounted high in its back panel, the larger has two, arranged behind the midrange and bass units. Towards the floor, Elba's decoupling plate with very solid spikes and lock nuts ensures the correct distance and unadulterated reproduction – at least that's what the producer promises. The final sound balance adjustment of the speakers is performed in an acoustically optimized environment at the company's castle at the gates of Florence. During this process, work on the crossover continues, as well as on the reinforcement of the housing, while other impressive touches are the use of van den Hul silver-coated OFC cable for internal wiring, and custom-made solid copper terminals for the speaker cables.

And this attention to detail sounds pays off while Giglio (as the largest of the compact speakers here) is quite hungry for power, it's overall still a good-natured



speaker with a very balanced impedance response, making it a feasible choice for use with valve amplifiers – or at least reasonably powerful valve amplifiers!

The larger Elba speaker is still a little bit more complicated in terms of its demands on the amplifier, but here, too, all technical parameters still lie in the well-behaved range.

### A certain something

If you happened to be on the way to the sound booth when the Florentine speakers were in the STEREO 'house', you would have got the sense that something unusual was about to happen – something exciting, something that would simply suck you in. Yes, Eva Cassidy's „Ain't No Sunshine“ might have sounded a tad too spacious and very slightly indifferent but – much more importantly – her charisma was richly reproduced; so you could really feel why this singer still has a cult status such a long time after her death. What the Giglio displayed in the lower range was also above average: cleanly contoured double bass, with a clearly apparent size difference to cello, and so dynamic. Its big brother, driven by the Exposure 3010, had a hard time setting itself apart.

In our 20 sqm sound booth the larger speaker had – at least on first acquaintance – a difficult time exploiting its theoretical advantages: maybe there was a hint less turbulence, perhaps the bass had a slight extra kick of energy, but in terms of timbre and space an even draw – at a very high level. In fact only when listening to them for a long time, partially with bass-heavy music and at higher volumes, was Elba able to pull away from its little sister. A clear case of an extremely musical family!

*Michael Lang*



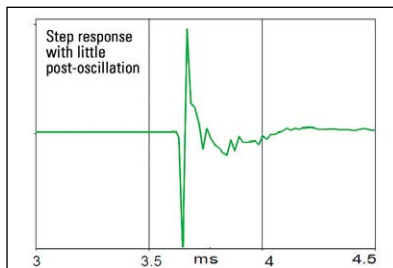
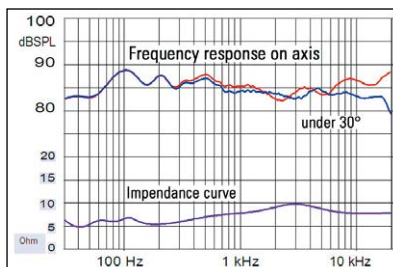
▲ The fleet-footed "wings" on the Q Acoustics standing speaker really make them more stable

## ROSSO FIORENTINO ELBA

Pair € 2850  
 Dimensions: 24 x 105 x 29 cm (W x H x D)  
 Contact: WOD Audio  
 Phone: +49 6187/900077  
 www.wodaudio.de  
 Warranty: 5 years

30 kilos of heft hint at the sturdy construction of the Elba – inside and out. Not quite neutral in sound but enchantingly musical!

### MEASUREMENT RESULTS



Nominal impedance	4 Ω
Minimal impedance	5 Ω at 41 Hertz
Maximum impedance	10 Ω at 3000 Hertz
Nominal sound pressure (2.83 V/1 m)	85.8 dB SPL
Power for 94 dB (1 m)	15.2 Watt
Lower cutoff frequency (-3 dB)	43 Hertz
Distortion at 63 / 3k / 10k Hz	1.0   0.3   0.1 %

### LAB COMMENTS

The room frequency response is a bit uneven but not to the point of concern, the step response is good with only tiny reverberations, and the efficiency moderate. Amplifiers will have hardly any problems with it since the impedance response is so well-behaved, and the bass goes down deep and is quite clean. The workmanship is high-quality except for the cheap, non-color-coded terminals, while the package includes very good spikes. Again, these speakers benefit from toe-in.

### STEREO-TEST

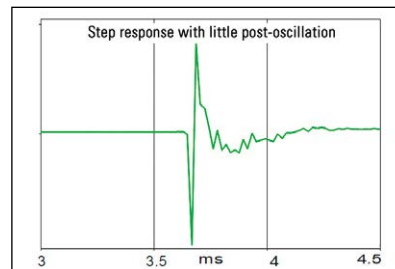
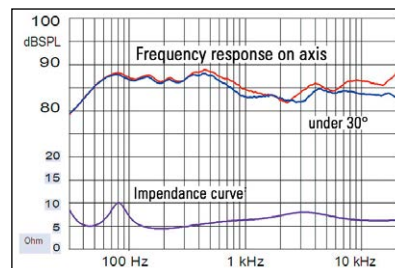
SOUND QUALITY	70%
PRICE/PERFORMANCE	
★ ★ ★ ★ ☆	
<b>EXCELLENT</b>	

## ROSSO FIORENTINO GIGLIO

Pair about € 1800; stand € 650  
 Dimensions: 24 x 42 x 29 cm (W x H x D)  
 Contact: WOD Audio  
 Phone: +49 6187/900077  
 www.wodaudio.de  
 Warranty: 5 years

This is a relaxed, slightly idiosyncratic but skillfully balanced and pleasant representative of the compact speaker group. It even shines at medium volumes, producing very credible music, and in many cases makes large speakers redundant.

### MEASUREMENT RESULTS



Nominal impedance	4 Ω
Minimal impedance	4.6 Ω at 190 Hertz
Maximum impedance	10 Ω at 80 Hertz
Nominal sound pressure (2.83 V/1 m)	84.2 dB SPL
Power for 94 dB (1 m)	25.7 Watt
Lower cutoff frequency (-3 dB)	48 Hertz
Distortion at 63 / 3k / 10k Hz	0.8 / 0.2 / 0.1 %

### LAB COMMENTS

The frequency response of the Giglio is no masterclass but its sound betrays the measured values with moderate toe-in. With just over 84 dB efficiency at 2.83 V, the speaker needs some driving, although the impedance is amplifier-friendly: a few extra Watts won't harm at all.

### STEREO-TEST

SOUND QUALITY	87%
PRICE/PERFORMANCE	
★ ★ ★ ★ ☆	
<b>EXCELLENT</b>	

# DIAMONDS ARE FOREVER

We grew up with Wharfedale's E series but the new generation of the 35 year old „Diamond“ line is something else.



The name Wharfedale is legendary. It denotes one of the oldest HiFi manufacturers - period. The brand founded by Gilbert Briggs in 1932 was already causing a stir in the 1950s and 60s by comparing live demonstrations with reproduced music – often in congenial cooperation with Quad: I still remember that I saw Charly Antolini live on the drums 30 years ago in Düsseldorf – and then a deeply impressive demonstration of the highly efficient E-series.

That was a long time ago, but recently we were thrilled to hear the little Diamond 220 together with inexpensive Cambridge audio electronics – especially because its musical virtues are at odds with a very affordable price of just € 300 per pair. And now we can focus on the floorstanding speaker of the new line, the 230, which is interesting in that, while it reaches about 12 Hz lower than its compact sister (as expected), its

measured efficiency is almost identical.

In fact, only when viewed over the entire amplitude frequency response does the 230 show a bit more efficiency, but then the horn-loaded tweeter is the same in both speakers, as is the design of the mid/bass and bass drivers (although in different diameters). In the smaller 220 the 25mm soft-dome tweeter is partnered with a 13cm mid/bass driver; in the 230 floorstander it finds itself in the company of separate mid and bass units, both of 16.5cm diameter.

According to Wharfedale, the drivers were revised compared to the successful Diamond 10 line, with changes to the geometry and corrugation as well as stronger magnetic 'motors' wherever it seemed necessary. Even the woven Kevlar membrane was questioned, but eventually retained, while after extensive listening sessions, the tweeter received a ferrite magnet – according to Wharfedale not because it is cheaper but because it clearly sounded better than the neodymium-type. The crossover points were also revised, and the reflex openings optimised.



## Sandwich housing

While Wharfedale does not use the kind of high-tech gel found in the QAcoustics speakers, it also uses multi-layer walls to „shut up“ the housing as much as possible through a combination of different materials. In fact, the sandwich technology here was derived from the higher-priced Jade rage and now simplified on MDF and particle board for the Diamond line, the different characteristics of the two materials providing the damping – it's still remarkable technology for speakers firmly in the budget price class, not that you'd be able to tell from looking at them. In fact, the Diamond 220 at € 300 is the by far most affordable pair of compact speakers here, and the 230 at € 1000 Euro per

pair the most lowest-priced floorstanding speaker in the test field

The subtle diminution in the treble gives an intentional pleasantly reserved tendency, and there a greater high-range decrease off-axis and a smooth response across the frequency range – all of these combining to promise a similar timbre from both speakers. It also informs the overall STEREO recommendation to toe-in both speakers a little towards the listener.

The compact speaker 220 reproduces both voices and natural instruments in an agile and very pleasant manner, sounding well defined with a trace of warmth and body and no excessive treble enthusiasm. The bass is always well-contoured and crisp, its spaciousness wider than it is deep. The more voluminous 230, however, delivers a clearly stronger bass and is a little more forceful in the high frequency range, making it more ‘obvious’. At € 1,000, this is certainly a good 2.5-way speaker, but it did not quite reach the consistency of its little sister in the STEREO sound booth – not least as it didn’t quite control its deeper and stronger bass as well as the does the 220 handle its low frequencies.

Surprisingly, here it turns out that the compact speaker, for a measly € 300, is the true defender of the family honor, and does so with flying colors. It sounds great and is perfect for beginners or as a step up for mini systems – and not only thanks to that low price.

*Tom Frantzen*



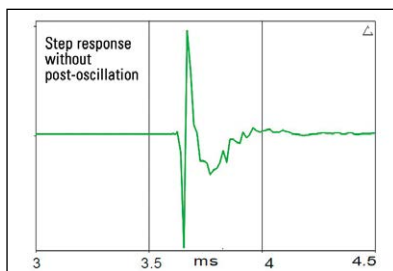
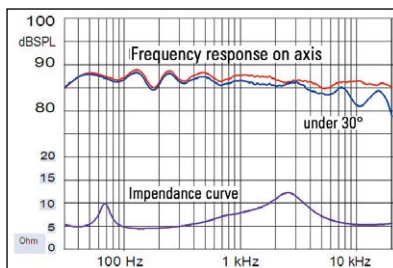
▲ For a € 300 speaker, the work put into the cabinet of for the small Wharfedale is enormous.

### WHARFED. DIAMOND 230

Pair € 1000  
 Dimensions: 19.6 x 96 x 33.4 cm (WxHxD)  
 Warranty: 5 years, Contact: IAD Audio  
 Phone: +49 2161/617830  
 www.iad-audio.de

The large Wharfedale sounds good: it's balanced and neutral with powerful bass and a punchy overall character. However, since the bass is just a tad on the fuller side, the speakers should be placed carefully (ie away from walls) and combined with leaner-sounding, well-controlled electronics.

