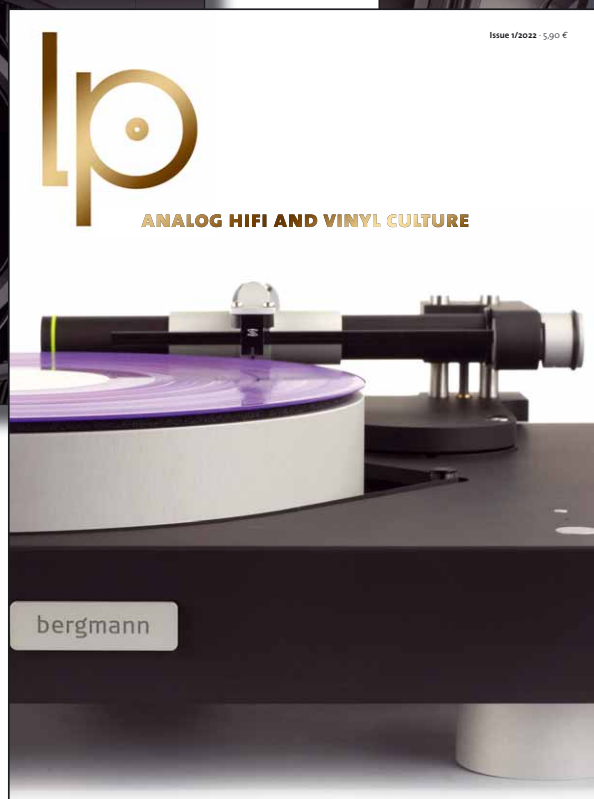


**International**  
**LP**

**ANALOG HI-FI AND VINYL CULTURE**



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# SPATIAL EUROPE

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tel: +49(0) 711 - 48 08 888  
email: info@fastaudio.com

## Ultraschall Audio

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tel: +49(0) 8151 - 555 169 4  
email: info@ultraschallaudio.de

## HiFi in Bamberg

D - 96114 Hirschaid  
tel: +49(0) 951 - 209 10 91  
email: info@hifi-bamberg.de

## MuSiCa NoVa

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email: info@musicanova-ihp.de

## HIFI-REGLER

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## Isenberg Audio

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email: info@isenbergaudio.de

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email: masterclass@t-online.de

## MD Sound GmbH & Co. KG

D - 97783 Karsbach - Weyersfeld  
tel: +49(0) 9358 - 970 01 10  
email: info@md-sound.de

## 3. Dimension

D - 80339 München  
tel: +49(0) 89 - 540 34 323  
email: info@zurtrittendimension.de

## Bürkli Hifi Klangwelten Einzigartig

CH - 6340 Baar  
tel: +41(0) 41 - 76 02 454  
email: info@radio-tv.ch

## Novus Audio

NL - 8263 CB Kampen  
tel: +31(0) 653 - 48 62 44  
email: bernd@novusaudio.nl





## THE BIG MOVE

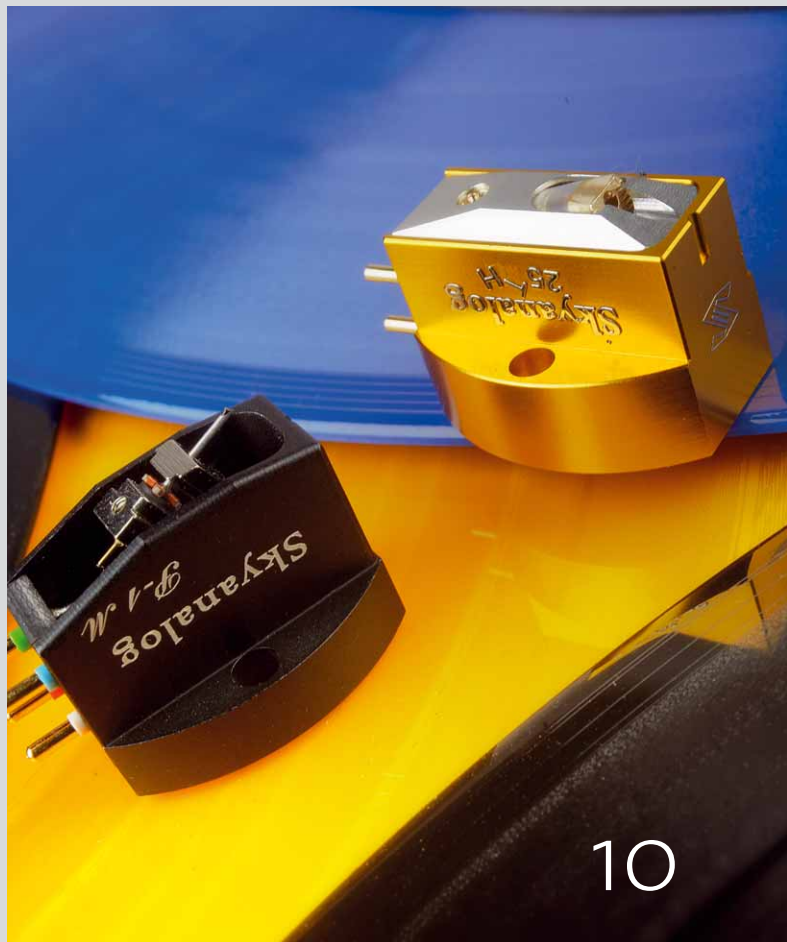
A few days ago, the bombshell that briefly rocked the hi-fi world burst: the largest and most important HiFi show on the planet, the High End, is changing venue. For many years, the show was at home in the MOC exhibition centre in Munich, but from 2026 it will move to Vienna. At the time of writing, there is no official explanation as to the reason for the move. However, we can assume that the decision has nothing to do with the High End itself, but with the external circumstances: The future of the MOC exhibition centre has been uncertain for years and it is almost certain that the organising High End Society has been looking for a solution with increased planning security. It was not without reason that an event from the 'Finest Audio Show' series was already held in Vienna last year, in the very 'Austria Center Vienna' where the High End will take place in the future.

The decision caused mixed feelings among the German trade fair audience, because in future they will have to accept a longer journey to the event. The international audience is likely to be largely indifferent as to whether they get off the plane in Munich or Vienna from 2026, as the attractiveness of both cities away from the trade fair itself is likely to be on a comparable level.

On the other hand, it looks as if the Austria Centre will offer the High End significantly more opportunities than the MOC, which has been bursting at the seams in recent years. There is therefore even the possibility that the show will become more attractive for everyone involved.

*Holger Barske, Editor in Chief*





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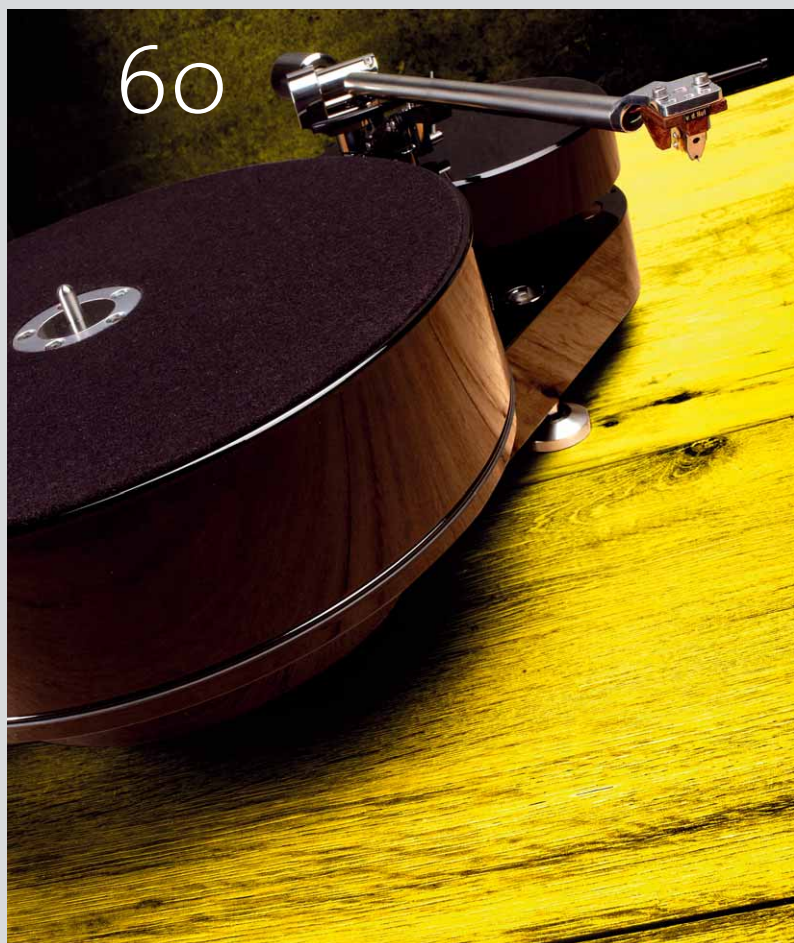
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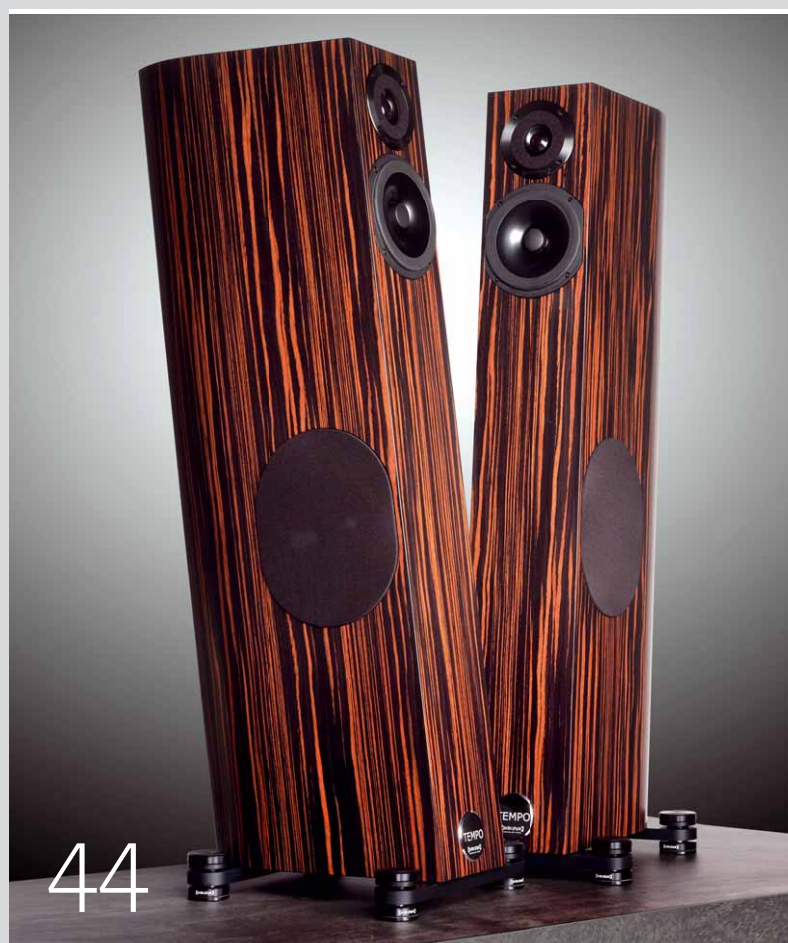
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## MANGER AUDIO PRESENTS THE W06 HIGH-TECH SOUND TRANSDUCER

Manger Audio presents the next generation of the star-shaped bending wave radiator, the W06. Over the years, the trend-setting chassis has undergone repeated improvements in detail. However, after an intensive development and testing phase and countless listening tests, the W06 represents a significant step forwards. The optimised drive unit now boasts an impressive magnetic field strength of 1.48 Tesla. This results in an even faster rise time. An innovative damping system sustainably reduces distortion between 400 and 1600 Hertz; two octaves in which the human ear is most sensitive.

### The new W06 transducer offers:

- Innovative chassis design
- Geometrically optimised drive unit, over 10 % higher field strength (compared to predecessor)
- Perfectly controlled cone movement thanks to a new type of central damper
- Improved linearity
- Noticeably lower distortion values between 400 and 1600 Hertz
- Increased fine dynamics
- State-of-the-art manufacturing for maximum durability

All Manger speakers have been supplied with the W06 transducer since the beginning of the year. Of course, all Manger owners can have their speakers upgraded.

Contact: Manger Audio, Mellrichstadt  
 Phone: 0049 9776 9816  
 E-mail: [info@mangeraudio.com](mailto:info@mangeraudio.com)  
 Internet: [mangeraudio.com](http://mangeraudio.com)





### ENTRY-LEVEL TURNTABLE FROM AUDIO TECHNICA

The AT-LP70xBT is a fully automatic wireless belt-drive turntable that combines the feel and sound of an analogue audio system with the convenience of Bluetooth technology.

It enables a seamless listening experience with any system and is therefore recommended as a sophisticated entry into the world of vinyl for audiophiles. The turntable can be operated directly with active speakers or headphones thanks to the simple wireless connection and ensures high-quality music playback thanks to its compatibility with the Qualcomm® aptX™ Adaptive audio codec - no cables are required.

The AT-LP70xBT is also suitable for use in wired systems thanks to the integrated switchable preamplifier. Anyone who wants to complete their home audio system can connect the AT-LP70xBT to their powered speakers using the supplied RCA cable for an easy-to-use audio system that suits any room and requires no additional amplifier.

As is typical for Audio-Technica, the central component of the AT-LP70xBT is a high-quality pickup system that offers unrivalled hi-fi audio quality thanks to the manufacturer's industry-leading expertise (AT-VM95C with conical stylus). For an even more personalised vinyl experience, it can be combined with other styli (elliptical, Microlinear or Shibata) from the VM95 series, offering unprecedented flexibility for a turntable in this category.

Although the AT-LP70xBT model is aimed at budding vinyl enthusiasts, its sound will also delight experienced audiophiles. The visually appealing three-piece, low-resonance chassis provides a solid foundation for damping unwanted background noise, allowing music to be reproduced with brilliant clarity and detail.

The AT-LP70xBT impresses with its functionality as well as its design with three attractive finishes and a removable dust cover: black-silver, white-silver and black-bronze.

