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STEREO

THE GERMAN HIFI MAGAZINE

ISSUE #24 2019



**> PATHOS,
WESTEND & MOON
TUBE OR
NOT TUBE**



**> BRITISH NOBLESSE
MONITOR AUDIO
PLATINUM PL 100 II**

**REVIEWS: CLEARAUDIO BALANCE V2 +++ B&W FORMATION DUO
+++ BLUESOUND VAULT 2i +++ TECHNICS SL-1500C +++
HIFIMAN ARYA SERVICE: CLEAN POWER**

BACK TO THE '70s?



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Maybe some of you still remember the 70s? Hifi was a growing industry and it was prestigious to equip the living room with an “electronic altar” at its centre. However soon the strategists in the corporate headquarters began to devise alternatives to stacking equipment towers made of individual components – and invented the compact system. In it, radio, amplifier, tape deck and turntable were united under one mostly flat and wide bonnet and the result was sold to the inclined clientele as a purchase without regret and quality without compromise. At first, these “compact systems” had considerable success in sales, but soon critical ears noticed that the highly praised “All-in-Ones” were afflicted with various compromises – which was primarily due to significant weaknesses in some of the installed components.

Yet another problem usually appeared years later when a repair was due and you often had no music system at all for weeks. Perhaps one should at least consider the last mentioned aspect also today, when it comes to buying a new hifi system. As practical and space-saving as these compact systems of modern times may be – a failure of one part of the system means either the withdrawal of music from the home for weeks or even its complete loss if a repair turns out to be impossible or too costly.

Not to mention the non-existent possibility of step by step updating and upgrading the system. What do you think?

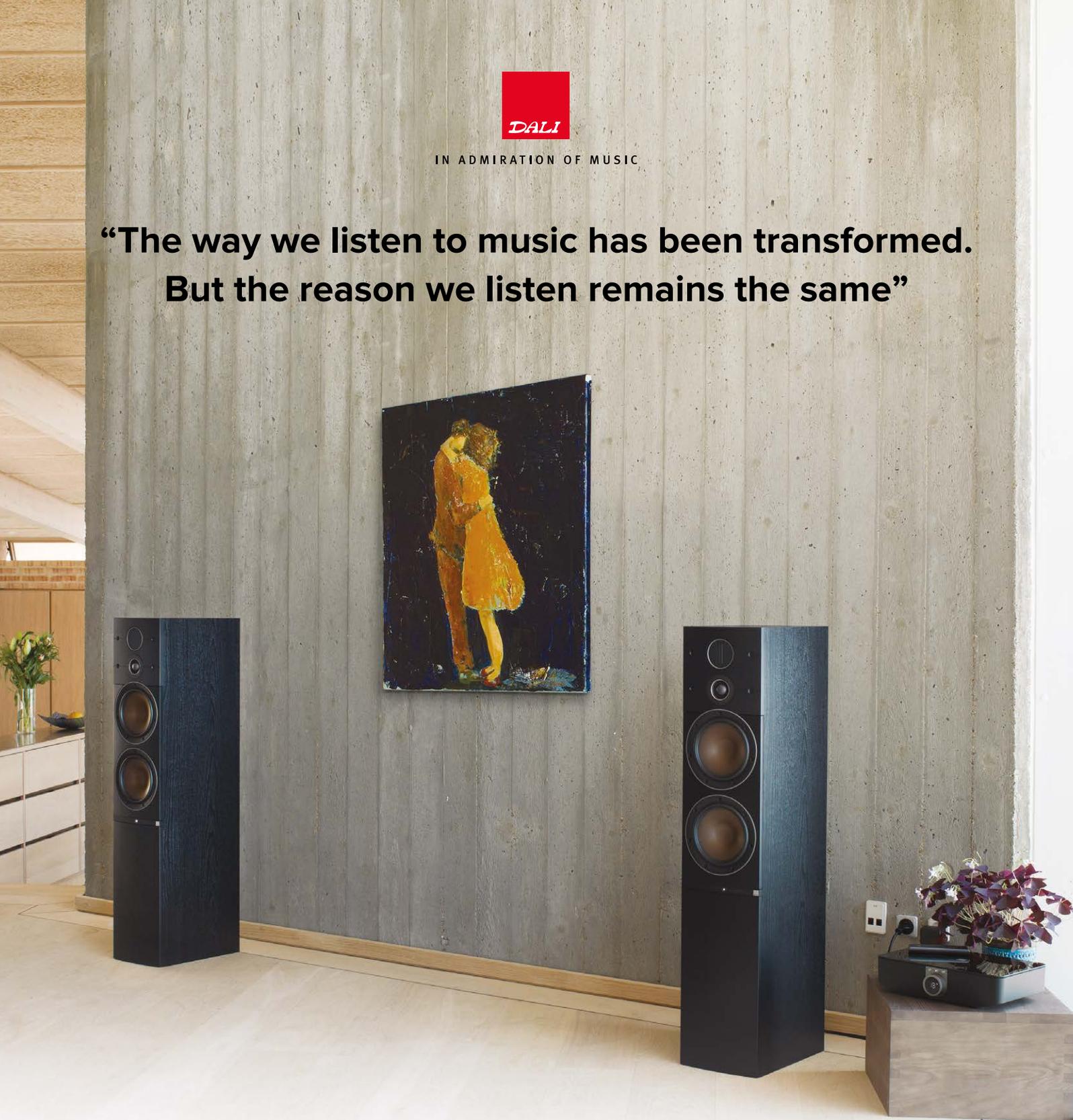
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All prices listed in this magazine are German retail prices incl. VAT valid at the time of evaluation.



IN ADMIRATION OF MUSIC

**“The way we listen to music has been transformed.
But the reason we listen remains the same”**



At DALI, we believe that digital music should deliver convenience and choices without compromise on sound quality. That's why we've re-imagined hi-fi for the 21st century with the CALLISTO Wireless Speaker System.

Stream, beam, and control music from almost any source and enjoy the stunningly detailed, transparent reproduction DALI is celebrated for.

TUBE, TRANSISTOR OR HYBRID?

Three amplifiers, all alike in dignity? We take a closer look at some of the finest amps one can get for just below 10,000 Euro.



B&W FORMATION DUO

A multiroom system from B&W? Wireless and Active? The British delivered an impressive first performance in this new field.



CLEARAUDIO BALANCE V2

Why compromise? This is a preamp within a preamp, ready to use with either active speakers, headphones or a power amplifier.



BLUESOUND VAULT 2i

This streaming and ripping device from Bluesound dispels all concerns one may have about „computer controlled“ music reproduction. Going digital has never been easier.



HIFIMAN ARYA

These boots may be made for walking, but these headphones are not. The Arya is specifically designed for use with stationary equipment.



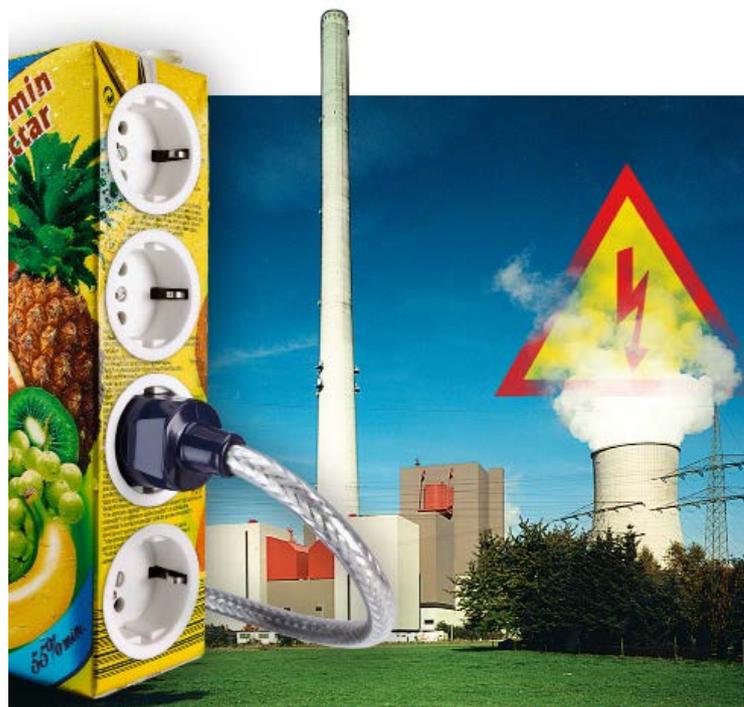
TECHNICS SL-1500C

The newest member of the Technics family comes ready to use without the need for a preamp or pickup. Though it remains below the 1000 Euro mark, the SL-1500C inherited some of the best genes from its bigger siblings.



MONITOR AUDIO PLATINUM PL 100 II

Noble in any imaginable way, the task for this test is to find out whether this standmount speaker can also meet our high expectations in the listening room.



CLEAN POWER

Gone are the days of naturally clean power supplies. But are there any ways to regain clear currents and thus improving the sound of one's system? There are. Plenty.

Floating Boards

Better decoupling is hardly possible: five powerful magnets literally hold the glass platforms of EsseCi Design from Italy suspended in mid air. The platforms do not use absorbers, spikes or similar aids to decouple the equipment from the ground and its vibrations. Thanks to the permanent magnets, the stable board made of hardened glass has no physical contact with the surface. It carries devices weighing up to 30 kilos and can be optimally aligned horizontally by rotating the magnet housing using the level gauge. The manufacturer dismisses fears that the strong magnetic field could impair the electronics, in particular the pickup systems, as the magnetic field works exclusively in the vertical direction, i.e. past the side of the device, and the negligible residual magnetism is completely shielded by the magnet's housing. The bases are manufactured entirely in Italy and are available in two sizes: as Audio Relaxa 530 with around



52 x 46 cm for 1200 Euro and as Audio Relaxa 622 with 49 x 40 cm for 1100 Euro. From January, the larger record will even be available with a load capacity of up to 50 kilos: as the Audio Relaxa 750 for an estimated 1500 euros.

www.essecidesign.it/

BluOS streams classical music

The multiroom streaming platform BluOS, which is implemented in products from Bluesound, NAD and DALI, integrates access to the classical music streaming service Idagio via firmware update. The update to version 3.6



▶ IDAGIO

will be rolled out in mid-October. Idagio offers over two million pieces of classical music, including exclusive recordings, as well as playlists curated by renowned experts – everything in lossless CD quality (FLAC 16

bit / 44 kHz). For owners of a Bluesound „Vault“ or the digital music player NAD M50.2, also the usage possibilities for MQA-coded CDs are extended. In the future, these discs can not only be decoded during CD playback, but also copied to the player and stored, while retaining all the advantages of the MQA standard.

<https://www.bluesound.com/>

Smart Speaker with Mic Drop

Specialist for digital radio Pure has come up with a special design for its smart speaker „DiscovR“: the upper compartment with the microphones and the two tweeters can be lowered by gentle pressure into the lower part which holds the downfire subwoofer. Thus the microphones for Alexa are not only shut off but physically disconnected. It also makes the loudspeaker smaller and therefore easier to transport, which is especially useful due to the integrated batteries. Even when the top section is open, the microphones can be muted at the touch of a button. Additional buttons can be used to preset and recall frequently used Alexa voice commands, for example for smart home control, as well as radio stations or playlists. By tapping the „Music Discovery“ button, a song heard on the radio is identified and directly added to a Spotify playlist. The DiscovR supports the Alexa system via WLAN, Spotify Connect and Airplay 2, and outside the WLAN range it receives music from a smartphone via Bluetooth or analog via the Aux input. The battery should last 15 hours and is charged via USB-C with Fast Charge. DiscovR is now available in silver or graphite for 300 Euro in the Pure Online Store.

<https://www.pure.com/uk>



Redline-cable from Vertere

Its inner conductor consists of 6 silver-plated copper wires with different cross-sections, 2 thin and 4 thick. A seventh, tin-plated and thicker copper wire carries the mass. A foil and a braid ensure optimum shielding. The cables are assembled with Cinch, DIN or XLR plugs and as speaker cables with banana plugs or cable lugs. All plugs have gold-plated contacts. The Redline series also includes tonearm cables, USB cables and mains cables with cold appliance couplers or Schuko plugs. The prices are 700 Euro for an interconnect cable with one meter length or a 3 meter loudspeaker cable pair. Every half meter of additional length costs 160 Euro. The mains cable is available for 720 Euro.

<https://vertereacoustics.com/>



B&W updates Bluetooth headphones

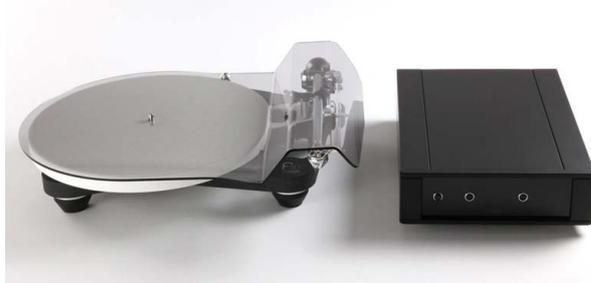
The Bowers & Wilkins PX7 is their new 400-euro over-ear flagship. Additionally B&W now offers the PX5 on-ear model for 300 euros. Both headphones receive Bluetooth signals with aptX HD and are equipped with individually adjustable, active noise cancelling. When an ear pad is lifted or the entire headset is placed around the neck, music playback stops automatically. The PX7, which weighs 302 grams, uses carbon fiber components and metal as well as genuine leather. The On-ear model is even lighter at 254 grams. The battery



life of the top model is 30 hours, slightly longer than that of the PX5 (25 hours). Both are available in „Space Grey“, the PX5 additionally in blue and the PX7 in silver. Also new from B&W: two wireless in-ears with silicone neckband and magnetic earplugs: The PI3 (200 Euro) and – available next year – the PI4 with adaptive active noise cancelling. <https://www.bowerswilkins.com/>

All new Rega Planar 10

Compared to its predecessor RP 10, Rega has developed the new „Planar 10“ from scratch – but has of course remained true to its principles. This includes constructing the chassis as lightly as possible. The Planar 10 consists of



a PU foam core embedded on both sides in a high-pressure laminated hard fabric. Its mass has thus been reduced by 30 percent compared to the RP 10. Also new is the precise vertical bearing of the tonearm. The ceramic platter rests on an aluminum sub-platter whose hardened steel axle runs in a special brass socket. It is driven by a low-vibration 24-volt synchronous motor which is fed from an external power supply unit with electronic speed switching and speed fine adjustment. Complete with cover, the Planar 10 costs around 4800 Euro or with the MC pickup Apheta 3 around 6000 Euro. It is expected to be available from December. <http://www.rega.co.uk/>

WIRELESS
room sound.
FULLY
connected.

The new Canton **Smart series**: Perfected audio quality for your connected home. Explore the powerful streaming world of Canton and connect the Smart products wirelessly in any combination to create an impressive sound stage.



More information is available from your specialist Canton retailer and in our online shop at www.canton.de

CANTON
German loudspeaker tradition

Affordable speakers from **Triangle**



The French loudspeaker specialist Triangle has launched a new series of low-cost loudspeakers consisting of two standmount and three floorstanding models as well as a centre. All „Borea“ models are equipped with a silk dome tweeter, which is mounted slightly recessed in a horn-shaped cavity and equipped with an acoustic lens for wider dispersion. The mid-range is handled by a 16cm paper cone driver, while the bass is handled by equally 16cm fibre glass drivers. Inside, the cabinets are stiffened and damped with a composite of MDF panels and foam. The 1.10 metre high flagship BR 09 (pair price 1200 Euro) has a frequency response down to 35 Hertz thanks to three bass drivers. The two standmount speakers are two-way systems for 400 Euro per pair (BR 03) and 320 Euro/pair (BR 02) respectively. Triangle also recommends the latter as surround speakers in 5.1 systems.

