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STEREO

THE GERMAN HIFI MAGAZINE

ISSUE #13 2017

**> AMPLIFIERS
HIDDEN GEMS
YOU REALLY
HAVE TO HEAR**



**> AUDIOPHILE VINYL
180g REMASTER?
NO THANKS - WE'LL
TAKE THE ORIGINAL**

**REVIEWS: : T+A MP 3100 HV +++ DALI PHANTOM S-280 +++
CLEARAUDIO CONCEPT MC +++ ACOUSTICPLAN MANTRA +++ AIR TIGHT ATM-300
ANNIVERSARY +++ PROGRESSIVE AUDIO A901 +++ PIEGA COAX 711 AND MORE!**

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Yeah, Bob Dylan was right – the times they are a-changing. For many years, CES in Las Vegas was a fixture in the hi-fi calendar: January meant the long transatlantic trip for one of the reference points for manufacturers, buyers and journalists.

However, what began a few years back with the move of ‘specialty audio’ out of the Alexis Park Resort now seems to have come to its inevitable conclusion: for the hi-fi enthusiast, CES 2018 has lost its radiance and significance. But how did this happen, how could the glamour be so entirely lost that the international public not longer considers the show in the city in the desert of any relevance, let alone importance?

Well, over the years a number of things have come together primarily attributable to the organisers, but also to the hoteliers and caterers whose facilities host the show: not least among these are bad and inflexible organisation for construction and dismantling, and punchy pricing for exhibition rooms and services. The costs for hotels and restaurants have become astronomical, and often out of all proportion to the value delivered.

Added to that must also be something down to the city itself: the daily traffic chaos on the strip, with permanent traffic jams and the interminable ‘standing in line’ for taxis.

Then there’s the competition, which offers shows both cheaper and better: the success of the Munich High End Show in May is all about its first-class

organization (for exhibitors and visitors: nowhere else are more deals made, and nowhere do exhibitors see more distributors than in Munich. In addition, the hotels and restaurants, with very few exceptions, offer comparatively fair prices. For the first time last year we heard even US-based journalists and others saying they’d be skipping CES 2018, but Munich was a ‘must-visit’.

But Munich isn’t alone: Amsterdam’s ISE is the fastest growing trade show in Europe, offering professionals a comprehensive overview of everything from hi-fi to home and professional cinema equipment, and from custom installation to PA systems. It’s always very busy – but also always exciting.

Those who like things more comfortable, casual – and particularly inexpensive – may already have their sights set on the Warsaw audio-video show: open to the public, it offers an above-average proportion of good to very good presentations, shows the top dogs as well as small start-ups, and thrives on the enthusiasm of exhibitors and the public.

Which brings me back to my opening point: when the passion of an organizer is gone, it’ll find itself celebrating without us. So thank you and goodnight, Vegas – STEREO has left the building.

Michael Lang

editor@stereo-magazine.com

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



STEALTH STEREO - OR SURROUND

Dali's Phantom S-280 speakers hide the company's state-of-the-art technology in your walls for invisible high-end audio

MEGA-MULTIPLAYER

T+A's MP 3100 HV is a universal disc/network player, now with SACD capability and truly world-class sound



WEIGHT - IS IT A MYTH?

It's a deep belief that heavier vinyl sounds better – but does all that 180gm stuff really make any sense?

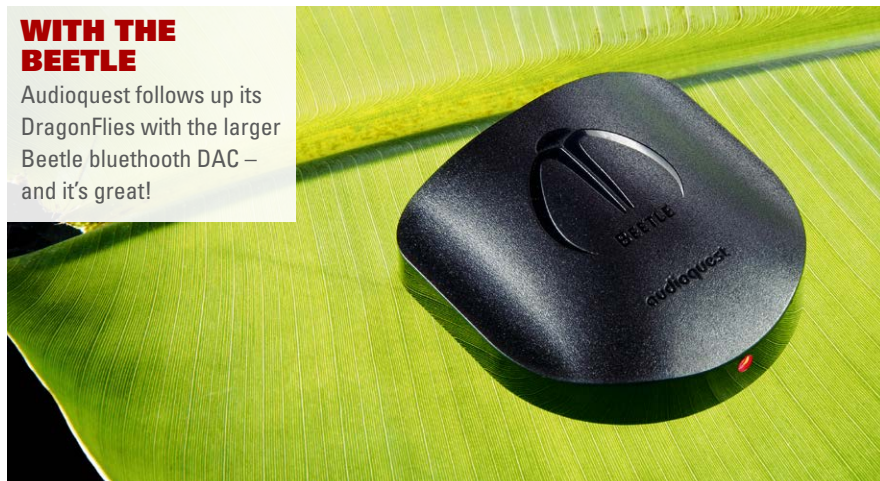
COAXING OUT THE MAGIC

The Coax 711 is the latest model to use Piega's coaxial tweeter, to remarkably energetic and musical effect



WITH THE BEETLE

Audioquest follows up its DragonFlies with the larger Beetle bluetooth DAC – and it's great!



OUT OF THE SHADOWS

Lesser-known names of the amplifier world – AcousticPlan, Air Tight and Progressive Audio – show they have much to offer



PROOF OF CONCEPT

Clearaudio's most affordable MC cartridge, the Concept MC, is so good you'll be urging your friends to buy one



NEEDLE MATCH

One cartridge, many needles – we profile the differences between the various stylus types, to help you choose



PLAYING, HIDE AND SEEK

The growing range of built-in loudspeakers for custom-installed audio systems has long been a trend at the Amsterdam ISE trade fair. STEREO has been investigating Dali's range-topping in-wall model, the Phantom S-280 – here's our field report.

The Dali Phantom S-280 sits proudly in its frame, which the Danish manufacturer has developed to demonstrate its flagship wall-mounted loudspeaker. The company did so for good reason: some dealers don't have a plaster-board wall into which the 150 cm tall loudspeakers could be installed, so this unit makes it possible to listen to a sound sample without building a drywall. It's a clever idea, and a practical one for us here at STEREO.

But why are there such loudspeakers at all, and what makes the S-280 a serious design worth around 6000 euros a pair? What can it do better than smaller and cheaper in-wall solutions or classic floorstanding loudspeakers?

Well, the manufacturer's claim is a bold one: this, the top model of three in its range, is said to be a high-end built-in loudspeaker with a full-bodied sound, able to reproduce the entire frequency range in excellent quality.

Take a closer look at what makes a Phantom, and despite the name it seems pretty substantial, with obvious similarities to its manufacturer's classic loudspeakers, such as the characteristic wood fiber membrane – a DALI trademark – and the magnet system with its pole piece made of SMC magnetic powder. The Phantom uses of these 20cm mid/bass drivers, underpinned in their lower registers with a pair of 25cm passive diaphragms.

Yes, such a design is considerably more expensive than the use of conventional bass reflex ports, but, especially under the sometimes somewhat difficult to define working conditions in a wall, it provides for proper bass punch, rather than just boom or drone.

The budget for the reproduction of higher frequencies was also generous, allowing the use of Dali's hybrid

tweeter module, combining dome and ribbon drivers on a common mounting plate, which has been highly praised worldwide for many years. Another advantage of this module is that it can be rotated, making the Dali speakers suitable for vertical or horizontal installation without any loss of quality.

But why go to all this trouble when similarly equipped loudspeakers have long been available in fine and elegantly crafted in floorstanding cabinets? The answer is simple: too often high-quality, space-hungry loudspeakers can't be set up in every living environment in a way that suits the sound and/or their family. Instead of leaving the music lover frustrated by being restricted to small, inexpensive alternatives, built-in loudspeakers are the solution.

Until a few years ago, there was a solid counter-argument against installation speakers here in Germany, as in other European countries: unlike in the USA, where drywall building methods, and thus in-wall speakers, are popular, the great effort involved in setting such models in rather more substantial solid walls made such thinking something of a non-starter.

◀ Flat as a flounder: Dali's S-280 is just ten centimeters deep. The speakers are connected at the side.



◀ With the perforated, magnetically-attached grille, the S-280 becomes virtually invisible.

However, there is a solution, as it's as fast and simple as it is obvious: build a plasterboard 'false wall' in front of the solid one – about a day's work. Many successful dealers in the so-called 'custom install' business have now recognized this solution, and have joined forces with architects, construction companies, painters and electricians. That enables them to offer demanding customers an "all-in-one" solution - often in conjunction with a complete network of sound and vision in several rooms, the Internet and home control. Anyone who invests in such a complete home control system

will also appreciate the advantages of a loudspeaker solution installed almost invisibly, and that's exactly what these projects are about – problem-solving.

DALI PHANTOM S-280

€ 6000/pr
 (incl. white grilles)
 Dimensions: 53 x153 x10 cm (WxHxD)
 Warranty: 5 years
 Contact: DALI
 Phone: +49 6251 9448077
www.dali-speakers.com/de/

A wall-mounted loudspeaker with the high-quality drivers and technology of a conventional floorstanding design, the Phantom S-280 delivers high quality sound while remaining virtually invisible.

When the first dealers began to develop multiroom solutions 20 years ago, the cabling effort was high and the main focus was on sound reinforcement. But over time there has appeared a large number of astonishingly high-quality solutions – even if not necessarily high-end in the view of some purists – of which the latest representative is the DALI Phantom series.

In this solution-oriented approach, one can feel a little reminiscent of the famous word “Neuland”, in that previous rules are only valid to a limited extent or have been completely overridden. Those once cynical about the high price of such speakers seem to have been won over; the loss of room depth from the installation of a partition wall is limited to a maximum of 15cm; and the speakers come with all the ‘baggage’ needed for a problem-free installation, a sign of the Danish designers’ extensive experimentation and consultation with practitioners to get all the details right.

And the sound is right, too: there is a mix of resolution and attention to detail with natural voice reproduction, even if the lowest octave is not reproduced as powerfully as with a fixed wall installation. Voices and piano sound accentuated (Lyn Stanley’s “How Long Has This Been Going On”), and there is no ambiguity about the quality of the recording. The same applies to “Magico” by the three virtuosos Garbarek, Gismonti and Haden – their instruments are clearly outlined, and the reproduction of the finest details is to a standard only apparent in from truly above-average systems.

It quickly became clear why the number of customers for such speakers is growing, so well do these speakers combine visual and audible appeal. We’ve come a long way from the lackluster installation speakers of the past: this is serious Hi-Fi, probably otherwise impossible with such invisibility without committing the sacrilege of painting over luxurious wood or a high-quality lacquer on those conventional speakers. Yes, the idea made us shudder too – this way you can enjoy a lot of great music every day, from speakers ‘heard but not seen.’

And the Dali speakers go easy on your amplifier, too, so that even modestly-powered electronics will be able to drive them. I’m sure you will be just as happy when you’ve heard this Phantom, not recoiling like you’d just seen a ghost.

Michael Lang



Top-class drivers and a stiffened cabinet are basic prerequisites for the good sound of these built-in loudspeakers.

PURE SPECIALIST BUSINESS

For smart specialists such as Tim Bornhorst from Tonart-Studio in Osnabrück or Heiko Neundörfer from the HiFi-Forum in Baiersdorf, Franconia, the job starts with the customer’s desire to make a loudspeaker disappear: “We often discover the best places to integrate loudspeakers or even the control electronics in a sensible and almost invisible way when we walk through the shell of the building,” Bornhorst reveals. Like Neundörfer, he attaches great importance to an open electronic architecture: „In the case of off-the-shelf products, the customer will at some point probably find he or she wants to expand from the initial installation. So we have to plan from the outset in such a way that a customer who is looking for just a few ceiling loudspeakers for sound reinforcement in the kitchen and bathroom or in the dining room, for example, can still become someone who can fulfill their hi-fi dreams. That’s why we are looking for systems that go far beyond Sonos and similar concepts.” In this profession, experience is an invaluable asset.



▲ Loudspeakers can be installed in seemingly impossible places



▲ Music from above, picture below - inconspicuous, but effectively integrated loudspeakers



◀ Good sound can also be achieved in angled architecture.

MUSICAL FIDELITY

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Experience it for yourself at your local Musical Fidelity dealer.

A PLAYER ON THE WORLD STAGE



Color-coding makes the remote control easy to read, but app control remains our weapon of choice.

T+A has overhauled its MP 3000 HV multi-play, and further refined it. The new MP 3100 HV now also plays SACD – and more. It’s world-class!

For the reigning champion, life isn’t always comfortable: enjoy the success too much and it’s long before the competition is treading on your heels and breathing down your neck. Yes, you’ve got the title, but now the hard work begins – keeping challengers at a suitable distance.

If you were, say, high-end manufacturer based in Herford, Germany, and you

already offered the world’s best multi-play as well as one of its most acclaimed CD/SACD players, staying ahead of the pack might seem simple: just put the two together to create a product aimed at delivering unrivalled ability and quality. Done, dusted – and that’s lunch, people...

Which is just what T+A has done: On the platform of its already fantastic MP 3000 HV, the Westphalian company has

built a ‘super’ optical drive and the True 1-bit DSD converter from the PDP 3000 HV, thus creating the new MP 3100 HV, able to play SACDs as well as processing not only PCM but also the best possible music data in DSD format. True, the status of the CD as a sound carrier is steadily diminishing, as is the SACD’s role, but the demand for the highest quality reproduction is determined not just by new releases but existing collections, and the demands of their owners. The new ‘multi-play’ from T+A takes this into account.

If I had been asked what I thought was a perfect product before the 2017 High End show, one of my possible answers would have been the MP 3000 HV. But in Munich, T+A went one better: having already created the PDP 3000 HV as a pure disc player – with converter but without network functions – for the purists, now it announced ‘one machine to rule them all’. And do so uncompromising style.

Since the superbly-engineered SACD drive of the dedicated player couldn’t be used here for space reasons, a completely new one was created. But by any standards this is no poor substitute: very stable, and with resonance-optimizing coating, the transport is decoupled from the extremely solid aluminum housing, its drawer is guided by two stainless steel rods to seal it off from any external mechanical influences. Even the motors have been the subject of close attention, being designed for maximum loads and smooth running.

