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STEREO

THE GERMAN HIFI MAGAZINE

ISSUE #7 2016

> TUBE MASTERCLASS
Octave makes high-end performance more accessible

CLEVER HORNS

Avantgarde Uno XD tunes itself to your room

REVIEWS: ACOUSTIC ARTS AMP II MK3, AURALIC ALTAIR STREAMER, NAIM AMP + CD, AVID TURNTABLE SESSION, FOCAL ELEAR HEADPHONES, NEWS - AND MORE

The Foundation Comes First



Advancing the Science and Efficacy of Power Conditioning

There are many approaches to reducing the noise associated with AC power—conditioner-filters, regenerators, isolation transformers, battery inverters, and more—and all can yield meaningful results. However, some of these techniques also cause ringing, current compression, and non-linear (obnoxious) distortions. **Some cures are worse than the disease**—some are not as good as plugging straight into the wall.

Niagara Low-Z Power Noise-Dissipation Systems address the many variables and forms of interference that compromise **the very foundation upon which an entire audio/video system is built**. When power is optimized, when a system's foundation is a Rock of Gibraltar, the system is able to deliver maximum articulation and emotional stimulation.

Niagara designer Garth Powell has devoted 20 years of intense research to furthering the science of AC power. His exceptional ability to apply an insatiable thirst for knowledge, a musician's deeply personal passion for music, obvious brilliance, and many hard-won insights is clearly evident in the products he creates.

AudioQuest invites you to experience the proof that Garth has successfully advanced the art, the science, and the efficacy of power conditioning. We believe that by adding a Niagara 7000 or Niagara 1000 to your system, you'll experience **clarity**, dimensionality, frequency extension, **dynamic contrast**, and **grip** that your system was just waiting to reveal.

Sincerely, Bill Low

"The Niagara 7000 better resolved fine detail and threw a deeper, more expansive soundstage.... Transients of the struck notes sounded faster, less thick, more naturally expressed through the Niagara, as did the length of the notes' decays."

—Michael Fremer, *Stereophile*, February 2016



audioquest®

THE SONIC DEVIL IS IN THE DETAIL



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Every serious hi-fi enthusiast knows that getting the best sound quality from your system is all about taking care of the details. Yes, getting the know-how to achieve this can be a long process of trial and error, not to mention surprise discoveries as you immerse yourself deeper in the hobby – but we can help. After all, we’ve had the advantage of experiencing hundreds of components, loudspeakers and accessories passing through our hands – and our listening-rooms – over the years, and we love to share that knowledge. In fact, that’s just what we do in STEREO “workshops” – mainly at dealer events, but also at hi-fi shows and the like.

During these workshops we demonstrate how anyone can get more out of their system, for example by changing cables, putting AC-filters into the power line or stepping up from single-wired speaker connection to biamping. The workshops have run for more than 20 years now, and the secret of their success is that quite often even trained listeners are astonished how easy it is in most cases to make, and recognize, a difference.

In this issue of STEREO international we report on a workshop we did at a dealer in northern Germany, where we stressed the profound influence of specialized digital software that tackles problems created by poor room acoustics. And we demonstrated the truth of the German expression that one personal experience is worth more than a thousand words: as we showed in the workshop, sometimes a few seconds of listening gives more knowledge than endless theoretical discussions.

However, even we’re still learning, and not immune to the occasional surprise – and that was definitely the case when Avid mastermind Conrad Mas came to our listening room to present three of his marvellous turntables (see page 49). Each was equipped with an identical tonearm and a cartridge, so what amazed us was that just the ‘drive’ part of a record player could make so great a difference. Read our findings for yourself, and don’t forget that nothing beats practical experience – oh, and the sonic devil may just be lurking where you least expect him.

Matthias Böde
 editor@stereo-magazine.com

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



ALTAIR EGO

The brains of the Auralic Aries Mini streamer in a new guise?
Oh no – the new Altair is so much more



MOTOR-VATION

Think the drive system is the least important part of a turntable? Think again, as Avid shows just how much difference you can make by improving just the motor unit, platter and chassis



AN OCTAVE LOWER

With the HP 700 modular preamp and MRE 220 mono power amps, Octave makes its high-end technology more accessible



SUPER COMBINATION

We test the latest version of Naim's Supernait flagship integrated amplifier – and its perfect partner, the CDX2 CD player



ART ATTACK

The Mk3 version of Accustic Arts' M3 power amplifier has gained sweetness and refinement – and more drive!



ELEAR-LY BETTER

For its second-generation, French company Focal has some novel design ideas – and they deliver a truly captivating sound



A SMARTER HORN

Avantgarde Acoustic's Uno HD is a striking speaker, made even better by clever built-in room-optimisation technology



THE PERFECTIONISTS

Once in a generation we design and hand build loudspeakers of such stunning quality they set the standard by which all others are measured for years to come. For perfectionists who demand uncompromisingly accurate sound, capturing the full emotional range, depth and detail of the original performance, THE REFERENCE delivers an experience without equal.

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Loftsound
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www.loftsound.de

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www.mt-hifi.de

3. Dimension
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www.hifi-studio.at

Audio Visual Factory Sàrl
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KEF

OBSESSED WITH HIGH RESOLUTION

TUBE DRIVERS

The latest amp combination from Octave, the HP 700 modular preamp and the MRE 220 monoblocs, has unreservedly become a musical masterpiece.



There's no question: in about 40 years of personal HiFi history, my most impressive listening experiences have been connected with Octave equipment, and more precisely an HP 500 SE preamp and MRE 130 monobloc power amps.

It happened around 2005, when this trio not only brought to life in the STEREO listening room an already seven-year-old pair of Bowers & Wilkins 801 Nautilus speakers, but really made it take off – to the extent that technology and music editors were found sneaking through the hallways with analog and digital music under their arms just to get back into the room and experience this sound again.

It's an anecdote repeated to this day, due to the excitement it created, and Octave's new V 80 SE integrated amp is also a very excellent musical stimulant. However, to expect that the trio we have on test here is no more than an improved successor to that talking point of more than a decade back would be missing the point. Rather, the new high-end combination of the HP 700 modular pre and MRE 220 mono

power amps profits from the symbiosis of proven technology and the heritage of the "Jubilee SE" line of Überamps, which are priced at a level way beyond the means of mere mortals which normal mortals can of course hardly afford. For their 30th anniversary, and in this new preamp and power amplifiers, Octave now offers all of us a similar pleasure at a price at least some of us might be able to afford.

Hear and be amazed

Another prejudice needs to be addressed right away: rock music and tubes don't go together. That this is nonsense is already apparent, given that the best-known guitar amps are tube-driven, but still tubes are considered by many to be soft and warm. Word has still not got out that today the best tube amps – and now we are not talking just about guitar amps – combine the benefits of semi-conductors and thermionic technology.

So then, Rock and Octave is almost a must, these amps offering total control over the connected speakers to combine chiseled and deep bass with three-dimensional mobility, charming empathy, effortless detail, stupendous dynamics down to the subtleties and textures, a large and enormously energetic reproduction, and colors to which the tubes undoubtedly contribute. AC/DCs "Back in Black" for instance, leaves the entire room with mouths agape. Stunning!

At the same time, independent of musical style, Octave plays to the highest standards as result of the attention paid to the fundamentals of the modern circuitry as much as the top quality of the essential components – in no small part due to the fact that the company develops its own transformers and coils. Octave amps are extremely reliable, durable, and offer wideband linearity, plus a speed and agility uncommon in the world of tubes.

Compared to integrated amps (as practical as they may be), separated pre- and power amps have the benefit of separating small, delicate signals and those at high levels in separate housings, avoiding interference and thermal compromises. Octave takes this a few steps further by going with mono amps, operating at about 200 Watt (which power is not exactly commonplace for tube amps), this configuration also achieving the channel separation essential for an extraordinarily three-dimensional projection. The company also selected the

reliable and high-performance KT120 as output tube, which sounds outstanding.

For a long time company boss and mastermind Andreas Hofmann has been committed to tuning his own devices and, in addition to the sensible external power supply for the HP 700 preamp, came up with the optional "Super Black Box" specifically for power amps and integrated designs. This mainly includes drastically increased power reserves in the form of an armada of EPCOS electrolyte capacitors for the power supply – there's be no space for that in a standard housing, but all those extra microfarads not only clean up the power supply a lot but also ensure incredible impulse stability and control. Better than "power from the socket", the SBBs deliver a supply that's almost battery-like, and while you don't need to buy the SBBs for the power amps right away, you should definitely add them later. "It's worth it" could be the understatement of the year.

Between 190 and 250 Volt the Octave power amps are stable – nothing happens even without load. In the HP 700, which uses the unusually powerful EF184 in its output stage, Hofmann now offers an extremely adaptable preamp of absolute top-class thanks to a modular construction, allowing upgrading or exchanging of modules as required. So to the basic RIAA phono stage you can add one currently eight different modules for MM or MC precisely adapted to the desired cartridge.

And the uncompromising approach extends to the absence of remote operation: selecting sources and using the technically optimized fixed resistor network for gain control is all hands-on. That would be no problem for me.

The Octave Trio creates an incredibly wide soundstage and delivers smooth dynamics, power, and sophistication to drive Dvorák's multifaceted Symphony No.

◀ The new superstar of the tube world, the KT 120 (top left) is used in pentode mode, with four in each mono amp.



◀ The preamp power supply is external, while that for the power amps can be enhanced with the optional "Super Black Box" (top).



▲ Clever shielding and space for thermal management characterize the interior of the HP 700.

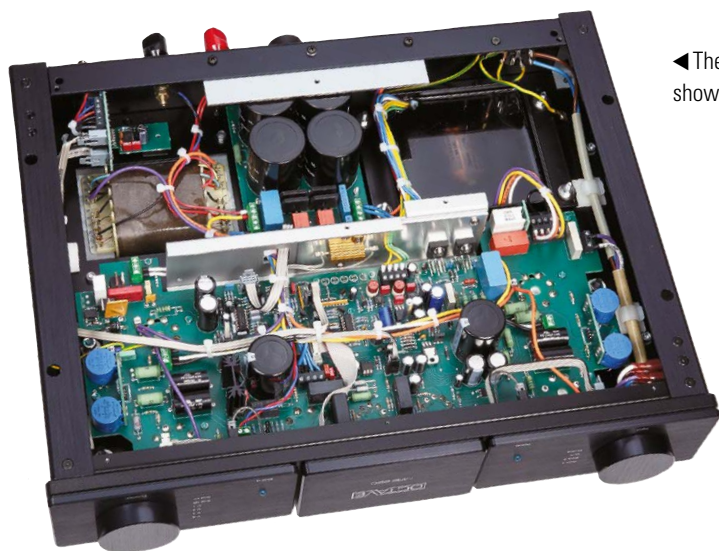


◀ The rear of the HP 700 preamp shows how it can be expanded almost without limits via modules (left).

Unusual for tube power amps is the solitary speaker connection for all impedances. Next to it is the special connector for the "Super Black Box". ▶



◀ The power amp on the bottom shows an extremely high-quality and modern design.



A large range of modules makes the Octave preamp into a tailor-made dream machine. ▶

9 under Fritz Reiner from one sound high-light to the next. You just have to hear that!

Enormous efforts

One would have no problem writing a book about this combination which also has unusual solutions for the partially channel-separated controls or and adjustable RCA/XLR inputs. Or one could simply assume that a lot of thought went into every facet of this device in order to make a world-class musical experience possible and ensure it for the long term by using optimal components. This is ensured by stabilized circuits, optimized circuit layouts, and electrolytic capacitors with an expected lifetime of 15 years, helped by the “soft start” which uses a clever start-up routine to gently energize the capacitors and tubes in all three devices, as well as preventing any annoying “plop” when switching off.

Whether with the DALI Epicon 6 or Bowers & Wilkins 802 D3, the Octave combination allows the speakers to appear to dissolve and be replaced by music, clearly surpasses both expectations and even that decade-old experience we mentioned at the beginning. Katja Maria Werker’s cover of “Here Comes The Flood” (Stockfisch) makes your hair stand on end, and even the experiment of using small but quality compact speakers – like Canton 9 K or Cabasse Murano – with this apparently overkill amplification creates an overwhelming result. Clearly using the best possible amp technology is the only way to exploit the full potential of any speakers.

The Octaves’ musical presentation is epic: the glimpses shown by the combination of Octave V 80 SE integrated amp Super Black Box, which itself makes some favorite rivals sound a bit pale, are now fully realized here in an amplifier which can run up to six separate housings in “full-blown” form.

These can simply do everything, and I am convinced the deluge of international awards for their previous flagships will only increase for these new models. They’re dream, and I have rarely heard such good music, this applying to everything from Adele via Mozart to ZZ Top, and without reservations. I can’t think of a higher compliment.