<https://www.trianglehifi.com/en/>

Sound United cancels **Onkyo-Deal**

Surprising news from California: Sound United, the parent company of Denon, Marantz and other brands, announces that the takeover negotiations with Onkyo have been cancelled. In May 2019, the two companies had agreed, albeit subject to certain conditions, upon Sound United purchasing the consumer audio division of Onkyo



ONKYO

Corporation, which includes Pioneer's audio-video division. Now it was announced in most diplomatic language: that „both companies have agreed that it is in the best interest of both sides to

terminate the planned acquisition.“ One can only speculate about the reasons - possibly the antitrust hurdles were too high. After all, a conglomerate of Denon, Marantz, Onkyo and Pioneer would have dominated the market, especially in the AV-receiver sector. Sound United is now striving for „organic growth with the existing brands“ and „sensible acquisition,“ according to the press release.

<https://www.soundunited.com/>



Dual CS 505-4 Final Edition

The CS 505-4 turntable is now available in a limited „Final Edition“ of 150 pieces in the „Zebrano Nightfall“ design. It is manufactured in St. Georgen in the Black Forest and costs 800 euros. „Final Edition“ is a very fitting name, as the model will be discontinued afterwards.

<https://www.dual-plattenspieler.eu/home.html>

Marantz creates the Streaming-Amp

With the PM7000N, Marantz is building a golden bridge for die-hard analog fans into the streaming age. It is a classic integrated amplifier with a network player that can be switched off. For 1200 Euro the device offers all ingredients of a typical Marantz amplifier: HDMA circuit, toroidal transformer, phono-MM preamplifier, 3 line inputs,



a power amplifier with 2x 60 Watt at 8 Ohm and high-quality loudspeaker terminals made of solid brass with thick nickel plating. In addition, there are one coaxial and two optical digital inputs as well as a USB-A port for external storage units. Marantz has, further, for the first time integrated a streaming module into an integrated amplifier. Thanks to HEOS Built-in it can access Amazon Music (HD), Spotify, Tidal, Deezer and local music libraries – of course in HiRes up to 24 Bit/192 kHz (PCM) and 5.6 MHz (DSD). WLAN, Airplay 2 and Bluetooth are also on board. So that the digital modules cannot cause any interference signals in pure analog mode, they are not only completely shielded, but can also be switched off individually or as a whole in „Pure Mode“. The PM7000N is operated via the included remote control, via the HEOS app or via Alexa, Google Assistant or Siri voice commands. It will be on the market in mid-November.

<http://www.na.marantz.com/us>

Brinkmann Audio Taurus

Ultimate Direct Drive



Photo © MichaelRasche.com 2019

Ever since the Brinkmann Oasis launched the Direct Drive Renaissance a decade ago, analog aficionados have asked us for a Direct Drive turntable that rivalled the performance of our state-of-the-art Balance.

The new Taurus definitively addresses that demand. Built on a massive 40mm thick chassis inspired by Balance, Taurus delivers deeper, more visceral bass combined with the dynamic agility and forward drive which characterize all Brinkmann direct drive turntables. Taurus offers wireless speed selection and can accommodate either one or two tonearms without modification.

Taurus is unquestionably the finest Direct Drive turntable Brinkmann has ever built.

BRINKMANN

"The World's Finest Turntables ... and more!"

brinkmann-audio.com



Three in one

Phono pre, preamplifier and headphone amp: Clearaudio's new Balance V2 combines three devices in one. How does it perform? We've tested all the features and operating modes.

Matthias Böde

KEYWORD

Balance

The signal is phase-correct without ground reference and phase-turned by 180 degrees. The sum of the signals causes interferences to cross out and the signal-to-noise ratio increases.

Integration of HiFi components is constantly evolving and progressing. Sometimes we don't even know which category to assign some devices to, as they cover so many areas and requirements at once. The Franconian analog specialist Clearaudio doesn't make it that difficult with its new Phono-Pre „Balance V2“. However, on closer inspection, you can use the two-part preamplifier, in which the power supply has been outsourced into one of the compact cabinets, in three different ways:

1. As a thoroughbred phono preamplifier for MM and MC pickups, offering **balanced** and unbalanced inputs and outputs for connection

to a pre- or integrated amplifier. The volume control is then bridged so that the full output level is available.

2. As phono preamplifier with headphone output. When the level control is activated, a headphone can be operated and controlled. Clearaudio thus responds to the trend of people increasingly using headphones at home and not just as an emergency solution. If you plug a 6.3 mm jack into the socket provided, the Balance V2 switches off its XLR/cinch outputs.

3. As a phono preamplifier for direct connection to a power amplifier or a pair of active loudspeakers. If no headphones

are plugged in, the activated potentiometer acts on the normal output sockets. In puristic phono chains, where the turntable is the only source, the Clearaudio can therefore take over the function of the preamplifier, although it does not offer any comfort apart from volume control.

So every type of record listener should find a dream of a device in the Balance V2. Or three, especially since you can switch between the operating modes in no time at all. To do this, you only have to operate a push switch which, like the other few control buttons, sits directly on the circuit board in the interest of shortest distances and is accessible from underneath the device. That is indeed a bit cumbersome, but most of us won't jump back and forth between modes all too often anyway.

Epecially great with MCs

What else needs to be set? For example the input and the amplification factor. The latter is switchable as usual for MM- and MC-pickups, whereby the increasing steps vary depending on the selected operating mode (cf. measured values). As MM pickups are usually in contact with the tonearm mass they are therefore best connected to the unbalanced cinch input. MCs on the other hand are the only truly balanced sources of high fidelity besides microphones, which is why XLR sockets are available as an alternative – high-output MCs in MM mode. As a third option, a subsonic filter can be switched against low-frequency noise. Clearaudio has dispensed with selectable

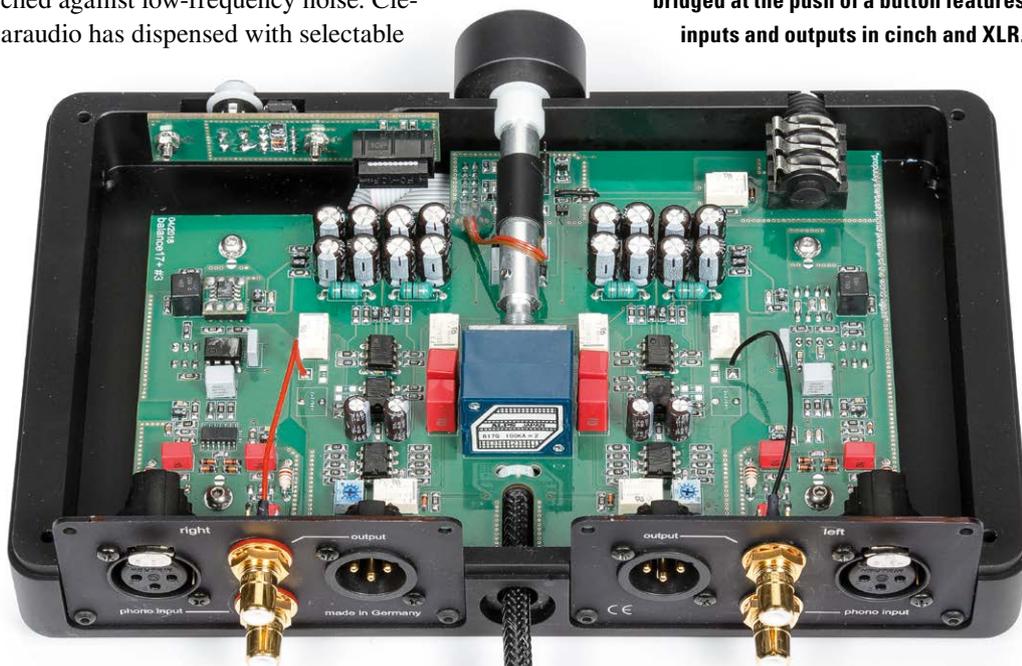


Switches for the different options are located directly on the circuit board and are individually accessible for each channel from underneath the V2.

impedances for MCs. The 500 Ohm applied in MC mode are okay. Motto: One fits all.

Thanks to the one meter long supply cable, the power supply can be moved away from the actual amplifier. The duo should not be placed on top of each other as shown in the photo anyway – but it should be broken in for some time. After one or two days, the initial crisp touch had dissolved into pleasurable homogeneity. At least with MC. Via the MM input the playback remained somewhat overly present, with too little support

The strictly channel-separated design with a central level potentiometer that can be bridged at the push of a button features inputs and outputs in cinch and XLR.



WHAT WE'VE HEARD



Sara K./Chris Jones: Live In Concert

A brilliant and intimate live portrait of the successful duo, captured with a powerful sound.

Doug MacLeod: Break The Chain



Emotional blues that gets under your skin. First-class realisation by the noble label Reference Recordings.

TEST-DEVICES

Turntable:

Clearaudio Innovation Basic mit Tonarm Tracer, Transrotor Rondino nero mit Tonarmen 5009 und 800S

Cartridge:

Audio-Technica AT-VM760SLC, Clearaudio Charisma V2 (MM)/Clearaudio Talismann V2, Hana ML/MH, Transrotor Figaro (MC)

Phono-Preamp:

Brinkmann Edison, Transrotor Phono-8 MC

Phono-Cable:

HMS Suprema, JIB Silver Galaxy BP-006SC

Pre-/power-amp:

Accoustic Arts Tube PreampII-MK2/ AmpII-MK3

Speakers:

B&W 800D3, DALI Epicon 6, Fischer & Fischer SN470M



SWITCHING-POWER

The external power supply does not contain a potent transformer, but several switching power supplies for the different areas.

from the fundamental low tone range. The sound also appeared a little tough and kind of cramped.

Not a big concern if everything else is right, as, after all, a Phono-Pre of the 2500-Euro-League usually meets moving coils. And with these the Balance V2 acts as if transformed: spacious and relaxed, rich in detail and lively, colorful and assertive, whereby it was basically irrelevant whether we fed the MC currents via Cinch or XLR cable. Nevertheless, when using the same phono cable in balanced and unbalanced versions, the differences in character typical for these connection variants became apparent: using Cinch, the sound was particularly grippy, „earthy“ and full-bodied, while with balanced XLR, a more floating, light-footed and relaxed reproduction was achieved.

Best enjoyed „pure“

With the volume control activated, you have enough level to control standard power amplifiers, active speakers or even high-impedance headphones. Thereby the Clearaudio pushes heavily from the bottom, so that even smaller chains get red cheeks. The Balance V2 can thus be a fully-fledged replacement for a „real“ preamplifier, although, only up to a certain level of quality. While it couldn't quite match the level of our high-end configuration with Accoustic Arts' ambitious preamplifier/amplifier combination in the function of the preamplifier substitute, the V2 distinguished itself all the more as a pure phono pre.

Regardless of whether we connected it via Cinch or XLR on the output side, the Franconian made the fantastic concert Deacon Blues 2017 recorded in the Glasgow Barrowlands feel big and engaging. On top of that he represented the movement of the backward separated audience as spatially realistic and therefore provided a thrilling live feeling. Lyn Stanley's delicate „A Summer Place“ from the STEREO Best-of-Hörtest-LP, on the other hand, was presented with grace, elegance and just the right amount of charm.

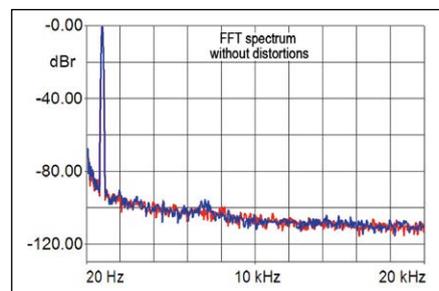
This qualified Clearaudio's all-rounder as a first-class Phono-MC preamp with a complete headphone output, in addition to its many other advantages. The showpiece of the Balance V2, however, remains that of the phono purist. ■

Clearaudio Balance V2

Price: around 2500€ (in black or silver)
Dimensions: 24 x 6 x 15 cm (WxHxD, without power supply)
Warranty: 2 Years
Contact: Clearaudio
 Tel.: +49 9131 40300100
 www.clearaudio.de

First-class sound, especially with an MC cartridge. Due to its technical specification, this Phono-Pre is predestined for balanced connection. The possibility to connect headphones, power amplifiers or active speakers makes the Balance V2 extremely flexible.

Measurement results



Signal-to-noise Phono MM (5 mV)	79/84 dB(A)
Signal-to-noise Phono MC (0,5 mV)	70/75 dB(A)
Phono MM: Sensitivity für 1 V out	9,7/5,2 mV
Phono MM: Gain	40/46 dB
Overdrive resistance MM/MC	105/103 mV/10,2/10,6 mV
Phono MM: Input resistance	25/49 kOhm
Phono MC: Sensitivity für 1 V out	1/0,48 mV
Phono MC: Gain	60/66 dB
Phono MC: Input resistance	500/528 Ohm
Output resistance	62/65 Ohm
Maximum output voltage	10,5/20,3 V
Stereo crosstalk (5mV/1kHz/1kOhm)	76/84 dB
Distortions at 5 mV	0,008/0,005 %
Intermod. at 0,8 mV/8 kHz/60 Hz	0,005/0,003 %
Power consumption Stry/Idle	<2 W/8,8 W

Lab-Commentary

First-class values, which improve with balanced operation especially with regard to distortion, signal-to-noise ratio and channel separation (details in Cinch/XLR). Sensibly high maximum output voltage even in the headphone branch.

Features

In- and output in Cinch and XLR; headphone jack with level control; external power supply; subsonic filter;

STEREO - TEST

SOUND-QUALITY	96%
VALUE FOR MONEY	
EXCELLENT	



The 175 unites finest signal processing with phenomenal authority in the reproduction of music.
An analog monument which unfolds the magic of vinyl treasures.

Burmester

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TEST MULTIROOM-SYSTEM



Too late – or Just-in-time?

With the Formation series, B&W presents a complete wireless multiroom system. Was the long wait worth it? We have examined the current top model „Duo“ and the control unit „Audio“.

Michael Lang

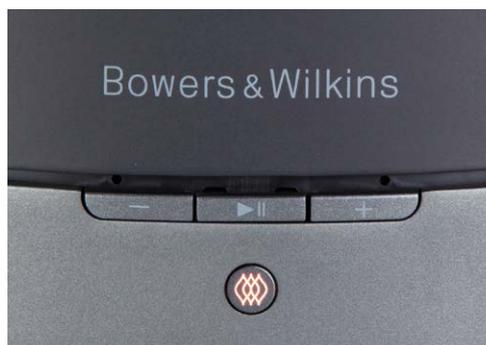
Often in their history, the British from B&W did pioneering work and showed the competition the taillights with innovative solutions. However, when it came to wireless speakers in true high-end quality, other suppliers were there first. With the Duo, a compact loudspeaker sporting the Continuum mid / bass driver from the 800 series and a carbon tweeter in the famous Nautilus tube, we have ordered the current top model of the „Formation“ series for testing.

True to their roots

Looking at the Duo, it is also easy to perceive an evolution of B&W's design language. The curves are even more pronounced and at the same time more coherent than, for example, in the 700 series. The fact that the cabinet is made of a special plastic and not MDF is hardly noticeable visually. You only notice the difference when you feel it. The reason for the material change lies in the technical requirements for reliable wireless operation. The antennas built into the loudspeaker have an easier life if they don't have to bother with wooden walls. Fears that the use of this material would be at the expense of cabinet stability and resonance-freedom are unfounded – the famous B&W matrix interior for stiffening was used

here. So no signs of lazy compromises up to this point, and the integrated amplifiers with around 250 watts of total power per speaker are also rather impressive. The frequency response is optimized by means of the integrated DSP chip. In order for the speakers to show their full potential, they should be screwed to the optionally available stands, which also conceal the only cable required for operation in an integrated canal. They cost 800 Euros a pair.