*Price: approx. 250 euros*

*Contact: Audio Technica, [audio-technica.com](http://audio-technica.com)*







### SOLID CONCRETE – SMOOTH SOUND

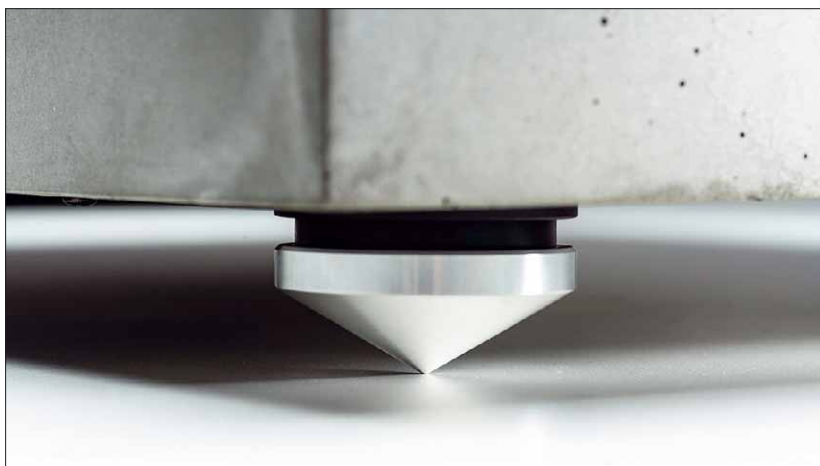
The new E.A.T. turntable C-Dur Concrete comes with a solid concrete frame and offers a minimalist design and timeless elegance. The concrete moulding makes each C-Dur Concrete unique and an eye-catcher in the living room. The idea was to bring the concept of the E.A.T. Forte into a more compact format. The result is a similarly smooth running without any rumbling, which guarantees outstanding sound quality.

The 5.2 kg aluminium platter sits on a resonance-free sub-platter made of solid aluminium. The massive inverted main bearing guarantees quiet reproduction. The 1.8 kg bearing block houses a polished stainless steel spindle and a ceramic ball. In combination with a Teflon disc as a bearing mirror, this is also a good damping device.

The 'Carbon E.A.T. C-Note' 10' tonearm is not just a visual statement, it is a sophisticated precision instrument. It combines all the advantages of a unipivot arm with a cardanic design. The unipivot in the centre ensures a low bearing load, while the gimbal bearing provides high stability. There is also a special resonance-reducing grease inside the tonearm. The carbon tube provides the necessary rigidity, while the aluminium headshell impresses with its resonance damping - a perfect combination! A matching tonearm cable is included in the scope of delivery.

The extremely quiet motor is insulated and housed in a steel ring. An external power supply unit with alternator ensures a clean power supply. The three height-adjustable, damped aluminium feet guarantee the perfect stand and massively reduce the risk of acoustic feedback.

*Price: from 4000 euros*  
*Contact: IAD GmbH, Korschenbroich*  
*Phone: 0049 2161 617830*  
*Internet: eat.audio*





### AYRE PRESENTS KX-8 AND VX-8 PRE-AMPLIFIER COMBO

Ayre Acoustics from Colorado has expanded its Series 8 with the modular KX-8 preamplifier and the VX-8 power amplifier. The KX-8 utilises a new variable gain volume control, borrowed from the higher Ayre series. With optional modules, the preamplifier can also be expanded into a fully-fledged streaming preamplifier. Both devices are fully balanced and feedback-free.

Ayre sees the sophisticated volume control as an important achievement of the KX-8 preamplifier. Unlike the vast majority of amplifiers, the KX-8 does not attenuate the input signal to achieve a desired level. Instead, a multi-channel potentiometer changes the gain of the amplifier, which has the advantage of a consistently high signal-to-noise ratio and more presence even at low volumes.

The KX-8 has five analogue inputs and can optionally be equipped with a D/A converter based on the ES9038Q2M chip from ESS. As usual with Ayre, a proprietary minimum phase digital filter has been implemented to optimise signal processing. Based on this converter module, two further options are offered: a streaming module and an asynchronous USB audio input. The former turns the KX-8 into a fully-fledged streaming preamp for online services such as Qobuz and Tidal as well as for the Roon music player software. Tidal can also be used via the Connect function of the Tidal app.

As a playing partner, Ayre provides the KX-8 with the two-channel VX-8 power amplifier. In principle, the VX-8 utilises the same power amplifier circuits as the EX-8 integrated amplifier, but offers greater load stability and precision with twice 100 watts at 8 ohms output power. The fully balanced design and the virtual absence of negative feedback is typical of all Ayre amplifiers. The associated higher design effort is rewarded with the suppression of ambient interference and thus higher signal fidelity. The linear power supply units with EI core transformer were also selected due to their lower susceptibility to interference.

The modular KX-8 preamplifier and the VX-8 power amplifier are available now in silver or black. The KX-8 retail is 7100 euro, the VX-8 costs 7600 euro.

*Distribution: Bauer Audio, Munich*

*Phone: 0049 897194265*

*Internet: bauer-audio.de*







# FROM TOP TO BOTTOM

For decades, the majority of the best cartridges came from Japan. But what about 2024? Since 2019, the Chinese company Skyanalog has managed to reinterpret this mantra and score points in all price categories.



400 Euro vs. 6500: The two new Skyanalog cartridges serve different target groups

### The beginnings

Initially, there were no cartridges in the programme of company boss Jack Leung, which was due to the fact that he developed and built cartridges for a number of other companies. It was understandable that Leung wanted to demonstrate his expertise with his own products. Here in Germany, the Skyanalog cartridges were brought to the attention of listeners by the excellent sales work of TCG boss Eckard Derks and have earned a secure place in our analogue world.

### The P-1M

The Skyanalog carousel is turning pretty fast, maybe that's the 'Chinese' speed. But frankly, we wouldn't mind if some of the cartridges stayed in the programme a little longer. After the green P-1G, the P-1M is the latest addition to the most affordable Skyanalog cartridges. What does that mean? Typical of the P family is the open generator in an excellently manufactured aluminium housing. The holes in the housing make it easy to adjust, which is something every pickup should be able to

do by now, because nobody needs to fiddle with M2.6 nuts any more. The workmanship of this pickup is also impeccable. The data sheet for the P-1M describes the stylus type as 'Hyperspherical 5x250 µm'. What exactly this could mean has given rise to speculation. So I asked the two Skyanalog representatives at the High-End show in Munich what kind of stylus it was. They answered 'Conical' like a shot from a pistol. Round needles, my old love, mounted in the classic way on an aluminium needle carrier. Healthy output voltage of 0.4mv (at 3.54cm/s, i.e. a good 0.5mv) and an impedance of 4 ohms - so it can be connected to the same peripherals as my Koetsu Black. The system weight of 10 grams is also suitable and the needle compliance of 12 makes it perfect for use in the Schick tonearm. The recommended tracking force of 13 mN is surprisingly low, but that's not a bad thing. I find it interesting that Skyanalog only recommends a needle brush for cleaning the needle and advises against the use of liquids. This is exactly our experience and, purely by chance, we are currently preparing a story on the subject of needle cleaning.

## Does that sound good?

The sound of the P-1M is described as 'pleasantly tuned' or 'slightly rounded'. This can be understood from the published measurement values - a presence and treble dip roughly between 1kHz and 10kHz combined with a juicy bass and a treble rise well above 10kHz is meant. I was a little worried whether I would like the system at all, whether I might not have become 'contaminated' with high-end in the meantime, because I do have some fine cartridges in daily use. But that's rubbish - you can always recognise an old love and when I write that, I mean the good old Denon DL-103, which is still in production. Let me put it this way: the P1-M is the DL-103 of modern times with better means. It does everything better than the 103, and does so significantly, but retains the homogeneous

integrity for which the 103 is still so highly regarded. 'No Place To Hide' by the Crusaders is one of my favourite island tunes that I've heard so often and rarely with as much fun as with the P-1M. The piece builds on a fat bass, like a wave that rolls towards you and gets bigger and bigger. And when it finally arrives, I just want to throw myself into it. This is exactly how the Skyanalogue depicts it: the fat bass, the sparkling Fender Rhodes by Joe Sample, the guitar licks and the juicy horns. It sounds round, rolling, simply delicious and ultimately like my favourite thing to listen to for most of my life. I actually wanted to give away John Lee Hooker's 'The Folk Lore Of' because it just didn't carry me away emotionally. Gone, the P-1M also opens up this world and makes me marvel at the diversity in the supposed simplicity of Hooker's music. That is high art.



## Teammates

### Turntable:

- Garrard 401 mit Schick 12
- Transrotor Massimo Nero / Studio 12

### Phono preamplifier:

- Manley Oasis

### Preamplifier:

- Soulnote A-2
- Stax SRA-12S

### Power amplifier:

- Acoustic Masterpiece M-101

### MC transformer:

- Air Tight ATH-3

### Loudspeaker:

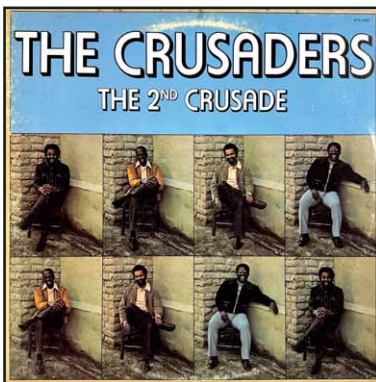
- Epos ES-14N
- Greenwall Ivy

## Competitors

### Pickup Cartridge:

- Benz ACE SL
- Denon DL-103 GL
- Skyanalog G-1

*Only the Diamond is allowed in the noble oak box*



What we played

**The Crusaders**  
The 2<sup>nd</sup> crusade

**John Lee Hooker**  
The Folklore Of

### Flagpole, opposite side

At this point, we leave the undoubtedly exciting world of 400-euro MCs and turn to a big surprise. Skyanalog has barely shaken up the established world of cartridges with its 'Reference' model when Jack Leung and his team come up with the next top performer: The new big thing is called 'Diamond' and you can already guess from this what's behind this: it's the stylus. And why now? Because the manufacturer is celebrating its 25th birthday these days and wanted to present an anniversary model befitting the occasion.

### Cantilever & Co.

Skyanalog pick-ups have already attracted attention in the past by using more exclusive materials for this component in hitherto untypically civilised price regions. Boron, ruby, sapphire - these have long been available at prices that you can only dream of elsewhere. And according to reports, the tiny precision components are even produced in-house and are not bought in from the well-known suppliers. Now Skyanalog has taken the next hurdle and is offering a cartridge with a diamond cantilever. For a relatively reasonable 6500 euros. Why is



*The P-1M is the new entry-level model from Skyanalog*



*Considering its price, the P-1 deserves a big recommendation*



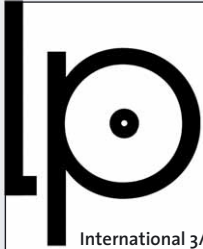
*The P-1M housing is open at the bottom and allows a view of the construction*

## Skyanalog P-1M



- Price
- Distribution
- Phone
- Internet
- Warranty
- Weight

approx. 400 Euro  
TCG, Nordhorn  
+49 5921 7884927  
[www.tcg-gmbh.de](http://www.tcg-gmbh.de)  
2 years  
approx. 10 g



Skyanalog  
P-1M

International 3/24

» I don't want to exaggerate and claim that this is the best cartridge in the world. It doesn't want to be. But it is a system with which I can listen to music with great satisfaction. And Holger Barske knows how much more you can do with it.





*The Diamond is a special model for the company's 25th anniversary*

this being done? Because the combination of diamond cantilever and diamond stylus promises extreme rigidity combined with low weight. It is obvious that such a combination can follow the groove flanks better than practically any other. As with the Reference, a very narrow 5x80  $\mu\text{m}$  micro-ridge diamond is used at the end. As the diamond combination is quite susceptible to resonance, the suspension of the needle carrier required a few tricks, which were also incorporated into the design of the second generation of the 'G' models. This can also be seen in the cabinets: G1, G2 and G3 are very similar to the Diamond in appearance - apart from the golden anodised finish of the top model. The details of the generator design have been somewhat lost due to the translation from Chinese, but we are happy to believe that the choice of materials, manufacturing precision and adjustment effort had to be adapted to the Diamond's ultimate standards.

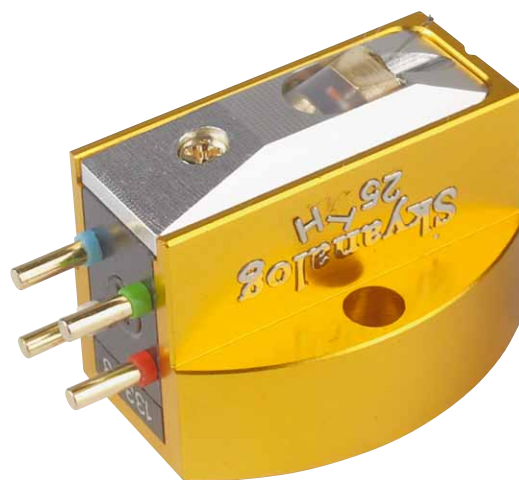
## Sound

At 15  $\mu\text{m}/\text{mN}$ , the Diamond is one of the medium-hard suspension systems and should feel at home in a variety of tonearms. In Transrotor's Studio 12, it certainly did and immediately made people sit up and take notice. Neil Young's legendary recording 'Live At Massey Hall' from 1971 is a great indicator of the subtle, and the atmosphere conjured up by the Diamond here is simply breathtaking. The great Ortofon Verismo comes to mind, which is similarly capable of creating such magical microcosms. The Diamond delivers an outstandingly free and large spatial image with super-precise reproduction. I like it best on the Manley Oasis with 200 ohms, but as always it depends on the particular setup. With this inspiring combination of subtlety and stability, even Coltrane's 'A Love Supreme' becomes a real experience and no longer sounds as historical as it used to.

*Christian Bayer / Holger Barske*



*Visually, the Diamond is similar to the newly renovated G series*



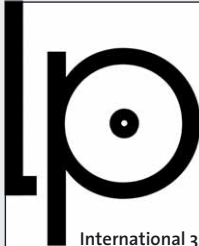
*As the name suggests, the Diamond has a diamond stylus carrier*

## Skyanalog Diamond



- Price
- Distribution
- Phone
- Internet
- Warranty
- Weight

approx. 6,500 Euro  
TCG, Nordhorn  
+49 5921 7884927  
[www.tcg-gmbh.de](http://www.tcg-gmbh.de)  
2 years  
approx. 10.7 g



Skyanalog  
Diamond

International 3/24

» Even though the extremely fine and stable Skyanalog Diamond is probably one of the best pick-ups currently available, our recommendation for purchase must of course be the marvellous P-1M. Although it can't hold a candle to the Diamond in any respect.