Tom Frantzen

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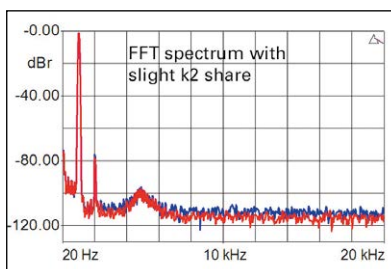
OCTAVE HP 700



from € 11,000 (test version € 17,070)
Dimensions: 46 x 14 x 48 cm (WxHxD)
Warranty: 3 years (tubes 6 months)

With source control, fixed resistor network volume adjustment, transducer, phono, and high-gain inputs, almost unlimited upgrade and adaptability preamp of musical superlative. Sound almost unbeatable. Top reference.

LAB MEASUREMENTS



Maximum output voltage (1 kHz, 1% THD)	13 V
Distortion at 0.03 / 3k / 1 Volt	0.07 0.01 0.004 %
Intermodulation at 0.03 / 3k / 1 Volt	0.03 0.005 0.004 %
Signal-to-noise ratio CD (500 mV, 1 kOhm) at 0.03 0.3 Volt	62 83 dB
Signal-to-noise ratio Phono MC (0.5 mV, 10 Ohm) at 0.03 0.3 Volt	73 dB
Channel separation at 10 kHz	55 dB
Upper cutoff frequency (-3 dB) >80 kHz	
Load ratings	practice-oriented
Output impedance at 1 kHz Cinch/XLR	97/130 Ohm
Crosstalk attenuation tuner/CD at 10 kHz	59 dB
Timing error volume control up to -60 dB	0.1 dB
Power consumption On Standby Idle	0 / <2 / 64 Watt

LAB COMMENTS: Good and standard values throughout, distortion values are even excellent. The power phase plays no role.

EQUIPMENT

Selectable amplification factor L/M/H, symmetric and asymmetric inputs, external power supply, diverse phono and input options, sound control network optional, remote control depending on equipment

STEREO -TEST

SOUND QUALITY 100%

PRICE/PERFORMANCE

★★★★☆

VERY GOOD

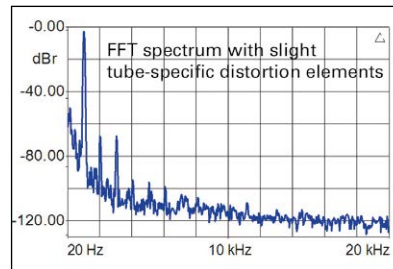
OCTAVE MRE 220



from € 17,000 (SBB test version € 23,000)
Dimensions: 49 x 18 x 45 cm (WxHxD)
Warranty: 3 years (tubes 6 months)

Even the basic version is a very powerful and excellent sounding mono amp, which becomes out of this world with the optional Super Black Box (SBB). Top reference.

LAB MEASUREMENTS



Continuous power at 8 4 Ohm	138 168 Watt
Pulse power at 4 Ohm	Safety circuit Watt
Distortion at 50 mW 5 W Pmax -1 dB	0.2 0.13 0.44 %
Intermodulation at 50 mW 5 W Pmax -1 dB	0.1 0.2 0.7 %
Signal-to-noise ratio at 50 mW 5 Watt 72 91 dB	
Channel separation at 10 kHz	- dB
Attenuation at 63/1k/14k Hz	-
Upper cutoff frequency (-3 dB, 4 Ω) >80 kHz	
Load ratings	practice-oriented
Power consumption On Standby Idle	0 / <2 / 170 Watt

LAB COMMENTS: For a tube power amp very high output power, wideband and low distortion and hiss. The power phase plays no role.

EQUIPMENT

Monobloc with optional exchangeable power tubes (test sample used KT 120), standard and balanced inputs, single set of speaker outputs for all impedances, bias adjustment, eco-energy saving switch, soft start, muting, ground lift, power cable exchangeable, optional Super Black Box power supply for enhanced dynamics and power stability

STEREO -TEST

SOUND QUALITY 100%

PRICE/PERFORMANCE

★★★★☆

VERY GOOD



IN ADMIRATION OF MUSIC

PURE, AUTHENTIC SOUND REPRODUCTION

- delivered by the DALI RUBICON series

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

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



For more information on the RUBICON series: www.dali-rubicon.com



THE SAME – BUT DIFFERENT

From the outside, it's hard to distinguish the new Mk3 version of the Accoustic Arts AMPII power amp from its predecessor. But on the inside it makes its own statement, both in terms of technology and sound.

Hardly any other workhorse has proven itself as often in our everyday testing operations as the Accustic Arts AMPII-Mk2 stereo power amplifier: its storming debut in our December 2009 edition – yes, that's how long it's been – saw it establish itself as by far the most affordable unit among top reference devices. Since then it has stood out as a dependable, confident performer, able to drive just about any speaker to almost any level we could want. Built in Lauffen am Neckar, the AMPII-Mk2 simply doesn't seem to know any limits.

Despite it being around for so long, we were surprised that the Mk2 was being

The spacious bottom houses the two encapsulated 1100-Watt transformers including their capacitor banks. ▼

TEST-COMPONENTS

RECORD PLAYER: Transrotor Rondino nero / SME 5009 / Transrotor Figaro

PHONO PREAMP: Brinkmann Edison, Musical Fidelity MX-Vynl

CD PLAYER: T+A MP3000HV

PREAMP: Accustic Arts Tube Preamp II-MK2

SPEAKERS: B&W 802 D3, Focal Sopra No3, Monitor Audio Platinum 500 II

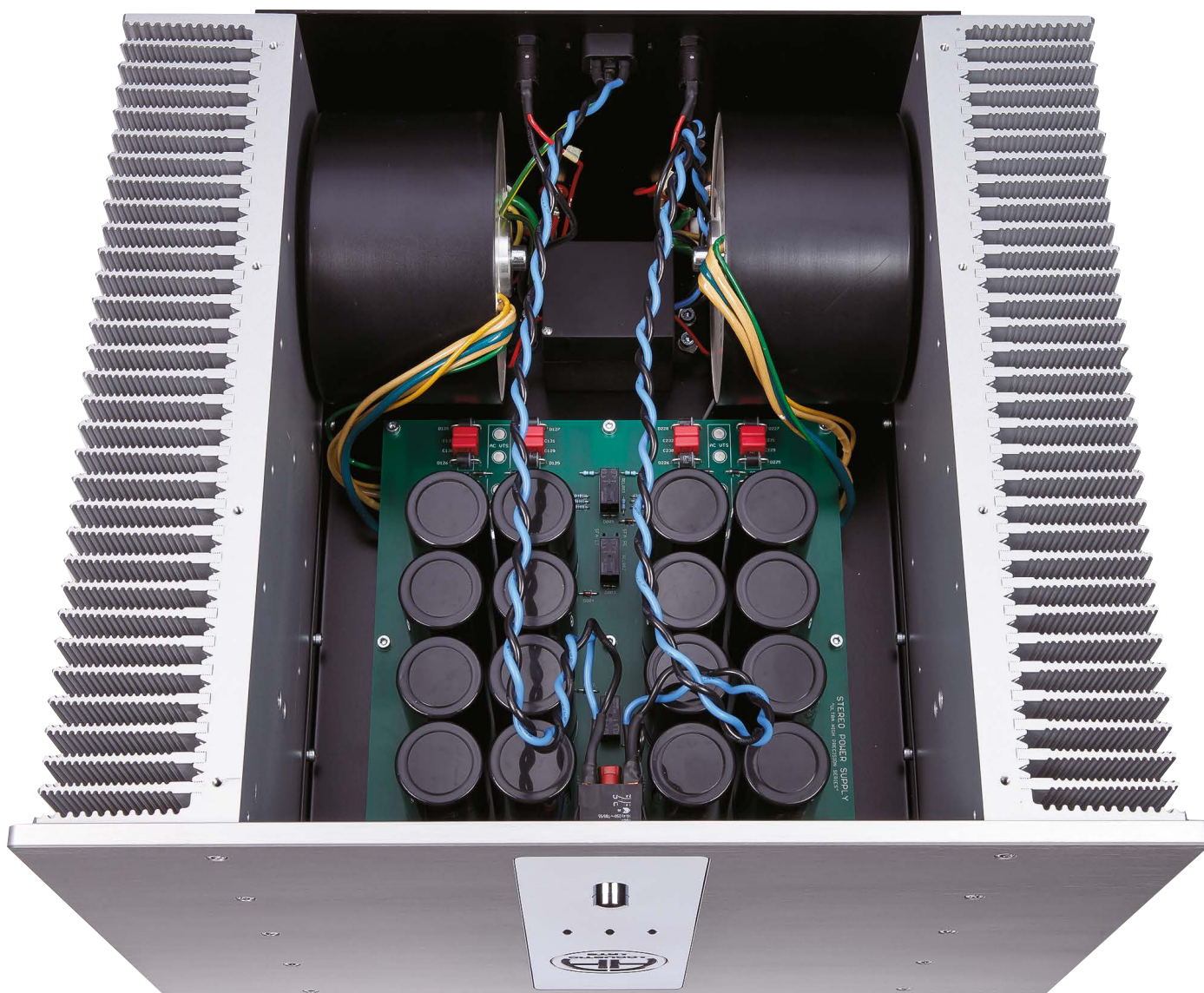
CABLES: In-Akustik 2404 (NF and LS), 2xGoldcable Supercord Vario (power)

replaced – even after all this time, the 55 kg hulk has lost not one iota of its fascination. What could be improved? Well, the manufacturer, a master of understatement, put it this way at the 2016 High End show: "Some small changes here

and there, a few tweaks, a gentle development". We really wanted to know just what that meant, so we ordered up the new AMPII-Mk3 for an exclusive family duel between old and new.

The first observation is that the two power amps look so similar that uninitiated visitors might have thought we had two huge and identical mono amps in the listening room. In fact, you need to look very closely to see that the only difference in the front is that the manufacturer logo is engraved a tad more elaborately in the vertical chrome strip, and in fact both models feature the same thick cover plate with the engraved "AMP II" lettering.

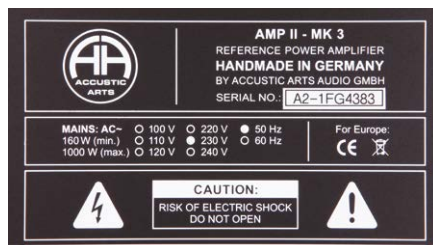
No, if you really want to know which is which you have to check out the rear panel where, next to the type label. There's now a "Mute" switch to deactivate the speaker



outputs – on the Mk2, this function was on the button on the front – as well as the completely new "Damping Control" (see box). Those two are the only tell-tales, however: the inputs – one pair each of RCA phonos and XLRs – and dual twist clamps for the speaker cables remain the same.

One look under the hood of the refreshed "Reference dual-mono power amp" still shows two banks of 12 MOS-FET output devices, delivering stable power of up to about 400W into 4 Ohm – per channel, of course – and the two shielded 1100 Watt transformers and the 160,000 microfarad capacitors of the dual mono concept. However, compared to the

Under the lid you can see the circuitboards updated for the Mk3 version, with revised input, driver, and performance electronics. ▼



▲ The type label on the rear panel lets you tell the generations apart.

Mk2, we immediately notice the different circuit layout and that a few components have also been replaced.

The power supply equalization between the positive and negative connections of the power transistors is to relieve the driver stage a little bit, while the new "capacity multiplier switch" in the power supply is to reduce the interference

component of the pre and driver stage by at least a factor of 50 which is supposed to benefit especially the clean sound of soft passages.

For listening, old and new amps stood next to each other on Acapella's "Fondate Silencio" bases, and adjusting the volume when switching between the two wasn't necessary: the amplification factors for Cinch and XLR operation matched, to one-tenth of a dB.

However, the sound didn't. No need to panic: the AMPII has lost none of its unshakeable sturdiness, but it has gained some charm and grace. The emphatic control and linearity of the Mk2 had never bothered us, but we liked the trace of sweetness and nonchalance the successor brings, for instance to Maria Pihl's "Malvina".



The Mk3 has more color and expression, and thanks to its brighter fundamental range it feels more energetic and even a bit louder. At the same time it shifts the front of the soundstage a step back in orchestral recordings, which makes it more differentiated, while with voices and strings, the new AMPII feels a bit smoother, more sonorous, and charming. If you listen longer and then switch back to the tried and trusted predecessor you notice that, by comparison, it has a slightly harsh sound in the upper mid-range, almost like switching from SACD to the CD layer on a hybrid disc. The Mk2 has no lack of resolution, but the Mk3 simply sounds a tad brighter, more luminous and polished in the upper frequencies.

And now the cherry on top

All this is achieved without recourse to the new model's "Damping Control"

– but in terms of performance, this setting really is the cherry on top. It makes large drums sound more voluminous and realistic, the tonal spectrum more balanced with improved harmonic dynamics, and the whole sound even more unified. Sibilants are integrated more compellingly, and the wings of the music unfold more beautifully. In addition, this damping control positively impacts the timing by reproducing rhythmic subtleties more sensitively, further separating Accustic Arts' new power amp from its comparatively somewhat stiffer predecessor.

OK, the differences are not really big – no Mk2 owner needs to trade in and upgrade – but for connoisseurs they are not trivial. As similar as they are, these two amps display significant differences, and the changes are very much in the Mk3's favour.