Also beautifully made is the streaming hub with name „Audio“ costing 700 euro, which offers connection options for analogue and digital devices and is room-ready. The necessary Room license costs another 500 Euro in its unlimited form and guarantees the best sound with perfect ease of use. It's



The lit button of the Formation Duo is usually the only required control element.

A force to be reckoned with: the wireless HighRes-multiroom system from Bowers & Wilkins

TEST-DEVICES

CD-Player:

T+A MP 2500; Audio-lab 8300 CDQ

Integrated amp:

NAD M10; Audionet SAM 20SE

Speakers:

Canton Smart Vento 9; Dynaudio Special Forty; PMC 5.22



hardly a surprise that B&W made their system HighRes capable. Further products of the series are the successor of the Zeppelin, which is called „Wedge“ and costs about 1000 Euro – a stereo system in one cabinet–, and the subwoofer „Bass“ for 1100 Euro as well as the streaming-enabled soundbar „Bar“ for 1250 Euro.

An obstacle for many mutiroom-capable systems is the delay between the units, the so-called latency time. This results in loudspeakers of different zones being heard with a slight time delay and a slight echo. B&W has set a new record here with a delay of just 0.1 seconds. Setup and operation are quick and easy once you have downloaded the Formation app. We have done our listening tests with Qobuz as well as with the analog and digital output of a CD player and finally Bluetooth via mobile phone and Youtube.

Not to beat about the bush: what the British have put together here would have impressed us already, if it had been done under the motto "first try" – but it is so much more than that. From a standing start, the developers have created a future-proof, expandable, easy-to-use multi-room system that is also convincing in terms of sound. Even the lowest tones are easily handled by the Duo. To create a sound that is completely effortless even at high levels and with large orchestras such as Rimsky-Korsakow or bass thunderstorms such as "Walking on the Moon", is one thing, but also to conjure up a tonal balance and an amazingly precise spatial reproduction in various listening rooms is another. ■

WHAT WE'VE HEARD

Various artists:
STEREO Hörtest-CD IX



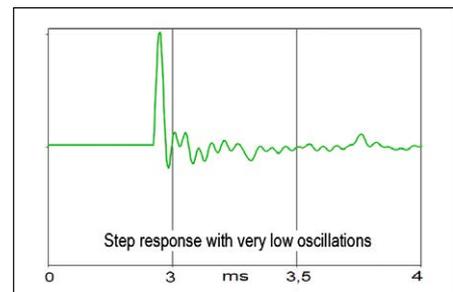
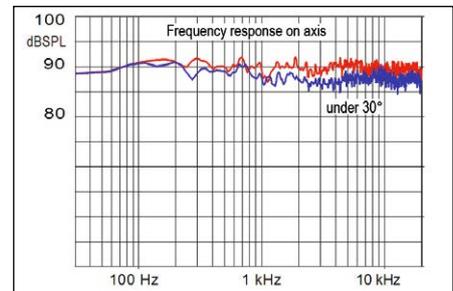
Versatile, interesting and always with great sound: the listening test CD IX has it all.

B&W Formation Duo

Price: from 4000€ (also available in white; Streaming Hub: 700 € Stands: 800 €)
Dimensions: 20 x 40 x 34 cm (WxHxD)
Warranty: 2 Years
Contact: Bowers-Wilkins
Tel.: 05201-87170
www.bowerswilkins.com

The British are serious about their entry into the world of the wireless and multiroom. The sound, workmanship and operating concept are convincing, but they have their price. Especially positive: the system's updatibility and expandability.

Measurement-results



Distortions at 63/3k/10k Hz 0,3/0,1/0,1 %

Power consumption Stby/idle /16,7 W

Lab-Commentary

Very good step response with minimal secondary oscillations. Very balanced frequency response and wide dispersion thanks to DSP correction; low distortion and low-reaching frequency response.

Features

Closed, active, wireless and multiroom-compatible two-way system; Airplay2; Roon Ready; Bluetooth; two built-in 125 watt Class D amps; carbon dome, Continuum bass/midrange driver; free 2-month Roon trial subscription



The streaming hub „Audio“ has all essential connection options but no gold-plated sockets.

STEREO-TEST

SOUND-QUALITY 81%

VALUE FOR MONEY

★ ★ ★ ★ ★

OUTSTANDING

INTERVIEW with B&W Head of Germany Stefan Splawski

Mr. Splawski, B&W finally offers wireless loudspeakers. Do you think this launch is just in time or already too late?

It's not about whether you cross the finish line first or last, but whether you're doing the right thing. Bowers & Wilkins now introduces the Formation series, a complete HighRes multiroom system. With the stereo speakers, sound bar, subwoofer and wedge, we offer our customers a true high-end system that is easy to expand upon. The customer can now make his quality decision from among all the systems available on the market.

How long did your developers puzzle until they were satisfied?

Exactly, they have fiddled until they were absolutely satisfied (... laughs). In order to be able to transmit several music signals simultaneously with the precision and synchronicity required for audiophile reproduction, our developers have developed a radio technology specially optimized for this purpose. This allows us to hear all audio signals with a previously unattainable accuracy and synchronicity between the individual loudspeakers and between several rooms without delay.

What were the biggest obstacles?

One of the challenges was to determine from the many possibilities and exciting new product ideas a powerful line-up for the global launch in over 60 countries. The effort required to launch such a large number of new products at the same time on a global scale should not be underestimated. The development of a reliable software-based high-end system is also a major challenge.

What makes your approach special?

To meet the high demands of our customers on B&W sound was only possible with specially developed new technologies. Automatic updates for all Formation products will offer new functions and even greater ease of use in the future. All existing formation systems will therefore always be automatically kept up to date. This guarantees the best possible user experience and continuous product improvement at all times. With Formation Audio as an intelligent interface (with digital and analog inputs and outputs and 24 bit/96 kHz resolution) to existing HiFi and high-end systems, a convenient and cost-effective entry into the fascinating world of HighRes streaming and new media is offered. This can also be the starting point into the new Formation world, which can easily grow according to the wishes of the customer.



What importance do you attach to the new Formation Series?

It is of paramount importance to B&W. It represents our new platform, which combines the advantages of the analog and digital worlds. It is our ultimate offer for all customers who are looking for the best possible sound with an extremely high ease of use and flexibility that is highly futureproof. Modern listening habits on the road and at home place different demands on a playback chain or the individual device than a few years back. The almost unlimited choice

of music via the mobile Internet and streaming services offers our customers a level of comfort that they would not want to do without at home in their familiar surroundings. Formation is the perfect answer for every demanding customer.

How will the system develop further, e.g. with regard to surround use?

As I just mentioned, yes, the Formation series represents a novel platform. It will, of course, continue to evolve. Automatic updates will provide additional features and services. Of course, further development and additions to the product range can be expected. The special attractiveness of wireless loudspeakers for a surround system and their simple installation is certainly an important aspect.

Will there be custom installation systems with this technology?

In our experience, the desire for a multiroom option is always at the top of the list for almost all fixed loudspeaker installations. This possibility can also be realised in the future with our extremely wide range of built-in loudspeakers.

Will other series be activated and integrated into Formation in the future?

The Bowers & Wilkins Formation Suite's proprietary new technology provides the platform for many interesting products and attractive opportunities that result from this, along with our existing product portfolio. (But I don't want to reveal too much at this point ...)

What were the first reactions of dealers and consumers?

The Bowers & Wilkins Formation Suite has exceeded the extremely high expectations placed on it. The initial reactions from retailers and customers to the design, ease of use and sound experience were phenomenal.

Live Wire

Why is clean power so important for perfect music reproduction? Well, let's take a closer look. After all, any music reproduction is, in fact, not much more than a modulated current.

Tom Frantzen

The alternating current for the purpose of supplying private households goes back to Nicola Tesla. George Westinghouse acquired the Tesla patents and managed to get the edge on his colleague Thomas Edison with his direct current model. Today AC is the standard.

By the time it arrives at the wall socket and can be conveniently „tapped“, it usually has already travelled several kilometres. The electricity that is converted in power plants from heat and movement, can only be transported over such long distances with reasonable amounts of losses in the form of high voltage. Only alternating currents – and this was the reason for Edison's defeat – can be transformed into high voltage. Closer to the



consumer, it is gradually transformed down from up to 380,000 volts in the transmission lines until it reaches households with 230 volts (3 x phase-shifted by 120° to each other) or as three-phase current with 400 volts.

Ah, the good old days! There was a time when the power grid was almost free of asymmetries (DC-offsets), negative phase effects and high frequency interferences/modulations. The usually ohmic loads – think of the good old light bulb – caused the currents on the outer conductors to more or less balance themselves, the neutral conductor was not unduly loaded, and there was hardly any high frequency.



The AHP sound module IV G with gold/copper contacts and fuse replaces the circuit breaker, but provides an astonishing sound gain.



Doepke's audiophile-optimized FI switch is intended to fill an apparently gaping supply gap and is about to be launched on the market.

Nowadays the situation is different. In view of numerous electric motors (vacuum cleaner, hairdryer, washing machine, dryer), ballast unit (energy-saving lamps/light tubes), induction hotplates, DC/AC converter (solar, wind power), HF pollution (digital, radio, powerline, PCs, TV/monitors, switching power supplies, LED), today's power grid is considerably contaminated, often even – as you have noticed in the list – as an undesirable side effect of ecological approaches.

The incoming 50 Hertz sine is – like an amplifier during clipping – flattened at the top and bottom, i.e. distorted, in the worst case deformed by phase effects and superimposed with other frequencies. This is measurable as a distortion factor, with higher effort also as a HF coating. Most devices, such as refrigerators or toasters, don't mind, at all. Even a notebook and also the stereo system will work as long as the voltage signal on the oscilloscope does not become triangular or rectangular. However, these more delicate devices have a harder time dealing with excessively polluted currents. This is, by the way, also the reason why notebooks or TVs should not be operated with cheap inverters when camping (pay attention to the designation „real sine“ or „pure sine“).

There is, also, the interference potential of the HiFi system itself, the rectifiers, the pulsating charges of large capacitors (amplifiers), the switching power supplies and sampling rates of digital products. The basic problem is that, as mentioned above, any reproduced music is basically just a modulated current. Unwanted external modulation can interfere with that. There can be consequential effects. If you, for example, have a powerful, broadband amplifier that captures a weak high frequency, which is then amplified together with the intended frequency, this can actually overdrive the amplifier if its own bandwidth is exceeded, thus leading to transient intermodulation distortion (TIM) or even to oscillation. Conventionally designed power supplies provide little protection against the intrusion of high frequencies. Only very few transformers are capacitively shielded, protected with ferrites or, as with very few manufacturers, the



Although some people still neglect it, the polarity can have a big impact on sound quality.

devices are limited in their bandwidth, for example the preamplifier to 50 kilohertz and the output stage to 100 kilohertz.

Here, too, there are conflicting goals, because an enormous bandwidth is considered „fast“ and „open“ in terms of sound quality, while, further, digital high resolutions (HD audio) of 384 or 768 kilohertz also mean that signals up to half of these sampling frequencies are (or can be) generated on the analog side, according to Nyquist. This used to be called amplitude modulation (AM radio).

Improved baseline

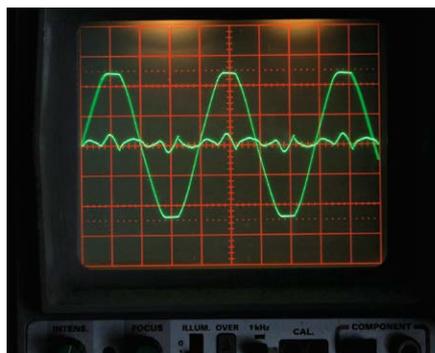
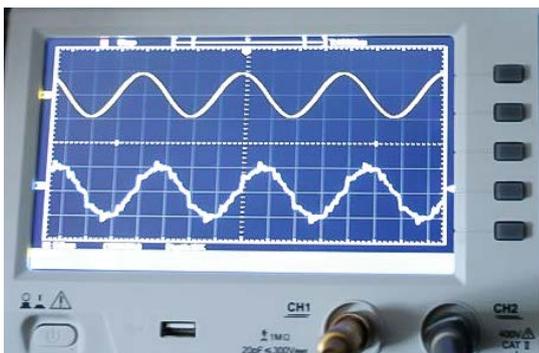
Thick neutral conductors and a separate protective conductor would be recommended as the basis for a particularly EMC-friendly power supply. After the war and to this day, energy suppliers have neglected to lay five-wired instead of four-wired cables as standard, also in order to save copper (or aluminum). They therefore only install three phases (outer conductors) and the neutral

conductor in the houses. Until around the mid-1960s, it was even quite normal within houses to form a combined PEN conductor from the neutral and protective conductors. Today, this can lead to inexplicable phenomena (monitor flicker) or even real problems, especially with networked devices – computers, telecommunications and radio devices, but ultimately also A/V and HiFi devices. There have, for example, been cases of overheating PEN conductors causing fires in electronics stores, as you can imagine especially, in large TV walls where dozens of devices are running in parallel.

Since HiFi systems are also increasingly developing into network-compatible multiroom and streaming systems across floors and more and more digital technology including high frequency, switching power supplies and Class D is being introduced, the problem is even increasing.

Home Installation

For modern buildings, new installations, revisions and retrofits, there are clear recommendations, if not regulations, to use a consistent TN-S network system („Separated“) instead of the TN-C („Combined“ PEN conductor) provided with existing protection, i.e. with external conductors and both neutral and (separate) low-impedance protective conductors, which has been proven to be significantly less susceptible to faults. Such a system measurably increases the so-called „electromagnetic compatibility“ (EMC), the safety against interference and also the overvoltage/lightning protection. Homeowners should do their best to start here and treat themselves to the separate protective earth conductor (earth), the author has even had a supplementary pole-earthing set especially for the cellar. The keyword here is



Conventional measurement technology can be used to illustrate many a problem: on the left you can see an ideal sine wave at the top and one with HF coating at the bottom. On the right a „clipping“ sine wave with separately recorded distortions.

„equipotential bonding“. Talk about it with your electrician! Tenants will usually have to live with the standard they find, but can also help the power grid with partial TN-C-S retrofits and inductance-free fuses.

The power grid should in principle be as low inductance and low resistance as possible. Then both the susceptibility to interference and the losses are at their lowest, and the thrust is delivered as delay-free and unconstrained as possible.

The usual miniature circuit breakers in the fuse box have an – albeit low – inductance due to their magnetic switches. However, as anyone can imagine, even a large bicycle is slowed down by a small dynamo. So let's get it out! Instead, it is preferable to use large-calibre, corrosion-protected fuses as for example the specially developed AHP sound module, which is already available in its fourth generation and makes an audible difference. The stage image becomes larger, the sound is energized and enriched with additional thrust. DIY store socket strips, clamp terminal connections and cheap wall sockets are the next bottlenecks with resistances that are often ten to 100 times too high, or at least much higher than necessary. We recommend to replace them with the complex contacts and screwable sockets from Furutech, Groneberg, HMS, Oyaide etc., as well as with audiophile socket strips from, for example, Audioplan, Goldkabel, HMS, MFE, Music Line, PS Audio, Silent Wire, Supra or Vibex, to name just a few.