## **Go on, ON AND ON**

If you don't know Robert Andorf, you've missed something. The man behind the Spatial Europe Loudspeakers has been breaking records in product development for years. Now he has matured and so have his speakers.

### Full throttle

I've known Robert Andorf for a long time and if anyone personalises the term 'driven', it's him. Andorf is, as he says himself, a loudspeaker lateral entrant. Even though he built loudspeakers with his father as a teenager, theoretical gaps bothered him and in recent years he has been studying the basics of loudspeaker development in depth because he really wanted to understand why one thing works and another doesn't. I can tell you this much: it was

worth it. Andorf has always come up with interesting loudspeakers and concepts, and now he has arrived.

### Baffle stories 1

Andorf loves open baffles and that's what he's building. This way of installing loudspeaker chassis seems simple at first, but becomes more challenging as requirements increase. Open baffles have a long tradition; they were often used in cinemas in



*The Spatial loudspeakers are a convincing argument in favour of the open baffle principle*

the past and, depending on the size of the screen behind which they were mounted, came very close to an infinite baffle. Especially in the bass range, such an infinite baffle would theoretically be the ideal solution, as it would minimise interference from direct sound and rear radiation. But infinity on earth has its limits.

### Baffle stories 2

Gilbert Briggs, the famous Wharfedale mastermind, introduced his SFB/3 loudspeakers in 1956, which caused astonishment in the London Festival Hall and Carnegie Hall: there seemed to be hardly any difference between the live performance first performed and the one heard through his loudspeakers. 'SFB' stands for "Sand Filled Baffle". For this first commercial baffle in hi-fi history, Briggs used lateral outriggers that made the baffle stable, enlarged it and reduced interference. At practically the same time, Peter Walker presented his legendary Quad ESL57 electrostatic speakers for the first time. Also a dipole, an open baffle radiating both forwards and backwards. Incidentally, Gilbert Briggs had demonstrated with Leak and Quad amplifiers, which was not entirely coincidental, the matter was obviously in the air. In the

1980s, the Japanese vintage scene revitalised the topic with a baffle calculated according to the golden ratio for classic full-range speakers.

### Construction

For some time now, Andorf has been using a special, particularly moisture-resistant MDF for its open baffles, as baffles are now called, which is particularly good at absorbing the humidity in Asia. Added to this is the special density of this MDF variant, which far exceeds the standard and is therefore more expensive. Unsurprisingly, precise details remain a trade secret. The No 6 has a two-piece baffle with a total thickness of 76 mm, plus the real wood veneer. Its design is special due to the finite element methods, which are determined using complex mathematical formulae. ETH Zurich puts it like this: 'To put it simply, complex systems (supporting structures) are divided into components (finite elements) and mathematically linked to form an overall model.' Specifically, this concerns the fronts of the baffles, where these elements are used at sound nodes to make the baffle thinner and stiffer. The system is finalised by the in-house absorbers, i.e. the adjustable feet. A knocking test with and without

### Teammates

#### Turntable:

- [Luxman PD-151 MARK II](#)

#### Tonearm:

- [Luxman LTA-309](#)

#### Power amplifier:

- [Soulnote A-2](#)
- [Spatial Europe Amp No 3](#)

#### Phono preamplifier:

- [SW1X LPUI](#)

#### Transformer:

- [Technics SH-305MC](#)

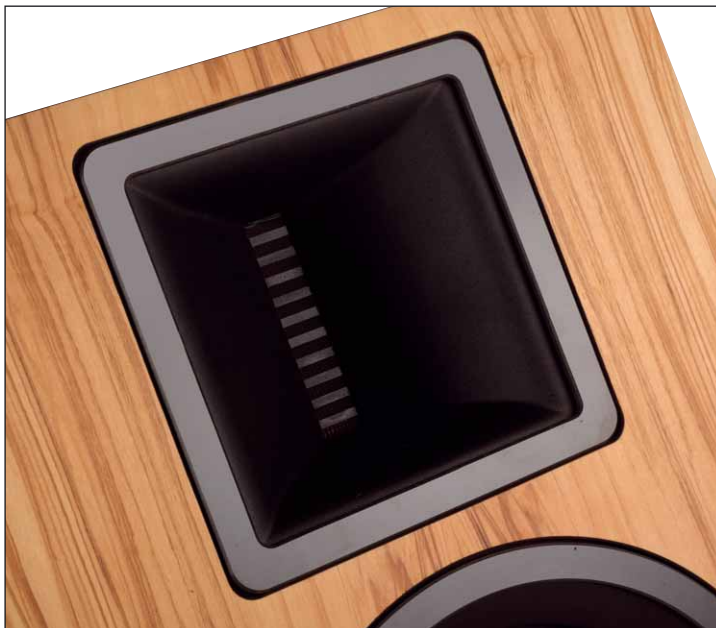
#### Pickup Cartridge:

- [Soundsmith Sussurro MKII Gold Limited](#)

### Competitors

#### Loudspeaker:

- [Klang + Ton Nada](#)



*The specialists at Beyma supply the AMT, which shines with a favourable dispersion angle and suitable efficiency*



*Also from Beyma is the midrange driver, whose inner surround is reminiscent of the Biflex chassis from Altec*



## What we played

**Melanie De Biasi**  
No Deal

**Rickie Lee Jone**  
Pop Pop

**Stevie Ray Vaughan**  
Couldn't Stand The Weather

**Gregory Porte**  
Take Me To The Alley

**Nils Frah**  
Spaces

*Stable construction of the midrange basket. Ferrite magnets like this one are enjoying a real renaissance. Is it also due to availability?*

*The base houses the serial crossover, on which a lot of brainpower and time was spent. It ultimately provides the mature sound*



demonstrated this impressively: without, a clear resonance of the solid baffle could be heard. When the spherical spike made of fire bronze clicked into the Delrin absorber base with its Sylomer intermediate layer, only an anechoic 'tock' could be heard, as this closure of the 'finite' system acts both towards the floor and into the cabinet, i.e. the baffle. The heavy walls stand bomb-proof on this construction, which was created after many years of experimentation. The extremely solid base is made of 60 mm thick Aluminium and provides additional support. The crossover is soundproofed underneath.

## Bass desires

And here, of course, the question that accompanies the topic of open baffles must arise: How does Robert Andorf and his team manage to counter the notorious lack of bass? We have learnt that an infinite baffle is pretty much the best way to support a bass driver. We realise that this is just theory. I've encountered several times in horn installations, especially those with classic Western Electric components, quite large bass baffles that were quite good at bass. But the No 6 is extremely compact, very finite, so to speak. So how does it manage to get down to 22Hz? As we have learnt, the baffle, which is not at all trivial, provides a first answer.

## The drivers

One answer to the question of how the No 6 can get down to 22Hz must of course be sought in the bass driver. Alongside the ultra-rigid baffle and the elaborate crossover, which I will come to later, it is the third deciding factor in terms of bass capability. It is supplied by the American professional outfitter Acoustic Elegance and comes with a fabric surround and ferrite magnet - what a comeback for this material. Acoustic Elegance wrote to me: 'The driver is part of the LO series, which features the Full Copper Faraday system, which uses a solid copper sleeve over the entire pole that lowers and linearises inductance, interrupts eddy currents and effectively conducts heat away from the voice coil. The





*Acoustic Elegance produces the bass for Spatial Europe. Here, too, you can recognise an 'elegant' and solid construction including a ferrite magnet*

*The Spatial Europe MC No.6 is visually impressive also from the rear*

result is incredibly low inductance, low distortion and a completely feedback-free load that works well with all amplifiers, especially tube amplifiers. The LO series has a short, underhung voice coil in a high gap. It is much more linear than the standard and offers a flat BL curve over the entire range tested by Klippel of  $\pm 9$  mm  $X_{max}$ , which means that the parameters remain consistent over the entire excursion range and the sound remains the same at all volume levels. This is particularly important for open baffles, where a higher excursion is required. The 2" diameter dual voice coil (connected in parallel here) is wound with oxygen-free round copper wire on a non-

inductive Kapton former. It has a winding width of 13 mm in a 28 mm high gap, which enables an  $X_{max}$  of  $\pm 9$  mm. The combination of low mass and incredibly low inductance (as low as many tweeters) provides high efficiency and a huge extension of midrange and high frequencies not found in other woofers.' The midrange driver with textile surround, treated paper cone and ferrite magnet is also from Beyma, as is the large AMT, which Andorf modifies: the cover is removed and it is damped with a felt strip.



*Open baffle = open AMT. The rear cover is removed and the driver is then damped with felt*





*Pretty classic. Treated paper and a proper phase plug for a bass that really deserves this name*



### The crossover

During my visit to Ingolstadt, I saw how the crossover is assembled by hand and can only say: it looks really tasty and takes time. Andorf says: 'There are only copper tracks, which are connected directly to the speaker chassis via the solid core copper inner wiring for the bass and the pure silver solid core inner wiring for the midrange and treble. The N° 6 has a copper track conductor cross-section of 3.3 square millimetres.' Decisive for the new quality of the Spatial Europe speakers and bass helper no. 3 was Andorf's discovery of the serial crossover circuit. All the

drivers are connected in series and not in parallel as is usually the case. This means that every change in every frequency range has an influence on the rest of the crossover, which increases the complexity considerably. Andorf has spent a good 70,000 euros on crossover components over the past two years to achieve such a convincing result, as it is not possible to simulate such a serial 3-way crossover as in the case of the No 6. The layered core bass coil with baked varnish wire was developed together with Mundorf, the capacitors for the bass are from Jantzen, Andorf uses many small values to increase the bass dynamics even further. The mid and treble ranges are fitted with a foil wax coil and a silver capacitor. And here's Andorf again: 'If you can talk about slope in a 3-way serial crossover, it's 12 dB.'

### Subtleties

If you take a closer look at the Spatial Europe concept, you will notice the regional production, the desirable plastic-free, sustainable packaging and the comprehensive recycling and waste avoidance concept. Andorf now also manufactures its own cables and has Audion amplifiers customised for its speakers. Since such a baffle radiates to the front and rear, you have to be a litt-

*Massive. Even at first glance, you can tell that this speaker is anything but a toy*

toneArt. The meaning of sound.



Revelation I Phono-Vorverstärker



Revelation I Plattenspieler



Revelation II Netzfilter

## toneArt Revelation

Unsere Revelation-Produkte bestechen durch ihre innovative Technik und patentierten Technologien, die weltweit ihresgleichen suchen. Ein Highlight ist die per App steuerbare Motorsteuerung, die einen individuell anpassbaren Klang ermöglicht. Diese außergewöhnlichen Produkte werden in Österreich entwickelt und von Hand gefertigt. Vom Laufwerk über Verstärker bis hin zum Kabel – eine echte Offenbarung.

Erfahren Sie mehr über unsere Revelation Produkte auf unserer Homepage.

*In rank and file.  
The powerful drivers can  
do their job undisturbed  
on the solid baffle*



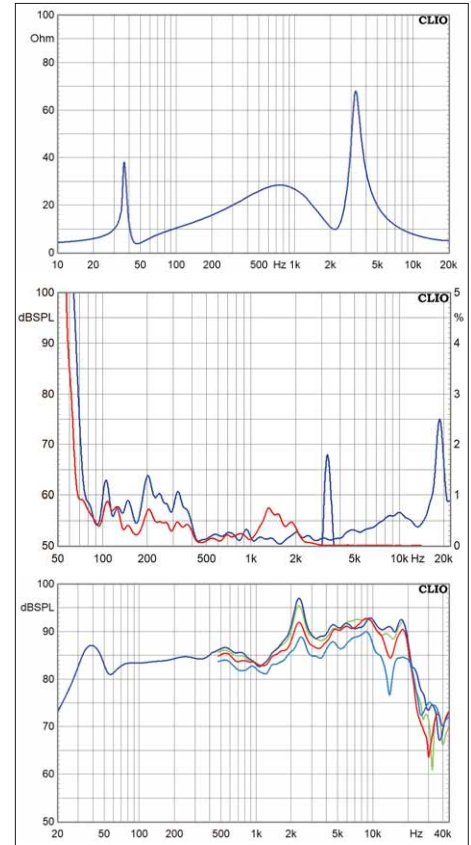
be careful with the positioning. The three height-adjustable absorbers can be used to change their inclination and thus the direct sound influence. He recommends a distance of 75 to 95 cm between the wall and the front edge of the speaker and a listening distance of at least three metres. You can experiment with the angle of the baffles; in the near field, it may even make sense for the radiation to cross in front of the listening position.

### Sound

I have listened to the No 6 extensively both in Robert Andorf's studio in Ingolstadt with his 300B amplifier customised for the No 6 and in the publisher's listening room with the Soulnote A-2 and am impressed by its sonic capabilities. I am amazed at the finesse with which I can experience Melanie De Biasio's theatrical music and how cleanly these sound walls reproduce her exciting music. Why? I was used to a different sound from the Spatial Europe loudspeakers, which focussed a little more on drama. Here I hear a loudspeaker that takes itself out of the game, serves the music to the maximum and offers resolution to the hilt. This can be heard extremely well with Nils Frahm's increasing piano cascades. Piano caresses alternate with attacks, enveloping me in the finest sound moods until I am almost shocked by the sheer bottomless bass that should turn all baffle sceptics into fans: loose, colourful, expansive in a way that is not often heard with other speaker/amplifier combinations. This also gives Gregory Porter's voice exactly the underpinning it needs. In return, Stevie Ray Vaughan's incomparable guitar bangs and rocks into the room with an emphasis that does it justice. And you have to listen to Joey DeFrancesco's Hammond organ playing through this speaker. Only then can you really understand what he has achieved with his feet in the bass register.

*Christian Bayer*

*These are the optional absorbers, but they are actually part of the overall system. In other words: it doesn't really make sense without them*



### Measurements

#### Lab commentary

*There is a noticeable peak at 2.3 kHz, but this is not a cone resonance. The peak is generated by the waveguide in front of the midrange driver. If you put the measuring microphone into the funnel and measure directly at the cone, the peak disappears. The impedance graph shows no evidence of resonance and the distortion behaviour is also excellent. Even at a loud 95 Decibels there is very little distortion, which applies to both K3 (red curve) and K2 (blue): you rarely see anything like this. The separation to the tweeter occurs at 3.3 kHz, the midrange driver presumably runs all the way down without limitation.*



## Spatial Europe No 6



- Price per pair from 19,500 Euro
- Distribution Mach One Classics / Spatial Europe, Ingolstadt
- Phone +49 841 33670
- Internet [www.spatialeurope.de](http://www.spatialeurope.de)
- Warranty 10 years
- Dimensions (W x H x D) 457 x 110 x 76 mm
- Weight approx. 42 kg



Spatial Europe  
No 6

International 3/24

» Robert Andorf wanted to understand how to achieve the sound he had been after all his life. He has achieved his goal and built the best open baffle I have ever listened to.