Matthias Böde

THE DAMPING FACTOR: BETTER LINEAR THAN HIGH! OR MAYBE NOT?

True hi-fi fans know the importance of the damping factor of and power amplifiers: the higher, the better, as in very rough terms it indicates how well an amplifier will control the speakers to which it's connected.

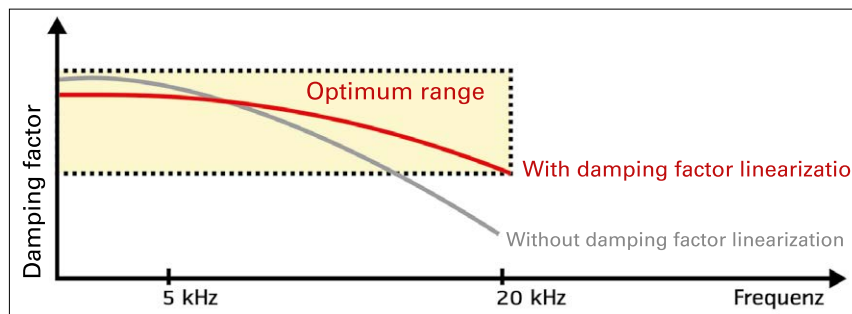
Damping factor depends directly on the internal impedance of the power stage which should be as low as possible, but while the general belief is that an amp with a high damping factor controls the bass range of the connected speakers especially precisely, making the system sound cleaner and crisper, Accustic Arts begs to differ. It agrees that while an amp with very low damping factor can control speakers only inadequately, the sustain behavior of the driver, which is so important to the sound, is more optimal when damping values are not ultimately high.

In addition, the damping factor usually drops off above around 5 kHz due to its physics,

meaning that a somewhat lower total damping value with greater bandwidth, i.e. better linearity over the audible range, is better. The „Damping Control“ in the AMPII-Mk3 is supposed to do just that (see graph).

In fact, our lab showed that activating it cuts the damping factor in half (see measurements) and that there are also differences in sound between the two modes. Interestingly, however, the damping value of the power amp doesn't drop as the frequency increases, as predicted, but remains constant at about „170“: it's certainly not more „linear“ with „Damping Control“, just smaller. But maybe this holds the key to the subtly increased musicality, „feeling“, and agility the damping control achieves.

Does this mean the AMPII-Mk3 just fire-bombed that faction demanding ever-higher damping factors? Could just be...



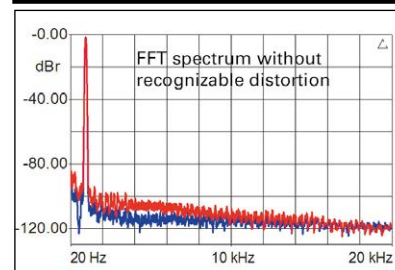
ACCUSTIC ARTS AMPII-MK3



about €11,490
 Dimensions: 47 x 35 x 47 cm (WxHxD)
 Warranty: 2 years
 Contact: Accustic Arts
 Phone: +49 7133/974770
 www.accusticarts.de

With the Mk3 version, Accustic Arts has achieved a successful update of its AMPII power amp. The company has tinkered with the sound and created a practical feature with the new damping control, but what remains the same is the extreme stability.

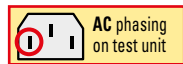
MEASUREMENT RESULTS



LAB MEASUREMENTS

Continuous power at 8 4 Ohm	184 304 Watt
Pulse power at 4 Ohm	387 Watt
Distortion at 50 mW 5 W Pmax -1 dB	0.01 0.002 0.004 %
Intermodulation at 50 mW 5 W Pmax -1 dB 0	.02 0.005 0.004 %
Signal-to-noise ratio at 50 mW 5 Watt	71 91 dB
Channel separation at 10 kHz	82 dB
Damping at 4Ω for 63/1k/14k Hz	166/170/170
DF as above with „Damping Control On“	82/81/76
Upper cutoff frequency (-3 dB, 4 W)	>80 kHz
Load ratings	practice-oriented
Power consumption Off Standby Idle	0 / 0 / 163 Watt

LAB COMMENTS: like its predecessor, the Mk3 AMPII is first class in all values. As a special feature, we studied the damping factors under otherwise constant conditions in the normal range as well as with activated "Damping Control".



EQUIPMENT

Choice of one pair each unbalanced RCA or balanced XLR inputs. Two pairs parallel speaker outputs, muting, damping control, LEDs for the each channel's protection circuitry

STEREO - TEST

SOUND QUALITY 100%

PRICE/PERFORMANCE

★★★★☆

EXCELLENT

MUSICAL FIDELITY

NU-VISTA CD PLAYER



State of the art design for reference level reproduction

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

Experience it for yourself at your local Musical Fidelity dealer.



FLOORSTANDING SPEAKER REVIEW AVANTGARDE ACOUSTIC UNO XD

POWER & ELEGANCE

The top-end manufacturer Avantgarde Acoustic, under Holger Fromme, has completely reworked its Uno XD horn loudspeaker, leaving no stone unturned. But first things first ...

Avantgarde Acoustic is completely dedicated to horn technology: thanks to in-house research and the resulting insights, its designs deliver top quality without losing the most important virtue associated with horns: sound pressure! As Professor Anselm Görtz of the University Aachen confirmed not so long ago a number of measurements, with the same incoming power a horn produces 20 % more sound pressure than a dynamic speaker. By inverse reasoning, at the same volume horns deliver less distortion.

KEYWORD
Sound pressure:
 Sound pressure is the volume in decibel. STEREO measures this at 1 Watt and 1m distance.

Based on this knowledge, a completely new chassis was developed for the new Uno XD, the housing redesigned, and the “XD Processing” technology for bass adjustment (to suit the room) added to the partially active concept of the previous Uno series. The speaker is available in black or white and the horns in ten RAL colors. Other colors, color combinations, and real wood veneer are possible

upon request, and the many small details of this design reflect the philosophy of a company which boss Holger Fromme has developed meticulously and sensitively into a brand of world renown over a number of years.

Customer service specialist Armin Krauss dropped off the Uno XD personally in order to set it up in our listening room and, despite being a hefty 80 kg each, the speakers were installed quickly, looking like fascinating sculptures. Krauss put in his sound test CD and performed a few set-up adjustments directly on the back of the speakers, where three logically connected operating elements provide a number of possibilities to roughly adjust the bass range for the respective space.

The Avantgarde software makes this even more comfortable: with it installed on a computer, these adjustments can be made from the listening position or, as an optional service, customers can also submit their room dimensions and furniture

on a provided PDF or even have a trained Avantgarde dealer measure the room for them. From this information, the adjustment parameters for the bass module are calculated and loaded onto the speakers.

You should take your time with the setup, as the Uno XD needs to be positioned carefully. We pointed the speakers directly to the listener in the classic stereo triangle, so that the inner surfaces were just still visible, but noticed that even small differences in the orientation had clearly perceptible effects on the sound. The manual provides help in this process, explaining installation and setup to the owner in great detail, while extensive accessories are included, like the shims for the spikes in order to simplify the positioning – something far from standard with other brands, but indicative of the user-friendliness of the Avantgarde.

After the completed set-up, we measured the room. Using a microphone recorder, Krauss recorded different 20 Hz to 20 kHz test sweeps from various listening positions in a semicircular radius



▲ As the price suggests, an Avantgarde is made by hand in the manufacturing plant in the Odenwald.



▲ "Handcrafted in Germany" is not just a phrase; it is an ideology which anyone can confirm by visiting the factory.

of about 2 m around the ideal listening position, allowing him to detect problematic modes in this area to consider for correction. The goal of all this effort is a homogeneous sound over the entire frequency range.

Software solves space problems

A few days after the set-up we received the correction files and installed them on the speakers, and though our listening room has very well-optimized acoustics and can't be compared with a normal living room, the measurements still uncovered a few foibles. After the correction, the bass integrated clearly better with the rest of the music, although depending on artist and genre the difference was more or less striking, ranging from "a little" to "dramatic".

Overall, however, there were improvements in the focus and solidity of instruments and voices, and the sound was clearly more open and "together" than before the bass range had been calibrated. Initially, the intense bass frequencies had felt a bit syrupy and spongy in the lowest registers, but this effect was completely eliminated after the correction, the adjustment filtering out sound problems in the room and being not only well done but also easy to use.

Direct switching back and forth between the preset settings during music playback lets you directly compare the original with the corrected sound and, if you like, you can play with the equalizer without risk, save further presets, and check them against each other in a direct listening test.

The speaker's Class D power amp feeds



▲ The passive horn system is connected with the giant active subwoofer via a cable bridge.

THE MOBILE CONCERT HALL

Research has shown that for many people the car is the only place in which they can be by themselves and can do things like listening to music they like and at a volume that perhaps is not possible at home. High earners especially make intensive use of their time in the car. Drivers of a Porsche Cayenne or Panamera, or of a Mercedes E- or S-class have the option of a special hi-fi system adapted to their vehicle.

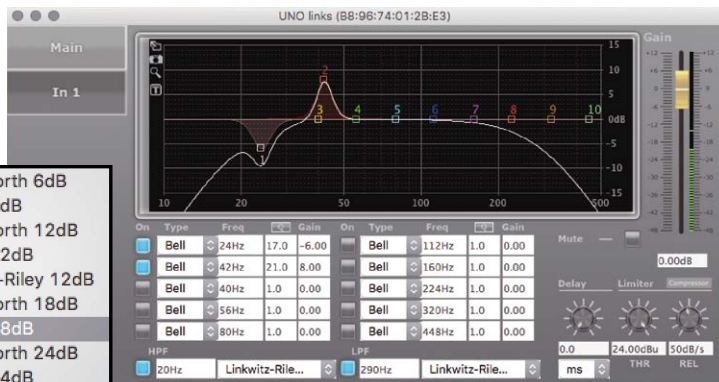
Having gained some experience with the Bugatti Veyron, Dieter Burmester (middle) competed for a tender by Porsche – and won the contract. Matthias Renz, Head of Audio-Acoustics at the sports car manufacturer from Zuffenhausen, remembers with delight the development phase which, again, was inspired by Burmester's per-

sonal commitment. When he recounted a story about his "Reference" system he also told us that he "was really keen on music and any challenge associated with it". Well – here it was. In mid-2010, we tested the Burmester system in the new Porsche Cayenne. No less than 16 loudspeakers are fitted inside the cabin (above); an extensively adjustable controller that controls the 16-channel power amplifier (left) and the 300-watt active subwoofer beneath the trunk ensures excellent sound on all seats and a surprising spatiality for the driver. Just like Burmester's domestic sound equipment, his high-end car audio system follows audiophile principles – even in extreme situations. You can hear it: like the others, this audio system was built with passion.



◀ Armin Krauss of Avantgarde Acoustic calibrating our Uno XD test speakers

- Butterworth 6dB
- Bessel 6dB
- Butterworth 12dB
- Bessel 12dB
- Linkwitz-Riley 12dB
- Butterworth 18dB
- Bessel 18dB
- Butterworth 24dB
- Bessel 24dB
- ✓ Linkwitz-Riley 24dB



▲ Only two of the ten freely programmable EQ bands were needed to correct the bass for our listening room. The pull-down shows the high- and low-pass filters available.

two 25 cm bass drivers with a maximum of 500 Watts each: many may consider this overkill but depending on EQ adjustment, this power may become necessary in a room with more damping in order to keep up with the fast horns. The woofer achieves tremendous stroke length, and can produce even the lowest frequencies, down to around 20 Hz cleanly and tightly.

The main musical range of 300-3000 Hz is transmitted by the injection-molded ABS mid-range horn, whose shape is calculated and manufactured with extreme mathematical precision to ensure a homogenous sound. It's energized by a 13cm "soft mesh membrane" driver with a high-impedance "Omega" motor, fed without any crossover components in the signal path. The minimal gaps of the mesh forming the driver diaphragm are sprayed with a permanently elastic material to create its surface, and the effort pays off: the driver works with the horn attachment as a homogeneous unit. Meanwhile the treble horn is driven by a 2.5 cm compression chamber driver, which kicks in at 3kHz and goes up into the

highest frequencies, with a slight decrease towards the high end, which fits very well tonally.

Patented switch technology

In order for the small high-tech tweeter to be able to reach its full potential, the team thought of a great trick, since patented: feeding a DC current to the inside winding of a specially constructed capacitor is supposed to prevent the dielectric memory effect, which up to now we had only heard in the context of batteries. However, Avantgarde considers dielectric memory to also have effects in terms of sound, so uses a "capacitor polarization circuit", consisting of a capacitor with several pole plates and a diode network to increase the voltage of the musical signal, which it says reduces distortion significantly and uncovers the finest detail in high-frequency signals.

In order to prevent negative effects on the music signal, a high-impedance transmitter couples the diodes to the music signal, and this also has a pleasant side-effect: due to its ability in processing high voltages, the diode chain prevents overloads of the capacitor and thus also effectively protects the tweeter.

