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# STEREO

THE GERMAN HIFI MAGAZINE

ISSUE #4 2016

HIGH END  
2016  
**REVIEW**



› Call me DAVE  
Chord's new  
super-DAC

› Power Play  
4 integrated  
amps compared



**REVIEWS:** DYNAUDIO FOCUS 600 XD +++ ENTOTEM PLATO +++ NAIM NAC-N272 +++ NAIM NAP 250 DR +++ CANTON REFERENCE 9K +++ CYRUS PHONO SIGNATURE +++ AUDEZE LCD 4 +++ AVID DIVA II

**REPORTS:** GERMAN HIFI AROUND THE WORLD



# NIGHTHAWK

AROUND-THE-EAR SEMI-OPEN HEADPHONES



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# WARM (AND PRECISELY ASSEMBLED) GREETINGS FROM GERMANY!



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**T**his online version of STEREO is an international HiFi magazine produced in Germany, but designed to be enjoyed all over the world – rather like the hi-fi equipment made by our German manufacturers.

Almost anywhere in the world, German audio is loved and respected, and for two decades our manufacturers have been making waves around the globe. Today German brands like Burmester or MBL, Clearaudio or Transrotor – to name just a few – provide stiff competition for the famous American or English competitors, and in some cases have even replaced them. These manufacturers are well-known among the international audiophile community, and their products fill its dreams.

In this issue we examine why, when it comes to high-end audio, “Made in Germany” is so popular and respected. Of course, our hi-fi industry benefits from the excellent image of other German products, like cars and machines, on the worldwide stage, but its success is guaranteed only when it fulfils the promise of its origin, by delivering the highest quality of workmanship and sound.

And these parameters also inform the tests in STEREO, which we have designed to be serious, reliable and meaningful.

Have fun reading this new issue!

**Matthias Boede**  
editor@stereo-magazine.com

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

**GROUP TEST: POWER PLAY**

Two Italians, an American and a Brit – no, it's not the start of a joke, but the cast-list for our comparison of integrated amps. Audia Flight and Audio Analogue meet Icon Audio and McIntosh

**THE GREATEST SHOW ON EARTH**

The HighEnd show in Munich is now established as the world's biggest and most influential hi-fi event, with visitors from across the globe. STEREO was there to bring you the highlights

**CHORD ELECTRONICS DAVE**

The British company believes in doing digital its own way, using its extensive in-house expertise rather than off-the-shelf solutions. Is this its finest DAC to date?

**WORLD CLASS**

German hi-fi is appreciated worldwide, with enthusiasts appreciating the design – and the sound – of the likes of Burmester, Brinkmann and MBL. We investigate this export success



### CYRUS PHONO SIGNATURE

Look beyond the familiar 'shoebox' styling of this British-made phono preamp and you find something very special: a no-compromise design of great flexibility



### ENTOTEM PLATO

Making 'computer audio' simple has challenged some of the best designers in the business, but English company Entotem has developed one of the most complete solutions



### NAIM NAC-N272 AND NAP 250 DR

Having brought music streaming to the hi-fi arena with its Uniti and ND-ranges, now Naim combines a high-class network preamp with its latest power amp technology



### CANTON REFERENCE 9K

The clue's in the name of these compact, but top-class, standmount speakers: building on the success of the Reference 9.2, the German company has developed something really special



### AUDEZE LCD 4

Beyond the 'steampunk' looks is a high-end headphone design placing the LCD 4 at the head of the US company's range. Does it sound as good as it looks? You bet!



### AVID DIVA II

Diva by name, and a performer by nature: the latest Special Edition version of this British-made turntable has no shortage of star quality



We tested the following:

Audia Flight Three S	8
Audio Analogue Puccini Anniversary	10
Icon Audio Stereo 40 Mk III m	12
McIntosh MA 7900	14

# ALL AMPED UP

STEREO picked four very interesting and very different amp types and tested them in depth – potential cult characters from 2,550 to 8,990 €.

By Tom Frantzen





## HEAR - AND SOAR

Audia Flight has thoroughly reworked its entry-level model and increased its performance. It can also be upgraded.

**I**talian manufacturer Audia Flight has been in business for more than 20 years, and is a company with great vertical integration, including component selection and circuitboard assembly: Jan Sieveking of the German distributor assured us he's witnessed the design

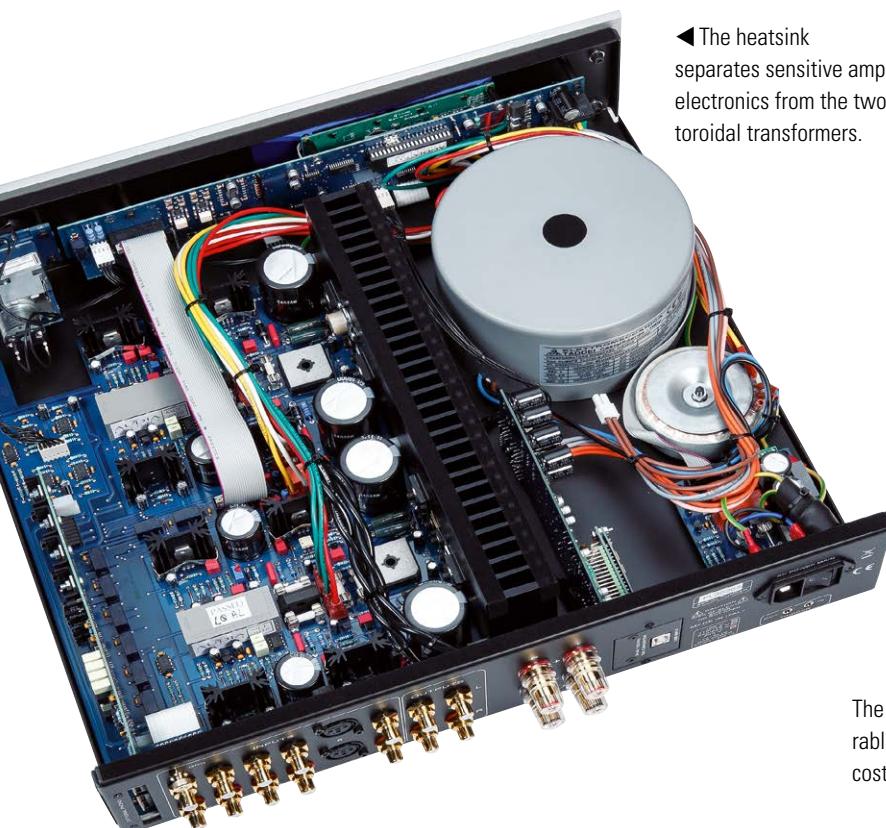
process during which individual components had been played against each other to win their place on the boards.

The Audia Flight „Three“ was for many years a sales success, officially, the Three S is a carefully modernized, performance-enhanced, but subtle revision.

However, in addition to a solid power increase, some deeper changes have also been made to the circuit design.

A striking catchphrase used for the Audia Flight is trans-impedance amplification: this is described as a kind of current-controlled voltage source, or current-voltage converter, in which an amp converts an input current into a proportional output voltage.

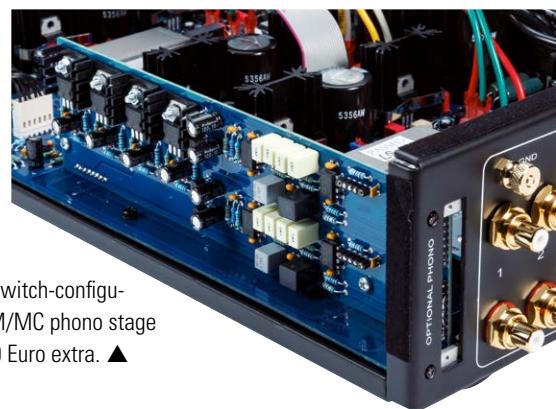
The inputs of the Audia Flight can be named arbitrarily and the display dimmed, and when turning off the device reduces its volume setting to a minimum, which will avoid surprises when turning it back on.



◀ The heatsink separates sensitive amp electronics from the two toroidal transformers.



▲ With the optional USB circuit board, the Audia Flight becomes an external sound card.



The DIP switch-configurable MM/MC phono stage costs 320 Euro extra. ▲

What's more, as well as a significant overall performance upgrade as part of their thorough reworking of the Three, the Audia Flight designers have also fitted a high-quality headphone amp – a sensible move in view of the current popularity of 'personal listening'.

### Good, expandable equipment

Home theater fans will be happy that one of the four line-level inputs can be configured as a direct input for the power amp, bypassing the preamp and volume control, for instance to accommodate the front left/right preamp outputs from a surround processor or receiver. The Three S also has a preamp output to feed active speakers, an external power amp or a subwoofer and, in addition to Rec Out sockets, has a these days less and less usual monitor/read-after-write setting for analog recording fans.

The Audia Flight also permits the installation of a high-quality MM/MC phono input board, selling for € 320 either at the time of purchase or as a later addition, and offering very flexible configuration via dipswitches including both impedance and capacitance. As an alternative, or for another € 360, a USB DAC board is available to turn the amp into a 24 Bit/192 kHz-compatible, high-grade sound card for the Mac/PC if so desired.

The double-mono construction of the device is striking, even though this is not carried through to symmetrical layout, as is the case in the other Italian amplifier

here, while the amp is also available in a choice of black or silver finish on the thick aluminum fascia.

The Audia Flight turned out to be the sonic surprise of the test group, despite its quite moderate price. It created a soundstage that extended past the speakers in width, depth, and even height, the image breaking free from the enclosures in impressive fashion. That's how it should be, but the sound is certainly impressive for just € 2600, as is the way it delivers very fine detail despite an overall presentation defined by power, extremer speed.

Meanwhile the amp's way with rhythms made us prick up our ears: its interpretation of Sacred Spirit's „Legends“ had us on the edge of our seats with ultra-deep bass, astonishing spatial effects and wild harmonica. The bass was effortlessly nimble, but underpinned by solid foundations, and despite the enormous playfulness, we weren't even annoyed by the rare, almost overly transparent HDCD version of the debut album „Come Away With Me“ by Norah Jones, whose existence continues to be a mystery.

At its base price, this amp's way with music is pure magic, and its highly developed musicality makes it a firm recommendation. We'd also suggest anyone interested should equip the amp with the phono or digital option, either right away or later as an upgrade: together, these options complete the Italian device and, while this pushes the price over the € 3000 mark, it is easily worth it.



▲ We received the Audia Flight with full equipment: the phono (left) and USB-DAC (right) inserts are easy to recognize.

### AUDIA FLIGHT THREE S



starting at € 2,600

Dimensions: 45 x 12 x 48 cm (WxHxD)

Warranty: 5 years,

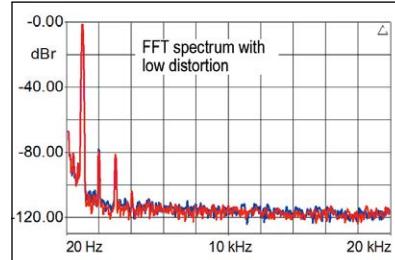
Contact: AudiaFlight,

Phone: +39 766/24387

[www.audia.it](http://www.audia.it)

Full, rhythmic, colorful, and swift as an arrow, the Three S sounds even better via its balanced input. An upgradable music machine of the top grade – for an affordable price!

#### MEASUREMENT RESULTS



Continuous power at 8 | 4 Ω 104 | 152 Watt per channel

Impulse power at 4 Ω 223 Watt per channel

Distortion at 50 mW | 5 W | Pmax -1 dB 0.03 | 0.14 | 0.2 %

Intermodulation at 50 mW | 5 W | Pmax -1 dB 0.04 | 0.03 | 1.7 %

Signal-to-noise ratio CD at 50 mW | 5 Watt 75 | 87 dB

Signal-to-noise ratio Phono MM | MC 5 Watt 79 | 76 dB

Channel separation at 10 kHz 46 dB

Damping factor at 4 Ohm 63/1k/14k (Hz) 11/10/10

Upper cutoff frequency (-3 dB, 4 Ω) >80 kHz

Load ratings practice-oriented

Crosstalk tuner/CD (10 kHz/5 kOhm) 83 dB

Timing error volume control up to -60 dB 0.2 dB

Power consumption On | Standby | Idle 0 / <2 / 58 Watt

**LAB COMMENTS:** Great performance with room to spare, overall very good values, the non-peak distortion and damping values indicate low degenerative feedback.

#### EQUIPMENT

Remote control, four RCA phono and one balanced high-level input, power amp input, headphone amp, phono MM/MC and USB upgradable..

#### STEREO-TEST

SOUND QUALITY 85 %

PRICE/PERFORMANCE

★ ★ ★ ★ ★  
OUTSTANDING



# ONE TO CELEBRATE

The Italian manufacturer Audio Analogue and its „Puccini“ integrated amplifier are both celebrating their anniversaries – and to mark this there's a special edition of the bestseller

**T**he Puccini has an impressive history in the story of Italian manufacturer Audio Analogue: the company's first product, the integrated amplifier is celebrating its 20th birthday, just like its creator – and to mark the occasion there's a special Anniversary Edition, designed to take the amp to a new level.

It may be called a Puccini, but really the only thing this model has in common with its ancestors is that name. The greatest feature of the Anniversary amp is the

absence of any global feedback: while some designers attest to the use of feedback for its lowering of distortion and improved damping to improve dynamic capabilities, and thus musicality, the Italian team led by Claudio Bertini takes a contrary view.

Indeed, it believes that the benefits of degenerative feedback – such as high input and low output impedance, stable amplification, power supply interference suppression, low distortion and

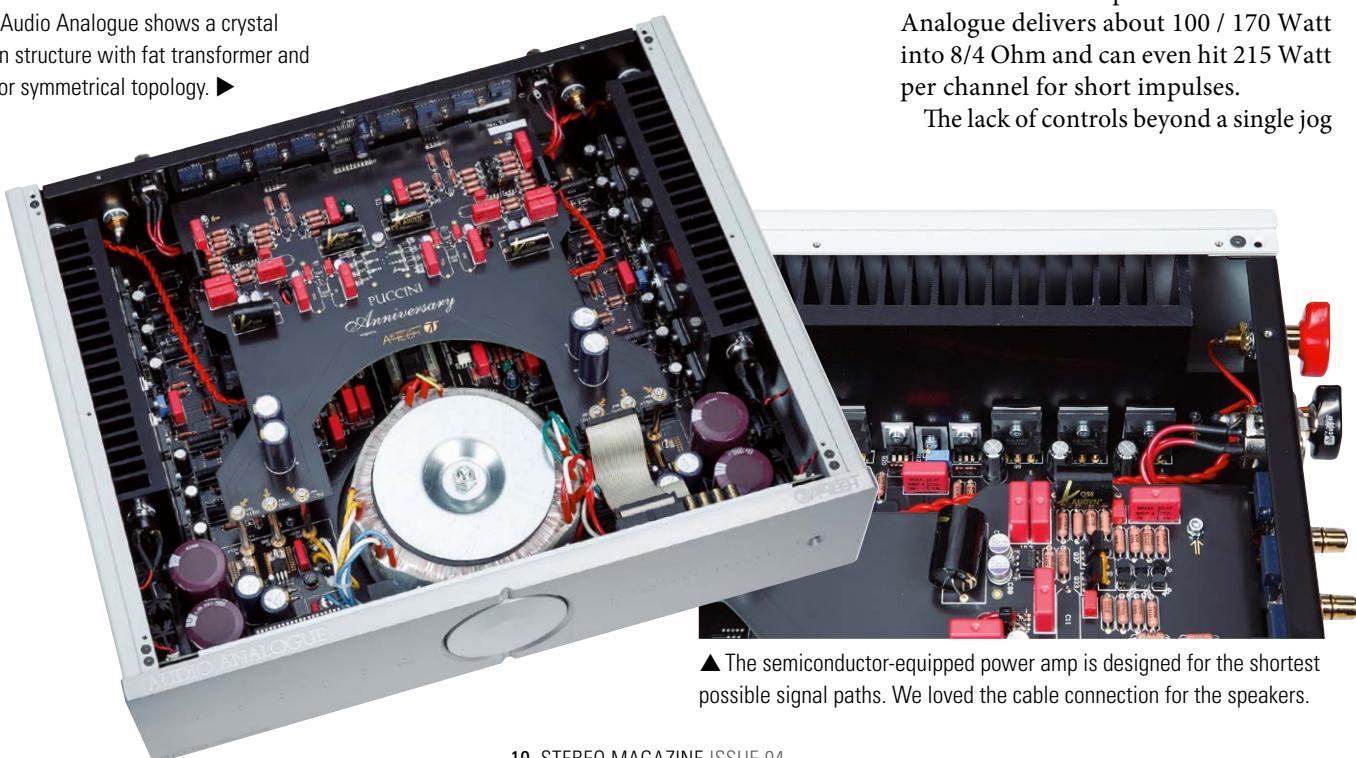
The operation of the purist Audio Analogue takes some getting used to, but the volume control can be tailored to the speakers in use.

stability – can be better achieved with the intelligent selection of components (high-gain transistors, toroidal transformer) and alternative circuit designs (e.g. DC servo).

The trade-off is slightly worse measurements on paper, with both damping and distortion/intermodulation in a rather moderate – though definitely not critical – range. But as we said, this is on paper: this latest Puccini may give the kind of measurements commonly seen from tube amps, but amps in that class can't match the output here. The Audio Analogue delivers about 100 / 170 Watt into 8/4 Ohm and can even hit 215 Watt per channel for short impulses.

The lack of controls beyond a single jog

The Audio Analogue shows a crystal clean structure with fat transformer and mirror symmetrical topology. ▶



▲ The semiconductor-equipped power amp is designed for the shortest possible signal paths. We loved the cable connection for the speakers.

dial for both volume and source selection is initially irritating, especially considering that the necessary remote control also looks a bit confusing at first glance. After a brief adjustment period, however, it all does make sense.

And Audio Analogue also offers an interesting, if unusual, feature: the use of four digitally-controlled potentiometers in the volume section means its possible to tailor the 'response curve' of the volume control to suit the speakers with which the amplifier is to be used. Four curves are available, for example offering greater volume increase at lower settings to suit speakers of low sensitivity, or a slower response for better control with highly efficient speakers. That's in addition to more prosaic adjustments such as channel balance and LED brightness, and indicative that, purist as the overall concept is, the Puccini is designed to be luxurious in its detailed functionality.

What's more, the new Puccini can take care of itself: in case of power amp overload left/right, overheating left/right, and DC Offset left/right, the protection system kicks in reliably and informs the user of the reason via a code on the LED front panel. We like this.

### Opulent seducer

The Audio Analogue spent the most time in our listening rooms – purely by accident, as it returned from the photo studio before the others. So we had lots of time to get to know this heavy-hitter, and it quickly became apparent that it had virtues usually attributed to the tube amps, combined with transistor power. With Yello's "Oh Yeah" it dives deep into the bass with physical, fundamental

force, while Nils Lofgren's "Keith Don't Go" sees it throwing itself into the curves of the guitar body, depicting the instrument with tremendous solidity. Temperamental, full, spacious, lively, and yes, magnificent, possibly a little rounded instead of ultra-sharp, it soon demonstrates the appeal of its alternative to the analytic approach so often held up as the ultimate aim.

I personally prefer such an integrated top-rate experience to detail overkill, and I'm pretty sure the composer whose name the amplifier carries would see/hear things in the same way, and greatly enjoy the presentation here.

Not by coincidence, we kept noticing that the Audio Analogue was able to shake the smaller STEREO sound studio – of around 24m<sup>2</sup> – with a tremendous, seemingly four-dimensional wave of power. We can't recall any other amp being able to do that.

Even the already overwhelming presence of Amanda McBroom in "Dusk", "The Rose", or "The Portrait" became so addictive that we listened to all three in a row and then got annoyed that "When Hearts Collide" and "Dreaming" are on different, currently not available discs – all as a result of the seductive charm and revealing flexibility of the Puccini. The amp virtually screams for Luciano Pavarotti, and we serve the great man up as a "duet" with the boy band "Boyzone" in their live recording of "No Matter What They Tell Us", revealing a musical, empathetic amp with which you can grow old, combining warmth, melodiousness, and verve. The Puccini Anniversary is a highly musical, extremely impressive example of its kind – wonderful!

### AUDIO ANALOGUE PUCCINI ANN.



approx. € 3,850

Dimensions: 45 x 13 x 42 cm (WxHxD)

Warranty: 2 years,

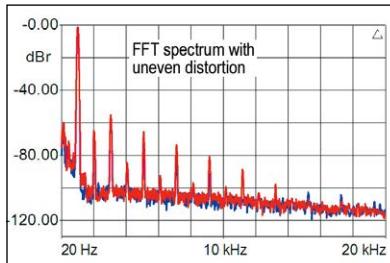
Contact: Audio Analogue

Phone: +39 0572/030964

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

The Audio Analogue sounds like a tube-semiconductor hybrid, but it's all solid state: it's colorful, spacious, agile, powerful, and slightly warm. A great musical talent!