The new player uses complete separate decoding and conversion paths for PCM and DSD data: while the T+A is based on

Developed in-house, this new drive is at the heart of the MP 3100 HV, and it has been designed and built with total precision. ▶

the company’s sensational, extremely complex double differential PCM signal processing, the DSD data is processed natively – as it is in the PDP 3000 HV. The processing upsamples to DSD1024 for maximum precision and T+A officially states that data up to DSD512 can be received via USB and processed. The data preparation eliminates virtually all clock/jitter and, if a certain quality standard is not met, a second level of jitterbusting is activated.



The DSD/PCM DAC system here, which is also available to external sources via the digital inputs, is thus not only the heart of the MP, but also the match of any standalone competitor. Whether accessing streaming services or your own NAS over LAN/WLAN, connecting a PC via USB or smartphone/tablet via Bluetooth, or making use of the armada of digital connections, you can be sure that you will find the right solution for your needs.

And as if all that wasn’t enough, the T+A also has integrated FM, DAB+ and Internet radio receivers, further extending the user’s entertainment options. When it comes to the modern audio media world, the MP 3100 HV has all the bases covered.

Analog and digital sections are not only separated internally via i-Coupler, but even have their own mains supplies – especially worthwhile with such excellent components.

Overwhelming sound

The MP 3100 HV’s sonic fingerprint is essentially the same as that of its predecessor: immense musical perfection, expressed in tremendous accuracy and precision, clarity and attention to detail, accompanied by emotional charisma and a colorful richness of a kind rarely experienced.

In addition, due to the oversizing of all assemblies, there is a casual ease and control even in more complex, orchestral passages, which makes the technically perfect presentation incredibly relaxing. This characterizes the superior quality of the



▲ The drive is decoupled and suspended at three points, while the MP 3000 antecedents remain visible in places.

presentation: Cara Dillon's voice hangs in the room, her delicate body becomes almost visible. Due to the organic, naturalistic and holistic approach, it is easy to forget that this device is actually a device: details are served in the overall context, never as an analytical end in itself.

The sound – especially when used with adequate playing partners such as the Accoustic Arts amplifiers or, of course, the T+A PA 3100 HV integrated amplifier and B&W 800 D3 speakers – is stable, powerful, open, solid AND superb.

Like every component of the HV series, the new MP looks powerful, solid and superb too: this is achieved not only by the lavish use of materials, but also by the enormous smoothness of the controls, multiple levels of clocking and jitter elimination, as well as a discrete, fully symmetrical and top class output stage thanks to the high-voltage (HV) power supply from which these models take their suffix.

Throw the MP 3100 HV any challenges – the dynamics of Yello, string ensembles or female voices seemingly on the emotional edge of nervous breakdown, even in HD resolution – and it rises to them as if with a hidden smile of disdainful ease. Could we find any weaknesses? Well, only two, and one is the 14-second disc-reading time before the machine is ready for playback – slow when compared to that of a pure CD player, but not at all so for an SACD machine!

The second is even more minor, and is directly related to the weight of 26 kilograms – about the same as many another brand's power amplifiers – as well as

being something we noted when reviewing the MP 3000. When you're parking this colossus on the equipment stand, a few more millimeters of 'ground clearance' wouldn't go amiss to let you get your fingers out of the way.

Yes, pathetic – we know. But that's how hard we've had to struggle to come up with something to complain about! Even the Control App, the handling tool of choice ahead of the supplied FD 100 radio remote control, worked well for us on an iPad – and even at the highest level of audio good app integration is far from being a given.

So is the MP 3100 HV really that could. Well, we were amused to see a near-constant procession of other editors carrying CD and SACD stacks walking down the corridor and disappearing into the listening room during their lunch breaks. Why do you think that was?

A special offer

This new "omnivore" from T+A is far from cheap, and your chances of a special offer are pretty much nil. But sometimes a device impresses even us professionals so deeply that it's hard to avoid the feeling of witnessing something very special.

This is the master of all classes, and whether listening to CD, SACD, radio, streaming or external digital sources, anyone who calls the MP 3100 HV their own can be sure that they have realized a dream in the enjoyment of music.

In this way, even 13,500 euros can still be a bargain for some. Beati possidentes (happy are the possessors)!

Tom Frantzen

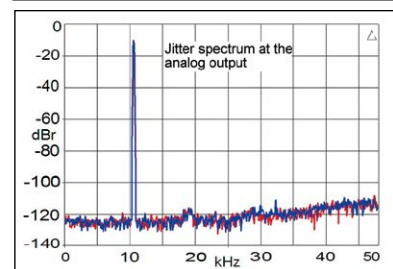
T+A MP 3100 HV



around 13500 €
 Dimensions: 46 x18 x52 cm (WxHxD)
 Warranty: 3 years
 Contact: T+A
 Phone: +49 5221 76760
 www.ta-hifi.de/

This fascinating device of superlatives can do everything and sounds supernatural. The price is put into perspective when you consider that you get a CD player, SACD player, DAC, tuner and network players, in a complete package that is currently almost unbeatable. Absolutely world class.

MEASUREMENT RESULTS



Signal-to-noise ratio Digital Zero	110.6 dB
Quantization S/N ratio 0 dBFS	96.3 dB
Converter linearity at -90 dB	0.1 dB
Output resistance Cinch	114 Ω
Output voltage RCA 0 dBFS	2.3 V
Output resistance XLR	280 Ω
Output voltage XLR 0 dBFS	4.5 V
Distortion factor at -60dBFS	0.2 %
Jitter	4.1 ns
Deviation from fs	28.2 ppm
Reading time	14 s
Power consumption Stby/ Btr	<2 W/30 W

LAB COMMENTS: What can we say? Perfect – with only a still-acceptable disc reading time of 14 seconds worthy of comment.

FEATURES

Remote control (and App), full CD/SACD and PCM/DSD functionality, FM/DAB+/Internet radio, Bluetooth, streaming service access, all popular formats and digital inputs

STEREO -TEST

SOUND QUALITY CD	100%
SOUND QUALITY SACD	100%
SOUND QUALITY STREAMER	100%

PREIS/LEISTUNG
 ★ ★ ★ ★ ☆
EXCELLENT



▲ Heart and mind, what more could you ask for? CD/SACD, symmetrical and unbalanced outputs, a network player and a superlative DAC – it even has physically separated digital and analog power supplies.

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THE 180-GRAM MYTH

In the world of audiophile LPs, 180 grams reigns supreme, the term referring to the weight of the preheated 'biscuit' of raw material from which the record is pressed. Standard LPs use 140g or even 120g, so is simply using more raw vinyl really advantageous?

After all, the stamper is likely to be the same, so it's not like you're getting deeper grooves and thus more signal through the stylus: heavier vinyl really just gains you a thicker disc. Is that a benefit? And which "special versions" are worthwhile?

To determine whether a 180g pressing actually sounds better than a conventional disc, we made some simple "thin" versus "thick" comparisons, starting with Sade's "Is It A Crime?" and listening 'blind'. The first version sounds decent, especially the tight bass and the crisp percussion, but the fact that this is an exemplary recording is only revealed in when we listen to the second version. Especially when all the musicians play together, this one sounds much more euphonic, Sade's silky timbre seeming to caress you.

Advantage 180g, then? No, actually: as it turns out, the more enjoyable one is the original pressing (1985), while the first version is from a later compilation (2016), pressed to 180 grams. Go on to Grace Jones's modern soul masterpiece "Nightclubbing", and while the (thin) original 1981 beats and bass are incredibly present, the later 180-gram version sounds less dynamic and flatter, as if there were more damping in the. Even with Curtis

Mayfield's "Curtis/Live!" we prefer the more harmonious first pressing of 1971, despite initial favorable impressions of a loudly overplayed 180-gram pressing from Italian label Get Back (2002).

In all three cases, the lighter, thinner disc is more convincing. Should we be surprised? Not really: one can imagine the original pressings were sourced from first-generation copies of the master tapes,

180G PRESSINGS ARE A WASTE OF RESOURCES.

with the new editions made from worse (digital) copies. Hang on, though – the 2014 Grace Jones pressing claims to have been "Remastered from original 1981 analog master" – although it doesn't say whether that was 'the' or just 'a' master? If this is the case, other factors must create the massive differences in quality.

As we explained in our "No magic" article in ST 7/16, a number of variables can be introduced: for example, the tape machine used for playback can be adjusted

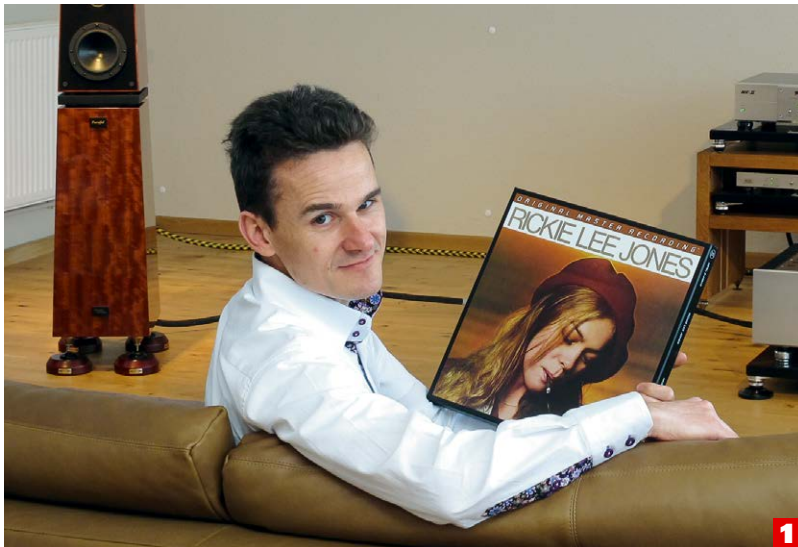
differently from the that used for the original transfer, or the cutting tool can be worn out when cutting the "master disc" (from which the stampers used in the actual pressing are made subsequent production). The material of the original master also has an effect.

Then, of course, there is the possibility of the sound being completely changed when the original recording is remastered or even remixed – in the hands of skilled engineer this can be a revelation, but there's no shortage of remasterings that are a case of 'Different, yes – but better...?'

Taking all this into account, it's hardly surprising there are examples where the sound of the thicker disc is "thick" sound is better: "Deodato 2" by Eumir Deodato (1973) sounds more – well – groovy in the Speakers Corner version of 2014 than it does in the 1973 US original, the earlier pressing having thinned-out bass range and brass that's too sharp.

So is heavier always better? Well, we can't make much consistent progress with listening tests so we turn to the experts, and put the question: 'Assuming two records are produced in exactly the same way, but are then pressed on different weights on vinyl, do they sound different?'

The answer is almost unanimously that



the weight of a record has no effect whatsoever. “The sonic advantages of 180g pressings are a myth,” says Janis Obboda of the mail-order company Connaisseur – and that view is supported by Kai Seemann (Speakers Corner), Jan Sieveking (Sieveking Sound), Günter Pauler (Pauler Acoustics), Daniel Krieger (Schallplatten Schneid Technik GmbH), and Dr. Peter Runge (Head of Production & Logistics, Optimal Media).

Sieveking points out that the thickness of the record slightly changes the angle of the tonearm, adding that if this becomes noticeable in the sound, the arm can be adjusted accordingly, or a mat used under thinner discs to counteract their increased susceptibility to vibration.

Hermann Hoffmann (Audio Int'l) is the sole advocate of 180g vinyl, his argument encompassing both the lower susceptibility to vibration and the lessened effect of groove deformation due to playing.

But isn't it proven that thicker discs are less affected by the infamous run-out? The idea sounds understandable at first glance, but Kai Seemann's experience is different: “In 1993 I had various album pressed in 140g, 150g and 180g versions, and within the different weights, the variance of distortion was much greater than from one weight to another”.

Those are amazing statements when you look around the current specialist vinyl market: look in the shops or online, and you'll hardly ever find a newly produced record without stickers such as “Heavy-weight Vinyl,” “180 gram audiophile vinyl pressing” or simply “180g vinyl” – all making their claim of superior quality. But if you ask the people actually making



the records, almost all say that weight is irrelevant: as Peter Runge puts it, “180g pressings are a waste of resources”.

So if these if these heavy pressings have no sonic benefit, and even damage the environment by consuming up to 50% more petrochemicals per disc, why don't we get the ‘perfectly good enough’ thin discs these days

Apparently, this is due to the “superior” feel of the finished product, perceived by the customer as being of higher value. It's harder to convey more ‘invisible’ – but ultimately more important – arguments such as transfers being made from the original master tape, not to mention the technical specifications of the mastering and pressing process. As the old joke goes in the cloth trade, ‘never mind the quality, feel the width’.

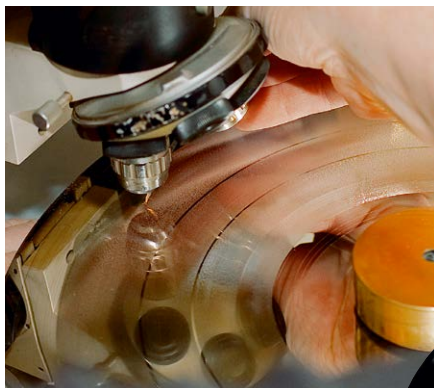
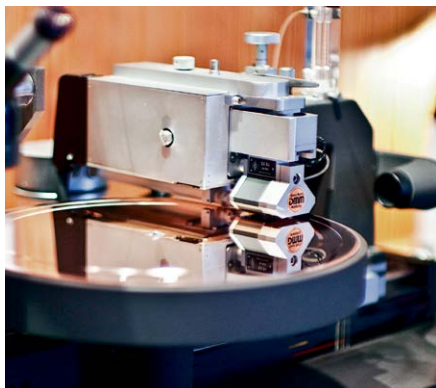
In the vinyl boom, however, weight is far from the only way to suggest high quality. What about the many special

Questions and answers: Jan Sieveking from HiFi and music distributor Sieveking Sound **1**, Kai Seemann from vinyl company Speakers Corner **2**, and Günter Pauler, owner of mastering and cutting studio Pauler Acoustics and Stockfish Records **3**. Other experts we interviewed were Janis Obboda (Connaisseur), Daniel Krieger (Schallplatten Schneid Technik GmbH), Dr. Peter Runge (Optimal) and Hermann Hoffmann (Audio Int'l).

editions? For example, do long-playing records running at 45rpm instead of the usual 331/3 really add value? Here the opinion is almost universally in favor of 45rpm, the only skeptic being Kai Seemann. He published the title “Johnny Winter: Second Winter” some time ago at both speeds, and says, “My customers didn't hear a difference.”