The transition from bass to midrange is also perfect to the extent we could measure it. The power amps are fed via the DSP module with the prescribed volume of the horns so that the bass unit can keep up in terms of control and speed, but the drivers are of course not everything: the interplay with the other components of the chain is also important.

Let's look at our sound test, in which we played around with the speakers' operation with various amplifier designs. As a tube amp we used the solid 300B SE Triode by Silbatone Acoustic, with just 9W output power per channel, wondering whether this gentle could drive the great horn. The answer was "Oh yes! And how!" With its high efficiency of more than 105 dB, the Uno XD set to "10 o'clock" plays with such a full bass and fine sound that we listened to a large spectrum of music with enjoyment.

The potent active module of the speaker



▲ The proprietary design, mid-range driver M1 Omega with the elaborate soft mesh diaphragm



▲ The powerful SUB225-XD chassis with ferrite magnet and full 16 mm hub

supported the modestly-powered tube amp with sufficient pressure for the bass, and at the same time the Uno XD conveyed the melodiousness of the 300B triode via the midrange and tweeter horns – a dream for every tube fan.

To deliver transistor power we used the new T+A PA 1000 E, (for the test see page 80), and with this the Avantgarde also played flawlessly, presented the music with passion – pure and pristine. It remains a matter of taste which amp you prefer; however, the speaker makes these fine tonal differences clearly audible, and delivers musical power and subtlety with all the amps we tested. The bottom line is that it's astonishing such



▲ Uno, Duo, and Trio are just three of the many sound sculptures in the showroom of Avantgarde Acoustic.

different amp designs can play so well with the same speaker.

Music at its best

During the extensive listening sessions we played all kinds of recordings, artists, and genres: the Uno XD presented the drum work of the sensational Jack DeJohnette on the simply marvelous ECM Album “In Movement” in credible size and power, the gentle shimmering of the cymbals sounding solid and three-dimensional. The clearly contoured saxophone of Ravi Coltrane and the bone-dry bass of Matthew Garrison made us want to get up and approach the musicians, their positions seeming so precisely fixed. More “live” is hard to imagine.

Arvo Pärt’s “Musica Selecta”, a retrospect of the Estonian composer edited by the producer Manfred Eicher, gave us shivers down our spine: we felt transported into the vaults of the Niguliste Church in Tallinn, in particular when the music rests briefly and you can hear the silence of the dome, the unmistakable characteristic sound of cathedrals in which the endlessly large resonance of the smallest sounds creates a breathtaking spatial experience. Then out of nowhere, the full power and majesty of

the entire choir explodes into this space, in a meeting of fantastic recording and superb speaker.

After this, the Lounge Lizzards – the remarkable New York band around John Lurie – gave us a few relaxed moments with their “Tarrantella” piece, which was reminiscent of circus music. The full splendor of the entire soundstage presented itself in a great atmosphere, the multitude of wind instruments, supported by tilted guitar sounds, keyboards, and percussion once again contoured clearly to create a musical experience in their interaction which magically made the band appear in the sound booth. The use of voices transported one of our colleagues back to a concert he had attended years ago.

Even large classical orchestras were reproduced realistically, Shostakovich’s Symphony No. 15 performed by the Duisburg Philharmonic under Jonathan Darlington creating an incredibly wide and deep presentation. The gentle bell sounds from the depths of the room were precisely positioned, as with all other instruments or groups, without running the risk of losing their cohesion. The orchestra appeared as a closed unit, strong dynamics mastered smoothly and seamlessly.

Whether classical music with large orchestras, tender overtones of acoustic guitars, the rush of cymbals, harsh hardcore punk, or even a swingy jazz trio in a small club – these horns reproduced every instrument and every type of music in a real and plausible manner.

Thanks to the room-specific speaker adjustment the Uno XD delivers addictive music reproduction at the highest level, so buyers should definitely use the calibration services of an Avantgarde dealer to achieve the optimum sound, while the partially active design allows you to run it in your existing set-up, keeping your favorite amp and enjoying its benefits completely.

The only thing you are missing now, dear reader, is one thing: your own impression, which is all that matters. We recommend making an appointment at your nearest Avantgarde dealer, bringing along some music you already know well, and hearing what the Uno XD can unlock. The sound experience might result in some very emotional decisions.

Volker Pigors



▲ Holger Fromme guided the company on its way to a global brand with a number of international awards – here the EISA Award for the Zero1.

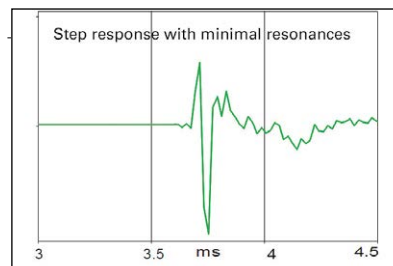
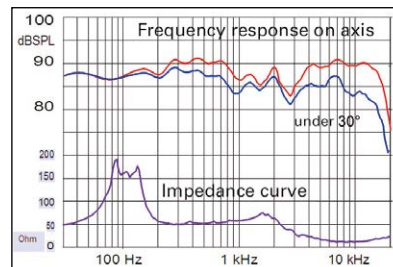
AVANTGARDE ACOUSTIC UNO XD

Pair for ca. € 21,900
 Dimensions: 50 x 138 x 59 cm (W x H x D)
 Warranty: Electronics: 2 years, Driver: 5 years, Material horns: 10 years
 Contact: Avantgarde Acoustic
 Phone: +49 6254/306100
 www.avantgarde-acoustic.de



The calibration and tonal adjustment of the active bass module to the faster horns was executed flawlessly. The speaker is tonally homogeneous and balanced. Pesky room modes are simply eliminated, in particular after equalizer correction.

MEASUREMENT RESULTS



Measurements Nominal impedance	16 W
minimum Impedance	16 W at 8000 Hz
maximum Impedance	180 W at 90 Hz
Nominal sound pressure (2.83 V/1m)	105.5 dB SPL
Power for 94 dB (1m)	0.0W/5 W
Lower cutoff frequency (-3 dB)	27 Hertz
Distortion at 63 / 3k / 10k Hz	0.2 0.1 0.2 %

LAB COMMENTS

Very linear frequency response which decreases slightly in the upper range. The smooth transition from active bass to mid-range is plausible. High efficiency of 105.5 dB and precise step response with very low-ranging lower cutoff frequency.

STEREO - TEST

SOUND QUALITY 97%
PRICE/PERFORMANCE
 ★★★★★
EXCELLENT

AVID

THE WHOLE STORY



TURNTABLES PHONOSTAGES - AMPLIFIERS - LOUDSPEAKERS - SUPPORTS - CABLES

AVIDHIFI.COM



THE KID'S GOT TALENT

Auralic discovered a seductive HiFi recipe with the brilliant Aries Mini, and now its winning ingredients satisfy real sound aficionados as part of the new „Altair“

One thing of which you cannot accuse the gentlemen at Auralic is a lack of innovation and creativity. The company's very first product proved its developers had been observing and considering the market: since we are currently being swamped by a veritable flood of D/A converters, the "Aries" was designed as a streaming bridge, a pure network player without its own DAC whose sound can be adopted to the specific taste by the choice of a suitable converter. Just about a year later the "Aries Mini" followed (see figure next two-page spread) as a compact network player – this time with its own D/A converter – which can be expended into a full-fledged music server with minimal tinkering. Since the small box costs barely € 500 it hit like the proverbial bomb, leaving the Auralic designers so surprised by their success that they immediately started process which usually works in the other direction: instead of migrating the technology of a flagship product down to cheaper products, the reverse took place. The Aries Mini has become the basis of the company's high-end streamer/server/DAC mix.

HiFi control center

The result is the Altair: although still a very compact device, at "midi" width, it

transfers the basic recipe of the Mini to the upper middle class. For a beginner in digital music playback, its spectrum of functions may appear difficult to master, but put it this way: buy the Altair and you need no more than a power amp and speakers to create a complete system.

The robust and outstanding workmanship of the metal box houses a superb D/A converter whose ESS chip processes signals up to 384 kHz/32bit and DSD up to 11.2MHz (DSD 256). In order to prevent jitter and rounding errors, the DAC has two independent clock generators – one each for 44.1 kHz and its multiples and variations on 48 kHz and multiples – and the four digital inputs include a USB port for computers.

If you have ever wondered why current D/A converters require 32-bit signal processing – after all, there are no sound formats in this resolution – we can now show you an application: the Altair has a digital volume control, which qualifies it as a full-fledged preamp. Its internal 32 bits (which allow for more than four

billion volume levels) make its amplitude resolution so fine that any analog potentiometer looks vague by comparison, and even when listening at extremely low volumes there's no noticeable loss of resolution. The volume control doesn't have a bypass, but not to worry: if you want to operate the Altair in line mode simply set the volume to 100 %. Since volume adjustment is a mathematical operation, the audio signals are no longer touched with the control set to maximum, and effectively the volume regulator no longer interferes with the signal path.

The second main feature of the device is the network-ready media player. Auralic acquires music files via LAN or WLAN from every hard drive on the home network. It doesn't use the DLNA or UPnP protocol, so it doesn't find data stores automatically: as is the case with, for example, Sonos products or Elac's "Discovery", you have to "point it at" the network music location as part of the set-up process, by entering a network address. This may represent a bit of a hurdle for



▲ A wealth of connection in limited space: the Altair can feed external USB converters with an untreated datastream via the DAC connection in the middle.

beginners since it is not exactly easy to enter file paths via iPad or Android tablet – not to mention to even find the IP address of an NAS or network hard drive in the first place – so some may require some assistance from a net-savvy friend or the supplying dealer.

Once this hurdle is out of the way, however, the proprietary indexing and administration of the music library only has advantages: the Altair searches through all found media indexes and passes their content tables directly to company's excellently designed, free remote app. This trick makes it a lot faster to get

a feel for the operation since the app never has to check on the network whether the stated drive even exists. As you can see on the screen capture below, the remote control is designed well and offers library and playback views as well as a colorful cover tile view, which invites you to discover your own music collection again. One point of criticism is that our test sample became confused with playlists containing more than 1000 titles – so you should hold yourself back a bit! – but apart from that, our only observation is that the enlarged cover view could use higher resolution.

KEYWORD

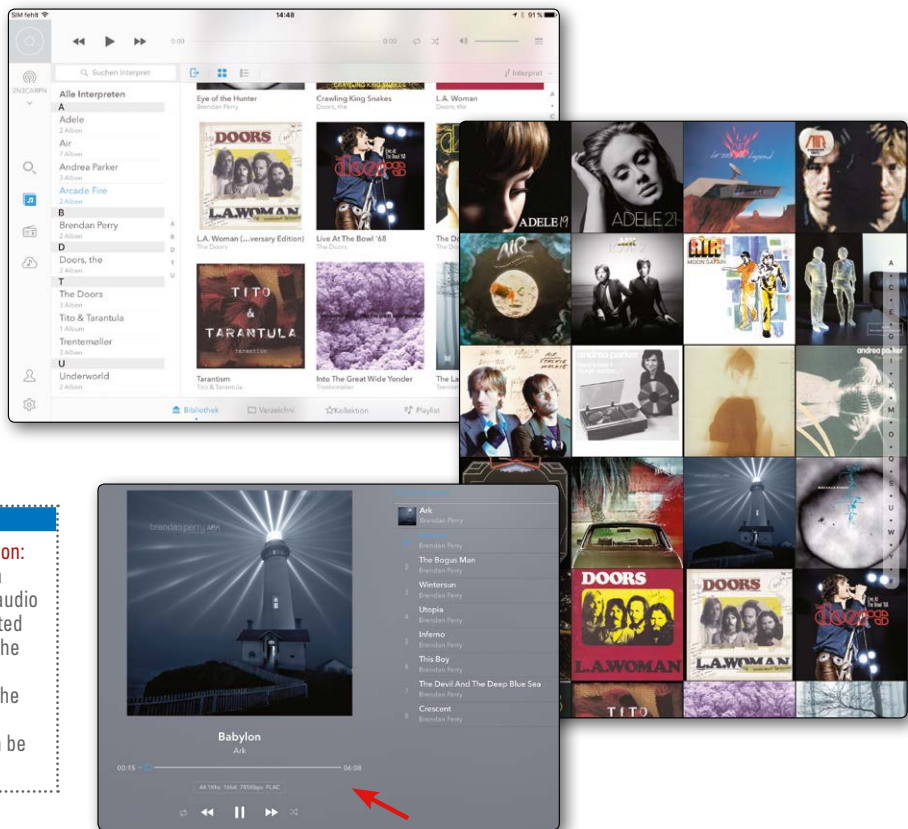
Amplitude resolution: The amplitude of a digitally sampled audio signal is represented via the bit value. The more bits a digital audio signal has, the more faithful the original signal can be reproduced.

as well as a colorful cover tile view, which invites you to discover your own music collection again. One point of criticism is that our test sample became confused with playlists containing more than 1000 titles – so you should hold yourself back a bit! – but apart from that, our only observation is that the enlarged cover view could use higher resolution.

