

STEREO

THE GERMAN HIFI MAGAZINE

ISSUE #17 2018

**> GAUDER'S DARC 100
HIGH-END
MADE IN
GERMANY**



**> BACK TO THE FUTURE
TECHNICS SL-1000R**

**REVIEWS: ROBERTS S 300 +++ ACCUPHASE C-2450 +++
BLUETOOTH ADAPTERS +++ QUADRAL AURUM VULKAN 9 +++
DYNAUDIO XEO 30 +++ AESTHETIX MIMAS AND MORE!**

Lebenslänglich



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PARSONS SAYS...



“Audiophiles don’t use their equipment to listen to your music. Audiophiles use your music to listen to their equipment.” (Alan Parsons)

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This quotation from an artist, who presumably owes a significant share of his great success to his own standards to sound and accordingly also to the mentioned audiophiles, seems at first somewhat disturbing, possibly insulting.

The questions remain: Is Parsons right? Is that really true? And if so, does it matter? The underlying motivations are probably not as stereotypical, but the two camps do definitely exist.

Much more often, however, there are people among hi-fi fans who equally appreciate both music and sound and have combined these two needs to an individual mix. For myself it, too, began with an early childhood musical education and led, more or less, automatically from the music to higher sound standards. Nevertheless, I would serve guests with specific pieces of music, which are not intended to ignite an interpretative discussion but (of course) to impress with their sound.

If one person enjoys listening to his 3000 records or CDs in the highest or even the best possible quality, another is more interested in indulging in and optimizing the sound of the same five records, the third likes to demonstrate his system to others from time to time and the fourth combines all three characteristics, then why not? Tolerance is everything, and everyone should do it as he wishes.

After all, our front yards don’t look the same, and we don’t all drive the same car. However, we share one of the undoubtedly most sensual and beautiful hobbies in the world!

In this spirit
your

Tom Frantzen
editor@stereo-magazine.com

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



TECHNICS SL-1000R

After Technic’s glorious analog comeback in 2016, the company has now topped off its range with this outstanding direct-drive turntable.



ACCUPHASE C-2450

As the company puts it in their brochure, in terms of sound the engineers where “simply aiming for the best”. Our test will clarify if they can keep their promise.

DYNAUDIO XEO 30

The Xeo series has been around for years and could deservedly accumulate a substantial fanbase. The most recent product update has brought many changes – and none for the worse.



DYNACO ST 70

It is the best-selling tube amplifier on the planet and 60 years after its first launch it is back as the “Series 3”. We’ll discuss what has changed and what remained.



**QUADRAL
AURUM
VULKAN 9**

Finding the right balance between power and delicacy is a difficult task for any loudspeaker manufacturer. Quadral have found the perfect combination.



BLUETOOTH ADAPTERS

Though Bluetooth is still heavily disputed in the audiophile world, it has some undeniable qualities and can be retrofitted to any hifi-system, using adapters.



AESTHETIX MIMAS

The Mimas is the American company's first integrated amplifier. Can it live up to the brand's reputation?



GAUDER DARC 100

Only the best ingredients, German attention to detail and a distinguished cabinet design. What else could you ask for?



ROBERTS S 300

The boundary between full-on hifi-systems and "simple" tabletop radios has ever been clearly defined. Can the S 300 contest the established prejudices?



AGES OF GOLD

Whether you already have the money or need to tediously save it: a more high-end investment than for the new Accuphase Pre C-2450 and the A-47 power amplifier can hardly be done – a rich return in sound included.

Future Accuphase owners will have to endure some initial pain, but are rewarded for their troubles with aureate times. More accurately, years of joy about the perfect workmanship, luxurious comfort, as well as the delightful sound. The unavoidable and painful moment is encountered at the retailer's checkout. And I know exactly what I'm talking about, since I paid exactly 2998 marks for the E-303 integrated amplifier in 1981. Certainly, the amp was as dear - and expensive - to me because, as a 19-year-old who was, at the time, doing his military service, this amount was a

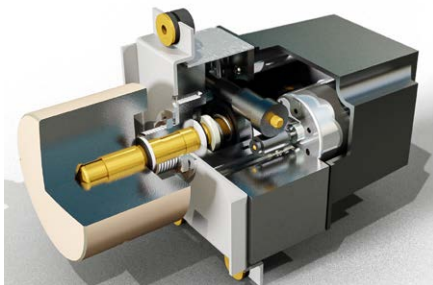
proper fortune and I had to tediously save the money. However, as soon as the Accuphase propelled my Celestion speakers to unprecedented levels, all pain and doubt was forgotten and pure euphoria took their place.

This is what I remembered when the Yokohamian luxury-brand's new preamplifier C-2450, combined with the Class-A power amplifier A-47, was performing superbly in our listening room. Together they are yours for 22,700 Euro. Of course, everyone has to decide for themselves, what they want to spend their more or less hard-earned money on. Nonetheless,

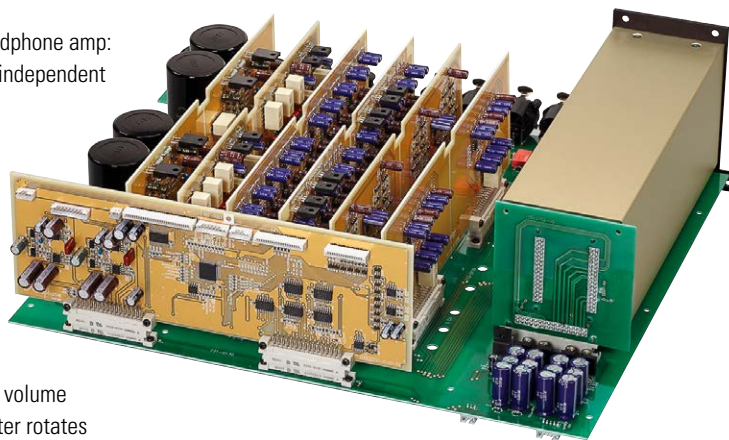
bearing in mind that in Germany the average price for a new car is currently a good 30,000 euros, the Japanese pair no longer seems as horrendously expensive. Especially since the car will probably be rusting on the scrapyard in 15 years, while the Accuphase duo could then, as experience has shown, still be as good as new.

However: such an expenditure is, first and foremost, about the happiness in the here-and-now, as well as the willingness to treat oneself. The financial impact will not be as drastic as it was for me back then, but the excitement will be the same. Because, with the Japanese amps the

Input buffer, AAVA control, balanced output circuit, headphone amp: the basic functions of the C-2450 are performed on six independent boards, separated by channels. ▶



◀ Authentic haptic: the volume knob of the angle adjuster rotates „true to touch“.



lavish opulence in effort and sound, as well as the dedication to an almost excessive accuracy can actually be felt. For example there is the ultra-complex „Accuphase Analog Vari-Gain“ volume control, AAVA for short, which ensures long-term consistency, highest precision and finest gradations. Whereby other manufacturers only use a very precise, traditional potentiometer or level control via resistor banks, the Accuphase developers, who, by the way, constantly change between product groups in order to give fresh ideas a chance, encountered limits in both ways. They, therefore, developed this all-analogue, for each channel individually executed, technology, which converts the signal into 16 differently weighted currents, whose combinations allow the creation of more than 65,500 intermediate values, making tenths-decibel steps possible over a wide range. While nobody needs this mega-resolution, it's undeniably very cool when the digits behind the decimal point run up and down.

Opulence - Precision – Sound

Because the level control, which is mounted in a solid aluminum block and suspended by means of insulators, rotates

as richly and smoothly, as if its axis rotated a grinding potentiometer of the highest quality instead of a sensor mechanism for angle detection, the listener doesn't notice any of this. Further, not only the AAVA works channel separated. The potent power supply of the Pre is comprised of separate banks with smoothing capacitors

TEST-COMPONENTS

- CD-/MULTIPLAYER: Accustic Arts Player I, Accuphase DP-560, T+A MP3100HV
- PRE-/POWER AMP: Accustic Arts Tube Preamp II MK2/Amp II-MK3
- SPEAKERS: B&W 800D3, Dynaudio Contour 60, Gauder Akustik Vescova Bl. Ed.
- CABLE: HMS Suprema, In-Acoustic NF-2404 (NF), HMS Gran Finale Jubilee (LS)

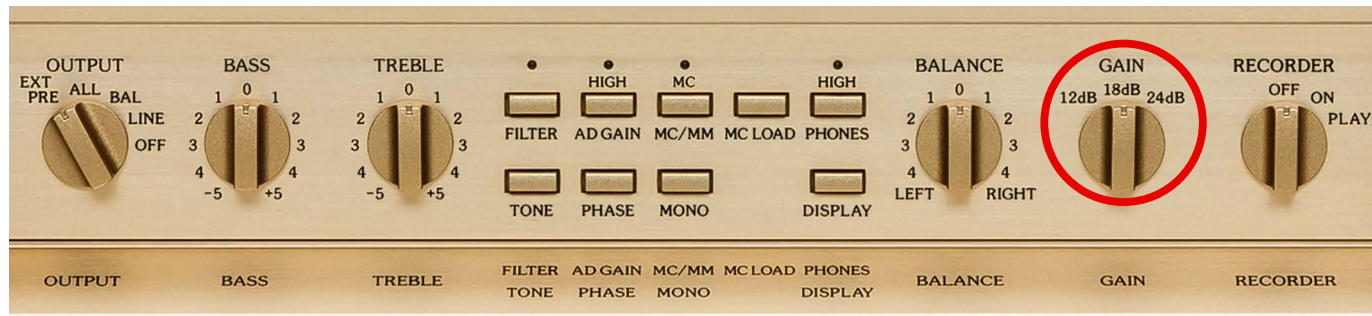
and two transformers. This largely eliminates the risk of mutual interference between the two channels that could distort the spatial imaging.

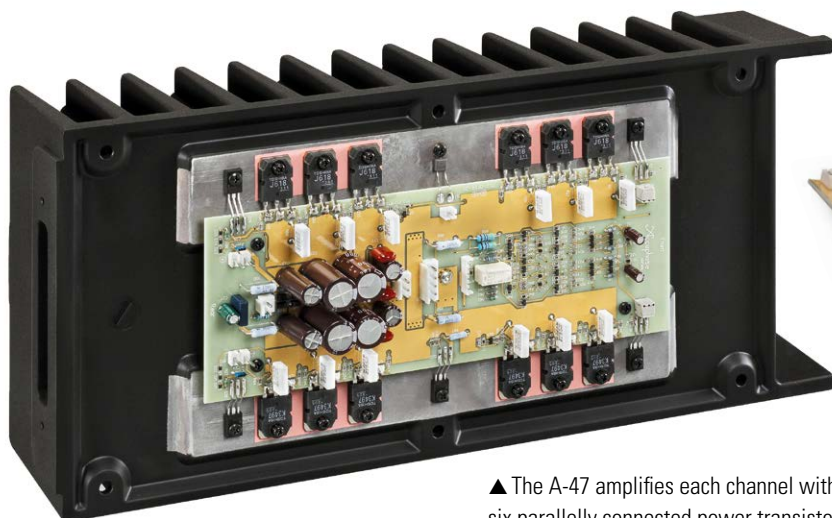
In terms of sound – not surprisingly – the C-2450 fulfills highest expectations by combining, for example, delicate differentiation with homogeneous smoothness, not sounding in any way analytical or superficial despite its exemplary attention to detail and desire to meticulously

dissolve complex structures. Rather, it builds up its finely and dynamically tuned, vividly breathing sound images from the very depths of the room, neither suppressing even the most subtle parts of reverb nor articulation noises, which are gone almost at the moment of their creation. The listener's ear virtually lies on the voices and instruments, while at the same time he is getting an overview of a perfectly organized and, if necessary, out-stretching stage.