The proponents, on the other hand, have solid technical arguments: disk-cutting specialist Daniel Krieger says that “The speed of the path is higher, which is why the music signal in the groove is delivered more effectively” More information, in other words – just like the benefits of faster speeds when recording on analog tape.

However, Jan Sieveking adds that the prerequisite for this is high quality vinyl granulate in the ‘biscuit’ from which the disc is pressed: otherwise, background noise is increased due to the greater



Quality awareness is the be-all and end-all in record production, applying to both the cutting of the so-called „master disc“ **1** and the pressing process **2**. The quality of the vinyl granulate **3** and careful control **4** also have a positive effect. Controversial: In the eyes of most experts, colored vinyl is problematic **5**, and the standard black **6** preferable to clear vinyl **7** in terms of sound. Cutting (and playing) a disc from the inside outwards is no gimmick - for pieces that get louder towards the end, like Ravel's 'Bolero', there are definite advantages compared to the usual cutting/playing method **8**

amount of surface passing under the stylus – it's not just the music that's amplified in the faster discs.

We do the blind test, using two double LP editions of Diana Krall's album "Love Scene" (ORD), both mastered by Bernie Grundman. With the 45rpm the noise increases slightly, but this is more than compensated for by the apparently fuller presentation of the singer's voice. Yes, it's a fine nuance, but the advantage of this high-priced special edition seems understandable.

The "oreloB" -LP is a specialty of the Tacet label, the stylus running from the inside outwards. Is it just a curiosity? By no means: the experts agree this makes sense, provided that the music begins softly and ends loudly – as is the case with Ravel's "Bolero". The reasoning is similar to that of the 45rpm LPs: "At the outer edge of the record, the needle covers a larger distance per revolution than it does nearer the centre in the inside", says Krieger, "In the inner grooves accurate signal reproduction is more difficult because the stylus can be too large for

the finest deflections". Further out, however, loud and complex signals can "spread" better.

Another special feature – colored vinyl – is met with almost universal skepticism, with only Jan Sieveking begging to differ.

.....
»BLACK IS BEAUTIFUL«

True, Hermann Hoffmann doesn't see any fundamental problems, though he stresses that pressing plants would have to carry out sufficient tests beforehand, but Peter Runge from Optimal says the problems are more basic. His doubts mainly concern colors such as white, where the titanium dioxide used to achieve the effect causes noise during playback.

And Kai Seemann adds that clear vinyl is usually inferior to black: "We had black

and clear versions made of the same album, and sent copies to journalists and collectors. Some heard only minimal differences that they didn't care about, but most of them clearly preferred the black vinyl – so "Black is beautiful".

Half Speed Mastering divides the experts into two camps - Daniel Krieger, Jan Sieveking, Janis Obboda, Hermann Hoffmann are all for it, while Peter Runge, Günter Pauler, Kai Seemann are against – and the group also splits on the benefits of cleaning records, even new ones.

In principle meaningful all see the benefits of a clean disc, but while Krieger, Sieveking, Hoffmann and Pauler recommend this even for brand-new, unplayed samples – arguing this removes the release agent residue from the pressing process and provides a homogeneous distribution of the static), Janis Obboda and Peter Runge recommend cleaning only heavily soiled specimens, with Runge in particular warning that contaminated cleaning agents can actually damage a disc.

Seven experts, seven opinions? Despite some differences, we were rather surprised by their broad agreement on one topic: the superiority of 180g pressings is a myth.

Andreas Kunz

QUIETER AND STRONGER



In many audiophile circles, it is commonly believed that power conditioners and various other power-line accessories often do more harm than good, robbing the music of its vitality, color, and that oh-so-important, wildly intangible “boogie factor.”

AudioQuest’s **Niagara Low-Z Power Noise-Dissipation Systems** are designed to do the exact opposite. Niagara kills the noise while *honoring* the music, so that the listening experience can be exactly as it should be: compelling, immersive, *fun*.

“The difference was huge. AudioQuest’s Niagara 1000 not only cleaned up the power, it did everything that is the *opposite* of killing the boogie.... It was as if my system had gotten a heart-shot of adrenaline.”

— Herb Reichert,
Stereophile,
April 2017



audioquest®



IN THE FIELD OF TENSION

As a music and hi-fi fan, do you always have to choose between style and sound?

Speaker company Piega thinks not, and has been applying this philosophy for about 30 years now: the new Coax 711 is another successful example of the Swiss company's way of doing things.

My first contact with Piega loudspeakers was a long time ago, somewhere back in the second half of the 1980s. I worked in a long-forgotten Cologne HiFi studio near a temple of musical high culture and, thanks to experienced and helpful colleagues, learned new things about hi-fi and music on a daily basis. My favorite equipment at that time was Thorens TD 126 turntable with AKG P8ES cartridge, Arcam Alpha amp and Rogers Studio I speakers: I'd had the Thorens for some time, but the rest of the system was the result of saving from my first salaries.

Then one of my colleagues introduced me to a shaggy-haired guy called Kurt Scheuch: a man with a very amusing Swiss accent, he was introduced to me as the developer of a small box, quite different from my beloved Rogers. It was very shapely, finished in glossy real piano varnish, and equipped with a ribbon tweeter and a tiny bass speaker tuned with a reflex port.

Its beautiful name was „Arlecchino“, and soon we retired to an underground listening studio, set up the Swiss beauties with the required precision and, if the memory doesn't deceive me, connected them to electronics from New Zealand – the presumably long gone down manufacturer McLaren – and a Thorens TD 521/Grado record player.

The result of this demonstration impressed me so deeply that I can still remember all these details with ease: though it wasn't quite enough for the Arlecchino to displace my treasured Rogers speakers, it made the English quasi-monitor sound quite old in terms of resolution, speed and musicality. Only in the midband was it found wanting, not quite matching the qualities of the British rival.

That was a long time ago, and since then Scheuch and his partner Leo Greiner, who handles the industrial design, have won a firm following for Piega - Italian for fold - among demanding music lovers and aesthetes all over the world.

Generational change

Now the two of them have announced that they are handing over to younger people, and will only come to the company premises if they are bored. But before

Retirement, they want to go out with a bang, the first part of which will be the subject of our reflections on these pages.

The Coax 711 sits at the top of a new series consisting of three models: the smaller floorstanding loudspeaker is the 511, and the rather large compact model Coax 311. There's also a matching center-channel speaker for use in multichan-

nel systems, the Coax Center 111.

Why Coax? Well, at the beginning of the millennium, the company astounded experts and the public with the world's first coaxial ribbon system: while inventor Scheuch had previously refined his tweeters and developed a highly efficient midrange ribbon, he now took a significant step further on the way to the perfect point source of sound. This involved combining the two into a single system able to achieve the same results in terms of speed, low distortion, frequency response and time-alignment.

16 years is a long time in the high-fidelity world, and a lot has happened since then. The use of drivers made from ceramic, diamond or ultra-modern man-made fibers; new approaches in turnout technology; and ever-improving

TEST-COMPONENTS

CD-PLAYER: Accuphase DP430, T+A MP3100HV, Audionet Planck

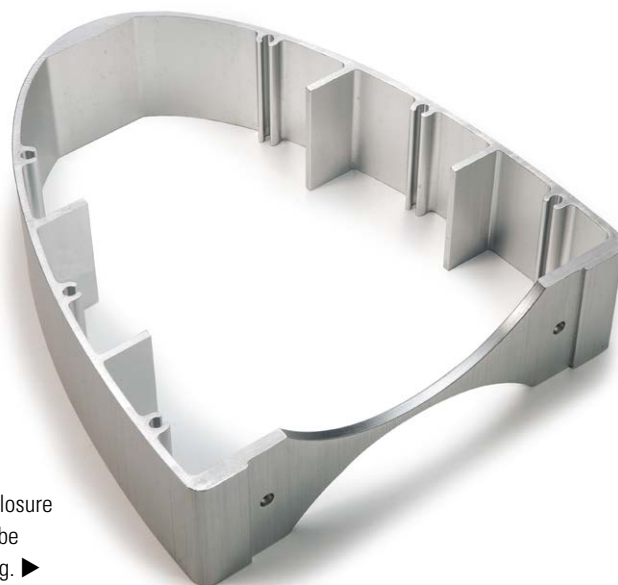
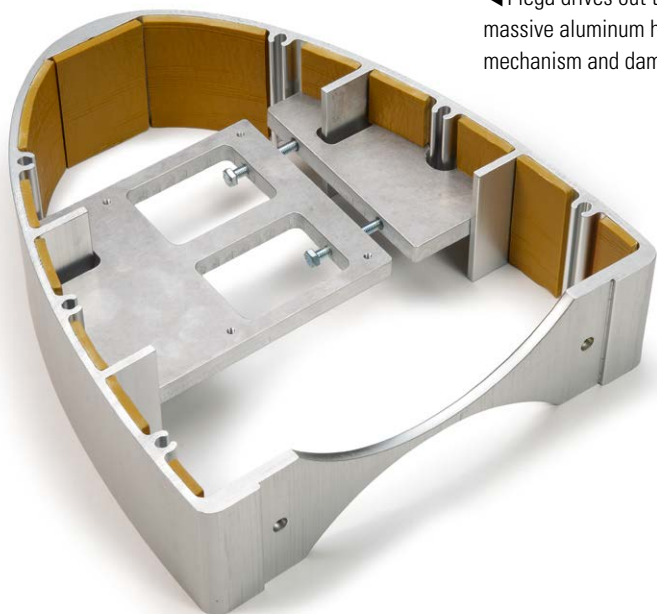
PRE/POWER AMPLIFIER: Accustic Arts Tube Preamp II MK2/Ampl II-MK3

INTEGRATED AMPLIFIER: T+A 3100 HV, Octave V80SE SBB

REFERENCE SPEAKERS: B&W 802 D3, DALI Epicon 6

CABLE: Audioquest Wind; HMS Gran Finale Jubilee, In-Acoustics NF-2404, (NF)

◀ Piega drives out the last resonances of the massive aluminum housing with its tensioning mechanism and damping mats.



In its raw state, the aluminum enclosure is relatively undamped, which can be heard in the form of bell-like ringing. ▶

materials and shapes for cabinet bracing – these are just a few examples of the great progress made in the loudspeaker sector.

Of course, there have been developments in almost every other part of a loudspeaker and its individual parts, but it should be mentioned that, in the end, no one single construction detail decides the success or otherwise of a speaker design, but rather the skilful tuning of all parameters. This is a task in which experience, but nowadays also the computer, plays a major role, and it was with that in mind that Scheuch set himself the task of re-examining everything he had learned so far, and researching further possibilities for improvement.

Aluminum advantages

Although the aluminum continuous casting enclosure here may seem familiar, along with the coaxial ribbon technology, the differences are clearly evident on closer inspection.

The C-shaped main ‘shell’ is inherently stable and offers little scope for resonance and standing waves, but for the new series, it has been set under controlled tension from the inside. For this purpose, several so-called „Tension Improve Modules“, which function similarly to clamping screws, have been built into the design:

tuned individually by hand, these calm cabinet resonances. They are fixed with adhesive so that nothing clatters even in the event of temperature fluctuations, for example due to thermal expansion.

The final micro-resonances are prevented by means of viscoelastic damping films – the so-called idicell plates, which are now standard in Piega’s upscale models. In addition, the baffle is also lined with MDF, into which the drivers are fixed. The housings are thus acoustically „dead“, the promised advantages of this great effort being explosive dynamics and the highest precision and accuracy in the reproduction of even the smallest and quietest details.

Talking of detail, let’s look closer at the coaxial driver: the ring-shaped midrange ribbon and the tweeter ribbon have been fitted with neodymium magnets of the latest design, stronger than ever before. These, in combination with newly developed, less resonant pole plates made of special steel with rubber buffers, increase the drive and boost efficiency. And the layout of the foils and their damping has also been further optimized: they are no longer attached to the moving film, but to the frame. The vibration behavior was improved with the use of new films benefiting from the most modern materials.

As a result of all these efforts, the cutoff frequencies of both drivers are now lower in the frequency range, so the bass drivers need only cover the lowest register: the midrange ribbon goes down to about 500 Hertz and the tweeter ribbon down to 3500 Hertz, optimizing dispersion and uniform energy output.

The aluminum housing, which is 5mm thick on the sides and 10mm on the baffle, allows significantly more compact dimensions than the Classic 80.2 (tested in STEREO before and made of wood) – another obvious advantage of the 711 –, while the grille design, which is of course acoustically neutral, is also beautiful.

Tailored for performance

As a layman and a do-it-yourself builder, you might think that all you have to do is take the best and most expensive drivers you can get, install them, calculate the crossover and enclosure parameters, and you’re done. But it’s not like that: the bass drivers here are adapted to the requirements of the cabinet, the 711 using newly developed UHQD woofers with a ceramic-coated aluminum cone. It’s very thin at the edge, with a cleverly integrated stiffening ring, then become increasingly thicker towards the inner edge, where it meets a titanium voice coil former

optimized in form, coating and stiffness for use in this speaker. The advantage is that, even at low volume, the bass sounds full, thanks to two driven woofers backed up with a pair of passive diaphragms, used instead of the bass reflex port often found in such loudspeakers. Scheuch says the benefit is a bone-dry, deep bass without the flow noises of a bass reflex port – not to mention fewer challenges when placing the speakers.