In terms of formats, the media player reads everything! Since it is built on a full-fledged Cortex-A9 computer, the Altair is also capable of accessing the network streaming services of Tidal and Qobuz, and as well supported audio files from the network can also play from USB hard drives, which can be plugged into the back. That offers a tidy alternative for all those who don't want to deal with IPs and networks.

However, it can become even more elegant since the streamer has also inherited the upgradability of the Mini: you can get your dealer to expand the Altair with the internal mounting of a 2.5" storage drive (SSD or HDD) of any capacity using optional cables. As soon as the streamer has been set into the "Internal Storage" mode in the setup, it will appear as a mass storage network drive to other computers on the network, making it easy to copy over files from any computer.

Another feature carried over from the Aries and Aries Mini into the architecture of the Altair is digital signal output via



▲ Here you can see three of the many facets of Auralic's remote app. In addition to the excellent design, which may require some study, we especially like that the playback screen displays the sound format in clear text (arrow).

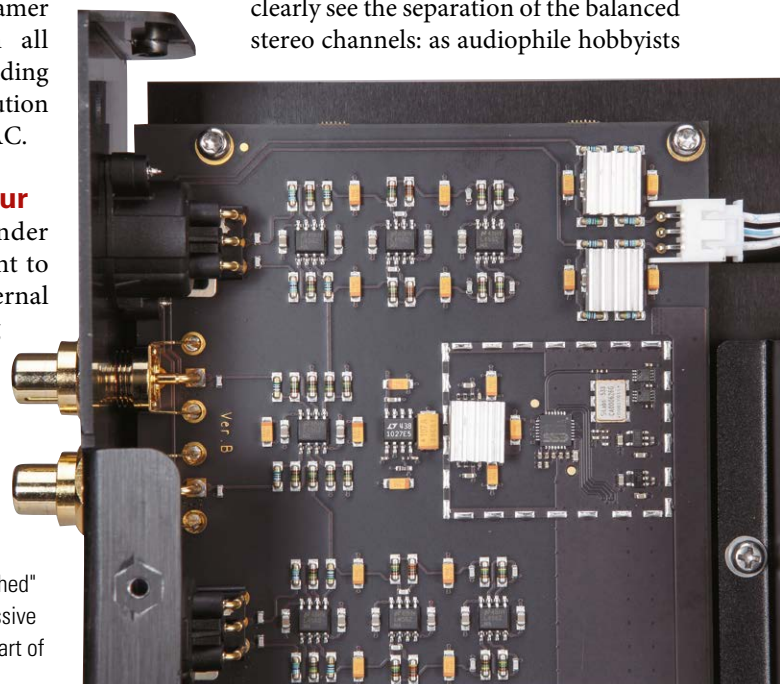
USB: the internal D/A converter (including all downstream analog output stages) is disabled, and all signals flow through an USB output to the converter of your choice. Compared to optical and coaxial connection, this has the benefit that the streamer can pass through all sound formats including DSD in native resolution to the connected DAC.

Filter connoisseur

However, we wonder why you would want to circumvent the internal DAC and analog

The Altair has an unusually cleanly designed analog section. The ESS converter lies in the "hashed" frame. The two silver passive heat sinks top right are part of the headphone amp. ▲

output stages of the Altair, as they're among the cleanest and most impressive we have come across in this price and model class. The illustration on the top of this page shows you the complete converter and output section, where you can clearly see the separation of the balanced stereo channels: as audiophile hobbyists





▲ From the Mini to the max: The clever € 500 streamer Aries Mini served as blueprint for Auralic's development of the versatile multitasking Altair.

AAC and MP3 files from digital artifacts. You can also use the 'dynamic' filter to pep up the usually somewhat stolid reproduction of Tidal or Qobuz streams – sound fetishists will have fun playing with this selection of effective filters.

will know, such a reduced signal path with few high-quality components is definitely good for the sound. Analogue output is available on robust gold-plated balanced XLRs and conventional RCA sockets, as well as via the headphone output on the front, which has its own amplifier path and sounded impressively open and dynamic on our test headphones (Sennheiser HD 800 and Audioquest Nighthawk).

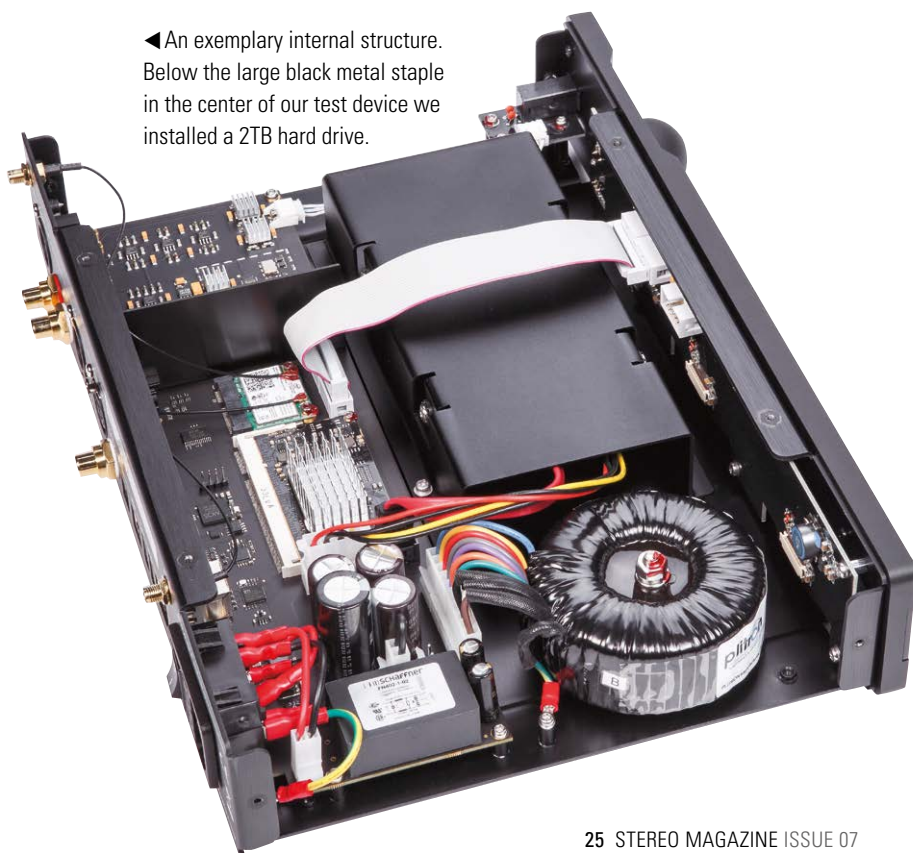
In addition to the superb analog signal processing, however, there are also four switchable digital filters, which can be used to tailor the sound. They can also be switched using the remote app and are labeled clearly with terms such as "precise", "soft", "dynamic", and "balance", and do exactly as they promise with remarkable efficiency: we liked the 'precise' filter best for its musicality, while the clearly gentler 'soft' filter defused harsh and biting pop and rock productions and also audibly freed highly compressed

Overall, whether connected to our Exposure 3010 power amp or ADAM's Compact Mk 3 active speakers, the Altair sounded outstandingly resolved and spacious, able to project stages and concert halls into the room in a lifelike manner. The sound is really sophisticated, open, and balanced, its brilliance and clarity in the upper ranges providing a good contrast to the color and presence of the midband.

It separates voices and solo instruments very finely and delivers even the smallest nuances of the music, and thus will satisfy connoisseurs as well as more analytical listeners who like to penetrate through the music and experience every detail. Combined with the right power amp or a good active speaker, Auralic's latest success is a real seducer, with many talents.

Carsten Barnbeck

◀ An exemplary internal structure. Below the large black metal staple in the center of our test device we installed a 2TB hard drive.

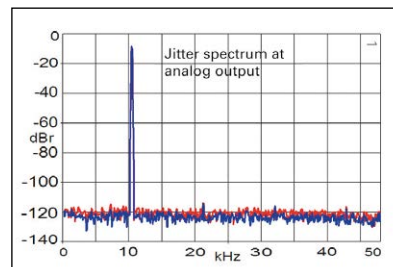


AURALIC ALTAIR

Price: ca € 2000
 Warranty: 2 years
 Dimensions: 33 x 7 x 30 cm (WxHxD)
 Contact: Audionext
 Phone: +49 201/5073950
 www.audionext.de

Conclusion: Auralic created a great mixture of streamer and DAC with the Altair. The server option is still unique.

LAB MEASUREMENTS



Signal-to-noise ratio digital null	116 dB
Quantization signal-to-noise ratio 16 bits 24 bits	97 114 dB
Distortion -60 dBFS -9 dBFS	0.3 0.001 %
Converter linearity up to -90 dB	<0.1 dB
Output impedance Cinch/XLR	50 8 Ohm
Output voltage Cinch XLR	2.2 4.5 V
Timing error volume control up to -60 dB	0.01 dB
Power consumption Standby Idle	- 9 Watts

LAB COMMENTS: Did we mention that the analog part of the Altair has a great construction? Our measurements agree – only the lack of a real standby bothers us a little.



FEATURES

Functions: network player, high bit rate D/A converter, Tidal and Qobuz integrated, Bluetooth and Airplay, digital volume control, headphone amp, 4 digital filters selectable
 Connections: Inputs: S/PDIF coax. and optical, AES/EBU, USB for PC and USB for data storage; Outputs: XLR, RCA, USB to run external DACs
 Sound formats: PCM up to 32 Bit/384 kHz and DXD, DSD up to 11.2 MHz
 Included: remote control, power cord, manual, free remote app
 Rating

STEREO-TEST

SOUND QUALITY DAC **86%**
 SOUND QUALITY STREAMER **83%**

PRICE/PERFORMANCE

★★★★★
OUTSTANDING

THORENS®

SWITZERLAND



www.thorens.com

T+A integrates a retro look

T+A is expanding its HV line with the PA 3100 HV integrated amplifier. It's based on the PA 3000 HV, but obviously new for this model is the pair of VU meters, which display the output power in Watts at 4 Ohm. However, the company has also reworked the preamp section, and there's also a new concept for power supply which makes it possible to connect the PS 3000 HV external power supply, increasing the stability and performance: in this configuration the PA 3100 HV's internal power supply is dedicated to the pre-amp, while the external PS 3000 HV covers the power amps. T+A specifies the output power at 300 Watts per channel at 8 Ohms and 500 Watts at 4 Ohms, and the PA 3100 HV is available in silver or titanium for € 15,900.

<http://ta-hifi.de/index.php?id=2&L=1>

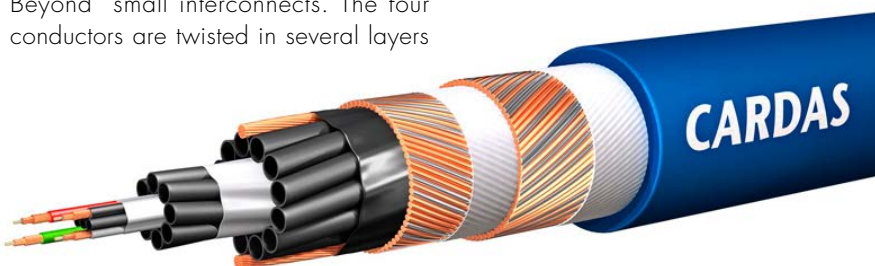


Air-filled insulation

Air is an ideal insulator, but in order to space the individual conductors in a cable you still need some sort of solid matter – which is what Cardas uses air-filled PTFE tubes as spacers in its new „Clear Beyond“ small interconnects. The four conductors are twisted in several layers

around their own Kevlar core, while two additional ground cables run in their own insulation layers, and are used as ground wire in XLR configuration. Two further layers of insulation complete the construction, and a 1 m pair costs € 4500.

www.cardas.com/cables.php



B&W: The P7 goes wireless

Having offered its P5 headphone in a Bluetooth version, Bowers & Wilkins has now extended the technology its P7. The „P7 wireless“ uses the aptX codec and is equipped with a lithium-ion said to last up to 17 hours, and can also be run via the included cable. Other features extend to an aluminum frame, and memory foam ear cushions covered in sheepskin leather. For portable use, the P7 can be folded and stored in the included bag. The P7 costs € 400, and the company has adjusted the prices of its other headphones models downward: the cable-connected P7 now only costs € 350, the P5 € 250, the P5 wireless € 300, and the C5 € 150. The P3 is now available in a revised version as the „P3 Series 2“ (€150), with a refined design and drivers. The P3 weighs no more than 130 g and has leather-covered ear cushions, and comes complete with a second cable with integrated remote control for iOS portables.

www.bowers-wilkins.com/



ELAC amp with room calibration



ELAC's new Element EA101EQ G integrated amplifier is surprisingly compact and affordable for what it offers: in addition to two pairs of line inputs, it also has a high-resolution DAC with both S/PDIF inputs and a USB connection for a PC, and a Bluetooth receiver with aptX-decoder. There's also an integrated digital signal processor which can be run via an app and which automatically determines the optimal

crossover frequency and phase relationship between main speakers and sub-woofer for 2.1 systems, and can also calibrate for your room's acoustics, using microphone of the device running the app. ELAC specifies an output power of 2x80 Watts at 4 Ohm, a maximum resolution of 24/192 for all digital inputs – and at a price of € 700.