#### MEASUREMENT RESULTS



Minimum impedance	4 Ω at 220 Hertz
Maximum impedance	17 Ω at 2400 Hertz
Nominal sound pressure (2.83 V/1 m)	89 dB SPL
Power for 94 dB (1 m)	6.8 W
Lower cutoff frequency (-3 dB)	58 Hertz
Distortion at 63 / 3k / 10k Hz	1.0 / 0.3 / 0.1 %

#### LAB COMMENTS

The floorstanding speaker delivers a wavy, but overall balanced, frequency response and above average efficiency. That means it will ‘go loud’ even with modest amplification – even louder than the 220 at the limits. The step response is almost identical to that of the compact speaker. In effect, the 2.5-way 230 could be viewed as a compact speaker with additional woofer ‘capacity’ to support the lower range. The impedance response is mainly good-natured and relatively flat, but we wouldn’t recommend the use of a tube amp: the 230 needs to be kept on a tight rein to play nicely.

#### STEREO-TEST

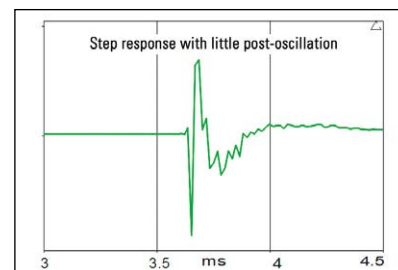
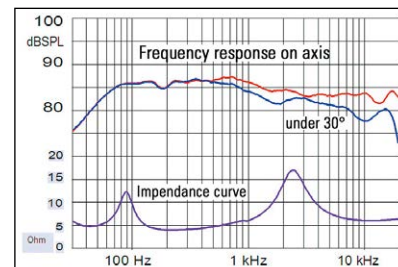
SOUND QUALITY	61%
PRICE/PERFORMANCE	
★★★★☆	
<b>EXCELLENT</b>	

### WHARFED. DIAMOND 220

Pair € 300  
 Dimensions: 17 x 32 x 26 cm (W x H x D)  
 Warranty: 5 years  
 Contact: IAD Audio  
 Phone: +49 2161/617830  
 www.iad-audio.de

Relaxed, slightly warmly balanced, and pleasant representative of the compact speaker group, it even shines with low-powered amplifiers.

#### MEASUREMENT RESULTS



Nominal impedance	4 Ω
Minimal impedance	4 Ω at 220 Hertz
Maximum impedance	17 Ω at 2400 Hertz
Nominal sound pressure (2.83 V/1 m)	89 dB SPL
Power for 94 dB (1 m)	6.8 W
Lower cutoff frequency (-3 dB)	58 Hertz
Distortion at 63 / 3k / 10k Hz	1.0 / 0.3 / 0.1 %

#### LAB COMMENTS

The axial frequency response of the Wharfedale is quite linear and thus balanced, the very slightly decreasing high frequency range having almost no effect as long as the speakers are slightly toed-in towards the listener. 89 dB efficiency at 2.83 Volts, puts it clearly above average in terms of sensitivity, and it's also modest in terms of impedance, meaning it can be driven well by weaker amps. The step response is good.

#### STEREO-TEST

SOUND QUALITY	73%
PRICE/PERFORMANCE	
★★★★☆	
<b>EXCELLENT</b>	

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# SONATA IN A BOX

Only quite rarely do manufacturers grant us access to their R&D departments – and when they do, it’s because the exciting design phase is already over and we are there merely to wonder at the already completed products. But we have learned one thing over the years: the creation of a new device usually starts with hardware.

Even when network players and servers are being created, the developers first outline what is technically possible and makes sense, and only if everything works does the programming start on a suitable remote software to control the complex machine.

That’s a pity really: too often this means the remote app remains a raw product at launch, still requiring quite a bit of fine-tuning before it works smoothly. As a result, too often the customer end up being used as beta tester. There are few exceptions to this approach. For instance the Burmesters 111: its software got in the way of the hardware for a long time.

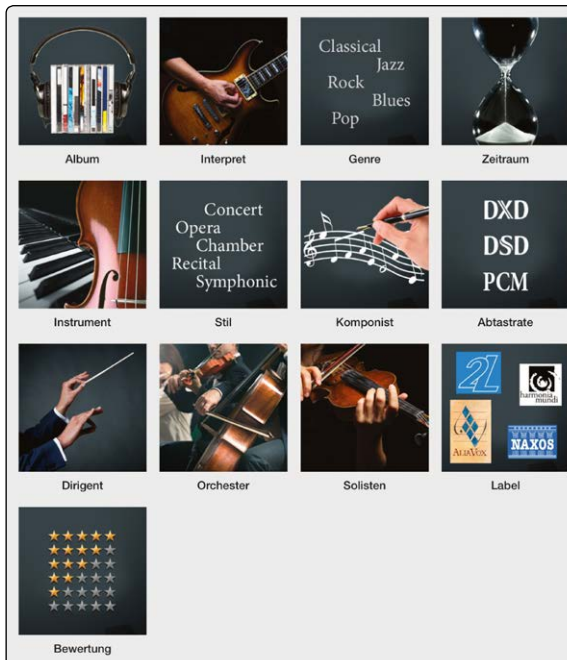
However, with DigiBit’s Aria it looks like the Spanish manufacturer already had the software and operation completed before they even had the idea of making some hardware to go along. That makes sense: until now the Madrid-based

company earned its bread and butter primarily with its „SonataDB“ database, which may ring a bell with classical music lovers

In contrast to the more commonly used AMG, Gracenote and the like, DigiBit’s metadata pool supplies plenty of information about conductors, soloists and labels, and in order for the customer to be able to access these expanded tags, the company integrated the

Up to now, DigiBit has mostly existed as SonataDB, a tag data base focused on the demands of classical music. Now it’s on a hardware offensive with the Aria music server – and it may just win us over!

Thanks to the in-house „SonataDB“, DigiBit’s music server offers exciting metadata especially for classical music lovers. ▶



database into a tailor-made distribution of the popular media software JRiver, thus creating SonataDB.

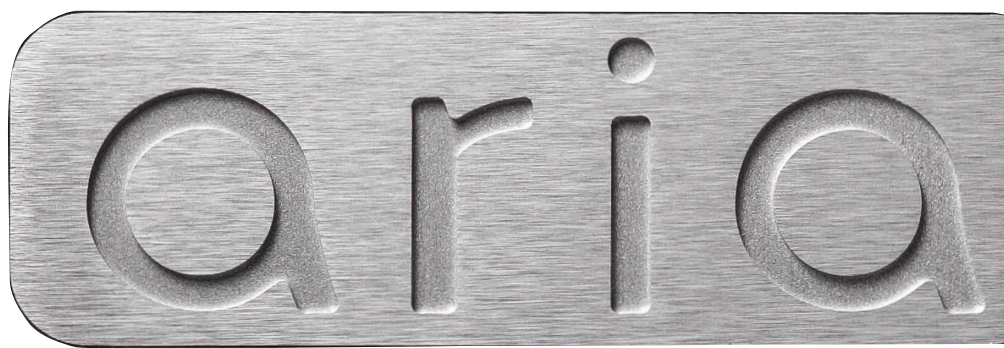
That program works flawlessly: since it contains JRiver's WASAPI driver, it's possible for it to control USB DACs directly, without a detour through the mixers of the operating system on which it runs. And since SonataDB supports JRiver's remote interface, it works with the outstanding „JRemote“, converting every iPad into a luxury remote control, which we still consider one of the best control apps. In fact, there's there is just one little thing that bothers us: if you wanted to use SonataDB, you had to have a computer in the Hi-Fi rack.

Until now, that is: for since the middle of last year DigiBit has also offered a suitable hardware platform in the form of the Aria music server, now also available in Germany via distributor Bowers & Wilkins. Put simply, Aria, this is a solid micro PC on the Windows Home Server platform, installed in an aluminum housing of original design and high-quality workmanship.

Further removing it from its computer roots, it doesn't even offer a monitor connection, which basically outlines the concept of the server: Aria wants to be an uncomplicated music source which handles many processes on its own and can be controlled via iPad remote – 'headlessly', in computer terms. Indeed, to get into the belly of the beast one has to go through a „remote desktop connection“, this is complicated enough to ensure that only advanced computer buffs can get probe its inner workings.

The compact motherboard takes up only a few dozen sq. cm in the housing, with a manageable 30GB of SSD soldered directly onto the board: this is where the operating system and programs live. Two 1TB hard drives, connected via SATA cables, are used as mass storage for the music, and while RAID1 (for drive redundancy in case of failure) is available, it's not used here. Instead, sticking to the maxim that „If something happens to the computer it will take down both drives anyway“, the user is reminded to perform external backups. IT's an argument that makes perfect sense: after all, RAID isn't designed as a backup strategy, and should never be treated as such.

Inside the Aria, it's immediately apparent that the power supply is more up Hi-Fi standards than those commonly

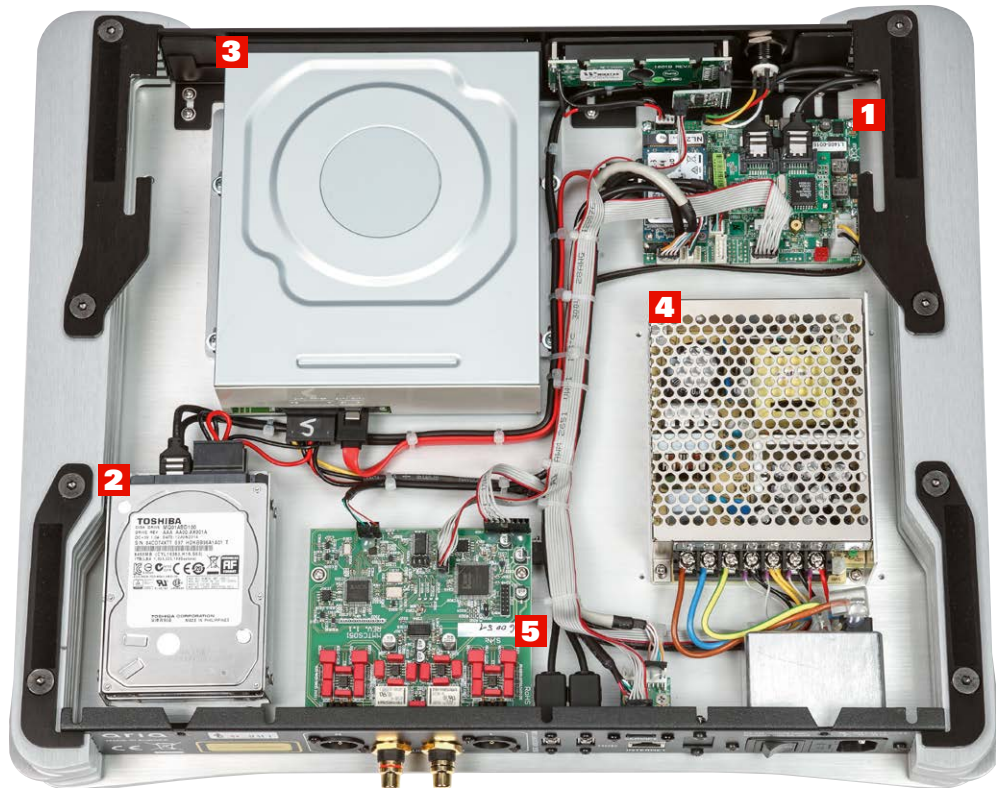


associated with than computers: it's carefully shielded and looks strikingly large in a computer context.