# EVERYTHING IS VERY SIMPLE

Word has probably got around that the Japanese manufacturer Soulnote is one of the most exciting phenomena in terms of high-end electronics to have emerged on the market in the recent past. And now this.







*A base with the best sound quality is included with all devices from Soulnote's '3' series*

### Hierarchical

‘There is currently no bigger one.’ – Almost two years ago, this sentence explained the fact that I ‘only’ had an ‘E-2’ phono preamp at my disposal when testing the Soulnote P-3 and M-3 top amplifiers. This is one of the very few machines in the world that can operate both conventional magneto-dynamic and electro-optical pick-ups. And which, by the way, serves both worlds with flying colours. And yet: the ‘3-series’ phono preamp was a hole in the Soulnote line-up, which

of which it was actually clear that chief developer Hideki Kato would close it at some point. Which he has now done with his usual consistency.

The E-3, which retails at 17,000 euros, is designed exclusively for use with electro-optical pickups from the Japanese manufacturer DS Audio and can no longer do anything at all with MMs and MCs. And since you, as a reader of this magazine, are not living behind the consumer electronics moon, I certainly don’t need to explain to you here what the fundamental differences are between classic cartridges and the glowing jewels that have to be connected to the E-3.

### Operation and features

The E-3 is a purist specialist device. Only one pickup can be connected, but in two ways - more on this below.

Operation is limited to a solid power switch on the left and six small buttons. There is a ‘Mute’ button on the far left as well as on the far right, both of which apparently do the same thing. Exotic, but why not. On the left there is an option for phase inversion and a filter labelled ‘Low Cut’, on the right a button labelled ‘LPF’ (which presumably means ‘Low Pass Filter’) and an option to reduce the gain.

### Mechanics

Kato-San is an engineer in heart and soul. In many cases, his concepts differ significantly from what is used elsewhere to achieve optimum sonic results. Most unusually for a full electronics professional, Kato-San places a great deal of emphasis on the mechanical aspects of device design, even when dealing with fully electronic components. This is also noticeable in the E-3: The housing cover does not simply ‘rattle’ – you might get that impression when handling the device – rather it is a tricky multi-part construction that rests



*Serious quantities of parallel-connected electrolytic capacitors form the filter capacities of the power supply*

on three spikes on the solid metal frame, which the front and back of the device. It also has a two-layer design, with the outer solid aluminium lid and the perforated plate underneath only touching at three points. The mains input socket is also not firmly screwed to the rear panel, but can be moved within limits. This design is typical of the „3“-Series from Soulnote. Another integral part of the concept is the solid wood base, into which the top spikes of the device are designed to press to a certain degree. These things have proven to be astonishingly

effective: If, for example, you weigh down the top of the device with a few kilograms of mass and hinder the tendency to vibrate, the sound loses noticeable liveliness – quite astonishing.

### Structure

As expected, a magnificent structure of the very highest calibre is revealed under the lid. Three voluminous toroidal transformers take care of the power supply. Two of them are attached to the left and right of the side walls, skilfully wrapped in MU metal and copper foil and are used to sup-

## Teammates

### Turntable:

- **Transrotor Massimo Nero**

### Pickup Cartridge:

- **DS Audio DS 003**

### Loudspeakers:

- **Klang + Ton Nada**

### Power amplifier:

- **Soulnote A-2**

## Competitors

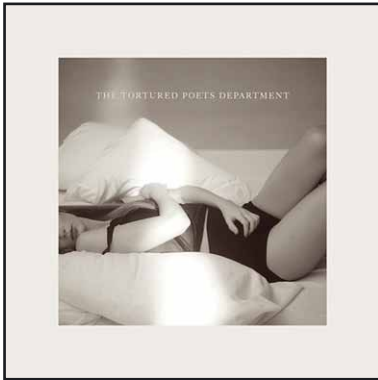
### Phono preamplifier:

- **DS Audio DS E1**
- **DIY Röhrenentzerrer**

*The rear panel reveals balanced and unbalanced signal connections*







## What we played

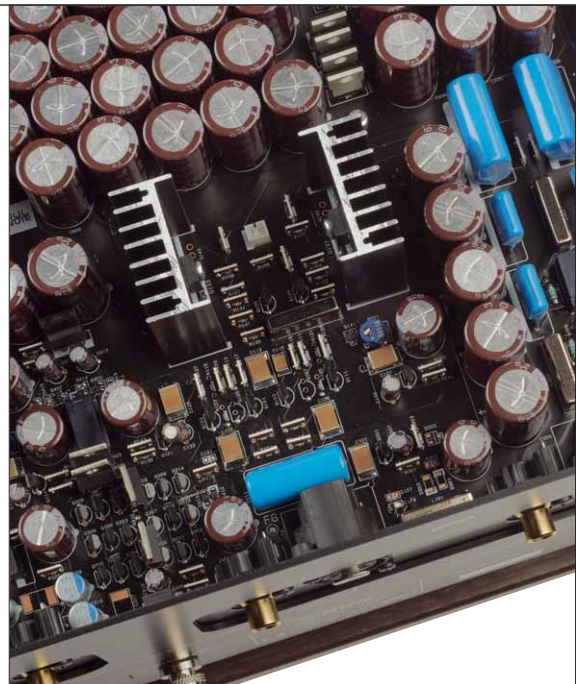
**Taylor Swift**  
The Tortured Poets Department

**VA**  
Sound Check Vol. 2

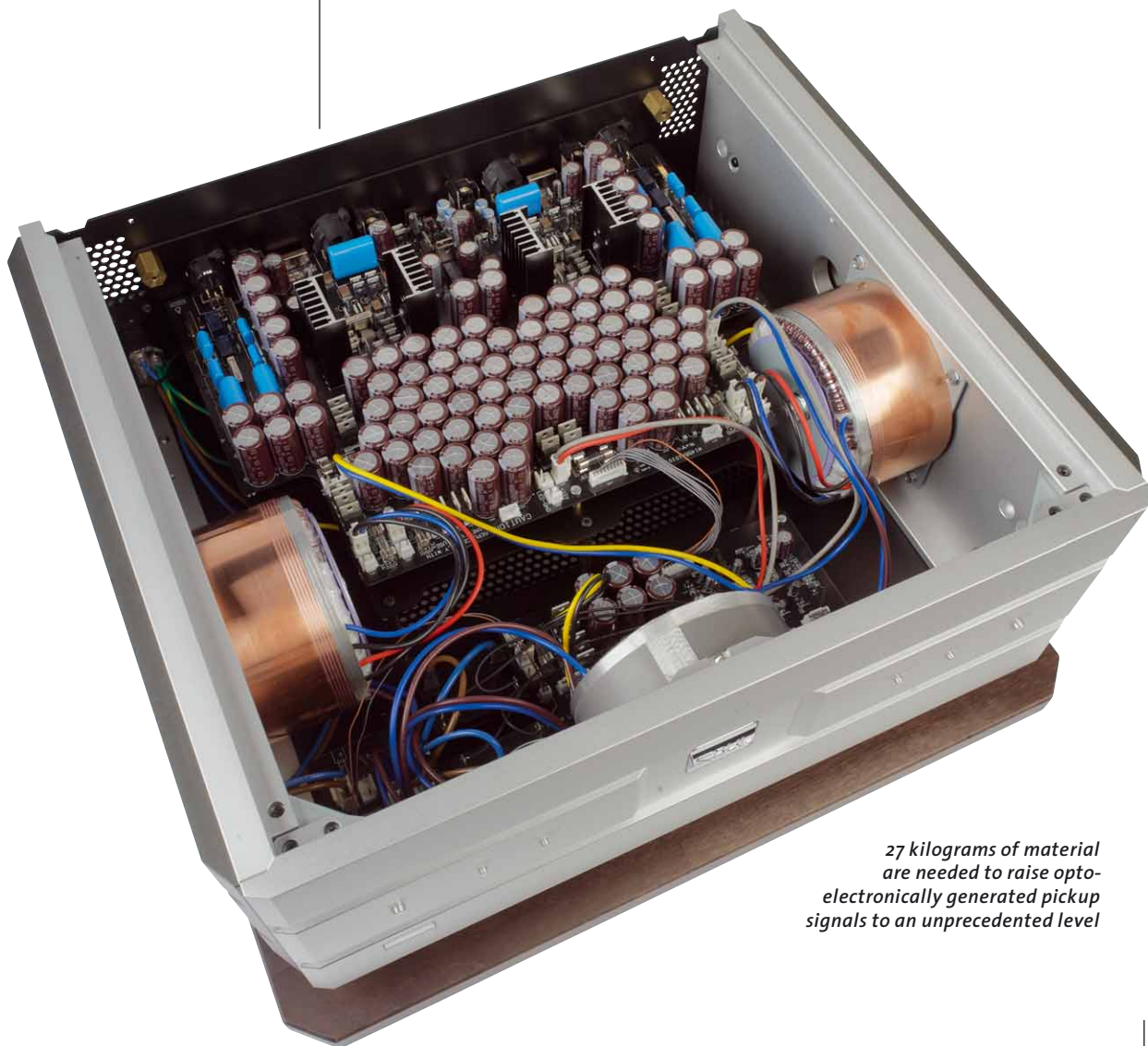
**Hannes Wader**  
Sieben Lieder

**Tool**  
Fear Innoculum

ply the amplifier part of a channel. This should utilise an estimated half a percent of a transformer's capacity. Transformer number three resides behind the front and takes care of the power supply for the nastier things in the device. As is usual with Soulnote, the supply of the amplifier stages involves considerable effort. Around 100 capacitors provide particularly finely filtered raw voltages, while discrete regulators stabilise the material directly on site. Kato needs nine discrete individual transistors per channel to do the amplification and equalisation of the output signals, of which the signal only has to pass four. His solution therefore differs fundamentally from what DS Audio describes in its white paper on the signal processing of its cartridges and thus also from what all the competition is building. The knowledge about the circuitry of these nine transistors



*The amplifier circuit works with just nine transistors per channel*

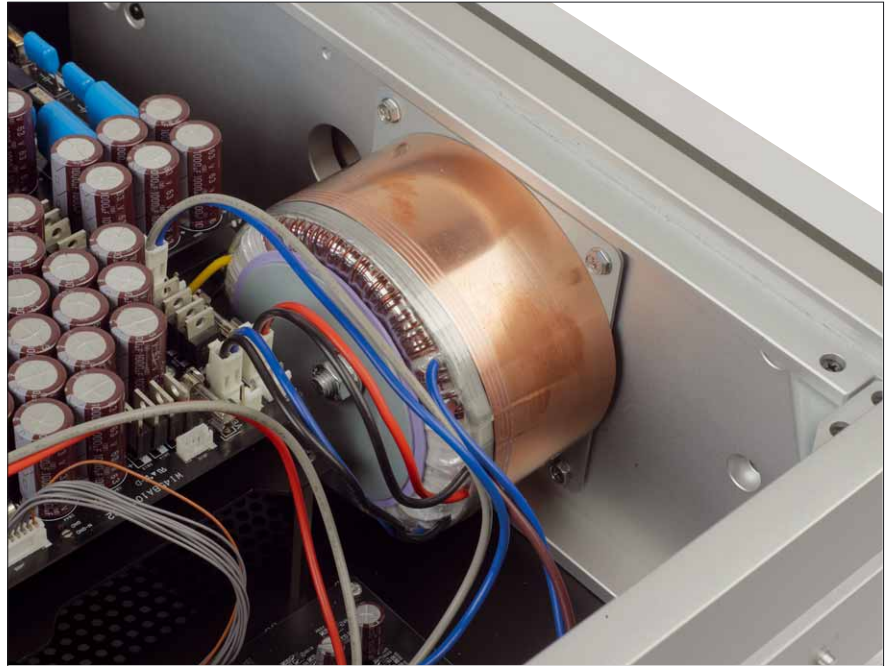


*27 kilograms of material are needed to raise optoelectronically generated pickup signals to an unprecedented level*

is what makes this device cost 17,000 euros. Okay, and the customised, particularly small-signal-compatible relays that we already know from the P-3 and M-3. And the large number of individually laser-calibrated open foil resistors, which are used exclusively here.

Even though the E-3 is not fully balanced – this is not possible due to the design of the DS Audio pickups – it has XLR inputs and outputs. There is true symmetry on the output side, but the XLR inputs are specially wired. A special pickup connection cable is plugged in here, where the supply voltage and signal are routed separately.

Remember: with DS Audio cartridges, both the supply voltage for the LEDs and the polarisation voltage for the photodiodes are superimposed on the signal of both channels. Kato at least avoids this over long stretches of the signal transport. If you don't want to do without your tried and tested tonearm cables, you can still use 'normal' RCA connections.