One should, however, be aware of one small trap in form of the „Gain“ switch, with which the base amplification level is determined and that lurks behind the lid of the, as is typical for Accuphase, fully equipped preamplifier. Only at the lowest „12 dB“ level, maximum lightness and detachedness is achieved. At six decibels more, the performance, though appearing slightly firmer in itself, isn't quite as light

▼ The preamplifier conceals virtually all its features behind a lid. This also includes controls for the optional phono module. The "Gain"-selector for the base amplification (red circle) has influence on the sound performance. We recommend twelve decibels for maximum naturalness and serenity.





▲ The A-47 amplifies each channel with six parallelly connected power transistors in push-pull arrangement.



▲ The contact between the output board and the generously dimensioned connection terminals is established via metal rails.

and effortless as before. We recommend the 24 dB boost only for very quiet sources, as the superb Pre then starts showing slightly glassy mids and some narrowness. Just give it a try!

As partner for the C-2450, which can, by the way, be supplemented with the highest quality and extensively adjustable phono module AD-2850 for 3885 Euro, we chose the Class-A power amplifier A-47. This is in itself an astonishing amp, because it should be, due to the characteristics of this amplification standard, limited to the 45 watts continuous power per channel, which are specified by the Japanese for eight ohms. Strictly speaking, Class-A means that, in order to avoid takeover distortions when changing from the positive to the negative half wave of

the signal, the constantly working power transistors always feed half of the maximum power, in form of heat, into the cooling system. And, fittingly, the A-47 consumes around 180 watts in idle.

Powerful despite Class-A

However, we have measured more than double the specified power into eight ohm at our one percent distortion limit (see measurements), which proves that the A-47 leaves the Class A range above the stated value and its 24 MOS-FET semiconductors enter switching mode. We could then measure up to 2 x 228 watts, in form of pulses, at four ohms. Nevertheless, the manufacturer should not be accused of deception, because up to the, comparatively modest, “guaranteed

performance“, the promise of pure Class A operation is kept. And with 45 into eight, respectively 90 watts into four, ohms it is of course already loud enough that, even on loudspeakers with average sensitivity, you rarely exceed the Class-A limit, when listening to music.

Apart from the bypassed switching distortions, the entire technical concept of the A-47 is highly devoted to most detailed representations, as the infinitesimally low values for the distortion factor and the intermodulations prove. These, like the high signal-to-noise ratio, are supposed to be due to the elaborately designed, fully symmetrical input stage of the type used in measuring instruments, as well as to the current feedback, which, according to Accuphase, works entirely without phase



◀ As a special feature, the stereo power amplifier can be switched to bi-amping- or monoblock-mode. Large screw terminals secure the cables.

errors, i.e. shifts on the level of time.

In their efforts to eliminate even the last remaining deficiencies, the developers used metal bolts to connect the generously dimensioned, firmly gripping speaker-clamps directly to the circuit board, which contains, for example, the attentive protective circuitry. In the past, usually cables were used.

The amp is driven by a large power supply and can also be bridged to mono-block-or converted to bi-amping-mode, with the signal from one input being fed to both channels, in the latter case. It displays the power via lavishly dimensioned, sensitively twitching level meters that can be switched off on request. As our measuring technician determined, they are very precise. Despite the comparatively high power dissipation, the A-47, which is packed with two large heat sinks, does, even in continuous operation, not exceed body temperature and, therefore, operates silently, in contrast to other Class-A power amplifiers.

From the sound perspective the A-47 is a real Class-A-Accuphase. What does that mean? That its delicately crafted, extremely transparent and in its finesse outstanding performance creates a nearly floating lightness. Down to the lowest registers, the reproduction was airy, detailed and with an elegant attitude. No question, the bass was clear and contoured. However, it never made the impression to be carved out of stone, and was instead graceful, light-footed and agile, just as everything else.

With voices, the A-47 captivated with an almost intimate closeness and sensitivity, which decisively promoted their immediacy and emotional impact. In Radka Toneff's excitingly intense song „The Moon is a Harsh Mistress“ the amp could really shine, as it ran audiophile shivers down our spines. The A-47 wouldn't ever shy away from harder paces either - it has enough power anyway - but it won't ever get really „dirty“, even with rough rock and blues. It is a perfectly flavored amplifier praline, recommended for aesthetes and it is, in that regard, a representative of the entire Accuphase portfolio: certainly not cheap, but of unique pleasure!

Matthias Boede

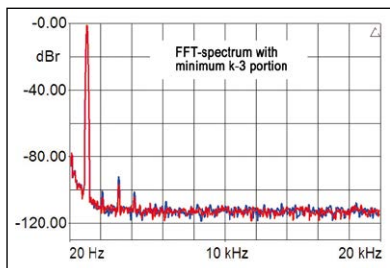
ACCU PHASE C-2450



around 12,200 €
 Dimensions: 47 x 15 x 41 cm (WxHxD)
 Warranty: 3 years
 Contact: www.accuphase.com

A preamplifier like out of a dream: workmanship, equipment and sound correspond to the noble appearance including wood-covered metal sides. Inside is a high-tech concept, created as if for eternity. This is reference class!

MEASUREMENT RESULTS



Maximum output voltage (1% THD)	9 V
Distortion factor at 0.03/0.3/1 V	0.008 %/0.0012 %/0.001 %
Intermod. at 0.03/0.3/1 V	0.004 %/0.0007 %/0.002 %
Signal to noise ratio at 0.3/ 0.03 V	101 dB(A)/82 dB(A)
Output resistance RCA/XLR	48 Ohm/97 Ω
Upper cut-off frequency	>80 kHz
Volume control, synchr. error at -60 dB	0.007 dB
Stereo channel separation at 10kHz	92 dB
Power Consumption stby/idle (at)	/31 W(222 volts)

LAB COMMENT: „Accuphase is once again testing the limits of our measurement technology,“ says laboratory manager Uli Apel. Wherever you look, perfect values adorn its protocol. All data was determined at twelve decibels „Gain“.



EQUIPMENT

A total of ten inputs, including one for an external preamplifier in AV-systems, and five outputs make the Pre a universal control center. There is also a headphone jack that can be adjusted to particularly quiet models, a tone and balance control, buttons for phase reversal and mono, a metal remote control and much more.

STEREO -TEST

SOUND QUALITY PREAMP	100%
PRICE/PERFORMANCE	★★★★☆
EXCELLENT	

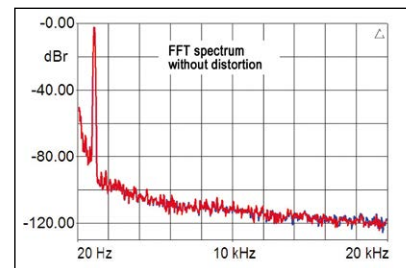
ACCU PHASE A-47



around 10,500 €
 Dimensions: 47 x 21 x 47 cm (WxHxD)
 Warranty: 3 Years
 Contact: www.accuphase.com

A superbly crafted power amplifier that offers all the advantages of Class-A operation, but avoids the typical power limitation. Excellently diversified, delicate and spacious sound with breath, aura and pronounced naturalness.

MEASUREMENT RESULTS



Continuous power (8 Ω / 4 Ω)	97 W/170 W
Pulse power 4 Ω (1kHz)	228 W
Distortion factor at 50mW/5W/1dB Pmax	0.005 %/0.001 %/0.001 %
Intermod. 50mW/5W/1dB Pmax	0.001 %/0.0004 %/0.7 %
Signal to noise ratio at 50mW/ 5W	75 dB/92 dB
Attenuation at 4 Ω (63Hz/1kHz/14kHz)	333/250/150
Upper cut-off frequency (-3dB/4 Ω)	>80 kHz
Stereo channel separation at 10kHz	55 dB
Power Consumption stby/idle (at)	/178 W(218 volts)

LAB COMMENT: Despite its usually Class-A operation, the A-47 features high absolute power with the usual low distortion values and high signal-to-noise ratios. At best the intermodulations close to the full modulation are only moderate, but with the levels then realized this won't matter anyway. The high upper cut-off frequency indicates speed.



EQUIPMENT

One pair each of RCA and XLR input jacks, two pairs of individually or jointly accessible speaker groups, mono and bi-amping operation possible, four-stage attenuator for input level, power indicators can be switched off with selectable peak hold function.

STEREO -TEST

SOUND QUALITY	100%
PRICE/PERFORMANCE	★★★★☆
EXCELLENT	

Brinkmann Audio Edison Mk II

Ultimate Analog Performance

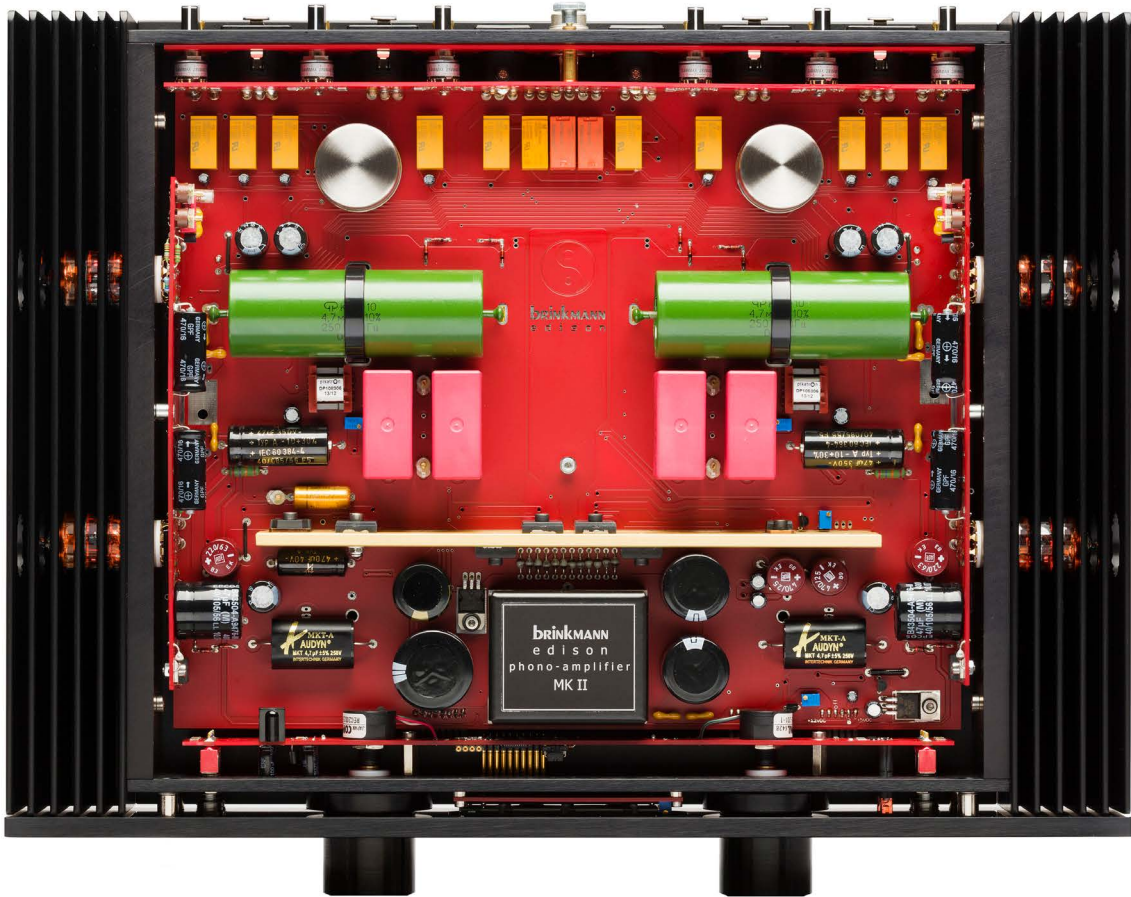


Photo © MichaelRasche.com 2018

During its eight-year production run, Edison has become the Phono Preamplifier of choice for connoisseurs who demand ultimate versatility as well as State-of-the-Art performance.