The final building block of the Aria is a TEAC optical drive, used as a CD ripper, although this isn't under the control of JRiver: although that software is very good for the task, DigiBit prefers to use dbPoweramp to rip, and with good reason. After all, this program is not only considered the best reading application, but with access to a total of five metadata bases – including SonataDB – it also delivers by far the most reliable album information.

### Speedy CD ripper

During ripping, it soon becomes clear that DigiBit's designers not only have a good feel for high-quality software environments, but also never lose sight of practical considerations while fine-tuning them: the Aria reads media completely autonomously and imports files losslessly into its media library. The reader uses the fast „burst mode“, able to rip an entire CD onto the hard disk in about five minutes if there are no errors, and in our testing of about 40 rips it lived up to this claim. The time between inserting the CD and it being played from the hard drive never



▲ The interior of the Aria: **1**The brain of the server in the form of a tiny micro computer; **2** Music data is stored on the two hard drives **3**The cover of the CD drive. **4**As you can see from the screw-connections, this is certainly not a standard computer power-supply : instead it 's shielded, and meets HiFi specifications. **5**The main area of audiophile interest: the D/A converter and the analog output stage.



exceeded six or seven minutes, and in the subsequent listening tests all recordings sounded like the original.

Aficionados may interject at this point that dbPoweramp has mighty error correction capabilities, but they're not used as with them in use it can take 20 minutes or more to rip a CD. This would be quite annoying if you were planning to move your entire CD collection onto the server: with the Aria's ability to copy about 10 to 15 CDs per hour, even owners of huge media collection will eventually be able to see the light at the end of the tunnel!

However, if that use of burst mode really insults your audiophile sensitivities, you can always set the device yourself to dbPoweramp's „Secure“ or „Ultra-Secure“ mode (or have the dealer do it for you). After all, once you have access to the system via the remote desktop, you can find all the usual settings of the programs.

USB-DAC in da hous(ing) The Aria doesn't have a „sound card“ – at least in the classical sense: from the main board its audio signals (completely unprocessed thanks to WASAPI) are transmitted directly to the USB-DAC installed in the back of the housing. After converting the USB data into S/PDIF, the signal then passes through channel-separated D/A converters and into a symmetrical analogue stage feeding both XLR and RCA sockets.

The DAC chips process formats up to 32 Bit/384 KHz, meaning that, in return for their not insignificant investment, customers may rest assured that the Aria is future-proof. This is aided by the use of JRiver, which is one of the best-maintained media programs: if a new format appears it usually won't take long before

the American programming team has updated its software.

As a child of its times, the DigiBits server is also able to process DSD signals, SonataDB working with the DoP (DSD over PCM) protocol to translate the signals for the converter into S/PDIF data at 88.2 or 176.4 kHz.

For a music server, the Aria comes with an incredible multitude of possibilities, all of which are due to the versatile JRiver at its heart. The program not only handles media reproduction, but can also be used as a comprehensive UPnP/DLNA server, enabling other network clients or players on the home network to access its music data without restrictions.

If they are also DLNA-compatible, Aria can control also other network players as „external“ D/A converters, with the advantage that you can also 'drive' them with the outstanding „Aria Remote“ app, which – as we mentioned – is related to JRemote. From tag processing to the creation of playlists to configurability of the different views, this program has versatility beyond any other remote app, although to be able to enjoy these features you will have to get an Apple iOS device to host it.

Extra storage can be added to Aria by plugging in USB hard disks using the sockets on its rear. The same sockets can also be used to import data onto the internal hard disk of the Aria or, with a sufficiently large USB disc capacity, to back up its internal storage. All this can be set up without problems in the „Server management“ section of the remote app settings.

### Neutral and dynamic


The Aria also convinced us in the sound booth: its sound is very linear, with no

coloration imposed on the music, and differences within a recording delivered faithfully. One could almost characterize it as „sober“ were it not for its dynamic abilities and bone-dry bass reproduction. No matter whether with the lowest register of a plucked double bass or a hefty bass drum, Aria pushes everything cleanly into the listening room, without any droning. And despite its neutral nature, this 'music computer' also displays vivacity and exuberance.

Put this sonic capability together with outstanding operation simplicity and flexibility, and clearly DigiBit's Aria is a more than successful debut.

*Carsten Barnbeck*

**DIGIBIT ARIA**



starting at € 4,500 (without D/A converter), Test model with 2 TB about € 5,220, Dimensions: 43 x 6.5 x 36 cm (W x H x D) Warranty: 2 years  
 Contact: Bowers & Wilkins  
 Phone: +49 5201/87170  
 www.bowers-wilkins.de

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DigiBit hits it out of the park with Aria: thanks to its JRiver basis, this flawless music server is one of the most versatile on the market.


**FEATURES**

Audio server with integrated CD ripper, also usable as media player thanks to internal digital-to-analogue converters. It can control external DLNA streamers via the network, works as a UPnP-compatible NAS. Outstanding integration of media software (SonataDB) and remote app.

**ACCESSORIES**

XLR (balanced) and RCA phono outputs, LAN connection, 2 x USB for sticks and hard drives, plays all usual formats up to 32 Bit and 384 kHz, DSD via DoP, can convert all formats in real-time for external streamers; power cable, free remote app via Apple App Store, German manual included

**STEREO - TEST**

<b>SOUND QUALITY</b>	<b>90%</b>
<b>PRICE/PERFORMANCE</b>	
	
<b>EXCELLENT</b>	



▲ The back view shows the symmetrical audio layout of the server. Data storage can be connected to the two USB connections: any music on them is copied to the library of the Aria.



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Incl. Hi-Fi Streaming



CD 6.2  
CD Player with 6 digital inputs  
Slot-in Pure CD drive



SA 6.2  
Class A/AB high current  
MOS-FET stereo amplifier



MA 6.2  
Class A/AB high current  
MOS-FET mono amplifiers



ML 6.2  
SSD-based music server  
Incl. CD ripping & mastering



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ATRIUM 4 | E 105



# Q, has hidden talents

Headphones are great: you plug them in, put them on, and listen. But the AKG N90Q puts takes the whole idea much further...

Numerous visitors to the STEREO booth at the headphone trade fair CanJam sneaked a curious look at the brand new AKG N90Q headphones. That was no surprise: after all, legendary musician and producer Quincy Jones had helped in the model's development and sonic signature.

The Viennese company, with its long tradition (latterly as part of the Harman Group), has never had any shortage of extravagant headphones in its selection: just think of the K340, with its combination of electrostatic speaker and dynamic chassis, or the legendary K1000 full-electrostatic speakers. These products were as unusual as they were technically

sophisticated, and set standards in terms of sound.

The path of the N90Q into the sound elite, using modern insights from acoustics research and electronics developments, is also a success story: for example, its TruNote calibration to the hearing of the wearer (by means of two microphones placed in front of the membrane) works perfectly. At the push of a button, this system compensates for individual hearing characteristics as well as reflections within the earpiece due to different ear sizes and shapes, not to mention the headphones' placement over the ears. The tolerances of the 52mm drive unit, its diaphragm



▲ The high-quality case also contains a USB connection for charging.



◀ The cushioned headband is adjustable in steps and comfortable to wear ; the cable connects on the right side.

made from Japanese paper, is also fine-tuned – a clever approach.

However, the Q 90 can offer even more: innovative always-on noise canceling makes it possible to listen at moderate volumes even in noisy surroundings, and is also clearly effective in reducing distortion.

### A sonic playground

A button on the left housing adjusts the sound balance – lighter or darker – depending on your personal taste. There is also an acoustic neutral position which is signaled by a beep. Another beep also confirms a change of the surround sound setting of the N90Q: you can select between the standard, studio, and a surround variant.

The differences depend a lot on the music material, their effect ranging from “can kind of hear it” to “can totally hear it”.

We preferred the “studio” setting, which gave had the least “in-head” reproduction – the sound moved far to the left and right and a bit in front of the head. The volume can also be adjusted on the right side, and responsible for all these options is built-in digital signal processing, housing the algorithms for the calibration procedure, the surround effects and the noise-cancellation.

All these capabilities certainly give the user something to play with; but on the flip side, it’s only possible to master these headphones after spending some time reading the user manual. For instance, without the manual nobody would know that the sophisticated case also contains a charger to prepare the headphones for the next listening session after about 12 hours’ use.

Unfortunately, at the time of testing the manual was a mess, and apparently a work in progress. We will report on whether this promise was kept as soon as possible..

Weighing about 450 grams, the N90Q is relatively comfortable to wear, its ear-pieces being angled for a snugger fit, but

it doesn’t quite reach the standards of the AKG 812 in this respect. Even the soft, high-quality ear-cushions, made from resonance-absorbing memory foam, can’t change that – and they can’t be replaced.

### A sound heavyweight

In terms of sound, the 90 series is beyond criticism. After the quick calibration – pressing the button for five seconds is enough – it develops a very neutral and dynamic sound, whether music is played in analogue through the conventional plug or in digital via the USB cable. The bass is tight and crisp and still swings, whether it’s of the synthetic Yello kind, or Ray Brown on the real double bass. Voices – Luciano Pavarotti, Terence Trent d’-Arby, or Suzanne Vega – come across without getting thick in the lower registers and without hissing in the upper frequencies.

In other words, these headphones are good for the long run (if perhaps a little heavy and expensive to wear while running). Verdict: a dream!

*Michael Lang*



▲ The ear pieces rotate to become flat with the headband, the golden button triggers the calibration, and above that is the on/off button – the noise cancelation is always on. The USB connection links the headphones to a computer.