*Three potent toroidal transformers supply the device with power*

## World's First Supreme<sup>3</sup>-Diamond Fuses & Holder, of course 100 % Handmade in Germany.

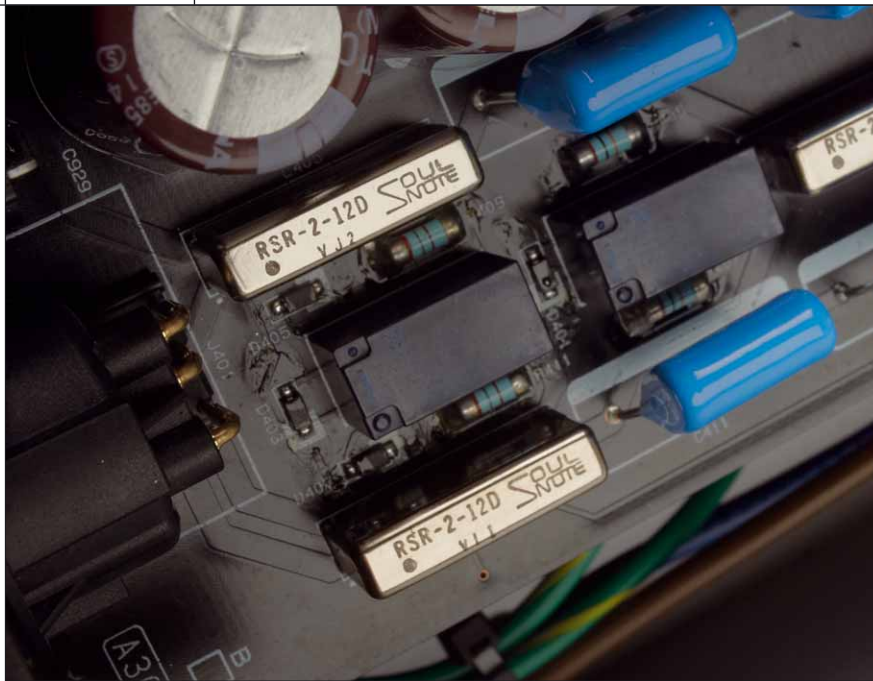


THE BEST OR NOTHING  
(Gottlieb Daimler)



HiFi-Tuning

[www.hifi-tuning.com](http://www.hifi-tuning.com)  
[order@hifi-tuning.com](mailto:order@hifi-tuning.com)



*Soulnote manufactures almost all the signal relays in house. According to reports, they are completely transparent in terms of sound*

### Sound

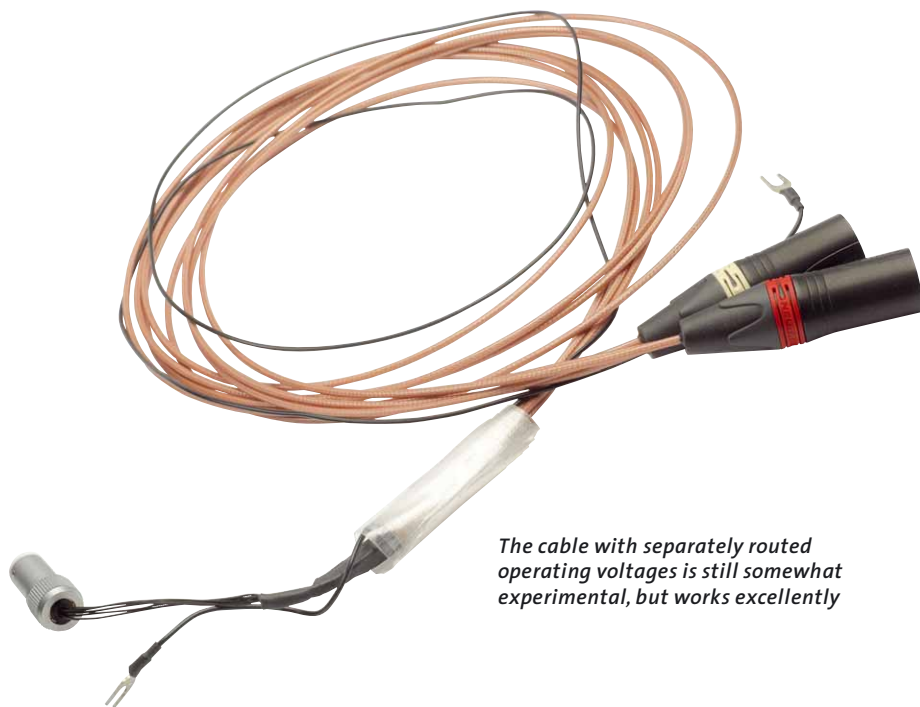
And not for the first time in this issue, it's Taylor Swift who gets the first notes from the setup. Her 'Fortnight' is ideal for trying out the E-3's two options for cutting the bass. And that was very easy: without filtering, the woofer tends to make frightening strokes, the 'Low Pass Filter' naturally changes relatively little and is hardly noticeable in terms of sound. The 'Low Cut' button is the solution: the frightening excursions are gone, I can't detect any disadvantages in terms of sound.

Oh yes: What Ms Swift delivers here is cause for amazement: a perfectly centred, slightly forward vocal in a precisely delineated size, extremely credible all-round distribution of electronic events with well-defined choral interjections. That sounds – I hardly dare say it – really good. If you want to find a fly in the ointment with the sound, then it's a certain artificiality. The Inakustik sampler 'Sound Check VOL. 2' leaves no doubt at all. Normally I avoid such emphatically 'audiophile' samplers as much as possible, but I have to admit that this double album is a real firework display. It starts with the convincingly fervent Dominique Fils-Aimé, whose 'Nameless' illuminates the listening room right down to the last corner, and continues seamlessly with Fink's magnificent 'This Is The Thing', which was recorded live. My DIY tube equaliser is also capable of the warmth and intensity, but not to the same extent as the gripping atmosphere of the E-3. The imaging performance of the DS 003 and E-3 is one of the best I have ever heard from a record. The tremendous transparency and stability would be difficult to achieve with conventional pickups.

be difficult to achieve with conventional pickups. 'From Gargarin's Point Of View' by the immortal Esbjörn Svensson Trio? Spectacularly powerful and overwhelming to a degree that I have hardly ever experienced.

The Soulnote E-3 is the most convincing signal processing solution I have come across for the DS Audio-Abtster to date and shows once again how much potential there is in this cartridge technology.

*Holger Barske*



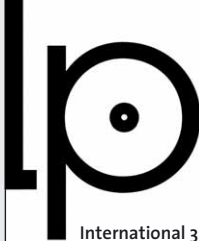
*The cable with separately routed operating voltages is still somewhat experimental, but works excellently*

## Soulnote E-3



- Price
- Distribution
- Phone
- Internet
- Warranty
- Dimensions (W x H x D)
- Weight

approx. 17,000 Euro  
 IAD, Korschenbroich  
 +49 2161 617830  
 soulnote.audio  
 3 years  
 454 x 189 x 407 mm  
 approx. 27 kg



Soulnote E-3

International 3/24

» Spectacular dynamics, extreme differentiation and extensive imaging: What a DS Audio cartridge with the Soulnote E-3 is able to dig out of the record groove would be difficult to realise with other means.

# TOUGHNESS

Tonearms are amongst the things in record playback where a few real innovations are still possible here and there. As this beautiful piece here, for example, convincingly proves.







*A connection cable according to SME standard is plugged in from below*



*The TA-AF9 has an effective mass of 21 grams*

I can't remember exactly when I first came across Alexey Korf online - it was quite a while ago. It was the blog that he meticulously maintains on his website, where he keeps publishing things about record playback that you simply won't find anywhere else. He delves deep into very specific problems and documents his research with impressive thoroughness, because: Alexey Korf puts a considerable amount of metrological effort into his research. For example, he has spent a long time thinking about how to determine the vibration behaviour of headshells using measurement technology. One result of this is his own ceramic headshell with SME connection, which is available to buy for 200 euros.

Alexey Korf is of Russian descent and runs his company in Klosterneuburg in Lower Austria - which in itself is a very exotic constellation. However, this does provide a certain geographical proximity to Munich and so the opportunity arose to meet the man in person at the High End show a few years ago. The result is this story about Alexey's new 'big' tonearm, of which he is understandably incredibly proud. As you can see from his blog, the beginnings of the

development go back to at least 2018. Now it's ready and I'm delighted to be one of the first to report on it.

As the type designation suggests, the TA-AF9/10 is available in nine or ten inch effective length. Both versions cost the same, namely 3200 euros. I find the fact that the sometimes brazen surcharges for a slightly longer arm tube are saved here very appealing. There is a choice of a Linn-compatible flange or an SME 'sliding base'. I had the latter, which costs 200 euros extra. The installation distance of the nine-inch head is 214 millimetres, its effective mass is 21 grams. In his blog, Alexey Korf provides impressive metrological evidence that you shouldn't worry too much about the effective mass; in practice, this parameter is far less important than assumed.

### Bearing technology

The first big surprise comes with the question of the bearing: the TA-AF9 is in part a gimbal-mounted tonearm. Two silicon nitride bearings are used for the vertical deflection, which have one of the lowest breakaway torques of all available roller bearings. A bearing based on the 'Flexure

Pivot' principle is used for horizontal deflection. The function is achieved by the bearing elements being subjected to bending loads. This works excellently in the range of rather small deflections, has no breakaway torque, no friction, does not need to be lubricated, has an unlimited service life and is also electrically conductive. The principle is over 60 years old and it is astonishing that it has taken until today for it to find its way into a tonearm. Korf has packaged it elegantly, the bearing block of the arm looks completely innocent from the outside and feels exactly like a classic gimbal-mounted tonearm. There is also an azimuth adjustment option: after loosening a screw at the top of the bearing housing, the arm tube can be rotated. An indicator shows the zero position.

### The arm tube

The tonearm tube is a relatively thin ceramic tube. Nevertheless, it is twice as strong as a steel tube of the same weight and even six times as strong as an equivalent aluminium tube. This makes it a perfect match for the ceramic headshell that adorns the front end of the arm.



*The counterweight of the TA-AF9 is designed in two parts. The small part is only needed for heavy cartridges*

## Teammates

### Turntable:

- TechDAS Air Force III

### Pickup Cartridges:

- Rega ND3
- DS Audio DS003

### Phono preamplifier:

- DIY Röhrenphonovorstufe
- Soulnote E-3

### Line preamplifier:

- NEM PRA-5

### Power amplifier:

- 2 x Yamaha P-2200

### Loudspeaker:

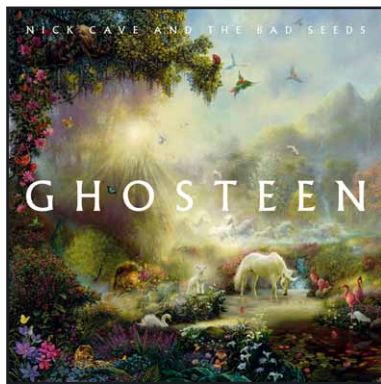
- JBL 4355

## Competitors

### Tonearms:

- Reed 1X
- Schick 12"





### What we played

**Nick Cave And The Bad Seeds**

Ghosteen

**Peter, Paul And Mary**

S/T

**Dillon**

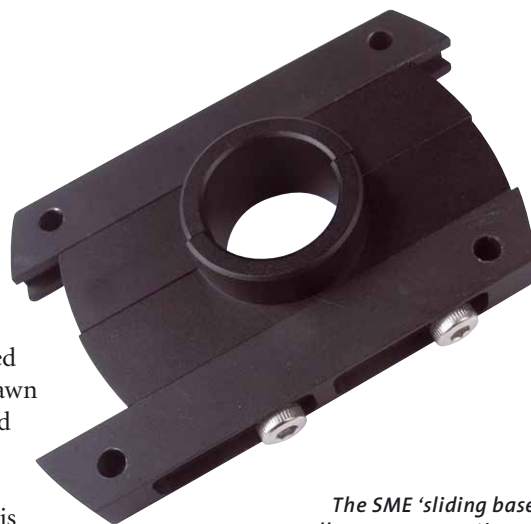
Kind

**LA4**

Just Friends

A separate cable is used to earth the pick-up housing, as the headshell and arm tube are clearly electrically non-conductive. Cardas strands are used for the internal cabling, which are drawn into an extremely delicate copper braid for shielding.

The scope of delivery includes a two-part counterweight. The second part is only used for heavy pickups. The height of the TA-AF9 can of course be adjusted. If it is used in the SME base, as shown here, this clamps the arm shaft at the desired height. The desired height can be set using a knurled screw so that the setting does not change when the slide is moved. The same applies to the Linn flange. Here, too, the designer has avoided the usual unspeakable grub screw, which presses on the arm shaft and inevitably scratches it.



*The SME 'sliding base' allows easy mounting on a variety of turntables*



*Among other things, the bearing block conceals the tricky flexure bearing*

### Adjustment template

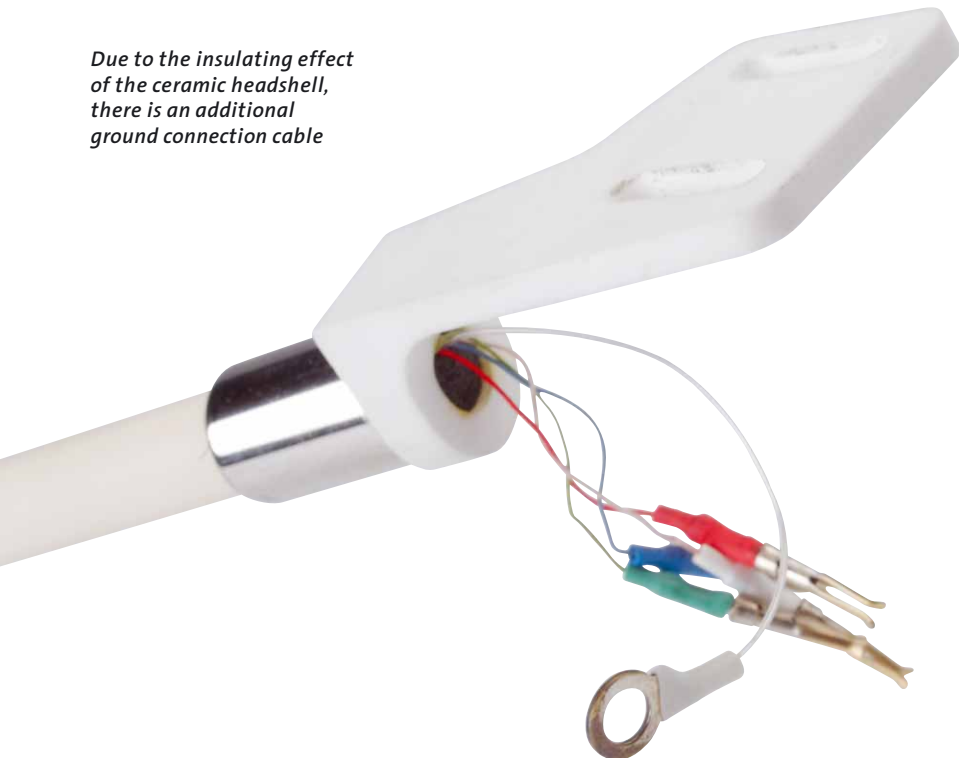
Korf includes a special adjustment template with the arm. The neat 3D-printed part is clipped onto the arm tube directly in front of the headshell and has a groove at the front in which the diamond ideally comes to rest. Sounds good, but only works to a very limited extent in practice. On the one hand, it only does the trick with cartridges of a certain (relatively large) height; with flatter cartridges, the stylus is too far away from the groove to be able to position it properly. Of course, the Korf can also be perfectly adjusted with any standard adjustment template.

the manufacturer recommends the one from Dr Feickert.

Anti-skating? That's also available. It can be adjusted in the tried and tested manner using a small knurled wheel from the base of the arm. Alexey Korf quite rightly argues that he is not using the best bearing technology on the planet in order to add new breakaway torques via an anti-skating system using a boom, thread and weight.