### MEASUREMENT RESULTS



Continuous power at 8 | 4 Ohm 95 | 65 Watt per channel

Impulse power at 4 Ohm 215 Watt per channel

Distortion at

50 mW | 5 W | Pmax -1 dB 0.2 | 0.08 | 0.3 %

Intermodulation at

50 mW | 5 W | Pmax -1 dB 0.3 | 0.2 | 1.3 %

Signal-to-noise ratio CD at 50 mW | 5 Watt 67 | 77 dB

Channel separation at 10 kHz 53 dB

Damping at 4 Ohm 63/1k/14k (Hz) 33/30/27

Upper cutoff frequency (-3 dB, 4 Ω) >80 kHz

Load ratings practice-oriented

Crosstalk tuner/CD (10 kHz/5 kOhm) 64 dB

Timing error volume control up to -60 dB 0.05 dB

Power consumption

On / Standby / Idle 0 / <2 / 28 Watt

**LAB COMMENTS:** High output power with plenty in reserve. Distortion values and damping factor are moderate, which is part of the low negative feedback concept of the amps. The signal-to-noise ratio could be better.

### EQUIPMENT

Remote control, four RCA phono high-level inputs and one balanced XLR in; central jog dial for volume control and input selection, further settings such as balance in setup via remote control. Connection for a pair of speakers, hard power switch.

### STEREO-TEST

SOUND QUALITY 87%

PRICE/PERFORMANCE

EXCELLENT



▲ The dual-mono structure continues all the way to the connection, making it logical that the power supply sits in the middle.



We have seen the very refined metal remote control transmitter with stainless steel balls as buttons before.

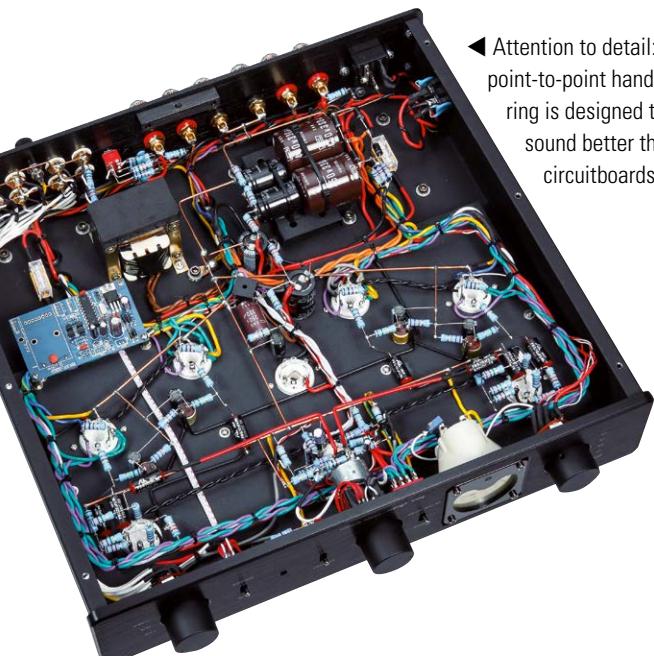
## LEICESTER CHAMPION

Icon Audio specializes in fantastic tube amps, and this first encounter suggests we should listen more...

The only representative of the glass tube family in this test comes from Icon Audio, a British company which has been lovingly hand-crafting amps for more than 16 years Leicester, the city recently "put on the map"

by the success of its football team. And there's more to it than mere assembly: the components are made in an in-house factory and built, adjusted, tested, and run-in on-site. The Stereo 40 Mk III offers four different versions, defined by the

choice of tubes, and we opted for the „M EL 34“, using standard EL34 power tubes in push-pull operation and the possibility to switch between triode and (ultra-linear) pentode mode. Triode drive claims sound benefits especially for acoustic instruments, while pentode working can get almost twice the power from the EL34 at more than 40 Watt per channel, so the triode vs. pentode fight is as old as high fidelity. A good thing,



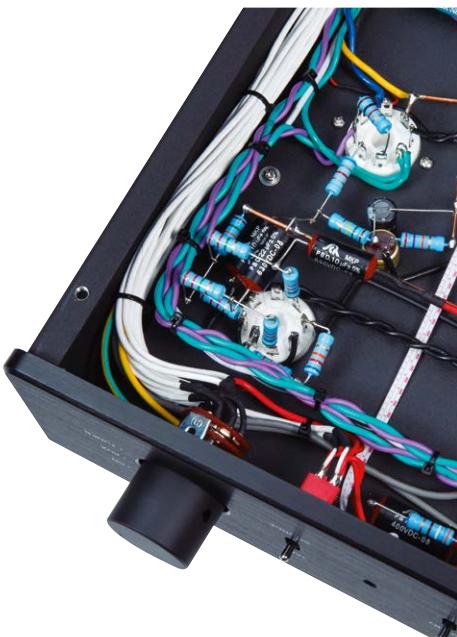
◀ Attention to detail: point-to-point hand-wiring is designed to sound better than circuitboards.



▲ Laudable: The input sensitivity can be switched between low and high



▲ The bias setting of the output tubes is simple due to the meter fitted.



▲ Hand-wired, very high-quality components populate the interior of the Icon.

then, that Icon Audio joins both worlds with this device and leaves it up to the owner from song to song.

The Class A driver and phase-inversion section have triodes (1 x 6SL7/6N9, 2 x 6SN7), while the preamp section of the Icon comes with pure silver Teflon-sheathed cables, and an especially high-quality, passive ALPS precision potentiometer for volume adjustment.

### Hand-wiring and more

The amp is remote-controllable, but built in the old way: components are hard-wired together (by hand) rather than put on a circuit board. This isn't just a homage to the past: Icon Audio does it because it says it sounds better, and while high-quality capacitors are standard, Jensen copper foil types are available for an extra € 450.

The Icon designers think a good tube amp should employ tube rectification (here with 274B/GZ34) and choke regulation for the power supply voltage, while the high-quality output transformers use not two windings but three, chosen to reduce distortion and require less negative feedback in the.

This third generation of the tube amp weighs 25 kg, making it more than 50% heavier than Icon Audio's original version, and uses a thick metal fascia and a clever Plexiglas tube cover. In short, the Brits want to make the High End affordable with this device.

As already mentioned, this model can also be ordered and used operated with 6CA7, KT66, KT77, KT88 or 6550 output tube, with the bias of the individual tubes are easily adjusted. According to the manufacturer, the input stage's four inputs are designed for use with sources of 250mV output or above, with this sensitivity switchable, and all the inputs and the 4-16 Ohm speaker outputs are gold plated.

Very laudably, each amplifier comes with its own inspection log, showing a level of effort rare these days, at least not in the 2,500 Euro price class, and while Icon Audio recommends at least 30 mm of space above the amp for ventilation, we'd suggest adding at least another 20/30 mm.

Once again this group is demonstrating that the stereotype of „warm-soft“ tube amps and the „bone-dry“ transistor really is a fairy tale, but the Icon Audio really does sound magical, in particular in triode mode with the ethereal singing of Eva Cassidy, and is just as gentle and colorful as you could desire it. It's an extremely convincing experience, evoking pleasant shivers with its combination of fluidity and substance.

In ultra-linear pentode operation you can definitely hear the amp become more dynamic and peppier, yet at the same time tighter and less opulent. The sound is more realistic and thus more useful for everyday life, for example when zapping through various music styles, and especially for snappy pieces like Thelma Houston's „I've Got The Music In Me“.

That said, the owner will still occasionally return to the wonderfully musical triode sound when relaxing to chamber or vocal music – after all fairy tales are nice. This is a top tube amp for a decent price!

## ICON AUDIO STEREO MKIIIM



approx. € 2,550

Dimensions: 39x23x41cm (WxHxD)

Warranty: 2 years (90 days for tubes)

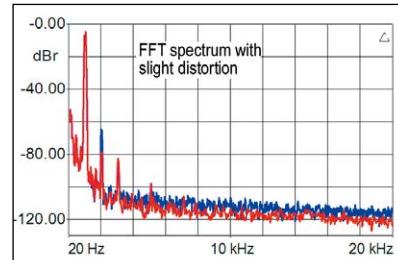
Contact: Icon Audio

Phone: +44 116/2440593

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

Icon Audio delivers a mature, well thought-out, and universal tube power amp which sounds great, especially due to the triode/pentode choice.

### MEASUREMENT RESULTS



Continuous power at 8 Ω Ultr. | Trio. 42 | 23 Watt / ch.

continuous power at 1 Ω Ultr. | Trio. 41 | 22 Watt / ch.

Impulse power at 4 Ω Ultr. | Trio. 47 | 29 Watt / ch.

Distortion at 50 mW | 5 W | Pmax -1 dB 0.04 | 0.3 | 0.6 %

Intermodulation at 50 mW | 5 W | Pmax -1 dB 0.3 | 0.22 | 2.4 %

Signal-to-noise ratio CD at 50 mW | 5 Watt 78 | 91 dB

Channel separation at 10 kHz 69 dB

Damping at 4 Ω 10

Upper cutoff frequency (-3 dB, 4 | 8 Ω) 18 | 32 kHz

Load ratings practice-oriented

Crosstalk tuner/CD (10 kHz/5 kΩ) 79 dB

Timing error volume control up to -60 dB 0.5 dB

Power consumption On | Standby | Idle 0 / 66 / 103 Watt



**LAB COMMENTS:** We find the frequency response at the 4-Ohm pickups a bit narrow. One should also try the 8-Ohm pickup with 4-Ohm speakers.

### EQUIPMENT

Remote control, four high-level inputs, bias adjustment (VU meter), triode/pentode switch, hand wiring, 4/8 Ohm pickup

### STEREO-TEST

SOUND QUALITY	83%
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PRICE/PERFORMANCE
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★ ★ ★ ★ ☆ EXCELLENT
---------------------



## BLUE HORIZON

A „Big Mac“ is always something special – at least in amp form – so kudos to the people in Binghamton for their successful transportation of a legendary design into the digital age.

You can spot a McIntosh amp a mile off: the „blue eyes“, in form of modern LED-lit VU meters are unmistakable. That's as true with the MA 7900, the second most powerful model in the range of the American manufacturer, as it is when you spot the distinctive

needles kicking in the background of well-known US series such as CSI Las Vegas (in which McIntosh amps feature in the home of the main character Dr. Gilbert „Gil“ Grissom).

Even after more than two decades as technical journalist and tester, I'm

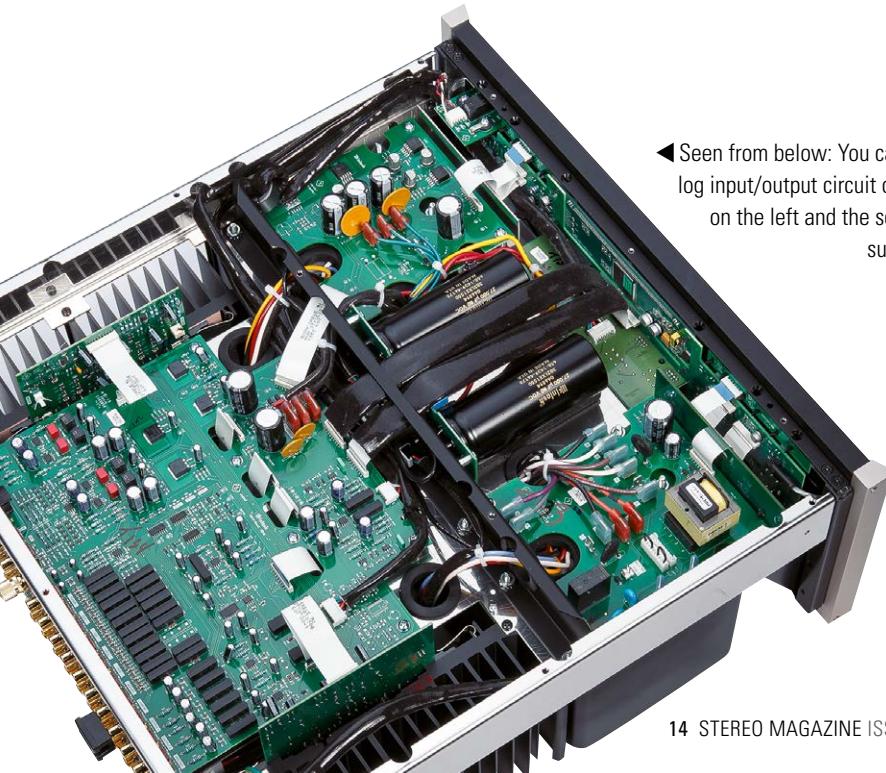


◀ The universal remote control can do a great deal, but feels a bit out of place in this range.

spellbound by the aura and effect of this brand: there are products which make your hands sweat, which make you shuffle your feet if things take too long in the photo studio or during set-up, when all you are waiting for is to hear the thing go, and the US cult brand is at the top of that list.

McIntosh has never suffered from exaggerated purism: its pre and power amps always had plenty of dials and buttons to set or large, blue VU meters to read, even when others went for a simpler, more subdued look. That flamboyance is OK – after all, the recently-passed pontiff of amp design, James Bongiorno (SAE, GAS, Sumo), once said that he could never imagine developing an amp depriving the user of any chance to adjust the sound. I feel the same: the use of a „better“ sound control in the form of an equalizer is desirable, and the MA 7900 has such a mighty sound control network with five bands on board. Of course!

In its latest amp generation, McIntosh has decided to ‘do digital’ and, while we didn't see this in the previous MA 6900, the ‘7 Series’ has acknowledged the modern requirement, and now packs



◀ Seen from below: You can see the analog input/output circuit of the McIntosh on the left and the screened power supply to the left.

a high-quality DAC, aka the „McIntosh Digital Engine“, designed to offer uncompromising performance for digital sources.

The three inputs – optical, coaxial, and asynchronous USB – each accept signals up to 32 Bit/192 kHz, and in addition there's also expanded analog capability: compared to the MA 6900, the MA 7900 has gained compatibility with MC phono compatibility, with two separate inputs available for turntables.

Riding another current trend, a high-quality headphone amp is also installed, good for headphones of 20 to 600 Ohm: clearly the Americans want to sell a complete package with a large power amp, making superfluous future add-ons, especially third-party ones.

## TEST-COMPONENTS

**TURNTABLE:** Transrotor Rondino nero/SME 5009/Transrotor Figaro

**PHONO-Pre:** Brinkmann Edison

**Multi-Player:** T+A MP 3000 HV

**PRE-/POWER AMP:** Acoustic Arts

Tube Preamp II Mk2, Amp II Mk2

**AMP:** AVM Ovation A 6.2,

Symphonic Line RG 9 MkIV Ref.

**LOUDSPEAKER:**

B&W 802 D3, DALI Epicon 6

**CABLE:** In-Akustik, HMS, Supra

impedances of speakers. What's more, transformers can be a source of distortion, so some tube designers have attempted to build amps without them, using so-called 'Output Transformer-Less (or OTL) circuit layouts.

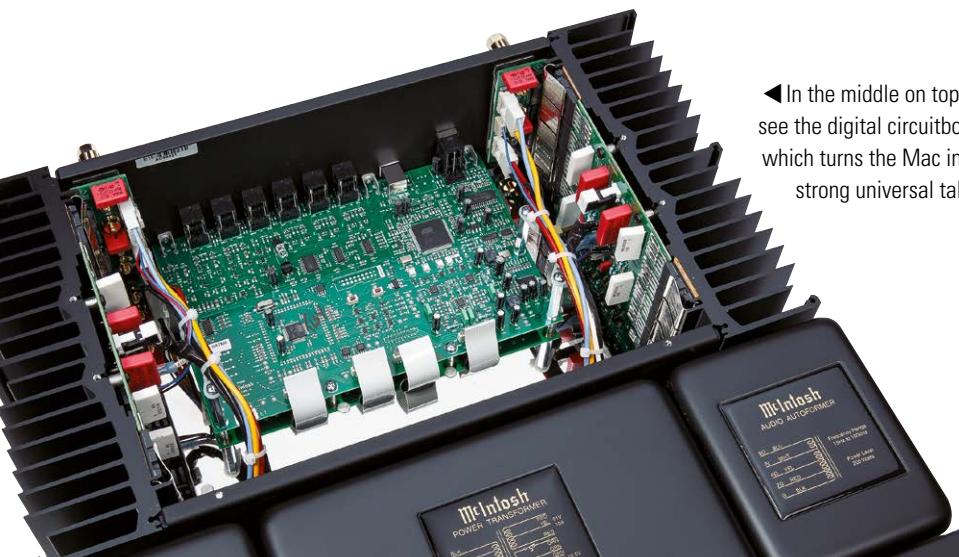
Not McIntosh. While the MA 7900 is a transistor/tube hybrid design, it makes life hard for you before you start listening, its two additional transformers contributing to a significant 34 kg weight.

Make sure you're feeling strong, or have a friend to hand, before setting this one up, and remember that some shelves may also have a problem with this mass, not to mention the amp's 56cm depth - make sure you have space for your cables.

It's worth all the effort: the MA 7900 sounds majestic and powerful in the STE-

REO sound booth. They say the 8 Ohm speaker 'tap' of the autoformers often sounds the best, even with 4 Ohm speakers, so of course we tried this, and would agree without reservations, at least in terms of the DALI Epicon 6. The combo sounds more open and tighter than with the 4 Ohm tap.

The control and calmness of McIntosh amps is legendary: it's solid and steadfast, its timbre slightly warm and definitely a bit darker, although never over-smoothed. Gliding through scores with poise and agility, it just waits for the



In the middle on top you see the digital circuitboard, which turns the Mac into a strong universal talent.

## MC INTOSH MA 7900 AC



approx. € 8,950

Dimensions: 44.5x19.4x56 cm (WxHxD)

Warranty: 5 years

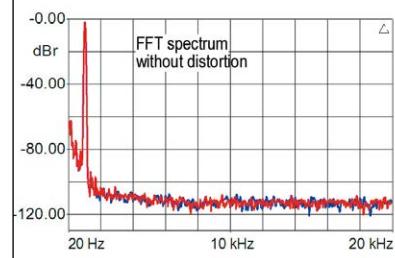
Contact: McIntosh

Phone: +1 607/7233512

www.mcintoshlabs.com

An overwhelming power amp masterpiece in every respect with excellent, complete equipment, enormous sound potential and a look that gets you to your knees.

## MEASUREMENT RESULTS



Continuous power at 8 | 4 Ohm 234 | 204 Watt per channel

Impulse power at 4 Ohm \* Watt per channel

Distortion at 50 mW | 5 W | Pmax -1 dB 0.007 | 0.002 | 0.001 %

Intermodulation at 50 mW | 5 W | Pmax -1 dB 0.004 | 0.002 | 0.03 %

Signal-to-noise ratio CD at 50 mW | 5 Watt 70 | 89 dB

Signal-to-noise ratio Phono MM | MC 5 Watt 81 | 78 dB

Channel separation at 10 kHz 67 dB

Damping factor at 4 Ohm 63/1k/14k (Hz) 33/33/41

Upper cutoff frequency (-3 dB, 4 Ω) 70 kHz

Load ratings practice-oriented

Crosstalk tuner/CD (10 kHz/5 kOhm) 70 dB

Timing error volume control up to -60 dB 0.002 dB

Power consumption

On | Standby | Idle 0 / < 2 / 53 Watt

**LAB COMMENTS:** High output power and extremely low distortion level. Good to

excellent values throughout. The low damping factor is

due to the output transformers. The upper cut-off frequency is surprisingly high. \*protection switch kicks in.

## EQUIPMENT

Remote control, phono MM/MC, complete D/A converter, symmetrical/asymmetrical inputs, output transformers

## STEREO-TEST

**SOUND QUALITY** 96 %

**PRICE/PERFORMANCE**

**EXCELLENT**



*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.

decisive moment to expose its full glory and reach out with so much dynamic power that you are left open-mouthed.

## Music in 3D

Music spreads opulently through the room: in front of a pitch-black backdrop, thanks to the absence of any noise, it feels enormously three-dimensional and solidly planted. The Mac is no detail-obsessed lightweight, although it is unexpectedly fleet-footed, with good speed, enormous oversight, and no shortage of agility. And the bass is in a league of its own...

Combined with speakers able to demonstrate these attributes – substantial-sounding also peppy, so think large Bowers & Wilkins, Elac or Magico models, or high-resolution panel radiators like Martin Logans – you get musical experiences of McIntosh kind: it's unmistakable, idiosyncratic – and this is exactly why people like it.

The automatic impedance adjustment in the output transformers ensures that the McIntosh doesn't give a hoot what's connected to its speaker terminals, even tackling speakers dipping down to 2 Ohm, which would give other, even expensive, amps severe headaches. The MA 7900 can barely

### KEYWORD

**Output transformers:** Special transformers to connect the speakers, used especially for tube amps for impedance adjustment.

„see“ the gaping and power-draining impedance hole, especially in the bass range, due to giant buffers and virtually limitless power supplies.

On which subject, we measured output at just over 200 Watt at 4 Ohm, 234 Watt at 8 Ohm, 17 % more than stated by the manufacturer. Any speaker can profit from this capability – and with the speaker question dismissed, the amp never fails to make every listening session an event.

▲ The pre/power amp section can be split up. The variety of connections is clearly visible.