Yes, all this effort costs money, of course, especially when it comes to hand-made production in the high-wage country of Switzerland, and the insistence of the quality-minded Swiss on buying most of the components in Europe. The company also attaches great importance to ensuring that the working conditions are such that all employees feel comfortable and identify with the brand, and that everyone feels responsible not only for their actions but also for the success of the entire company. Another advantage of this corporate philosophy is that the vast majority of our employees hold the company in high esteem.

Time to listen

Finally, the time had come: the comparison of past impression of the Piega sound – refreshed again and again over the years and supplemented by multiple meetings with current models – with the current test candidate’s abilities. A critical look at the details of the 711 showed that the Swiss have gone to town on this design, right up to specially-designed bi-wiring terminals. However, in the heat of the battle, they forgot to give their youngest offspring proper footwear, in this case spikes, on their way.

We then took care of that and let Claudio Arrau’s performances of Chopin’s farewell waltzes draw us into the action. And our view was that the sound image is extremely clean, with contours sharply defined: not one hint of distortion or aggression assailed our ears, no matter at

which frequency, and the presentation incorporated the finest dynamic shading and feeling for the music. We were also impressed by how sensitively and safely the Piegas were able to conjure up a wide variety of studios with their imaginary stages in all dimensions, coping as well with multi-microphone recordings they did as the piano and bass passages recorded with only two Schoeps microphones on Marten Design’s „Supreme Sessions“.

Fabulously alive

The Piegas demonstrate pure joy in the playing, coupled with a deep understanding of the structure of the music, and a speed that wouldn’t disgrace a Porsche 911. Male and female voices are delivered in textbook fashion, with the bonus of the fullest emotional power: listening to Lyn Stanley’s mature voice on „Black Velvet“ via the Piegas, you can hear the care with which this recording was produced, with Stanley’s excellent comrades-in-arms and the arrangement skillfully captured. This is one of the greatest sounds of the past few years, and the Piegas draw the listener deep into the musical process of the recording.

Come bluestime, they deliver all the drive and joy of Monty Alexander’s „Lloyds Tone“ and Charly Antolini and Dick Morissy’s „C-Jam-Blues“ – a delight.

Drive & relaxation

All the details were joined together again and again to form a harmonious, extremely detailed work of art. Impulses came clean and crisp, but always with juice, so that you could feel the breath of the music, never sounded sterile and lacking in blood. The 711 not only does everything right, it also sends exactly that amount of energy to the listener, which makes listening to music an experience. It’s all about less hi-fi, and more music – a terrific late work by Kurt Scheuch!

Michael Lang

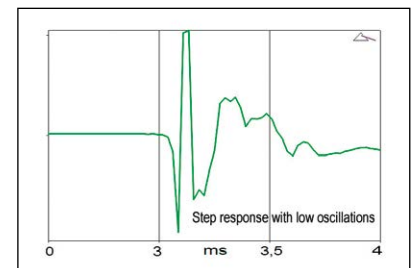
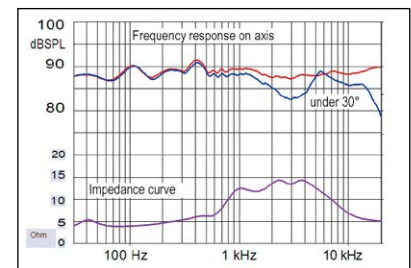
PIEGA COAX 711



from € 18.700
 Dimensions: 28 x118 x33 cm (WxHxD)
 Warranty: 6 years
 Contact: in-akustik
 Phone: +4144 725 90 42,
 www.piega.ch

An almost perfect all-round speaker of comparatively compact dimensions. Disappears effectively, creates space and enjoys playing. While it’s not too demanding on amplifiers, it sounds best toed-in towards the listening position!

MEASUREMENT RESULTS



DC resistance	4 Ohm
Minimum impedance	3.8 Ohm at 80 Hz
Maximum impedance	14 Ohm at 3800 Hz
Power for 94 dB SPL	7.7 W
Low cut-off frequency (-3dB SPL)	24 Hz
Distortion factor at 63/3k/10k Hz	0.1/0.1/0.1/0.1 %

LABORATORY COMMENT: Uniformly excellent measurement values: the frequency response is almost linear and reaches very deep, the efficiency is high. The impedance curve should also not be a problem for an amplifier. Distortion is almost below measurement.

STEREO - TEST

SOUND LEVEL 97%

PREIS/LEISTUNG



EXCELLENT

HIDDEN PROPHETS?

Sure, the top dogs of the amplifier world include names such as Accuphase, McIntosh and T+A. But wouldn't that world be poorer without a whole host of other concepts from smaller manufacturers, ready to show us new directions?



Our attention is constantly being sought for products not necessarily in the spotlight of interest: neither at the majority of retailers nor with a large crowd of paying customers. They're easy to overlook, but you do so at your peril – after all variety adds some spice to life, and that's very much the case in the world of hi-fi.

As with loudspeakers, where you can find active designs, electrostatics and omnidirectional radiators, so in the area of amplifiers: there are concepts with exotic tubes, unusual circuits or exquisite hybrid layouts seemingly flaunting all the rules. They may seem to contradict the usual rules, but can nevertheless – integrated into the appropriate

environment – cause established competitors to sweat a lot.

And shiver a bit, as we experienced during this test when the Air Tight, a tube power amplifier usable as an integrated amplifier, transported the music into the room via the Tannoy Turnberry coaxial speakers. Despite a seemingly puny five watts, its magic sound made it clear why there are so many fans of the 300B concept worldwide. AcousticPlan's brand-new „Mantra“ – based on a circuit from 1928!! – also stands out from the crowd in terms of sound and appearance, and the A901 from Progressive Audio, built with very difficult to control „SIC“ transistors, embarrassed our reference amplifiers.

Ready for some adventure in hi-fi's undiscovered country? Read on...

by Tom Frantzen and Michael Lang





BLUE HOUR

AcousticPlan boss Claus Jäckle is a man of conviction – his search for top sound has had him rummaging in the patent archives!

All AcousticPlan devices are hand-made in Kostanz, on the shores of the lake of the same name, and are designed for long service by the careful selection of components. Mastermind Claus Jäckle has no interest in delivering off-the-shelf technology, but instead is attracted by the very special: this is evident in the external form and color of his creations, but even more so from the „inner values“. After all, it’s the combination of fine ingredients and skilled use of them that makes up a top-class amplifier.

As a consequence, the „Mantra“ – the successor of the popular „Sitar“, and object of desire for the company’s fans – is a hybrid integrated amplifier designed to combine the best of the tubes and semiconductors. Two E88CC (6922) tubes glow in the

voltage or preamplifier part, while the impedance-converting current amplifier output stage uses transistors in a sensible and efficiency-oriented manner.

However, Jäckle didn’t resort to a standard circuit: after all he wanted to build the amplifier with no global feedback, and is critical of the fact that most hybrid concepts, in order to minimize the inevitable distortions of the semiconductors without Class A or even the use of local feedback, include the tube voltage amplifier stage in the feedback loop. This shows, even if hardly anyone would admit it, when the amplifier is measured, which is why those manufacturers do it – even if such thinking

renders the effort of the using the tubes in such designs pretty much pointless.

But then Jäckle has no interest in using tubes merely as a marketing feature: “For me,” he says, “the characteristics of the tube must always be audible.” However, this doesn’t take into consideration that some test magazines will only ever be pleased if they “discover” zero percent distortion.

KEYWORD

Class A:

If an amplifier operates in Class A mode, its quiescent current is high and it processes the entire signal in single-clocked instead of push-pull mode. This eliminates crossover and switching distortions.

Feedback instead of feedforward

In order to achieve his desired sound goal, Jäckle opted instead for the feedforward topology of early cinema amplifiers of the 1920s and 1930s, which he uncovered

in his study of older electronic patents and interest in early cinema amplifiers.

The „coupled“ Class AB transistor output stage of the Mantra is based on ideas from Howard Black (1928) and M. J. Hawskford (1981) and was developed over three years of work.

But what exactly is this „coupling“? Well, the output voltage of the emitter



◀ The housing is compact, and well filled, while the heatsink effectively separates the amplifier from the power supply.

sequence circuit is compared with its input signal and the level difference at the input is added in the same phase, which is why positive feedback is also referred to as such. That's in contrast to negative feedback, in which a part of the output signal is inverted and fed back to the input, which is then deducted from the signal in a way that corrects it. If such a control loop is not limited to one amplifier stage at a time, but is applied to the entire amplifier from front to back, it is called overall or global feedback, as opposed to the local feedback applied to just a specific section

According to Jäckle, it is imperative to take into account in the design of the coupling that such an amplifier tends to oscillate and that the comparator stage must be controlled with a low resistance. Then, however, an almost ideal impedance converter is created, where the output and input voltage are identical, allowing this to be coupled with the tube preamplifier without having to forego its sound characteristics – such as the complete spectrum of its typical harmonics –, which would otherwise fall victim to an over-all feedback.

In other words, the tube sound of the preamplifier is completely preserved, and the transistor output stage still works virtually distortion-free, which was the intention of the whole complex undertaking.

Audiophile detail solutions

This circuit variant defines the AcousticPlan Mantra hybrid amplifier, but there's more to it than that, as is clear from both the materials chosen and the way they're used. The housing is made of individually milled aluminum plates instead of simple sheet metal, the tube section uses point-to-point wiring instead of a PCB, the power transistors have temperature sensors to prevent thermal distortion, and the power supply unit is equipped with ultra-fast rectifier diodes.

Unlike many amplifiers, the Mantra shows no greater distortion in the lower power range than in the medium range, so there is no disadvantage to using it with high-efficiency loudspeakers, for example. And as desired by Jäckle, the circuit achieves a very high damping factor even without the usual feedback – we can

confirm this with our measurement technology – and also by the 'grip' and control this amplifier exerts on loudspeakers.

So... Has this rather unorthodox circuitry solution paid off? Does Claus Jäckle's „acoustic plan“ work out and it pay off in the end? Can the amplifier do this in the STEREO listening room? For all the answers, tune in next week

No, only joking – at the risk of sounding over-excited, the answer is yes, yes, yes, yes. We love it when a plan works, and



◀ The small remote control is more like a silencer, but of course very practical.

even more when the circuit concept of feedforward coupling (also called Feed-forward) is one that has been of interest to me for a long time, even if it has been partly realized by Quad or Sansui.

In the course of the test, we found out that the freshly-manufactured amplifier improved both audibly and measurably, the measured output power increasing slightly and the frequency range extending out to finally reach 70kHz instead of 44kHz. The fact that an already good amplifier mature with a little use is hardly a disadvantage!

The Mantra sounded open, being very agile, lively and relaxed, in the so incredibly important midrange and with well-dosed power and rhythmically springy bass. With Tori Amos's 'Winter', the piano and vocals came to life very naturally and credibly, with expressive details and facets, while Eric Clapton's live performance of „Change the World“ was treated to a soundstage image that was

comparatively compact and not excessively deep, always very controlled and precise, but still emotional and animated.

Listening to music via the Mantra is a lot of fun, and only when we gave it a little too much „throttle“ did it lose something of the control it had displayed with the Tannoys all the way up to already very high levels. A great performance!

The AcousticPlan amplifier can be personalized for the buyer through the choice of options, and phono and/or balanced inputs can be retrofitted, while standard equipment – if one can even speak of such in such a one-off production – includes a direct power stage input, which can be useful for home cinema applications.

In terms of sound, this is a welcome addition to the 7000-Euro class, which is very much the upper house of integrated amplifiers, and lives up to the performance on both visual and technical considerations. Respect, Mr. Jäckle!

Tom Frantzen



▲ While Input 1 can optionally be transformed into a phono input, Input 2 can be balanced if desired – for which it is already mechanically prepared.

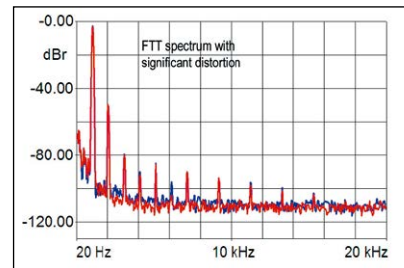
ACOUSTICPLAN MANTRA



from 6900 €
 Dimensions: 26 x18 x37 cm (WxHxD)
 Warranty: 5 years
 Contact: AcousticPlan
 Phone: +49 7531 73562,
 www.acousticplan.de

This is a hybrid high-level amplifier, with an outstandingly neutral and well-balanced sound quality. A technically interesting coupling circuit without over-all feedback is used in an unusual, attractive design.

MEASUREMENT RESULTS



Continuous power (8 Ohm / 40hm)	49 W/88 W
Pulse power 4 Ohm (1kHz)	Switch-off W
Distortion at 50mW/5W/1dB Pmax	0.04 %/0.4 %/0.9 %
Intermodulation. 50mW/5W/1dB Pmax	0.1 %/0.6 %/1.0 %
Signal to noise ratio at 50mW/ 5W	67 dB/87 dB
Damping at 4 Ohm (63Hz/1kHz/14kHz)	50/70/200
Upper cut-off frequency (-3dB/40hm)	44 kHz
Crosstalk Line 1 > Line 2	69 dB
Synchronization error volume at -60dB	0.4 dB
Power consumption Stby/Max (at) <2 W/48 W224 Volt	



LABORATORY COMMENT:

The results for noise, distortion and frequency response, as well as the practical values (e.g. for the volume control), are consistently good; the manufacturer's specifications for the power are not achieved at 1 % distortion, but are at 1.6 %.

FEATURES

Remote control, Phono and XLR optional, power amplifier input, earthing terminal, outputs for one pair of speakers

STEREO-TEST

SOUND QUALITY	92%
PRICE/PERFORMANCE	
★ ★ ★ ☆ ☆	
VERY GOOD	



CLASS A COLOSSUS

Progressive Audio has been following its own path since the mid-1990s, and the A 901 – with its exotic-looking silicon carbide transistors and Class A technology including switching power supply – continues this story.