AKG N90Q	
about € 1500, Weight: 450 g Guarantee: 2 years Contact: Harman, Phone: +49 7248/711132 <a href="http://us.akg.com">http://us.akg.com</a>	
Top class in terms of sound. Decent workmanship. The possibility of calibrating to the specific user is spectacular and unique. Despite their weight they are comfortable to wear.	
FEATURES	
Noise-cancellation, possibility to calibrate to user, sound regulator, volume regulator; three surround-sound programs; high efficiency with high impedance of 260 Ohm; diverse cables.	
STEREO-TEST	
SOUND QUALITY	91%
PRICE/PERFORMANCE	
★ ★ ★ ☆ ☆	
VERY GOOD	

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[www.elac.com](http://www.elac.com)

### ELAC Debut B5

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**DATA, FACTS, INFORMATION**



**Dates:** Thursday, May 5 to Sunday May 8, 2016, every day from 10:00 to 18:00 (Thursday is not open to the general public since it is reserved for professional visitors, open to general public starting on Friday)

**Location:** MOC, Lilienthalallee 40, 80939 Munich-Freimann  
 Tickets: € 12/20 for day / 2-day tickets (recommended catalog with comprehensive contact material, articles, and details costs € 12 at the register, € 19 if shipped domestically)

**Further information:**  
 HighEnd Society, Phone: 0202/702022  
 Internet: [www.highendsociety.de](http://www.highendsociety.de),  
 e-mail: [info@highendsociety.de](mailto:info@highendsociety.de)

**How to get there:** MOC is easy to reach by car as well as from the Munich Airport and/or Main train station. Please find detailed instructions in the sketches\* and/or very detailed information on the web site of the HighEnd Society. If you are coming from further away you may need a hotel, especially considering that the trade show is so expansive that you will hardly be able to catch all the presentations in one day. The event organizer has thus made a special arrangement with various hotels. In addition, the guests of these hotels can use a free shuttle service to and from the trade show. Another shuttle will continuously circle between airport and MOC. However, this service is only free for exhibitors and accredited professional visitors. If you are coming from NRW (North Rhine-Westphalia), you can book a multi-day trip on a luxury bus including overnight stays and entrance fees.

# THE CRÈME DE LA CRÈME

On May 5, the HighEnd trade fair opens its doors, and the organizers promise the show has never been bigger, more interesting, or diverse. STEREO knows just why it's worth a visit



▲ A familiar picture: the HiFi fans in line at the register.

**A**t first glance, the Munich High End 2016 is the same as always: although it's bigger, every available square meter has been booked solid, and the spectrum of the equipment on show covers just about every aspect of music reproduction.

Here you'll find everything from antique giant horns to portable all-in-one systems, from tube amps to silicon fortresses, from record players to the latest in digital conversion and streaming technology. And there are a lot of exhibitors who make a good portion of their sales on four wheels: the mobile concert halls of the auto industry and the specialist in-car entertainment companies have been an integral part of the Munich trade show for a few years and will grow in prominence in the future.

STEREO PROMOTIONS AT THE HIGH END 2016

SHORT WORKSHOPS ON SATURDAY, MAY 7TH:

TIME	TOPIC	LOCATION
11 Uhr	What impact does the cartridge have in the overall sound? Three cartridges – from MM to MC – compared.	<b>Transrotor/AVM</b> Atrium 4, Raum F104
12 Uhr	How much potential is there in bi-amping? Speakers with two or four mono blocks.	<b>AVM/Gauder Akustik</b> Atrium 4, Raum E105
14 Uhr	Does the phono cable determine record player performance? Leaders in the affordable price range - cross-check.	<b>Pro-Ject/Cabasse</b> Atrium 3, Raum C118
15 Uhr	Is high-bitrate HiFi more than just a catchphrase? Format checks from MP3 up to 24 bit/192 kHz.	<b>Burmester</b> Atrium 3, Raum D106
16 Uhr	Fantastic: Listen to virtual record players in all price ranges. The new „STEREO phono festival“ about a super system.	<b>MBL</b> Atrium 4, Raum E102

Access is free, planned duration about half an hour. Please be in the specified room shortly before start. We look forward to seeing you!

COMPARE HEADPHONES

As in previous years, the editorial staff will set up a headphone counter at our booth (Halle 3, Booth J03), where you'll be able to test out different models at different prices and performance levels. Enjoy picking your favourite headphones using with the great music and outstanding sound of the STEREO listening test CDs.

YOUR TAPE – RECORDED ON LOCATION

As a special service we will record for you the high bitrate files (24 Bit/192 kHz) of the first STEREO listening test edition onto tape using half-track technology with 19 cm/sec. (price including 26" NAB metal reel: € 179). We will bring our professional Studer A80 tape deck to Munich just for this occasion.



▲ Interested? Our tape buff, Uli Apel, is waiting for you: he has calibrated and balanced the Studer A80 perfectly, and will personally take care of recording during the HighEnd.



▲ Caption? You'll find a wide selection of headphones at the counter. Try and compare all kinds of models to your heart's desire

In the general opinion, the HighEnd has long since become the most important event of its kind in the world, surpassing all international competitors. Nowhere else in the world can people interested in refined technology and high quality music reproduction look at – and listen to – as many products, or get as much information.

A few numbers from the mega show make that clear: let's start with more than 500 exhibitors presenting a huge number of brands. Then there are we editors of STEREO Magazine and about 500 colleagues from the HiFi press, as well

as roughly 14,000 private visitors who thronged the halls last year.

That said, there are some who are there less for the sound, and more for the sales: many of the roughly 6,500 professional visitors, of which about 60% traveled from abroad, see the purpose of the trade show primarily in good business - and the exhibitors mostly agree with this outlook. They measure the success or failure of a trade show in the number of orders in relation to their costs.

Even here, Munich has a trump up its sleeve compared to its main competitors like CES in Las Vegas or THE Show in

Newport: almost perfect logistics, comparatively cheap and clearly structured prices, a city environment which is almost a bargain compared to the exploding prices for hotels and restaurants in Vegas, and a transport infrastructure which makes it possible to reach the show quickly and comfortably even without a car. If you have ever experienced the chaotic traffic in Vegas and the waiting times for taxis which can be an hour in peak times, you will perceive Munich as a paradise – at least in this regard.

As every year, the High End Society organizes the show. This year it will be for the last time under the aegis of Branko Glisovic who is about to retire at the end of 2106: he is handing over the reins to Stefan Dreischärf, an old salt in the industry who has already been very involved in the organization of year's even.

You can find STEREO and STEREO Magazine in Hall 3. There will be plenty to see and admire. Take your time, and enjoy!

By the way, for less HighEnd-obsessed travel companions, the organiser have a "partner program" with excursions and sightseeing which can be booked over the website (see box below).

See you in Munich!



▲ There is a lot to discover in Munich – e.g. exotic tube amps which you can see very rarely.



▲ Record players are in again. Especially the jewels by Transrotor will draw looks and awaken desires.



IN ADMIRATION OF MUSIC

# PURE, AUTHENTIC SOUND REPRODUCTION

- delivered by the DALI RUBICON series

Producing a wonderfully wide dynamic range and imaging so real, you'll believe that you are right in the middle of the original performance.

Small but perfectly formed, the RUBICON 2 stand-mount speaker delivers defined audio detail, with a naturally rich and full sounding bass response. The RUBICON 2 is the perfect blend of compact speaker size and cabinet inner-volume creating a sound that belies the beautiful speaker's dimensions. This perfect construction places the ultra-light soft dome tweeter and 6-5-inch wood-fibre low-loss driver in the optimum environment to ensure an unforgettable listening experience.



For more information on the RUBICON series: [www.dali-rubicon.com](http://www.dali-rubicon.com)



## New on the shelf: „Planar 3“

Due to hit stores at the end of April / beginning of May, Rega's new Planar 3 record player will sell for around 800 euros. It's fitted with the new RB330 tonearm, which has improved bearings, and Rega has also revised the adjustment of normal force and anti-skating.

A number of details have also been improved in the drive system, including the brass housing for the turntable bearing, the sub-platter, the motor cover, and the precision of the 12 mm thick „Floatglass“ turntable. The plinth is available in gloss black or white.



[www.tad-audiovertrieb.de](http://www.tad-audiovertrieb.de)

## News from Gryphon

At the start of the year, distributor TAD numerous new items, including a replacement for the 15 year old Gryphon Antileon Signature power amplifier. The new Gryphon Antileon Evo is €35,000 for the stereo model and €70,000 for a pair of monoblocs.

[www.tad-audiovertrieb.de](http://www.tad-audiovertrieb.de)



Gryphon Antileon Evo

## Completely new: T+A E-series

The E-series has been in T+A's range since 2007: now there's a new generation, offering the choice of an analog power amp with a multi-source player, or the technology of both devices in an all-in-one „music receiver“. The latter, the R1000E, costs about 5000 euros, and will make its debut in the coming weeks; the 'separate' components will arrive at the High End Show in May.



The R1000E houses multiple 'sources': a CD drive; an FM/DAB+ tuner; gapless-compatible UPnP playback with access to internet radio and Deezer, Qobuz, and Tidal streaming; aptX Bluetooth, and a USB-capable DAC handling PCM up to 192 kHz and DSD 64/2.8 MHz. Playback is also possible from USB sticks and hard drives, and there are as five S/PDIF digital and three analog inputs, with a phono module available as an option. Powered by toroidal transformer, its Class D power amplification delivers 2x 180 Watts into 4 Ohms. All E-Series products are devices are available in black or silver, with a choice of matching or contrasting side-panels.

[www.ta-hifi.com](http://www.ta-hifi.com)

## bfly: pick-up lift for the end of the record

Manual turntables let their needle 'keep on running' in the final groove of the record, but now a device lift named „Little Fwend“ (no typo) automatically and gently lifts the tonearm when the record ends, triggered mechanically when the arm moves a small lever. A magnet then releases a spring, slowly and smoothly raising the arm. The Little Fwend can be attached to the record player using its built-in magnet or, for non-magnetic surfaces, using little self adhesive steel discs. Available in two versions for different pick-up heights, the Little Fwend is € 199 in the bFly online shop. A model for record players with separate arms will follow shortly.

[www.bfly-audio.de/en/](http://www.bfly-audio.de/en/)

## Klipsch speakers with phono input

On its 79th anniversary, horn speaker specialist Klipsch will roll out a whole line-up of innovative products. This includes the US\$500/pr Reference R-15PM active speakers which can be supplied with line, S/PDIF optical, USB, or Bluetooth inputs, as well as a direct phono input for record players. All of the electronics are located in the right speaker – which powers the passive, left speaker – and there's an infrared remote control. The „Reference“ series set to expand into a family of wireless speakers, which you will be able to connect via a control center (about US\$ 500) with inputs including HDMI, S/PDIF, Bluetooth or analog, as well as WISA wireless connectivity allowing up to 96kHz/24-bit. The series comprise a floorstanding standing speaker (at about \$1000 each or \$2000/pr), a bookshelf model at \$ 1000/pr, a \$500 center speaker and a subwoofer (\$ 800).



Klipsch R-15PM

[www.klipsch.com](http://www.klipsch.com)

## Transparent record cleaner by **Keith Monks**

If you would like to watch the inside of a record cleaner as it is working, the new „DiscOvery microLight“ by Keith Monks has a completely transparent housing, and can be personalized with a large, translucent picture inserted into the front panel. At 39 cm wide, it's the smallest-ever machine from the British company, and is said to be cheaper, although the price has not yet been set, while a new feature is that the turntable alternates between forward and reverse motion during cleaning – as is done by Miele & Co. – for deeper cleaning. An LED shows that the contained for the cleaning fluid is full, and the super-quiet pump is German-made, by the way. The Keith Monks machines are available directly via Isenberg Audio in Hamburg.