The MA 7900 serves up an emotional and elegant view of AC/DC's „Thunderstruck“, which makes the walls shake, then lets Vivaldi's „Four Seasons“ flow without there ever being any sense that the violins may shriek. Fantastic.

As the song says, „Somewhere over the rainbow“: well, here it's blue meters, not bluebirds, flying, but there aren't many better amplifiers better beyond this one, especially when you consider both the sound and the visual appeal. Then the competition starts to look a bit distant...

## CONCLUSION



**TOM FRANTZEN**  
STEREO Editor

It is no secret that I find amps especially exciting. I own more amps than any other kind of component, and I deal with them the most, including bi-amping so on, and am particularly fascinated with the effect of power supplies on the sound and performance of amps.

Of course, I've heard the claim that all properly-designed amps sound the same, at least when you plug them into good-natured speakers – no offense intended but, based on almost 40 years of HiFi experience, half of which has been as a professional tester, this is patent nonsense, on a par with „The earth is flat“.

The differences are huge, and not just with difficult speaker loads: the four amps in this test – plus the AVM and the comparison devices by Accuphase, Exposure, Lus, Symphonic Line & Co. run up at the same time in the STEREO sound studio – show such significant fingerprints using the same speakers that curiosity alone will get you to work extremely early with stack of your own CDs, just to get a feel for their standing and tendencies.

Every test candidate revealed its particular strengths, and while you'd expect special things from the € 9000 McIntosh, the spice in the chili of testing – and the essence for readers who make normal amounts of money – are the surprises here. Those came when the anniversary amp by Analogue Audio, that British triode/pentode tube amp by Icon Audio, and more than anything the affordable, upgradable Audia Flight, each took off into the ether in terms of musical performance at significantly lower prices. In this test field we found just about everything amp technology

can offer today: tubes vs. transistors, triodes vs. pentode, negative feedback vs. „none“, transformer technology vs. mainstream topology, phono vs. high-level, digital vs. analog. The lot, in other words!

The McIntosh is a undeniably a feast for the eyes and technically outstanding: simply a cult object, with the right speakers it makes an almost unbeatable statement. But in the 3000 Euro range (one third of the price!) there are also outstanding contenders: we liked the Audio Analogue as an extremely potent all-rounder with charm and a good dose of fun; the audiophile Icon Audio has the looks and will suit the tastes of lovers of classical tube technology; and the arrow-true, charming and spacious-yet-smooth Audia Flight basically makes you sit there with your mouth open.

How does it go in one of the current charts hits? Ah yes, „I Wasn't Expecting That“! It's a lot of fun – especially considering that you can own it starting at just € 2,500. I will definitely be volunteering for the next amp test...





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# HIGH ACHIEVERS

Never before has the annual High End show had as many exhibitors or offered more new things. STEREO took a look around, and brings you the highlights.



## ▲ A VISION OF A SYSTEM

Elac was blasting its new „Concentro“ speakers (about 60,000 Euro/pair) on the end of Burmester electronics. The sound? Crisp and precise, yet fluid and natural.

**D**espite the great spring weather, what has become the most important HiFi trade fair in the world was able to attract about 20,000 visitors. The annual High End show, held in Munich has moved on a little from its roots, and is no longer an exclusive stage for only the most expensive High End exhibits, but rather a showcase for audio in all

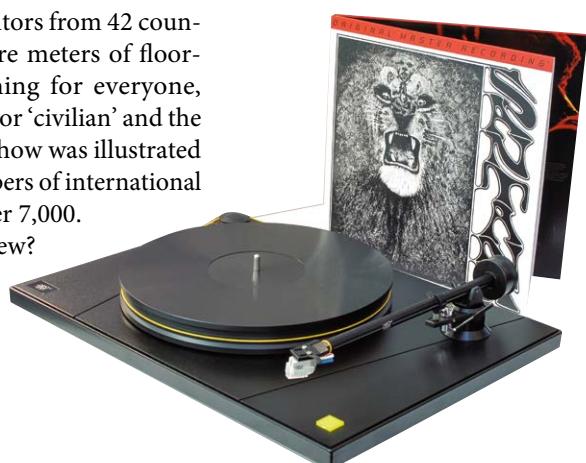
its forms, where 500 exhibitors from 42 countries covered 28,000 square meters of floor-space. There was something for everyone, whether industry member or ‘civilian’ and the world-class nature of the show was illustrated by the increase in the numbers of international professional visitors to over 7,000. Want to know what was new?

OK. Here it goes!



## ◀ TWO-PACK AMPS

Building on its slimline MONOII power amps, Accoustic Arts revealed the heftier MONO III model, at €24,000/pr. Two 1600VA transformers feed each monoblock, which features 24 selected MOS-FETs at the output, designed to deliver up to 1100 Watt into 4ohms.



## ▲ TURNTABLES FROM A RECORD COMPANY

The US company Mobile Fidelity Sound Lab, known for its „Halfspeed Master“ reissues of famous music albums, is launching two record players, selling at around about 1200 and 2000 Euro (top). Both models have a 10in tonearm, Delrin platter and pulley and an AC synchronous motor. The analog buff Allen Perkins developed them.



## ► NEW CONTOURS ▶

Dynaudio's new „Contour“ line replaces its predecessors after 14 years: product manager Roland Hoffmann presented one compact and two floorstanding speakers with a sleeker design (about 4500, 7000, and 9000 Euro/pair).



## ◀ BASIC TURNTABLE BY PE ▶

PE boss Wolfgang Epting presented his new entry-level record player, the PE1000 (about 1,300 Euro). There's a choice of finishes, and the design uses a solid chassis and damped feet, and PE's own tonearm.



## ▲ CLASSIC WORTH WAITING FOR?

Nagra is expanding its Classic series with the roughly 17,500 Euro „Classic Preamp“ (top l.). The tube preamp's features include a display and a headphone jack, but it won't become available until September.



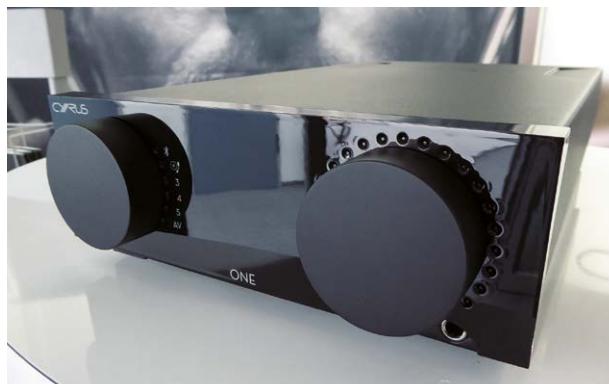
## ◀ SLATE STATUE

Fischer&Fischer's new SN1000.1 AMT flagship speaker (about 64,500 Euro/pair) is built from four slate modules and includes many of the company's design traits, from the BCD system („Bass Compression Drive“) with multiple woofers – two each in the bass and sub-bass sections – to the custom-built AMT (Air Motion Transformer) tweeter. The 1.62m-tall speaker weighs about 300 kg and stands on a thick aluminum base.



## ▲ SLENDER LOOK

Einstein's two-way „The Pure“ speaker (about 40,000 Euro/pair) is designed by Annette Heiss, with active bass and a filterless midrange. The tweeter comes in gently with 6 dB/octave.



## ◀ BACK TO ITS ROOTS

The new Cyrus „One“ amplifier is compact and minimal, but as well as five analog inputs, including phono, also has built-in Bluetooth. It's slated to hit stores in the second half of the year, at €999.



### ▲ PRO-JECT'S S-TONEARM AND QUICK-CHANGE HEADSHELL

The Austrian analog specialist showed a series of record players whose tonearm permits a quick change of headshell. Depicted: Pro-Ject's „Xperience S-Shape“ for 1,500 Euro without cartridge, rising to about 2,000 Euros with the new Ortofon SPU #1.



### ▲ COMPACT PREAMP FOR „DIGITAL NATIVES“

The „musicbook: 10 DSD“ by Lindemann uses symmetrical mono D/A converters and upscales all PCM digital signals before conversion using its 352.8/384 kHz, 32 bit DACs. With Bluetooth aptX and built-in headphone amp, it sells for around 3,280 Euros.



### ▲ ALUMINUM SPEAKERS BY AVID

Previously best-known for its turntables, the British company used Munich to launch a line of speakers with aluminum housings and drivers with titanium voice-coil formers. Avid boss Konrad Mas tells us the new Reference series will cost 50,000-180,000 Euro/pair



### ONE SIZE BIGGER ▶

Focal's „Sopra No3“ (about 18,000 Euro/pair) builds on the company's „Sopra No2“ floorstanding speaker with larger bass drivers and a more generously proportioned enclosure. The presentation made us curious, so a test will follow soon.



### ▲ KEN'S MASTERWORKS

The Marantz 10-series components will be flexible and strong-sounding, according to „Brand Ambassador“ Ken Ishiwata. The SA-10 SACD player offers digital inputs and also reads DSD signals, while the PM-10 integrated amplifier uses separate power supplies for its two power amps. Price: about 7,000/8,000 Euro.



## ◀ Q ACOUSTICS REACHES FOR THE STARS

The UK-based manufacturer's brand new top model, the "Concept 500", will cost around €3,500 a pair. The company worked closely with well-known German speaker designer and engineer Karl-Heinz Fink to create this ambitious floorstanding loudspeaker.



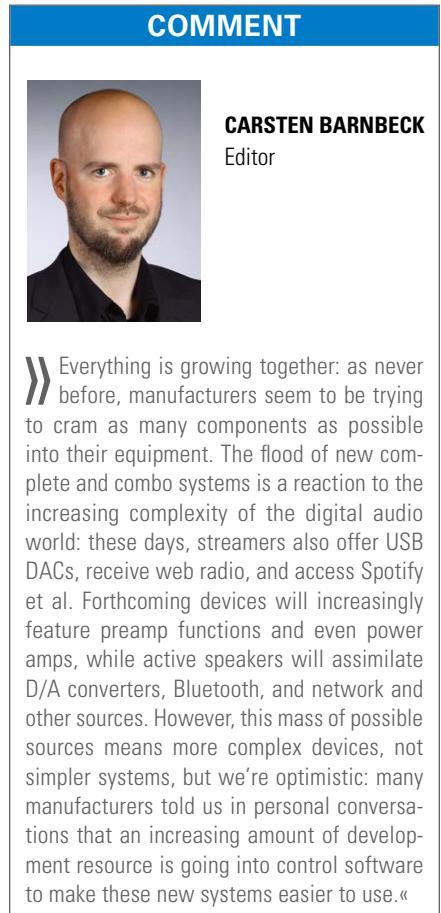
**▲ KEF AND LINN GO HAND IN HAND**

KEF has become the first speaker manufacturer to adopt Linn's 'open source' Exakt technology, designer Jack Ocleo-Brown writing a new active crossover for the company's Reference Five floorstanders to run on Linn's Exakt system. In the future there will be customized crossovers for Reference models, replacing the speakers' internal passive circuitry and giving fully active working. At the show, KEF and Linn demonstrated the concept with Arcam power amps.



## GLASS MEMBRANES ►

One of the best demonstrations was from LEEDH, the French company showing a delicate subwoofer / satellite system with mid-range drivers and tweeters using glass membranes (depicted).



COMMENT



# CARSTEN BARNBECK

Editor

Everything is growing together: as never before, manufacturers seem to be trying to cram as many components as possible into their equipment. The flood of new complete and combo systems is a reaction to the increasing complexity of the digital audio world: these days, streamers also offer USB DACs, receive web radio, and access Spotify et al. Forthcoming devices will increasingly feature preamp functions and even power amps, while active speakers will assimilate D/A converters, Bluetooth, and network and other sources. However, this mass of possible sources means more complex devices, not simpler systems, but we're optimistic: many manufacturers told us in personal conversations that an increasing amount of development resource is going into control software to make these new systems easier to use.«



▲ MAGICAL FILMS

Stax showed two new electrostatic headphones in the classical rectangular design: the SR-L500 Pro / SR-L700 Pro (about 900/1,700 Euro) were very comfortable to wear and displayed the transparency typical of this manufacturer. A test is upcoming.

## COMMENT



**MATTHIAS BÖDE**  
Editor

» Am I in the wrong century? Yes, it's old news that record players are making a comeback, but I didn't expect this flood of new turntables, tonearms, cartridges and complete vinyl solutions: this phenomenon has long since gone beyond short-term hype. While CDs are slowly fading out – though don't start the funeral while the victim is still kicking – many listeners are going back to the future, and it's great that you don't have to be rich to join in. You can get a good vinyl turntable for a few hundred Euros. Thus the (analog) world turns – and turns back to the past: tape decks have also been spotted here and there, and sensationally a brand new reel-to-reel machine is due at the end of the year (see below), at about 4,000 Euro. Now I'm sure: we're going back to the future. Or something...«



### ▲ SOLID PRESENTATION

Acoustic Solid has built a real gem in black and gold with the „Solid Wood Referenz“ turntable. To get one you need to shell out 9,100 Euro – plus arm.



### ▲ MAKING GOOD PROGRESS

Progressive Audio showed off its active speakers, the €7400 Modell 1 (left), and also showed the new Amp 901, which sounded very convincing in pure Class A setting, and uses silicon carbide transistors by Infineon. Price: 11,500 Euro.

### ▲ INVESTMENT THEORY

After having focused on the analog track for a long time, Brinkmann now exploded back into the digital scene with the „Nyquist“ DAC, offering PCM playback up to 284kHz/32-bit and DSD64/128 and a modular design said to make it an 'investment quality' digital component. The price has not been set yet.



### ◀ SOON TO BE DISCOVERED

We will keep our report on Elac's „Discovery“ music system short: the promising 1,000 Euro streamer will be arriving in our editorial office in the next few days!



### ◀ MINI BECOMES MAXI

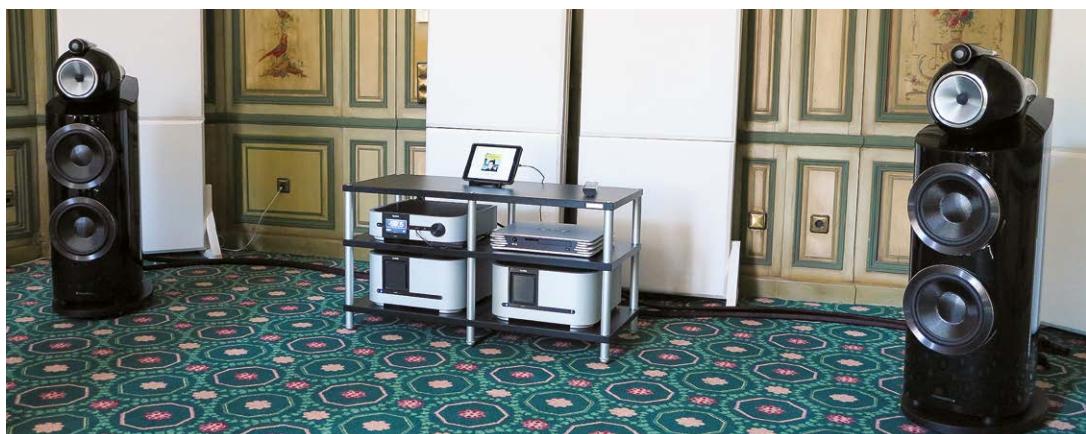
Auralic presented the „Altair“, which is basically the premium version of its notoriously sold-out „Aries Mini“: it's a fully-loaded streamer/DAC/preamp, with upgrade options to an SSD server. The price target is 2000 Euro – we want to try it!

## THE SENSATION AWAY FROM THE EXHIBITS

The latest 800 Series Diamond speaker range from series by Bowers & Wilkins was launched last autumn, but something was missing – the flagship 800 D3, at €30,000/pr. Parallel to High End, the speakers were at last shown to a small circle of retailers and journalists for the first time – with a big surprise. Though the new model is barely larger or weightier than the 802 D3, it uses twin 25cm woofers in place of the 20cm drivers, the British company – fresh from its sale to Silicon Valley – showing it thinks beyond others. You see, despite the similarities to the 802 D3, the new range-topper is about less rather than more, with distortion reduced by a factor of 10 in the bass range – also clearly benefiting the midrange.

### MUSICAL TRIO ▶

The 800 D3 (left) next to its smaller 802 and 803 siblings. No, the new speaker isn't huge, but it's astonishing the additional qualities the designers have conjured up without much increase in size. If you can fit the 802 in your room, you can fit an 800. In stores (probably) from September.



### ◀ FINE SOUNDS

Product manager Ulf Soldan gave a convincing demonstration in the „Bayerischer Hof“ hotel, using various types of music and an Aria streamer/server and amps by Classé. (Box at end)



### ◀ TURNTABLE CITY

The Transrotor team uses about 400 kg of brass for its new „Metropolis FMD“ star turntable (starting at 148,000 Euro). The parts are either chromed or gold-plated and form a wonderful contrast to the black acrylic, with a gimbal-suspended motor unit and integrated phono preamp, the whole assembly self-orienting according to gravity. It's a real eye-catcher, which Transrotor boss Jochen Räke equipped with gold-plated SME arms.

### ITALIAN CHIC ▶

The legacy of the Italian developer Franco Serblin includes the „Lignea“, a 105 cm tall beauty of a compact speaker with integrated foot. It's uses sophisticated materials and craftsmanship, and has an elegant shape defined by the sound. Depending on version, it starts at 4,000 Euro/pair.





### ◀ MEGA-PHONO

After last year's coup with the DS001 „Nightrider“ optical cartridge, this year Tetsuaki Aoyagi from DS Audio presented the „DS Master 1“ – the ultimate combination team of optimized cartridge and accompanying phono preamplifier for 22,000 Euro.



### ◀ AUDIONET'S NEW START

Legendary designer Hartmut Esslinger was responsible for the styling of the new Audionet components, named „Heisenberg“, „Stern“, „Watt“, „Planck“, and „Ampere“. This man is as sympathetic as his creations are impressive – we look forward to meeting him and his products again.



### ▲ TREADING THE PURE PATH

Mark Levinson's No534 is a powerful dual-mono power amp designed to remain stable down to 2 Ohms, and using the company's proprietary Pure Path circuit design. It will be available at retailers in July for about 20,000 Euro and offers many possibilities including operation via a network.

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### TONE CONTROL ▶

Avantgarde Acoustic's Zero1 active horn speaker has decorated modern living spaces in white or black, but now designer Eric Kuster refined it with a bronze finish, which changes its tone depending on the angle of the light. The „XD“ concept means the Zero1 also includes high-quality internal and network cables and costs about 18,000 Euro/pair.



### ▲ AT THE BAR

The STEREO booth again received plenty of visitors, not lastly due to our colorful headphone bar which visitors were able to use (as in previous years) to test a large range of premium headphones. Even the camera teams stopped by.

### COMMENT



**MICHAEL LANG**  
Managing Editor

» Where to now for the high end? After four days at the show one thing is abundantly clear: prices are still going up, and I'm continually astonished by the casual way upper five or even six digit prices are being dropped into conversation these days. Compared with just a few years back, increasing numbers of established manufacturers are active in this price range, moving themselves into the territory once the preserve of a few exotic brands.

One wave slowly but surely gathering momentum is the availability of speakers requiring only a mobile phone or tablet to make music – the rest is integrated, and requires only mains power. This trend may force retailers and hardcore high-enders to rethink their approach, as the unmistakable benefits in terms of space and operation – and the associated high acceptance among non-enthusiasts – are clear arguments for this concept becoming mainstream soon.«



### ▲ ELAC CELEBRATES IN ANALOG

Elac is celebrating its 90th anniversary not only with the Concentro super-speaker (see page 12) but also with the completely new „Miracord 90 Anniversary“ record player. It features a number of technical tricks and will cost about 2,000 Euro complete with MM cartridge.



### ◀ GRYPHON WORKS ITS MOJO

In addition to the 2m tall and exotically-priced Kodo, Gryphon also showed off its „Mojo“, a somewhat more affordable „compact“ speaker at 20,000 Euro.



### ▲ A SMALL ARIA

The „Aria Piccolo“ is a music server with storage space of 2 Tb and up, and there will also be an SSD version. The price: starting at 2,000 Euro.



### 1350 W? SAE WHAT?? ▶

The US manufacturer SAE presented a gem of a new power amp with its 2HP-D. Its meters show peak and average volume at the same time, and four Ohm output is up to 1350 Watt per channel. Price: about 25,000 Euro.

The

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### INSIDE THE AUDIONET ▶

A look at and into the new Audionet top preamp „Stern“ and the power amp „Heisenberg“, which will each cost about 30,000 Euro.



### ▲ THE PRIMUS

The 330 integrated amp is the first of a more affordable range from Swiss manufacturer Soulution, but 'affordable' is relative: the price will be around 15,000 Euro, with phono and DAC options available.



### ▲ AVM ESSENCE

AVM's CS 8.2 is a compact powerhouse, blasting out about 500 Watt per channel. It includes CD, tubes, streaming and DAC functions, all in one box, for about 10,000 Euro.

### ▲ TUBES'N'CHIPS

Ayon's new network player S-10 uses tubes in the output and a modern modular concept all the way up to PCM/DSD converters. The prices range from 5,000 to 8,000 Euro.