*Due to the insulating effect of the ceramic headshell, there is an additional ground connection cable*



*The anti-skating is adjusted from the side using a knurled wheel*

## Assembly

Assembly proves to be completely unproblematic. In this context, I gave the Air Force III a new SME base that was as compact as possible, on which the Korf fitted perfectly. In terms of operation, the arm is completely unproblematic. It feels good, everything looks high quality, the lift has just the right amount of damping and it is obviously compatible with a large number of cartridges. Even with my new favourite MM, the Rega ND-3, the Korf reveals a striking degree of clarity and transparency. Under the ceramic headshell, the 230-Euro pickup immediately becomes a few classes more expensive. And so I'm amazed at the fervour with which the combination reproduces Nick Cave's dark statement 'Ghosteen', how energetic, emotional and driven the Australian gets down to business here. Tonally, the Korf is completely inconspicuous. It produces a beautifully colourful but largely unobtrusive bass range that is neither lean nor exaggerated. This is also evident when the DS Audio DS003 takes the MM's place. Of course, it's a different world in the low frequencies, but the Korf domesticates the extreme low-frequency capabilities of the electro-optical pickup in an exemplary manner. The 2013 remaster of the 1962 Peter, Paul and Mary album reproduces the combination with a dynamic range that is hard to believe from a 1962 recording, but nothing seems exaggerated. The vocals stand as if nailed down, nothing trembles or even wobbles. In fact, this is probably one of the most spectacular tonearm/system combinations I have come across over the years. The brittle organ of the Brazilian singer Dillon sounds as intense as rarely experienced and anyone who still claims that analogue sounds soft and a bit cosy is beyond help.

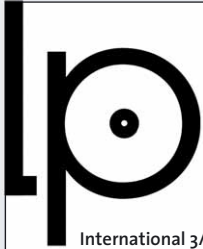
*Holger Barske*

## Korf Audio TA-AF9



- Price
- Distribution
- Internet
- Warranty
- Weight

3,200 Euro  
Korf Audio,  
Klosterneuburg, Österreich  
[www.korfaudio.com](http://www.korfaudio.com)  
1 years  
approx. 500 g



Korf Audio  
TA-AF9  
International 3/24

»Alexey Korf's new tonearm is a firework of good ideas and a sonic masterpiece: the cartridges used have hardly ever sounded so direct, transparent and intense.

# IT'S A SPEED THING

With the Tempo, Audio Physic presents a new version of one of its best-known models. And although you can hardly see it from the outside, the upgrade is quite something.









*The VCF II magnetically decoupling feet are included in the scope of delivery*

## Basics

There is no doubt that the Sauerland-based company Audio Physic is one of the most important loudspeaker manufacturers in Germany. For around 40 years, handmade precision sound transducers have been produced under this name, combining a discreet visual appearance with optimum performance. Audio Physic is one of the very few companies where two developers have achieved international fame and honour: Company founder Joachim Gerhard was succeeded by Manfred Diestertich, who has now been responsible for Audio Physic's creations for almost 25 years.

The Tempo model is a case in point, and one in which much of Audio Physic's history can be traced. It once began as a compact two-way monitor with Scandinavian loudspeaker equipment and has now matured into a handsome three-way floor-standing speaker that only has the objective anchored in its name in common with the original model.

The last incarnation of the Tempo was the anniversary model 'Tempo 35', the new version is simply called 'Tempo', although the speaker boxes already hinted at what the latest update is all about. It is labelled 'Tempo SL'. The abbreviation stands for 'spiderless' and refers to the midrange driver, which is located on the baffle.

## Cabinet

The formal aspects of the Tempo have not changed: The smallest floorstanding speaker in the 'Reference' series is moderately

tall at one metre, and the cabinet has a distinctly slim appearance. This is due to the slightly convex side panels, which allow for quite a narrow baffle. A gentle inclination of the cabinet towards the rear provides additional visual appeal and also facilitates the temporally coherent radiation of both drivers on the front of the cabinet. Solid aluminium cross-members equipped with the company's own 'VCF II Magnetic Plus' magnetic feet ensure that the slender spea-

## Teammates

### Turntable:

- **Transrotor Massimo Nero / Studio 12'**

### Cartridge:

- **Transrotor Figaro**

### Phono preamp;

- **Musical Fidelity Nu-Vista Vinyl**

### Integrated amplifier:

- **Soulnote E-2**

### Preamplifier:

- **MalValve preamp three line**

### Power amplifiers:

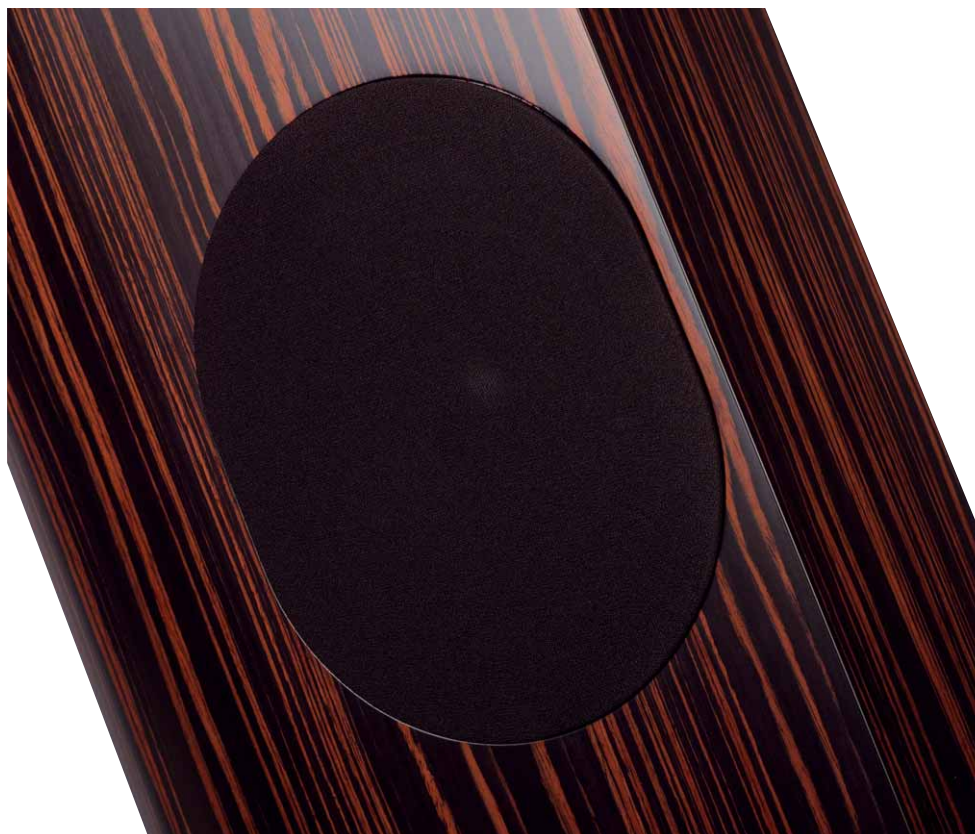
- **Atma-Sphere Class D**

## Competitors

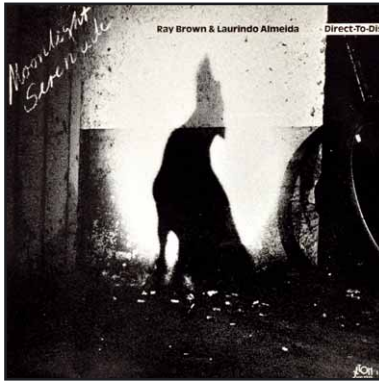
### Loudspeakers:

- **Rosso Fiorentino Certaldo**
- **Epos ES-14N**

*The 7" woofers are concealed behind the side covers*







## What we played

**Laurindo Almeida / Ray Brown**  
Moonlight Serenade

**Rickie Lee Jones**  
S/T

**Slomosa**  
S/T

**Anouar Brahem**  
Barzakh

*You can't tell by looking at it, but the tweeter works with a cone diaphragm*



*The WBT terminals are decoupled from the housing in two ways*

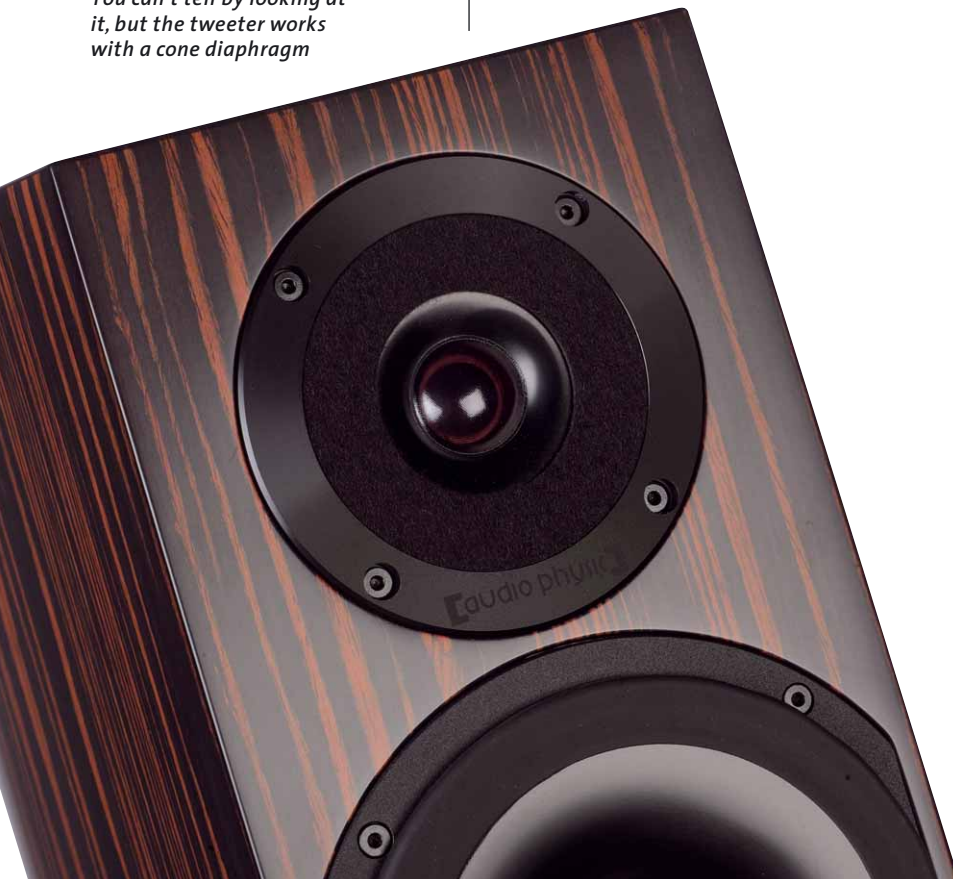
ker stands extremely solidly. These have already proved to be effective decoupling mechanisms with an astonishingly positive sonic effect elsewhere.

Almost nothing can be seen of the Tempo's bass protagonists from the front, as the two 7" woofers sit opposite each other on the side panels.

### Drivers

The two bass drivers have an aluminium cone, are capable of delivering a decent amount of impact and guarantee the impressive bass foundation of the Tempo. The two drivers are driven in phase, which ensures a symmetrical distribution of forces in the cabinet and helps to minimise vibrations. The cavity is insulated by a highly effective ceramic foam, which works far better than the polyester wadding usually used in this area.

The tweeter and midrange drivers are very special constructions that Manfred Diestertich has developed in co-operation with the Far East driver manufacturer Wavecor and which can be admired in this form exclusively at Audio Physic. Firstly, there is the tweeter based on the HHCT III principle, the latest version of the 'Hyper



Holographic Cone Tweeter'. This is a new interpretation of the good old cone tweeter with modern means. In terms of dispersion characteristics, the ceramic-coated aluminium cone is in no way inferior to a dome tweeter, has a large sound-emitting surface and is rightly considered to have extremely low discolouration.

The brand new 'HHCM SL' midrange driver goes one step further. This is the first time that a spiderless has been applied. Spiders are used in practically all cone loudspeakers for precise guidance of the voice coil in the air gap and significantly determine the mechanical damping of the oscillating system. Due to the extremely flat design of the new driver, stable guidance of the voice coil could be guaranteed even without a spider. The lack of energy dissipation allows the driver to achieve exorbitant impulse fidelity. It is housed in a double basket construction made of metal and plastic, which minimises vibration transmission. The two components of the basket only touch at certain points. The rubber surround around the edge of the basket is noticeable from the outside and plays a crucial role in this design. There are many ingenious details in this driver - far more than could be listed here.

It goes without saying that the midrange and tweeter have their own separate volumes so that they can do their work undisturbed.

### And what else?

The Tempo's bass section, which is generously equipped considering the size of the speaker, receives additional support from a rear-mounted bass reflex tube. The low tuning of the system is striking, which is unusual for a speaker of this size.

Audio Physic relies on tried and tested details for the signal connection: the two WBT-Nextgen connection terminals are rubber-mounted in the aluminium connection plate, which is once again decoupled from the housing. Single-wiring is standard, but a bi-wiring solution is also available on request.

### Operation

The Tempo is essentially a four-ohm loudspeaker without impedance correction, which appreciates somewhat more power-



*This is the brand new midrange driver without spider*

ful amplifiers. Current-potent semiconductor models are the means of choice, push-pull amplifiers in tube technology may also work, but this has to be tried out on a case-by-case basis.