Some HiFi enthusiasts have deliberately not used a residual current circuit breaker (FI or RCD) in the circuit of the system because they also fear losses here. Now, at least for me the potential loss of life weighs more heavily. A correctly designed FI switch ensures lightning-fast protection in case

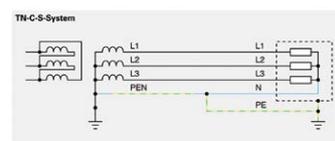
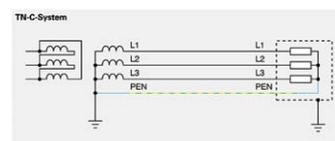
of device defects and, yes, it even prevents unintentional or intentional suicide in the bathtub. If there are children, pets or electronic tinkerers in the household, there is no way around the FI!

Inspired by audiophile employees the specialist Doepke developed in complex measuring and listening tests an FI switch that is optimized for audio purposes with the name Audio-FI (DFS 4 F Audio). It is supposed to get rid of the reservations against the „bottleneck“ FI for good, as it wants to combine protection and top sound with each other. STEREO has followed its development with great interest and benevolence and will report on it as soon as it becomes available.

People who endlessly argue that there are only dozens of meters of cheap 3 x to 5 x 1.5 mm² copper wire in the walls in front of the system, and that the last meter of thick high quality cable wouldn't make a difference, has not thought it through to the end. In fact, of course, it is a good idea to lay a cable with a stronger cross-section, possibly even shielded, from the control box to the socket in the listening room, because it lowers the overall impedance. This cable must be suitable for fixed installation and must therefore be NYM-compatible, i.e. consist of solid conductors. Our explicit recommendations are HiFi-Tuning Ultimate Solidcore (www.hifi-tuning.com) and Oyaide EE/F.S 2.0 (www.fisch-audiotechnik.de).

The most important meter

But the most important meter is, in fact, the one directly in front of the devices. This is due to the disturbances caused by compensating currents that flow between the devices on their ground connections and protective conductors. This is precisely why good materials, contacts and larger cross-sections are essential for accelerating equipotential bonding and why quality power cables make a difference. Since everything is interrelated, not only should the current flow to the system and between the components be improved, but the potential of the cabinets and thus also the interference on the ground, which could impair the signal, should be minimized from the onset. These potentials, which are nothing more than measurable voltages between device ground and earth, can simply be



SEPARATED VS. COMBINED

Above we see an electromagnetically particularly compatible house installation of the TN-S system with separation of neutral and protective conductor. In the middle a system with combined neutral and protective conductor (PEN) and below a mixed form, for example if only one floor or apartment has been separated.



NYM-compatible solid conductors are required for fixed installation in walls or pipes. HiFi-Tuning installation cables on the left and Oyaide installation cables on the right. Both are shielded.



Oyaide supplies a top quality wall socket with the „Gold-Palladium“. There are alternatives from Furutech, Groneberg, HMS or Phonosophie.

reduced by one-third just through turning the power plugs. And nevertheless there are still people who consider the well-known and easily measurable effect of polarity on HiFi

devices to be inaudible „voodoo“ and therefore negligible. Let me put it this way: it's not! On the contrary, you give away sound there, and if you don't hear the difference between different plug positions you may have the wrong hobby. Okay, sorry that's a bit too harsh. In fact, you actually can't always hear it and you can't even always measure it – for example with switching power supplies.

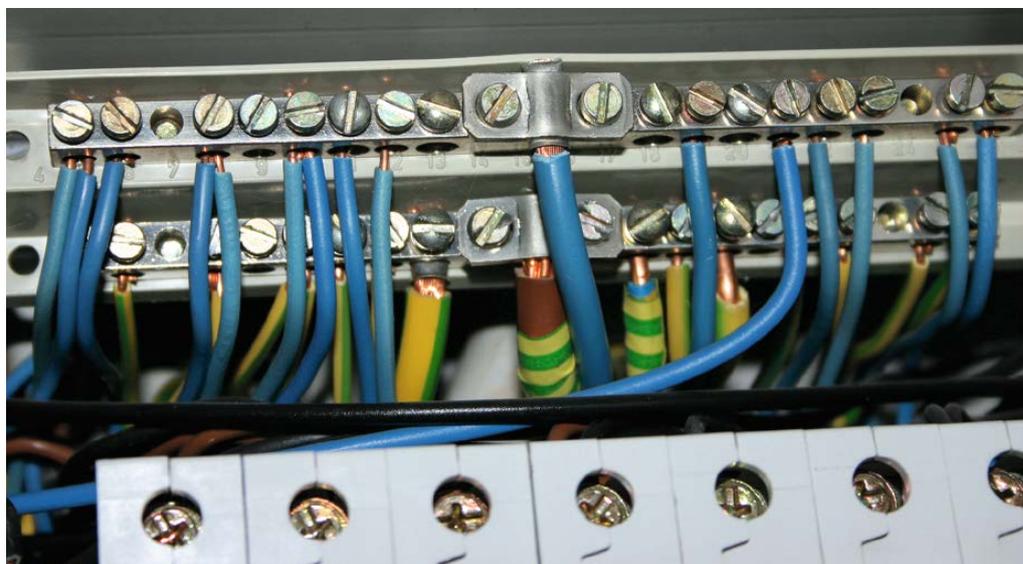
We recommend to have the electrician connect the electrical circuit of your system to a phase (outer conductor) with as little load as possible such as that of the bedrooms and not to one on which also the solar system or Powerline-adapter is attached.

In addition to checking the polarity, the equipotential bonding can be improved by an additional ground connection. Already as a teenager, the author has used grounded

copper foil to underglue the rack bottoms for shielding purposes. It is also possible to ground the equipment directly. However, this applies with exceptions, because there are devices, in particular some amplifiers from GAS, SAE, SUMO, SST, but also Sansui and Yamaha, which have two „hot“ poles and no proper ground. They must NOT be earthed additionally!

You can simply attach a standard busbar to the rack or shelf and have the masses, such as the grounding of the rack, tuner and turntable, converge here in a star shape. If, while grounding a component, you suddenly notice an unwanted humming due to a ground loop, just undo it again. The aim is, after all, to reduce disturbance and not to increase it. Let's summarize:

- ▶ 1. If possible, a home installation according to the TN-S system.
- ▶ 2. A separate circuit in the fuse box for the system, on a lightly loaded phase and individually fused, e.g. with an AHP sound module.
- ▶ 3. If possible, an own, shielded and NYM-compatible cable from the Fuse box to wall socket.
- ▶ 4. High quality, screwed wall-socket
- ▶ 5. Check polarity of all devices
- ▶ 6. Use high quality power cables and socket strips
- ▶ 7. We'll have to try out the Doepke-FI-switch ourselves first but we're having high expectations. ■



By the way, this is how a proper TN-S installation looks like. Protective and neutral conductors collect on separate equipotential bonding rails – and of course „bridges“ are not permitted.

Keeps others' promises

Anyone who is afraid of the pitfalls of analog technology has probably never attempted to install a streamer ready to play. What can sometimes give your face a bright red complexion supposedly is a piece of cake with the Bluesound Vault 2i.

Michael Lang

Yes, I admit that I have a hard time with computer-based HiFi. I grew up with tape, record player and tuner, got used to tape decks, CD players and MiniDisc players at some point, but never managed to establish an intimate relationship with these types of devices as with open coils and rotating vinyl discs. And I've always kept a

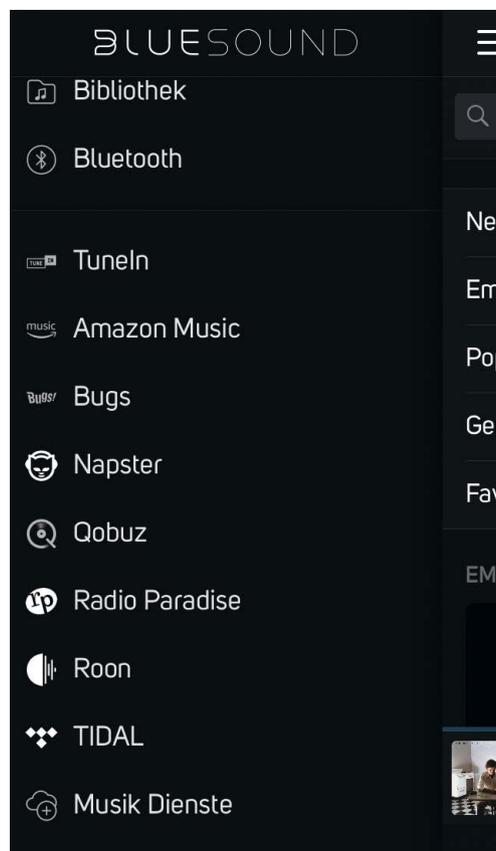
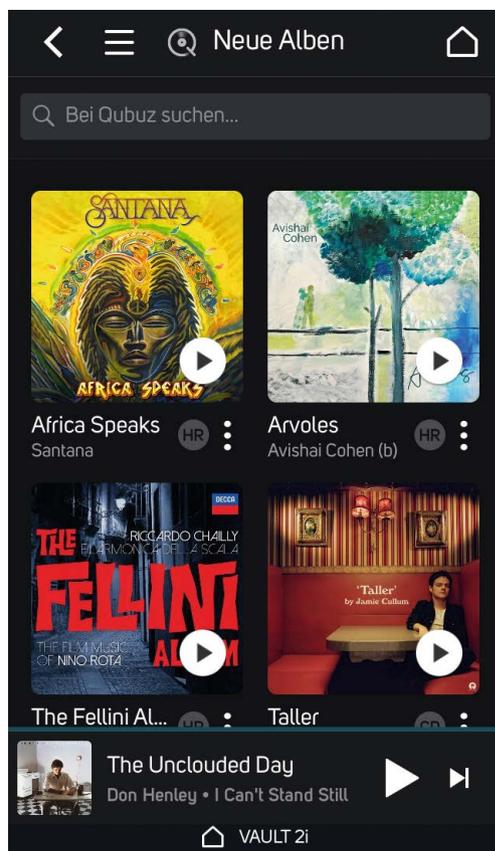
good distance from music playback machines that don't rotate or move in any way over the past few years.

Admittedly, lately my aversion to streaming has been crumbling noticeably. Especially since at last also I have understood that this has nothing to do with MP3 and other data reduction, but can even mean resolution beyond CD quality. I have had some of these modern jukeboxes for test, even put them in my living room at home and there submitted them to the everyday usability test.

Easy to operate Jukebox

My previous experiences can be summarized in one sentence: something was always wrong. My expectations were correspondingly low when the call came to me to put





my impressions about the Bluesound Vault 2i on paper.

Well then, what I noticed right from the start: there is no noble aluminum housing, no display and a rather simple packaging.

Connecting is possible without having to enter the access code of the router, in my case a Fritzbox. Connect the LAN cable, plug in the connection cable, download the app – if both are available, once to your mobile phone and once to your iPad. Select your preferred music service and register there. For me it's Qobuz, and with just a few more clicks you can hear music. However, at first only via Bluetooth, as I forgot to select Qobuz as music supplier in the BluOs app, which can be found there in a row with various other music services, the hard disk, which is also integrated in the Vault, or radio. Now I can hear in full quality, which corresponds to at least CD standard. I've limited the maximum resolution to 24/96, as I didn't want to put my bandwidth provided by the local telecommunications service to the extreme test. „That was easy“ shoots through my head when I listen to the new record „Fremde Feddere“ by Cologne's local heroes Köster & Hocker for the first time. And at the same time I think:

The App clearly and sharply displayed on the mobile phone.

„hey, no dropouts, it works“. And I didn't have to navigate through endless submenus like in many other cases, where I was also promised simple operation.

And the small box in its rubberized housing has not even reached the end of its capabilities yet. At the front there is a barely visible slot, where CDs can disappear for about 10-15 minutes. During this time, the Vault rips the entire CD and stores it in FLAC or WAV format, with a copy in MP3 if desired. We focused on the FLAC format, because here the metadata, i.e. the additional information of the respective CD, was displayed flawlessly. The Vault performs the ripping procedure very quietly, only a small noise can be heard very close to it in the last moments before storage on the two terabyte hard disk. It's also nice that you can still listen to streamed music of Qobuz, Tidal or HighResAudio while ripping. It is, however, not possible to use the Bluesound as a CD player – the built-in CD drive starts reading the data immediately after inserting the CD.

TEST-DEVICES

CD-Player:

Musical Fidelity
M2SCD

Integrated Amp:

Musical Fidelity
m2si; NAD M10

Speakers:

Monitor Audio
Platinum PL100 II;
Gauder DARC 60

Cables:

Audioquest William
Tell; HMS

2 TB for large CD collections

From a practical point of view, that is all we had to criticise. From the technical side, too, you have to minutely search for weak points to discover a point where not the very last state of the art was built in. Which, given the price, shouldn't lead to the conclusion that you'll get a tonal underachiever here – this package is miles away from that. However, neither the built-in processor of the type ARM Cortex 1GHz Dual Core is the latest standard, nor is the converter or the analog output stage. The Vault 2i should be ideal for the practical-minded person who slowly but surely wants to store his CD collection in favor of streaming and listening via hard disk, but who is also not willing to sacrifice weeks of training and who dislikes traditional hi-fi optics as much as overcrowded racks. And also for those who want to hear what their favourite music has to offer in subtleties and details, without being an audiophile nitpicker or highender. And for rational people who are not prepared to invest a fortune for their hearing pleasure.

Another question that arose during operation was whether and how an analog signal could be captured on the hard disk - there is a combination input consisting of a digital-optical and a mini jack that takes on this task.

Straightforward and honest

The Vault also showed its pleasant side in the access time – it found albums, titles or artists quickly, only the volume control via iPhone happened with a slight delay. However, if you have an amplifier with remote control, we recommend that you set the Vault volume to „fixed“ in the menu and adjust the volume on the amplifier. This way, you avoid loss of resolution and enjoy the best possible sound.

In view of the price tag the here offered sound was absolutely great. What the Canadians from the Lenbrook Group, to which NAD belongs, have put together here is more than remarkable. We have already described the most important task of such a device above – an operation that does not evoke so much fear in the user that he rather leaves his fingers off the device entirely. The intensive test in the listening room soon revealed that no lazy compromises had been made in terms of sound quality. We started in

curiosity mode and had Qobuz propose new albums – ranging from Sting to Santana and Grateful Dead, Neil Young to Pavarotti and didn't stop with Rory Gallagher and Schubert's Symphony No. 1 & 5, played by the Basel Chamber Orchestra.

We also heard some of the ripped CDs, including the legendary „Dafös“. Here the sound result was also pleasing, the meta data as further information on the CD as well as the sound content were treated with care. If you want more sound (we always do), you are welcome to look for a high-quality external converter. We tried the Exogal Comet DAC and were now able to get even hard-boiled audiophiles curious – the performance gained a lot in smoothness and dynamics, registered a plus in pressure and contour in the low regions of the frequency spectrum and sounded noticeably more organic and related overall.

Of course one could ask the question whether this is something new – and I would be inclined to answer: no, not at all. However in such a compact form, with a huge hard drive and such ease of use, the Vault 2i is, as far as I know, pretty much alone in the field and has no serious opponent at the moment – and certainly not at that price. ■

Bluesound Vault 2i

Price: around 1300 €

Warranty: 2 Years

Contact: Bluesound
www.bluesound.com

It streams, it rips and on top of that its sound brings joy. Savings have been made on the exterior, while no expense has been spared for operation and the huge 2 TB hard drive, which also holds large CD collections.