The history of Essen-based Progressive Audio began with loudspeakers: more precisely, it began with the „Elise“, a speaker with an quite angular exterior, skilful tuning and an excellent, timelessness sound coupled with a very smooth balance, as the test in STEREO 7/99 confirmed.

But that was a long time ago, and company boss and mastermind Ralf Koenen has long since proven that he has mastered timing and timing issues effortlessly, not only with multiway loudspeakers, but also with the coaxial constructions in the „extreme“ series.

He has also been working intensively and successfully with electronics since

2001, creating amplifiers, phono stages and CD players. The predecessor of the A 901 we have her, the A1, found its way into the hands of our editorial team in 2004 - and into the ranks of the best of its kind.

No compromise design

When Koenen visited the editorial office with his current baby and his own cables in his luggage to discuss the technical features of the 901, it was clear that,

despite all the similarities to its ancestors, the new amplifier has undergone an external transformation. There are now controls on the front panel for input selection and volume – if the remote

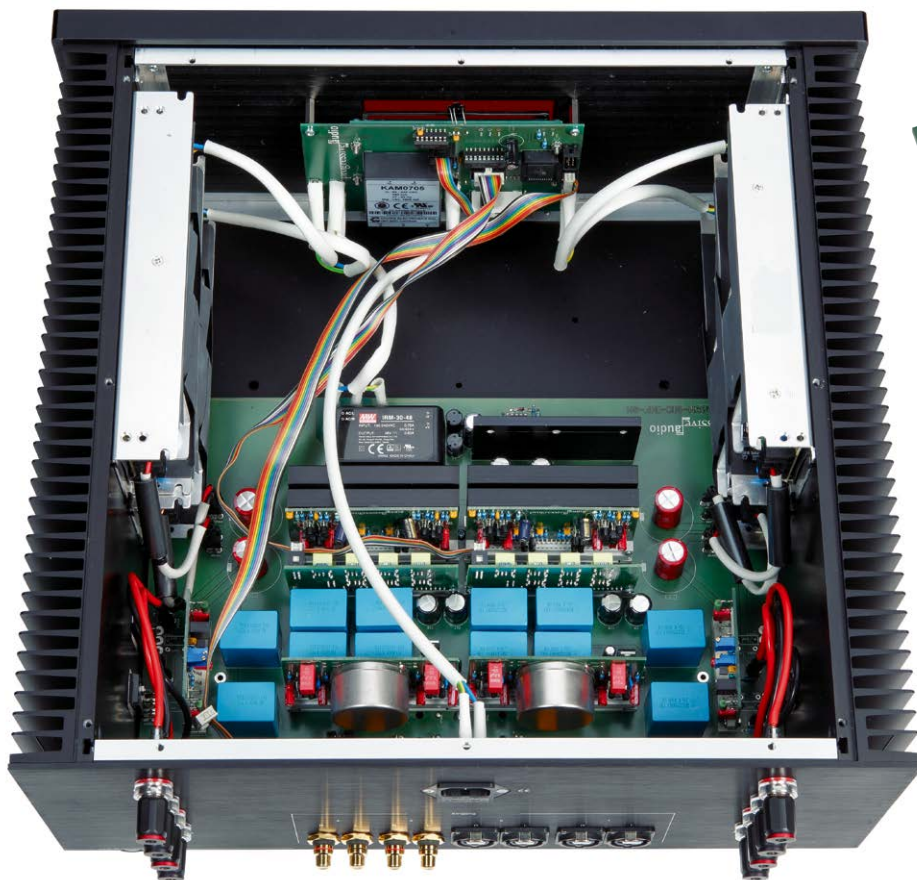
control can't be found – although for design reasons labeling has been deliberately dispensed with.

Also clear was that Koenen was proud of the solutions he had found for the problems he set himself when he embarked on the path of making the most perfect amplifier possible. His ideas revolved around several aspects he considered to be extremely important: „great broadband capability for a „fast“ sound was right at the top of the list of“ must haves „.

And when it came to the operational side of the amplifier, he decided early to abandon all fashionable trends or solutions with even a hint of compromise. Consequently, only a pure Class A concept was considered, and having decided on no compromises there was no choice but to go for a symmetrical, channel-separated structure, with the consequential need for more components – and strictly selected ones at that – in order for symmetry to make sense.

Suits all speakers

There's no shortage of feedback-free amplifier concepts out: some are very successful creations among them, but there are also many devices for which you have



▲ Plug-in card technology and switching power supplies: Progressive Audio follows its own ideas of the perfect amplifier.



▲ The silver boxes are the input transformers built by Progressive Audio itself.



▲ Switching power supply units instead of thick transformers and electric batteries: the A 901 from its modern side

to search for the right loudspeaker, simply because a small damping factor and a wobbly load stability almost rule out any pairing – this applies to both tube and transistor amplifiers.

Koenen wanted nothing to do with such imponderables, so although the A 901 also has a weak attenuation factor due to the lack of overall feedback, Progressive Audio promises the highest enjoyment and most dynamic sound, even on loudspeakers with adventurous impedance curves.

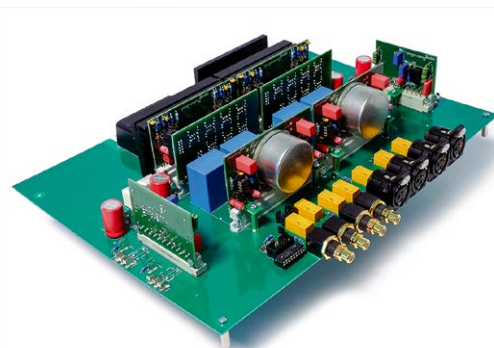
Yet the A 901 doesn't look like a powerhouse on paper, so in order to ensure this performance even on low-impedance loudspeakers, an excellent and preferably oversized power supply unit is required. But if you look at the 901, you'll be thwarted in your assumptions – there are no huge toroidal transformers, no epic accumulation of electrolytic batteries of epic proportions.

Koene's solution is a switching power supply, with the designer having put a lot

of thought, energy and money into this in order avoid slowing down the circuitry. After all, there's not much point in building your map for power and speed, then hobbling it with the power supply.

The input transformers, like other amplifier modules, are mounted on a circuit board using service-friendly plug-in card technology, and proved quite a challenge – not least because Progressive Audio chooses to manufacture them itself, complete with their very small windings and a bandwidth of up to 80 kHz. These current transformers also provide interference-free signal transmission and relieve the output stage of the connected source device by galvanically isolating the inputs, while Koenen also promises perfect balancing of the unbalanced inputs. Another special feature of the transformers is that they do not exhibit any of the otherwise usual and inevitable resonances in the core material, as Koenen emphasizes.

Something else stands out when you look inside: the volume control uses not



▲ Plug-in card technology ensures service-friendliness and updateability.

a conventional potentiometer, but rather a relay matrix of selected and trimmed resistors. Working in 128 steps, this ensures the volume is adjusted to exactly the same level on both channels, without distortion; there's also remote operation via the metal handset.

The pride of the developer remains: the output stage section is built up with silicon carbide transistors, implemented without any feedback, these Infineon devices having a characteristic curve even steeper than that of a tube. The advantages that this brings are, according to Koenen, go well beyond the scope of this report; but in our measurements and sound alike, this amplifier delivered a completely convincing performance.

It worth mentioning – because you can hardly overlook it – the quality of the finish: the aluminum casework is anodized in natural or black, and the clearly legible display is available in blue or red, all of which inspires confidence and give the amplifier an air of being made for all eternity.

The vice squad

Amplifiers without feedback are often said to have a softened, almost spongy lower frequency range, but those who have experienced flamenco guitars, stormy strings or an agile percussionist over the A 901 will quickly reject this idea, so vice-like is the grip this amplifier exerts over the speakers.

The bass is not just audibly well-extended, but also clean and perceptibly powerfully perceptible, and indeed any impulses, no matter what the frequency,

are beaten out with a speed, an almost explosive power, that's such a joy. The quality of musicians such as Joanne Shaw Taylor, who sits between Beth Hart and Norah Jones, is served up on a silver platter, the performance never lacking flexibility, flow and charm.

Musical structures always remain in the right order at the right time, as if held by an invisible string, but always convey the feeling of being able to pursue their activity without any restraint – to thrilling effect! The pressure the 901 is able to build up in the vocal range is not inferior to that available from the most captivating tube amps I know, and while the way it delivers Eva Cassidy isn't quite in the 300B tube class, it scores with its flawless balance in both fine and coarse dynamics.

The sound is spacious without becoming hazy, being clearly outlined despite all the generosity, meaning you can immediately sense where the recording took place – or where it was manipulated on the mixing desk!

The bottom line is that Progressive Audio has delivered an exclusive, future-proof design, combining absolutely convincing practicality with true high-end ability. And best of all, this clever stuff is „Made in Germany!“

Michael Lang

KEYWORD

Winding capacitance: Capacitance produced between the winding and the core – usually iron – of a transformer.



▲ Two inputs each on RCA phonos and XLRs, with high-quality bi-wiring loudspeaker terminals from Furutech

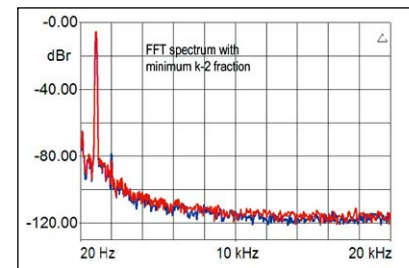
PROGRESSIVE AUDIO A 901



11500 €
Warranty: 5 years
Contact: Padis
Phone: +49 2054 9385793,
www.progressiveaudio.de

Outstanding musical qualities mean that, with their own independent technical approaches, the Essen-based company makes one of the world's top amplifiers. Everything is right here: sound, workmanship, exclusivity - and even the price is right.

MEASUREMENT RESULTS



Continuous power (8 Ohm / 40hm)	33.4 W/60 W
Pulse power 4 Ohm (1kHz)	87.6 W
Distortion at 50mW/5W/1dB Pmax	0.02%/0.07%/0.3 %
Intermod. 50mW/5W/1dB Pmax	0.04%/0.2%/0.4 %
Signal-to-noise ratio at 50mW/ 5W	79.4 dB/85.2 dB
Damping at 4 Ohm (63Hz/1kHz/14kHz)	8/7/7
Upper cut-off frequency (-3dB/40hm)	>80 kHz
Crosstalk Line 1 > Line 2	82.4 dB
Synchronization error volume at -60dB	0.02 dB



LABORATORY COMMENT:

Very broadband and „fast“ switching, first-class measured values. Noise, hum, crosstalk, channel balance values are among the best, while the low damping factor and the manageable power delivered in pure Class A operation are remarkable from a measurement point of view.

FEATURES

Symmetrical design, double mono; switching power supplies, balancing of the RCA inputs via transformer; display, remote control; available in black or natural aluminum

STEREO-TEST

SOUND QUALITY **98%**

PRICE/PERFORMANCE





MUSIC AND POETRY

This ATM-300 is a special Jubilee model for 30 years of Air Tight, and a monument to aesthetics and meticulous construction.

The history of Air Tight as a small, extremely quality-oriented high-end manufacturer is inseparable from one of the world's oldest hi-fi companies and its Luxman brand, probably founded in 1925. Atsushi Miura not only held various positions at the legendary Lux Corporation from 1956 to 1986, he also married the daughter of founder K. Yoshikawa in 1961, literally becoming a member of the Luxman family. But as it became increasingly apparent that the market was shifting towards lower-quality components, Miura-san sold Luxman to Alpine and founded A+M Limited and its Air Tight brand, the name indicating not just the controlled low frequency its

products delivered – not necessarily a given in the world of tubes, but also the vacuum tubes themselves, which are at the core of all those products.

Meanwhile Miura, aged 83 and over, has run his company for more than 30 years now and, although his succession seems to be settled, is still bubbling with ideas. They may say in Japan that at 80 you get an invitation to another world, but Miura will pass on that one for now – he says „It's too early, I've got too much to do.“

Power amp or integrated?

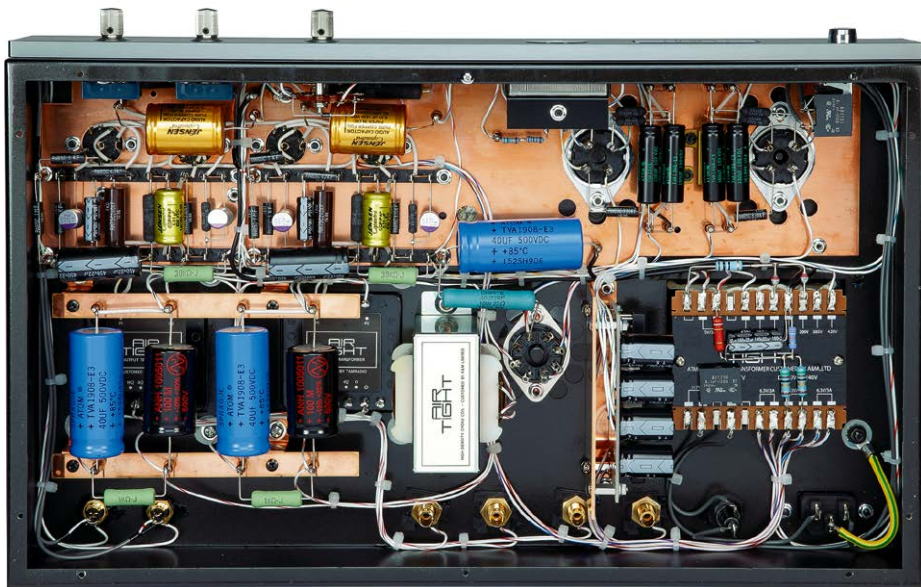
The integrated amp before us – the ATM-300 30th Anniversary Edition, to give it

its full title – was launched in 2016 and is actually not an integrated amp at all. Or maybe it is...

You see, the manufacturer itself calls this a „power amplifier“, the original version of which was launched a little over 15 years ago, built around the legendary 300B output tube. However, the provision



▲ The special Takatsuki TA-300B tube set, manufactured and matched especially for the Anniversary version, costs around 2500 euros.