### THE NEW E-CLASS ▶

As readers of STEREO are already aware, T+A is producing a new E-Class. This is the MP 1000 E, using a completely new streaming section, made in-house by the company from Herford..



### ◀ ASTELL & KERN

Tasteful demonstration counters let visitors try out all current A&K models, including the new recorder dock (about 800 Euro) to turn the 300 series portables into full-size recording stations.



### MASTERWORK ▶

At the end of June, Audio Physic will ship the new „Codex“ – a four-way speaker with an internal, ventilated bass module. The prices start at 9,900 Euro/pair, and there are two glass variants. Special colors, such as red, cost more.





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# FOCUSED ON THE FUTURE

After the successful XEO series, Dynaudio is now getting serious with its activation program. The Focus 600 XD is the top model of a completely new, sophisticated series, designed to offer much more than just excellent sound.

**D**istinctively Dynaudio: If you know anything about speakers, you know that these speakers are from the Danish specialist. Their classic 'no-frills' Scandinavian design and the typical „MSP“ (Magnesium Silicate Polymer) driver cones for lightness, stiffness and low resonance, plus soft-dome tweeter, all combine to make them almost unmistakable.

However, look at them through Danish eyes, and you see more than just speakers: Focus represents the „new HiFi-systems“, the argument being that all you need is a digital signal source – although analog is also possible – for perfect reproduction. You see, the Focus XD range already has amplification on board, including a pre-amp, so you can adjust the volume using the included remote control, which can also be used to turn the speakers on and off.

Even at first glance, it's clear these speakers are unusual, as is made clear by a narrow display integrated in the inner lateral bezel. Usually this shows only a small blue or red dot depending on whether the Dynaudios are on or in standby, but while changing level, the volume is indicated by a growing or decreasing chain of little white dots. In practice, handling our active Focus speakers was completely problem-free.

During set-up one sets a switch in the back of each speaker to designate one as „master“, the other as „slave“, which follows its master. Oh, the inequality: it's curious that these common – if archaic – terms for the device hierarchy have not long since fallen victim to political correctness. In any case, the master is connected to the source and the slave speaker then follows its instructions.

They are usually connected with coax digital cables, but in the less common case of analog hook-up each active speaker needs to receive its respective channel. For digital connection,

#### KEY WORD

**PWM amp:**  
In „pulse width modulation“ the pulse width corresponds to the volume. Often incorrectly called „digital amp“. It is a switching amp.

The smaller models of the Focus XD series are called 400 and 200 (about 7950/4950 Euro/pair) and come with basically the same technology.



▲ Connection panel with many operating options identifies the Focus 600 XD as active speaker. There is a socket each for digital and analog signals.

as stated, it is sufficient to establish contact with the master, which in turn supplies the slave. If you wish, you can also lay a digital line between the two speakers, although this isn't required to ensure proper function.

#### New chassis & PWM amps

We let the Focus 600 XD play for entire nights during the breaking-in process without getting even one „crash“ – not even with high-bitrate 24 Bit/192kHz material, which is often prone to such tribulations in wireless systems.

If you believe the Danes – and after all they make great play of their truthfulness – the XD speakers are much more than just the familiar Focus types with the addition of integrated amps. The bass has been reworked for active operation, with longer voice coils and greater throw designed for even lower distortion and greater linearity, while each of

the four drivers is fed by its own 150 Watt power amp.

In fact, by its own 150W PWM „digital“ amp, meaning that incoming the bit streams – analog input signals are immediately digitized to the 24/192 format for further processing – are converted in the power amp using tried and tested TI chips. They are fed with the PCM signal (Pulse Code Modulation) and convert it into PWM (Pulse Width Modulation) in a complex process, and the

Electronic module overall is an exemplar of high-tech and compact integration. Our measurement technician whistled in approval when he saw it: „You hardly ever get to see something put together so cleverly, even by studio technicians.“

One drawback of **PWM amps** is that they can tend toward phase shifts and high frequency attenuation depending on speaker impedance. However, the Focus 600 XD avoids this problem, since the driver parameters in the closed system are known and the power amps tuned to them. One of the reasons the Danes say: „We can do things here which would not be possible with passive speakers.“ This also includes the strict limitation of the working range of the speakers and the wide bass reproduction, with steep roll-offs not a problem in the digital domain

#### KEY WORD

##### XEO hub:

Using the emission station of the smaller XEOs – always connected to wireless – one can set up a multi-room solution with the Focus XD.

since Dynaudio has always used flat six-decibel filters in its passive models to prevent phase shifts.

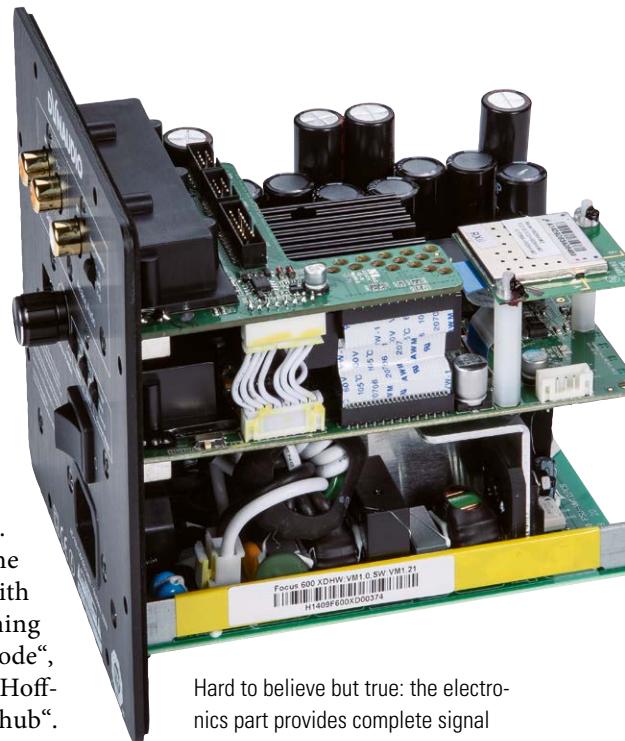
The entire signal management is DSP-controlled, and presents update possibilities, in case of future improvements, via the USB slot. In fact, just as soon as we got the Focus 600 XD into our studio, the first software update arrived, Dynaudio sending it to us via e-mail. We loaded the file onto an empty stick, turned the speakers off, plugged in the USB, turned the speaker back on and the light dots signaled that it was instantly updated.

After this it can happen that the speakers stand there helplessly with their red LEDs blinking, „meaning they have slipped into the XEO mode“, explains product manager Roland Hoffmann, „and are looking for their hub“. In fact, the Focus XD speakers can be fed without cable. Press the „Direct In“ key of the IR transmitters for two seconds and the master accepts the digital cable again.

#### Sounds „awake“ even at low volumes

To be honest, at first I was cautious: Dynaudio builds first-class passive speakers, especially in this ambitious price class, so why active ones now, and with switchable power amps? Can that be a good thing?

Yes, and how! Initially, our test pair (standing on solid metal feet with removable spikes) was a bit brittle and unwieldy in the bass as it had not yet been broken in but after just one night of playing – see



Hard to believe but true: the electronics part provides complete signal processing and four 150 Watt power amps in a very compact form.

above – it became so loose, dynamic, and smooth that all our concerns went out the window. The Focus 600 XD put on a show to render moot all questions about the point of a high-priced active design.

The emphatically straightforward, clear, audiophile presentation doesn't use the kind of theatrical tricks for which the speakers from Skanderborg are famous; instead the Focus 600 XD adds new freshness, a lively dynamic kick to the usual well-groomed sound. You might wonder whether this is the „next generation“ of the Dynaudio sound?

## THE CONVENTIONAL POWER BASE: CONTOUR S5.4

**W**hatever you connect, it's difficult to top the performance of the Focus 600 XD in a conventional manner! This is Dynaudio's confident claim, and by „conventional“ it means passive speakers plus external amp.

Well, we'll see about that. We set up the Danish Contour S5.4, which serves as our working speaker since its test in STEREO 5/03 – and is still both up to date and to our ears one of the best Dynaudio speakers of all time, still available at about € 8000 a pair.

We hooked up the floorstanding

speakers (a lot bigger than the Focus 600 XD) to our top reference pre/power amp by Accustic Arts, also used the Streamer ES – via its analog outputs –, connecting power amp and speakers with In-Akustik's LS-1603 cable. Total price for the system without source is approx. € 25,000.

We started with the 24/192 version of „We'll Be Together Again“ by the Jimmy Cobb Quartet. Just having listened to it on the Focus 600 XD, we felt that the reproduction was also large, loose, and colorful, but at the same time also a bit more „comfortable“ as well as slightly

dragging compared to the fleet-footed timing of the active speaker, as if the song was playing a tad slower. The bass was a bit fuller; but the Focus was more defined and agile.

Definitely just as much fun, considering that the Contour S5.4 was very spacious – but it was clear to everyone that the previous performance was still a bit more refined and smooth. And – „shhhh...oooh“ – even in terms of atmosphere the feathery 600 XD with its many nuances is ahead by a short nose. Regular speakers are on notice, not just the „standard“ Dynaudios.



## COMMENTS



## MATTHIAS BÖDE

Editor for  
special tasks

The Dynaudio professional segment makes up only just about ten percent of the total sales but it brings a lot of technological competence into the house. The Danes developed the clever electronics for the „Focus XD“ series in-house and without the Chinese high-tech giant GoerTek which took over Dynaudio recently. Good work!

It banged the short drum attacks in „Attempo“ by the Antonio Forcione Quartet (STEREO Hörttest-CD VII) into listeners' ears in a manner as seamless as it was vehement, and did so at every volume level: the active speakers sound extremely „awake“ even at low volumes and offer full bass lines which are easy to follow as well as a solidity to the spatial representation.

This is as important in the choral piece „Mitt Hjerte Alltid Vanker“ on the same disc, with its natural voices: having ripped the sound through the room just seconds before, the Dynaudios now suddenly played coy and skillfully lured the singer from the edge of the stage and let her waft by like a warm summer breeze. This is the way it has to be if this beautiful song is to unfold its emotional potential and enthralling magic.

As an alternative to wireless, which had proved problem-free, we also laid a cable connection between the two Focus 600 XDs, and the blue and red lights blinked together to indicate readiness. As it turned out, the music was now by nuances more homogenous and tonally rich without

sacrificing finesse or spaciousness: by comparison via wireless it sounded a bit „lighter“ and less secure.

In the end, we felt the cabled version had the edge: that said, we needed it anyway since the maximum data rate per wireless is limited to 24/96, and we wanted to hear the full resolution of our 24/192 files from the two Focus speakers.

In either case, however, the new Focus 600 XD is a shining example of expression and precision. „You will have a hard time finding more open and precise-sounding speakers“, Hoffmann prophesized, and he was right: the proof was provided by pieces from our Hörttest-Edition III produced with Chesky Records, which we played from Accustic Arts' StreamerES via its coaxial digital output to the active Dynaudios in various resolutions – from 320 Kbit MP3s to the CD standard of 16 Bit/44.1 kHz up to 24/96 and then 24/192.

## A speaker for the high-bit era

In fact, few other speakers or systems have demonstrated the distance between the formats in terms of airiness, three-dimensionality, and detail as clearly as did these speakers. In „We'll Be Together Again“, the musicians of the Jimmy Cobb Quartet were better defined with each increase in data rate, the cymbals shimmering longer, and in CC Coletti's turbulent „Rock And Roll“, the band interacted with increasing precision and the natural recording room became more and more „hearable“.

The Focus 600 XD convinced us across the board. It's a great design and transfers Dynaudio's sound philosophy into the new HiFi era: thanks to competent active technology all you need is – preferably – a digital source. It's much more than „just“ a speaker; it's a real competitor for classical system concepts.

*Matthias Böde*

You can turn down the bass if the speakers are placed close to the wall or corners (l.). The highs can be adjusted by +/- 1 decibel to adjust for room acoustics. The set includes a remote control.



## DYNAUDIO FOCUS 600 XD

Pair for €9,950 (in silky matte black, white, or walnut / rosewood veneer)

Dimensions: 21.5x113x31 cm (WxHxD)

Warranty: 3/8 years (electr./chassis)

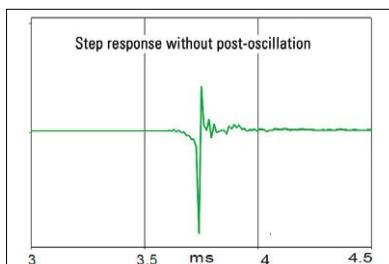
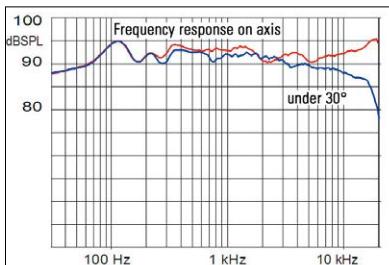
Contact: Dynaudio International

Phone: +49 4108/41800

www.dynaudio.de

Plain on the outside, the top model in the active series turns out to be a first-class „speaker system“ for which you only need a source. If you calculate how much this save you in other components, you realize just how cost-effective the Focus 600 XD actually is.

## MEASUREMENT RESULTS



Lower cutoff frequency (-3 dB)

<30 Hertz

## LAB COMMENTS

While the frequency response seems a bit ragged, especially in the range below 1 kHz, it is very balanced. If you draw a line through it, there are hardly any deviations of more than +/- 2 decibel. In our measurement, all controls and switches were set to linear. The height increase to (red) and drop outside the axis (blue) is striking. We turned the speakers to the point where the tweeters pointed to the outside shoulder of the central listener (generally recommendable) and obtained a very natural reproduction. One hint at the outstanding precision of the Focus 600 XD is provided by the precise step response with basically no post-oscillation at all. With a passive speaker this precision is basically impossible.

## STEREO-TEST

SOUND QUALITY

98 %

PRICE/PERFORMANCE



OUTSTANDIG



# Gryphon Trident II

Semi Active Reference Standard Loudspeaker System

THE  
GRYPHON



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



# RIDING THE DAVE

It doesn't just look unlike any other DAC: what's inside

Chord's DAVE is also both unique and very innovative. Our intensive testing revealed what effect this has on the sound.



t's called DAVE. John Franks of Chord Electronics, and his development team led by Robert Watts, gave their state-of-the-art D/A converter what looks like a simple name, but is actually an acronym: Digital to Analog Veritas in Extremis or – in plain English – extreme fidelity in D/A conversion, a very confident statement whose veracity we will verify later.

And yet when unpacking it, our testers had doubts whether things were normal here: when the comparatively small device sees the light of day it handles and feels like a brick. No, nothing normal...

If you're pressed for time, don't ask Robert Watts about the DAVE's development history – you could do so for a long session! The somewhat shy and reticent Brit, as passionate about music as he is when it comes to long and complex mathematical formulas, suddenly turns into a very eloquent fountain of knowledge. His eyes twinkle behind his glasses with mischief and delight that he has piqued the interest of his questioner, and has been given the opportunity to expound the theoretical particularities of his creation and their practical significance for music lovers. If you want to summarize the Watts Manifesto in one sentence you end up with something like this: MP3 was a mistake and killed people's love for music – now it's payback time.

### MP3 is a mistake

Watts, who had already made a splash 20 years ago with spectacular converters under the flag of DPA and then under his own "Watts" label, spent many years doing fundamental research at a chip manufacturer. He discovered things that seemed secondary, which in terms of measurements belonged in the realm of homeopathy, were able to hide important fine detail information about sound.

### Everything at the right time

From Watts' perspective, the most important task of a converter – and the reason

The workmanship is perfect – inside and out – and sets new standards ►

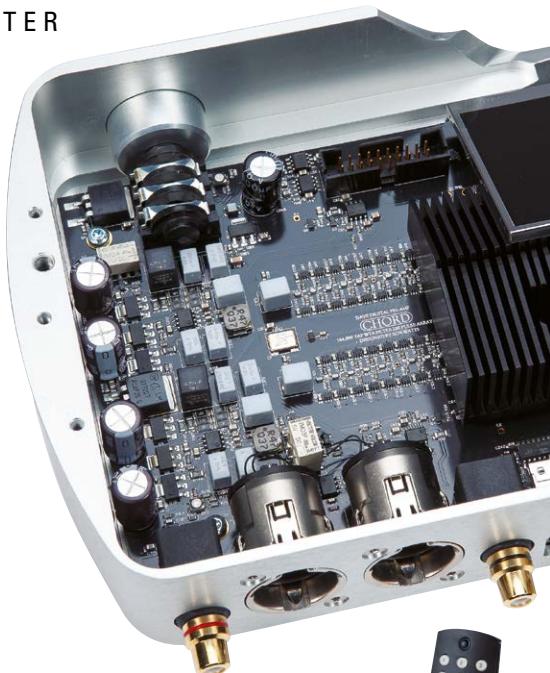
why he develops and programs his own converters – is to reconstruct the most perfect possible waveform from the raw digital data. In other words, you need to get as close as possible to the ideal already before oversampling and upsampling. According to his research, that task puts normal converters on the ropes almost before the fight has started.

Watts' converter has a 64-Bit architecture, uses Watts-designed FIR (finite impulse response) filters built to process dynamic impulses with absolutely correct timing, and without losing bits during their computation operations. The same is true for DAVE's digital volume control, which can be switched off (when the con-

verter is used into a conventional preamplifier rather than directly into power amplification): Watts has designed it to make timing errors vanishingly small since he feels that they can impact tone colors, soundstage reproduction, and even dynamics. The heart of the device is a chip with extraordinary computing power, a so-called Spartan 6-FPGA LX-75 chip, this Field-Programmable Gate Array providing a blank processing canvas upon which Watts can work his digital magic.

### And yet another filter

The "Watts Transient Aligned" filter, or WTA for short, is inspired by the enhanced reproduction quality of higher sampling frequencies. But Watts does not believe that the boundless increase of the reproduction of highest frequencies, made possible by extremely high sampling frequencies, provide the reason for better sound; instead he points to the minimized transient response and timing errors, which our ears can detect even in the microsecond range to localize the direction of high-frequency sounds. That's what gives



Many buttons but still well-organized: the remote of the DAVE ►



us special awareness, for example – always handy to know exactly where that tiger just snapped a twig or rustled a leaf when you are walking in the jungle!

Watts claims that the right digital filters can ensure the correct transient response for a sampling frequency of 44.1 kHz, but even the fastest filters to date display strong transient response errors, so he has managed to expand this filter length from 256 to 2048 elements – resulting in a clearly better stage reproduction. However, experiments showed that a further filter extension led to further sound gains, so that an infinite filter length would be desirable. As a consequence, Watts then developed the WTA filter, which minimizes phases and timing errors from the beginning and, in its latest version here, is combined with 64 bit 7th order noise shaping, 2048 times oversampling rates and improved pulse width modulated elements.

### Everything in its right time

Need a breather after all this technical talk? Great – we agree, so let's go onto a listening expedition with DAVE, which is also up to the task as headphone amp and by the way can also send most preamps I know into early retirement.

► Lots of connections, even for the future – what are they planning for those two 768kHz dual-data-mode outputs...?



Used with a large number of systems this relatively compact box, handbuilt in the Chord Electronics factory in Kent, England, was able to prove the correctness of Watts' ideas. Most of the time we used the B&W 802 D3 in connection with electronics by Accustic Arts and T+A, supplemented by diverse power amps from the test field in STEREO 5/16. The cables were Audioquest, Inak, and Cardas, supplemented by a power cable by HMS.

The first trial was purely as a converter with fixed volume, set to PCM in recommended maximum resolution, and we took a deep when Doug MacLeod sings about his "Rosa Lee". The power and intensity with which his voice is transported into the room is gripping from the first moment, but almost more striking is how sharply contoured is the presentation of both voice and guitar.

However, what really got to me was the lightness which the music comes out of the speakers: sounds are composed with such passion, and with every facet so developed that you actually start hunting for ever more complex pieces of music, simply in order to find out what DAVE can do with them, discovering along the way the spectacular sound quality available from the recordings of American singer Lyn Stanley.

What you can discover in the spatial information and the finest nuances in voice and instrument with the DAVE, in particular on the current "Interludes", makes the music a lot more accessible – a phenomenon I have noticed for many years now. The better the reproduction chain, the more you are willing to let unusual music draw you in, and I promise this: Stanley's version of "Whole Lotta Love" is pretty unusual. On this occasion I would like to note that this recording is bliss on both formats of the hybrid SACD,

and you'd really have to pull out all the analog stops in order not to see the idea of vinyl's superiority burst like a soap bubble.

In the format battle PCM vs. DSD, to this listener Watts is quite clearly on the side of PCM technology.

### Measurement data from a different planet

You can only achieve a convincing overall result if everything is done with great care on the analog level up to the output stages. In terms of components, this area is quite easy to understand in the DAVE. However, the outstanding technical data already indicates that Watts has thought things through here as well. But we were going to talk about music and leave the technology by the side, being that it really is quite complex. So, back into the sound booth where you can feel the joy – even at low volumes. The DAVE sounds so beautiful and full that it is a real delight to just listen to it for hours.