Features

Network streamer, prepared for just about any streaming provider; ripping function; Bluetooth capable; combi input digital-optical/mini jack; optical and coaxial digital out; subwoofer output; cinch outputs; proprietary control app; 2 x USB ports; 1 x Lan port

STEREO - TEST	
SOUND-QUALITY STREAMER	79%
VALUE FOR MONEY	
★ ★ ★ ★ ★	
OUTSTANDING	



ADAPTER

This adapter turns a mini jack connector into an optical digital connector.

At last a device that meets many requirements and remains operable at the same time

ELAC The life of sound.

LEISTUNGSSTARK FÜR
ANSPRUCHSVOLLE OHREN



NAVIS

Die ELAC NAVIS Serie lässt die Träume eines jeden Audioliebhabers von einem perfekten Aktivlautsprecher wahr werden, angetrieben von einem erstklassigen Verstärker, der den Namen „High End“ auch wirklich verdient!



HARD CHOICES

We have taken on three amplifiers which are conceptually very different – and extremely desirable.

Matthias Böde, Tom Frantzen, Volker Pigors



Three amplifiers with very different concepts, each of which is priced around the 10,000 Euro mark. That's a lot of money and certainly difficult for many to get hold of, yet an amount that is not impossible for a true HiFi lover to realize. We help you with the question whether such an investment is worthwhile for you.

Tube, Hybrid, Transistor

Each of the three beauties has its own design-specific strengths, but what all three have in common is the extremely high quality

excellent workmanship – both on the out- and on the inside. Nowadays such an amplifier can hardly be manufactured at a lower price: the use of materials, development, small quantities, distribution via specialist dealers and manual production all take their toll. On the other hand, the future owner will have a dream amplifier in terms of sound, appearance and haptics, which will give him a lot of fun with music for many years to come, and isn't that the ultimate goal after all. Now it's up to you to choose the one that best suits you and your musical preferences. ■



Beware the **Lion**

300B single-ended triode amplifier. This sounds frightening for some and makes other's eyes sparkle. What is it about the myth around the 300B and what makes the Westend LEO so special?

Volker Pigors

KEYWORD

Class A

Class A single-ended means that only one tube transmits both half waves of the signal

A respectable number of HiFi-friends wouldn't even think about a tube amplifier. Too exotic, too old-fashioned and due to the glowing tubes rejected as highly alarming. In addition, there are apparently „knowledgeable“ people who use a trace of arrogance to casually sprinkle terms such as clamping grids, cathode circles or working points into a hi-fi conversation. Many people, thus, think it's too complicated for them and rather keep their hands off it. That, dear readers, is a mistake, believe me.

Tube amplifiers are, in fact, very simple circuits, while modern, „smart“ amplifiers are incredibly complicated. These HiFi computers can from time to time really annoy you. Just think of Grandma's old radio,

which has been playing in the kitchen for more than 50 years and still amazes many contemporaries with its rich sound. And grandma also didn't know anything about the double triodes that did their work inside the wooden box. For tube connoisseurs, the box on the page after the next contains valuable information about the Westend LEO's extraordinary circuitry concept. To all others it should be said that even without this knowledge one can easily approach this exceptional amplifier, whose name „LEO“ comes from the Munich favourite football team „1860“ of Stefan Trog, the mastermind behind the Westend Electric brand.

To understand this amplifier, we do, however, have to first talk about tubes. The 300B amplifier tube is known worldwide as the

queen of tubes because of its unique, beguiling sound, which is still unparalleled today. The music is presented in a springy, light and effortless but nevertheless powerful way, with timbres and depth of the finest. However, the 300B tube has a disadvantage that cannot be ignored: the maximum performance lies in the „single-ended“ circuit, i.e. with only one tube per channel in **Class A** mode, at about six to eight watts. In the early years, when such amplifiers were used in cinemas, extremely efficient horn loudspeakers were used, which managed to produce sufficient volume with so little power. Such horns are still popular with many today, but are huge due to their design and are only suitable for listeners with sufficiently large living spaces or highly tolerant companions.

This is where the developer Günter Mania comes into play. After almost 80 years of tube history, he succeeded – like a stroke of genius – in generating an output of more than 16 pure tube watts out of a 300B tube without sacrificing the tonal character or quickly burning up the expensive tubes. Here is an attempt to explain this in an understandable way: power-consuming work, which is not relevant to the sound during amplification, is done by transistors instead

of tubes. It's like braking a multiple ton heavy coach bus: there, as well, the servo brake takes over the effort, while the driver's finesse is responsible for smooth, gentle braking. Of course, 2 x 16 watt output still isn't very much, but there are enough speakers of all price classes with sufficiently high efficiency and dimensions suitable for living spaces that manage to implement the sound provided by the LEO. The choice of suitable loudspeakers should be made carefully with extended listening sessions. Speakers of low efficiency can be ruled out in advance. If necessary, ask the manufacturer or dealer for advice on your choice. Once you've found the right partner, the LEO will enchant you with its finely crafted sound and powerful bass. The quality of the workmanship and surfaces are flawless and available in almost every conceivable variation: anodised, powder-coated in any color, chrome-plated or gold-plated, almost anything is possible.

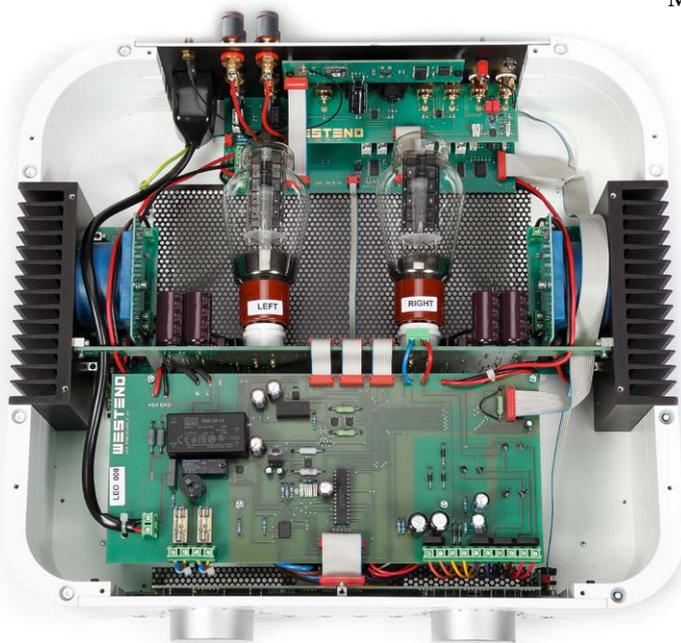
Not a big surprise, as one of the businesses of Stefan Trog, who developed and sells the amplifier together with Günter Mania, is the surface finishing of metals.

The housing is made of machined solid aluminum parts, which protects the tubes inside from vibrations and air oscillations like a shell. But not only the optics and the revolutionary circuit concept characterize this amp. A multitude of modern technical treats are added. Via Bluetooth you can stream from your mobile phone, with Android devices even in AptX, which sounded surprisingly good and which we enjoyed a lot. Not to be compared with music from the finest players, but great to go on a musical voyage of discovery at Qobuz or to provide a party with playlists. Furthermore there are four high level inputs available, two of them Cinch/RCA and two balanced XLR. Each input socket can be individually adjusted to different input signals and stored in



300 B-TRIODE

The queen of power tubes in full splendor and original size. It is a pity that they are hidden on the inside, but it has acoustic advantages and serves safety.



Neatly constructed with the necessary thermal space. The output transformers are designed as toroidal cores and equipped with heat sinks.

TECHNICAL DETAILS

Westend developer Günter Mania, who has also been with AVM since the very beginning and is also chief developer at Western Electric USA, has inaugurated the US patented circuit of the LEO. The whole thing is so complex that we would need three full pages to describe everything in detail, so here are the most important factors: The front end of the LEO, i.e. the signal processing, was designed exclusively in semiconductor technology, directly behind the input sockets are impedance converters, which transmit the signals with low impedance. In the backend, i.e. the power amplification, there are only tubes. Usually, 300B tube amplifiers in Class A circuit are designed with three-stage concepts, i.e. two amplifications of driver tubes in a row and then the output to the 300B power tube. With the LEO, however, only one ECC 81 in parallel connection of both systems with low impedance takes over the task. Thus, the output stage has a two-stage design. Two identical triodes compensate each other as they are 180° out of phase, thus eliminating distortions to a certain degree. There is no negative feedback in the whole circuit, because, according to Günter Mania, it is poison: „a tube wants to play free“.

The 300B is heated with DC voltage to eliminate further hum. In directly heated tubes, the cathode is also the heating coil. With the LEO, the LC-sieved DC voltage comes from a switching power supply and not from a transformer winding as usual. Therefore, mains fluctuations are not passed on to the tube, because the switching power supply always delivers a constant voltage of five volts to the tube between 80 and 260 volts. In the LEO, the grid of the tube is driven up to the positive voltage range in order to reduce the saturation voltage of the tube, which limits

the drive. This, however, requires DC coupling because the grid begins to draw current from the drive circuit at voltages in the positive range. For this reason, the usual coupling capacitors, which also transmit alternating voltage, are not connected in front of the grid as they are charged when a direct current flows and thus become a „memory“ for previous overloads. But this alone is not enough to draw more power from the tube without stressing it too much and thus causing high wear. Günter Mania has developed a semiconductor circuit that converts the existing current source into a negative resistance and thus generates a „servo effect“ that relieves the tubes. With this support, the 300B is able to provide almost 16 watts, which we measured in our laboratory at 3 % Klirr and 4 Ohm, which is justifiable and common in everyday life. Above this level, the sound begins to become unpleasant, so we measure at 3%. In this circuit, the sound characteristics of the tube are preserved, and the wear is no greater than in normal operation. Chapeau!

Finally, a word about the tubes themselves. According to the data sheet, operation in horizontal position is problem-free and permitted if it is operated in the correct position. This is guaranteed by the different thicknesses of the socket pins during insertion. The LEO checks all systems during start-up and automatically adjusts the BIAS of the tubes so that the tubes can be switched to another pair at any time and without any adjustment work on the part of the owner. In the LEO 300B tubes of ShuGuang are installed, as soon as the again resurrected company Western Electric in the USA takes up their tube production, which supposedly happens this year, Western Electric tubes are offered optionally.



Westend's head developer: Günter Mania

WHAT WE'VE HEARD

Arvo Pärt:
Musica Selecta



A wonderful recording from the complete works of Arvo Pärt, masterfully captured by ECM.

order to eliminate any differences in volume when switching the feeders. The LEO also has an MM/MC phono input with integrated phono pre, which is constructed in semiconductor technology, sounds excellent and does not give rise to an immediate demand for an external phono pre. The MM input

has an impedance of the usual 47 kilohm, the MC input is fixed to 1,000 kilohm and can be adapted to the various pickups via load plugs. The dealer will supply you with these plugs with the appropriate values for your system. A headphone jack is fitted on the front, so nothing is missing to make the



The connection panel offers sufficient possibilities to connect external sources. The XLR inputs are debalanced immediately; a Class A circuit is always unbalanced. Gold plated sockets – as befits this price range. The standby switch is located at the front and the mains switch at the rear.

owner happy. Input and volume controls have dimmable LEDs and, like all controls, are remote controllable. Even a balance control is available. At startup, the amp slowly boots up, making a BIAS adjustment each time and checking the tubes, making it easy for anyone to change them. All inputs are also checked during start-up. If nothing is found, the amplifier is ready for use after about one minute. In order to reach its full potential, a half hour warm-up phase is recommended, but after that there is no holds barred.

We have heard music of all kinds, from hard rock to soft club jazz to great orchestral works. When the volume is too brute, the Leo can, of course, not match the power of a few hundred watts, especially when contemporaries want to be continuously listening at the limits. What fascinated all the more in the listening tests was again and again the tight, dry, precise bass. Whether tabla drum beats by Anne Vada or the bass drum of the Bollock Brothers – everything was performed cleanly and never thickened. The taut sound of the drum skin or the body of stringed instruments was reproduced credibly and naturally. Even Boris Blank's beats did not miss anything. They came perfectly solid and bone dry, while Malia's voice embedded in it offered the unique 300B-melt that is second to none. When Quincy Jones played Take Five, it had the feeling of a live club, the feet inevitably began to tap the beat, and the listener's everyday life was quickly shaken off.

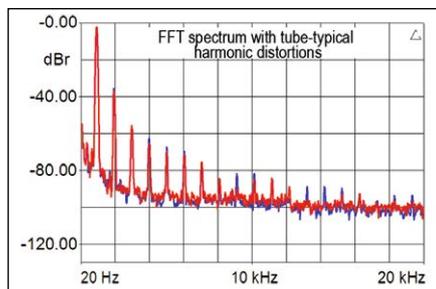
Classical orchestral recordings were perfectly sorted and placed with as much width as depth in the room. Strong dynamic jumps like in „Dance of the Tumbler“ by Nicolai Rimski-Korsakow on the Tutti CD were reproduced cleanly with full pressure. One could get completely lost in deeply touching recordings like Arvo Pärt's „Musica Selecta“ or the soprano voice in the piece „Solo to“ by Marshall & Alexander. The LEO convinced with relaxed naturalness, played colorful and highly musical. Combined with the, for a 300B-amplifier extraordinary power and dynamics, you can't help but wondering how to get hold of one. It's a feast for the eyes and ears that can make music gourmets addicted. This amp is recommended not only for nostalgics, but for anyone who is willing to open to the magic of the 300B tube. ■

Westend Audio Systems LEO

Price: from 9990 €
Dimensions: 43 x 14 x 43 cm (WxHxD)
Warranty: 2 Years, Tubes: 6 Months
Contact: Westendaudiosystems
 Phone: +49 1728503970
 www.westendaudiosystems.de

A cream of the crop in terms of sound, a new dimension in performance for a 300B-SET amplifier thanks to the sophisticated circuitry. An optically fascinating, technically ultramodern and musically superb amp.

Measurement results



Continuous power (8 Ohm / 4 Ohm)	6,2 W/13,1 W
Impulse power 4 Ohm (1kHz)	28,3 W
Distortions 50mW/5W/1dB Pmax	0,1 %/0,6 %/0,9 %
Intern. 50mW/5W/1dB Pmax	0,2 %/0,4 %/0,8 %
Signal-to-noise ratio at 50mW/ 5W	66,4 dB/86,5 dB
Signal-to-noise ratio Phono MM (5 mV for 5 Watt)	86,5 dB(A)
Signal-to-noise ratio Phono MC (0,5 mV for 5 Watt)	76,2 dB(A)
Attenuation at 4 Ohm (63Hz/1kHz/14kHz)	5/3/2
Upper cut-off frequency (-3dB/40hm)	31 kHz
Crosstalk Line 1 > Line 2	84,3 dB
Synchronization errors Volume at -60dB	0,2 dB
Power consumption stby/idle	<2 W/147,3 W

Lab-Commentary

With an acceptable 3 % distortion the amp delivers an amazing 2 x 16,3 watts into 4 ohms. Very clean, tube-typical measurements and an excellent frequency response. The attenuation is low because there is no feedback.

Features

Bluetooth; MM/MC phono stage; four adjustable high level inputs, (2 x Chinch, 2 x XLR); Single wire LS taps; headphone jack; gold-plated connectors; Fixed and variable pre-outputs; System check during start-up incl. BIAS check of the tubes; dimmable lighting; sturdy remote; finishes selectable in various ways. Western Electric Tubes optional.