▲ If even a free-wire construction looks as formally accurate as a Japanese haiku, it's likely that you're looking inside an Air Tight amplifier.



▲ The tube sockets are made very complex, the massive copper insert serving for contact and ground optimization as well as shielding.

of separate level controls for left and right channels means you could – in a single-source system – use this as an integrated amp of great purity, at least if you're prepared to spend a little time juggling the two levels to achieve the correct balance. Or of course you could use it with a source components it its own output level control – but then you're back to it being a power amplifier again. Confusing, isn't it?

KEYWORD

300B: Legendary triode power tube originally developed by Western Electric.

In our tests as we found reproducibly that our ATM-300 Anniversary hums a little bit (power supply) and there's a little mechanical noise from the tubes, but the extent of this phenomenon is minimal, and only noticeable during breaks in the music and when you are close to the amplifier. And even then it's never disturbing.

Possibly world class

The Air Tight need fear no other amplifier in the world when it comes to reproducing Eva Cassidy or Norah Jones at moderate levels on the best high efficiency loudspeakers, especially if those singers are surrounded by small ensembles of acoustic instruments. It lends the music a magical aura, filled with incredibly fine details. As I said, that's absolutely world class.

As a martial artist for many years and later an employee of a Japanese multinational corporation, I am at least to some

extent familiar with the Japanese principle of the quest for absolute perfection and simultaneous acceptance of imperfection (Wabi-Sabi). And I see that in this amplifier: pragmatically, it's only willing to compromise on less focused things, such as measured values or available power, which are unimportant as long as the poetry is preserved. The overriding goal of its creation is the ultimate sound.

For example, just as a heavy European two-handed sword will achieve a knockdown, it has none of the speed and aesthetics of a razor-sharp Katana when it comes to dispatching its victim. The Katana is the epitome of achievable perfection – oh, and the best of those blades is even more difficult to get and pay for than this amplifier!

The bass here is tight, though not very punchy – not surprising in view of the low output power – but it's the charismatic, even seductively beautiful overall presentation of the Air Tight that makes it the „winner“ when you listen. It's full-bodied, creamy, and yes, enchanting – but at the same time the sound is precise and tremendously detailed as well as extremely supple. When this amplifier goes to work, you can't – and don't want to talk about – work any more.

The whole sound is practically unprecedented in terms of depth, space and color, especially true with a female voice or a

boys' choir with church organ sounds. The multi-faceted, three-dimensional and realistic performance evokes authentic memories in me, a stunning experience my skin involuntarily acknowledges with goosebumps. That same feat is achieved by only one of the other two amplifiers here, and that one needs to make a more obvious show of flexing its muscles to achieve it. The Air Tight just does it, with simple elegance and grace.

Prize and dignity

So is it unreasonable to buy an amplifier that costs 14,500 euros, let alone one so puritanically and uncompromisingly designed, with little power, input for only one source and no remote control? Ask yourself that question, and then try to think of the last time you made any purely rational, unemotional decisions.

Exactly: this Air Tight is one of the most beautiful amplifiers of all, undoubtedly an adornment for every living room with high quality furnishings. And the awareness of having something of such outstanding quality is isn't something to underestimate.

Unique creation

And acoustically? Well, as far as the reproduction of voices, acoustic instruments and small instrumentations at low to moderate levels is concerned, we know of no better, more emotionally touching

or lastingly impressive amplifier than this jewel of Japanese craftsmanship. Despite the above-mentioned restrictions in terms of comfort and performance, such as the obligatory use of excellent, efficient loudspeakers, we can - and must - simply recommend this amplifier in good conscience.

This product is unique, a creation in which the sound artist Sensei Miura has immortalized himself for posterity. And its sound, although not quite universal, can be called absolutely supernatural. An owner will be able to enjoy it every day for many years to come, and perhaps the Air Tight will even be suitable for a more specialized secondary system for particularly well-to-do fans, in order to slow down the daily routine with maximum enjoyment.

By the way, and before we forget it, there's also been that „normal“ ATM-300 for about 16 years, using two General Electric tubes instead of the special Takatsuki 300B in the „Anniversary“, and also allowing switching between „with“

and „without“ feedback. This saves a hefty 3000 euros, but still the Anniversary may seem like the better value.

And the luxury extends to the choice of components and construction, with even the tiniest resistor or capacitor hand-chosen, and the chassis made from laser-cut solid copper. Invisible fixings are used throughout, with not a screwhead in sight at a glance, giving the lie to the idea that tube amplifiers are often somewhat functional, or even agricultural. I myself have a very rare and good Japanese EL34 tube power amplifier from 1958, also with input regulators and freely wired, but it looks rather chaotic from below. There's none of that here - just an immaculate example of point-to-point wiring that's a work of art in itself.

Once again, this is not an off-the-shelf amplifier, but rather the reality of a philosophy that has become metal and glass, for which the ear is the only instrument worthy of judging its quality. Anniversary is a very special masterpiece, a legacy.

Tom Frantzen



▲ The amplifier is simple and cleanly beautiful in its construction. The missing tap on the two output transformers indicates it has been optimized for an impedance of eight ohms.

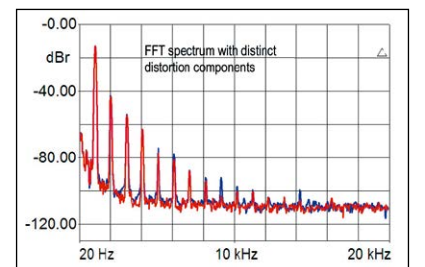
AIR TIGHT ATM-300 ANNIVERSARY



around 14500 €
 Dimensions: 43 x 25 x 28 cm (WxHxD)
 Warranty: 2 years
 Contact: Axiss Europe
 Phone: +81 72 678 00 64
 global.airtight-am.net

Uncompromisingly crafted 300B tube/preamplifier with low power, but superbly harmonic sound. The reproduction of voices and acoustic instruments is world class, but it's only recommended for high efficiency loudspeakers.

MEASUREMENT RESULTS



Continuous power (8 Ohm / 40hm)	8.6 W/4.2 W
Pulse power 4 Ohm (1kHz)	8.3 W
Distortion at 50mW/5W/1dB Pmax	0,2 %/1,4 %/2,7 %
Intermodu. 50mW/5W/1dB Pmax	0.07 %/0.6 %/1.1 %
Signal-to-noise ratio at 50mW/ 5W	60.1 dB/77.2 dB
Damping. to 4 Ohm (63Hz/1kHz/14kHz)	7/6/5
Upper cut-off frequency (-3dB/40hm)	75 kHz
Power consumption Sby/Use (at)	<2 W/150 W224 Volt



LABORATORY COMMENT:
 The power was measured at 3% distortion, the device is optimized for eight-ohm speakers. The transmission values are fine. The device shows minimal buzzing of the rectifier tube and humming of the transformer, but both are quiet.

FEATURES

One high-level/power stage input, input controller, bias control (with display), one pair of speaker terminals

STEREO-TEST

SOUND QUALITY 98%

PRICE/PERFORMANCE

★ ★ ☆ ☆ ☆

GOOD



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DALI SOUND WITHOUT BOUNDARIES

The DALI KATCH strikes the perfect balance between portability and performance, offering true audio DNA in a handy, elegant design.

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PRODUCT OF THE YEAR
Best portable wireless speaker £200+
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Available in three colours:



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WITH THE BEETLE

Tiny, and weighing just a few grams, Audioquest's „Beetle“ bluetooth DAC is further proof that the cable manufacturer has become a serious digital specialist

Audioquest, led by quiet mastermind Bill Low, has for decades been one of the hi-fi market's leading suppliers of quality cables at moderate prices. What's more, the catalogue from the Irvine, California company also has wires likely to be confused with an anaconda, such is their thickness, at prices ranging up into luxury watch territory.

However, of late times have become harder for cable manufacturers. Not only is their an ever-growing number of suppliers of connection products, meaning the cake must be more minutely divided, but for years now a specter has been haunting the hi-fi accessory business – wireless connectivity. For a cable manufacturer, this can only be seen as a threat to one's own existence – wireless means no wire!

Reacting to this, Low decided to pursue a strategy of diversification, deciding to gain a foothold with his products in other areas of the hi-fi chain. The first step was the engagement of specialists in different fields: several software and hardware developers for digital audio were engaged, as well as the young engineer Skylar Gray, who took up the topic of headphones from scratch. In the area of power supply/electricity purification, Low was also able to bring into his team Garth Powell, one of the world's most recognized specialists in this field.

Simple handling

Among the first fruits of this policy were the little 'USB stick' Dragonfly DAC/headphone amp; now comes the – only slightly – larger Beetle, for which an important development criterion was to

Audioquest has the right connection for every conceivable application. ►



make it usable without long study of the operating instructions. So, to see whether that objective has been achieved, we ignored the information supplied, unpacked the Beetle and looked at what could be done with it.

And it's simple: the selected function is indicated by an LED, which lights up in different colors, while the optical Toslink input promises to enhance the sound of a CD or DVD player – or any kind of digital device a suitable output, which nowadays includes many TVs. So far, so normal, but the Beetle has even more to offer: if you own a computer, it can be connected using the USB Type B input, with data processing then controlled by the DAC's internal clock, rather than that of the sending device – in other words 'asynchronous data transfer'.

The digital section itself has also been tuned in-house: at the heart of the Beetle is the familiar ESS Sabre 9010 chipset, but with a digital filter been trimmed to minimize phase errors for the most precise spatial reproduction possible, while the digital volume control is of a 64-bit, bit-perfect design.

Beetle receives Bluetooth

That volume controls is available with both USB and Bluetooth inputs, and Audioquest has given the Beetle a software-upgradable asynchronous Bluetooth implementation, with the promise of improved speech intelligibility and reduced jitter even at a maximum 320kbps data-rate.

The power supply unit use a classic analog transformer instead of a cheap switching power supply, another sign of the obsession with detail of the Irvine engineers, and the sound of the Beetle can be further improved with the insertion of the €49 Jitterbug in the USB line. However, true to its roots Audioquest might suggest a better USB cable might minimize losses in the sound – one of its entry-level models will cost you about €29.

The Beetle finds makes its wireless connection in a few moments, with no obvious bugs (sorry!), and even an experiment in sending YouTube soundtracks from computer to an old tape deck was a success right away. A more common application will be connecting music on a mobile phone to a

hi-fi system, and this D/A converter, weighing only a few grams, more than fulfils this task.

True, the sound might not satisfy a 'golden-ear' as the last word in digital audio quality, but when it comes to price, sound and flexibility, it's hard not to conclude that this Beetle offers excellent value for money.

Michael Lang

KEYWORD

Bitstream processing: Unlike PCM formats in which data is bundled into packets, DSD runs in a constant, unstructured datastream, where all bits are equivalent.



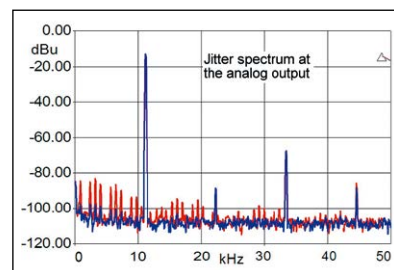
▲ Toslink and USB digital inputs are joined by a 3.5mm analog output to connect to headphones, active speakers, amplifiers or a sound bar

AUDIOQUEST BEETLE

for 200 €
 Warranty: 2 years
 Contact: Audioquest
 Phone: +31 165 54 1404
 www.audioquest.com

Converter with USB and Toslink connection, as well as asynchronous Bluetooth from a source such as a mobile phone or computer. 3.5mm stereo analog output. MQA compatibility via a future firmware update.

MEASUREMENT RESULTS



LABORATORY COMMENT: The measurement results are very good to excellent, only the overload resistance in Toslink mode can lead to distortion in extreme cases.

CONNECTIVITY

USB-B input, asynchronous, up to 24/96, without driver; Toslink input, 3.5 mm jack input; Bluetooth receiver; analog power supply

STEREO-TEST

SOUND QUALITY **72%**

PRICE/PERFORMANCE

★★★★☆
EXCELLENT



A GOOD TIP AMONG FRIENDS

Are you looking for a truly convincing-sounding MC cartridge with the finest ingredients yet at an affordable price? The Clearaudio Concept MC fits the bill, and so good you'll be recommending to your friends.

Cartridges may be small, but they can command big money. You see, the exterior size tells you nothing: here value is determined by quality parts, elaborately precise assembly and applied knowhow. So, looking for an recommendation among the popular moving-coil models, preferably without breaking the bank, we found Clearaudio's Concept MC. Maybe that was no surprise – we've been consistently impressed by the

quality of the current MM and MC cartridges from the Erlangen manufacturer, which at times have gone way beyond already high expectations – but still we were curious about the quality of the Concept MC, as Clearaudio's least expensive MC model.

It doesn't look like corners have been cut: the ceramic-coated and resonance-resistant housing is made of an aluminum-magnesium alloy, which shimmers

in elegant black, the cantilever is extremely hard, light and stiff boron and the stylus itself is of a "Micro Line" profile, promising a pronounced love of detail and dynamics. All of these have long been central elements of Clearaudio's sound philosophy, along with precise tuning and excellent presence. The Concept MC not only measures extremely well (see diagram) but also lives up to the company's "house sound".

The eight-gram Clearaudio is easily accommodated, needing a fairly normal 20mN tracking force, and its minimal 100ohm impedance requirement makes it compatible with the moving coil stages commonly in preamps and integrated amplifiers. If adjustment is possible, one should choose between 150 and 200 ohms, but higher impedances will start to affect to the open and detailed high frequencies available here. The output voltage is in the MC midfield, and in terms of compliance, the Concept MC will matches the midrange tonearms commonly used today, such as Jelco's popular SA-250, which we mainly used in the test.