### Musicality like no other

Everything we listened to sounded warm and full over the Chord, the sound always managing the magic trick of crystallizing details which most rivals force you to guess. After a few minutes you might still think it all too good to be true but after days of listening to it you realize that there is nothing missing here: the sound is simply, fabulously homogenous and natural. With the Stimulators we suddenly got the urge to let our neighbors hear that we are listening to music on the weekend – I'm sure they'd thank us for it when

"St. James Infirmary" literally explodes into our ear dynamically, the band apparently sitting in right front of us.

Even with the highest-quality and most expensive devices you just don't get this effect that often, or to this degree of intensity but in our time with DAVE we accumulated a real – and statistically significant – heap of these incidents. Chord has created a standout device of rare quality, both extraordinarily musical and also open to just about any future option imaginable. This one's a keeper!

*Michael Lang*

▲ Display and cooling element dominate visually, but the sound-critical parts important are hidden away

### CHORD DAVE



approx. € 11,800

Dimensions: 34 x 7 x 20 cm (WxHxD)

Warranty: 2 years,

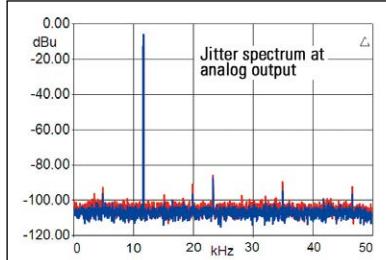
Contact: Chord Electronics

Phone: +44 1622/72144

[www.chordelectronics.co.uk](http://www.chordelectronics.co.uk)

Technically very complex and with extensive operating options but still easy to use. The workmanship is excellent. Outstanding sound.

### MEASUREMENT RESULTS



Maximum frequency deviation <0.2 dB

Square / impulse behavior symmetrical ok

Signal-to-noise ratio digital null 116.5 dB

Quantization signal-to-noise ratio (24 Bit) 105.5 dB

Quantization signal-to-noise ratio (16 Bit) 97.4 dB

Distortion -60dBFS | -90dBFS / 400Hz 0.65 | 0.0008 %

Converter linearity up to -90 dB <0.2 dB

Output impedance (cinch/XLR) 1/1 Ohm

Output voltage 0 dB (XLR) 6.3/12.7 V

Power consumption  
On | Standby | Idle 0 | 15 W

**Mains phase** on test device   
**LAB COMMENTS:** All measurement values are excellent, the output stages have an extremely low output impedance.

### EQUIPMENT

**Input:** 2 x opt. (up to 192 kHz); 4 x electrical (up to 384 kHz); 1 x AES/EBU (up to 192 kHz); USB (up to 768 kHz, DSD 256))

**Outputs:** 2 x Ultra-High-Speed Coax output (768 kHz Dual-Data-Mode; for future applications); Analog output (stereo cinch); symmetrical output (XLR)

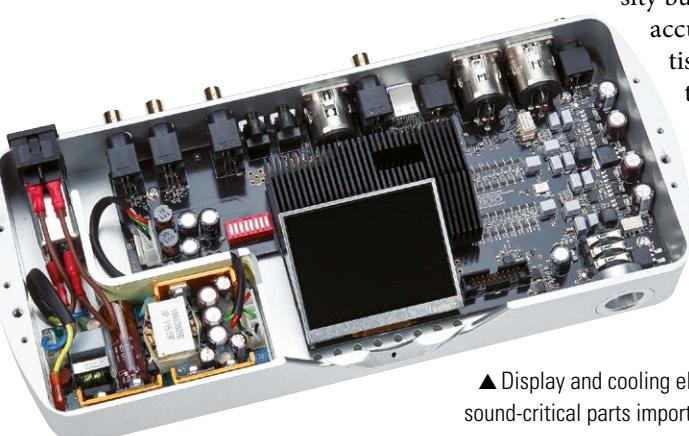
**Included:** German manual, power cable, remote control

### STEREO-TEST

**SOUND QUALITY** 100%

**PRICE/PERFORMANCE**

★★★☆☆ **VERY GOOD**





## Magico: Graphene and Diamonds

**M**agico is bringing out its new M3 three-way speaker in the third quarter, at US\$ 75,000 a pair. Its 1.2m tall, it has walls made of carbon fiber and is reinforced with internal three-axis crossbeams. Magico has given the tweeter a diamond-covered Beryllium dome, while the medium and bass driver cones are made from especially robust and stiff – yet light – graphene, and have voice coils made from pure titanium wire. Three 18 cm drivers handle the bass. Magico lists the impedance at 4 Ohm, and the recommended amp power at 20 to 500 Watts.

[www.magico.net](http://www.magico.net)



## Record player with tungsten bearings

**C**ontinuum Audio Labs presents its new „Obsidian“ turntable and „Viper“ tonearm, the motor unit using high-density, low-resonance tungsten in critical areas, for instance for the bearing assembly. A servo-controlled AC motor drives the 25 kg platter, made from an aluminum composite, and the \$35,000 Obsidian and \$10,000 Viper will be available in the third quarter of the year.

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



## Burmester instead of Porsche

**A**ndreas Henke is the new Burmester CEO. Until now, the 43-year old has been in charge of the marketing department of Porsche. The passionate music lover is looking forward to taking the helm of the Berlin-based high-class company with effect from 01.01.2017

## Electrocompaniet: CD player with new drive

**N**orwegian high-end specialist Electrocompaniet presents its new top-loading CD player, the EMC-1 MK IV. Its look and specifications – and the 4,950 Euro price tag – emulate its predecessors, the EMC-1 MK III and EMC-1Up, but the Mk IV's new Stream Unlimited CD drive is designed to suppress acoustic and mechanical vibrations. Using symmetrical D/A converters and separate analog audio circuits, the new player has both RCA and XLR outputs.

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



## US-Startup takes over B&W

For any real audiophile this would initially seem like a punch to the gut: a US company called EVA Automation Inc., a newcomer all but two years old, has taken over venerable British speaker specialist Bowers & Wilkins, including its subsidiaries Classé and Rotel, on the eve of its 50th anniversary. But at second glance this takeover seems rather less dramatic: the merged company will still be called Bowers & Wilkins and its CEO will be Joe Atkins, the previous majority owner of the speaker company. Atkins will also hold a significant share of the capital of the merged company, making this more of a merger than a takeover. So why the move? Well, like other speaker manufacturers, B&W is looking for the expertise of IT specialists in order to be ready for the future of network-compatible speakers, and EVA Automation proclaims extensive expertise in the area of multiroom AV systems. EVA boss and founder Gideon Yu previously worked in management at Facebook and YouTube and his company also brings to the table the necessary capital for development. And he counters fears that B&W could make compromises in the future: „You won't see any changes whatsoever in audio quality. All the audiophiles out there have nothing to worry about,“ he told the news service CEPro. He says that in the short term there will be no changes at all, adding that we can expect new products towards the end of the year that will „live up to the B&W name“.

<https://evaautomation.com>

## Cabasse revamps Baltic and La Sphère

Spherical speakers with coaxial chassis are the specialty of French manufacturer Cabasse, and the most in its latest fourth generation system is an ultra-light aramid diaphragm with wafer structure. This „TCA“ (tri coaxial aramid) design will be featured in the new „Baltic 4“ (starting at 4000 Euro) and the big „La Sphère TCA“ (price tbc.), a four-way active speaker with additional 55 cm woofer and DSP electronics, which can be customized to individual room acoustics. Also new at Cabasse are two streaming products created in cooperation with its parent company

### La Sphère TCA

Awox: the „Stream BAR“ soundbar (1000 Euro) and the „Stream Base“ soundbase (550 Euro). As well as boosting TV sound, they can access Spotify, Deezer, Qobuz, Tidal, and Internet radio.

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



## REFERENZ SELECTION

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



REFERENZ LS-2404



“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

REFERENZ NF-2404: AIR HELIX CONSTRUCTION



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.

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## Moving Coil on a needle

Audio Technica has reinvented the moving-coil cartridge: in its €5,200 AT-ART 1000, the coils are located not at the end of the cantilever but directly on top of the stylus, meaning less mechanical losses when tracing a groove. The tiny coils use a 20µm wire with eight windings, yet it still manages to generate an output voltage of 0.2 mV, with a Titanium suspension system carrying the special magnetic circuit. Audio Technica makes the cantilever from boron, and the cartridge body from aluminum, and the AT-ART 1000 is designed for tracking weights of 2-2.5g. Handcrafted in Japan, the cartridge will be available in June.

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



## Gruensch optimizes phono preamps

Gruensch has reworked its MCS II SE and MCS II+ SE phono preamps: as well as optimizing a number of details in this third generation, the standard RCA output has been joined by a balanced XLR connection using feedback-free pure Class A technology. Gruensch components are developed and handcrafted in the south of Germany.

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



## Compact stereo power amp by Octave

Tube specialist Octave has transferred its „SE“ technology to a new compact stereo power amp, the \$8,500 RE 320 implementing numerous technical details from the Jubilee SE line. According to the manufacturer, two KT150 performance pentodes in differential mode make a maximum output of ca. 2 x 140 Watt possible, while Octave lists the bandwidth at 5 Hz-85 kHz, and the impulse power at more than 200 Watt. The RE 320 accepts input signals via XLR or Cinch. Bias fine-tuning and a power switch allow the amp to adapt to different tube types. It's shipping now.

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



## Rega fills the gap

Rega's new „Planar 2/2016“ turntable closes the gap between the existing RP 1 and RP 3 models, inheriting the latter's painted edge in gloss white or black, the self-securing bearing, and 10 mm sanded glass platter. New for the € 520 Planar 2 are the RB 220 tonearm, with its new bearing, and Rega's latest 24 V motor.

[www.rega.co.uk](http://www.rega.co.uk)



## HELLO MUSIC

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

The Ansuz **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 Ansuz 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 Ansuz **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.





# EXPORT WITNESSES

German exports continue to soar, and German HiFi manufacturers

are in on this seemingly unstoppable trend – which was one of the main reasons we started our English-language [www.stereo-magazine.com](http://www.stereo-magazine.com). As witness to this success, in May crowds of international distributors thronged to the „HighEnd“ trade fair in Munich to shop. But which German HiFi manufacturer has what percentage of foreign business – and why is HiFi made in Germany so popular in so many places?

**T**here's a lot more to the annual High End show than attractive presentations for HiFi fans: one of the main reasons most exhibitors attend is to meet up with their international trade partners who come to the Bavarian capital in May. That's why; although High End is open to the public, event organizer the High End Society declares it to be a „specialist trade show“.

In fact, HighEnd has long since passed CES in Las Vegas – which is strictly trade-only – as the audio industry's major annual business meeting-point. Many European components in stores in Hong Kong, Chicago, Moscow, or Ho-Chi-Minh City – the Vietnamese are nuts for

HiFi! – were bought and sold in Munich. Leading the export pack are German manufacturers, thanks to their excellent reputation abroad. Once overshadowed, especially by the big American brands with their historic lead, German companies have carved out their own piece of the pie over the last 20 years. And while „Made in Germany“ does them no harm whatsoever, with German machines and cars helping build the reputation around the world, without virtues such as innovation, convincing sound, and reliability, our home-grown companies wouldn't even get their foot in the door.

The growth of German brands in export markets is mainly due to local

distributors, the system working exactly as it does here: independent specialist HiFi distributors import brands from all over the world and manage them. These companies, which come in many sizes, are much more than mere way-stations: they take care of many things, such as customs formalities and adherence to local regulations and conditions for imported products, all the way to providing user manuals in the local language, repair services, and retailer management.

## Top image for German tech

Relationships between manufacturers and their distributors grow over years or even decades, so that every meeting, such as

those during HighEnd, is almost like a family reunion. And, of course, on such occasions buyers also drop in on their English, French, or Italian partners exhibiting and presenting their new stuff in Munich.

That's where some national stereotypes – or perhaps merely perceptions – may come into play: for instance, British HiFi is considered to be especially audiophile and Italian components have exciting design and a certain beauty of sound. And German producers? Well, they're considered to have „typically German“ virtues, such as straightforwardness, technical superiority, and professionalism as well as high-class reproduction.

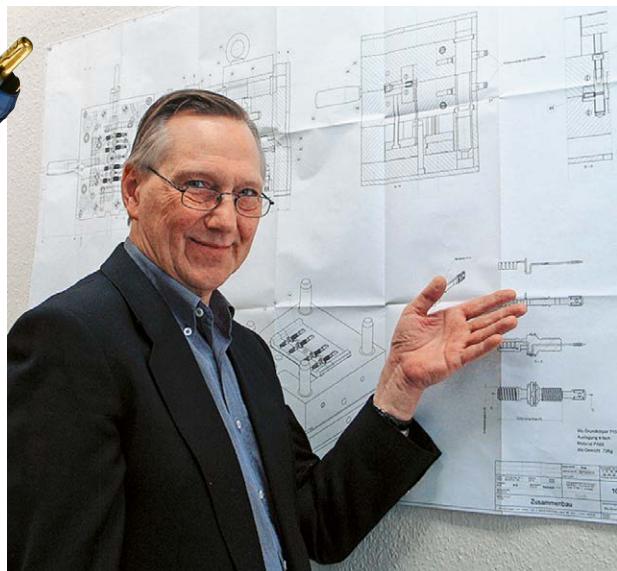
Manufacturers like Burmester, Clearaudio, MBL and T+A had to fight tooth and nail for this profile, but today they are doing well, and profiting from the „Made in Germany“ label. Many export managers tell us that it would be difficult to overestimate the German reputation in many places, and in our conversations with HiFi sales specialists from all over the world, they immediately made reference to how strongly German cars and machines support the business of Teutonic music machines.

### 90 % for export

When looking at the foreign activities of German HiFi and High End manufacturers, it's striking how export-oriented many are: for example, hardly any of MBL's production, which was recently further increased, remains in



Small, top quality plugs and sockets made in Essen by connector specialist WBT: CEO Wolfgang B. Thörner has made contact into a science, and his meticulous attention to detail is considered „typically German“ and widely valued on the international stage. ▶



the domestic market. Like analog specialist Clearaudio, MBL exports more than 90 % of its output, while Brinkmann reports that about 80 % of its electronics, turntables and tonearms are delivered abroad. And while the famous horn speakers made by Acapella in Duisburg may be largely absent from German listening rooms, that doesn't mean that production is lagging: more than 75 % of production goes for export.

We shouldn't be surprised: after all Germany is just a (relatively) small speck on the global map, and there's a big world out there, understandably excited by the products of our homegrown HiFi. And yet despite the interest in high-quality audio in many countries, success is never a given: German manufacturers have had to work hard to stake their claim for a position on the world stage.

But for a long time the space was occupied by the well-known names from the US and England, which entered the international market much earlier and had their own segments: the Brits covered the



▲ HighEnders around the world trust in German workmanship and innovation – such as that of Jürgen Reis, the chief developer of MBL in Berlin.

### COMMENT



**LEO TARVAINEN**  
Sales in Finland

» German HiFi is great and innovative, while US manufacturers currently seem to have run out of ideas, and at the same time their products are becoming more expensive. The weak Euro makes „Made in Germany“ affordable, and not just for home audio: I have a Burmester system, in my new Mercedes and, while it wasn't that expensive, it sounds great. For me, the Germans are the winners in the competitive world.«

German High End stars like Burmester's preamp icon 808, here in a gilded Mk5 version, cause fans from all over the world to get sweaty palms. ▶



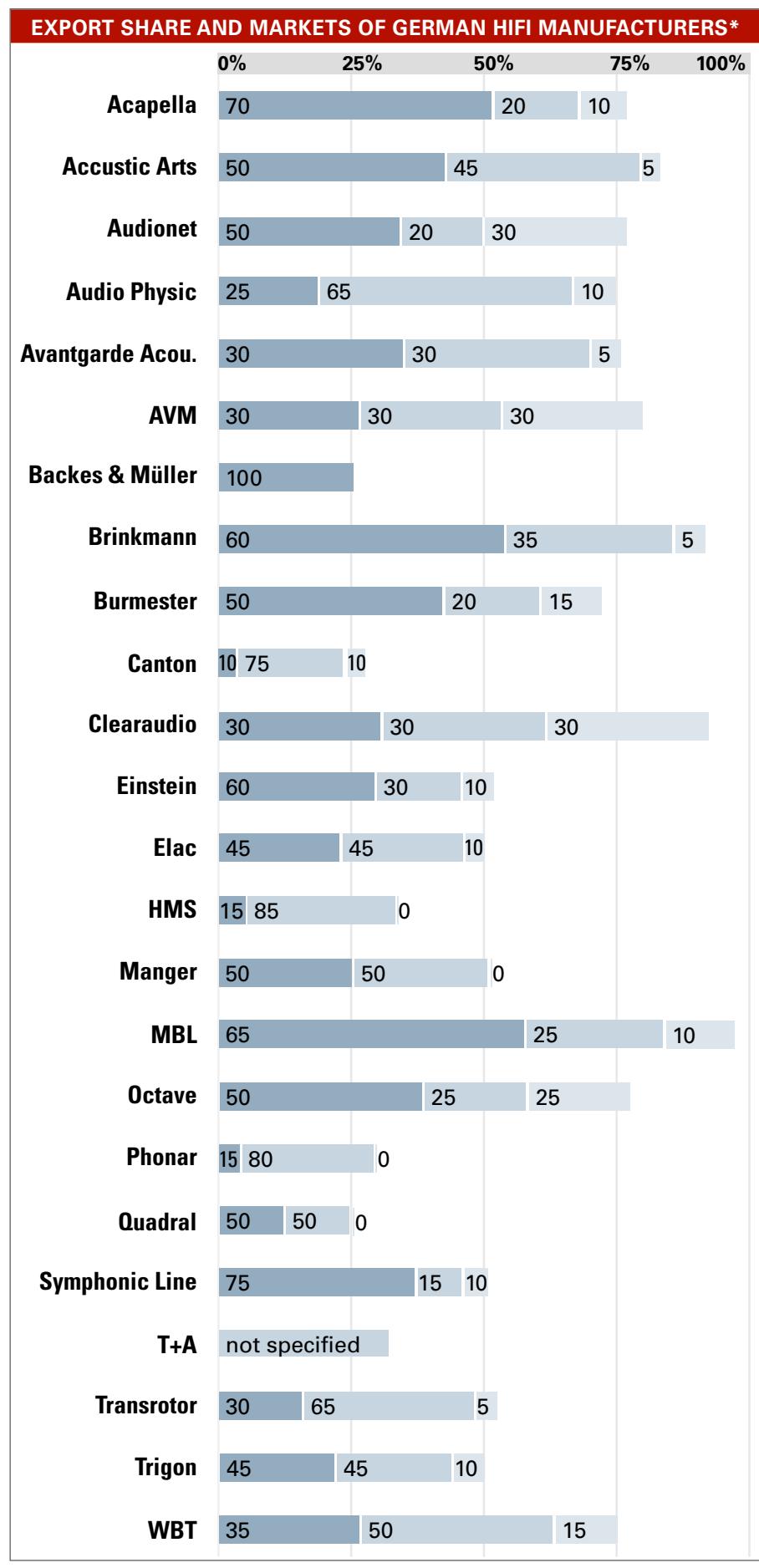
COMMENT
 <p><b>JUN I. PARK</b> Daa Wong Inc.</p>
<p>» We have been selling speakers by Audio Physic in South Korea and really work hard on it: after all, nothing happens just by itself. The HiFi preferences of my countrymen are split across the generations: older people are biased against a „German sound“ and thus prefer British brands, but younger people who are not as defined by prejudices are thrilled by the quality of the German top brands – Burmester and MBL are given highest grades – as well as their sound.«</p>

‘affordable audiophile’ market with brand such as Arcam, Celestion, Cyrus, or KEF, while those more interested in the high-end went for American specialists like Krell, Mark Levinson, McIntosh and JBL.

True, in many places not much has changed much, but the Germans are now in the game – and leading the pack. One important factor for this – although no-one we spoke to could quite explain it – is that the reputation of the American top dogs has somewhat lost its luster of late: the old idea that HighEnd meant ‘born in the USA’ just isn’t as true as once it was.

This didn’t happen by itself: German providers are present everywhere, and if you go to one of the large HiFi trade shows around the world you will reliably run into not just representatives of the German manufacturers, but in many cases the company bosses. You see, even in the age of e-mail and Skype, personal contact is still important, and especially in Asia

An overview of important German manufacturers shows how many of them depend on „export“: while Canton is mainly active on the domestic market, where it is market leader, MBL and Clearaudio sell almost exclusively abroad. German industry as a whole sells mainly to neighboring countries in Europe, but HiFi manufacturers mainly target Asian customers, with the rest of the export sales mainly coming from the „rest of the world“, such as the Middle East and Australasia. ►



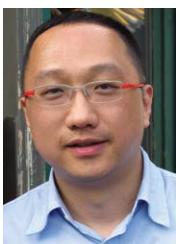
Asien

Europe incl. Russia

USA

\*According to our information

## COMMENT



**"JUNGLE" THSU**  
Taiwan Audio  
Association

» German components are as popular in Taiwan as cars by Mercedes or BMW. Quality is the most important, and „Made in Germany“ is automatically associated with the highest standard. Looking at German innovations, one can immediately see the technical approach, and while former top dogs like Mark Levinson are not so present any more, German brands are filling these niches. Is their sound superior? Depends on the manufacturer...«

## COMMENT



**LEO PENG**  
Project Manager  
at Unicorn

» The Chinese are big fans of HighEnd audio, but wealthy people don't want domestically-made devices, so „Made in Germany“ still enjoys a strong reputation. However, it's important that the products are actually made in Germany, not Far East goods labeled with famous brand names.«

## COMMENT



**PER SUNDELL**  
Swedish HiFi  
journalist

» German HiFi brands are generally held in high regard in Sweden, not least because quite a few American brands traditionally strong here are going through a rough patch. German HighEnd is first class: it looks good and is also considered reliable – just like your cars!«

the admiration and respect for German company founders is enormous.