[www.isenbergaudio.de](http://www.isenbergaudio.de)

## 30 at 30: **Audio Physic Cardeas 30**

For its 30th anniversary, the speaker specialist from Brilon is building its Cardeas 30 in a limited edition of only 30 pairs, selling for € 35,000. The Cardeas 30 comes with a „hyper holographic cone“ chassis in the tweeter, to reduce micro-vibrations, while the bass is handled by two 25 cm drivers mounted back to back on the speaker's side-walls. The crossover uses „clarity cap“ capacitors, the terminals are next-gen designs from WBT and the „VCF V magnetic“ feet are designed to be gentle on high quality floors. The Cardeas 30 come with aluminum baffles and real wood veneer housings, in either black ebony or rosewood.



[www.audiophysic.com](http://www.audiophysic.com)



## **Ultrasone: Facelift for Pro 900i**

The closed-back top headphone in Ultrasone's Pro-series is now available as the €470 900i, with a wider head band for increased comfort. It comes with a hard case, 1.5m cable with 3.5mm plug for portable use and 3m spiral cables with a 6.3mm Neutrik plug for use at home or in the studio. The set also includes a pair of replacement ear pads, and a 5-year guarantee.

[www.ultrasone.de](http://www.ultrasone.de)



## REFERENZ SELECTION

APPROXIMATES THE IDEAL OF PERFECT CABLES AS CLOSELY AS NEVER BEFORE.



REFERENZ LS-2404



REFERENZ NF-2404: AIR HELIX CONSTRUCTION



"Without a doubt, in-akustiks LS-2404 is one of the best speaker cables that STEREO has ever tested..."

stereo 01/2015

"The authentically innovative structure of in-akustiks new interconnect Referenz NF-2404 has propelled it right to the top of the class."

"Listening to this air cable will take your breath away!"

stereo 09/2015



When it comes to high-end applications, air is still the best insulator currently available as it achieves low capacities and low losses. To meet this, in-akustik has designed a special clip. Inside the cable, many of those clips are arranged to form a special helical support holding two symmetrically arranged conductors freely in the air while maintaining the exact distance to the shield.

inakustik

KABEL | LAUTSPRECHER | MUSIK

[WWW.IN-AKUSTIK.DE](http://WWW.IN-AKUSTIK.DE)

## T+A DAC now with DSD

The T+A DAC 8 is now available in a second-generation form: the DAC 8 DSDt is now also able to process DSD signals delivered from a PC via USB. It can handle files up to 22.4 MHz – eight times the SACD standard – and PCM signals up to 384 kHz, with each format handled by its own converters: for PCM there are eight 32-bit TI/Burr-Brown converters, and for DSD T+A's own real 1-bit converter.

There's a pure analog volume adjustment, which can be bypassed if required, and also a high-powered headphone amplifier. A small remote control is included in the price of € 2750.

[www.ta-hifi.de](http://www.ta-hifi.de)

## Heco Ascada 600 tower: active and wireless

A totally wireless speaker system, requiring only a mains connection: that's Heco's €2000 Ascada 600 Tower. It's a full active system, with the right speaker containing the electronics to communicate with audio sources, and control the left speaker either wirelessly via Bluetooth with aptX or – without latency – using the included XLR cable. Music sources can be connected via Bluetooth, USB, S/PDIF (optical or coaxial) or analog, and all digital inputs accept resolutions of up to 24/96. Input selection, volume and tone controls are on the rear of the 'master' speaker, and can also be accessed using the remote control supplied. Heco lists the amplifier output at 110 Watts per channel, and the cabinets are available in either black or white gloss finish.

[www.heco-audio.de/en/](http://www.heco-audio.de/en/)



## Lasers – not lathes – get into the groove

The vinyl market is booming, the presses are working at capacity. But how long will these old cutting machines still last? Or will there be new ones, maybe even more modern ones? Austrian



company Rebeat has a new, patent pending, technology: instead of using a recording stylus on a lathe to cut the grooves into the master disc for an LP, it uses lasers, controlled by a 3D model of the grooves created using Computer Aided design. The process is significantly faster and cheaper and the sound quality is better: higher frequencies can be stored in the grooves, and it's also possible to achieve higher volumes or, thanks to the optimized groove spacing, even longer playing times. It even compensates for tangential track phase displacement. The process is being described as „HD vinyl“ and, while the discs made in this fashion can be played with any standard record player. For optimal reproduction of the higher frequencies it's possible that special „HD sound pickups“ may be developed. However, it will still be a while until the first master discs are cut with the new process: after all, a prototype of the laser cutting device is yet to be developed.



## Changing of the guard at Quadral

Quadral's Argentum speaker family is now available in fifth generation form, improvements including improved treble dispersion thanks to a revised tweeter mount, and the use of titanium diaphragms for the treble and mid/bass drivers. The series consists of three floorstanding speakers (at € 350 to € 500 per unit), two bookshelf speaker (€ 190 and € 330), and a center channel (€ 330): available now, they come in gloss black or white finishes. There's also a changing of the guard in the management of Quadral: Volker Schwerdtfeger is taking from long-time Managing Director Edmond Semmelhaack. 44-year-old Schwerdtfeger has been working for the company since 1999 and most recently managed the export department. Semmelhaack will continue to be available to Quadral as consulting partner.

[www.quadral.com](http://www.quadral.com)



V. Schwerdtfeger (li.), E. Semmelhaack

## Perpetuum Ebner, the third

A new member has joined the long-established Perpetuum Ebner turntable family: the PE 2525 is based on the PE 1010 sub-chassis turntable, but with the PE4040 pre-installed, along with an Ortofon 2M Blue moving magnet cartridge. It's available now for about € 2500, while the depicted combination with red turntable board (also available for the PE 1010) is available for a € 165 surcharge. The company will also launch an entry-level model at High End 2016 in Munich: the PE 1000 is rumored to be pitched at about € 1250.

[www.weaudiosystems.com](http://www.weaudiosystems.com)



## Beyerdynamic: T5p, the second

Headphones optimized for mobile use but at the price of a home-use top model: that's the new € 990 T5p from Beyerdynamic. This second generation around-the-ear, acoustically closed model has been re-tuned, and given extra damping to control high-frequency resonances, a more sturdy sound baffle cover made of a high-tech compound material, and improved baffle geometry. The drivers are 32 Ohm designs with tesla technology, the ear pads are filled with memory foam and covered in artificial leather, and the woven-fabric-covered cable is exchangeable, 1.40 m long, and equipped with a mini-jack. A jack adapter and a hard case are included, and equipment includes a choice of 3m cable, including ones with 4-pole XLR plugs. The T5p is manufactured in Heilbronn, Germany.



with optional

[www.beyerdynamic.com](http://www.beyerdynamic.com)

## Record brush made of bog oak



Exotic materials make sophisticated devices feel even more exclusive, and Transrotor and Levin Design are now offering a record brush with a body made of hundred year-old bog oak. The wood is water resistant and thus Levin Design can also offer a record brush for wet cleaning, made with horse hair, while the dry-brush version uses Chinese goat hair to clean the grooves. The roll-out is planned for 2016 – the price will be around € 130. [www.transrotor.de](http://www.transrotor.de)

# Optimized or Compromised?

Experience both! With the brand new OCTAVE **HP 700**



With the unsurpassed flexibility and completely high end performance of the OCTAVE **HP 700**, one doesn't have to sacrifice personalized customization to enjoy perfect sound quality.

Octave designed the **HP 700** preamplifier for music lovers with the highest standards who's requirements also include optimal connectivity. The **HP 700's** eight available input modules are more than a luxury; for the most discerning listeners they are a necessity.

Crystal clear reproduction with incredible detail and complete accuracy make the **HP 700** the natural choice for those seeking audible perfection. The OCTAVE **HP 700** – designed precisely for you.



Featuring the highest grade, heavy duty components



Available audiophile tone control option



Perfectly optimized optional input modules

# OCTAVE

## Phono cable through the air

In-Akustik recently created a sensation with its NF-2404 Air Helix interconnect cable, which runs the inner conductors through a matrix of plastic elements in series in an optimal air dielectric. Now there's a phono version for turntables with identical technology (plus an additional ground connection): the „Referenz Phono 2404“



has a standard five-pole plug at the 'arm end' and either RCA phono plugs or XLRs at the other. We've tried out a prototype, even though it was cosmetically not quite finished (see picture), and found that it lived up to the NF standard with outstanding openness and a completely 'un-technical', natural

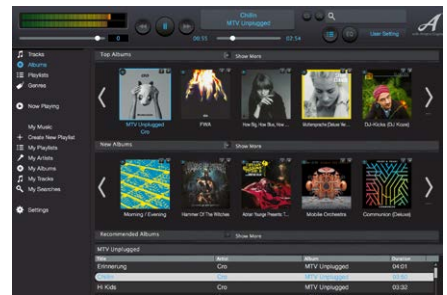
sound: it remains light, flexible, and without any over-analytical attitude down into the lowest registers, and with the spatial layering was as wide as it was precise. The prices for the cable, made in-house by In-Akustik, are not yet set.

[www.in-akustik.com](http://www.in-akustik.com)

## Amarra for Tidal now for Windows, too

Until now, Sonic Studio has exclusively developed software for Macs but in „early 2016“ Amarra for Tidal, the player for the lossless streaming service, is set to become available in a Windows version. In version 2.0, Amarra for Tidal will also support streaming in the MQA format, planned by Tidal, and Sonic Studio expects soon to release its remote control app for iOS devices. The upgrade to Amarra for Tidal 2.0 will probably cost around \$10.

[www.sonicstudio.com](http://www.sonicstudio.com)



The

# Skyscraper ESAT+

DVB-S/S2 satellite audio only radio

fotos: www.photocase.de



**Emotions are expressly permitted if you are talking about RESTEK.**

RESTEK is the term for conscious, critical listening, aesthetic and extremely high technological level.

RESTEK represents a new understanding of music and life in the range of high end audio. Design and production product quality scales what high end high end audio lovers are demanding of a premium brand, longevity, reliability, recoverability and repairability.

# RESTEK®

Selective laser sintered d-tc housings with dynamically charged dielectric material and active tesla coil inside

D-level housing with DGC\* technology inside

Highly flexible DIHC\* technology wire with heavy duty black sleeving

## HELLO MUSIC

**d-tc** - the new flagship line of products from Anszu Acoustics. The series consist of a full cable loom and a range of mechanical decoupling devices.

The Anszu **d-tc** cables has been created using all the know-how gathered from our work with a diversity of High-End products in recent years. We continue to utilize the Anszu technologies DGC (Direct Ground Connector Technology), DIHC (Double Inverted Helix Coil technology) and NSC (Noise Suppressing Coil technology) - and on top of that we have added further groundbreaking technologies such as dynamically charged dieletrikum and the active Tesla Coil in the new unique Anszu **d-tc** cable concept.