STEREO - TEST

SOUND-QUALITY	98%
VALUE FOR MONEY	
<div style="display: flex; justify-content: center; gap: 10px;"> ★ ★ ★ ★ ☆ </div>	
EXCELLENT	

TEST-DEVICES

- Turntable:**
 Transrotor Rondino Nero
 Garrard 301
- CD-Player:**
 T+A MP 3100 HV
- Integrated Amp:**
 Silbatone JI 300
 Audionet SAM SE 20
- Speakers:**
 Thivian Eros 9
 Gauder DARC 60
 Consensus Lightning
 B&W 800
- Cables:**
 HMS Gran Finale
 In-Akustik 1603
- Digital:**
 Qobuz streaming
 via iPad Bluetooth



FUNCTIONAL

The high-quality remote control is slim, elegant and milled from the solid. It offers everything you need from a distance.

Eight cylinders with Power & Pathos

It's all in the name:
with their new
Kratos, the amplifier
specialists from Pathos
combine power with
expressiveness and
solidity with tonal
finesse.

Matthias Böde



One of the most striking offers among the ambitious integrated amplifiers is the „Logos“ from the manufacturer Pathos, based in Vicenza in northern Italy, which is currently available as an updated Mk2 version. Starting with the look, it features an elegant wooden application with integrated volume control and digitally displayed level that is combined with aluminum. The **hybrid concept**, in which tubes and MOSFET power transistors complement each other, is technically equivalent to the striking exterior.

Said Logos has now gotten a big brother: the „Kratos“, which is named after the Greek god of power and strength. It is more opulent, more powerful and clearly more expensive than the not even half as costly Logos - and it clearly displays this. Analogous to the supercars from Italian legend Ferrari, who sometimes let passersby look at their motors through a glass lid, the eight capacitor cylinders of the Kratos' potent main power supply stick boldly through its bonnet which is all the more striking as they are orange. In both cases the intended statement is the same: Look what I've got to offer.

KEYWORD

Hybrid concept

Due to their high voltage supply capability, tubes are ideal for driving power transistors. Amps in which the two different components are combined are called hybrid amplifiers.

The 35-kilo amp with – as one colleague has painfully experienced – quite sharp-edged heat sinks in „Pathos“ design, planked on both sides, costs just below 8800 euros „naked“. Then, it offers seven high level inputs, which can be selected by means of the unmarked wooden remote control or with one of the two buttons on the right of the thick front panel. Two of these inputs are symmetrical.

The direct input of the power amplifier section, which simplifies the operation of the Kratos in AV setups, was also equipped with XLR sockets. This makes sense, as these are real complementary stages with two „hot“ outputs, which should be controlled directly symmetrically. That is, of course, done by the tube stage consisting of two double triodes of the type ECC803S from the production of the traditional US manufacturer Tung-Sol. These are said to have a decided combination of homogeneity and fine drawing.

Pathos selected them mainly according to the parameters of sound and reliability. The individually adjustable headphone output is designed to be so powerful that it can easily drive even critical models with high impedance and low efficiency.

We received the puristically designed Kratos, which offers neither balance nor tone control, with the optional „HiDac MKII“ digital module (around 600 Euro), which offers two USB interfaces for PC and/ or Mac, a high-res capable coaxial input as well as one optical. The Italians also offer a phono card suitable for both MM and MC cartridges, which can be used in addition, but was not yet available to us.

Once broke in, a short warm-up phase of a quarter of an hour is sufficient until the Kratos is in full possession of its tonal powers. The manufacturer advises against continuous operation, as favoured by some high-end users, in the good operating instructions, amongst other reasons due to the thus reduced life-expectancy of the tubes. Pathos also recommends not to use electrical „troublemakers“ such as neon tubes, air conditioners, electric ovens or refrigerators in the same circuit. Thanks, you can't point this out often enough!

Polarity is „tricky“

Attention when identifying the proper mains polarity! Our meter was misleading, probably „saw“ only the standby power stage. In the subsequent listening check, the opposite polarity that is also shown below proved to be the correct one, where the Kratos

developed maximum spaciousness and homogeneity.

And that to an impressive degree. Those who know the Logos will hardly be surprised by the colourful, wide spectrum of the bigger Kratos, but will nevertheless be fascinated. The Italians didn't overstate: their eight-cylinder engine marched off on the „Bahn Frei Polka“ of the new STEREO listening test CD IX with both power and agility, carefully guarding the details, while remaining calm downright stoical even in the hefty bits, and demonstrating its audiophile „torque“ even at low volumes in the form of a bass and fundamental tone range that was as discreet as it was effective in boosting the sound.

That was neither prepotent, let alone superficial, for the subliminal demonstration of power did not come across as an urgent attack, but as sovereign calmness. And it was always dressed in breathing naturalness. Thus Anne Bisson's „Summer Me, Winter Me“ appeared with beguiling flair, dazzling and expressive. Meanwhile, the amp delivered a pronounced, crisp, conciseness with the dry bass impulses of Kari Bremnes' „Spor“, which it fired at any volume as determinedly as passionately from the woofers of the connected B&W 800 D3.



LITTLE BROTHER

The smaller Logos Mk2 for about 4300 Euro looks very similar to the Kratos and is also a hybrid amp, but neither as potent nor as deep. And the striking „cylinder bench“ is also missing.

TEST-DEVICES

CD-drive:

Pro-Ject
CD Box RS2T,
T+A PDT3100HV

Media-Player:

T+A MP3100HV

Integrated Amp:

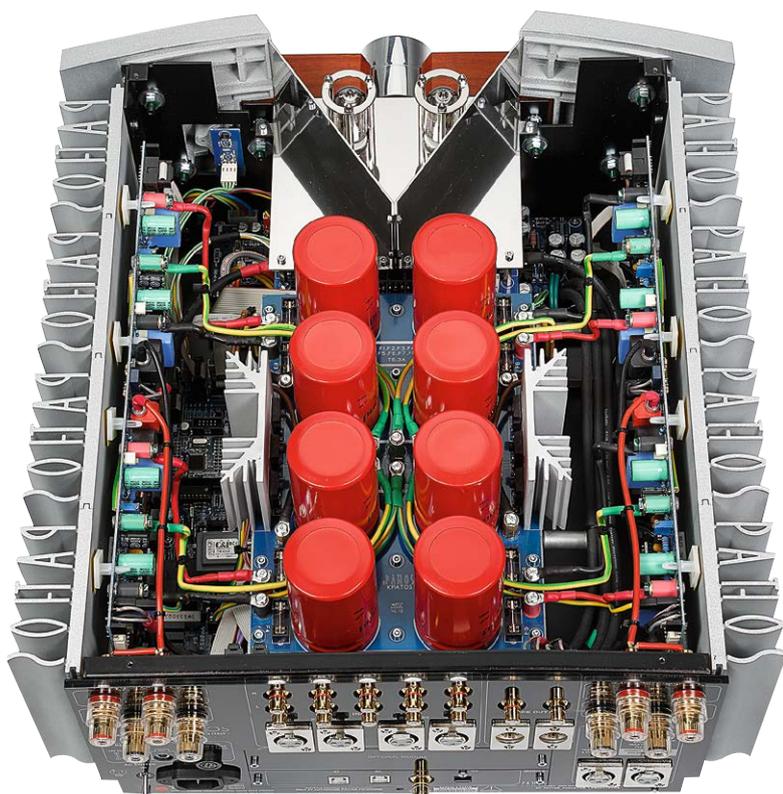
Luxman L-509X

Speakers:

B&W 800D3,
Dynaudio Contour
C60

Cables:

HMS Suprema,
In-Akustik NF- &
LS-2404



Under the bonnet hides an amplifier made with great effort and a multitude of components. The transformer sits invisibly in the basement.



MYSTERIOUS

A remote that is also a memory trainer? Indeed, the six buttons of the wooden Infrared remote are unmarked. Their individual functions are, however, easy to remember. From top to bottom: vol up, vol down, muting, switching inputs, brightness selection of the display, on/off.

However, despite this energy, the Kratos is not a hooligan. Rather, it spreads the music out in front of the listener in a spacious and first-class organized way with a loose attitude thanks to its slightly pastel overtone range, which makes the sound appear pronouncedly untechnical – can you hear the tubes? The absence of a negative feedback may also have contributed to this tonal distancing from the speakers, with the Kratos' light hand developing a magical world, seemingly detached from external influences – thus wrapping the listener around its finger.

The emotionally competent Italian lent lively orchestral music breath, verve and enamel. Jakob Bellens' catchy but dramatic song „Beneath A Cloud“, the Kratos carried, on the one hand, as if floating on clouds, but at the same time gave it musical weight, thus underlining the noble-amp's pronounced – yes – pathos. Indeed it is all in the name!

Top-performing digi-module

The digital module played a special role here. Even by means of top converters and analog input via top cables, we were hardly able to achieve its resolution, coherence and luminosity. It is astonishing how sonorous and free of artificial artefacts the smooth mids got this way. For digital listeners who don't need a streamer or use a pure bridge for this purpose, the „HiDac“ option is highly recommended.

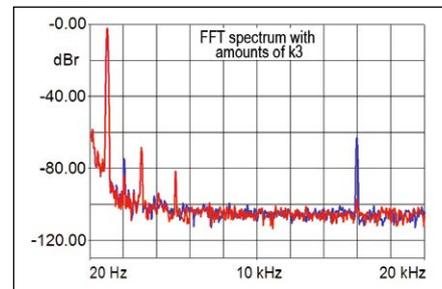
This applies to the entire device, which congenially cultivates and brings to life the idea of the „big amp“. The comparison with high-capacity engines is not far fetched. The Kratos is the eight-cylinder of amps. ■

Pathos Kratos

Price: from 8800€ (optional digital- and phono-MM/MC-Boards)
Dimensions: 43 x 21 x 52,5 cm (WxHxD)
Warranty: 2 Years
Contact: Pathos Acoustics
 www.pathosacoustics.com

This pathos is rock-solid! The Hybrid-Amp impresses with its casual power development and an exceedingly natural, relaxed and three-dimensional sound without harshness and with an elegant touch.

Measurement results



Signal-to-noise ratio referred to 16 Bit	93 dB
Signal-to-noise ratio digital zero	95 dB
Distortions at -9dBFS	0,01 %
Converter linearity at -90dBFS	0,2 dB
Continuous power (8 Ohm / 4 Ohm)	186 W/264 W
Distortions 50mW/5W/1dB Pmax	0,08 %/0,04 %/0,2 %
Intern. 50mW/5W/1dB Pmax	0,3 %/0,06 %/1,2 %
Signal-to-noise ratio at 50mW/ 5W	63,5 dB/82 dB
Attenuation at 4 Ohm (63Hz/1kHz/14kHz)	200/120/66
Upper cut-off frequency (-3dB/40hm)	65 kHz
Synchronization error Volume at -60dB	0,02 dB
Stereo channel separation at 10kHz	61 dB
Power consumption stby/idle	<2 W/140 W223 Volt

Lab-Commentary

Mains phase at tested device High power – in pulse measurement the protective circuit broke down – with still low distortions. Good noise behaviour, effective channel separation. „HiDac“ digital module without fault or criticism.

Features

Seven high level inputs, two of them balanced; one regulated preamp output each in Cinch and XLR; balanced power stage input; individually adjustable headphone connection; options for digital and phono-module; bi-wiring speaker terminals; dimmable volume indicator; remote control



The rear offers a variety of connection options as well as space for two modules. Here, the optional digital card was implemented.

STEREO-TEST

SOUND-QUALITY 97%

VALUE FOR MONEY

★★★★☆

EXCELLENT

The Moon from Canada



What sounds like the title of a childrens bedtime-story looks more like a picture book for adults. The Moon 600i is a dream of an amplifier.

Tom Frantzen

Wow! This one looks great! Okay sure, such enthusiasm is certainly a matter of taste, but the design of this Moon integrated amplifier from the Canadian Simaudio company – recently sold by the Scandinavian Dynaudio – which promises top quality in terms of technology and materials also keeps its visual promise. It is anything but obtrusive or showy to look at; the silhouette is rather noble and flat than bulky and superficial. Also, this amp is not entirely new, as there was already a test in the german STEREO of its similar predecessor almost eight years ago. Already in 2012 this amp was a force to be reckoned with. Since it has now been reworked into the „Evolution V2“ and is still one of the most

attractive offers on the market, we have given it another chance to confirm or even surpass the previous top results.

The term „reference dual mono integrated amplifier“, accompanied in the manual by „world class“, testifies to the healthy self-confidence of its creators.

Noblest Ingredients

In most cases, a brief glance underneath the hood allows further conclusions to be drawn. As usual, it took place in the photo studio (next page).

The inputs are switched via relays, the energy supply is provided by two channel-separated and very generously dimensioned low dispersion 400VA toroidal core transformers

This amplifier is a charismatic and passionate musician – and looks like a movie star!

KEYWORD

VA

Volt x Ampere, i.e.: voltage times current strength, which here corresponds to a power capacity of the power supply of about 400 watts per channel.



One balanced and four unbalanced inputs, one output, one pair of loudspeakers tabs, purely analog – the Moon is a purist.

from Japan together with an armada of improved, proprietary Moon capacitors. In fact, the toroidal transformers also come from Moon's own creation with even lower electromagnetic-thermal losses due to special manufacturing for higher speed and dynamics. The circuit topology relies on special, extremely linear and „fast“ power transistors of the bipolar type, which were developed and manufactured especially for Moon.

These are mounted on the sides of heat sinks, which cleverly use the robust and particularly low-resonance and stiffened housing. Thanks to the „Lynx“ concept, the amp is free of „negative feedback“, the so-called „open loop“ operation is reflected in the good, but not exaggerated distortion measurements. Local feedback is only used discreetly in the low frequency range. No compromises were made in regard to power. Nearly 130 watts at 8 and 210 – for short-term peaks even more than 270 – watts at 4 ohms, are not exactly weak on the chest. This should easily be enough for medium efficiency loudspeakers and normal living rooms. The „Line Out“ at the rear can also be configured as a regulated preamp output and can be combined with an

additional stereo or two mono amplifiers or a subwoofer if required.

Up to about five watts, the two power amplifiers operate in Class A. By the way, „Standby“ on the Moon actually means that the amplifier remains „in its core“ ready for operation, which is intentional, because the sound is better. If, however, you don't use it for a long time, you can also switch it off „hard“ on the rear. Nevertheless, during the three-week test cycle sound literally got better with every hour and every day on the grid. This should not be neglected. If the amp has been disconnected from the mains for a longer period of time, it is best to allow it some „warm-up“ time. By the way, this is not uncommon with high-quality devices. Capacitors have to line up, the optimum operating temperature and the corresponding operating points for top sound have to be found.

The whole thing seems well tailored and is technically very clever, in parts solved by traditional means but in a modern and noble dress, which I personally find on the one hand calming and on the other hand absolutely stunning. Of course, the 530 level volume control from the 850P preamp runs via MDACs with a resistor network, and the signal isn't degraded regardless of the setting. This can be seen extremely well and similarly with other top amplifiers (for example of Japanese provenance), of course, then, with much more marketing about it.

There is also a home cinema mode, and name, sensitivity and maximum volume are configurable for each input (M-Lock), which is really a great feature if you got some teenagers in the house.

Obviously short signal paths and perfect grounding thanks to four-layer copper circuit boards should result in exceptionally good freedom from interference.

Picture-book construction in a complete, mirror-symmetrical double mono manner – including the lavish power supply

TEST-DEVICES

CD-Player:

Audiolab 8300 CDQ
T+A MP 3100 HV

Integrated

Amplifier:

T+A PA 3100 HV

Speakers:

B&W 800 D3
DALI Epicon 6

Cables:

Audioquest, Cardas,
HMS, Supra



The red, dimmable and switchable display is easy to read even from greater distances and even with poorer eyesight. The distinctive remote control is a well thought-out, congenial addition. Valuable virtues from the good old days can also be found haptically, as, after all, great amplifiers were, with a few exceptions, always as heavy as lead – and this one weighs almost 55 pounds. The solid, large volume control knob also inspires confidence – an impression that is reinforced when using it.