### Sound

Our best experience with the Tempo was with the Atma-Sphere Class D monos, which propelled the speaker to sonic heights. The sonorous and voluminous bass range is far above what you would expect from a speaker of this size. The mi-

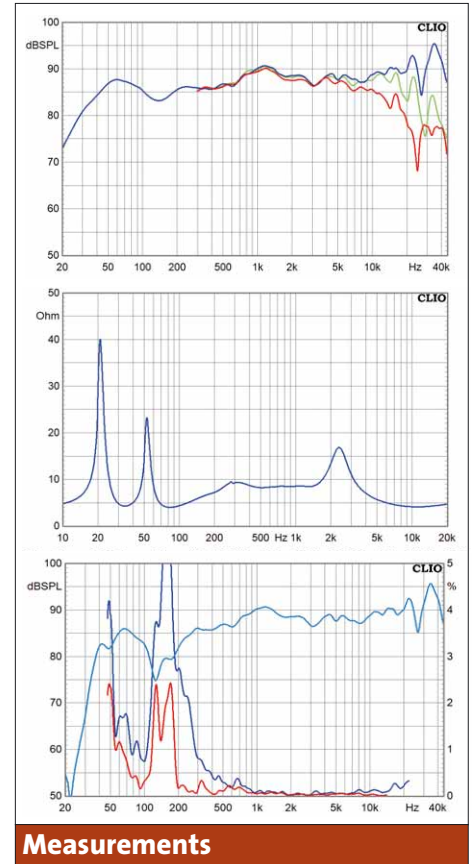


*The characteristic rubber surround plays a very special role in the Tempo's midrange driver*

nimal overemphasis in the 50 Hz range is undoubtedly audible, but it is within a range that I find not only tolerable but also very pleasant. It gives acoustic guitars body and power (Laurindo Almeida) and allows a double bass (Ray Brown) to be physically experienced. And it does so with a pleasing amount of colour and differentiation. The new midrange speaker achieves truly remarkable things in the vocal range: Rickie Lee Jones' "Coollsville" convinces with a dramatic combination of expressiveness and energy; the title is constantly balanced on the edge and threatens to plunge into unpleasantness. Not so with Tempo: they master the dance on the volcano with aplomb, delivering a dramatic and fervent interpretation of the song. The same effect is achieved with the Norwegian rockers Slo-



*The petite Tempo sounds far larger than its physical size would suggest*



#### Lab commentary

*The frequency response of the Tempo reveals a few special features: It reaches astonishingly low in the bass and still produces appreciable sound pressure below 40 Hertz. A slight overemphasis at 50 Hertz provides emphasis in the bass, while a slight rise in the midrange ensures expressiveness. The tweeter runs up to 40 kilohertz and the dispersion behaviour is very even. The average sound pressure level is around 87 decibels at 2 volts. The impedance curve reveals the very low bass tuning. From the mid-range onwards, the average impedance is eight ohms, in the bass it is closer to four. The distortion values at 85 decibels sound pressure are excellent.*


mosa, whose untitled full-throttle album is exactly on the Audio Physic line. It's impressive how easily and expressively the compact floorstanding speaker presents the frontman's captivating organ in the room, with the best speech intelligibility. The combination of unbridled energy and power also works with jazz: Tunisian oud virtuoso Anouar Brahem ignites fireworks on 'Barzakh' that are unrivalled in this class. Concise string attacks, excellent audibility and a lot of power – that's how it should sound.

*Holger Barske*

## Audio Physic Tempo



- Price per pair 7,800 Euro
- Distribution Audio Physic, Brilon
- Phone +49 2961 96170
- Internet audiophysic.com
- Warranty 5 years
- Dimensions (W x H x D) 290 x 1087 x 323 mm
- Weight approx. 20.8 kg
- Finishes: Black high gloss, White high gloss,  
Walnut veneer, Ebony veneer



Audio Physic  
Tempo

International 3/24

» The new Audio Physic Tempo turns out to be an extremely dynamic and expressive transducer that sounds far bigger than its moderate dimensions would suggest.



# TWO WORLDS

Do you want the famous horn sound but are not willing or able to accommodate large-format speakers? As a rule, this means giving up the dream. Horn specialist Cessaro tries to find a way out of the dilemma.

### General information

Horn loudspeakers are an interesting phenomenon. In my experience, they are something that many audiophiles take little interest in for many years as their listening habits develop. Usually there is then a key experience and the interest is aroused. Once you have understood that horns don't have to sound bloated and discolo-

*The housing of the Mendelssohn is much more than a simple cuboid. The baffle for the midrange driver was deliberately designed to be narrow*



red, the path is already mapped out: Once you've smelled the fuse with this type of loudspeaker, there's no going back. Completely effortless reproduction, listening to a musical event as if through an acoustic microscope, is only possible with funnels. The problem is that this type of loudspeaker is large by design and physics cannot be fooled. This applies particularly to the lower regions of the spectrum: The volume of horns that can reproduce really low frequencies is usually specified in cubic meters. For contemporaries with plenty of space and tolerant roommates, this is a great thing, no question.

### Cessaro

The small German manufacturer Cessaro specializes in just such loudspeakers. There are five-way designs, all of which have been realized with horns. The low-mid horn alone measures a good one meter in diameter and weighs over 100 kilograms. Bass solutions at Cessaro are normally folded horn constructions that are powered by massive drivers from sound reinforcement technology. And you can integrate as many of these into the system as your personal taste and willingness to spend money allow.

In addition to the space required, Cessaro loudspeaker systems have a second special feature: they are in the absolute luxury segment in terms of both quality and price. However, company founder Ralph Krebs' success clearly proves him right: his unique creations can be found in the most exclusive locations all over the world.

### Hybrid concept

It goes without saying that the market for such things is not endless. That's why Cessaro has been building models for a somewhat less uncompromising clientele for some time now.

This is clearly not possible without compromises. In the case of the Mendelssohn model under discussion here, this means dispensing with horn systems in the bass and mid-range. Above this, however, a horn loudspeaker sets the tone and transports as much horn fascination to the listener as possible. Named after the German composer Felix Mendelssohn



*The powerful woofer requires a voluminous bass reflex tube*

Bartoldy (1809 - 1847), the loudspeaker, priced at 55,000 euros per pair, is visually a sight like no other. The model, limited to ten pairs, is housed in a perfectly glossy black high-gloss cabinet, which owes its visual qualities to an excellent paint finish on the one hand and the use of acrylic cabinet elements on the other. With the best will in the world, there is no discernible difference in the surface.

With a height of 113 centimeters, the speaker can still be considered suitable for a living room, especially as it is not very wide for a system of this class at 34 centimeters and cleverly hides its volume in the depth. The most striking feature is the spotlight-like tweeter attachment, which forms the heart of the Mendelssohn: This is where the compression driver with a one-inch



*A camera mounting plate is used to fix the tweeter horn in place*

## Teammates

### Turntable:

- Transrotor Massimo Nero / Studio 12'

### Cartridge:

- Transrotor Figaro

### Phono preamp;

- Musical Fidelity Nu-Vista Vinyl

### Integrated amplifier:

- Soulnote A-2

### Preamplifier:

- MalValve preamp three line

### Power amplifiers:

- Atma-Sphere Class D

## Competitors

### Loudspeakers:

- Rosso Fiorentino Certaldo
- Audio Physic Tempo





## What we played

### Verdi

Aida, Karajan, Tebaldi

### Laurindo Almeida / Ray Brown

Moonlight Serenade

### Rickie Lee Jones

Pirates

### Slomosa

Tundra Rock



*The 10" woofer is capable of top bass performance*

sound outlet does its work. It is firmly bolted to a custom-made horn made of solid aluminum. With its fine gray metallic finish, this forms a fine visual contrast to the pitch-black body of the speakers. Ralph Krebs has come up with an interesting detailed solution for mounting his exclusive tweeter: It is held to the base with a moun-

ting plate from the professional photography sector. Normally, heavy studio cameras are mounted immovably with this arrangement, but the completely invisible technology is also excellent for this application.

## Deep tones

The bass range of the Mendelssohn may not have a horn, but it is something very special in another respect: it uses an exquisite ten-inch woofer from Danish specialist Scan-Speak, which enables extremely low tuning in moderate cabinet sizes. In this case, this means that the reflex-supported Mendelssohn reproduces bass up to the 20 Hertz mark with almost no drop-off, even exceeding the manufacturer's specifications. And with an efficiency of a very respectable 88 decibels - that's quite something.

## Midrange

Above this, in its own compartment of course, the midrange driver does its work. It also comes from Scan-Speak and is from the high-quality Illuminator series. The driver, equipped with an extremely complex, totally open drive system with its characteristic "flower pattern" cone, is one of the best mid-range drivers on the market despite its moderate twelve centimeter diameter and is an excellent choice as a link between the extreme bass section and the exclusive horn tweeter.

*The sticker on the tweeter hints at this: The Mendelssohn will only be available ten times*

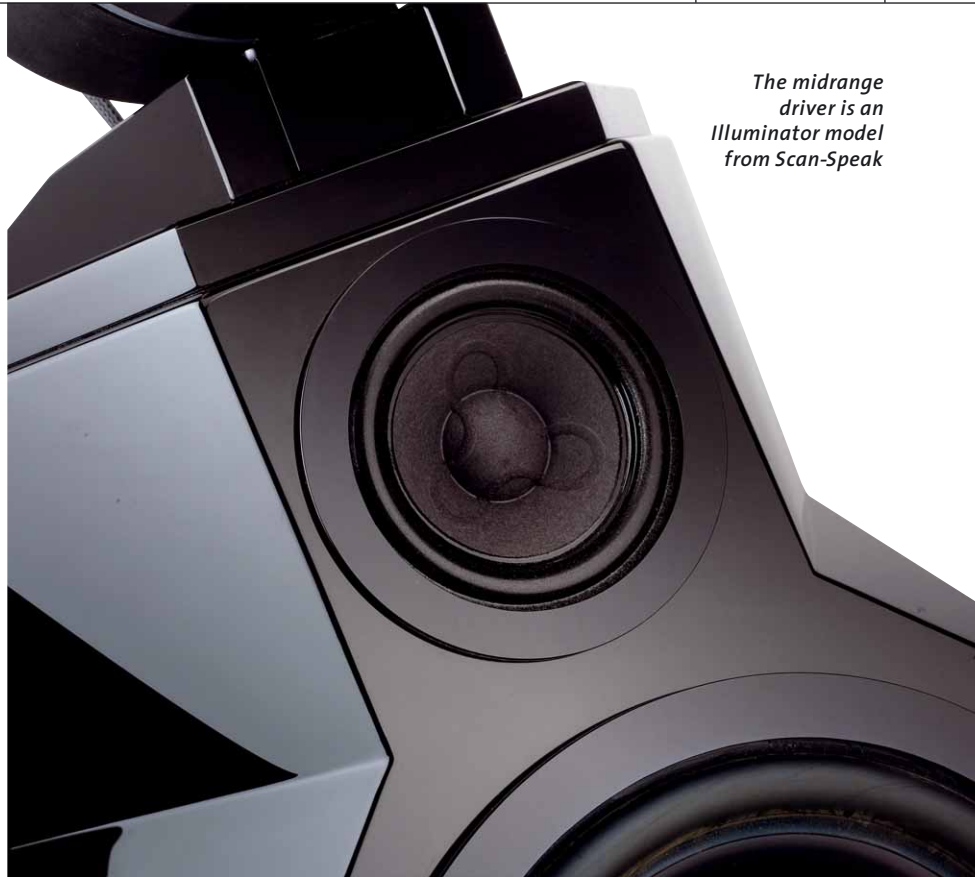


### Crossover

The division of the amplifier signal into the components for the three drivers is handled by the voluminous crossover, which is located on the rear of the speaker in its own chamber behind a plate with multiple screws. Structurally flat filters with few correction elements are used, with impedance correction only in the bass range. Only the finest components are used in the freely wired construction, as you would expect in this class.

### Requirements

The design of the Mendelssohn differs significantly from the horn loudspeakers normally used by Cessaro, which has consequences for the driving amplifier: The tremendous efficiency values that make it possible to drive "real" horn systems on single-ended tube amplifiers with a few watts of power do not exist here. The Mendelssohn has a very decent 89 decibels and likes to be operated with powerful ampli-



*The midrange driver is an Illuminator model from Scan-Speak*

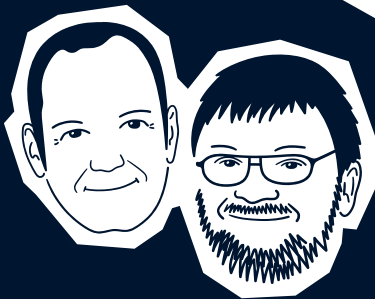


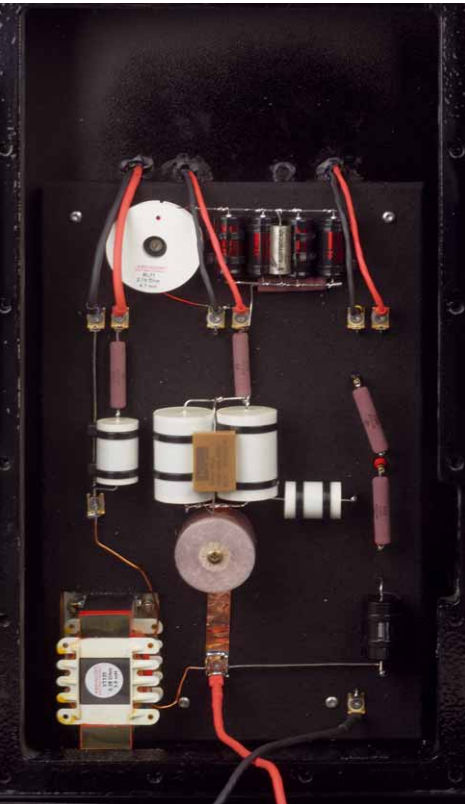
# BORG

## EPISODE 2

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The crossover is structurally simple and is realized with top components

Behind the tweeter horn is a 1" compression driver



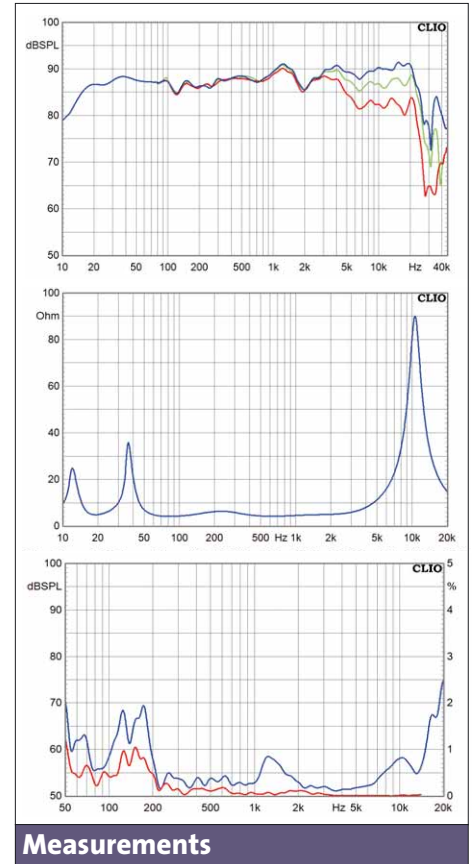
fiers – this is primarily due to the extremely powerful bass range.

If it has to be a tube, then I recommend a push-pull solution of the KT88 class and upwards. Experience has shown that solid-state amplifiers are easier, and we had the best experiences with the great Soulnote A-2.