The performance is stellar. There is simply less filter between you and the music. The micro details are simply better preserved and presented to you in a natural way that leaves you stunned that a cable can have such a stunning influence on the performance of your system.



# THE STEREO TEAM







## BOOTLEGS WITH A GRUNDIG



- PROFILE**
- **Reiner H. Nitschke:** Publisher and Editor in Chief
  - **Born in:** Berlin
  - **Education:** Newspaper and magazine editor
  - **Favorite food:** Fresh fish prepared just right
  - **Motto in life:** Life without art and music is probably possible, but why would you bother?
  - **Favorite music:** Glenn Gould, Keith Jarrett, John Coltrane, Miles Davis, Joni Mitchell

In the beginning there was... a Grundig tape recorder, which I used to record music from the radio using a microphone, and this was followed by my first attempts at the electric guitar. With my friends, I listened to Bob Dylan and Joan Baez songs, played by a school friend of ours who could imitate Neil Young stunningly well, but soon we wanted to hear the originals. We had to get a record player.

I don't even remember what brand it was, but it was definitely a long way from HiFi, and our chronic lack of funding kept our record collection rather "streamlined" Instead we focused on live concerts, and those experiences to this day inform my demands for a live-like sound from my HiFi.

When Sony pushed compact discs onto the market, with the vigorous support of the by-then almost deaf Herbert von Karajan, it seemed like the dawning of a new age – but almost nobody realized that

suddenly something was missing. Instead people simply invested ever-more money into speakers and electronics – surely it had to be possible to recreate an emotional sound somehow? It was difficult in a time when the attribute "digital" was synonymous with quality, but today we realize that most CDs of the 80s really sounded pretty awful.

In the end I found a specialized dealer to once again infect me with the vinyl virus, which led to me upgrading three times in just two years. By the way, the LP 12 still can do its thing after 20 years.

Thankfully, labels like ECM and ACT made sure that I did not say good-bye to CDs completely, by producing discs not only fully exploiting the potential of the CD format, but also generally recorded with excellence. And now a fantastic player-converter combination ensures that the best CDs can really compete with the "swing" of high-quality vinyl reproduction.

Just for professional reasons, there is also no longer a way around streaming, and in ideal conditions it can sound great. However, as a music fan I miss the liner notes and discographic data, and being able to touch the vinyl and reminisce about my youth. ■

## MY RECORDS WERE TAPES

When I was a kid, every day started with music. I came into the kitchen and the radio was usually already playing: it was mainly hits and my mother knew all the words, even though when it came to the melodies she was a bit more... well, free. In the evening we often listened to music from the tape deck, the music – mostly recording from the radio, winding its way through a Grundig TK 8. I learned to operate this wonderful device quickly and at about eight I could call it "my" tape player: records



- PROFILE**
- **Michael Lang:** Managing editor
  - **Born in:** Cologne
  - **Hobbies:** Concerts, HiFi, politics, reading, communication, people
  - **Education:** Wholesale/retail sales
  - **Favorite food:** French
  - **Motto in life:** Time is on my side
  - **Favorite music:** Rolling Stones, Bruce Springsteen – the remaining eclectic range depends on my mood

and a something on which to play them were only a dream at the time, mainly due to finances.

The boy grew up and so did his standards. This was driven partly by my first concert experience: Deep Purple, in January 1973 in Cologne. About a year later I had my first stereo tape recorder in my room, a Philips N 4414. DIY speakers and Sennheiser HD 414 headphones, a Körtling amp, and a Dual 1019 took up more and more space in my audio corner.

My eye-opener happened in Berlin. If memory serves, the store was called Audio Level: the space was broken up with large folding screens, and some rather large boxes were placed in the corners. This completely ragged-looking fellow who was comparing Tympanis and Klipsch horns let me sit in and listen. This was the point of no return for me. I suddenly understood what "airiness" and "dynamic"



◀ This is how it all started: suitcase tape recorder Grundig TK 8

meant. And that one day I wanted to own a system with such qualities.

On weekends we got together for the “Cologne Sound Contest”, and once I got my first apartment, I no longer had to be considerate of my parents in terms of volume and my new neighbors were quite open to loud music. A large step in the direction of HiFi heaven were a Thorens TD 125 with SME 3012 and EMT cartridge, an Audiolabor VV 2020 preamp with Symphonic Line power amp, and Rogers Studio 1/1p speakers.

At some point in my 20s I started turning my hobby in to a profession. My fascination with sophisticated mechanics and precise electronics has not worn off, and neither has my preference for electrostatics (preferably as dipole emitters) and analog. I hardly ever use the tape deck and my old tuners anymore - but I still have them. And amps? I am hopelessly old-fashioned and like the soft glow of tubes. ■



▲ The ESS AMT 1, here a late „d“ version, has hardly changed over the decades

from the glass – it hit me in the face, in all its vibrant, dazzling, seductively sparkling fascination. I had never heard anything like it.

In that moment my something inside me erupted, like a bolt of lightning: I

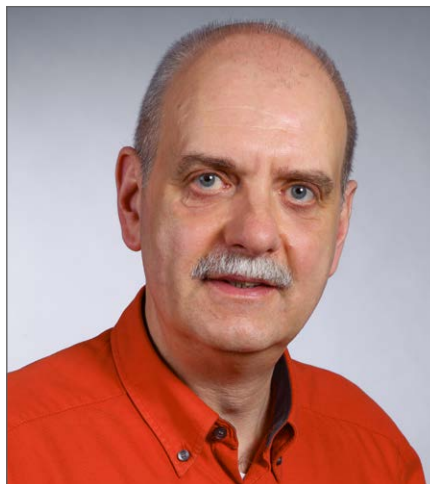
suddenly knew this would be my subject for the rest of my life. In short: just a few seconds is all it took for HiFi to grip me with its charms. Everything after that – the devices, the work in dealerships, the road to the magazine – started with that one spark. Simply, the decision was simply made for me. And off I went... ■

## GONE IN 60 SECONDS

I can still remember it exactly: the moment in which the passion for HiFi gripped me. It was a spring afternoon and, as always, we were zipping through the city of Bremen on our bikes and looking in shop windows. We went into “Profi-HiFi” because the atmosphere was relaxed there and nobody looked at you like you were not supposed to be there. The salesman said: “Come on, I’ll show you something!”

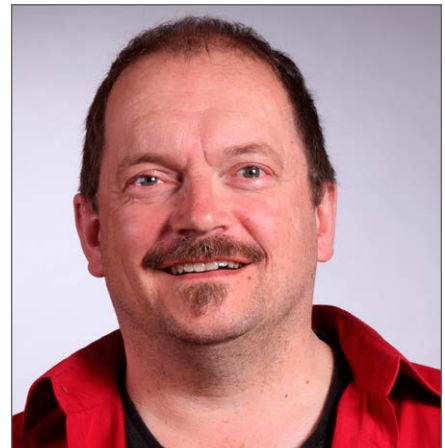
In front of the windows was a pair of the then-famous ESS AMT1a speakers, whose revolutionary “Air Motion Transformer” emitted midrange and treble both to the front and the back. It was hooked up to an amp combination by GAS (“Great American Sound”) and a record player I can’t remember now. The record was one of Sheffield’s first-class direct cuts with the Harry James Big Band. Off it went – and I was sold within a minute.

Did it sound right? No idea! But I remember exactly the huge spectrum resulting from direct sound and reflection



PROFILE

- **Matthias Böde:** Special task master
- **Born in:** Bremen
- **Hobbies:** Photography, being on the go
- **Education:** Diploma in German language and literature and art history
- **Favorite food:** Light in the summer, more hardy in the winter, mother’s stews
- **Motto in life:** Everything about which you are serious is never-ending
- **Favorite music:** Modern symphonies and modern jazz, introverted, intimate, heady



PROFILE

- **Tom Frantzen:** Editor
- **Born in:** Aachen
- **Hobbies:** Photography/AV, traveling (camper), vintage
- **Education:** Diploma in Commerce and Technology Editor
- **Favorite food:** Chinese
- **Motto in life:** Main thing is staying happy
- **Favorite music:** Fleetwood Mac, P. McCartney, Pink Floyd, Supertramp

## HIFI BEGINS

Everything started on October 2, 1977: as a member of the Aachen Cathedral Choir – the oldest German boys’ choir founded by the emperor Charlemagne – “little Tom” was involved in a recording session, Sadly, puberty hit soon after and his voice changed: there would be no more recording sessions for him.

I was overwhelmed by the acoustics of the ancient church, construction of which began 1200 years ago – and, as a result, all the more disappointed by the sound of the record of the session when I heard it at home via a 1973 Philips compact system with broadband speakers in



Sansui's amp flagship AU-X1, already more than 30 years old bears its share of the blame for Tom Frantzen's „HiFi career“ – and still runs great in the bi-amping package

rustic oak.

It would be three more years until I finally had a system of my own, able to do it justice: an Onkyo TX-20 receiver, Thorens TD 115 turntable, and Ecouton compact speakers my own. It was an entirely different story: even Haydn would have enjoyed that sound.

However, the ignition point for my emotional journey through the HiFi hobby – which is always powered from two sides, the music and the tech (hardware and software) – had to be the demonstration of the “Dynaudio Consequence” in Düsseldorf and another of Apogee full-range electrostatics with Krell electronics. Mangione’s “Children Of Sanchez” sounded incredible, while the system in Bonn lifted you out of your seat during “Koyaanisqatsi”.

Clearly, I would never shake this never-ending search for better sound, even when it was achieved through accessories, placement, and so on. You can see where this sort of thing takes you... ■

## FROM MIXER TO PREAMP

I have always been interested in high-quality music playback, even though I came to the subject from the recording side. That came about through pure pragmatism: I have been rocking out in various bands since about 1990, first with a guitar strap around my neck, then later on various keyboards and synths.

For a long time, when I thought about “high fidelity”, I was considering studio mixers, power amps and monitor



PROFILE

- **Carsten Barnbeck:** Editor
- **Born in:** Eschwege
- **Hobbies:** Making and listening to music, everything to do with history
- **Education:** Almost historian, volunteered for a while after quitting college
- **Favorite food:** The entire Mediterranean tour
- **Motto in life:** The proof of the pudding is in the eating!
- **Favorite music:** Alternative / rock and all shades of electronica

speakers., and I only used DAT as a source – I really miss Tascam’s DA-40 – and computers with premium sound-cards. Of course, I also had a CD player, but just on the side: I connected it through the excellent D/A converters of the DAT recorder without giving it much thought.

My Eureka moment came with a Cyrus 5 amp in one of its countless tuning incarnations: as soon as I hooked it up, it projected such phenomenal spatial imaging into the studio that I first suspected a phase shifter in the speakers. Together with Tannoy’s exotic DTM-8, it still makes up one of my dream teams.