Edison Mk II is more than an enhancement of its legendary predecessor. The culmination of Helmut Brinkmann's four decades of audio design, it is our definitive statement of the analog art.

The Edison Mk II version is now available at selected Brinkmann dealers. Owners of the original Edison can upgrade their unit to the Mk II standard.

BRINKMANN

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

brinkmann-audio.com

ROCKING IN A CUSTOM SUIT

Can a speaker that is just 124 centimeters high and has only two 17cm-bass drivers make it into the loudspeaker Olympus? Roland Gauder wants to prove it possible with the DARC 100 – a world exclusive test.

I am certainly not a fan of astronomically expensive speakers in bonsai format. Further, with what I have heard so far, in terms of large-volume speakers equipped with ceramic drivers, I could always find fault with something, even though I've been, consequently, declared to be stubborn, hearing-impaired or incompetent by the rest of the world.

The hype about „super-speakers“ equipped with sinfully expensive Accuton drivers could never really impress me. To my ears, they always had their own distinct sound signature, which denied me access to their doubtlessly existing qualities. Additionally, as if that wasn't enough, over the years many speakers people have been raving about left me rather cold and after a listening session somewhere between sober and disappointed.

What distinguishes Gauder?

Roland Gauder promised me that his DARC 100, which is an abbreviation for „Dynamic Aluminum Rib Construction“, would neither be a disappointment nor evoke long faces in the editorial office – so we decided to try.

With a unit price of almost 25,000 euros for the only 130 centimeters high standing and rather daintily appearing 70-kilo heavy speaker, skepticism and expectations were equally present.

The delicate exterior has a special reason, as the DARC series marks the beginning of a new chapter in cabinet construction: there are several manufacturers who already use aluminum as cabinet material, some of whom have been doing so for many years. Applying a wide variety of methods, they try to neutralize the material acoustically. Gauder, though, was not convinced by any of the existing solutions and therefore came up with a new approach: layer by layer, individual ribs are stacked on top of each other and pressed together, using four threaded rods and a defined torque, until they are absolutely air-tight. In between the ribs, long-fibred, wood-like plates are used to separate them.

As Gauder, himself a learned physicist, explains, the air-tightness is essential, as it supports the low sound permeability of aluminum, which is a major advantage of the design.

Despite the four times thinner cabinet walls, the „sound insulation level“ here is 33 dB, meaning that even in the bass range virtually no sound penetrates into the environment. A conventional MDF cabinet attenuates only between 6 and 10 dB, which, according to Gauder, results in significantly less precise imaging and more problems concerning the positioning. In the DARC series' top-of-the-range model, only at one defined point, which is the bass reflex port underneath it, air is let out. By adjusting the height of the included and sturdy-looking spikes, the future owner can, therefore, influence the intensity of the bass by about 2 dB.

The additional space on the inside, gained from the thinner cabinet walls, allows the speaker to play with extremely low distortion, even at high levels and low frequencies – as our laboratory confirms.

The front of the 100s is made of MDF

and is covered with a three-millimeter thick layer of slate, while being decoupled from the aluminum cabinet. Only minimal additional damping was necessary here. These measures enable the DARC 100 to deliver a first-class performance at a wall distance of just 70 centimeters from front panel to rear wall. The design not only proves its advantages in the bass range, but also the spatial imaging is absolutely convincing. If you attach great importance to the visual aspect, the DARC 100 also has a lot to offer thanks to the possibility of close-to-wall positioning. However, also if you have highest expectations on the reproduction of your music-system, the speakers can absolutely deliver, offering a filter adaptation of the crossovers to your specific room resonances, completely fitted with the noble components from Mundorf.

Naturally more dynamics

As virtually no oscillation-energy migrates into the cabinet, the speaker has a particularly precise take on natural dynamics. Already at low volumes, even the finest level differences are audible, and previously barely perceptible details are rendered exceptionally clear-cut. Should there be something like cabinet-related distortions, they were apparently eliminated entirely. These hardly measurable crossover- or chassis-associated distortions make you want to turn up the volume, as the speaker never softens the bass or annoys in the midrange and treble. More examples of the exquisite ingredients contributing to the speaker's qualities are the 20-millimeter tweeter driver with diamond-diaphragm, costing an extra 4000 euros per unit, compared to the ceramic version, and the custom-built ceramic drivers. A specially damped 17mm chassis is responsible for the midrange. Thanks to the neodymium magnet



◀ The multifaceted, extremely rigid and low-resonance cabinet of the DARC 100 is also pleasing from above.

system, weighing around one kilo by itself, it has an unbelievably powerful magnetic drive. Gauder had the strongest neodymium available used for its drivers. The immediacy of the reproduction is also due to these constructive subtleties.

Two Accuton drivers, nearly identical in diameter and diaphragm material, operate parallel to each other, feeding the low frequencies into the 30-liter bass cabinet. Gauder has adapted the drivers to their task with its in-house, extremely steep-flanked filter technology, enabling the rather small chassis to generate sufficient pressure even in the hands of high-volume-maniacs. Filter-slopes of 60 dB are otherwise only known, if at all, from digital crossovers, but Gauder realized them completely passive and analog. Acoustic overlaps in the range of two to three octaves, which are hardly avoidable with conventional filter technology, occur in the DARC only in the minimal frequency range of about 1/4 octave. Gauder promises minimal chassis distortion, superior pulse-response and linear phase-progression as a result, which should lead to a large auditory spaciousness, while retaining maximum precision at the same time. Gauder also sees the

chassis being matched with an accuracy of +/- 0.5 dB as an essential condition for this – bye-bye serial fluctuation!

The DARC also offers some sound-tuning features – a quality of many of the Swabian manufacturer’s speakers. Bass and tweeter can be raised or lowered by 1.5 dB each, using small wire-bridges. Mandatory in this price range are first-class connection terminals, here the WBT-Nextgens in bi-wiring design, bridged with proper cables, and the already mentioned solid spikes. A slight detail that can additionally improve the sound, is a small foam strip, inconspicuously attached to the front edge of the case, reducing reflections and ensuring a more coherent sound-image and a touch more precision.

Options

Given the wish for a broader foundation, a large stand, that also allows a more comfortable and reproducible height-adjustment by means of a scale, can be ordered with extra charge. A precise spirit level is included in the scope of delivery to ensure that everything always remains in scale.

Special visual desires are also welcome. From all RAL colors to various metal

surfaces, be it gold, copper or black-chrome. Almost anything is possible, but it’ll surely extend the waiting time.

Are you patient?

You certainly should very seriously deliberate upon that question, as, if it hits you like it hit us when hearing the first beats from the DARC 100, it is going to be a real challenge. There was not a trace of the frequently observed „ceramic sound“, featuring dry, but often discolored bass, presumably being a material-specific effect. While sounding dust-dry on the one hand, nothing was overly damped or appeared “dead”. Instead, pressure, together with precision, a fat sound and just the right measure of oscillations, delivered an acoustical performance that let the music come to life. No records from the „audiophile“-category are required, but the sound of AC/DC’s famous bells from hell are enough to get started.

It is fascinating how the loudspeakers seem to no longer exist – with open, but

For each frequency range, the Gauder has its own crossover equipped with highest quality components from Mundorf. ▼



even more so with closed eyes. They appear to only spread the energy of the sound events they radiate. When the just mentioned bells are ringing, they can be clearly assigned to their tonal origin, while still distributing their energy over the heads of the listener and throughout the room. The Gauder succeeds in combining perceivability with power in the middle range and detailing, each on a qualitative level that is spectacular and outstanding even in the respective individual disciplines. A fusion of these qualities into one was a new and extremely enjoyable experience. The impressions with the Australian rock seniors led to the first listening day having been largely spent cavorting in the area of classic rock – from Deep Purple to Led Zeppelin and Queen. At first, we did not even get the idea of seriously looking for classic audiophile qualities, because many of the songs that had been familiar for decades could be seen (heard) under a completely new light and some entirely new aspects were uncovered in them. Bass guitar riffs, whose existence could previously only be followed fragmentary, now showed constant presence, and technical subtleties of the strumming were reproduced without any effort at all.



▲ The slim base features the WBT Next-Gen-connectors and adaptation bridges for bass and treble.

Enjoying music

Vocals and acoustic instruments were a real pleasure. The speakers' price tag faded completely into the background. After all, watching Messi or Ronaldo on the pitch, you would as well enjoy their art and forget the hundreds of millions, flowing into their pockets year after year, right?

We continued our journey of discovery with Herb Alpert's fantastic „Whipped Cream“ from 1965, specifically the unforgettable „Taste Of Honey“, and Jon Lord's masterpiece „Sarabande“, which uniquely reconciles fans of classical and rock music. However, since we had already spent so much time with rock, we continued on the classical path for a while and were simply enraptured by how the Gauder presented voices and orchestras with various operas from Puccini to Bellini and Verdi (yes, these Italians!) in a very soulful manner, while clearly separating one from the other, without tearing up the stage. The seamless, dynamically impressive and tonally perfectly balanced reproduction was all the more fascinating because only the music was present, with the necessary transducers disappearing entirely – at least in terms of acoustics.

Yes it's true; you haven't read anything about the high frequencies yet. The reason being, they were simply there without ever drawing the slightest attention to themselves. Soft, but with exuberant detail, while expressive and yet self-reducing, they homogeneously fused with the mid-range, taking away the listener's breath in no time. All of the above would by itself not be a reason for me to break out into unrestrained cheering. But the pleasure is perfect, because the DARC 100 also masters what otherwise distinguishes much larger speakers: It makes a real bass with pressure and precision - even with levels that I personally consider indispensable for a 50,000 Euro speaker.

Gauder made it: He has arrived at the speaker-Olymp and is at least equal with the established competition.

Michael Lang

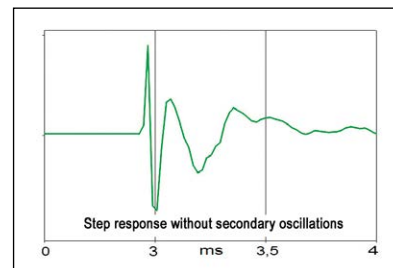
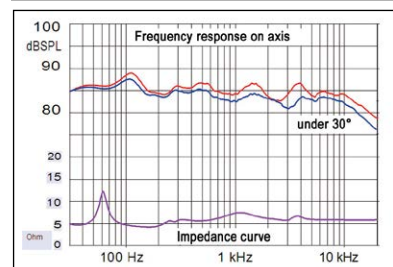
GAUDER AKUSTIK DARC 100

From 40000€
(With ceramic-tweeter 40,000€; tested model 48,000€; diverse cabinet options at extra cost)

Warranty: 10 years
Contact: Gauder Akustik
Phone: +49 7159 920161
www.gauderakustik.com

Caution, addictive! Everything is just perfect here: the musical quality, the practical suitability, and the workmanship - a dream of a loudspeaker!

MEASUREMENT RESULTS



DC resistance	4 Ω
Minimum impedance	4 Ω at 180 Hz
Maximum impedance	12 Ω at 60 Hz
Sound pressure level (2.83 V/m)	85,2 dB SPL
Power for 94 dB SPL	30 W
Lower cut-off frequency (-3dB SPL)	29 Hz
Distortion factor at 63/3k/10k Hz	0.3/0.1/0.1 %

LABORATORY COMMENTARY: Balanced, low frequency response, consistent impedance, medium efficiency. Distortions very low, dispersion very good. Step response almost perfect. Angling is not or only minimally necessary.