<http://elac.com/>



**SAMSUNG ACQUIRES
HARMAN**



Until recently, the Harman Group was one of the industry giants which went shopping and took over smaller manufacturers by the handful, like AKG, Studer, or Becker Autoradio, but now it's Harman's turn to be consumed by an even bigger fish: Samsung. The Korean company seems especially interested in the automotive branch of Harman, seeing great potential for growth in networked cars: it's an area in which Harman is one of the market leaders in this field, with around about 65% of its sales coming from car products. However, Samsung also wants to develop the HiFi and professional audio brands, and is planning on keeping all employees, the management team, factories, and branches, apparently operating its new acquisition as an independent subsidiary. The Harman shareholders and antitrust authorities still need to sign off on the transaction, which will cost Samsung US \$8bn and is expected to be completed in mid-2017.

Technics unlimited

Technics initially celebrated the new edition of its legendary SL-1200 record player, which was built from 1972 to 2010, with a luxury edition of the direct drive player limited to 1200 units. However, worldwide demand saw the limited edition sell out so quickly that Technics decided to give the standard SL-1200G version the same features as the limited model, and to roll back most of the originally planned technical changes to

the SL-1200GAE. So the SL-1200G now also has a magnesium arm and damping feet made from a silicon rubber blend, and lacks only the „limited edition“ label with its serial number. Due to the great demand, there's a typical waiting time of up to 2 months between order and delivery, and the SL-1200G, which is mainly made in Japan, costs € 3500.

www.technics.com

**AVM Ovation
All-in-One**

Based in Baden-Württemberg, AVM is expanding its top line „Ovation“ series with an all-in-one component. The CS 8.2 (about € 10,000) contains a CD player, a network player with TIDAL access, a tube pre-amp, and a 2x 500 W power amp. You can see the tubes glow through the glass on the top of the massive aluminum lid. The CS 8.2 is available in silver or black, with a chrome front available for a surcharge.

www.avm-audio.com



NAD modernizes its classics

NAD's „Classic Line“ is entering a new age, the Canadian manufacturer adding digital inputs, Bluetooth, streaming, switching power supplies, and Class-D power amps. Three new integrated amps have been announced: the C 338 (2x50 W, € 700), C 368 (2x80 W, € 1000), and C 388 (2x150 W, € 1750). All three are equipped with phono input, optical and coaxial S/PDIF inputs, and a bi-directional Bluetooth module (with aptX) which can both receive music from smartphones and send it to Bluetooth headphones. In addition, the slimline C 388 works as a UPNP network player with integrated WLAN, able to play music via a home network, access internet radio and Spotify, and make Google Cast connections. It can be controlled from a smartphone via a control app. The two larger models don't have networking integrated, but can be upgraded to the „BluOS“ multi-room streaming system with an optional MDC module. To complement the new integrated amps, NAD is also launching the C 568 CD player, the successor to the C 565BEE, complete with a classic toroidal transformer in its power supply and Wolfson D/A converter.

<http://nadelectronics.com/home>



KEF teams up with Porsche Design

Elegant design meets HiFi experience: KEF and Porsche Design have got together to develop three products for mobile music enjoyment: the €380 „Gravity One“ Bluetooth speaker with UniQ driver; the €420 „Space One“ around-the-ear headphones with active noise cancelation and memory foam ear-cushions; and the €250 splash-proof „Motion One“ Bluetooth in-ear 'phones. All three products have aluminum housings, and the manufacturers promise 10 hours playing time from the integrated batteries of the speakers and in-ear headphones, which can also be connected via cable and integrate phone functionality. All three products are available now in Porsche Design stores, KEF stores, HiFi dealers, and online.

<http://kef.com>



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Made in Norway

Naim reinvents „Uniti“

In 2009 Naim introduced its first „Uniti“, a streamer with an integrated CD player and amplifier, and since then the range has have received numerous additional features, such as multi-room playback and access to Spotify Connect and Tidal. Now, Naim has redeveloped Uniti’s technology from the ground up and equipped it with a completely new streaming platform. Other features include Google Cast for audio, AirPlay, Bluetooth with aptX HD, and „Over-the-Air“ updates. Three new all-in-one models will be launched: the Uniti Atom (€ 2200), Uniti

Star (€ 4000), and Uniti Nova (€ 5000). They all have analog inputs, a USB-A port for external hard drives, WLAN-ac, and a digitally controlled analog volume control. The Uniti Star even comes with a CD drive including ripping function to connected USB drives, while the two more expensive models also have a DAB/FM tuner. The



fourth new item is the Uniti Core (€ 2350): a music server with CD drive, rip function, and hard drive insert. It can manage up to 100,000 titles and provide 12 streams with a resolution of up to 32 Bit/384 kHz on the network. Thanks to the S/PDIF output, the Core can also be used as player.

www.naimaudio.com



The new Wilson: Yvette

Wilson Audio is bringing out a new „contemporary“ speaker, the Yvette. The three-way design has the typical Wilson shape with the angled and pushed-back sound baffles of the mid-range and tweeter, which is supposed to prevent the resulting sound being smeared over time, but just important to the developers was an extremely low-resonance housing material. For this purpose they developed their own composite materials, mysteriously called „material X“ and „material S“. A 25 cm woofer is responsible for the bass, an 18 cm driver for the mid-range, and a 2.5cm silk-dome tweeter covers the treble. Wilson specifies the nominal impedance as 4 Ohm, the height as 104 cm, the weight as 80 kg – and the price as roughly € 30,000.

www.wilsonaudio.com

Linn Klimax DS reworked

Linn has offered its top network player Klimax DS for almost 10 years, and over that time it has seen numerous improvements via various software and hardware upgrades. Now Linn has developed a completely new DAC architecture named „Katalyst“: this shields the reference voltage against interference and keeps it extremely stable, with individually tailored power supplies for each signal process – even for the master clock. The analog output stage has also been completely redesigned. The new Klimax DS is available now in black or silver for € 18,870, with the DSM version – with numerous inputs and volume controls – at € 22,490. Current owners can upgrade their DS to the new version for € 4590, while for the DSM the upgrade costs € 5000. In Austria prices are slightly higher.

www.linn.co.uk/klimax-ds



New tubes from BTB

BTB Elektronik has three new tube line-ups in its range: S4A (Selected for Audio), S4GB (Selected for Guitar and Bases), and the RSD (which used to be called the quick response tube [Röhren Schnell Dienst]). Most RSD tubes are NOS/Vintage versions, and the S4A models are measured three times and selected and matched at BTB. Find current prices and other information at

www.btb-elektronik.de

DS MASTER 1



WE WILL CREATE THE FUTURE
OF ANALOG MUSIC



DS Audio

MORE THAN NOT A NEW COAT OF PAINT!

Less is more is the motto of the current flagship Naim integrated amplifier, the Supernait 2 (tested here with the CDX 2 CD player). Its predecessor had a built-in D/A converter, but that's now gone: the new kid on the block enters the market equipped only with the promise of the best sound for the money.



The previous Naim Supernait a "two-row deal", with two lines of buttons on front plate to keep things organized considering the many analog and digital input options. By comparison, its successor is quite modest, with features dropped including those separate record and listen selectors, and the entire digital-to-analog converter selection. That's a gutsy step for the company which was founded in 1973 by racecar driver and music enthusiast, the late Julian Vereker: after all, the previous price of € 3800 recently increased to € 4500. Yet still the Supernait is considered a bargain? Let's see about that.

Thoroughly remodeled

We were interested in the measures Naim have used to raise the bar in terms of sound, as the original Supernait was no sluggard in this respect, and from the outside not much appears to have changed: other than the missing buttons,

Even higher-quality components, a higher-tier transformer, and an optimized circuit layout inside the Supernait 2. ▼

the only noticeable thing is the 6.3 mm headphone socket in place of the 3.5mm output on the old. However, more than the socket has changed on the headphone front: inside there's a dedicated, Class A amp to drive connected 'phones, offering much enhanced compatibility with demanding designs.

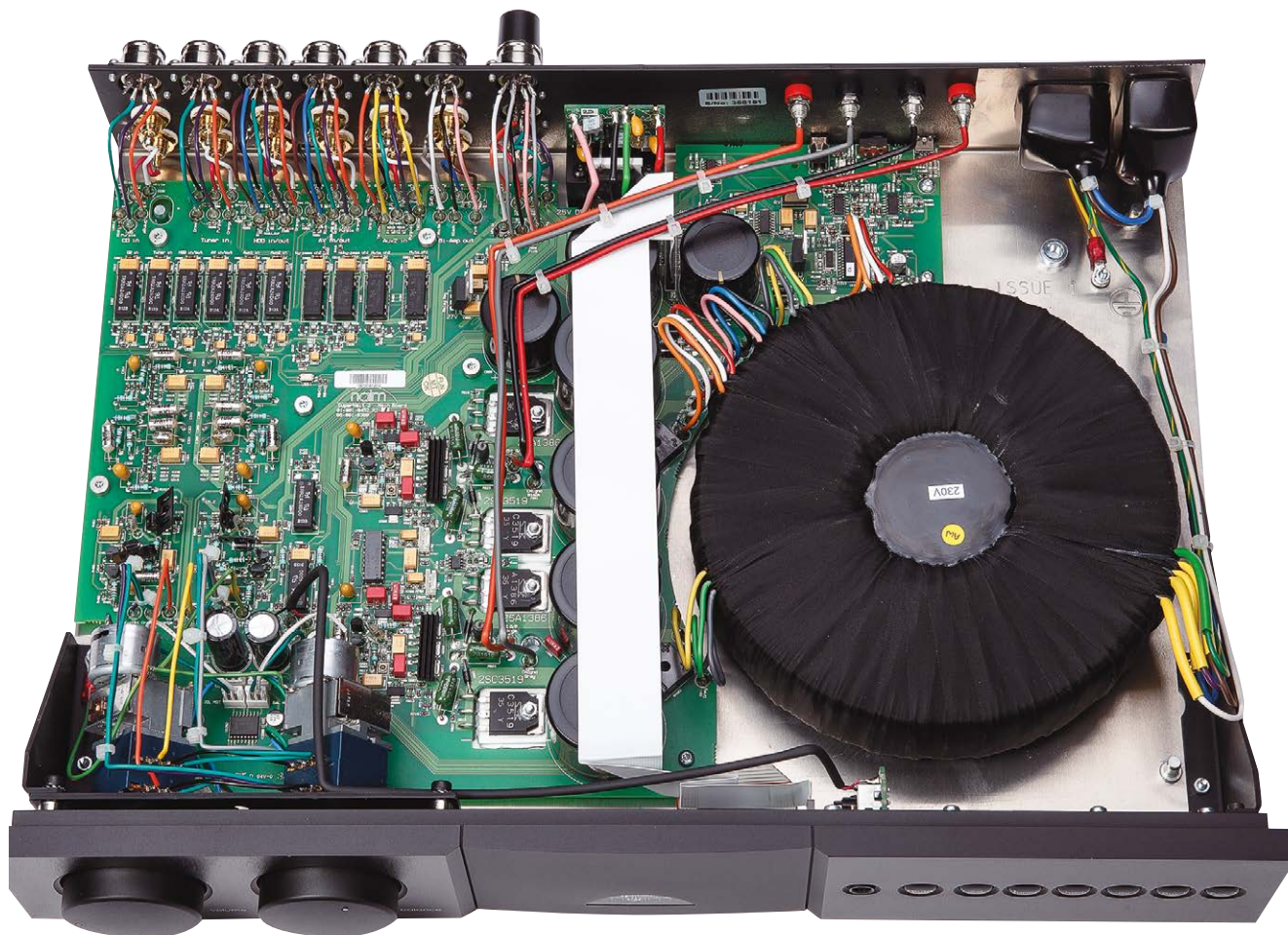
However, in order to see the other changes we need to get under the hood, and the Naim newcomer will notice no conventional lid to take off: instead, removing four screws which attach the rubber feet allows the entire casing 'sleeve' to slide off, exposing the clean, logical internals. Now we can see quite a few differences: optimized wiring including a perfected circuitboard layout; a larger toroidal transformer; hand-soldered, mechanically decoupled connections and even better components, for instance thin film capacitors in the output stage and ceramic mounts to minimize the capacitive coupling between the