So far, so easygoing, but one thing should be kept in mind: the horizontal alignment of the arm tube. Just out of habit, we started our hearing tests with a tonearm lift of one or two millimeters, which usually makes cartridges sound a little more sensitive without disturbing the homogeneity. The Concept MC, however, responded this setting with a slightly harsh, hoarse touch in the mid-range, which at first we thought would disappear with different recordings recording. Not so: it was only when the tonearm was dropped in to an entirely

parallel setting that the Clearaudio settled down.

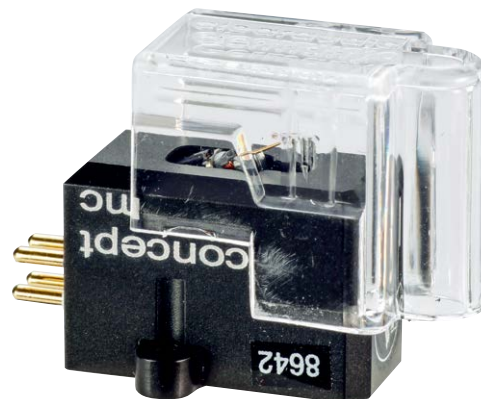
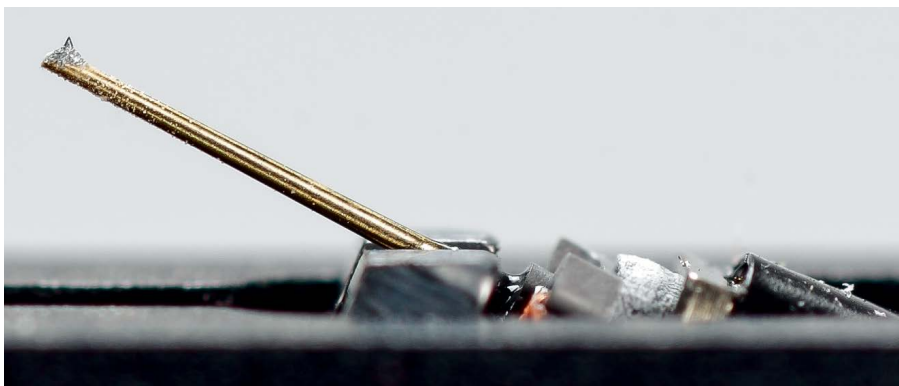
A master of space

That doesn't make the Concept MC a "softy", of course: instead it sounds clear and clean, with sharply focus and three-dimensionality. And that's not all: the its sets the class standard in terms of spaciousness and soundstage layering, the synthesizer clouds from the soundtrack of "The Vietnam War" fading away into the depths of endless jungle worlds, Lyn Stanley's voice on "Girl Talk" standing clearly in front of the band, and the Red Norvo Quintet's "Saturday Night" presented in orderly manner, without any moderating of the liveliness of the performance.

Pronounced fine and coarse dynamics are among the merits of this cartridge, with music at turns smooth and effervescent, the bass fine-edged, sinewy and firm bass, and the midband and treble playful and nuanced overtone range. In fact, the Concept MC is really only challenged by even more expensive competitors, such as the company's sonorous, colorful V2 Gold. But then that one costs twice as much – which might just test the limits of those friendships.

Matthias Böde

A boron rod forms the cantilever, to which the „Micro Line“ stylus is fixed precisely using epoxy adhesive. ▼



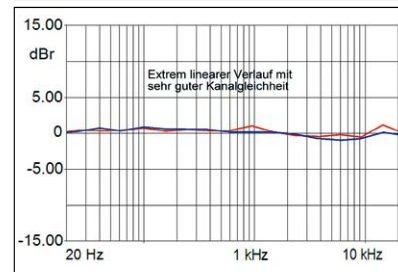
▲ The stylus protector included in the kit also fits other Clearaudio moving coils and leaves plenty of space around the vulnerable diamond. But put it on carefully!

CLEARAUDIO CONCEPT MC

Price: at 750 €,
 Warranty: 2 years
 Contact: Clearaudio
 Phone: +49 9131 40300100,
 www.clearaudio.de

Clearaudio's most affordable MC cartridge follows the sound profile of the company's more expensive models, delivering a sound all about clarity, attention to detail and liveliness. High-quality parts and precise workmanship make the Concept MC a fine buy for price-conscious high-end users.

MEASUREMENT RESULTS



STEREO - TEST

SOUND QUALITY **79%**

PRICE/PERFORMANCE



OUTSTANDING

A POWERFUL PERFORMANCE
ALWAYS WINS THE GRAND PRIX



Q MINGUS QUINTET

Mingus Quintet offers Coltrane level sound at a fraction of the cost. It packs a punch, featuring the same groundbreaking CELL - technology as Coltrane Supreme 2 and Coltrane 3.

Making use of the same diamond tweeters and ceramic midrange as Coltrane Supreme 2, Mingus Quintet is a technological powerhouse, at a more affordable price.

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Cayin CS-845A remote controlled valve amplifier

From Cayin comes an integrated amplifier with tube working from 'front to back'. Via its EL output transformers, the CS-845A can deliver 2x24 to its the gold-plated loudspeaker terminals. The power supply uses a toroidal transformer, with a 'soft start' switch-on delay for the high-voltage supply to protects the tubes. To adjust the damping factor optimally to the loudspeakers in use, the feedback of the output stage can be adjusted in two stages. Potentiometers on the top handle hum adjustment and bias, the latter aided with a built-in meter, and all functions including adjustment of the feedback factor can be controlled by the remote control, which also 'drives' the motorised Alps potentiometer for volume adjustment.



With three line inputs and a direct input to the power amplifier, the CS-845A is available now in silver and black at a price of 5,900 euros.

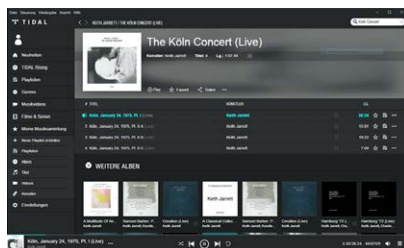
Sonus Faber renews its flagship

As tall as a man and weighing 330 kilos a pair, these are the revised „Aida“ loudspeakers from Sonus faber. Revised? Well, externally they've hardly changed from the first generation, originally launched six years ago: their curved shape reminds one of a lyre, and the laterally attached „wings“ lend the speaker a certain lightness. However, the drivers are new: the speaker is a „32/3-way“ system, with a tweeter and a midrange driver, two 22cm woofers radiating different frequency ranges, and a downward-firing subwoofer for frequencies below 55Hz. This last driver has a 32cm cone and a voice coil with a diameter of no less than 10 cm, and its level can be adjusted according to the installation location. Another tweeter and midrange driver are located on the rear of the speaker, the proportion of direct to indirect radiated sound being adjustable, and the Sonus faber uses the company's usual ingenuity of construction to combat resonance. The new Aida will be launched in December in a choice of veneers –walnut, wenge and classic „Sonus faber Red“ – at €100,000/pr.



ECM releases streaming!

The jazz label ECM was long one of the fiercest opponents of music streaming, but all that changed on November 16th, when the company made its entire catalogue available for streaming on Apple Music, Amazon, Deezer, Qobuz, Spotify and Tidal. Tidal streams albums like Keith Jarrett's legendary Köln Concert in MQA format, while Qobuz offers it to HiRes subscribers in 24bit/96kHz. ECM's long-standing distribution partner Universal Music's Deutsche Grammophon division handles the streaming. ECM emphasizes that CD and LP are still its preferred media, but the intention of its latest move is to counteract illegal streaming via sharing platforms, by offering a legal streaming alternative.



Special model for Audionet's anniversary

The German high-end manufacturer Audionet is celebrating its 20th anniversary with further refinements to its SAM amplifier, bringing it up to date with latest



developments. It will be marketed as „SAM 20 SE“ for around 7,000 euros, and among other things the power transistors, the main filter capacitors in the power supply, the signal cables (now made of silver and gold) and new mica capacitors have been renewed at all sound-relevant points. The phono module has also been refined, and is now permanently installed, while Audionet has also added its own metal remote control.

McIntosh 1200W mono amplifier

Replacing the MC1.2KW, McIntosh is set to introduce its biggest monobloc, the „MC1.25KW Quad Balanced Power Amplifier“. Weighing almost 72 kilograms and producing 1.2kW, regardless of the speaker impedance, it features a number of enhancements. The filter capacity in the



power supply has been increased by 50%, and the power transformer, the larger cross-section internal wiring and automatic switch-off (after an adjustable idle time) are all new, and when switched on, the MC1.25 should immediately produce its full sound quality - no warm-up is required. However, the Power meter on the front panel has been carried over on the front was not changed. Initially launched in the USA, it will cost \$12,500 plus any applicable taxes and shipping – and of course you'll need two!

Marantz PM 8006 packs a novel phono stage

The new Marantz PM 8006 is a classic, purely analogue integrated amplifier, but with a twist: the developers of the €1200 amp, available in black or silver gold in December, have designed a new high-quality, low-noise phono stage. The MM phono preamp combines Marantz HDAM modules with JFETs (Junction gate Field Effect Transistors), with RIAA correction



is done in an HDAM module, and amplification is performed by a Class A operational amplifier. The output power of the PM8006 is quoted at 70W per channel into 8 ohms, all five pairs of line input jacks and phono terminals are gold-plated, and there are preamp out and power amp input sockets, plus two pairs of speaker terminals with A/B switching. Other special features are the separate sound controls for bass, midrange and treble, double-shielded toroidal transformer and the triple-reinforced base plate to prevent vibrations. Against the trend of Japanese manufacturers making their products in China to trim costs, the PM 8006 is made in Japan.

Gold diaphragms for golden ears?

Edition 15 is the name of a new high-end headphone from Ultrasonex, preserving its classic design with elongated earcups, but with an open-back configuration. The housings have a stainless steel back panel with fine hole pattern, set in American cherry wood mounted at an angle in „S-LogicEX” arrangement. Inside are drivers combining titanium and a gold coating, while the headband is covered with merino sheepskin and the interchangeable ear pads with micro velour to ensure comfort. The four-wire cable is interchangeable, using Lemo plugs at the housings: the standard unbalanced mini jack cable can be replaced with a balanced version if required. Limited to a production run of just 999 units, the German-made headphone comes with a five-year warranty, and is on sale now at 2500 euros.



Intelligent subwoofers from KEF

KEF's new Kube series comprises three models, the Kube 8b, 10b and 12b, using 20cm, 25cm and 30cm drivers respectively. Each is driven by a 300-watt Class D amplifier, and uses intelligent DSP electronics to analyze the input signal and automatically lower bass peaks, allowing the sub to play louder without overloading. The DSP also provides an equalizer that adjusts the playback to the placement position (free/wall/corner), while the level and cut-off frequency can be continuously adjusted and the phase reversed. The Kube subwoofers can be fed from speaker outputs, full-range preouts or the LFE outputs on AV receivers, and the sealed box design makes them suitable for use close to a wall. The prices? 550, 650 and 750 Euro.



Tall and slim: Raidho X-5



Danish loudspeaker specialist Raidho presents its new flagship X-5 series: tall speakers with cabinets tapered to the rear. The high frequency range is reproduced by our and in-house ribbon, while the remaining frequencies are reproduced by bass-midrange drivers with ceramic/aluminium composite cones, also designed by Raidho. The XT-5 builds on this with the use of a new coating on each side of the cones, comprising two layers of Titanium and Titanium Nitride particles applied using a high-temperature sputter process, to create a composite, seven-layer membrane. The finishes are also exclusive: the speakers are either veneered with bird's-eye maple (pair price X-5 31.500 Euro, XT-5 39.600 Euro) or in black piano lacquer (26.900/35.500 Euro).

www.raidho.dk

Naim's all-in-one systems are Roon-ready

Roon Ready network players



Uniti Atom



Uniti Nova



Uniti Star

Roon Tested AirPlay devices



Mu-so

Via a firmware update, the Naim Uniti Atom, Uniti Nova, and Uniti Star network music systems now support Roon streaming, while the Mu-so and Mu-so Qb systems are already „Roon-tested AirPlay devices“. Naim's older network players are unlikely to support Roon since they don't support AirPlay and use an older streaming platform. The Roon implementation is the first 'proof of concept' for the 'platform for the future' on which the latest Uniti devices are built.

dCS supports MQA

Another renowned DAC manufacturer, Britain's dCS, has integrated MQA decoding via a firmware update. The company's converters use proprietary, discrete hardware



components and special software instead of off-the-shelf DAC chips, and by the end of the year will be implemented on the „Rossini“, „Vivaldi One“, the „Network Bridge“ and the Vivaldi DAC & upsampler.

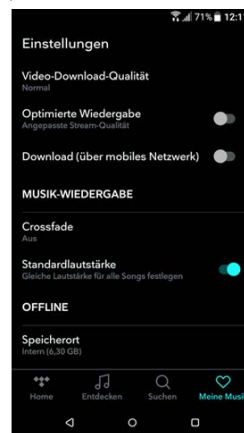
AVM reworks its entry-level phono amp

AVM's entry-level phono preamplifier has gained a subsonic filter and optimized the signal pathways: now called the P30, it has pluggable loading resistors for the MC section, an external silent power supply and solid aluminium housing, and sells for 700 euros in a choice of silver or black.



Tidal activates volume normalization

Tidal's iOS and Android apps have always allow you to activate volume normalization by going into the settings, but the function was turned off as a default, Tidal saying it didn't want to mess with artists' work. However, in the latest version of the apps, Tidal has enabled loudness adjustment by default, and given that most users never delve into the settings of their apps, those who have never heard Tidal with normalization will now experience the adjusted volume. Eelco Grimm of Grimm Audio, who conducted a research project for Tidal on loudness, praises the new move: "It's not only more pleasant for the listener, but also helps to end the 'Loudness War'". Normalization results in a much quieter reproduction of highly dynamic-compressed tracks, meaning labels and producers will no longer be interested in squeezing the dynamics for maximum impact.



Tidal's implementation, which follows similar moves by Spotify and YouTube in their apps, applies the album-oriented normalization to avoid any artistically intended differences in volume: all tracks of an album are reduced by the same amount in volume, in such a way that the loudest song reaches an average value of -14 LUFS (Loudness Unit Full Scale). However, this is only valid for playback on apps: volume normalization can't be set in Tidal's desktop application.