This experience increased my interest



I keep using my antiquated Roland M-16E as a preamp – refined by a bit of tuning. I should really clean it sometime...

in reproduction to such an extent that I joined STEREO in 2001 But – between us – these days I prefer listening to music on the computer. That’s a big change from the way I was a while ago. Consistent, huh? ■

## HIFI – BECAUSE IT LASTS LONGER

No, not everything used to be better: on the contrary, some of the normal “mainstream” entertainment equipment was so lousy, it could really ruin your fun. Frustrated about these wet blankets I started gravitating towards elevated HiFi.

Even as a child I had been fascinated by this technology which made it possible to record and play back one’s own voice, but it took a quite few years before I could save up enough to afford my first Telefunken “tape recorder suitcase”. Device unpacked, microphone connected, recording started – tape runs but nothing is recorded. A brand new machine, and



PROFILE

- **Ulrich Wienforth:** Editor
- **Born in:** Unna
- **Hobbies:** Music and (long-lived) technology
- **Education:** Electrical engineer
- **Favorite food:** Mediterranean (and Black Forest cake)
- **Motto in life:** Que sera, sera
- **Favorite music:** Everything with acoustic guitar, but also rock

already I had to take it to get fixed! That was frustration number one.

More disillusionment piled on over the years: cheap sheet metal bars which buckled quickly; friction wheels wobbling on their spindles; pressure rollers which fluttered and brakes which ate up all my tape.

OK, so still maybe good enough to record your voice but how long before that gets boring?

However, music was becoming more important, and I was recording the latest hits from the radio, in quarter track mono at 4.5 cm/s – after all, you really wanted to fit a lot on that tape. And when it was full, you just started over and erased all the old stuff – but then in your teens music has a relatively short half-life. As I said: In terms of sound and reliability this Telefunken box was a mid-level disaster.

I read in some hobby magazine – I didn't know about any HiFi magazines at that time – about a company called Revox, which built extra-robust tape recorders,

FOTO: TECHNOSEUM



Saved up money from summer jobs: Revox G36 – built to last

complete with three motors, capstan direct drive, everything die-cast rather than flimsy. I just had to have one! But the fact they cost more than 1000 Deutsch Marks meant they weren't really attainable for high-schoolers, so it took me a few summer jobs before I had somehow saved up the money for my G36. I'd fallen in with the high end – even though at the time that term didn't yet exist.

Now I recorded in half track stereo at 19 cm/s, and a few of us friends would pool money for every long-awaited new Beatles album, then record it one after the other – the last one got to keep the record.

My Revox G36 still works, though it recently needed to have its pressure rollers and capstan shaft replaced, but in the meantime I've also obtained a more modern B77, also a work horse built for eternity.

These days, I mainly listen to music from my hard drive via a network player – of course, hard drives also don't live forever, but backups have saved me from losing my music collection. And if need be I can even store it on the cloud – I don't care if the NSA listens in on that. ■

## DRUNK ON MUSIC

In the beginning was the music: even as a child, songs with “beautiful” melodies could drive me to tears – although admittedly there are a few of them I find embarrassing these days. Even the crappy playback from a dull suitcase radio or a rattling record player didn't bother me – it was all about the music.



PROFILE

- **Andreas Kunz:** Music Editor
- **Born in:** Frankfurt am Main
- **Hobbies:** Playing piano, reading
- **Education:** Musicology, psychology (minor), volunteer work
- **Favorite food:** Italian, Indian, Thai
- **Motto in life:** Without music the world would be a mistake
- **Favorite music:** Mozart, Beatles, and few more from the last 300 years

My first classical concert experiences in Kiel Castle, and visits to friends who proudly showed me their systems, opened my ears: wow, music can sound like that! As a result, the 1000 Deutsch Marks I got for my confirmation celebration was quickly spent on a Grundig amp record



A musical soundscape which fascinates me to this very day: the legendary „Sgt. Pepper's Lonely Hearts Club Band“ by the Beatles

player and Magnat speakers, at the time a sonic quantum leap for me.

Between 1966 and 1973, it was almost all about psychedelic rock: Jimi Hendrix's “Voodoo Child”, The Doors' “The End” and Pink Floyd's “Dark Side Of The Moon” let me immerse myself in different worlds of sound, and also central to my listening were Beatles classics like “I am The Walrus”, “Tomorrow Never Knows” and “Strawberry Fields Forever”. “Sgt. Pepper's Lonely Hearts Club Band” was THE record: it was such a defining experience that to this day I use it to christen every new component in my system.

My demands for grew continuously, and in particular after I joined the STEREO editorial staff: after long sessions in the sound booth I would come home less satisfied with my own set-up. But these days I tend more towards acoustic – not electric or electronic – music, from classical to folk to jazz, and I pay more attention to audiophile qualities. But I would never want to live without milestones like Maria Callas, Dinu Lipatti, Billie Holiday, or the Kinks, no matter how (partly) problematic they are in terms of recording technique.

Audiophile sound is great, but inspired music is irreplaceable. ■

## BEHIND THE SCENES

A gang of motivated editors does not alone a HiFi magazine make: at least as important are the “men behind the curtain”. What would STEREO be without Joachim Zell, who shoots all these great pictures? From two-page spreads, showing off the best side of the components in spectacular lighting to emphasize the HiFi magic, all the way down to the smallest details on a circuit board – all of it comes out of his studio. Working at the heart of our publishing house, over the years he has become specialized in everything HiFi and knows just how to make it look “sexy”.

If you can Joachim Zell is the “eyes of STEREO magazine”, then Hilga Pauli is the “face”. Our graphic designer puts images and text, tables and info boxes together to make it all flow as a whole, her layouts defining the look of the magazine – which of course has to be perfect.

So the material has to be good, and image editor Jürgen Meier-Vahlkamp makes sure that the pictures – even our hand-held images from trade shows, workshops, and company visits – look crisp and sharp. Every picture has to pass his computer, and if something doesn’t look right, his mastery of Photoshop is here to help. He also makes sure the laboratory charts are in the right format.

Which brings us from the look to the



- **Joachim Zell:** Photographer
- **Born in:** Bingen am Rhein
- **Hobbies:** Dancing, badminton, cycling
- **Education:** Masters in Photography
- **Favorite food:** Italian
- **Motto in life:** Laugh at life, maybe it'll laugh back at you
- **Favorite music:** Billy Joel, Elton John, and Katie Melua

PROFILE



- **Jürgen Meier-Vahlkamp:** Image editing
- **Born in:** Cologne
- **Hobbies:** Speed skating, listening to music
- **Education:** Reproduction photography
- **Favorite food:** Mediterranean and Asian
- **Motto in life:** The last shirt has no pockets
- **Favorite music:** Rock from AC/DC to ZZ Top and „old school“ like David Gilmour

PROFILE



- **Hilga Pauli:** Graphic designer
- **Born in:** Berlin
- **Hobbies:** Tennis, skiing, jogging, sailing, singing in choir
- **Education:** Dipl. Graphic Design
- **Favorite food:** Italian, Thai, and Spanish tapas
- **Motto in life:** Don't think about tomorrow – your life happens today
- **Favorite music:** Chill-out music to relax

PROFILE



- **İlhami Düzgün:** Advertising management
- **Born in:** Kelkit (Turkey)
- **Hobbies:** Excessive listening sessions on vinyl, high-end, pool/billiards
- **Education:** Croupier
- **Favorite food:** Sushi & Italian
- **Motto in life:** There is nothing good unless you do it
- **Favorite music:** Avant-garde jazz, especially John Coltrane, funk, and increasingly

PROFILE

heart of the matter. Measurement technician Ulrich Apel determines how the inner workings of the equipment on test perform in the STEREO lab, using high-quality equipment like a Rohde & Schwarz analyzer. With it – and a few additional devices – you can capture all relevant parameters of HiFi components. We have a large, in-house concert hall to measure speakers, to ensure there’s not too much reflection, while a modern program creates the foundation. Tube buff Apel, who also works as sound engineer for the movies and restores historic studio equipment, connects theory with practice and has come up with quite a few unconventional solutions.

Our Editorial Assistant Elke Mudra s the fairy godmother of STEREO, and takes care of everything concerning the magazine, from reader services via the shop all the way to preparations for trade shows, as well as being responsible for proofreading the magazine. It definitely helps to be a HiFi buff, and she is: as a

wedding present her hubby didn't give her jewels or a round the world trip, but – girls, listen up! – a high-end turntable. Many readers know Elke Mudra from "World of HiFi" where she regularly presented systems.

In order to keep a magazine like STEREO going you need a constant supply of devices for testing, and these need to be received, stored, moved, packaged, and shipped. Our warehouse manager, Manfred Müller, can find any box – no matter how lost – and has developed a remarkable sixth sense for the location of misplaced remote controls and similar equipment. "Manni" maintains his calm demeanor even when large speakers have to be handled, and he is always there with a helping hand for our editors.

Ilhami Düzgün manages the advertising in STEREO, very sobering work concerning acquisition and administration – which is why many people working in this field often have no connection to the subject matter of the magazines on which they work. Not in this case: yes, the advertising section is strictly separated from the editorial room, but our colleague is definitely "one of us". Having moved from

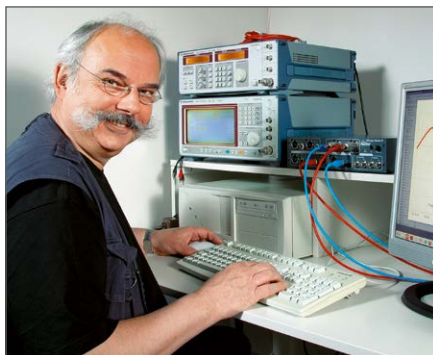


PROFILE

- **Elke Mudra:** Editorial assistant, copy editing
- **Born in:** Düren
- **Hobbies:** Music, literature, nature, sports
- **Education:** Masters in German language and literature, dramatic arts
- **Favorite food:** Fresh fish at the sea and home-made meatballs
- **Motto in life:** If you're gonna do it, you'd better like doing it
- **Favorite music:** Blues

Turkey as a child, this bon vivant loves pure high-end stuff, having worked in HiFi retail and lived the audiophile life (possibly beyond his means) when he was younger. That makes him a perfect fit for our team – people for whom STEREO is much more than just a job.

*Matthias Böde*



PROFILE

- **Ulrich Apel:** Measurement and technology
- **Born in:** Oberhausen
- **Hobbies:** Photography, tube technology
- **Education:** Diploma in Engineering
- **Favorite food:** Italian
- **Motto in life:** As soon as you do it right it somehow starts working
- **Favorite music:** Modern classic and techno because it is relaxing



PROFILE

- **Manfred „Manni“ Müller:** Warehouse management
- **Born in:** Hürth
- **Hobbies:** Motorcycling, listening to music
- **Education:** Factory mechanic
- **Favorite food:** Italian
- **Motto in life:** So far so good
- **Favorite music:** 80s hits and the best of today



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# REVOLUTION



The new E-series is a completely new development consisting of three devices of absolutely superlative quality. The PA 1000 E - an extremely potent amplifier - and the MP 1000 E multi-source player are the outstanding individual components which form an ultra-modern High-End system. The classic analogue technology of the PA 1000 E, with its symmetrical construction and continuous output of 500 Watt, ensures an incredibly natural, audiophile sound experience. The MP 1000 E plays music to a superb standard of quality from every imaginable source: from CD; via Bluetooth; from VHF, DAB+ and Internet Radio; from UPnP network music servers; from external digital sources; from USB memory media and from a PC or laptop - even in the high-resolution DSD format. The streaming services Tidal, Deezer and qobuz are also supported. The R 1000 E receiver was developed from these two high-end individual components.