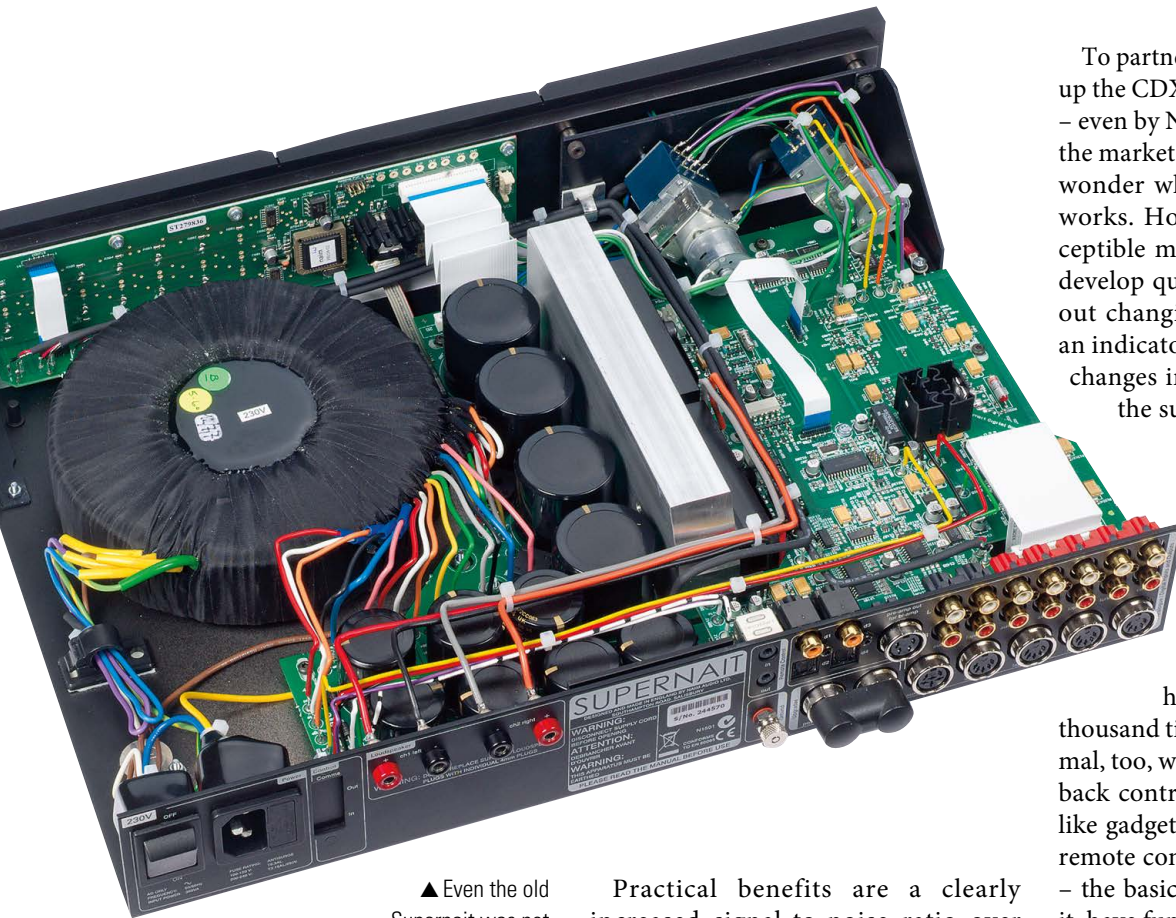
◀ The remote control is well-organized, controls both devices, and feels good in your hand.



output transistors and the chassis, while maintaining thermal transmission for cooling.

Of particular note is the DR technology in the preamp section, derived from the Statement line and now widely used in Naim's preamp supplies and power amps, it the sound of the Supernait 2 far ahead. The abbreviation DR stands for "discrete regulator", i.e. discrete voltage regulation, and to build it for better sound is not exactly trivial and required a bit of thought, a few additional components, and - yes, Naim also does this - hours and days of fine-tuning the sound, right down to component level. After all, who else would think about how the coils in the relays develop their own life when fed with an AC signal, which can lead to distortion and resonance due to marauding magnetic fields?





▲ Even the old Supernait was not stingy with power or good components.

Naim-typical back with connections for additional power supply and hand-wired, mechanically decoupled sockets. ▼

Practical benefits are a clearly increased signal-to-noise ratio over the already quite impressive capabilities of its predecessor. Another innovation is the USB Mini-B jack for software updates – HiFi fans will slowly have to get used to this idea; most amps are now full of software, which can be updated without a visit to the shop.

To partner the Supernait 2, we ordered up the CDX 2 CD player, a machine that – even by Naim standards – has been on the market for such a long time that you wonder whether a successor is in the works. However, continuous, imperceptible model updates have helped it develop quite a bit – and all that without changing its name. Maybe this is an indicator of how comprehensive the changes in the amp had to be to earn the suffix 2?

The player has Naim's classic loader, which offers the CD a safe and vibration-free home, with the disc fixed in place using a magnetic puck – over the years the easy operation and great reliability of this method have proven themselves many thousand times over. Controls are minimal, too, with just four buttons for playback control beside the display. If you like gadgetry you'll have to pick up the remote control for additional functions – the basic idea is: put in CD, listen to it, have fun.

Only the back betrays the innovation

Everything that is new in the CDX2 is hidden on the back and inside, including an S/PDIF output with on a BNC socket, which for sound reasons can be



turned off with a slider, as well as a DIN and RCA analog outputs which can be switched individually or together using the remote control, the Naim belief being that it's best to turn off any connections not being used.

For those who prefer hiding their machines in a cupboard there's an input for a remote infrared receiver and, as with the amplifier, you can upgrade the player with an offboard power supply.

On a four-layer motherboard ensures short signal paths in the optimized circuit layout and is notable for the generous amount of copper on its surface. The servo circuitboard is also up-to-date, as is the jitter-reducing new clock, but the digital-to-analog converter section is carried over from the previous generation: it uses a PCM1704 DAC chip for each channel, optimized as a pure multi-bit device for PCM files. The converters are fed from a prosaically named PMD 200 digital filter with 8-fold oversampling: this sounds more down-to-earth than revolutionary but - as the development team

assures us - it's once again all about the details, about which Naim tends not to make big announcements.

In fact, you'll be hard-pressed to find notes about technical backgrounds and the designers' love for detail in company's brochures or website, but one of Naim's specialties is a logic circuit between the digital filter and converter, meticulously devised to ensure absolute silence at the moment the data is passed. In this manner, the clock - which has its own power supply - can provide a particularly clean and undisturbed beat as a digital metronome, or so Naim Electronic Design Director Steve Sells and his colleagues assure us. Sells explains that if for instance an eccentric CD is sampled, it can happen that the servo motor has to constantly re-regulate and thus uses more power - thus modulation in the power supply can disrupt the clock cycle of the master clock.



◀ The legendary tray has long since become a trademark of Naim CD players. The CD is fixed with a small magnetic puck.

Maestro of the baton

The delightful technical and optical independence of the British duo ensured that we looked forward to its appearance in our sound booth with some excitement. The player and amplifier were of course connected with a Naim DIN cable, and we also used the company's NACA 5,

The

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fotos: www.photocase.de



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proven over decades and which still creates a beautiful symbiosis with Naim amps. As speakers we used the compact Focal Electra Be 1008 and B&Ws 805 D3 standmount models, as well as DALI's Epicon 6 and Focal's price/performance killer Aria 948 floorstanders.

The room immediately began to dance. The complex but masterful sound of the Munich 1981 live recording of the trio Gabarek, Gismonti, and Haden on "Carta de Amor" can put a spell even on non-jazz lovers if the playback ensemble does its job not merely conscientiously but also with passion, and it was clear after a few moments that Naim did so with fire, while keeping a cool head. The trick is to make no mistakes in tone, rhythm, and all other aspects of the detail reproduction, and to perform this high-wire act with ease and nonchalance, and even Jascha Heifetz' interpretation of Max Bruch's violin concerto No. 1 was done justice – this wonderful performance of beautiful music charming and full of feeling, wit, and flow but without being sugarcoated.

Let 'er rip, bro

Profane pop music? No problem – the Naims delivered crisp, powerful bass with Adele's "I'll be waiting", even though the almost dynamics-free compression of the recording is certainly not an argument for getting this kind of system, even though the music can definitely pass as decent mainstream. It was more fun to listen to Amos Lee, Ryan Adams, or REM and Patti Smith – even with complex musical structures, the Naim pairing was able to demonstrate its leadership qualities and its overview here and recommend itself for bigger things.

We admit that once in a while we'd find it practical to have a digital-to-analogue converter in an amp, but that said the Supernait 2 convinced us with its near-flawless sound. After all, you can always add on a dedicated converter if required.

Michael Lang

Contact: MusicLine
Phone: +44 1722/426600
www.naimaudio.com

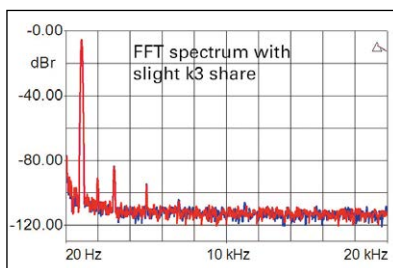
NAIM CDX 2



around € 6400
Dimensions: 44 x 9 x 38 cm (WxHxD)
Warranty: 5 years (with registration)

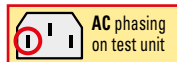
If you think the digital revolution has taken place in the last few years you will have to think again when you hear the current CDX 2. It only plays CDs, but how it does is simply fantastic!

LAB MEASUREMENTS



Signal-to-noise ratio Digital 0	104 dB
Quantization signal-to-noise ratio (400 Hz/0 dB)	96 dB
Distortion (400 Hz/-60 dB)	0.3 %
Converter linearity up to -90 dB	0.1 dB
Scanning reliability	Very good
Read time	6 s
Output impedance Cinch/ at 1 kHz	37 Ω
Output voltage Cinch/XLR at 0 dB FS	2 V
Channel offset	0.2 dB
Jitter	1.0 ns
Offset from sampling frequency	+26 ppm
Power consumption Off Standby Idle	0 / 2 / 13 Watts

LAB COMMENTS: Measurements that provide no reasons for complaints. Whether hiss, distortion, converter linearity, or jitter – Naim convinces us, the read time is in the green range.



EQUIPMENT

Remote control, control also possible via app; DIN and RCA connectors, switchable in alternation or together; digital output (1 x BNC), can be switched off; display; additional power supply optional; extensive German manual

STEREO -TEST

SOUND QUALITY	95%
PRICE/PERFORMANCE	
★★★★☆	
EXCELLENT	

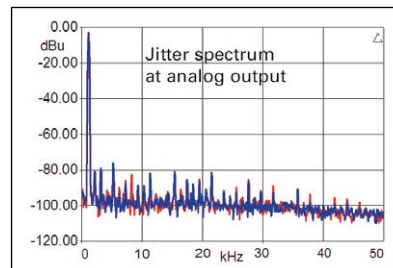
NAIM SUPERNAIT 2



around € 4500
Dimensions: 44 x 19 x 9 cm (WxHxD)
Warranty: 5 years

While we do miss the predecessor's converter a little bit, the newcomer does reach a new level in terms of sound. High quality as usual and workmanship with love for detail.

LAB MEASUREMENTS



Continuous power at 8 4 Ohm	88 131 Watts per channel
Impulse power at 4 Ohm	170 Watts per channel
Distortion at 50 mW 5 Watt Pmax -1 dB	0.02 0.01 0.01 %
Intermodulation at 50 mW 5 W Pmax -1 dB	0.04 0.01 0.1 %
Signal-to-noise ratio CD at 50 mW 5 W	64 82 dB
Channel separation at 10 kHz	65 dB
Attenuation at 4 Ohm	29
Upper cutoff frequency (-3 dB, 4 Ω)	>30 kHz
Load ratings	practice-oriented
Crosstalk tuner/CD (10 kHz/5 kOhm)	81 dB
Timing error volume control up to -60 dB	0.2 dB
Power consumption Off Standby Idle	0 / 2 / 15 Watt

LAB COMMENTS: Good measurement data in all relevant items. Striking are the somewhat moderate bandwidth and the low attenuation factor.



EQUIPMENT

6 high volume inputs, 4 x DIN/RCA, 1 x RCA, 1 x DIN for Naim phono, record output; additional power supply can be connected, remote control, balance regulator, headphone output, USB jack for software updates; German manual

STEREO -TEST

SOUND QUALITY	88%
PRICE/PERFORMANCE	
★★★★☆	
VERY GOOD	

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LOUD AND CLEAR



Focal has also been offering headphones for a few years
– but only now has the French company decided
to make everything themselves.

Have you ever wondered why headphones have become so expensive? Yes, the demand for high-quality models has been a contributing factor, but there's something else: top-quality headphones aren't easy to make. Yes, some brands can produce reasonable-sounding models at low prices simply by virtue of economies of scale, but going beyond that into something truly special is just a bit more complex than it first appears. After all, have you ever heard of someone trying to build their own headphones – as is not uncommon practice with speakers or even amplifiers?

French manufacturer Focal, whose speakers thrill music lovers and recording professionals worldwide, made its debut in headphones with relatively low-budget models optimized for portable use and made in the Far East to Focal specifications, although the Spirit Professional was a design unashamedly aimed the studio user.

For their second launch of headphones, however, the developers became interested in showing what just they could do in this field and – as with the company's speakers – giving the competition food for thought by applying proprietary technology and unique solutions.

Completely open

The approach chosen for the Elear model we have here was that of an "ultra-near-field speaker", and just as speakers have to deal with room acoustics, so headphones have the problem of having to sound the same for many differently shaped ears. The Focal team says this sets very similar problems, especially when they'd decided early on to go for a completely open design in order to obstruct the music as little as possible, and to ensure a vibrant and natural sound.