Turning two into three

Dynaudio's new "Sub 6" subwoofer allows the company's two-way speakers to be transformed into perfectly integrated three-way systems. The properties of Dynaudio's loudspeakers are stored in the memory of the „Sub 6“: select the relevant speaker on the display, and the frequency transition of the Sub 6 is then perfectly matched. In addition, the Sub 6 can compensate for different positions of the sub and main speakers: enter into the sub the distance between it and the loudspeaker, and phase and signal delay are adjusted automatically. In addition, the Sub 6 contains a three-way parametric equalizer, which can be used to attenuate room modes in a targeted manner: as with the other settings, this is made possible by the built-in DSP. The Sub 6 uses two 24cm drivers, mounted in opposition and driven by a 500W amplifier; available in satin black or white, it sells for 2500 Euro.



possible by the built-in DSP. The Sub 6 uses two 24cm drivers, mounted in opposition and driven by a 500W amplifier; available in satin black or white, it sells for 2500 Euro.

www.dynaudio.com

Mobile server and network player

Chord Electronics has a new solution for mobile music playback: its „Poly“ is an add-on device for the „Mojo“ mobile DAC, and plugs directly onto it. It can play music from a microSD card and outputs it to the DAC, and also act as a network player, with music selected via a smartphone/tablet app. The Poly can act as a DLNA server, making a music library available to the smartphone via Wi-Fi, and if no router is range, the Poly can even set up its own WLAN hotspot. It can also receive music from iOS devices via AirPlay, and from others via Bluetooth, and in a home network will stream from PCs or NAS units, accepting PCM files (WAV, FLAC, AIFF, ALAC) up to a sampling rate of 768 kHz, DSD files up to 11.2 MHz, and also decode AAC, MP3, WMA and OGG. Access to Spotify and Tidal is promised by Chord Electronics via a future update. With a claimed battery life of 9 hours between charges, and a black anodized solid aluminum case, the British-made devices is available now for £500 pounds, and soon to be available in export markets including Germany.



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DIAMOND LIFE

Cleverly shaped diamonds add the finishing sparkle to the sound of cartridges. Here we explain what it's all about, and compare the sound of the most common stylus profiles



Gyger, Replicant 100, Shibata, Micro Ridge – talk cartridges and you'll come across such descriptions of the shape of the stylus used. But do we know what the various profiles are, or what difference they make to the sound? Is it a classic case of marketing based on the (almost literally) invisible benefits?

Well, it all began with a very simple design, the conical round stylus, which is a straight triangular shape in profile, and a tapering circle in cross-section: it's still found in inexpensive cartridges or for special applications such as playing old discs, from mono releases to old 78rpm recordings.

However, it was soon discovered that there were more accurate ways of reading a disc, and it involved getting intimate!

between the stylus and the groove walls, allowing the modulations to be tracked, not attacked.

And it wasn't just about extracting stereo: the analog "CD4 quadrophony" that emerged at the time exerted even more pressure on stylus profiles, as the signals for the two rear channels were delivered by shifting them up beyond the normal audible range, to between 30kHz and 60kHz. A decoder was used to return these signals to audibility, but the tracking of such fine modulations was a challenge beyond the capabilities of the standard stylus profiles of time.

The story of "CD4", but also of the less demanding, inferior "SQ" quadrophony, in which the additional channels were "hidden" in the normal listening area and



»WHY LINE CONTACT PROFILES SOUND SO DIFFERENT «

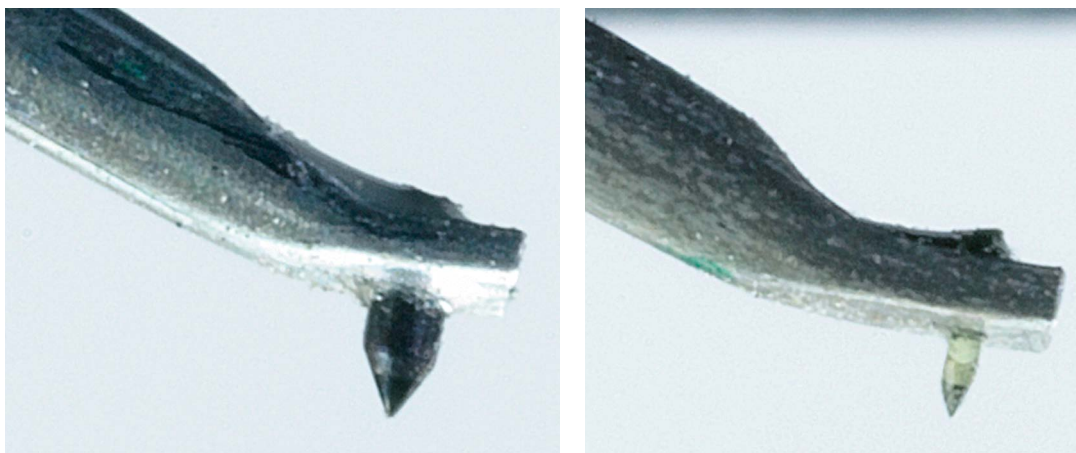
YOSUKE KOIZUMI, AUDIO-TECHNICA

With the coming of LPs, and the so-called 'microgroove' records packing more information onto their surface, the move was set to the elliptical stylus, its flattened profile allowing a closer fit into the narrower groove, and thus a greater ability to read the finer modulations, recovering more detail.

Practically all the modern stylus-grinding profiles are variations on, and refinements of, the so-called "line contact" shapes that originated in the 1970s. These were essentially concerned with improving two aspects: the high-frequency capabilities through a narrower shape, and reduced record wear via increased contact

decoded during playback, was finished long before the advent of the digital "Dolby Surround". But the special stylus cuts designed for these surround formats were retained, simply because they also offered advantages for stereo reproduction.

Among the most famous examples of this shape was the VDH-1, developed in 1978 by Dutch designer A. J. van den Hul as the result of 13 years as a hi-fi reviewer. 'AJ' had realized that the then-common 18-micron stylus radius had limitations when it came to reproducing all the modulations of the recorded signal, and – despite the fears of some that smaller radii would 'shave' the grooves as they played



◀ In addition to the profile, the fixing of the stylus into the cantilever assembly plays a role: on inexpensive cartridges it usually sits on a soldered cone (l.); in higher-quality designs it's often mounted „naked“ (r.).

them – introduced a stylus with an extremely small horizontal radius of just 2 microns (0.002mm). And thus was founded the company bearing the van den Hul name.

In the course of time, a whole flood of terms and names arose, their technical backgrounds known only to a few initiates. Cartridge manufacturers had their own custom-made styli ground, often only deviated from existing grindings in microscopic ways, but thus allowing them a unique product circumventing trademarks or patents. Some, in collaboration with Japanese suppliers Nagaoka, Namiki or Ogura – who cover the lion's share of the demand –, set about developing the sound with even better cut.

Cut the diamond, not the price

Even professionals can easily lose track of the details, but every supplier adorns at least its more exotic cartridges with allegedly more refined diamond cuts. The selection is not arbitrary – the manufacturers know what sounds good, just not necessarily why! – and in some model ranges the higher the hierarchy and price, the more time and effort go into grinding.

Ortofon, for example, has several MM and MC model ranges where each cartridge not only has a special diamond stylus, but also exotic cantilevers using aluminum, boron or even sapphire, depending on the quality and sound-tuning required. Even a true insider like the Yosuke Koizumi, who has been

developing Audio-Technica's cartridge range for about 15 years, frankly declares that he can't really explain why otherwise identical pickups sound different.

The company claims to be the world's largest cartridge producer, with models ranging from a few Euros to “if you need to ask” territory, but while Koizumi says there are practically no differences between different stylus profiles in the measurements, the effects are easy to hear. That's why the company chooses the right stylus for the job in the listening room, and has compiled an informative table to give laymen an overview of the most important profiles, their shapes and technical parameters (see page 18).

At least the most common stylus types can be compared in that table, along with practical matters: for example, if you have old discs damaged by an inaccurately installed – or simply worn-out – conical needle, you may find a “line contact” profile might give you a better sound. Why? “Simply because the stylus ‘reads’ areas of the groove that have not been touched before,” explains Koizumi, adding that this advantage that should not be underestimated, although it's is often not mentioned in the discussion about finest styli.

Koizumi says there are striking price differences between the stylus models, which are due to the suppliers and are simply passed through to the end-user, a view confirmed by Audio-Technica's competitors. Apparently, the different cuts vary considerably in the required

effort. For example, Audio-Technica's new “VM 700” cartridges use the already fine-tuned “Micro Koizumi Line” stylus (A-T's name for “Micro Ridge”), costing about 330 Euro, but that rises to €430 with a “Shibata” cut, and almost €700 for the “Super Line Contact” stylus.

Is this a case of pure upselling, or do these hefty premiums yield real sonic benefits? To find out, we tried the same 700-series cartridge body, with its pure copper coils and a “center shield” between them for maximum channel separation, with the Micro Line, Shibata and Super Line Contact stylus inserts (see box below). All three are identical except for the diamond cut employed, so that optimum comparability was guaranteed – and we also tried a technically slightly different insert with an elliptical stylus, both as it is the most common choice and to provide a baseline for the comparisons.

Unexpectedly clear

There are clear differences we would not have expected. Just as a car tire is the only contact point to the road, so it is with a stylus and the record groove: tires may all be black, and styli all diamonds, but while the finesse of the “profile” remains a case for the specialist, the deviations in performance are noticeable even by the layman. Okay, a good tire can save lives, whereas a high quality stylus “only” improves the sound of a record – but the gains are nevertheless worthwhile.

Matthias Böde

STYLUS PROFILES AND SOUND

With this hearing test, we entered uncharted territory. We have often used different MM or MC pickups from Clearaudio with various styli, or Ortofon models, but in those cases the cantilevers also varied from each other, or the internal ‘motor’ structure wasn’t completely identical.

For the first time here, we tried out different stylus inserts on a moving magnet cartridge body from Audio-Technica’s new 700 series, using three identical bodies so only the stylus differed. We also tried the elliptical counterpart from the Japanese company’s 500cc line, which fits into the 700cc body without any problems.

All the styli were well run in and carefully cleaned. The testing was done using the Jelco tonearm on our Transrotor Rondino nero reference turntable, which was aligned exactly horizontally and has a practical quick headshell coupling, allowing all changes to be completed within seconds.



▲ We borrowed the elliptical insert from Audio-Technica’s €200 VM530EN („EN” stands for „elliptical nude”, using a diamond stylus mounted „naked”). Under examination were the VM740ML („Micro Line”) and the VM750SH („Shibata”) as well as the top model of the 700 series, the VM760SLC („Super Line Contact”), at prices from approx. 330 to almost 700€.

Even the elliptical „standard version” stylus was convincing: without brightening or exaggerating the treble, it conveyed the radiant strings in Tacet’s recording of Vivaldi violin concertos. But the 700 cartridge has much more to give, and even with the „Micro Line” plug-in stylus module – the €330 VM740ML – the sound made a clear step forward. The instruments immediately moved away from each other, the upper layers were more velvety and rich in detail, and the overall reproduction more relaxed and with improved spatiality.

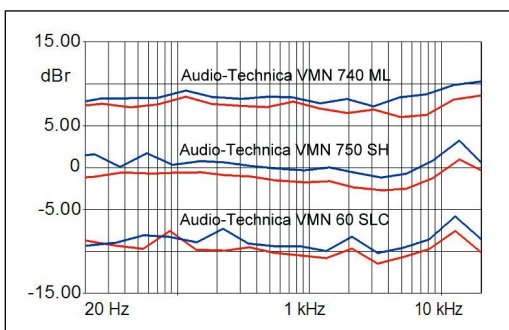
Listen to the “Micro Line” even for a short time, and the step back to the elliptical stylus is unpleasant, the lesser stylus sounding tight and yet a bit obtrusive, the tonal colors somewhat artificial.

Further examples across familiar test discs underlined this experience: the ML slide-in module, its striking narrow edge cut (see lead-in photo) patented by Namiki in 1983, brought across the hall atmosphere of Diana Krall’s „Paris” concert more authentically, providing finer tonal gradations and a more credible reproduction of voices. The live feeling and the flood of tiny details in the Red Norvo Quintet’s „Saturday Night” was also much more pronounced.

Next we switched to the €430 VM750SH stylus module – using the Shibata profile originally developed by JVC employee Norio Shibata for CD4 quadrophonics – and again the performance changed, the sound gaining density, pith and expression.

While the music had a rather light, loose, almost playful yet precise balance, it also became more serious, direct, targeted and massive. The differences touched on matters of taste, especially since this stylus slot tightened the image in the room, thus contributing to a more concentrated impression, but also robbed the performance of a little air. Personal impressions aside, however, the sound was decisively further above that of the basic elliptical profile.

The VM760SLC is by far the most expensive model at almost €700, but turned out to be clearly the best-sounding. It dispensed with the slightly flimsy overtone of the 740ML, as well as the directness and „confrontational response” of the 750SH,



The frequency response differs only slightly, despite the different styli.

developing a spacious, unaffectedly natural presentation of tonal colors, and precision in the microdynamics of the music. Neither of the lesser models delivered quite the tenderness and nonchalance with which the 760SLC breathed life into the Vivaldi concertos, the range-topper achieving an aura of luxury and a clear impression of stepping up a league with the price range.

It’s understandable where the 760SLC fits into the Audio-Technica offering, and anyone who owns a 740ML can upgrade at any time to this level of performance, or just buy a cartridge body plus two stylus modules, and swap them depending on the musical genre and taste.

The result is clear: the differences brought about by different stylus profiles are far from academic, and the fitting of complex styli into expensive cartridges is no mere marketing tool, but rather a technical and audiophile necessity for the most „polished” sound.



The rigid aluminum body of the 700 series moving magnet cartridge was equipped with the various inserts (bottom), differing only in stylus profile.

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