## T+A

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# EARLY BIRD



Made to be: a CNC machine engraves the MBL logo into a metal cover. The orange jet sprays coolant



Jürgen Reis started at MBL right after graduating from college, and the sound of the top brand has been carrying his signature for more than 30 years now. Its audiophile impact has been matured over time

Visiting a trade show often gives you valuable ideas – ask Jürgen Reis. A HiFi buff from early youth, as an electrical engineering student in the 80s he strolled around the IFA - which in those days was heaven for music lovers – and found his mission in life.

His attention was drawn to odd-looking cylindrical speakers in the booth of a then-young company: an early version of the MBL radial emitters, they spread the midrange and treble sound-waves evenly in the horizontal plane. Fascinated by this unusual principle and its technical implementation, on a whim Reis applied to join the Berlin-based company.

Starting in 1982, he quickly became an intrinsic part of the company: the freshly-minted graduate, who once operated two full-size Klipsch horn speakers in his 11 sqm student apartment (!), soon made his mark with the preamp he'd built as a student – it sounded significantly better than MBL's own model. This was his start in the business, and the beginning of a beautiful - and fruitful - friendship: while the newbie began in the electronics department, with only two years he also started working in speaker development.

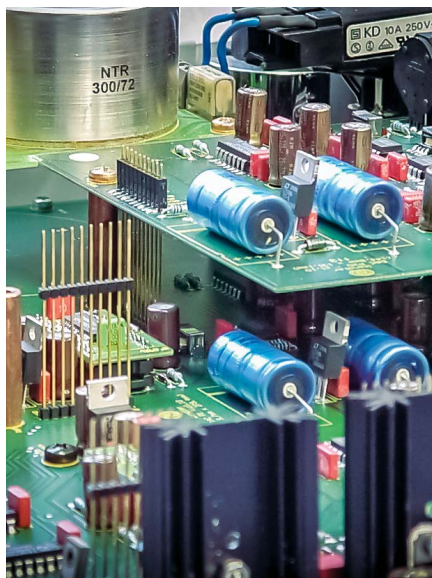
Here's how: Reis was a rock fan and e-guitar player in a band, one of the members of which founded the first company to make carbon fiber guitar necks. At band practices he used to expound on the advantages of this material, and as Reis listened carefully an idea started brewing in his head: what if one were to replace the original aluminum strips on the already famous radial emitter's tweeter with carbon fiber?

### Development into a full-range audio company

A tremendous amount of work was needed to accomplish the change, but in the end the results justified the effort. However, the lover of Asian cuisine admits that there were also areas in which he still had a lot to learn: he put in a lot of effort in the anechoic chamber to make the point source driver linear, but then realized that it sounded much too

harsh in real-life living conditions. The 360-degree energy distribution, combined with the strong reflected contribution of a 'normal' room, made necessary a roll-off towards the high treble in order to achieve a homogenous sound, and for this reason, the Berlin company has long since started measuring in a „psycho-acoustic time window”, which accounts for both direct and indirect sound waves.

At that time MBL didn't build power amps, so Reis set about changing that,



▲ The sound is defined by the components, selected through measurement and listening alike

developing the program into a full range. No matter whether preamp or power amp, speakers (which include a recognized series of direct sound transducers), or digital equipment such as CD players and D/A converters – Jürgen Reis is the mind behind these products and thus strongly defines MBL's sound philosophy.

The MBL 7008 power amp or the 1531A player already impress with their powerful, dominant appearance, energetic „torque“ beyond the fundamental range, a wide spectrum, and a tonal balance with basically no artificial brightness. While many HiFi components shine like a polished billiard ball, MBL's have a sonorous

touch more akin to slightly roughened leather, delivering a sound that's pleasantly non-technical and – best of all – doesn't get on your nerves. These characteristics are even more apparent in the company's higher-end products, all the way up to the fiery „Reference Line“.

Jürgen Reis wants to thrill listeners: „The reproduction has to rock. There has to be movement and forceful drive. The MBL message has to get out.“ Hardly surprising, then, that it doesn't sit well with the committed developer when someone finds the sound of his products „nice“.

But how do you get there? Rice summarizes his experience like this: „When you're in college, you believe in measurements: if something had less distortion then it just had to sound better – and if



▲ The frequency response of the unique radial emitters has to drop slightly in the high treble

you didn't hear it that way, well, you heard it wrong.“ But as an active musician and sound engineer he preserved his instinct for realistic sound: „In the first years after college, I had to learn to trust my hearing again“ is the way he describes his change of mind, fed by his experience that theory and practice often didn't overlap completely.

### Development as „balancing act“

Based on this insight, he designed his measurement tools around his hearing: „Of course, a component first has to show its stuff in the lab. But when fine-tuning,

the measurements should follow the ear, not the other way around.“ When he describes his ideal sound, the word „balance“ often comes up; this not only means tonal equanimity, but also the even volume of all frequencies. In other words, he means the balance of gain and phase, i.e. its time response – and not just for speakers, but also especially for electronics.

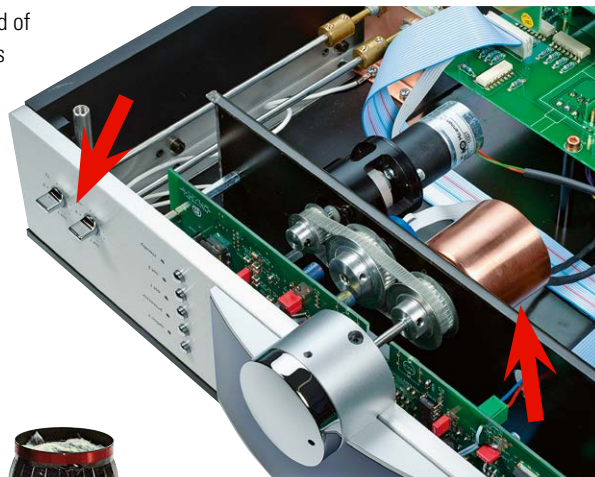
Detail can make or break a design and this can't always be measured in the lab: for instance, Reis likes carbon film potentiometers for volume control, saying they sound better than the more standard, modern resistor arrays, even though the latter are more precise on paper. And from time to time he listens to new relays or resistors in testing arrangements, for good reason: „If you use a wrong relay in the device, you can go nuts afterwards – you simply can't get the sound right anymore.“

Reis has a hard time backing his

Jürgen Reis appreciates the sound of classic carbon film potentiometers (arrows). For instance, including the gain control, the 5011 preamp features no fewer than three of them. The radial emitter for midrange and treble uses strips of carbon fiber. (below)



impressions of these phenomena up with rigorous scientific explanations, but he would rather observe the real world and draw his conclusions: „The first version



of the 1611 D/A converter had a precise stepped switch using high-quality metal-film resistors for its variable output, and in terms of pure technology it was ideal, with excellent measurements. But our importers and dealers would contact

## GERMAN QUALITY FOR AN INTERNATIONAL CLIENTELE

When I had to go to metalwork classes during my college years, I wasn't a big fan," Jürgen Reis remembers – but on joining MBL he was glad to be able to get to work on the milling machine to make his own parts. Today he no longer does it himself: all the work is done in the production facility.

The Berlin company produces its own mechanical components in Eberswalde, including the front plates (right), with only the electroplating (i.e. gilding, chroming, and coloring) outsourced to nearby companies, as is part of the circuitboard population process. But Reis still tries to get his hands dirty when he can.

Assembly, electronic alignment, testing and shipping are housed in the extensive production



buildings (below) – recently the production area for electronics has almost doubled. Reis keeps close tabs on this section, and likes to explain his technical concepts (left) to those building the products: "I want to let everyone know what is important about a device: the employees in production should understand why something has to be done this way and not another."

Development and production are thus a coordinated team, especially since the principal staff-members have been there for a long

time and know what the demands are. Owner Christian Hermeling explains that "MBL means hand-crafted and high-tech", and quality is paramount because these devices are often unpacked and used thousands of kilometers away. 90%

of MBL's output is exported to more than 40 countries – particularly Asia, where people are fanatical about HiFi nuts. There, MBL's reputation is on a par with that Mercedes has for cars – and in that Jürgen Reis plays a very significant part.



us and tell us the device just didn't sound right – it was too cool and sterile.

“I thought for a while about what makes the „sound“ of a resistor or potentiometer, and after a few experiments decided on potentiometers“ – he knew would be a great effort to achieve the same sonic results using a resistor ladder control.

Another point is the power potential and/or power supply of the amps: the 55-year old father prefers a „slightly springy“, if potentially softer, arrangement in order to preserve the „swing in the music“, especially in the bass range, as he often feels that strictly-designed concepts are too stiff and rigid.

### Think differently: less is more

This should have no impact on the damping factor of the amps, even though Reis has long since stopped believing that more is always better, after he experienced how crisp, rhythmic, differentiated and sophisticated tube power amplifiers can make basses sound – they really can make many transistors with ultimate degenerative feedback seem weak.



Jürgen Reis recorded baroque music with a few musicians from the Concerto Köln in the Abbey at Kempen am Niederrhein. He says it's a pure pleasure, and helps keep him close to the natural sound



„When I heard that I told myself: ‘Jürgen, you have to think differently. Bass control is not just about numbers.’“ Reis then learned that the bass signal can modulate the sound: „With a power amp with the lowest internal resistance, i.e. greater degenerative feedback and thus more effective damping, the bass signal can significantly change the medium and high range, which could lead to an artificial timbre.“

Reis has also studied digital filters intensively: „In a source, you can hear the time error better than frequency deviations, by a factor of three to five.“ This insight has consequences for the filter stages of the MBL digital devices: again, the focus lies on the balance of phase and frequency accuracy. The multi-talented technician with the emotional bent says he could go on for hours about this topic – that's how deeply he is immersed in it.

To find his own balance, Reis has picked up another passion: in addition to making and reproducing music he has also started recording it. For instance, he captured the piano playing of Martin Vatter, to be



heard on the latest STEREO listening test CDVII and, since MBL works with the renowned Concerto Köln orchestra, Reis has also recorded their sound.

As readily becomes clear when you talk to him, this jack-of-all-trades (and master of many) still retains a childlike excitement when dealing with HiFi and music. And you can understand why when you listen to the MBL sound.

*Matthias Böde*



PROFILE

- **Born in:** Erlenbach am Main
- **Hobbies:** music – listening, making, and recording – as well as being out in nature
- **Education:** Dipl. Ing. Electrical Engineering
- **Favorite food:** traditional Asian-
- **Motto of life:** Technology should also create emotions

# STEREO

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