After a short period of research they realized that the ear cushions turned out to be analogous to the room acoustics. Here, too, the key was to find the right mixture of diffusion and absorption by choosing the right materials.

A lack of spatial reproduction is a frequent criticism of headphones, including from us – not just when it comes to in-head localization – i.e. the feeling that the entire sound is located in the top of the head between the ears – but also regarding the separation of instruments and voices. For many headphones this seems to be an inherent problem, caused by the minute distance between driver and ear compared to that between the two drivers.

That's something even Focal can't

circumvent, so the designers opted for an arrangement placing the drivers as far in front of the ear as possible, giving a more "speaker-like" effect. This is a tricky strategy, requiring finesse in execution: if the distance to the ears becomes too great, dynamics and neutrality can suffer – not good when the specifications also called for extremely low distortion and resonance of driver and ear-piece.

At this point it became clear that the only solution was to design a driver from scratch, and according to Focal the result was to build a real "full-range speaker" whose individual components were miniaturized or completely left out. After all, not only size but also weight is a topic in headphone construction, and here the entire driver including its aluminum/magnesium chassis weighs just 150 mg – possibly a record – ensuring spontaneous, rapid impulse-response.

Another advantage of in-house production is quality, a reason often cited by Focal for its insistence on making its own speaker drive-units rather than sub-contracting manufacture or buying them in from a third party. Every driver it makes, including these miniature headphone units, is tested and recorded completely with a Klippel measurement tool, allowing



▲ A lot of effort for a tiny chassis – the driver coil manages without a mount.

▲ The driver, chassis and "motor" together weigh an incredibly light 150 mg.

◀ The cables are interchangeable. You can best recognize left/right by ensuring that the chassis sits at the front.



▲ It's easy to change the cable – and the left and right inputs are clearly marked.

precise pair matching – something that's standard when making expensive speakers, but exceptional for headphones.

Weight & comfort

At about 350 g, the Elear is no flyweight, but the elaborate, very cleanly made and cushioned headband unit, and the soft, comfortable ear-cushions do a fine job of disguising that weight. Meanwhile the cable was chosen for function rather than overt style: it's a 3 m oxygen-free copper design built to damp out microphonic effects and mechanical noise, and easily be exchanged if required.

Sound and dynamics

So... plug it the Elear, put it on, play the music and it quickly becomes clear that the French weren't exaggerating when they spoke of wanting to mix things

Sophisticated workmanship of casing and headband, encapsulating, soft ear cushions, and an aluminum/magnesium composite diaphragm – Focal's Elear ►

up the higher headphone price-class. Even at low volumes, the Elear worked impressively with the MalValves reference headphone amp to deliver a full and powerful sound, carried by a well-structured, detailed bass and with smooth integration across the entire frequency range.

Orchestral music, such as Beethoven's "Eroica" in a 1952 recording (!) under Furtwängler, sounded timeless, fresh, and not at all dusty. Whenever physical presence was important, it was there, with clear spatial separation of individual instruments and instrument groups. At higher volumes there was no trace of thickening or droning – everything remained smooth and undistorted, with no sense of the treble being detached from the rest of the sound, as can sometimes happen with headphones.

The Elear headphones sound perfectly integrated and unobtrusive, yet completely clean, and yet manage this without calling attention to all the good things they're doing, to the extent that it actually took us a while to hear this with diverse "audiophile voices" and their instrumental accompaniment.

But this is just one highlight of a design that performs well beyond its price class: it was also fantastic how relaxing it was to simply follow the music over extended periods, making listening to a whole CD – such as Natalie Merchant's "The House Carpenter's Daughter" – a complete pleasure.

Compared to the Elear quite a few old competitors sounded almost a bit anemic: what we have here is physical presence and fine resolution down to the smallest detail without ever becoming overly mechanical – a rarely found marriage of important musical attributes. Here it just works, for example when listening to an elegant, cleanly swinging bass foundation – fantastic!

It also almost goes without saying that the Elear confirmed its all-round ability by mastering the arsenal of the Australian rock classics by AC/DC, from "Ride On" to "For Those About To Rock", and doing so almost casually even at high volumes.

If you're considering some high-class, big-ticket headphones, you should definitely lend your ears to the Elear.

Michael Lang



FOCAL ELEAR

around € 1000, Weight: 330 g
 Warranty: 2 years
 Contact: Music Line
 Phone: +33 477/435700
 www.focal.com

Made for extended listening, both in terms of sound and comfort. Very good workmanship, a great measure of independent development work, and very tight tolerances. First in class and love at first sight!

EQUIPMENT

High sensitivity, low impedance, 3 m cable and replaceable ear cushions; aluminum headband with soft leather cushion; asymmetric driver mounting, German instructions

STEREO-TEST

SOUND QUALITY **91%**

PRICE/PERFORMANCE

★★★★☆
EXCELLENT



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COMMUNICATION



Avid Sequel SP
Drive about € 14500

Avid Sequel SP
Drive about € 7900

Avid Divall SP
Drive about € 4000

What impact does the motor unit have on the overall sound of vinyl?

British manufacturer Avid is currently demonstrating just this with the promotion

„Good, Better, Best“ in HiFi stores: we invited mastermind and boss Conrad

Mas to enlighten us in the STEREO listening room, and the results

amazed even our experienced analog insiders.

Visitors to the last Krefeld Analog Forum were able to witness a very special demonstration: Conrad Mas of turntable specialist Avid, and local distributor IDC Klaassen, had installed three different record players from the British company with identical tonearms and moving magnet cartridges, to show how much difference the motor/plinth/platter package can make to the sound

The demonstration opened with the flat, black DivaIISP, a rigid player with a 6.3 kg platter and elastomer-mounted feet for about € 4000 (not including arm and cartridge), while next to it played a Sequel SP, which is equipped with an elaborate subchassis for the 6.7 kg platter, using lateral rubber rings to damp out wobble. The price including the even more stable and exact power supply is about € 7900, roughly twice that of the

DivaIISP. Third up was the company's Acutus SP, for which you'd have to slap down £14,500 – the 10 kg platter of this chromed jewel moves up and down ponderously on spring mounts, with extra damping of unwanted lateral deflections.

On each of his three "vinyl media", Conrad Mas used an SME Series IV, whose extremely low-resonance magnesium pipe, super-precise bearing, and generally impeccable workmanship drives its cost to € 3500. That it is an optimal fit for Avid's drives, manufactured to similar standards, is clear from the fact the turntables are delivered ex-factory with an SME armboard. However, the moving magnet cartridges fitted to each combination seemed to represent a "mismatch": Mas had chosen the Nagaoka MP-150, at just € 370.

"We want to show how good a decent cartridge can sound on a top turntable,"

he explained, "and of course counteract the preconception that the cartridge has the major effect on the sound." In other words, the turntable manufacturer was out to disprove the belief of many record aficionados that, if rumble or flutter are beneath certain levels, then sound differences between turntables are only marginal, and the choice of a larger, more elaborate design mainly about looks or prestige.

Avid swiftly demonstrated the distance between its turntables with a record of the American singer Amy Antin, and even through a simple system these differences were substantial. Who'd've thought?

We know how important turntables are, not least from the Linn dictum that the motor unit is the prime determinant of the sound, while the other parts of the record player follow its lead, but it's been a long time since someone demonstrated this so incisively and clearly. So we asked Mas to repeat the demonstration – this time in the optimal environment of our large listening room.

◀ The comparison was even more exciting since the inverted stainless steel platter bearings (pivot point on top) of the three Avid's are very similar: an extremely hard sphere of tungsten carbide placed on a sapphire mirror **1**. The bearing shell is placed over this and carries the platter **2**.



**“Analog forum”
in sound booth**

The record players used were as described above, with Avid’s ultimate Pulsare II Phono (ca. € 6000) as equalizer/preamp connected using In-Akustik’s superb NF-2404 balanced interconnects to the T+A PA3000HV amp, driving DALI Epi-con6 speakers via LS-2404.

And our cross-check was just as clear as in the Krefeld Analog Forum. The set-up took several hours, including the painstaking assembly of arms, cartridges and subchassis, but the ensuing results were quickly and clearly apparent. The

first example alone immediately outlined the Avid hierarchy: James Taylor’s “Her Town Too”, on the MFSL version of his album “Dad Loves His Work”, sounded great on the Diva II SP – and then kept on getting better.

The DivaII SP brought out its brilliant, terse bass line cleanly and with good weight, the sound was compact and crisp and the track had a dynamic, appealing impetus, but the story was almost over as soon as we switched to the Sequel SP. Same cartridge, same arm, same cable from arm to phono preamp, but all of a sudden the same record came across as

incomparably more relaxed, the spatial spectrum unfolding in every direction, and even though the deeper layers were not more voluminous, they did become more subtle and graceful on the this more ambitious turntable.

It was as if someone had blown some air into the playback of the DivaII SP, which is a great turntable as we have known since the test in STEREO 9/15 where we used it SME’s M2 arm and the almost € 900 Dynavector MC DV-20X2L. Here we had a more advanced arm and a junior cartridge, but it seems Nagaoka’s MP-150 is sufficient to make the differences very clear – and it should be mentioned that the sound in general was very appealing on an absolute scale.

On to the next change, and the Acutus SP stood out so impressively as to preclude

1 Avid’s Pulsare II phono equalized and amplified the signals of the cartridges. **2** All three arms were equipped with the Nagaoka-MM MP-150. The two pricier turntables have a suspended subchassis for platter and arm, where rubber rings at their three suspension points in the Acutus SP **3** and the Sequel SP **4** dampen lateral movements and thus wobble. ▼





Conrad Mas, Avid HIFI, assembling the SME arm on its Diva II SP drive.



▲ An example of the flawless finish of Avid and the „fascination with mechanic“ is the dual screw plate clamp of the Acutus SP. It fixes records immovably on the platter.

any discussion. Avid’s big gun made the lower ranges blacker and produced more overall energy and radiance. Voices had more body, sounded more sonorous, and the background choir behind James Taylor was now really separate. Switching bang down the Avid hierarchy confirmed this impression, the DivaII SP suddenly

the audience in the background. So far, so good!

But once again, it was just better with the Sequel SP: it increased the distance between the performers, thus ensuring a real depth of soundstage, and in addition brought out a lot more of the subtleties of this highly detailed recording.

Every house requires stable foundations, and so it proves in a turntable: the chassis and running gear provide the solid platform on which everything else depends.

seemed miserly and plain, lacking some of the audiophile qualities which made the performance of the top turntables so appealing.

Speed dating at 45 rpm

We then switched the power supply to 45 rpm – we had previously tested the rpm numbers with a strobe disc and calibrated them exactly – and put on the new STEREO “Best of” sound test record. We started with the lively “Saturday Night” with its wonderfully vivacious live atmosphere captured by recording genius Prof Keith Johnson, and the DivaII SP let the bone-dry capture of the vibraphone pop out refreshingly, grouped the band around it with real solidity, and placed

However, now it was the turn of the Acutus SP, and though its little brother had just sounded so brilliant, the big boy just brought to bear the full program of serious high-end: delivering a sound completely resolved and natural but yet remarkably subtle and with a timing which found the middle between cool and concentrated, it played “Saturday Night” to perfection. This was vinyl replay at its very.

Paul Simon, intimate

To be honest, our enthusiasm for the two less expensive Avid turntables waned after this performance: we wanted to cruise our favorite titles with the Acutus SP. It was wonderful how it let the soft voices in “Warmth Of The Sun” waft across

like a balmy summer breeze – the harmonized singing sounded significantly less emotional with the Sequel SP and the Diva II SP did not even come close, being much tighter and reserved. Conrad Mas himself summed it up perfectly: “Once you’re used to the sound of the top record player, the lesser ones simply sound broken, right?” He has a point.

Luxurious soundscapes were needed for The Cure’s “Out Of This World” as well as Chadwick’s orchestral piece “Jubilee”, and while the Sequel SP was still able to remain close to the more colorful and in every respect more opulent Acutus SP, the DivaII SP just limped far behind.

Paul Simon’s live version of “America” from “Concert In The Park” underlined that this test was not just about Hi-Fi differences but also musical aspects. The Acutus SP placed the musician onto a large stage by himself with his guitar. The intimacy of the very reflexive rendition was incredible when Simon recollected his small observations and insights during an overnight trip on a Greyhound bus.

The Sequel SP shrunk this frame a bit. But it also felt like Simon could have been talking about the experiences of an acquaintance. There was a lack of closeness, a personal touch.

And all this with a (relatively) modest cartridge such as the Nagaoka MP-150, demonstrating how the mechanical efforts resulting in the € 10,500 price difference can affect the sound drastically. And that’s why Mas urges aficionados to get the best possible turntable they can. Preferably the best possible Avid turntable.

OK, OK, Conrad, we get it – we’re sold!

Matthias Böde

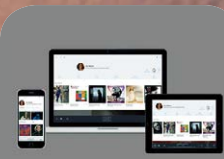
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