, people like Jochen Räke of Transrotor are passed around like celebrities among customers who are so proud if the master touches their record player with his hands – and delighted if he maybe tightens a screw here and there.

Without this enthusiasm in the Far East, quite a few German manufacturers would only be worth half as much, so In Japan, China, Korea, and Taiwan, the phenomenon which in the end defines the success

of German products becomes more pronounced: that combination of top quality, a certain manufacturing system and „faces“ to “front” these claims in a credible manner.

One of the first such “faces” was Dieter Burmester who died in August 2015: he became an industry figurehead not just here but also on the international stage, blazing the trail with the eye-catching design of Burmester components, their unique chrome fronts initially helping define the image of „German HighEnd“.

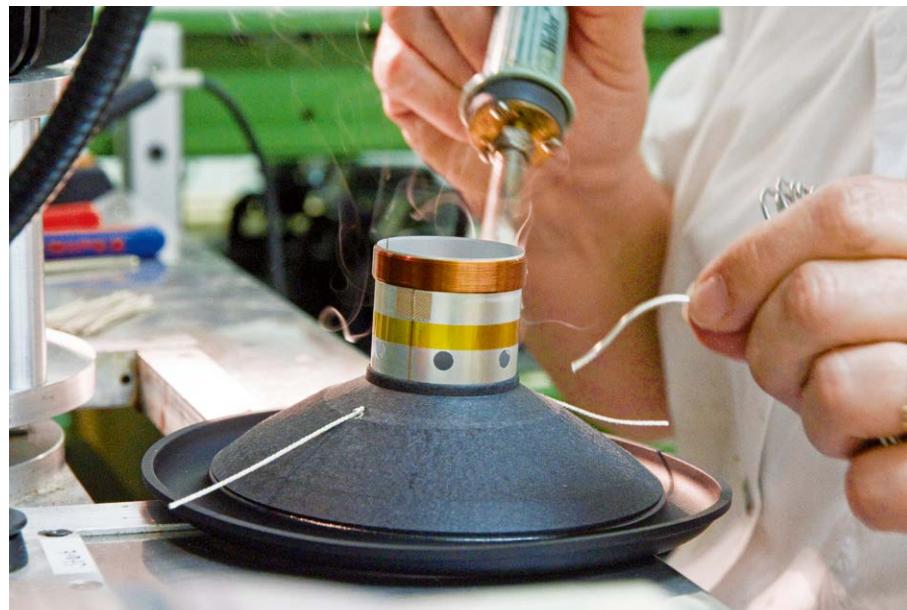
The Berlin company had rapidly noticed what others joining later would also soon realize: compared to some of

the monumental pieces of the US high end, their smaller – but excellent – devices were sometimes not taken seriously. Thus the appearance of the likes of Burmester's 909 amp or its man-high “Reference Line” speakers wasn't simply a sign of increasing confidence and greater ambition, but also a pragmatic move to meet the demands of those markets which apparently love this kind of megalomania.

That's not just the case in the US: in Asian countries things can get even more extreme, and it's impossible to make products too lavish – or too expensive. As some manufacturers report, no matter what craziness you offer, there's always



▲ Personal commitment is important in the international HiFi business, and in many cases, company bosses themselves attend overseas events: here's Andreas Hofmann of tube specialist Octave during a CES show in Las Vegas.



▲ For many German manufacturers it pays to produce as much as possible in-house, even if labor is more expensive here – at least for the upper-range products. „Handmade in Germany“ – such as here, with voice coils being soldered at Elac – is very much in demand, and allows companies to grow all over the globe.

## COMMENT



**VANCE  
DANG &  
SINH  
NGUYEN**  
Nguyen Audio

» In Vietnam there are many HiFi and HighEnd nuts, and German manufacturers are held in high regard, to the point where it's possible they will push out the American former top dogs. Younger people like Europe, and while they look towards England, they also turn to Germany. We can see that very clearly as dealer for Audio Physic and AVMS, and if your quality stays top, 'German HighEnd' will continue to be a winner.«

someone to ask „Don't you have anything larger?“ MBL is perfectly positioned for this with its „walk-in“ power amps and eye-catching components. In Asia, where the desire for showing off seemingly has no limits, devices in black with prominent golden logos fly off the shelves. If they even fit on the shelves in the first place...

Transrotor's head of marketing, Dirk

Räke, son of company founder Jochen and responsible for the export business of the company, noticed during visits from Asian customers that they are often generally Europhiles, at least in their purchases: „They not only get a nice German record player but their kitchen, furniture, car, watch, silverware, and dining set are also all from the old world.“

„We feel deep respect for European culture“, seconds Hiroyuki Machida, who works for Teac's HighEnd brand Esoteric, the distributor of Avantgarde Acoustic's horn speakers in Japan. In addition to which he also notes that many Japanese love classical music, with concert tours by European orchestras received triumphantly. That Bach, Beethoven, and Mozart are Japanese favorites means a country that produced such composers – and also the Berlin Philharmonic Orchestra – is trusted to have some sense for the „right“ sound.

### A reputation to defend

So German HighEnd providers can ride on the shoulders of cultural and industrial renown, but a good reputation is fragile and needs to be protected. That's easier said than done in a globalized world, and certainly applies to the HiFi industry,

## COMMENT



**NATALIA  
STASKOVA  
& GRIGORY  
KANYGIN**  
T-Ar

» Due to the crisis, the Russian market is currently difficult – but, in general, German HighEnd is more present in Russia than products from the USA. You guys simply make more robust products, and the promises of quality and reliability are kept. HiFi from Germany is therefore number one in the world for Russia.«

## COMMENT



**GORAN SASIC & CHRISTOPHER STROM**  
Radiance Audio Visu

» Just touching German products is something special and, in Australia, German cars really help advertise your HiFi industry. We trust that 'HighEnd made in Germany' products really are developed and produced in Germany and, if it stays this way, the success curve will keep going up.«

## „TOP SOUND – AND CRAFTSMANSHIP“



For more than 20 years,  
**ROBERT HAGEMANN**  
has been managing overseas  
sales for leading manufacturers  
including Dynaudio, Burmester,  
and Audionet.

### *STEREO: What's responsible for raising the international profile of German HiFi and HighEnd equipment?*

Hagemann: It's to do with independence, in combination with first-rate craftsmanship and a top sound. The HiFi industry followed in the wake of the Germany's outstanding reputation for machine and car manufacturing, and was thus able to establish itself next to those manufacturers from the US or England appreciated for their audiophile character.

### *The German were late bloomers but have exploded onto the scene now. Why is that?*

US and UK companies are different from their German counterparts: they immediately tackled international markets, whereas our small- and medium-sized companies often took longer.

### *Why is HighEnd equipment from Germany so popular, especially in Asian markets?*

In Asia, for instance in Taiwan – which is the most HiFi-obsessed of them all – but also in China, Indonesia, and for a while now in Vietnam, HighEnd systems are considered a status symbol, in contrast to the way things are here. In those markets you show off your system to your guests with pride, much as you would a luxury car or an expensive mechanical watch. In addition, listeners are excited about aesthetic stimuli such as sophisticated craftsmanship (where American products could never match German ones) and of course high-level sound reproduction. In many places, the way a HighEnd system offers a sensual immersion into enchanting soundscapes is valued as highly as we would view cuisine from a star chef.

What's more, there's also a certain degree of brand fetishism and the desire to own something special: customers don't want mass-produced products, much less if they are produced in their own country. That's why the image German High End manufacturers embody, with their love for the smallest detail, is so popular there.

where cheap labor is available in developing and emerging countries. With those cost advantages, it's no wonder that many cabinets for German speakers are made in China, which is able to deliver quality you could once only get in Europe, but at a much more reasonable price, and the same is true for electronic components.

Saving cost and effort without endangering the „Made in Germany“ label is a path manufacturers need to tread with care and caution, but then a Mercedes also comprises parts made all over the world. The trick is in ensuring the finished product meets world-class standards.

*Matthias Böde*

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# SHAPE-SHIFTER



It's been a while since Cyrus last brought out a phono amp.

Now Peter Bartlett, Thinker-in-Chief of the English company, has developed a clever successor with the 'Signature'.

**A** lot of time has passed since 1998, which was when Cyrus first offered up a separate and serious phono preamp with its aEQ7. But even in Huntingdon, England, where the devices have been developed and produced for more than 30 years, time has not stood still; and the continuing vinyl boom again creates an opportunity to sell unit numbers which make a new development worthwhile.

Merely offering a "me too" product wasn't on the table: if there was going to be something new, it would have to be extraordinary without sacrificing the classic Cyrus design. The result is an amp for vinyl able to fascinate analog-enthusiast dealers as much as it will reward experimenting private customers – the "Signature" offers connections and individual

settings for a total of (count them!) four record players.

Each input has a choice of MM or MC, with gain, impedance and capacitance each adjustable in several steps – and all 'on the fly' and via remote control!

◀ Remote for the Phono Signature lights up when touched

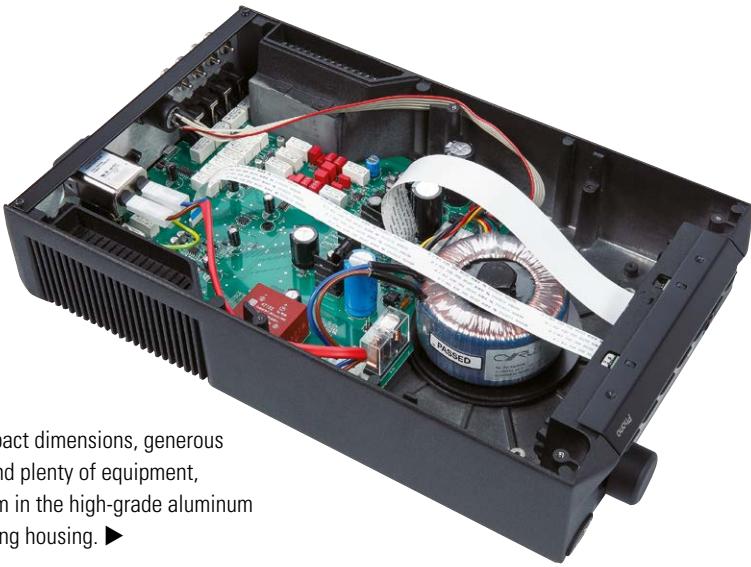


Cyrus speaks of some 160 possible combinations available from the little 8cm-tall unit: that should keep the analogue fanatics busy for a while.

And there's more: single-ended and balanced outputs allow it to connect to any system configuration. But then after all, the declared goal of the Signature is to



▲ Four phono inputs, outputs on RCA and XLR, connection for additional power supply and ground - this baby is quite flexible.



Despite its compact dimensions, generous power supply, and plenty of equipment, there is still room in the high-grade aluminum continuous casting housing. ►

stroll in the neighbors' yards - i.e. to convince owners of other electronic brands to such an extent as to make a purchase a foregone conclusion.

And Cyrus brings everything to the table for this purpose: in order to circumvent ground loops there is a ground-lift switch and if you want to move up later on you can also buy an additional PSX-R power supply.

### Thinking their way to the top

Technically, Bartlett and his crew have paid attention to keep signal paths as short as possible, and included a bunch of other details from the developer's treasure box. Special relays right at the start of the signal input keep noise away from the extremely weak signals of the pickups, while the power supply is as far as possible from the input, its toroidal transformer produced by Cyrus specially for this purpose. If the optional external power supply is connected, the built-in transformer only drives the display and the relays.

The Signature has other bonuses: a built-in level meter makes it possible to adjust the input level precisely in order not to risk dynamic losses, while a low-cut filter, here called "warp", which cuts off frequencies below 15 Hertz.

### Cyrus house sound

Using the Signature is fun, and you can 'get your head around it' without recourse to the manual - well, maybe with the exception of the level display, without which you could definitely live. In order to figure out its sound character and qualities precisely, we selected the

finest equipment: the Transrotor Rondino equipped with Figaro MC pickup on an SME 3500 arm, pre/power amp combo by Accustic Arts, and Octave's great V80 power amp, as well as top cables by Inakustik, Chord, and Audioquest.

Connected with 100 and sometimes 150 Ohm, the phono preamp shone with a taut, precise, and wonderfully transparent bass range: Robert Lucas's interpretation of "Good Morning Little Schoolgirl" was gripping, outstanding in bass and broad over the rest of the range, without letting any doubt arise about the position of the musicians, while dynamically, we had to go to a top caliber rival in the form of Brinkmann's Edison reference phono amp to surpass the true qualities of the Cyrus.

It reproduced guitar music, such as that on Opus 3's "Duodecima", with corporeal presence and verve. Details were integrated into the music and always felt like a natural part of the performance, not artificial additions. The attack and fidelity with which the Signature reproduced the string instruments made us tingle. Even complex guitar sounds, including Ry Cooder's, are proffered to our ears in chiseled detail without ever losing sight of the whole.

Yes. It may only be 'half portion' in terms of its size, but the Cyrus even shone with old heroes like the Rolling Stones on their Sticky Fingers album. When Mick Jagger becomes delirious in "Sister Morphine", and the room atmosphere changes with the emotion of the singer, the Cyrus does not hesitate to let the hearer in on the secret.

No question, the Cyrus Signature offers a lot more than just features!

*Michael Lang*

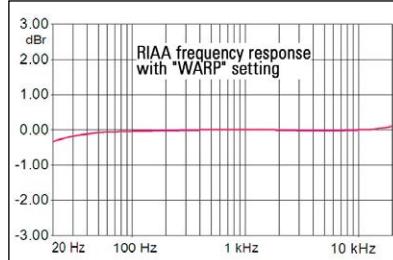
### CYRUS PHONO SIGNATURE



approx. € 1,800  
Dimensions: 22 x 8 x 42 cm (WxHxD)  
Warranty: 5 years with registration,  
Contact: Cyrus Audio  
Phone.: +44 1480/41000  
[www.cyrusaudio.com](http://www.cyrusaudio.com)

An „I've got it all, I can do it all“ phono preamp. Sensational equipment and just as sensational sound, it will definitely find its fans!

### MEASUREMENT RESULTS



Distortion at 5 mV/1 kHz/1 kOhm (MM)	0.015 %
Intermodulation at 0.8 mV/8 kHz/60 Hz	0.04 %
<b>Signal-to-noise ratio:</b>	
Phono MM for 5 mV/1 kHz/47 kOhm	83 dB
Phono MC for 0.5 mV/1 kHz/100 Ohm	69 dB
Channel separation at 1 kHz	59 dB
Overload stability MM/MC	112/3.2 mV
Load ratings	practice-oriented
Output impedance at 1 kHz cinch	45 Ohm
<b>Power consumption</b>	
On   Standby   Idle	0.2/8 Watt

**LAB COMMENTS:** We found excellent to very good values in the lab. The frequency response is linear, there's hardly any hiss, distortion is vanishingly small, and the overload stability is aimed at practicality. Low output impedance, low power consumption.

### EQUIPMENT

Four phono inputs, each with separate MM and MC system switch, all settings storables; XLR and RCA phono output; ground terminal; impedance and capacitance as well as gain adjustable in steps; low-cut filter; display, remote control; ground-lift switch; additional power supply available; manual



STEREO-TEST	
SOUND QUALITY	91%
PRICE/PERFORMANCE	
 <b>EXCELLENT</b>	



# SMARTER STORAGE

Entotem's „Plato“ media server can record analog and digital signals from any source – and even better, it knows what it's storing, thanks to intelligent metadata look-up

**J**ust when you thought you'd seen it all, something comes along to put you right. And digital storage done right is the intention of Entotem's Plato, probably the most comprehensive media server we have ever had on our workbench.

However, if you look at its raw ingredients, the Plato doesn't look all that extraordinary: the developers from Derby, England have taken a standard micro-computer and packaged it together with three Terabytes of storage, a huge power supply and D/A converter. To this

they've added a preamp – digitally controlled but at its core completely analog – and then packaged the whole thing in a massive housing.

## Modular amp

And there's more: the module design will allow other facilities to be added to the Plato, the first – and as of yet only – option being a pair of power amps, delivering roughly 100 Watt apiece, which can be inserted into the device. Yes, they catapult the price from € 4800 to € 6000, but they do also turn the server into a complete 'just add speakers' system, with Speakon outputs for which Entotem offers suitable adapter strips allowing single-, bi, and even tri-wiring.

The Plato's onboard DAC is Wolfson's excellent WM 8741, which supports 24/192 as well as the DSD format (although at the moment the software doesn't offer DSD capability). There's also a Texas Instruments A/D converter, used to digitize incoming analog signals from the three line inputs as well as the built-in phono preamp. And that phono

*Plato recognizes incoming audio signals via the Gracenote database (in this case a record player) and displays the corresponding information. This also works with tapes and other sources.*



section is very far from being just there to make up the numbers: our measurements revealed it to be noise-free and very linear, the server's touchscreen allowing MM/MC switching and the option of a low-cut filter. As with all other connections, it's possible to fine-tune the volume and gain of the phono input.

For something so fiendishly capable, the Plato is simple to use: tap the touchscreen during the reproduction of any input source, and the base menu pops up with volume control and two function buttons. One allows the recording of analog and digital inputs onto the server, while the "Mon" button even lets you simulate a 'read after write'.

And it works very well, even with analogue inputs: in our tests, the qualities of our sources – including Clearaudio's Performance DC – were captured outstandingly, and while for vinyl we preferred the silky smoothness of recordings made at 96 kHz resolution over the minimally brighter 192 kHz, that's probably just a matter of taste. Your mileage, as they say, may vary.

### Intelligent recording

Anyone who has ever recorded analogue sources to digital storage will be familiar with the labors of track-division, tagging and searching for cover art, and here's where the Plato really scores. Using its Internet connection, it compares incoming audio signals with the Gracenote database: within few seconds of putting on an LP, cover, artists, and album title appear on the display.

And it does so with almost uncanny accuracy: Entotem points out that in rare cases this process can lead to erroneous results, but in our tests there were no



*Every signal input can be named and given a symbol. The input volume, balance, and signal delay (for video sources) can be trimmed and a decision made whether to search for the signal in the Gracenote database. For recording, every source can be assigned an individual sample rate and resolution.*

problems – it even works with tape decks or analog-connected Tidal or Spotify streams, and since Plato identifies every song individually, it even tags mix tapes.

After playback, imported music is initially represented as a colorful accumulation of individual titles, at which point another sensible feature kicks in: new recordings aren't immediately stored in the media library but first put in a cache 'waiting area', reached using a well-designed file manager. This allows songs to be edited, start and end points to be defined (see next page, or tags adjusted – you can even merge individual titles into albums while retaining the cover of their source albums, which makes compilations simple.

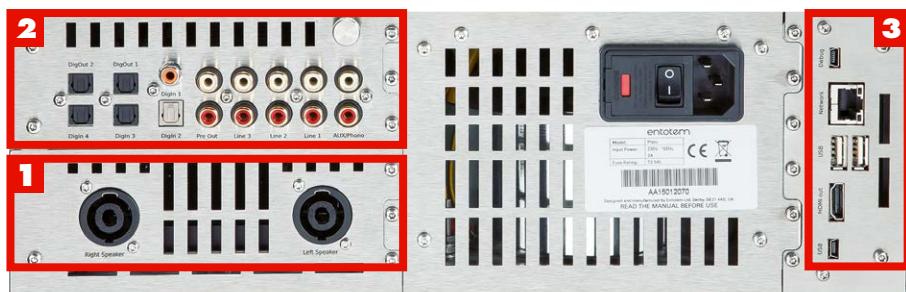
With all that done, the data can be finished and transferred to the main media library for listening, while this file manager also allows bulk import of content:

Plato doesn't have a CD ripper, so this is the easiest way to transfer a lot of music files. We transferred a mirror of our music collection onto a USB drive and plugged it into the front-panel USB socket, and after that it was just a matter of using the file manager to select that drive and then holding down the master data index button. This opens a sub-menu with the import function.

### Google inside

Entotem chose Android as the OS for Plato: a good decision, since Google ensures regular updates and provides a huge range of functions and, since Plato supports apps, you can expand it as you wish. A web browser to search for cover images is already pre-installed; Tidal runs, so does Spotify; and we were even able to improvise DSD using Onkyo's HF player.

The server can even output full-HD



*Our test sample has the internal power amp option 1, and comes with Speakon adapters (left). The back view shows that the audio signal processing 2 and computer core of the server 3 are cleanly separated within the unit.*



videos via its HDMI output, which we tried out via Netflix, and can also play videos directly from its internal hard drive. Theoretically it should also run mobile games, e-mail apps, and everything else – if that makes any sense. It's a long way from the concept of a stripped-down, single function music server.