Passion and energy

An excellent old-school integrated amplifier. No bells and whistles, but a purely analog Class A/B sound machine with a signal path that does what it's supposed to do with outstanding elegance and musicality. While the 600i already set a high standard, the V2, modified in details in power supply and preamplifier, surpasses it once again. It plays absolutely effortlessly and dissolves details very finely without disrupting the whole – pure finesse. In addition, it has plenty of power, which it can transform into physical pressure. From the movie „Bohemian Rhapsody“ and especially from Freddie Mercury, we put the Canadian to the test with „News Of The World“ and „Jazz“, where the exploding „Don't Stop Me Now“, one of the eternal favorites, is to be taken literally: the listening session with this amplifier was so much fun, that it went much longer than usual and from rock to classical (Mozart) to jazz (Hancock) all the way through our CD/SACD portfolio. Focus, enjoyment and power, as well as possibly a bit more tightly carved bass impulses, mark his way.

This is absolutely a component somewhere between „I'd like to have it“ and „I really want it“. The V2-Moon might not be cheap with its price of about 9000 Euro, however it is still worth every penny! And, as I said, it not only sounds great, it also looks like it! Yet another thing you simply have to love coming from Canada.

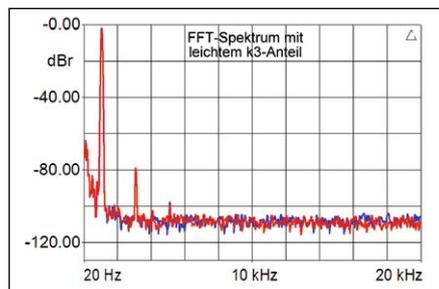
Potential buyers with larger archives in silver-disc form should probably also take a closer look at the CD player 750D, others at the matching streamer. Just Outstanding! ■

Moon 600i V2

Price: around 9000 €
Dimensions: 49 x 10 x 47 cm (WxHxD)
Warranty: 5 Years
Contact: Simaudio
 Tel.: 450 449 2212
 www.simaudio.com

Once more improved, purely analog integrated amplifier with outstanding design, material expenditure and sound. Easily, manages the balancing act between finesse and raw power. A killer amp!

Measurement results



Continuous power (8 Ohm / 4 Ohm)	128 W/210 W
Impulse power 4 Ohm (1kHz)	273 W
Distortions 50mW/5W/1dB Vmax	0,03%/0,015%/0,05%
Interm. 50mW/5W/1dB Vmax	0,2%/0,05%/0,6%
Signal-to-noise ratio at 50mW/ 5W	67 dB/85 dB
Attenuation at 4 Ohm (63Hz/1kHz/14kHz)	166/140/100
Upper cut-off frequency (-3dB/40hm)	75 kHz
Crosstalk Line 1 > Line 2	75 dB
Synchronization error Volume at -60dB	0,1 dB
tereo channel separation at 10kHz	69 dB
Input level controller	ja
Power consumption stby/idle	/33 W 223 Volt

Lab-commentary

Mains phase at tested device Rather high output power of 128/210 Watt into 8/4 Ohm with impulse reserves up to 273 Watt per channel. Distortion and noise level also good, channel separation almost 79 dB, high attenuation factor and high upper cut-off frequency („fast“).

Features

Remote control; one balanced, four unbalanced high level inputs; home cinema mode; pre-out; display; configurable (pre-leveling, naming, etc.); connection for a pair of speakers; hard power switch.

STEREO-TEST

SOUND-QUALITY	97%
VALUE FOR MONEY	
EXZCELLENT	



REMOTE

The gently curved aluminum Remote control of the Moon is an eye-catcher.

WHAT WE'VE HEARD

Queen: Jazz



With „Bicycle“ and especially „Don't Stop Me Now“ an unforgettable album of the super band around frontman Freddie Mercury.

Heart of **Platinum**



Recently we tested the Gold 200 from Monitor Audio. But we wanted more than gold – and ordered the Platinum PL 100 II standmount speaker from the Brit's top series.

Michael Lang

This compact two-way speaker from England deserves a price for its meticulous attention to detail that we haven't seen anything like in a long time. The Platinum 100 is manufactured neatly and lovingly right down to the last screw. Gap dimensions, which should even satisfy fans of made in Germany premium automobiles, a mirror-smooth polished cabinet surface on top of a noble real wood veneer, more than solid terminals, and nowhere a sign of cheap Phillips screws. The front is even entirely free of visible screws and covered with fine Scottish Ingleston leather.

Attention to detail everywhere

This satisfying thoroughness – which certainly leaves its mark on the cost of production – is equally visible in the matching stands, which make their proud price of 750 Euros for the pair seem much more justified than is generally the case. After all they have a sheer mass of around 18 kilos, a very stable and at the same time multiple times decoupled base and a well-designed cable duct, so that the wires aren't just dangling around.

In addition to these exterior features, the 15 kilo two-way ported loudspeaker also has the technical necessities to ensure some sleepless nights for the competitors.

So let's take a look at the ingredients that have been combined in England to make the Platinum: first there's the AMT tweeter, which, in this loudspeaker, plays so beautifully mild and rich in detail that you wouldn't recognize it for its design concept. The reasons for this include the acoustically open

design of the drive at the front and rear, as well as the dimensions of the especially tightly folded foil, which have been optimized in the course of countless experiments. This enables, first of all, a frequency response that is unusually smooth and extends downwards, while the powerful neodymium drive further achieves an efficiency of just below 95 dB. This allows the level to be adjusted to the midrange/bass driver, which is also built in-house, and to be reduced by several dB using resistors. This in turn reduces distortion and increases the dynamic range. Experiments were also carried out with the dispersion characteristics until an optimum compromise was found between still high efficiency and a dispersion and energy distribution suitable for living rooms. To prevent unwanted vibrations from irritating the tweeter during its work, it has been screwed to an internal rear panel with a fixed bolt – as can be seen on the sectional drawing.

Chassis developed in-house

Great effort was also invested in developing the woofer/midrange into a driver that is sought in vain elsewhere. The diaphragm is made of five (!) different materials:

First and foremost there is the core of the chassis, which is made of a chemical

material from duPont and is called Nomex. This material is lightweight, highly heat-resistant and can also be found in commercial aircraft as a lightweight structural material. The developers have then laid another layer of a mixture of aluminum and magnesium fused together to form ceramic on top of this. For additional stiffening with minimal weight gain, carbon was applied on the back.

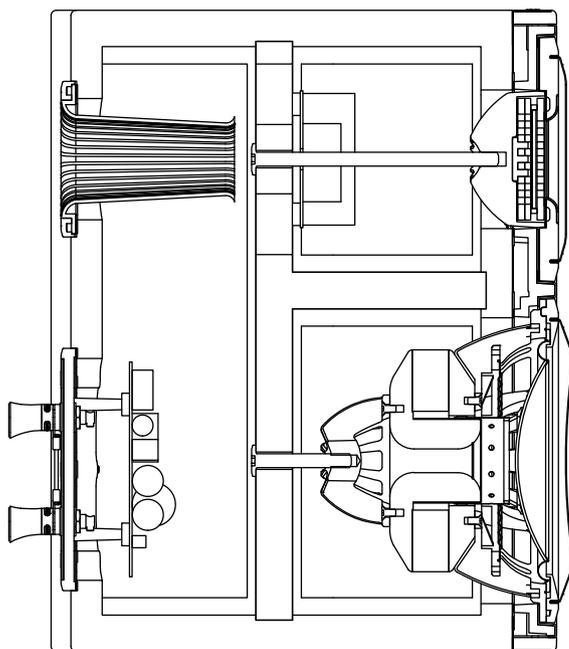
Another well-known problem was also given increased attention: the voice coil's urge to move. It is primarily concerned with itself and ignores the state of the diaphragm it drives, i.e. it forces the chassis to make movements that inevitably cause distortion. In order to prevent this, the British now use a mechanical filter that allows the driver complete freedom of movement up to a given frequency, but also acts like a damping spring and strictly prevents movements beyond this cut-off frequency.

In order to keep the temperature balance of the hard working voice coil in check, this mechanical filter has all around been equipped with ventilation slots. The result of these efforts, as promised in England, is fewer overlaps in the frequency response of the two drivers, which should lead to cleaner reproduction. By the way, this driver is also firmly



HOMEMADE

The view of the mid-range/bass driver shows a beautiful piece of high-tech.



The drawing illustrates the inner structure of the compact two-way ported speaker.



The Bi-Wiring terminal feels solid and is equipped with wire bridges.

screwed to the internal rear panel with a bolt-like screw.

Reflex ports are all the same? Not quite. Monitor Audio's crew came up with a „high-speed“ solution that lets the airflow out to the rear much faster than usual. In order for this to happen in silence, the reflex tube has been provided with many small grooves and a felt damping ring on the last centimetres. With all these measures, a further advantage was gained: the crossover, docked directly behind the terminal, manages with only a few high-quality components and thus never gets under suspicion of reducing efficiency or dynamics.

Not hungry, but picky

Listening to a loudspeaker in your private living room is still something different than making a judgement in the STEREO listening room under familiar comparison conditions. Although the sound impression tended to be similar there, the Monitor Audio was able to show differences between the connected players and amplifiers to a greater extent than previously experienced. Although its high-frequency range is always soft and unobtrusive, it is absolutely capable of detecting even the finest details and high-lighting differences.

For example, the Platinum plays on an Audionet SAM without complaints and more than satisfying, but we only exhausted its full potential from Zappa and Steven Wilson live to Springsteen's „Western Stars“ when

we plugged in our „little“ Gryphon's Diablo. Dynamics and different recording locations were then served to us on a silver plate. You can hear that the past 35 years as a vocal- and live artist have not passed the „Boss“ without leaving any trace, though he is still in shape for his almost 70 years of age.

The lightness, unobtrusiveness and precision of the Platinum when releasing these details, together with the always present, powerful bass, made even long listening sessions an unspectacular pleasure and the speaker more than just another member of the club of the best. Rather it is a huge recommendation. ■

TEST-DEVICES

CD-Player:

T+A MP2500;
Audiolab 8300;

Integrated amp:

Gryphon Diablo 120;
Audionet SAM; Pat-
thos Kratos

Speaker:

PMC 5.22; Dynaudio
Special 40;

Cable:

Audioquest; HMS;
Viablue



EXEMPLARY ACCESSORIES

Tools, level, cloth

Monitor Audio Platinum PL 100 II

Price: from 4300€ (Stands: + 750 €; in high-gloss black or ebony finish)

Dimensions: 23 x 37 x 32,5 cm (WxHxD)

Warranty: 5 Years

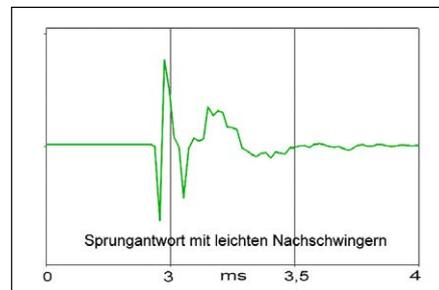
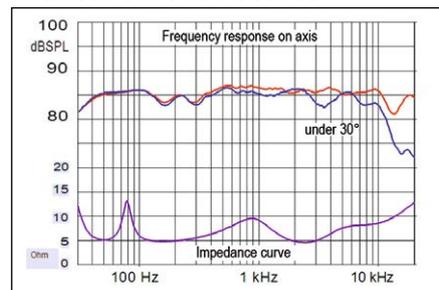
Contact: Monitor Audio

Tel.: +44 1268 740580

www.monitoraudio.com

A standmount loudspeaker of the highest quality that is visually stunning and sounds more long term suitable than most. It resolves finely and still sounds round. Strong bass, but nevertheless rather uncritical for placement.

Measurement results



DC-Resistance	4 Ohm
Minimum impedance	4,8 Ohm bei 2200 Hz
Maximum impedance	13 Ohm bei
Sound pressure level (2,83 V/m)	86,7 dB SPL
Power für 94 dB SPL	8 W
Lower cut-off frequency (-3dB SPL)	41 Hz
Distortions at 63/3k/10k Hz	0,3/0,1/0,1 %

Lab-commentary

Deep and balanced frequency response, angling towards the listening position required. Low distortion, good step response. Efficiency and impedance uncritical.

Features

Excellent workmanship. Tools, polishing cloth and removable chassis covers included; bi-wiring, rear bass port; screwed stands recommended.

STEREO-TEST

SOUND-QUALITY	99%
VALUE FOR MONEY	
<div style="display: flex; justify-content: center; gap: 10px;"> ★ ★ ★ ★ ☆ </div>	
EXCELLENT	

PIEGA
SWITZERLAND



PREMIUM WIRELESS BY PIEGA



PIEGA builds top quality and hand-made loudspeakers to enjoy a perfect musical experience – and has been doing so for over 30 years. Our loudspeakers stand for Swiss perfection and high quality, combined with a stylish elegant design. Experience our brand new premium wireless series - and expect more.

PIEGA SA | Bahnhofstrasse 29, CH-8810 Horgen | Switzerland
mail@piega.ch | phone +41 44 725 90 42 | www.piega.ch

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Technics for all!

No more excuses! With the new SL-1500C, Technics presents a new convenient all-in-one turntable for all those who are eager to listen to vinyl properly, without having to bother about anything else.

Matthias Böde

Oh, I need another cartridge.“ „My amplifier doesn't have a phono input.“ „Entry price 1500 Euro? I don't have that right now“. „Disco look – no thanks!“ Perhaps you as well have already been flirting with one of the new Technics turntables that have been causing a sensation since 2016, but have always found a reason to avoid purchasing one.

This becomes really difficult with the brand new SL-1500C. With its unobtrusive design without stroboscope dots on the flattened turntable edge, slide control and disco lighting, it blends into any dignified living environment. The owner does not have to worry about a suitable cartridge. In contrast to the other Technics turntables, this beautifully simple Japanese brings it along from the start.

And in case the own amp lacks the necessary phono branch: the SL-1500C also has that on board. In spite of this bulging equipment package, its price remains very close to the 1000 Euro threshold. Record listeners, what more could you possibly want?

And on top of that, there's everything in Technics' newest that we value. Next to the ultra-precise, quartz-controlled direct drive with short acceleration and deceleration times, it has the stable injection-moulded chassis, which is stiffened and calmed by means of a special plastic called ABS. Additionally this plastic is reinforced with glass fibre, so to speak as an „Anti-Blocking System for resonances“. The precisely manufactured S-shaped tonearm sits in free-of-play bearings. The two-layer platter made of aluminum rests on a thick rubber mat, which protects it and thus the record from vibrations.

Phono pre in- or external?

The list could be extended almost indefinitely, whereby the direct drive motor with single rotor is of course the heart of the turntable. Its stator does not need iron cores, which is intended to eliminate the dreaded cogging torque in propulsion, which can have negative consequences for timing because it leads to unrest in the sound image. Thus, in combination with the engine control the torque of the engine should be applied with even thrust on the plate which weighs in at 2,2 kilograms including the rubber pad. Experience has shown that this system runs trouble-free and maintenance-free for many years, which is another advantage.

The SL-1500C is quickly assembled. It is child's play to place the platter underneath of which the magnetic disc of the drive is



When the plate is lifted, the magnetic disc of the drive can be seen. The plate has a damping rubber layer on its underside.