EQUIPMENT

Three-way bass reflex speaker; bass and treble adjustment +/- 1.5 dB; bi-wiring with WBT NextGen jacks; spikes height adjustable; separate outriggers as optional accessory

STEREO-TEST

SOUND QUALITY 100%

PRICE/PERFORMANCE

★★★★☆
VERY GOOD

PIEGA
S W I T Z E R L A N D

COAX 711

TOP PICK: »This floorstander from Switzerland boasts one of the most impressive drivers in all of high-end audio: a coaxial ribbon of PIEGA's own design and construction. Mounting a ribbon tweeter inside a ribbon midrange gives this driver perfect coherence no matter what the listening position or height.«

Robert Harley, *The Absolute Sound*,
Buyers Guide to Loudspeakers 2018



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GUARDIAN OF THE LEGEND

What Technics started in 1970, they have now pushed to unimagined heights with their new SL-1000R, while further nurturing the brand's nimbus.

Stereo tests the arguably best direct-drive turntable in the world.

Of course, the recently in two qualitatively distinct versions revived iconic Technics SL-1200 turntable is a legend in itself. But the throne of the „Direct Drive“ record player, which it has introduced in 1970, has from the very beginning until today been the undisputed seat of the SP-10 – which will probably retain it for all analog eternity.

Powered by an external control unit and according to the respective state of technology always precisely controlled, it

has launched the highly successful direct-drive era for Technics and its three versions have ever been worshipped like a sanctum by ambitious vinyl listeners all over the world.

In 1975 and ,81 came the MK2 and MK3 versions, having each been thoroughly revised – nothing more since then. However, recently the SP-10R was presented as the last and presumed final, entirely redeveloped version. We've, admittedly, had little hope for this to ever

happen at all, considering the almost 40-year break and Technics' parent company Panasonic having officially retired from the highly acclaimed brand in 2002, introducing the 1210 record player in 2010 as the last device under this name or any of its numerous derivatives. But then the Japanese changed their mind.

On a long arm

How the story went on is common knowledge: three years ago there was the highly



celebrated comeback with the 3500 Euro SL-1200 GAE or G, followed a year later by the SL-1200GR with reduced material expenditure, but a very similar sound, making it actually more interesting at a price of just 1500 Euro. And now comes – insert fanfare – the SL-1000R as the crowning climax of Technics’ analogue renaissance.

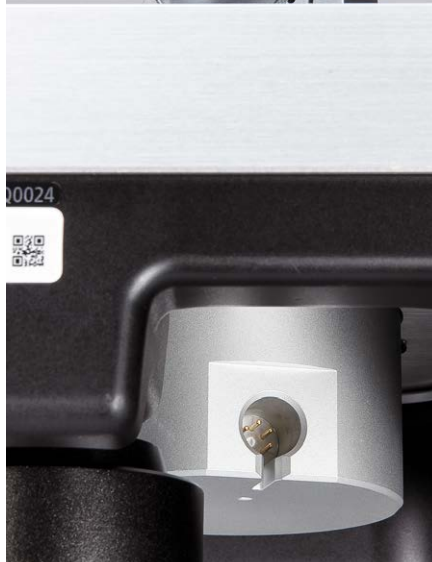
We have no doubt that it will perform convincingly from the start. The SP-10R is designed, at a price of almost 9000 Euro, as a pure drive for hi-fi enthusiasts’ existing consoles as well as for professional studios or foreign tonearms. For the SL-1000R, Technics has then specially tailored a cabinet, equipped with a tonearm similar to the SL-1200G’s, but improved on several levels and with a low-resonance magnesium tube. An immediately obvious change is that this arm is ten instead of nine inches long, which is supposed to flatten the pickup’s circular arc described over the record, thus reducing the already low track misalignment values.

Further, specialists strive for accuracy and the lowest possible friction in the gimbal bearing block, which guarantees precise tracing. The signals run through stranded wires made of extremely low-oxygen OFC copper. What has remained is the almost impossible to improve, smooth running height adjustment with locking function, which can, in order to assess sound alterations, even be activated while playing, without the needle bouncing out of the groove.

But we’re obviously not only talking about peanuts here. The SL-1000R comes with a nice acrylic bonnet and is at first sight unmistakably a completely different caliber than its smaller brothers. This is evident in its expansive shape, the noble



▲ The SL-1000R does not include a cartridge. We used one from Oyaide, made of carbon fiber, that matches the quality of the turntable.



▲ The five-pin connector for the phono cable is directly embedded in the solid tonearm base. Only straight plugs fit, which can lead into standard RCA or three-pin plugs for balanced signal flow.



▲ The SL-1000R can be equipped with up to two additional bases, which Technics offers fitting for the mounting systems of all common tonearms.



▲ The OLED display of the supply unit, which can be dimmed, turned off and switched, informs about the deviation from the setpoint speed **1**, shows the selected speed **2** and allows specific settings down to the second decimal place **3**. It also allows control of the engine torque. At „Torque 1“ it is weak **4**, at „5“ it is at maximum **5**.

embossing of its finely brushed surfaces and in the substantial weight of 42 kilograms, whereby almost eight kilos are allotted to the three-layer turntable, which is firmly connected to the motor unit, using three screws. Seen from above, it consists of one layer each of brass, aluminum and highly damping rubber. On top lies a rubber mat. To increase the effective mass, Technics used a dozen tungsten weights near the outer edge.

The drive makes the difference

Technics’ direct-driven turntables are known for their lightning-fast start-up.

In the disco or the radio studio, they often lurked with a standing plate and needle already in the groove and had to be at the desired speed in no time at the push of a button. The SL-1000R can certainly keep up with the brand’s reputation, requiring only 1.3 seconds from zero to 33.33, despite its heavy plate.

In addition to the potent power supply, this is enabled by the iron-core-less, direct-drive motor, which is derived from the SL-1200G but significantly more powerful. Thanks to the double coil stator and twin rotor, it effortlessly moves the heavy plate. Due to the 60 degree

TEST-COMPONENTS

TURNTABLE: AMG Giro/9W2/Teatro, Transrotor Rondino nero/5009 (SME)/Figaro

CARDRIDGE: Benz Micro ACE SL, Dynavector Karat 17D3, Ortofon Cadenza Red, Transrotor Figaro (MC), Audio-Technica VM760SLC (MM)

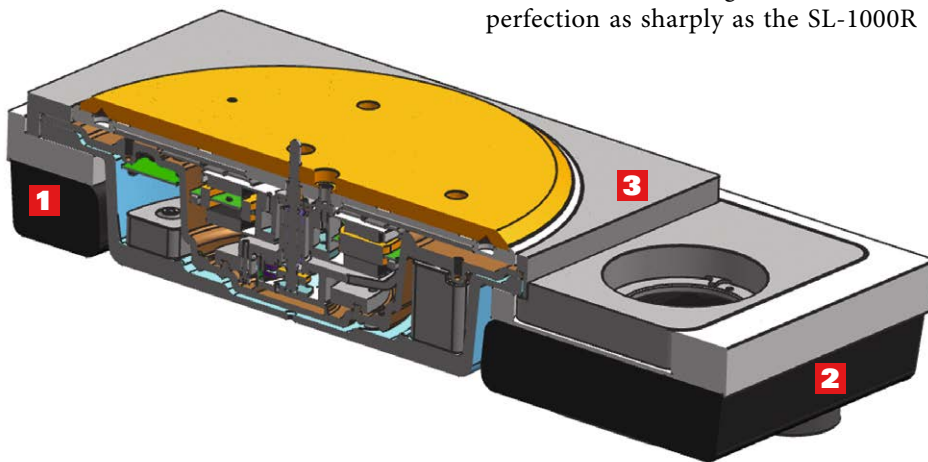
PHONO-PREAMP: Accustic Arts Tube Phono II, Audio Analogue AAPHono, Brinkmann Edison

PHONO CABLE: HMS Gran Finale Phono, JIB Silver Galaxy, Sun Wire Phono Reference

offset of the stator coils mounted on both sides of the carrier board, both the rigidity of the drive system is improved and the self-inductance is suppressed. In addition to the advantages for synchronization, whose remaining fluctuations should approach the measuring limits, Technics mentions a reduction of vibrations as a further advantage of this procedure. In addition, there is the reinforced engine mount with a low center of gravity to prevent the engine from tumbling, as well as the blocking of the engine by means of two stainless steel weights, attached to the Bottom of the chassis.

Less robust, but more intricate is the control unit, which has been outsourced in the interest of minimal interference. Its push buttons open up a wide range

The supporting frame is constructed in two layers. On top of the cast BMC composite mold, made of glass fiber and polyester resin, **1** lies a 30 mm thick aluminum plate **2**. The drive itself is a three-layer construction of BMC, die-cast aluminum and a 25 mm aluminum cover plate **3**. Thus, the SL-1000R consists of a total of five layers. ▼



▲ The three-layer sandwich-plate consists of one layer each of brass, aluminum and rubber (right). This mix achieved the best combination of stiffness and low resonance in the tests. To increase the inertia and thus promote synchronism, twelve weights of tungsten were embedded near the outer edge (left), which increase the total weight of the plate to almost eight kilograms.

of options for the proud owner of an SL-1000R. For instance, the rpm for all three speeds can be sensitively varied by plus/minus 16 percent – up to the range of one hundredth if desired. Depending on the setting, the OLED display, which can be dimmed and switched off, shows the actual speed, and any differences from the target value are immediately corrected.

Another special feature and of audiophile relevance is the five-stage adjustment of the engine torque. Once the plate has accelerated, its mass in conjunction with minimum bearing friction, means that it hardly needs any propulsion, and the engine power only has a latent effect. How decisive this „rest“ is for the timing and character of the performance was demonstrated as soon as one changed it. While the rapid opener of Diana Krall’s Paris concert at „Torque 5“, i.e. a tight torque, was extremely grippy and brisk, with the upper registers having been almost a nuance icy and snappy, at „Torque 1“ the musicians were almost deeply relaxed and let things slide a bit. We prefer, not only with the Krall concert, „Tourque 3“ or „4“. Though the differences in rhythm and dynamics may be subtle, when riding on the brink of perfection as sharply as the SL-1000R



▲ The arm base with the smooth height adjustment and locking mechanism, which can even be used while playing, is typical for Technics. Again: top workmanship.

does, it’s the little things that accomplish analogue perfection.

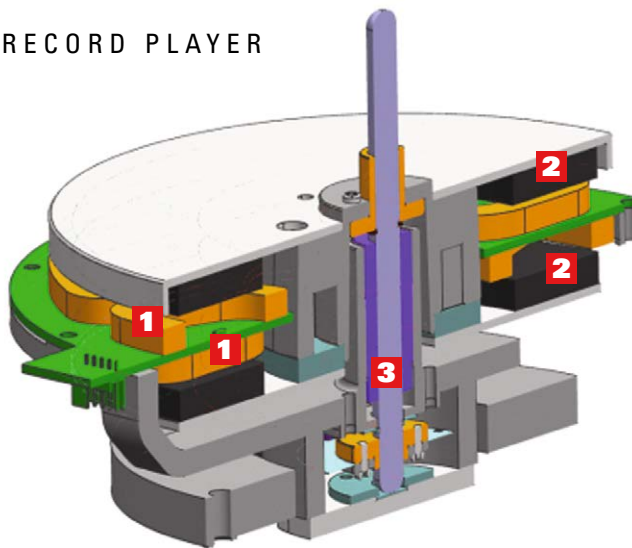
And nothing less is at stake here. The SL-1000R not only surpasses its little brothers, but can compete with the very best record players we know – and even outdo many of them. Since Technics does neither add headshell nor tonearm cables to its top model - the obvious assumption being that buyers of such a demanding record player have their personal favorites in this respect - the listener is forced to find appropriate solutions here. This is, however, better than getting “stuck“ for years on, usually insufficiently sounding, enclosed cables. For once, we therefore think it’s okay to do without.

We used, for example, Oyaide’s high-quality HS-CF carbon fiber headshell (around 285 Euro), which is clearly superior to popular plastic or aluminum versions, and additionally obtained a second „Figaro“ MC to enable direct comparisons with Transrotor’s Rondino nero, one of our turntable references. Since the large Technics has no RCA outputs, but instead a five-pin plug, which is firmly embedded in the metal block of the arm base, we were able to use our first-class phono-cables with straight connector.