### Sound

Unbelievable – sometimes you could actually believe you were sitting in front of a “real” horn loudspeaker. This is because the horn tweeter actually dominates the overall sound impression of the Mendelssohn. This is best illustrated, for example, by the Karajan Aida with Maria Tebaldi, which I hold in high esteem: the singer’s voice and the strings in particular display an extreme openness and transparency that is only possible with horn constructions. Tebaldi seems highly motivated, the loudspeaker conveys a convincingly dramatic atmosphere. This recording in particular benefits from its extremely potent bass range, which provides a convincingly powerful foundation for the action on stage. The bass tuning can be considered very successful, the Mendelssohn sounds variable and colorful in the low frequencies, no trace of bass reflex booming.

In terms of spatial imaging, I’m pretty sure that a “real” horn system would have a hard time overtaking it. The Mendelssohn can physically disappear completely from the sound image and can fill the room with music as a matter



#### Lab commentary

The amplitude response of the Mendelssohn is very balanced. The bass range impresses with its immense depth down to the 20 Hz mark. There is no noticeable tonal irregularity in the crossover between the midrange and tweeter, and the tweeter works without any problems above the 20-kilohertz mark. The overall efficiency is around 89 decibels at two volts. The impedance chart reveals four-ohm behavior; over long distances the impedance is even lower. The speaker needs current-potent amplifiers! The distortion curve at 90 decibels sound pressure reveals a small, harmless k2 peak in the midrange driver, otherwise the design is quite low-distortion.

of course. The manufacturer recommends it for a room size of up to 40 square meters, which I think is pretty conservative: our listening room is about 65 square meters in size and we had the feeling that we were pushing the speaker to its limits in terms of level. Of course, this transducer can’t do magic either: it can’t reproduce the explosive dynamics of a full-range horn system. But it can also play large-format music very convincingly across the entire frequency range, and the deep bass in particular deserves top marks here.

Holger Barske



# UNSHAKEABLE

Truly ambitious turntables are not something that the analogue scene produces at any great speed. That's why we are delighted to present the second edition of this model, which deserves more attention than it has received so far.





*Interesting detail on the tonearms; the double roller guide for anti-skating*

### Basics

The Toneart Revelation II has already been featured in 'LP' in 2019. It was built by Franz Stöger, a hi-fi dealer based in Vöcklabruck in Upper Austria and one of the best addresses in the country in this regard.

In addition to his work as a dealer, Stöger has been designing his own equipment for decades and you can clearly see the experience he has gained in just about every aspect of the results.

The 'Revelation II' turntable model is the middle of the three-model product range. Over the course of the last few years, its design has clearly moved closer to the top model 'Revelation I', which is why a renewed presentation of the device at this point seems justified.

*The flywheel drive is one of the biggest innovations in the new version of the turntable*



## Structure

Visually, the unit looks both imposing and familiar. The solid aluminium base was deliberately designed to be as minimalist as possible. It carries the mighty platter bearing at one end and accommodates an easily exchangeable tonearm base at the other end. So completely pre-adjusted tonearms can be easily changed if necessary. The visual counterpart to the arm base is the drive unit (both are of circular shape), which is much more than just a motor. The imposingly heavy cylinder houses a DC motor, which does not drive the platter directly. Instead, it uses two short round belts to set a rather impressive flywheel in rotation. This bell-shaped rotating body made of stainless steel rotates at a fairly high speed and therefore stores considerable amounts

of kinetic energy. This flywheel transfers its energy once again via round belt – in this case only one – to the outer radius of the platter. This ensures a significantly better speed stability than the drive with the motor without additional flywheel mass. The construction runs extremely quietly and smoothly, my compliments for the high level of workmanship. From this point of view alone, the price of the Revelation II of 12900 euros including motor control can be considered bearable.

## Platter and bearing

The massive platter of the Revelation II weighs around ten kilograms and consists of a solid aluminium disc - but that's not all. Seven brass weights are embedded from below near the outer edge, which significantly increase the moment of inertia and considerably reduce the tendency to ring. Contact with the disc is provided by a thin felt mat, which is perfectly flush with a narrow rim on the outer edge of the platter. The top of the platter is the only surface that has not been painted to match the drive unit - we can assume that this is for sound reasons. The platter is firmly screwed to the solid bearing housing. The bearing is of conventional design, i.e. with an axle mounted on the base of the drive. It forms the basis for a hydrodynamic bearing. The vertical forces are absorbed by a thrust plate made of synthetic diamond; nothing is known about the friction partner. Two ring magnets arranged in a repulsive manner significantly relieve the vertical load on the bearing. Nevertheless,

## Teammates

### Cartridges:

- van den Hul Crimson Stradivari
- DS Audio DS003
- Transrotor Figaro

### Phono preamplifiers:

- Toneart Revelation 1
- Musical Fidelity NuVista Phono
- Soulnote E-3

### Integraterd Amplifier:

- Soulnote E-2

### Speakers:

- Cessaro Mendelssohn
- Audio Physic Tempo

## Competitors

### Turntable:

- Transrotor Massimo Nero / Studio 12"

*The van den Hul cartridge is a perfect match for the Revelation II tonearm*



*Remarkable: the one-sided tonearm bearing with three ball bearings*





Cigarettes After Sex – S/T



What we played

**Cigarettes After Sex**

S/T

**UFO**

UFO 1

**Slomosa**

Tundra Rock

**Miles Davis**

Sketches Of Spain

*Brass additional weights increase the Z moment of inertia of the aluminum platter*



there is a non-positive way of dissipating vibration energy from the pick-up process, a key factor in the design of the device. The bearing is highly resilient, completely maintenance-free and, like the drive, is noticeably quiet during operation.

### Under control

In addition to the already very sophisticated drive, it also has a genuine speed regulation. In other words, a sensor is embedded in the base of the drive, which can be used to determine the actual speed of the platter very accurately. The 'R III' motor controller is the smallest of its kind from Toneart

to date, but has the same elementary features as the larger models - apart from the fact that it can only operate a single motor. This includes a convenient Bluetooth app that can be used to precisely parameterise the control. You don't have to deal with this on a day-to-day basis - all you have to do is switch the drive on and off and select the speed. Two microcontrollers are busy executing the PID control algorithm and precisely processing the actual speed value. The sound characteristics of the drive can be significantly changed by parameterising the 'PID' controller; the manufacturer provides three parameter sets between 'dynamic' and 'harmonic'.

### Tonearms

Franz Stöger supplied two tonearms to try out. In both cases, the arms are gimbal-mounted. What is striking about both is that the vertical bearing is only from one side of the arm tube. The arm is mounted on ball bearings in both planes but not, as usual, with preloaded bearings, but with factory-selected sets of three bearings each, which run particularly smoothly and without play. The more expensive R1 arm (4900 euros) has a simpler look, but stands out due to other special features. For example, the arm tube and headshell are made from a single piece of aluminium for optimum energy dissipation.

*This sensor in the drive base transmits precise speed information*





*The flywheel significantly increases the smooth running of the drive*



*The platter is bolted to the platter bearing five times*

The cheaper R II tonearm (2900 euros) is more bulky and the heavier of the two; here a titanium tonearm tube is used, the headshell is attached in this case. Both arms are nine inches long, but there are also

10.5 and 12 inch versions that also fit on the drive unit. The continuous arm tubes in both cases are locked in place using a clamp mechanism and can be twisted if necessary, which allows the azimuth to be

# AUDES



## Audes M Serie the new Standard



### Audes M 2

#### Conclusion

The Audes M2 is one of the biggest surprise since I startet listening to Music. It can do virtually everthing I want from a speaker and more. Above all, she can give you the fun of music or give it back.

**Christian Bayer, Lautsprecher Jahrbuch 24**

NEU



ST-500DC

### Audes M 5

#### Conclusion

After decades of listening to even expensive speakers, I can lean out to say: The die Audes M5 is so good, that their price is almost cheap, but their class should scare the top dogs.

**Christian Bayer, LP 03/24**

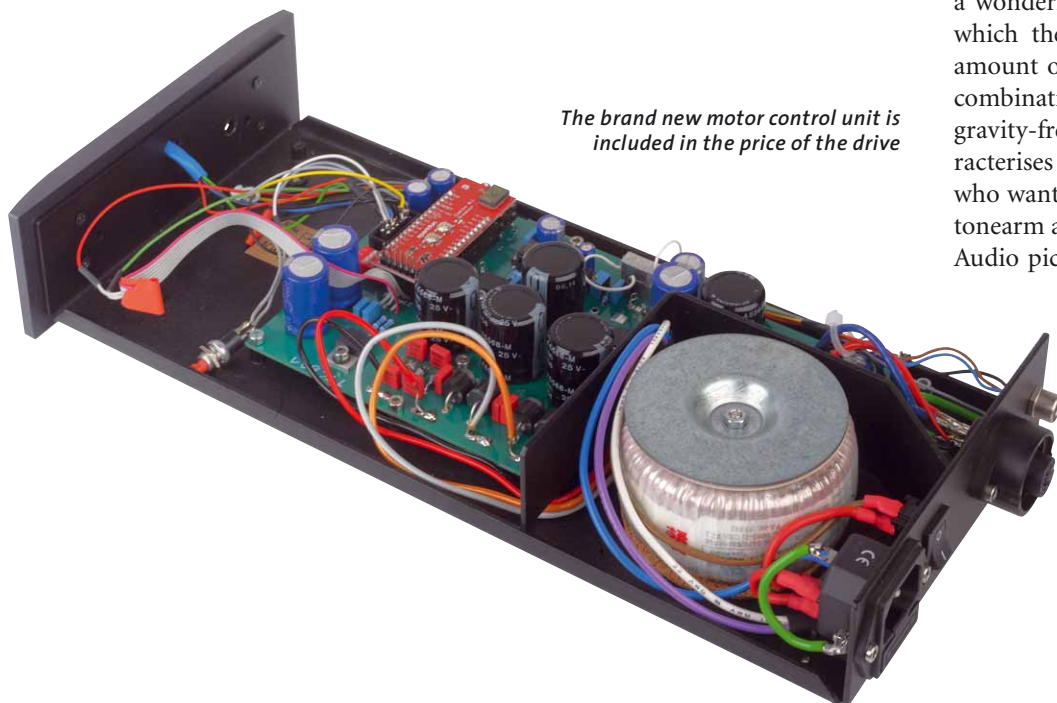
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info@tcg-gmbh.de



*The platter bearing is completely maintenance-free and works with magnetic support*



*The brand new motor control unit is included in the price of the drive*



adjusted. Antiskating is done in the classic manner using a weighted thread, and there is also a height adjustment. The arm shaft is locked in the base by means of a well realised clamp, which works far better than the usual simple grub screw.

### Assembly

The assembly of the device is largely self-explanatory; you can play around with the position of the drive unit and the tension of the drive belt. The manufacturer suggests positioning the drive unit as close to the disc as possible, which I agree with. I would position the unit on the front left to keep the effective belt length to the pickup zone as short as possible - this gives you a bit more dynamics.

### Sound

Stöger supplied a van den Hul Crimson Stradivari cartridge, which in the R2 arm immediately made it clear why he did so. The combination offers a wonderfully delicate, subtle and weightless type of reproduction. Even though the sound has an inherent stoic calmness, there is no sign of the dry boredom that can sometimes be observed with pure inertia drives. This is particularly evident on the fantastic self-titled 2017 debut album by 'Cigarettes after sex': the unmistakable voice of singer Greg Gonzalez sounds like a cloud of pure well-being, completely detached from the speakers and extremely intense. With a wonderfully warm and floating bass, in which the string attacks have a striking amount of contour and stability. It is this combination of complete sovereignty and gravity-free lightness that particularly characterises Stöger's Revelation II. For those who want more weight and punch, the R1 tonearm and the DS003 electro-optical DS Audio pick-up provide this. The playback is noticeably more direct and makes the immortal debut album by the British band UFO sound wonderfully heated, wiry and ecstatic. The drive reproduces such differences absolutely convincingly and qualifies as a true top performer in its field.

*Holger Barske*

## Toneart Revelation II



- Price: from approx. 12,900 Euro (without tonearm)
- Distribution: Tonart Stöger, Vöcklabruck, Austria
- Internet: [toneart-audio.com](http://toneart-audio.com)
- Warranty: 3 years
- Dimensions (W x H x D): 450 x 200 x 340 mm
- Weight: approx. 25 kg

**lp** Toneart  
Revelation II  
International 3/24

» The Revelation II in its second incarnation turns out to be an extremely variable and universal turntable that is capable of top performance in practically all disciplines of reproduction. Particularly impressive are its stoic calm and the subtlety of which it is capable.

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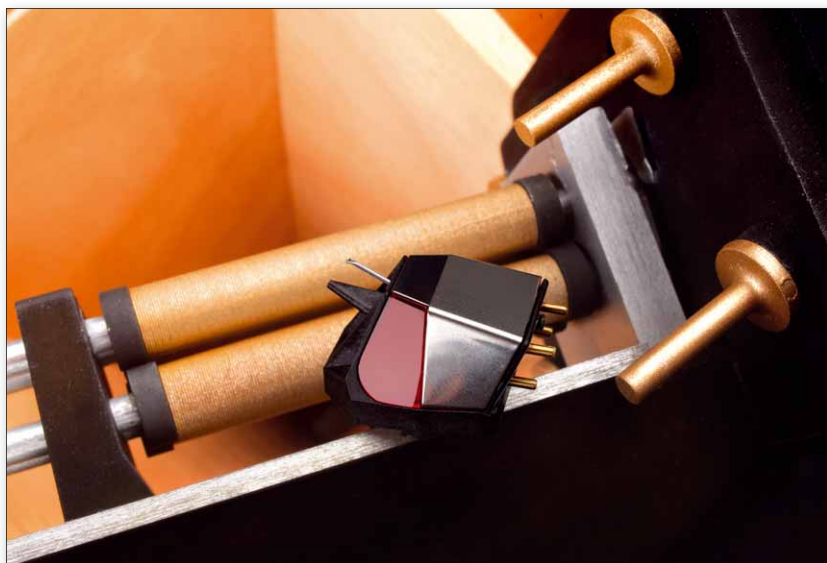
## Swiss precision

Already promised for this issue, but it will definitely work in the next one: The EMT 928 II is a wonderful piece of Swiss precision work, now available with two tonearms for the first time.



## Neodymium

The British manufacturer Rega has released one of the most interesting MM cartridges of recent years: the ND 3 uses a neodymium magnet system for the first time.



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The Test Specialists

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