If you want to use the phono input on the amplifier, use „Phono Out“ (l.). If the internal phono pre is activated, the cable belongs to „Line Out“ (r.). „Auto Lift“ lifts the scanner out of the groove at the end.

located. Also the MM pickup – the tried and tested 2M Red with elliptical diamond from the Danish specialist Ortofon, which costs 110 Euros by itself – is pre-assembled in the headshell and only needs to be attached to the arm with a union nut. Adjusting the tracking force is also a breeze.

Then you have to decide in which mode you want to operate the Technics. Either like a normal turntable at the phono-MM input of the amplifier or with the help of the internal **phono amp** as a „stand alone“ turntable, which is then connected like a CD player. For both alternatives there is a pair of Cinch-sockets in the recessed connector panel, while at the same time you have to set a small slide switch to the „On“ position.

A second slider activates an automatic device that lifts the pickup, for example at the end of Ravel's „Bolero“, out of the outlet groove after a few seconds, which is intended



Below the main switch (above) is the large „Start-Stop“-button, next to it the buttons for the speeds of 33, 45 or even 78 rpm.

KEYWORD

Phono amp

Correctly one speaks of the „equalizer-pre-amplifier“. Since the electric currents generated by a pickup are extremely small, they have to be pre-amplified specifically. In addition, bass and treble are not cut equally loudly into the groove, which is why a mirror image equalization takes place during playback, which puts all sound components back into the correct relationship to each other.

TEST-DEVICES

Turntable:

Acoustic Solid Solid Wood MPX, Music Hall mmf-9.3SE, Project RPM3 Carbon, Thorens TD209

Cartridge:

Audio-Technica AT-VM95EN, Goldring E3

Phono-preamp:

Brinkmann Edison, Cambridge Audio Duo

Phono-cable:

Pro-Ject Connect-it E, Silent Wire NF5 Phono



The meticulously crafted aluminum tonearm is extremely smooth-running and can be adjusted in height after releasing the locking lever **1**. Those who frequently change the cartridges can orient themselves on a scale **2**.

to prevent unnecessary wear in the event of unattended play – perhaps one might also be tied to the couch momentarily. However, following this procedure, the tone arm lift only reluctantly follows the next lowering, because the automatic lift wants to be reset with some gentle pressure.

Like its bigger brothers, the SL-1500C also has a practical height adjustment for the tone arm. But beware, it's tricky! While on Technics turntables they traditionally work by means of a large wheel wrapped around the base of the tone arm, the SL-1500C asks you to pull said wheel up after loosening the small locking lever. This is so unusual that even the otherwise exemplary instruction

manual doesn't know what's going on and misrepresents it, so that you "go round in circles" both desperately and in vain.

Anyone who has freshly unpacked and set up the SL-1500C, which at best has small differences in quality to its bigger brothers in small details, will think: „Wow, that one's off the hook!“ after the first notes. In fact, Technics' smallest model offered a powerful dynamic and tight bass right from the start. The impetuous impulsiveness, however, was accompanied by an emphatically tight, slim timbre that lacked warmth and commitment. But don't worry, they will come as the playing time progresses. If you use the internal phono preamplifier, you should also leave the Japanese switched on for one or two days when the drive is at rest, so that the equalizer/preamplifier stage remains energized, which is audibly good for its sound.

THE TECHNICS FAMILY

The success story of the new Technics turntables is almost unprecedented: In 2016, the limited SL-1200GAE and shortly afterwards the technically identical G caused a sensation. Optically and unmistakably based on the legendary models of the 1200 series, everything was technically new from the elaborate direct drive to the platter to the tonearm. The only deterrent was the price of 3500 Euro – without cartridge.

Said price was reduced one year later by the SL-1200GR (above), also available in black as SL-1210GR, which is clearly reduced in some parts, concerning the drive as well as the tone arm tube, which is no longer made of magnesium but of aluminum. The platter has also been cut back. It is, nevertheless, the secret star of the Technics ensemble as it costs only 1500 Euros without a cartridge, but is much closer to its big brother than expected.

The ultimate is the 45 kilogram SL-1000R (below) with external power supply and superb sound quality. It resides under the STEREO references and costs „naked“ around 16,000 Euros. The current „standard DJ version“ is called SL-1210 MK7 and costs just below 900 Euros.



Sturdy, radiant sound images

Even after that the reproduction remains sinewy and clear down to the lower registers. The SL-1500C does not become a whitewashing device. However then it also masters the milder gaits, and the previously rather short-winded timing gains serenity and equanimity. Good to hear, for example, in Chadwick's orchestral piece „Jubilee“, sometimes lively, sometimes introverted, which, after a furious prelude, falls into solemn, elegant fervour. A turntable has to keep the overview and composure in the initial turmoil despite the energetic access he demands. He must not lose the threat and the musical tension must not go missing.

This is not easy for any turntable and certainly not for one that even fully equipped remains below the 1000 Euro limit. The

Technics, however, was more than respectable in pulling itself out of the affair by not overdoing its radiant highs – the slight lowering of the top registers visible in the frequency response was irrelevant – and mastering the slow and heavy passages smoothly. For this it is necessary to connect the Technics correctly to the mains phase (see diagram), otherwise it will sound too superficial, even slightly rough.

As a dazzling spectacle of vivid details and grooving rhythms, the SL-1500C offered Diana Krall's lively „Deed I Do“ from her fantastic Paris live album. Present, but yet not too slim and very agile, he showed an exuberant joy of playing. Once again, the high quality of the integrated phono pre-amplifier proved itself. Tests with external Phono-Pres of the 200- to 400-Euro-class did not bring any advantages compared to the integrated solution, at most a touch more sonority in the fundamental tone. Even after the initial break-in phase, the Technics did not tend towards opulence in the lower registers, but instead played music in a deliberately purified manner. If you operate it „passively“ with our reference phono preamplifier, it also presented a sound level that was well above the price range, which was due both to the cleanliness and fine dynamics it offered as well as to its resolving attitude.

In this form, the complex titles of Deacon Blues' concert in the Glasgow Barrowlands, where, amongst other challenges, the front stage had to be set apart from the audience staggering in depth, were no problem. Once again the SL-1500C proved its finesse and qualified as a tip for pleasure listeners, who don't care about anything else – and for whom it leaves no excuses. ■



The SL-1500C comes with a flat dust cover with a characteristic curvature, creating room for the tone arm base.

Technics SL-1500C

Price: around 1000 € (complete with MM-cartridge and integrated Phono-preamp)

Dimensions: 46 x 17 x 38 cm (WxHxD)

Warranty: 2 Years

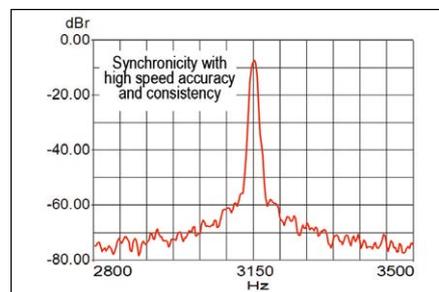
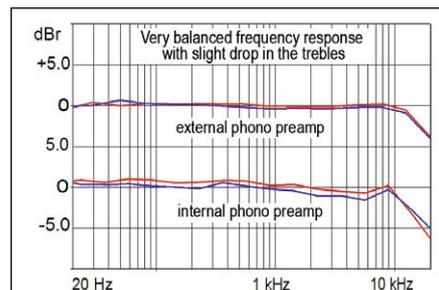
Contact: Technics UK

Tel.: 0333 222 8777

www.technics.com

With the SL-1500C, Technics offers essential advantages of its larger models such as the newly developed direct drive, but also details of the tonearm at a significantly lower price than before. The fact that this turntable comes as a package with a sophisticated pickup and an internal phono preamplifier makes it all the more affordable, especially since the essential tonal characteristics of the Technics turntables, such as the pronounced liveliness and the sharp, tight bass, are retained. STEREO awards five stars to this absolutely successful all-round, carefree turntable!

Measurement results



Needle compliance: 20 µm/mN

Output voltage (1 kHz, 5 cm/sec, without phono-pre): 7,5 mV

Tracking force: 20 mN

Features



Mains phase at tested device

Internal Phono-MM preamplifier, 33, 45 and 78 revolutions, height

adjustment for tonearm and feet, phono cable, dust cover



FIRST CHOICE

The Ortofon 2M Red, also chosen by Technics as the original equipment for the SL-1500C, occupies a top position among the more affordable MM pickups. No wonder it's so popular among turntable manufacturers.

The sound quality reaches beyond the limits of the 1000 Euro class.

STEREO-TEST	
SOUND-QUALITY	64%
VALUE FOR MONEY	
★ ★ ★ ★ ★	
OUTSTANDING	

DRAGONFLYS RULE!



Beautiful

The €99.95 DragonFly Black

"With the DragonFly, AudioQuest has created a simple and affordable path into the high end for a new generation of listeners, as well as the perfect product for an audiophile's personal-audio system."

—Robert Harley, The Absolute Sound



More Beautiful

The €199.95 DragonFly Red

"DragonFly Red and Black are the finest examples of everyman hi-fi ever to grace these pages. Their value quotients explode the dial."

—John Darko, Darko.Audio

Most Beautiful

The €299.95 DragonFly Cobalt

DragonFly Cobalt takes everything people enjoy most about DragonFlies, the beautifully dynamic and seductive sound, and puts it in better focus while also taking away fuzz and fog one doesn't even realize is there until it's gone.

The Cobalt has the same drives-anything 2.1 volt output as the Red, along with its bit-perfect digital volume control, exceptional MQA-rendering ability and seamless compatibility with Apple and Android devices.

Important ingredients which explain some of Cobalt's precedent setting performance:

- ESS ES9038Q2M DAC chip with a minimum-phase slow roll-off filter for more natural sound.
- Microchip PIC32MX274 microprocessor reduces current draw and increases processing speed by 33% over DragonFlies Black and Red.
- Improved power-supply filtering, specifically designed to reduce WiFi, Bluetooth, and cellular noise.
- Includes a form-fitting DragonTail USB-C to USB-A adaptor. All DragonTails use AQ's Carbon-level USB cable.



DragonFly DAC + Preamp + Headphone Amp

From MP3 to MQA and Hi-Res, DragonFlies preserve the body, warmth, and natural color in all your music. Experience more beauty at home and everywhere you listen.

audioquest®

Not for the road



The HiFiMan „Arya“ doesn't conform to the trend and only sounds brilliant with a proper amplifier.

Michael Lang

Many of our contemporaries have long been asking the question as to who originally came up with the, in their opinion, abstruse idea of trimming high-quality headphones which are intended mainly for use at home to make them suitable for mobile devices? Can you remember ever having met someone on the road or while travelling by bus or train who was wearing high end headphones costing several hundred Euros for his journey from A to B?

It thus seems only natural that the US manufacturer HiFiMan should now present a headphone costing around 1800 Euros and label it „not suitable for mobile devices“. After all, the Arya has all the ingredients and characteristics that count in a high-quality system – and it has been consistently developed specifically for this task.

Clever magnets

It weighs around 400 grams, despite its lightweight bracket construction. The fact that it did not reach a real light weight is the result of the very elaborate construction of the driving magnets, which HiFiMan calls „asymmetrical magnetic structure“. Towards the ear the Arya works with smaller round magnets, towards the back with larger rod magnets to drive the foil, which is only a few nanometers thin. To demonstrate the kind of dimensions we are talking about here: one nanometer is 1/1,000,000 mm, or in words one millionth of a millimeter. For comparison: a human hair is about 0.04 to 0.06 mm thick. The reason behind all this effort: the extremely light foil can react quickly and undistortedly to impulses of any kind, and the shape of the magnets ensures that the sound reaches the ear of the music lover as unaltered as possible.

The approximately 100 employees who research, develop, present and ultimately also manufacture new models at an almost incredible speed in Tianjin, China, under the direction of Dr. Fang Bian gave their youngest offspring even more than the bracket construction and the exclusive magnet system which were already familiar from the xV2 model. The interchangeable ear cushions consist of a combination of imitation leather on the outside and skin-friendly polyester-covered imitation leather on the inside. The leather is perforated so that it doesn't get too warm for the ears even when worn for long periods of time. The oval shape of the cushions, which completely cover the ear and distribute the pressure evenly, is pleasant

to wear. The price for a pair of spare pads is 99 Euro. The 1.5 meter long cable of the open earpiece is of good quality and reacts insensitive to touch. HiFiMan speaks of four-wire „monocrystalline copper“. Two small 3.5 mm plugs, unfortunately not marked in colour, are plugged into the shells, while the connection to the amplifier is made via a classic 6.3 mm jack. The impedance of the headphone is 35 Ohm, the efficiency is specified by the manufacturer at 90 decibels.

Not for on the go

This information seems to us to be very close to reality, because compared to the model „Ananda“ of the same manufacturer the Arya is a lot quieter. On our Exposure XM HP both can be operated and compared in parallel. The Arya quickly set itself apart from its little brother, which costs around 1000 Euros, presented voices from Frank Sinatra to Tori Amos not only much more airy and richer in detail, but also achieved the rare feat of being able to offer additional attention to detail despite warmer tuning. Absolutely amazing how the Arya played Marianne Faithfull's version of Bob Dylan's „It's All Over Now, Baby Blue“. The artist's experienced, brittle, scratchy voice was reproduced with extreme sensitivity, the bass drum with authority and the necessary pressure, yet clean and with finely drawn swing. Even in comparison to Sennheiser's HD 820, which is appreciated by professionals as well as audiophiles, the HiFiMan wouldn't back down and stood up to the 2400 Euro expensive German headphone. Not only that, but depending on the music material the Arya was sometimes even ahead. Impressive was the lightness with which the US-Chinese unravelled complex bass passages without ever giving the impression of it being „too much“.

Also with classical music the Arya didn't show much flaws – orchestras perhaps sounded a bit too warm overall, but it was still a long way from discolouration. Rather it provided for a very pleasant long-term effect.

Especially early digital recordings of Karajan profited from it, as they were taken away a piece of their harshness and aggressiveness, which made them audible again, without becoming softened.

Warm, light, rich in detail

Also the interesting CD „Out“ by Feline Lang – no, there is no relationship to the author – delighted with its powerful, natural sound with distinctly good and convincing dynamic abilities. The bass is also powerful here, yet loosely springy in the manner of a gifted dancer, which was nice to hear on „City By The Sea“. Voluminous and powerful, yet open, airy and not too sticky or thick – in this area the Arya moves skilfully and with highest elegance. If you think about what you can get for less than 2000 Euro and dare a comparison to the field of loudspeakers, you can't help but praise Dr. Bian and his team for a headphone that plays honestly and emotionally and appeals to all senses. ■

HiFiMan Arya

Price: around 1800 €
Warranty: 2 Years
Contact: HiFiMan
 Tel.: 1 201 443 4626
 www.hifiman.com

Open back magnetostatic headphones designed specifically for use with high-quality stationary equipment. Powerful sound, voluminous and tuned with a touch of warmth. High wearing comfort. Weight: 400 grams.

Features

1.5 metre high-quality connection cable; padded aluminum headband; replaceable, breathable ear pads; pluggable cable; impedance: 35 Ohm, low efficiency of 90 dB

STEREO - TEST	
SOUND-QUALITY	95%
VALUE FOR MONEY	
★ ★ ★ ★ ★	
OUTSTANDING	

WHAT WE'VE HEARD

Feline & Strange: Out



Fine music that skilfully balances between styles and genres and also surprises with a pleasant sound.

A headphone, that unites apparently contradictory requirements

STEREO®

STEREO-MAGAZINE.COM

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 deutsches
 Mitglied im
 Audio-Panel
 der EISA