The grandeur of perfection

The Japanese device fully lived up to its high ambitions, when connected to our reference Phono-Pres by Accustic Arts and Brinkmann. Those who suspect the SL-1000R’s sophisticated high-tech

The iron-coreless direct drive motor is based on the one developed for the SL-1200, but has been reinforced and optimized in many respects. The double coil stator **1** and twin rotor **2** each have nine coils and a 12-pin control. The bearing **3** contains special plastics for high rigidity and long lifespan. ►



concept and rock-solid cushioning, supported by the complex, height-adjustable feet, would make it sound at least technical, if not sterile, or possibly even „dead“, can be proven wrong. In fact, his dignified, extraordinarily sophisticated and differentiated performances captivated with an inner glow as well as a natural coherence that is rarely encountered.

With impressive authenticity the Technics could recreate the recording scenery of „Autumn In Seattle“, a 45 rpm, in every respect captivating sounding disc by First Impression Music with the Tsuyoshi Yamamoto Trio. Not only that it perfectly managed the representation of the timbres and the spatial distribution of the musicians as well as the sometimes crazy steep piano impulses, all of which others can do just as well, the qualities of the great Technics reach, so to speak, into the nanostructures of the sound images. This means that all parts fit together in a wonderfully light-footed and natural way.

The impression arose of the band actually playing in the listening room instead of „just“ via the system, which, of course, was composed to the finest standards and which drove the record player to perform at its best.

One by one, many of our listening test and music favorites went on the Technics, which presented them with the sensitive, unshakeable and, if necessary, resolutely gripping grandeur of the exquisite high-end turner, while at the same time effortlessly representing the individual style of different pickups. The SL-1000R reproduced Chadwick’s „Jubilee“, which we’ve heard a thousand times before, in a spacious and impressively clear manner, lacking neither dignified solemnity nor energetic power. Alex de Grassi, on the other hand, sat on an imaginary stage with his guitar alone and took the listener away into his inspiring world of expression - simple and touching.

A distinct character was only to be recognized to the extent of the Technics sounding extremely clean, orderly and fluent, from the lowest to the highest registers. As the effect free performance in

connection with sophisticated musicality has always been the highest goal of Technics’ 10-series drives, the SL-1000R lives up to this at the highest possible level and thus becomes the keeper of its own legend.

Matthias Böde

TECHNICS SL-1000R



Price: around 16,000 €
 (Tonearm included, Pickup not included)
 Dimensions: 53 x19 x40 cm (WxHxD)
 Warranty: 2 years
 Tel.: 0333 222 8777 (UK)
 www.technics.com

While the two new SL-1200 G and GR are already truly impressive turntables, the SL-1000R is not only far superior in price, but the absolute culmination of Technics’ analog comeback. The flawlessly processed, made as if for eternity, Japanese device need not shy away from any comparison even to other high-end turntables. Its performance is of captivating naturalness in timbres, rhythm and detail. Fantastic!

EQUIPMENT



Mains Phase on tested device

External control unit, 33/45/78 rpm with precise fine adjustment and automatic speed monitoring, dust cover, overhang adjustment aid, damping feet with locking function

STEREO - TEST

SOUND QUALITY 100 %

PRICE/PERFORMANCE

★★★★☆
VERY GOOD



▲ The external voltage and control unit contains a switching power supply and, thanks to clever technology, should feed the motor with extremely low interference and precisely with energy.

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®



WELL DONE!

Slightly bigger, stronger, faster and profitably decluttered:
 Dynaudio's supposedly discreet product update elevates the attractive
 Xeo concept to a whole new level of quality!

When we received the news that Dynaudio was transferring its popular Xeo models to the next generation, we immediately got the feeling of „What, already?“. However, „Tempus fugit“, as one says in Latin; “time flies”. And it does indeed, as if the devil himself were after it. It was already in 2014, almost four years ago, that the Danes presented the Xeo 4 (the compact) and the Xeo 6 (the counterpart to our standing test candidate). Considering the significant amount of digital technology used in such sophisticated active loudspeakers, we can be confident that the tradition-conscious Scandinavians remain true to their long production cycles.

Of course, we could tell you extensively what Xeo actually is; what distinguishes them from the boring, average “activists” and from their own predecessors – but we won't. As Dynaudio's most lifestyle-ish line of speakers is most refreshingly different, we'd rather tell you about the customer-experience one has just after returning home from the hi-fi store and balancing the brand new pair of Xeo 6 out of the trunk into the living room.

Now, don't worry: “balancing”, in this regard, sounds worse than it actually is.

The columns measure just below 86 centimeters and weigh 13 kilograms. They can, therefore, be comfortably carried with just one arm. Four small outriggers at the foot end, in which spikes are bolted, provide enough stability to convince even critical Members of European Parliament. As you probably don't want to perforate your precious parquet floor, you should definitely through in some base pads, because the pointed spikes are obligatory for optimally detached and three-dimensional sound!

Unpack, Power - fun!

Once you have lifted the speakers out of their boxes and freed them from various protective covers, they are each connected to the mains, using a Euro power cable, which is exactly the same that is, e.g., used for electric Shavers. Since

the Xeo is not Dynaudio's first active loudspeaker, the Danes know what is important when it comes to equipment and include longer-than-usual 2.5 meter cables. Consequently, if connected to a central multi-socket-outlet, the speakers can be placed at a base width of about 4 to 4.5 meters. As the Xeo 30 is, due to its size and wattage, best suited for rooms between 20 and 40 square meters, this is very appropriate. There are no mains switches, therefore, the red LEDs of both

The optional „Connect“ hub adds two analog, two digital and one computer input (mini USB) to the Xeo. However, the box is not mandatory: the master speaker also has two analogue (RCA/mini-jack) and an optical digital access as well as AptX Bluetooth. ▼



speakers, located in black fields below the woofers, light up instantly. Already, the new hi-fi system is set up.

Well, at least for the most part... Obviously, the sources are still missing. A quick glance at the cabinet's back reveals that the two speakers are not entirely identical, as one of them is designed as the „master“ and accommodates all the sockets: two analog inputs, gold-plated RCA as well as a mini stereo jack, and an optical digital connection. The fourth input is represented by a Bluetooth symbol on the solid metal remote control. Hold this button for a few seconds and the Xeos emit pheromones to indicate potential music suppliers their willingness to pair. In our case, it caught the attention of a FiiO X5 III portable. Less than two minutes after unpacking the music played, and we really enjoyed it from the first second!

The „hum along qualities“ should, nevertheless, not be misinterpreted as an exclusive Xeo feature. Of course, it is perfectly possible to get a comparable and as emotionally captivating low frequency also from other Dynaudio speakers. However, you'd then have to find a suitable amplifier first. Especially the Dane's older models could prove to be exceptionally picky in that regard.

Such „seek and find“-games are superfluous for active speakers. Each Xeo 30 is equipped with a power amplifier trio, that has been adjusted to now deliver 65 watts per chassis, which is altogether 45 watts more than the predecessor had, thus adding some additional micro-dynamics. We attribute a large part of Xeo's characteristic musicality, which is one of its unmistakable qualities, to the fact that it does not require a phase-inverting filter



▲ The master speaker has four inputs (2 x analog, optical-digital and BT). Both speakers can be adjusted in the channel (left/right), pre-corrected for positioning close to walls and assigned to one of three room zones.



▲ For those who are into extravagant hat fashion, the new Xeo models could be a disappointment: the „On Top“ controller of Xeo 4 and 6 (left) is missing with the 30 (right). The LEDs and infrared sensors are now discreetly located under the woofers.

network. Instead of the crossover, the 30 has an, now even faster, DSP, whose coding has been optimized and purified, compared to the previous series, to guarantee extraordinary timing.

Even less complicated

The completely stripless plug'n'play function of the new Xeos is the central and probably also coolest feature that distinguishes the newer generation from older models. They had to rely on the „hub“, a small external connection box, to operate, while Xeo 20 and 30 are based on the „master/slave“ concept. Thanks to clear task assignment, they can network independently from any external device. In fact, even with increased bandwidth:

Also the hub of number 4 and 6 could already receive digital signals with 24 bit and 96 kilohertz. However, these were transmitted to the loudspeakers „only“ in CD quality (16/44). The digital connections of the newcomers, on the other hand, process the full high bit resolution of 24/192, and though their radio traffic is once again scaled down a step, we are now talking about 24/96 of wireless communication between speakers and hub as well as between the Xeos themselves. Just to make it perfectly clear: the

loudspeakers of a stereo pair don't need any cables between them. Instead, they connect strictly wirelessly!

In many of these details, they benefit from Dynaudio's recent experience with the active studio series „LYD“ and the excellent, conceptually closely related XD models. The broadband radio communication, for example, is derived from the latter. However, we find the Xeo to be even more comfortable than the, sound-wise superior, XDs. If you want to operate them without a hub, both monitors have to be wired to the source, due to their lack of radio interconnection, which makes the setup slightly more complicated. The assembly of all physical connections on one of the two speakers catapults the Xeos to the haptic top.

As our previously mentioned example with the portable shows, you don't really need anything but the speakers. Any sources such as streamers, SAT receivers or CD drives can be discreetly hidden behind them or in the closest cabinet. Each of the two Xeos has a switch to assign it to the left or right channel. Therefore, no matter if positioning the Master on the right, adjacent to a shelf, appears more practical to you, or if you simply want it to get more light, hence, placing it on the left of the window, both is possible: be individual, be yourself and park the boxes wherever you want to! The integrated DSP can be operated with a three-step switch, to compensate positioning close-to-wall or in a corner, by reducing the bass. Though this works brilliantly, the basic rule remains: standing

freely, with a wall distance of at least 50 centimeters, floorstanding loudspeakers, like the 30, generally sound a little firmer, more detached and larger.

The multiroom complex

The hubs are, however, not entirely superfluous on the new models. Buying a „Connect“ (around 350 Euro) will get you four additional analog/digital inputs as well as mini USB access for Mac/Windows and WiFi. Including Bluetooth, the speakers would then have ten inputs. For better orientation, the buttons on the included remote control are divided into the groups „Direct“ (the inputs on the loudspeaker) and „Hub“ (the inputs on the Connect).

In parallel to the wireless input-box, Dynaudio offers the „Link“ (around 150 Euro), featuring three outputs instead of additional inputs and transmitting Xeos' radio traffic either analog or digital to, e.g., a subwoofer or a recorder. All hub models also come with channel switches that can be used to operate up to three hubs or extenders in one house. Each speaker can be assigned to one of three colors that correspond, so to speak, to multi-room zones: if someone owns three Xeos-pairs and switches them all to „Red“, they play in synchronous party mode. If, on the other hand, they are spread over „Green“, „Blue“ and „Red“, each can play an individual source. The color coding is even

displayed via Bluetooth, so that one is provided with optimum orientation on the computer as to which loudspeaker is being addressed as the BT receiver.

And since we're already dealing with operational aspects: the small box on the top of Xeo 4 and 6, which contained the LEDs, an infrared sensor, and a power and level switch, has been completely eliminated by Dynaudio. Visually, the speaker benefits from this measure. Further praise is due to the „gracious“ standby mode. Like most active speakers, the Xeo retreats into daydreaming after some time of inactivity. However, as soon as it notices incoming signals, it is back within seconds - this even works via Bluetooth, which is very rare.