Of course, this flood of possibilities comes at a price: the interface of the touchscreen does not hide the complex

#### READ AFTER WRITE

A facility provided on some tape to allow monitoring of a track from the tape as it's recorded, using a second playback head just 'downstream' of the recording head.

core of Plato and thus looks correspondingly busy, which doesn't make it easy to operate the device 'hands on' when it's in a hi-fi rack – a situation further complicated by the fact that most functions have multiple options.

The solution, as so often these days, comes in the form of a tablet, ownership of which is pretty much a pre-requisite if you're to get the most from the Plato. And just for once the ubiquitous iPad isn't the weapon of choice: Entotem offers a free Android app which mirrors the entire system of the server one-to-one, making relaxing and listening to music a whole lot more fun, while the iOS app also available is a bit more rudimentary.

That's good news, given the plethora of very affordable Android mini-tablets available these days, many of which can be bought for a fraction of the price of the Apple equivalent.

The manufacturer advertises this server with the words "Don't fear complex technology!" and in general we agree: for a machine of this complexity, Plato is pretty easy to operate. However, a computer with this many features would require a certain degree of work to get to know it, and a 60-page user manual (only available as PDF) should be your constant companion, at least in the early stages of ownership.

#### Linear character

Fortunately, Plato rewards this learning phase with outstanding performance: as already indicated, in terms of measurements the server is one of the best we have ever seen in a computer housing. No matter whether jitter, distortion, linearity, or D/A conversion, the Entotem can keep up with competitors like Naim's HDX or Burmester's 151 in every discipline.

It sounds very relaxed and balanced, has a fantastic soundstage image, and fine solidity and fluidity, and in particular brings high-resolution recordings to life in the room as music. However, it does need the right speakers: with 2 x 53 Watts for eight and 81 Watts for four Ohms, its optional internal power amps aren't the gutsiest. Using DALI's highly efficient Epicon 6 it was able to develop superb dynamics in our sound booth and outline fine musical detail, but if you want to use it with exotic speakers it would be best to avoid the built-in option and use the Plato with a separate power amp.

*Carsten Barnbeck*

## ENTOTEM PLATO

Price: about € 4800  
(without power amps)  
about € 6000 (with power amps)  
Warranty: 2 years  
Dimensions: 37 x 13 x 30 cm (WxHxD)  
Contact: Entotem Ltd.  
Phone: +44 1635/280505  
[www.entotem.com](http://www.entotem.com)

Entotem delivers a true functional giant with its Plato. In addition to the sound, we were really convinced by its recording feature.

#### EQUIPMENT

**Concept:** Server (3 TB) with music and video reproduction; can be used as UPnP source

 AC phasing on test unit in home networks and access other network memory; Android OS; recording, data editing directly on built-in touchscreen or via tablet; optional internal power amps with 53 (8 Ohm) or 81 Watt (4 Ohm) output

**Inputs:** 3 x line, 1 x phono MM/MC, 2 x digital (coax/optical), 4 x USB

**Outputs:** 2 x digital (TosLink), 1 pre-out

**Formats:** FLAC, ALAC, MP3, M4a, WAVE, AAC, MOV, MPEG2, MPEG4, H263, H264, all up to 24/192

**Equipment:** Ger. manual (only as PDF), free remote app (Android/iOS), optional Speakon speaker cable for single, dual, and triple wiring (with power amp option)

#### RATING

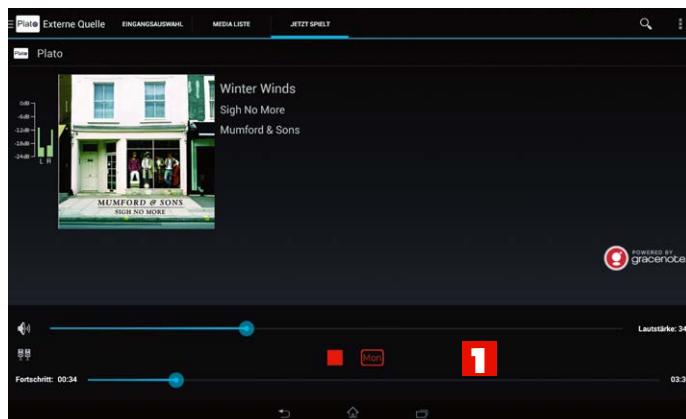
### STEREO-TEST

SOUND QUALITY **89%**

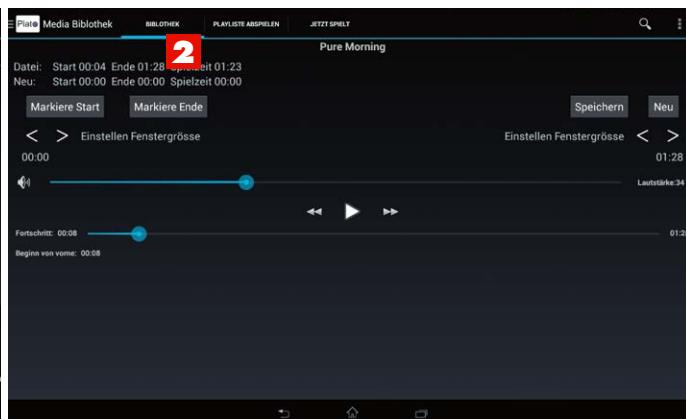
PRICE/PERFORMANCE



**EXCELLENT**



The red record button **1** lets you capture incoming signals easily, and fresh recordings first land in a cache where they can be edited. Two buttons **2**



can be used to mark the silence at the beginning and end of the audio clip. These overlaps are removed when the file is saved.

# ELAC

The life of sound.



One component, infinite sound.

Discovery Music Server DS-S101-G



ELAC Discovery Music Server – Discover music, experience the comfort

The Discovery Music Server is designed to be the heart of a serious music system offering playback of local music and streaming music (directly from USB storage media or NAS-Drives). It doesn't matter what kind of music file format you have – the Discovery will organize and gather the rich metadata for your entire music collection (up to 24bit / 192 kHz).

Multiroom with passion

# CANTON'S K QUESTION

The „Reference 9.2“ was a superb and affordable compact speaker in the top class. The 9K is supposed to be even better.

**T**he smallest model in the current Reference K portfolio presented at last year's High-End, though 40cm tall, is still a compact speaker, designed to be positioned at ear height on stands. Compared with the previous Reference 9.2, the volume has been "opened up" a bit more, in order to deliver bass reproduction that doesn't lag behind that of small to medium floorstanding speakers.

The 25 mm dome tweeter, with its ceramic/aluminum-oxide diaphragm, is derived from the "9.2", but has been further developed with the waveguide

already known from the "Jubilee", to enhance its dispersion characteristics. Also for the K series all the larger drivers benefit from the improved speed, robustness, and lack of coloration delivered by the company's "ceramic-tungsten" membranes and "Wave" surround.

In the novel cone design, up to 20% of the aluminum is transformed into a ceramic material, into which tungsten particles are introduced to give optimum rigidity-to-weight and improved self-damping properties. Meanwhile the "Wave" surround allows maximum excursion while maintaining a pistonic action.

The extreme stiffness of the 180 mm driver used in the 9K is supposed to come extremely close to the ideal of warp resistant, piston-like movement even at abnormal volumes. The natural resonances of all drivers thus lie clearly outside of the transmission spectrum, the tweeter's grid and special acoustic lens ensuring that the resonance peak above the audible range is damped. The shiny, twelve-coat piano finish of the strikingly heavy bass reflex housing is available in gloss white, black, and cherry, with the grilles attached to the baffle magnetically.

## All grown up

Like all K-models, the new 9-series has grown up tremendously in terms of effective internal volume, and this is reflected in lab measurements which attest to this still-compact speaker's lower cutoff frequency of 31Hz – usually the domain of large floorstanding models. Except for the very lowest registers of a church organ, this compact flagship from Weilrod now covers the entire instrumental spectrum – exactly what development chef Frank Göbl strove for in his aspiration to deliver spectacular, vivacious and "complete" speakers, stable even at high levels.

◀ The matching LS 850.2 stands came to us already filled with sand. Canton's curvaceous, gloss-lacquered enclosures are definitely not cheap to produce.



Even though its predecessor was a fantastic speaker, which could already replace a small floorstanding design, the 9 K goes a step further than to its "larger chest" and the new driver. That's not just by luck – there's no such thing as coincidence at Canton. Doesn't happen. Instead, the engineers spend many hours with simulation software, measurements, and material research, and In addition to resonance spectra, omni-directional diagrams, and laser interferometry, we have been shown extremely precise illustrations of the pressure distribution in the speaker housing based on which the material thickness and struts in the cabinets are designed.

In fact, only the mounting of the drivers is subject to countless man-hours and sound tests in Weirdo, helped by the fact that Canton doesn't use standard drive-units but develops its own, its best designs then successively trickled down to other models over time, similar to the way the car industry operates when it comes to core technologies.

The corresponding LS 850.2 speaker stand, to which the 9 K can be firmly bolted, has also been designed to accommodate the clearly larger housing.

### Breath-taking pressure

Pressing "play" almost feels like unleashing the Kraken, an effect made doubly dramatic by preconceptions that a speaker

so compact shouldn't be able to project as much physical presence as. The fierce, attacking, driving bass in the title piece of Chuck Mangione's "Children Of Sanchez" will leave you sitting on your chair with your mouth open – after all, small monitors can usually only deliver rather tired and irritating sounds from this piece, whereas here you'll be blinking at the sheer physical impact. But the Canton can do a lot more.

More sensitive, less visceral, music shows that these speakers are also unusually refined, the midrange presented with phenomenal clarity to give Eva Cassidy's "Somewhere Over The Rainbow" full expression even a trace of harshness. The Cantons create an open, spacious, and accurately layered soundstage, placing the musicians of German folk band "Cara" almost visibly in front of the listener.

Let's cut to the chase: the 9 K can basically do it all. Audiophile sophistication? Check! What some of my colleagues (disdainfully?) term "fun speakers"? Check, and all in one – for me that's the way it should be, as I really wouldn't want to have to change speakers or even the entire system for every CD or record.

Considering what it offers, the Reference 9 K is almost too cheap, and even if you're considering compact floorstanding speakers up to the 5000 Euro class, you should definitely take a look at (and a listen to) these speakers at about half that price – they even look great, albeit in an understated sort of way.

Maybe she's the one: invest in proper electronics, e.g. a musical Symphonic line power amp, which will inspire it, drive it to top-performance, and make it "sing". My hat is both raised, and blown off!

*Tom Frantzen*



▲ High-quality components are used throughout the Reference K series crossovers.



Canton's own bass and mid/bass drivers use an aluminum-tungsten-ceramic membrane in a long-throw design with extremely powerful "motors". ►

### CANTON REFERENCE 9K



Pair starting at € 2,600

(stand LS-850.2, € 500)

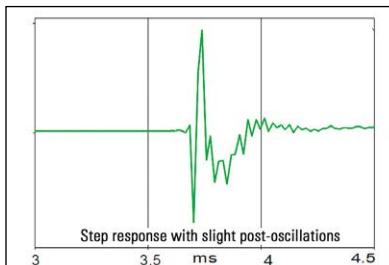
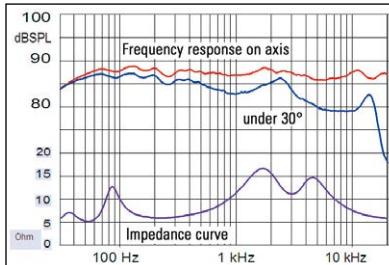
Dimensions: 25 x 40 x 38 cm (WxHxD)

Warranty: 5 years

Contact: Canton, Phone: +49 6083/2870  
www.canton.de/en

Unbelievably dynamic and powerful compact speaker with refined musicality plus the assertiveness of a floorstanding speaker. Highly recommended at the price!

### MEASUREMENT RESULTS



Nominal impedance	4 Ω
Minimal impedance	5 Ω at 53 Hertz
Maximum impedance	17 Ω at 1800 Hertz
Nominal sound pressure (2.83 V/1m)	86 dB SPL
Power for 94 dB (1m)	13 W
Lower cutoff frequency (-3 dB)	31 Hertz
Distortion at 63 / 3k / 10k Hz	0.3   0.1   0.1 %

### LAB COMMENTS

On axis, the Cantons displayed a balanced, almost linear amplitude frequency response and ranged down to 30 Hertz! Below 30° it decreases significantly. It should therefore be turned towards the listener. The efficiency is good at 86 dB, as is the step response with slight post-oscillations.

### STEREO-TEST

SOUND QUALITY **95%**

PRICE/PERFORMANCE

**OUTSTANDING**



# DOC BROWN MEETS MR. TESLA

The top model LCD-4 of the American producer Audeze looks like it is inspired by the oddball inventor of the „flux capacitor“ in „Back to the Future“ and the Croatian physicist. And its price by Tiffany's...

**T**he Audeze LCD-4, the American headphone manufacturer's top model, looks like a joint venture between the oddball inventor of the flux capacitor in "Back to the Future" and Serbian America physicist Nikola Tesla. Its price, meanwhile, is pure Cartier...

The price barrier for headphones was completely demolished when Sennheiser launched its near-€ 50,000 Orpheus, beside which the € 5,000 demanded for the Audeze LCD-4 is not really that shocking. Audeze (pronounced as though written by Homer) was founded in 2008 by Sankar Thiagasamudram and Alexander Rosson, along with busy NASA developer Pete Uka. Swiftly reinforced with the addition of Dagošlav Colich as technical director, the company was soon gaining international recognition with its series of remarkable headphones.

The LCD-4 is designed to invade the territory of the recent HE 1000 by Hifiman and the large Stax 'phones, and even the first encounter demands respect: the 680g weight demonstrates the solidity of the workmanship. Is it elegant? Well, that's a matter of opinion, but to these eyes it's spoiled by the numerous screws holding together the components. Functional chic, perhaps?

Audeze has developed a number of technical ideas to make the headphones "loud" and dynamic, not least of which is a possible record 1.5 Tesla of magnetic flux, achieved by a patented arrangement of magnets dubbed "dual fluxor". The energy may not be quite enough to facilitate time travel à la Doc Brown, but Mr. Tesla, who gave his name to the standard unit of magnetic flux density, would presumably approve.

A lot of work was also put into the headband in order to create something

innovative, using a carbon band above the leather to combine the required 'clamping force' with comfort.

In addition, the open, circumaural earpieces contain extremely thin planar magnetic driver membranes, designed to set new standards for resolution and impulse accuracy as well as outstanding soundstage representation. As in the EL-8 model, this



▲ The 4-pole earpiece connection jacks for the cable feel solid

## AUDEZE LCD-4

approx. € 4,800, weight: 680 g  
Warranty: 3 years  
Contact: Audeze  
Phone: +1 714/5818010  
[www.audeze.com](http://www.audeze.com)

Extremely fine resolution without ever becoming over-analytical. Clean bass even at high volumes. Despite their weight they are comfortable to wear.

### EQUIPMENT

Adjustable headband, plug-in connection cable, 2 different high-quality cables with XLR and stereo jack, cable length ca. 2 m, soft replaceable leather cushions, high-quality workmanship with love of detail, gloves, manual

### STEREO TEST

SOUND QUALITY	100%
PRICE/PERFORMANCE	
★ ★ ★ ★	GOOD

top model also uses 'fazor' technology, involving acoustical elements on both sides of the magnets: these have a positive impact on the frequency response as well as the high range resolution while at the same time reducing distortion and, according to the designers, delivering that improved spatial reproduction (a traditional weakness of headphones). It's all about complement the positive characteristics of the ultra light membranes, drive right across their surface, and the strong neodymium-magnet 'motors'.

The massive, asymmetrical ear cushions are very pleasant to wear but, as usual, you have to look for a second to find which is

the left and which the right side. The labels are very subtly hidden on the inside of the headband in matte engraved print, to the point that – as with most of its competitors – the chances of finding the channels in the dark tend towards zero (though that asymmetry helps!).

Plus points include the high-quality plug-in cables included in the set, each about 2m long and offering a choice of stereo jacks or XLR format, and stored along with the headphones in a practical, cushioned plastic travel case.

It's good news that these technical fireworks are completely made in the USA and not some discount country: while we don't feel this justifies its astronomical price, it at least helps us understand a little bit when comparing it to the pricing of its competitors.

In terms of sound, things got off to a strong start: the power with which the LCD-4 blasted sounds by Leontyne Price, Jan Garbarek, or Monty Alexander into the ears of the listener felt matchless. While these 100 Ohm headphones were a bit quieter than the Hifiman 1000, when used with the Malvalve reference headphone amp they were able to depict dynamic subtleties we'd never heard before. The bass was clean and detailed, although unable to distinguish itself from that of our reference headphones even after a few days of break-in.

It was interesting how the Audeze spatial reproduction: the sound wasn't quite as clearly ordered as it would be with good speakers, but it did separate quite astonishingly from the confines of the earpieces and project itself into a wide and cleanly

encircled space, sounding clearly less diffuse than with our other reference headphones. In terms of sound, Garbarek's saxophones, especially the soprano on "All that is beautiful" (how true!), had a touch more presence than usual, but this was without distortion or harshness.

These are headphones delivering a thrilling musical experience, meaning you'll want to keep on listening: it's fortunate, then, that they're comfortable to wear over extended periods – despite their not inconsiderable weight.

*Michael Lang*



▲ The LCD-4 is a very solid set of headphones made of stainless steel, wood, carbon and leather, and using powerful neodymium magnets.



▲ The asymmetrical soft leather cushions keep the LCD-4 comfortable despite its heft.



There's a choice of high-quality cables, using stereo jacks or XLR plugs. ▶

◀ The LCD-4 can be safely stored in the foam cushions of the included case.



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consider it the ultimate expression of our art.

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# SPECIAL? VERY...



Special Editions are nothing new in the world of audio, but the serious upgrades involved in the „SP“ecial edition of Avid’s Diva II mean this version of the successful British design more than lives up to the name.

**C**areful! These things are slippery! We are, of course, talking about the two short drive-belts used on the Diva IISP turntable, the latest model from British analog specialists Avid. And you’re going to need nimble fingers: only if you can thread two belts on top of each other on its flat inner platter can you even get started.

You should wear thin gloves for this exercise because you still want to be able to feel the belt but also protect it from

sweat and grease, otherwise it may slip and affect the evenness of the drive.

The rubber bands are pulled over a pin placed on the outer edge of the platter which is then slipped over the bearing sitting on the stiff, skeletal metal chassis of the turntable Diva, so that the spindle of the free-standing motor block locates directly into the open triangle formed by the pre-tensioned belts. Then carefully spin the 6.3 kg platter with your hand so that the flexible bands fall into place

## TEST COMPONENTS

RECORD PLAYER: Transrotor Rondino nero, Clearaudio Ovation / Clarify / Talismann V2 G.

PICKUP: Benz ACE SL, Brinkmann Pi, Clearaudio Maestro V2

PHONO PREAMP: Brinkmann Edison

PREAMP / POWER AMP: Accuphase C-3800/P-6100

SPEAKER: DALI Epicon 6, Focal Sopra No2, T+A Solitaire CWT-1000-8 SE

RACKS: Finite Elemente, Time Table

correctly around the motor pulley. Finally, remove the pin and turn the turntable one or two revolutions so that the belts align nicely on the sub-platter and don’t jump off as soon as the motor starts up

### Precise control per DSP

By this point you may get the feeling that this “super-Diva” is going to be demanding to use, but far from it: the delicate-looking but robust turntable turns out to be a sophisticated but fuss-free vinyl player (at least after the above-mentioned finger exercises).



◀ The normal Diva II, with which the „SP“ only shares its basic aluminum chassis.

High-quality materials form the inverted bearing with the center of gravity on top for a favorable mass distribution. ▶



While the base version already has a powerful power supply, the “P.S.U.” supply used here is in a completely different class. Not only does it offer an electronic switch between 33.33 and 45rpm, it also controls the motor via a DSP-based switch which creates a precise 50 Hz sinewave for accuracy, these electronics being taken directly from Avid’s rather more upmarket Volvere SP.

The same is true for another “central” but invisible item: the bearing itself. While the shaft of the standard Diva is aluminum, the DivaIISP again follows the more expensive model with a hard stainless steel shaft. A stainless steel ball is placed into a small indentation on the top of the bearing shaft and then the platter with its extremely smooth and durable sapphire plate placed on top.

This forms a “inverted bearing” combines a high tilt point and low center of gravity: the mass of the table hangs from the bearing instead of being supported by it, as is the case in lesser designs, this

construction being engineered to aid the stability and steadiness of the playback process tremendously.