Finally, to reassure your audiophile conscience, we should mention that we have not tested the Xeo 30 only with a Bluetooth portable. They were also connected to a Macbook, among other things, and, as expected, they gained a considerable amount of plasticity and serenity that way. Especially the midrange reproduction has noticeably more presence and comes across somewhat more silky and polished. Dynamically demanding songs like Anna von Hausswulf's sinister and curious „The Mysterious Vanishing Of Electra“ are drawn hugely into the listening room, and although the mix of this progressive alternative title is not exactly a masterpiece, the Xeo manage to



DYNAUDIO XEO 30

around 3,600 €
 Warranty: 2 years
 (8 years after registration)
 Dimensions: 23 x 85 x 28 cm (WxHxD)
 Contact: Dynaudio
 www.dynaudio.com

With the new generation Dynaudio's Xeo concept is at its best - fantastic handling, intuitive operation, great workmanship and superb sound. Magnificent!

FEATURES

Concept/Features: DSP-equalized active speaker with integrated volume control, radio control and 3 x 65 Watt output stage power each

Inputs on speaker: 2 x Analog-In (mini jack/cinch), 1 optical digital connector (24/96), Bluetooth 4.0 with aptX

Inputs at the „Connect“ hub: 2 x Analog In (mini jack/cinch), 2 x Digital In (optical/electrical), USB audio (mini USB), WLAN (WiFi/DLNA)

Accessories: remote control, manual, 2.5 meter power cable

STEREO-TEST

SOUND QUALITY **70%**

PRICE/PERFORMANCE



OUTSTANDING

differentiate the dense web of organs, guitars, percussion and Hausswulf's hauntingly emotional voice. Instruments and voice are assigned to an exemplary clearly defined place on the stage. Thanks to Dynaudio's typically precise timing, the melancholy seven-minute song conveys so much spice and excitement that you can't get enough of it, but rather want to hear it a second, third and fourth time.

You could have by now already come to the conclusion that the sound and concept of the new Xeos have impressed us. Should anyone ask us in the upcoming months how the future of high-quality music reproduction might look like, we can tell them with a clear conscience: „It's already here“. **Carsten Barnbeck**

◀ Dynaudio's XD models, in the picture the outstanding Focus 20 XD (around 5500 Euro), have established many of the technical fundamentals, which are now also used in the smaller Xeo line - above all the radio communication with 24 bit and 96 kHz.



IN ADMIRATION OF MUSIC

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



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

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

NO MORE WIRES

Due to suspicions and skepticism, Bluetooth has always had a difficult time with die-hard „high fidelity“ enthusiasts. Objectively speaking, however, the transmission standard is actually very interesting. It can even be retrofitted to older analog amplifiers with little effort.

We'll give you all advice you need.



Bluetooth is becoming increasingly respected! And why shouldn't it? Nowadays, almost everyone has a smartphone in their pocket. Often, a tablet lies on the living room coffee table, while a notebook is filling its batteries with its primary nutrition of electricity, less than five meters away. And all of them have Bluetooth! It is, however, not only their ubiquity that makes such devices attractive sources of music. Since the emergence of web-based streaming providers, potential buyers had to consider products on basis of their supported services. For the customer's favorites, like Spotify, Tidal, Deezer or the HiFi-friendly Qobuz, the coverage of support is fairly good. Those who have subscribed to e.g. Napster, Amazon, Google or Apple, on the other hand, often miss out.

With Android or iOS portables, however, you have none of these problems: apps that can handle all common streaming-services are available for both platforms. This fact provides a substantial

advantage for Bluetooth, especially since sound quality is usually not the number one priority there. Most web music is streamed in MP3 format anyway.

More and more new HiFi releases, whether talking about amplifiers, streamers or all-in-one-systems, already have Bluetooth on board upon delivery. However, entirely new components or a replacement of the whole system is not necessarily needed, as many manufacturers have retrofittable adapters in their range. These devices are comparatively cheap, while also offering another decisive advantage: in case there were changes made to the BT standard, as e.g. the current transition from aptX to the improved aptX HD, the small unit could be replaced at relatively little expense.

On the following pages we present a selection of "blue teeth", suitable for HiFi-appliance, including some real problem solvers, which not only receive audio signals, but can also transmit them to other devices, via their radio interface.

Carsten Barnbeck



Advantage for Android: manufacturers like Samsung, HTC or FiiO (shown on the right of the X5 III) are more open towards the BT standard and implement formats like aptX or aptX HD in their new releases. Apple, on the other hand, insists on AAC even in the expensive iPhone X (top left).

BLUETOOTH RECEIVER

FIT FOR HIFI

Audioengine's B1 (around 170 Euro, more information at www.audioengineusa.com) is in a way the high-quality, HiFi-suitable Bluetooth receiver's archetype: while being hardly bigger than a pack of cigarette, it has a robust metal casing and a D/A converter from Asahi Kasei, which works internally with 24/192 and is also used in many full-size DACs. The signals are delivered either via gold-plated RCA-outputs or, if you have a better converter, via an optical S/PDIF-out. The connection to BT suppliers is straightforwardly done via a small „pairing“ button, also serving as an operation LED, on the front panel. It is powered via mini USB (cable and power supply included). We agreed immediately upon the sound of the small box being very likeable. The B1 plays full-bodied and balanced, has colorful mids and a, within the borders of basic Bluetooth limitations, surprisingly subtle dynamism. On the iPhone SE it sounds a little "darker" than on FiiO's X 5 III, which can secure the lead due to its Android system, revealing, altogether, more details in higher registers and drawing a deeper, slightly sharper stage into the room, thanks to aptX. With its rich and atmospheric analogue outputs, the B1 is certainly one of the best low-cost Bluetooth expanders.

Audio engines B1 also has an optical output. To be honest rather unnecessarily, since it's got a superb converter.



IT DOESN'T GET MUCH SMALLER THAN THAT

Oehlbach's "evergreen" BTX-1000 (around 80 Euro, more information at www.oehlbach.com) is barely bigger than a fingertip and is plugged directly into the amplifier with its built-in mini jack. For the power supply, it requires an additional USB connection, which is only temporary though, as it works self-sufficiently for up to ten hours thanks to its rechargeable battery. It can, therefore, be plugged into the front aux jack of a NAD C 316 BEE or an AV receiver without any cables at all. Naturally, permanent supply with electricity is just as possible. Since with BT volume can be controlled via the source, it even works directly on active loudspeakers. Should your amplifier not have a 3.5-millimeter input, that is no problem either, as Oehlbach includes a gold-plated RCA adapter in the delivery - a matter of honor for the wire specialist. Further a USB charging cable, also gold-plated, is included, without power supply though. Pairing was immediately successful: press the only button on the case for six seconds and the BTX is ready, which is illustrated by its nervously flashing LED circle. We're quite taken with the sound: the tiny device differs only in nuances from audio engines comparatively large B1, though in direct comparison it lacks a little physicality and plasticity. However, we're talking about proper subtleties here. Since aptX is on board and run with a maximum bandwidth of 352 kilobits, which is above the best MP3 and AAC resolutions, the small adapter sounds surprisingly lively and linear, although we again noticed the stage seeming slightly wider via Android and aptX than from Apple. We would find it, admittedly, very difficult to assess these tonal differences as „better“ or „worse“.



Oehlbach's battery-powered BTX-1000 sounds amazingly atmospheric for such a tiny apparatus.

SIMPLY GOOD

One For All's inexpensive Music Receiver HD (around 60 Euro, more information at www.oneforall.de) can as well shine with its compact dimensions. It has an analog, but only as a mini jack, as well as a digital, i.e. optical S/PDIF, output. Next to the plug-in power supply unit, a RCA adapter is included upon delivery, in case the amplifier lacks a 3.5 mm input. For the DAC chip, the manufacturer relies on a model from Wolfson that is internally clocked with a resolution of 24 bits and 192 kilohertz and ensures uncolored, conversion with a high bandwidth. As a small special, the aptX-enabled Bluetooth controller allows simultaneous networking with up to three source devices, which should guarantee a wonderful mess at every party. The appearance cannot compete with the devices of Audioengine or InLine: One For All relies on a reasonably robust but unadorned plastic case. However, in terms of sound, also this rather cheap BT-receiver is convincing. Somewhat cooler in its timbre than the B1, the One For All plays with appropriate homogeneity and linearity. Especially the slightly smoother AAC of iOS devices could score. No interfering noise was audible. With the Music Receiver HD you can remorselessly save a few bucks.



Alright via mini-jack, better via S/PDIF: the neat connection field of the OneForAll receiver.

BT COULD BE SO MUCH MORE

Those who value clean music reproduction should be pleased that with AAC, aptX and aptX HD there are reasonably decent sounding formats for the wireless transmission standard. The timid evolution of Bluetooth audio's capabilities could lead to the misconception the speed or data bandwidth of the interface was limited. Quite contrary, the standard could've been, in fact, mastering bandwidths up to the megabit-registers for almost a decade. Since version 3.2 (2009) BT transmits, in theory, 480 Mbps, making it as fast as a typical Wi-Fi home network. Therefore, hypothetically, portables could also be sending high bit audio or DSD data, which, however, isn't intended by the standard.

BT having been designed primarily for mobile and thus battery-powered devices is the reason for this limitation in musical bandwidth: the less data flows, the longer portables, smart watches and BT headphones run. The Bluetooth consortium, which includes companies such as Microsoft, Samsung and Intel, is therefore not interested in equipping the wireless standard with genuine hi-fi qualities for the foreseeable future. Now, you could of course get upset about that, however, speaking for ourselves, we are first and foremost glad that the unspeakable early phase of BT, explicitly the SBC-standard with all the noises, scratching and distortions, is gone for good.

INEXPENSIVE AND GOOD

The „Bluetooth True Hi-Fi Audio Receiver“ (around 80 Euro, more information at www.inline-info.com) from InLine uses, as does the B1, AKs 4396 converters and is therefore another one of the 24/192 receivers. It is enclosed in a robust matt-black metal case and powered via USB. Outputs are analog, via gold-plated RCA sockets, or optical S/PDIF. Exactly the other way round as before, this time a cinch-to-mini-jack-adapter for connection to 3.5 mm sockets is included. A USB cable is also included, but the power supply is missing again. All common BT formats, including aptX, can be played. In terms of sound, the receiver makes a good impression. Compared to the other devices, it is close to the excellent converter from Audioengine, displaying music in an accentuated, colorful and organized way, with, again, more transparency and sharpness being achieved via Android. Altogether it is, therefore, the device with the best price-performance ratio. Like many of the other adapters, it remembers the last connected sources, hence, if streaming from different laptops, tablets and mobile phones in parallel, no re-pairing is necessary.

Due to its superb workmanship, the InLine adapter fits well with the components of a HiFi chain.



BRIEFLY INTRODUCED

AUDIO QUEST BEETLE

Audioquest's new BT converter (for 200 Euro, more information at www.audioquest.com) comes in a small, black plastic box, processes AAC and aptX signals and, additionally, has a very special feature: its BT controller can force source devices into asynchronous mode, meaning they have to adhere to the timing of its internal clocking. Although we don't know whether the resulting jitter avoidance is the deciding factor, in any case, the Beetle sounds superb – and not only via bluetooth. It also has a USB port for computers, which processes signals up to 24 bits and 96 kilohertz. A fantastic companion for every modern multimedia desk.



ADVANCE ACOUSTIC WTX-1000

The WTX-1000 (for 180 Euros, more information at www.advance-acoustic.com) is something special because it is one of the very few pure Bluetooth receivers with the look of a proper hi-fi component. Sure, it's quite small, but it comes in a robust metal exterior, with full-size connector field, offering an analog RCA-, as well as an optical and an electrical S/PDIF output. There is just one flaw with the device: here, too, power supply is only possible via micro-USB, something one apparently has to accept with Bluetooth adapters...

IS BLUETOOTH EVEN STREAMING?

The terminology of streaming technology is not clearly defined. Essentially, devices that can reproduce digital media data are meant. Whether the music's source is the Internet, a NAS in the local home network or the internal storage of the device is not of importance. Though one would typically only think of a traditional network player, the reproduction of music from e.g. a mobile phone, via a Bluetooth-capable integrated amplifier, falls under the same definition. Any type of BT music transmission is therefore also streaming.