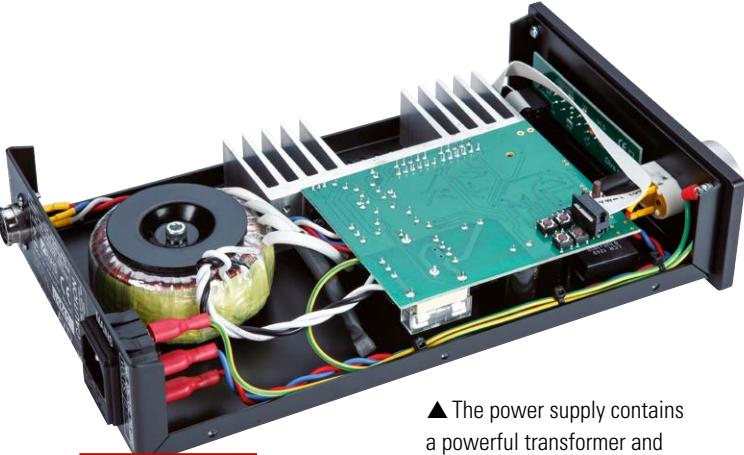
### The right arm: SME M2

To support all this, a stable backbone is needed, and the Divas provide this in the form of an extremely stiff one-piece aluminum skeleton with no resonance-prone cavities, and offering a minimal surface area to avoid reflected energy. In order to eliminate vibrations it sits on three feet damped with Sorbothane, with three different thicknesses and viscosities of the material used to achieve damping over a wide bandwidth.

Good-quality tonearms – such as the Rega RB301, which at the time was our weapon of choice – suit the standard Diva

II, but the SP demands more, and top-notch arms won’t be wasted on it. Avid CEO Conrad Mas recommends SME’s entry-level model, the M2, and supplied this arm with the review sample. It was a great choice, as we soon discovered: so equipped – and here it makes no sense to beat around the bush – the Diva II SP is the bomb!

Immediately impressive is the way this fleet-footed turntable combines grandeur with concentrated energy and gnarly, organic bass which doesn’t soften even in the lowest registers. The powerful, vibrant “Exactly Like You” from the inspired “Soular Energy” album by the Ray Brown Trio was never at risk of losing its form or softening, while the acoustic bass driving “Wake Me Up...” on the



▲ The power supply contains a powerful transformer and a quartz-controlled electronic motor control.

The aluminum skeleton is made from one piece for optimal stiffness. The motor is freestanding to avoid any contact with the chassis. ▶



▲ The two drive belts are pre-tensioned with a small pin, and a slight bit of spinning moves them onto the pulley. Sounds more complicated than it is, fortunately!

**AVID DIVA II SP**

approx. € 5,290 (drive ca. € 3,590, pickup arm SME M2 ca. € 1700)  
 Dimensions: 45 x 15 x 39 cm (WxHxD)  
 Warranty: 5 years (with registration)  
 Contact: Avid, Phone: +44 1480/869900, [www.avidhifi.com](http://www.avidhifi.com)

The more expensive „SP“ version of Avid's Diva II is a definite step up from the already first-rate base model. Out simply, you can't find a better motor unit for the money and SME's M2 arm is a perfect fit.

**EQUIPMENT**

External motor with DSP control and rpm fine-tuning, record clamp, power cord, illustrated manual.

**STEREO-TEST**

<b>SOUND QUALITY</b>	<b>94%</b>
<b>PRICE/PERFORMANCE</b>	
<b>EXCELLENT</b>	

STEREO listening test LP was vivacious and crisp but never interfered with the singer. This makes listening fun!

While the ‘basic’ Diva II displayed a very concentrated, musical timing, the SP was incomparably more versatile in its rhythmical expression and even snuck up very close to our reference turntables, only lacking just the last iota of composure. However, the assuredness which it staged fleet-footed Baroque concerts, and just seconds later let the wide-ranging melodies of Beethoven's “Pastoral symphony” breathe freely, is deeply impressive.

This is where the complex control electronics implementation pays off, although it must be connected to the power grid in the right phase (see diagram below) unless it's to lose its gentle touch and push the energy into the upper mid-range at the expense of balance.

Dynavector's € 730 DV-20X2L MC cartridge (see images) created a tremendously harmonic combination, which completely lives up to the refined sound of the turntable. It's a great match for the dry, defined presentation of the Avid/

SME M2 combination, and plays to the pairing's tight, controlled sound: any sign of a smooth or slightly rough sound immediately makes clear the effect of the screw-down record clamp, provided to press the disc onto the standard cork mat and ensure the record, mat and platter move as one.

**Suitable for MM and MC**

The effect of switching to Clearaudio's Virtuoso V2 MM cartridge (about € 750), which we mounted while searching for further perfect matches, was a matter of taste when. The livelier cuts from Diana Krall's “Live In Paris” album sounded tremendously loose and lively, with the bass possibly a hint more rounded than with the Dynavector, but fantastically three-dimensional.

The more we got to know it, the more we fell in love with Avid's DivaIIS: once set up it's a fuss-free record player, yet really offer sup “SP”ecial qualities in terms of its electro-mechanical and sonic performance.

*Matthias Böde*

**AVID – DRIVEN BY DISSATISFACTION**

Like many other HiFi developers, Conrad Mas began his career as a hobby: a music enthusiast, he read every book he could find about electronics, mechanics and manufacturing, but his impatience made it hard for him to wait until others improved their products, so he decided to implement his theoretical knowledge into practice.

Avid is based in Kimbolton, near Huntingdon, and here Mas develops his products and ensures the company's workmanship is constantly at the highest level, with a very deep vertical integration which may be astonishing to a layman. Mas, as an admitted perfectionist, detests assembly machines.

When discussing the benefits of his products, you can question him for hours without the 54 year-old getting bored of answering, one of his favorite subjects being power supplies: he offers various qualities, always matched to the motor it is designed to supply. „In principle, power supplies are power amps – just in different performance classes“, he explains.

Mas has preserved his enthusiasm over the



**Conrad Mas**, 54, is the founder, owner, and chief developer of Avid.

years and consistently expanded his knowledge, even after initial success at the „Penta Hi-Fi Show“ in England and an order of 18 record players. However Mas is not just a tinkerer who turned his hobby onto a profession: he is also a salesman. So it no wonder that this company, which is celebrating its 20th anniversary, presented its first phono preamp a few years ago and since then not only carries a whole series of turntables but also a complete electronics line. Just in time for the last „High End“,

Mas and his eleven-man team surprised the audio

world with a reference series consisting of preamp and mono blocks, crowning his striving for perfection. The price is also regal at £ 80,000 pounds sterling.

Word spread quickly in the UK that Avid produces precise and constant high quality, even reaching the ears of Aston Martin, who took advantage of Mas' know-how for a while. The self-taught Mas sees his strength as supplier in his reliability: „We deliver

the ordered units on time and at the required quality level – so we accomplish about 20% of our sales with German virtues“, he laughs.

Lately, the passionate music fan has rediscovered his love for old mono recordings, which he feels have less hiss and where crackles are less conspicuous.

We wanted to know what his plans were for the near future: he says that within a year or so, there will definitely be a new headphone amp, designed to be universally usable. In the medium term, it would not be surprising if Mas, whose calm exterior hides a restless soul, came out with his own tonearm, to further enhance his record players.

*Michael Lang*



▲ The inconspicuous company headquarters of Avid – bursting at the seam. A move is impending.



## THE PERFECTIONISTS

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**Life Like**  
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OBSSESSED WITH HIGH RESOLUTION

# STATEMENT OF INTENT



Combining two long-running Naim interests – network music playback and separate pre/power amps – this latest combination also contains the company's most recent technology from the „Statement“ project.

The circuit topology of the NAC-N 272 network preamplifier and NAP 250 DR power amplifier (a feature of the Naim portfolio for 30 years in various forms) was based on nothing less than the 200,000 Euro „Statement“ amp project. Mainly developed by Steve Sells and his team, Statement created a stir about two years ago at the High End in Munich – now it's time for its technology to start trickling down.

The current NAP 250 DR was given the latest high-current NA009 output transistors: designed for ultra-low noise and thermal stability, they were developed for Statement, and are now also found in the latest DR versions of the larger and

more powerful NAP 300 and NAP 500, along with the titular „discrete regulator“ technology, again designed for stability and low noise.

The Brits, who were among the absolute pioneers in terms of high-end streaming with the Uniti and then ND- ranges, equipped their preamp (generally analog and built with selected, paired components according to purely sound-related criteria) not „just“ with a top-class DAC but also complete Naim network playback engine, capable of handling data up to 24-bit/192kHz and also DSD64. That gives the NAC-N 272 access to directly stored sources, including Internet radio, Spotify Connect and Tidal, as well as the

music data on the home, delivering them all at the highest quality.

The NAC-N 272 also profits from ideas borrowed from their in-house reference class. The extremely high-performance signal processor – which can process WAV, FLAC, Apple Lossless, AIFF, AAC, MP3, as well as DSD64 – is based on that in the NDS flagship player: with jitter optimization, filtering and data buffering all included, Naim says it has a strong impact on the achievable sound.

## Digital competence

The digital commitment of the British company, which over the past few years has been not just well above average but virtually pace-setting, is all the more notable considering Naim's past caution over all things digital: in earlier Naim CD players not only the motorized drawer but also digital connections were frowned upon. All that's in the past: the new commitment is underlined by no fewer than six digital inputs, not to mention a control app running on iOS and Android smartphones

and tablets. Of course, analog and digital parts of the preamp are intentionally and very effectively separated from each other, using optocouplers in order to virtually preclude mutual interference.

The level control derived from the top preamp, the Statement NAC S1, is purely analog in its operation but it is controlled digitally, which ensures precision and complete channel-matching.

As well as the streaming options already mentioned, the NAC-N 272 also offers aptX Bluetooth, USB input, and multi-room capability with Naim Mu-so, ND- and Uniti models.

The integrated Class A headphone amp recognizes when headphones are plugged in and the DAC increases the output current of the preamp to a five-fold in order to fit all headphone impedances, while optional upgrades include a tuner module for radio reception in VHF and DAB+ and sound enhancements using external power supplies.

### Sound orientation

We have to mention the exemplary mechanical design, which includes the already mentioned optimization at the



▲ The Naim preamp even masters audio streaming. The power amp definitely requires banana plugs.

module and component level as well as matters concerning circuitboard mounting, socket wiring and component positioning: the engineers in Salisbury recognized sound-related connections early on and attempt to prevent microphony as a sound-hampering influence at all costs.

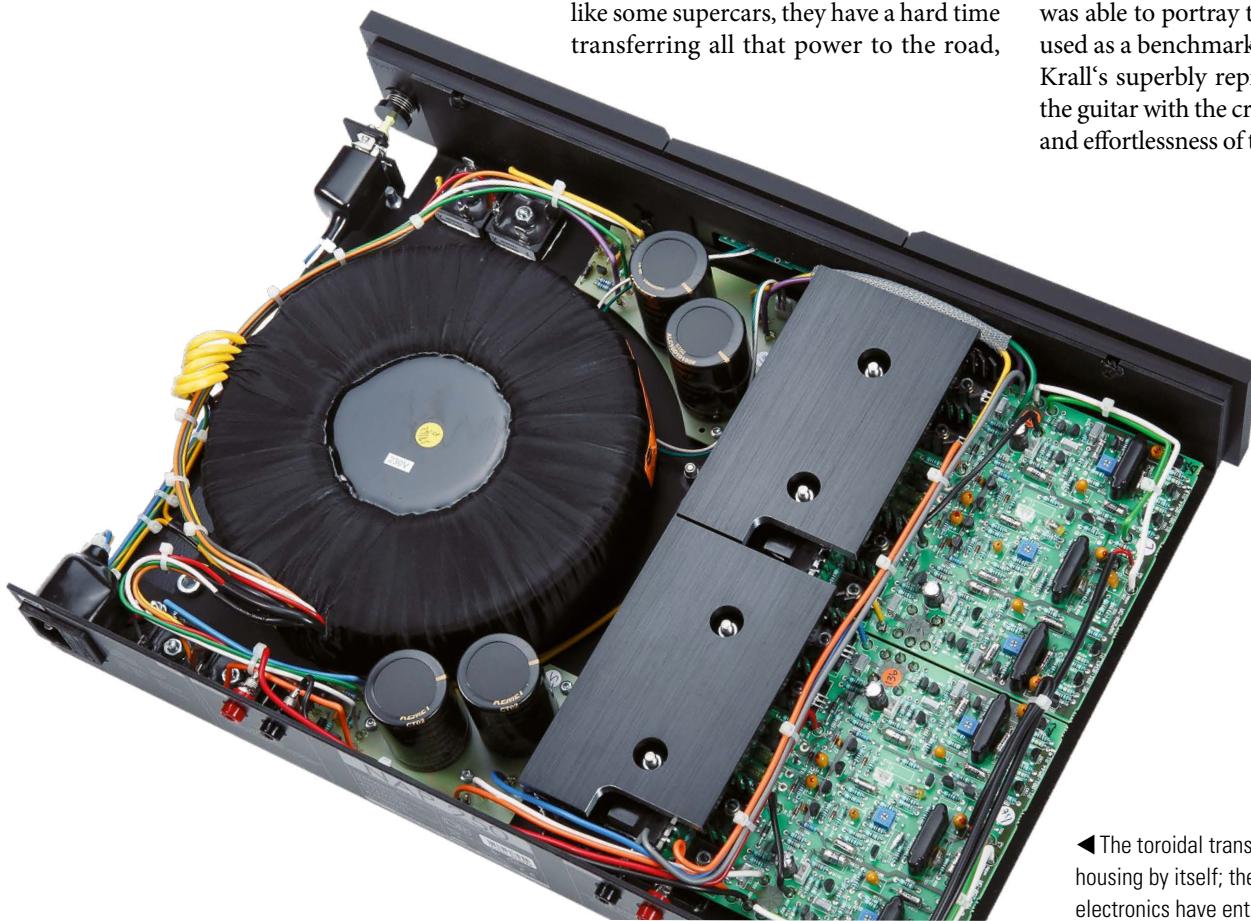
With about 100 / 160 Watt, the NAP (Naim Audio Power Amplifier) 250 DR is definitely not a weakling, even if it is some way off the peak of the company's power amp range. They say about extremely potent performance amps that, like some supercars, they have a hard time transferring all that power to the road,

but Naim has really focused on extreme stability, even with 2 Ohm loads.

### Colorful musicality

In truth, the Naim combo sounds fast, colorful and agile, colorful: its timbre is surprisingly slightly dark, which may sound like a contradiction, but isn't. Openness and silkiness are combined, with particular benefits in the midband, which is where musicality is defined – and thus also the human voice.

No other amp combination in the test was able to portray the piano – which we used as a benchmark together with Diana Krall's superbly reproduced voice – and the guitar with the credibility, authenticity and effortlessness of the two Naim devices.



▲ The toroidal transformer fills half of the housing by itself; the highly developed amp electronics have entirely High End genes.

The English duo may not deliver the final iota of slam in the low bass-range for power-hungry speakers or the sharpest attack, but the sound was convincing for instance – and especially – on the new Sopra speakers from sister company Focal, due to their refined delicacy, structural clarity, and effortlessly rhythmical presentation for which the other test participants had to work hard to find an answer.

The slogan „No Naim, no Music“ would probably not be fair to its competitors but when you hear this pairing you can immediately understand completely what Naim fans love so much about its cult components.



▲ The Naim preamp embodies a contemporary switching center for modern systems in exemplary perfection.

The transistor and power supply technology derived from the Über-amp „Statement“ and the connected weightiness seems to pay off: in the end, the Naim combo is typically „idiosyncratic“ but tremendously consistent and pleasing due to its musicality and unrivalled digital provision. That this package includes a top amp, D/A converter, and network player means it simply screams “Take me!”

**Tom Frantzen**

**Contact:**  
Naim Audio, Phone: +41 31/3882888  
[www.naimaudio.com](http://www.naimaudio.com)



### NAIM NAC-N 272

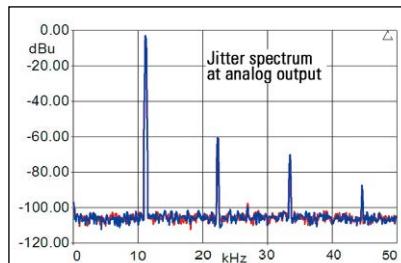


### NAIM NAP 250 DR

approx. € 5,000  
Dimensions: 44 x 9 x 39 cm (WxHxD)  
Warranty: 5 years

Top class preamp, DAC, and network player in one housing which put a new perspective on the price. A very musical, modern triple threat!

#### MEASUREMENT RESULTS



**Maximum output voltage (1 kHz, 1% THD)** 9.1 V

**Distortion at 0.03 / 3k / 1 Volt** 0.03 | 0.004 | 0.009 %

**Intermodulation at 0.03 / 3k / 1 Volt** 0.03 | 0.005 | 0.005 %

**Signal-to-noise ratio CD (500 mV, 1 kOhm) at 0.03 / 0.3 Volt** 68 | 89 dB

**Channel separation at 10 kHz** 74 dB

**Upper cutoff frequency (-3 dB)** 40 kHz

**Load ratings** practice-oriented

**Output impedance at 1 kHz cinch** 47 Ohm

**Crosstalk attenuation tuner/CD at 10 kHz** 94 dB

**Timing error volume control up to -60 dB** 0.007 dB

**Power consumption On / Standby / Idle** 0 / <2 / 20 Watt

**LAB COMMENTS:** Very good, partially excellent values,

**Mains phase on test device**

also for practical data output impedance and timing of volume control. The DAC part is also excellent with extremely low Jitter (5.2 ns), distortion, and hissing (107 dB) as well as converter accuracy (0.2 dB)!

#### EQUIPMENT

Remote control, 1x DIN high-level input, 2x cinch high-level input, 1x DIN output pre, pre out / line out cinch, DAC (USB, Bluetooth, LAN, 3x Toslink, 2x coax, 1x BNC, 1x BNC Out), network player, internet radio, headphone amp, groundlift, extension options

<b>STEREO-TEST</b>	
<b>KLANG-NIVEAU</b>	<b>86%</b>
<b>PREIS/LEISTUNG</b>	
<b>EXZELLENT</b>	

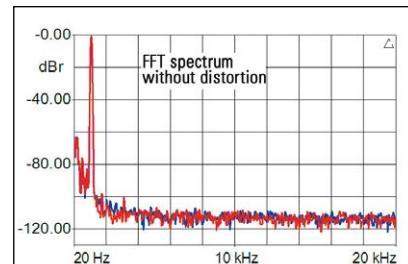


### NAIM NAP 250 DR

approx. € 5,300  
Dimensions: 44 x 9 x 37 cm (WxHxD)  
Warranty: 5 years

Good equipment, but not a beast. The Naim convinces with flow, pep, and smooth-colorful musicality.

#### MEASUREMENT RESULTS



**Continuous power at 8 | 4 Ohm** 94 | 162 Watt

**Pulse power at 4 Ohm** 212 Watt

**Distortion at 50 mW | 5 W | Pmax -1 dB** 0.02 | 0.005 | 0.007 %

**Intermodulation at 50 mW | 5 W | Pmax -1 dB** 0.06 | 0.03 | 0.2 %

**Signal-to-noise ratio at 50 mW | 5 Watt** 66 | 86 dB

**Channel separation at 10 kHz** 67 dB

**Attenuation at 63/1k/14k Hz** 15/15/13

**Upper cutoff frequency (-3 dB, 4 Ω)** 35 kHz

**Load ratings** practice-oriented

**Power consumption On | Standby | Idle** 0 / <2 / 17 Watt

**LAB COMMENTS:** Moderate to high power, sufficient for most applications, good transmission values. The

**Mains phase on test device**

strikingly low attenuation factor lets us expect low degenerative feedback. The strikingly low upper cutoff frequency, uncritical for both preamp and power amp, supposedly prevents HF-interference and instability.

#### EQUIPMENT

Special connection for the (Naim) preamp, connection for a pair of speakers, only suitable for banana jacks (not for loose ends / terminal lugs / prongs), hard power switch, power cable replaceable

<b>STEREO-TEST</b>	
<b>KLANG-NIVEAU</b>	<b>93%</b>
<b>PREIS/LEISTUNG</b>	
<b>EXZELLENT</b>	

# STEREO

## STEREO-MAGAZINE.COM

**REINER H. NITSCHKE Verlags-GmbH**

Eifelring 28, 53879 Euskirchen

Telefon: +49 2251 65046 0

Telefax: +49 2251 65046 49

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**Herausgeber und Chefredakteur:**

REINER H. NITSCHKE

---

**Sonderaufgaben:**

MATTHIAS BÖDE

---

**Geschäftsführender Redakteur:**

MICHAEL LANG

---

**Redaktion:**

CARSTEN BARNBECK, ANDREAS KUNZ,

TOM FRANTZEN, Dipl.-Ing. ULRICH WIENFORTH

---

**STEREO-Messlabor:**

Dipl.-Ing. ULRICH APEL

---

**STEREO-Fotostudio:**

JOACHIM ZELL

---

**Grafische Gestaltung:**

DANIEL SCHIEPE

---

**Objektleitung:**

VOLKER PIGORS

---

**Anzeigenleitung:**

ILHAMİ DÜZGÜN

Telefon: +49 2251 65046 20

Telefax: +49 2251 65046 29

email: marketing@stereo-magazine.com

---

**Anzeigenabwicklung:**

ANDREA ENGELS

Telefon: +49 2251 65046 22

Telefax: +49 2251 65046 29

email: andrea.engels@nitschke-verlag.de

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exklusives  
deutsches  
Mitglied im  
Audio-Panel  
der EISA