The genuine difference between Bluetooth and HiFi network players is hidden in the way they utilize their network connectivity: when streaming from a mobile phone via BT, the music is played on the smartphone and then transmitted to the system in one of the common BT formats (SBC, AAC, aptX). Bluetooth merely replaces the audio signal cable to the amplifier. However, if you instruct a network player to play music from a networked NAS, he only retrieves the raw data via his LAN or WLAN connection. The music is played and converted entirely and exclusively in the network player. UPnP is a pure data interface.

SEND AND RECEIVE

The front switch allows selecting whether InLine's Transceiver sends the signals of the optical or analog input via aptX.



BI-DIRECTIONAL

Usually, bluetooth adapters are designed for reception only. Exceptions such as InLine's Bluetooth Audio Transceiver (around 70 Euro), however, can reverse their direction: a switch on the back of the unit is used to select whether it should send or receive. Operation in both modes simultaneously is not possible. It accepts analogue (3.5 mm) or S/PDIF (optical) signals and provides them in the same way. It is powered via micro-USB and USB as well as mini jack cables, RCA adapters and even an optical conductor are included in the scope of delivery, while the plug-in power supply is again missing. Conveniently, InLine also places rubberized adhesive strips in the packaging, which can be used to fix the featherweight device to other components or the rack. Operated analogously, the aptX-capable transceiver cannot quite match the balanced tone of its purely receiving colleague (tested above). It sounds audibly thinner and less smooth. However, if you use its digital inputs and outputs, the tone is within the limits of what aptX provides. In our test we sent the signals from Rega's Apollo CDP to Pioneer's N-70AE network player and were amazed at how neutral and fluent the music sounded. A potent problem solver!

GOLD PLATED

With the BTT-5000 (around 100 Euro) Oehlbach has a matching counterpart to the BTX-1000 in its product range: an ultra-compact device that can be connected to any source device via its analog mini jack. The 5000 gets power via a firmly anchored gold-plated USB connection. A plug-in power supply unit is included in the scope of delivery, but it can alternatively also be plugged into the USB socket of e.g. a CD player, which is a common way for power connection nowadays. After the uncomplicated pairing, it provides BT headphones such as B&W's P 5 Wireless with aptX format. Its analog 3.5 mm input tends to sound slightly darkened, but there were no side noises at all. Its form factor makes it extremely versatile.



LEAVE YOUR PORTABLE IN THE BACKPACK!

The FiiO BTR 1 (around 55 Euro, more information at www.fiiio.net) is indeed a very special device: it's a battery-powered headphone amplifier with aptX reception, which can be securely attached to your shirt or jacket, using a clip. While on the move, your portable, laptop or smartphone can disappear inside your backpack and send their music to the mini amplifier. Like the manufacturer's other headphone amps, the BTR 1 has a lot of power and makes for astonishingly solid dynamics. Tonally it can't compete with top headphone amplifiers, but one couldn't expect that at this price anyway.



PREFERABLY DIGITAL

Imperials BART 1 (around 60 Euro, available from Amazon and Co.) can also be reversed in its functional direction. It can send signals from an analog or optical-digital source with aptX to headphones or other hi-fi components. Once again, the digital output sounds alright, but you should better avoid the analog mini-jacks.



VERDICT

Bluetooth seems to have a compensating effect for differences in sound.

In practice, however, it has a few undeniable strengths.

It goes without saying that the rules and benchmarks for wireless Bluetooth playback differ from those for hard-wired hi-fi components, which is why we had to forgo rating the devices. Even the comparatively high-quality aptX format is lossy and levels out sound differences. Accordingly, we were amazed at how close the tested BT adapters are located together. Only the models from Audio-engine, Oehlbach and InLine could somewhat distinguish themselves with their, at times, more power- and colorful character, which is solely due to the topology of their analog output stages. If you choose the optical digital output instead, all adapters sound virtually identical. Those who already own a high-quality

D/A-converter can, therefore, absolutely reach for a cheaper product. To be honest, we would have been very surprised by any another outcome, as there is only a small selection of Bluetooth chipsets. Accordingly the receivers of many adapters should be identical.

The models upwards of 80 euro score additionally with better workmanship and more sophisticated features such as gold-plated RCA sockets. The fact that, in terms of sound, none of the devices can compete with a high-bit UPnP home network, allows a refreshingly unbiased view on Bluetooth technology, that allowed a consistently positive verdict: devices can be networked with each other at the touch of a button, and since

only one transmitter and one receiver are involved at a time, the interface is less abstract than a complex streaming network. This makes BT incredibly intuitive to use and, especially when it comes to „everyday listening“, the wireless standard is really fun. And the sound isn't thaaaat bad either: aptX in particular can ideally represent a large, vivid stage and works without any discoloration. The practical values are also convincing. All devices receive over distances of more than ten meters. Inside a room, the connection remains stable even if the adapter is hidden behind the HiFi system. However, BT remains completely unsuitable for cross-room networking.

OUR BT-FAVORITES



HECO ASCADA 2.0

Since 2014 the Ascada (around 500 Euro) has been a loyal companion to our editorial staff. Almost every Bluetooth portable of recent years has been linked to it at one point or another. It is aptX-able and can be conveniently adjusted via its accessible tone controls. It also has a USB DAC and the angled front makes it the perfect desk monitor.



KEF LS 50 WIRELESS

KEF's small LS 50 (around 2300 Euro) with its coax chassis is a precise monitor and has a deep, vivid stage representation. Besides LAN and WLAN, it also offers aptX Bluetooth and has been a lot of fun, especially with FiiO's excellent X5 III. It's the only active speaker to date that we have repeatedly controlled with BT in our listening rooms.



NAIM MU-SO

Naim's Mu-So (around 1150 Euro) hit us like a bomb back in 2015. With outstanding workmanship and a perfected design it enlivened the segment of the oversized table radio and has meanwhile found many imitators. Although they are capable of streaming, we tested them primarily with Airplay and Bluetooth. And with this large all-in-one system it sounds great, even via iOS portables. Certainly, this is primarily due to the Mu-So's DSPs: since the system has to rely on digital equalization, because of its specially arranged chassis, all input signals benefit as well from the sound polishing. In Germany we say "Allowed is what is liked" - and we liked it damn well.

40 YEARS EXCELLENCE



Loving music

The best active concept



Turntable: concept active
Tonearm: concept
Cartridge: concept MM



Turntable: concept active wood
Tonearm: concept
Cartridge: concept MC



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AMERICAN IDOL

Probably no other tube amplifier has been sold as often as the Dynaco ST 70, either as a kit or the finished product. Now it is back again, completely "up to date" as the Series 3.



It was 1959 in Philadelphia when the Dynaco ST-70, developed by the legendary David Hafler (see box), saw the light of day. With more than 350,000 units sold, it was to become one of the best-known and most successful hi-fi devices and undoubtedly the best-selling tube amplifier of all time. All this despite the fact that it is also known in the USA as the „Poor Man’s McIntosh“. This inherited fact, of course justified by the price, cannot be ignored here, even if

there is, of course, a certain subliminal meanness to it.

After all, the ST-70 has been available from the start as a kit (Dynakit) as well as a finished device (Dynaco), which was not unusual at the time, and until today there are countless discussions about documents, circuitry, components, and of course also about possible improvements and derivatives, especially in the DIY area.

There is a huge Dynaco fandom community. Hence, the rebirth of this popular

classic, which was initiated by the Canadian Radial Engineering Ltd. as the current owner of the Dynaco and Hafler brands, is fathomable.

Of course, this is by no means a 1:1 relaunch. That wouldn’t have made sense, neither in terms of production nor safety, especially since some features could have only been realized with NOS-components. For a modern production with the corresponding number of units, this is hardly conceivable and has, therefore,

been rejected. Instead, the ST-70 „Series 3“ should „breathe“ the spirit of its developer and retain the essential construction, but be realized, using modern technologies, i.e. also improving it.

The legendary base

The original Dynaco used four EL-34 end tubes, one GZ34/5AR4 rectifier tube, two 7199 input/driver tubes (pentode/triode, one per channel), two output transformers in ultralinear configuration and one circuit board for the driver. The emphasis was on low open-loop amplification.

The driver tubes of the ST-70 took over the tasks both of voltage amplification (pre-amplifier) as well as phase reversal for the push-pull amplifier, as this way one or even two tubes can be saved. The ST-70, designed as a highly efficient power amplifier, had an output of around 2 x 35 watts. In 1988 the most famous upgrade was

The device is designed for international markets (switchable input voltage), connections and cabinet have clearly been modernized, the loudspeaker impedance is selectable. ▼

released, the VTA 70 board, in 1992 there was, for a short time, a Stereo 70 II from Sound Valves for the Panor Corporation and after 2006 the VTA ST-70 was released as a modernized kit. Similar constructions are numerous, and not all are copies. The author, for example, has an EL-34 Ultralinear power amplifier Sansui Q-3535, which is one year older than the Dynaco.

While the pentode/triode EL-34 concept was retained for the complete redesign of the Dynaco as Series 3, the rectifier tube and selenium rectifier of the bias circuit were discarded in favor of more stable and regulated semiconductor technology. Two brand-new EF86 pentodes now handle the input, a standard 12AU7 double triode the driver stage.

For reasons of stability, the filter capacity has been extremely increased and the mains transformer has been dimensioned larger, in order to also be suitable for 230 volts. All of these measures served to stiffen the tone of the slightly soft sounding original. It goes without saying that, inside, tightly tolerated components are located on the latest circuit board material and all connections are gold-plated and meet the

DAVID HAFLER



The leading mastermind behind the Dynaco ST-70 was David Hafler, a born in 1919 graduate mathematician. Together with Ed Laurent he was co-founder of Dynaco (1954/55) and David Hafler Co. (1972). In addition to its best-known product, the ST-70, that is discussed here, he has designed the preamplifiers DH-101 and 110 as well as the MOS-FET power amplifiers DH-200, 220 and 500 and XL-280, the latter being examples of early high-power amplifiers. In addition to sound quality, he always placed a high value on the affordability of his products, which is the reason why some Dynaco and Hafler products were also available as kits. STEREO's collection of classics also includes a well-preserved DH-110. Along with Saul Marantz and Avery Fisher, Hafler is considered to be one of the US' audio-pioneers. He was admitted into the Audio Hall-of-Fame in 1984 and died in 2003.



DYNACO ST-70 SERIES 3



around 3,500 €
 Dimensions: 44 x 17 x 27 cm (WxHxD)
 Warranty: 2 years
 Contact: Radial Engineering Ltd.
 Tel.: +1 604 942 1001
 www.dynaco.com

most recent standards. Instead of using several impedance taps, the adaptability of the output transformers was solved quite elegantly with a switch.

Even the setting of the bias current is anything but complicated on the new ST-70, as two yellow LEDs indicate when the optimum is reached.

In addition, channel-separated input level-controls allow it to be used as an integrated amplifier with a high level-source, which was, in our case, the excellent Rega Apollo R. With the Kudos Titan 606 it got along right away.

Up-to-date sound

From the start the Dynaco won our hearts with its musicality. With a distinct tube charm it masters the finest and most colorful details with convincing texture reproduction in the mids, while never losing track even with more complex material. Further, it lacks the softness and beat-dependent energy-lows of classic, i.e. old, tube amplifiers, that I am so familiar with. On the contrary, the bass is actually

KEYWORD

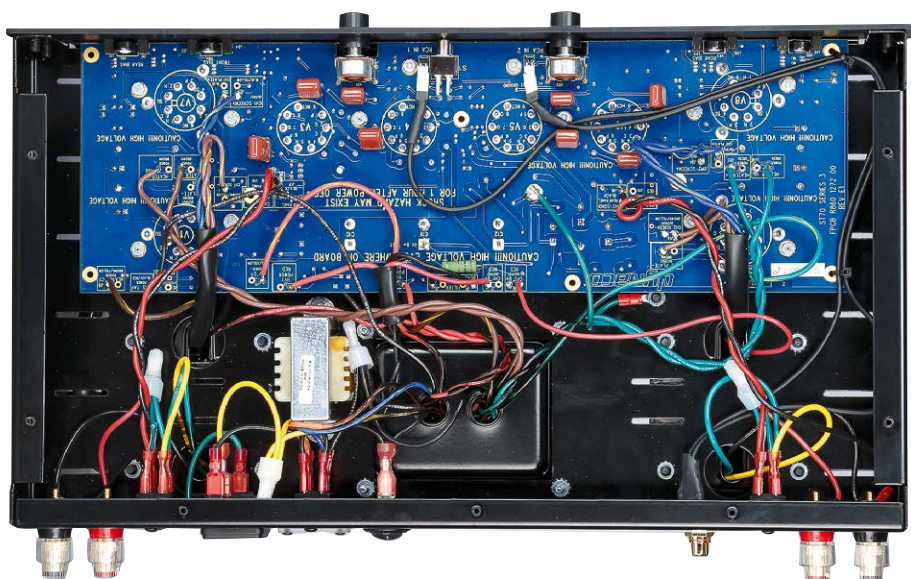
Ultralinear circuit: This sound-improving circuit design leads the primary winding of the output transformers back to the shielding grids of the pentode end tubes, to improve stabilization and minimize distortion.

extremely stable and concise. The Dynaco dominates space and time, with its reproduction quality being absolutely captivating in Katja Maria Werkers „Here Comes the Flood“ or „Salsbury Hill“, in the original version from Gabriel.

The legend Dynaco is alive and kicking, while, due to the technological modernization, its sound meets modern standards and is clearly better than that of its ancestor, which certainly isn't always the case. And in terms of price, even almost 60 years after its first launch and despite all the adjustments and corrections, it has remained much more attainable than the other big brand name, mentioned at the beginning.

It is, however, also obvious that such quality cannot be properly cheap nowadays. This is how David Hafler might have imagined his creation in perfection, though it would've been simply impossible in 1959. The Canadians live up to his legacy. I myself am very impressed. Respect!

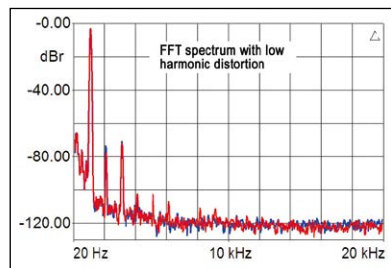
Tom Frantzen



▲ At the very latest, the Dynaco reveals its modernization from below with the accurate circuit board.

The US tube legend, the ST-70, has been sold 350,000 times. Now it is back! In its third generation, the Dynaco has become a „classically modern“ power amplifier. The refined Class AB Ultralinear Pentode circuit has given it fantastic sound and high reliability. A great statement, sounding tight and yet extremely charming.

MEASUREMENT RESULTS



Continuous power (8 Ω / 4 Ω)	34.1 W / 32.4 W
Pulse power 4 Ω (1kHz)	41.7 W
Distortion factor at 50mW/5W/1dB Pmax	0.008 % / 0.1 % / 0.5 %
Interm. 50mW/5W/1dB Pmax	0.003 % / 0.04 % / 0.9 %
Signal to noise ratio at 50mW/ 5W	81.2 dB / 92.4 dB
Attenuation at 4 Ω (63Hz/1kHz/14kHz)	8/8/9
Upper cut-off frequency (-3dB/4Ω)	80 kHz
Input level control	yes

LAB COMMENT: Good output power, well over 30 watts per channel, with just under ten watts reserve at both common impedances (8/4 ohms). For a tube device absolutely superb, even amazing distortion and noise values. Also the stereo channel separation and bandwidth are exquisite, which is exactly what it sounds like.



EQUIPMENT

One pair of speaker outputs with switchable impedance tap and one pair of high level inputs, adjustable for preamplifier or direct source, bias setting for the four end tubes, subsonic filter

STEREO - TEST

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

R

Raidho
Acoustics

XT-1

Elegant and compact
size standmount
mini monitors

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WHEN 2 BECOME 1

An integrated amplifier consists of a preamplifier and an output stage, discretely combined in one body. But it is very rare to discover such strong similarities between “sibling”-systems as between the brand-new Aesthetix Mimas and its big “brothers” Calypso and Atlas.

Aesthetix founder and mastermind Jim White doesn't seem to be in a particular hurry, for he has exhibited his products at all important hi-fi trade fairs for many years, but would often not present any, let alone several, new products, as is otherwise customary in the industry. Instead, the American takes his time to develop new products, until they are ready to enter the long-term production cycle, during which, additional, and usually retrofittable, qualities are added. Not only the resulting product consistency, but also the updateability are features obviously much appreciated by his customers: only very rarely is the name Aesthetix found

on the usual resale websites, despite the fact that the quantities sold have added up significantly over the years. The Mimas is the first integrated amplifier from the American manufacturer, and a look at its construction details sparks the hope that it could have benefitted from the company's valuable “gene pool”. This, for example, includes the rocking function of the blue LED display, otherwise characteristic of the “Saturn” series. It indicates the selected input and controls the volume when pressed on the left or right. However, not only such external appearances are already

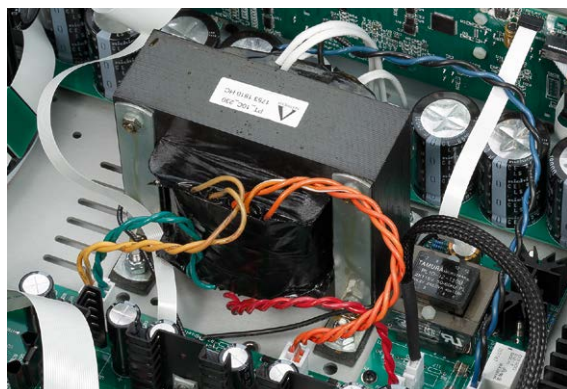
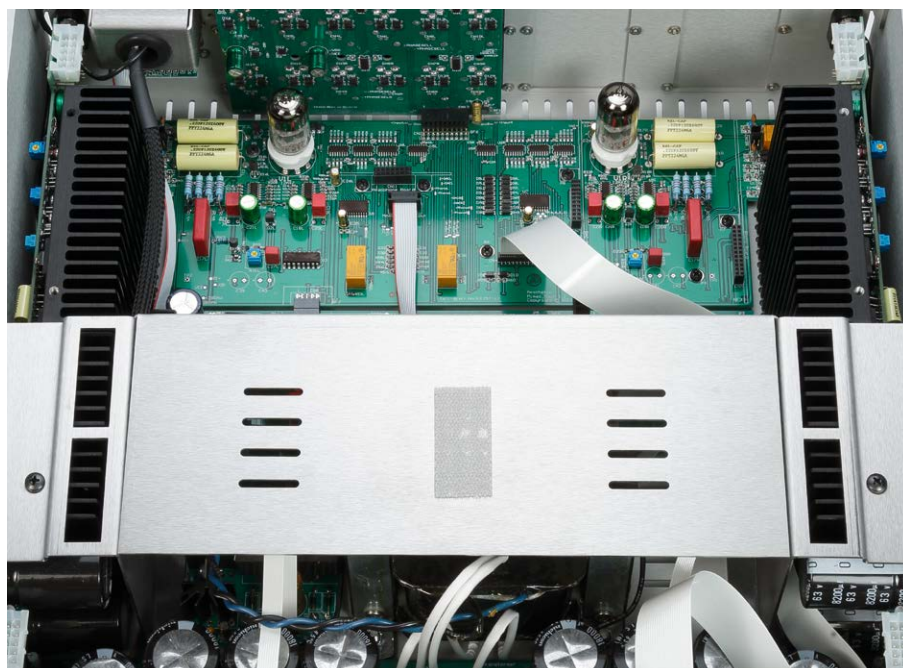
familiar from other Aesthetix devices, the interior also shows evident parallels:

Extreme volume control

Like the Calypso preamplifier, the Mimas features an 88-level, uncompromising volume control, made from metal film resistors that are selected to an accuracy of 1%, exceeding any calculatory reasonable level. While every manufacturer knows that a potentiometer can harm the sound, Jim White takes a stricter approach and has the component banned entirely. He believes that an important part of the globally appreciated Aesthetix sound is created that way, combining tube magic with sound neutrality and richness of detail. In the fully balanced preamplifier section there is one 6922 tube per channel, which is heated for 100 hours before installation and selected for low distortion, insensitivity to microphony, noise level as well as for an equal



◀ You can get an adaptive, illuminated and motion-sensitive metal remote control for around 400 euros extra charge.



▲ The neat, channel-separated design of the preamplifier and power amplifier sections and the solid workmanship can impress.

◀ Instead of the conventional, externally made toroidal transformer, Aesthetix uses a homemade one.



▲ Endstufensektion links und rechts, fünf Eingänge und ein Pre-Out jeweils in Cinch und XLR, Einschuboptionen für DAC und Phonoboard – ein pralles Ausstattungspaket

channel gain factor of 0.1 dB. In the power amplifier section there is a large difference to the Atlas output stage: the driver stages are constructed here without the driver tubes installed in the separate power amp, as they did not fit into the Mimas.

What remains, however, is the feedback-free, balanced circuit without

capacitors at the output as well as another specialty of the Californians: the complex power supply comprised of a 900 VA transformer wound by Aesthetix itself, whereby White consistently dispenses with the installation of a conventional toroidal transformer. As expected, it has various secondary windings to separately

supply individual sensitive circuits with powerful and cleanly smoothed voltage. This task is performed by high-quality capacitors with a filter capacity of almost 180,000 uFarad. At every point it is essential to White that the component specifications are strictly adhered to. Both the FETs of the drivers and the bipolar transistors of the power stage are carefully selected. This way, operation together with almost any loudspeaker is guaranteed, despite the lack of negative feedback. Generating a good 150 watts per channel into eight ohms and almost twice as much into four ohms, it seems too have all the necessary attributes.

But enough about the electronics, let's take a look at the equally impressive equipment of the Mimas, which by the way is named after the tenth of Saturn's 62 known moons: all of the five inputs are available in both cinch and XLR form, while unbalanced signals are always converted internally into balanced ones. Outputs for the operation of additional power amplifiers or subwoofers are also available in both connection variants. If you want to reduce the load on your main speakers during subwoofer operation, you can activate a multi-staged, switchable high-pass filter. Home cinema fans will be delighted to hear that each input can be enabled as a bypass for home cinema applications. Optional slots for phono and D/A-conversion will be available in the future for around 1000 Euro each. The former will be granted MM- and MC-system support and will even be adjustable in gain, capacity and terminating resistance by remote control. Being built without tubes, it is still fully discrete, and no cheap IC-grab.

At least on paper, the digital board is also impressive: the analog section is fully balanced and the digital sector offers two coaxial inputs, accepting signals up to 192 kHz each, and two optical inputs, as well as an asynchronous USB input that processes up to 352 kHz and 24 bits and even DSD signals at double rate. The slide-in converters are the finest and best currently available on the market - ESS Sabre, type 9038 pro. We will test both options as soon as the products are available.

For those who still haven't had enough, the standard headphone output can be replaced with a high-quality class-A-technology one, featuring 1 watt of power with 32 ohms – unfortunately there is no price yet. Another practical feature is the

possibility of connecting a separate infrared receiver. If you prefer to hide the Mimas from potential visitor's views, you can then still control it remotely. Software updates can be carried out using a RS 232 interface – if you can find the necessary cable, as it is rarely used today. Even if you can't, your trusted retailer will be happy to help. What else is there to be said? For instance, that you can name each of the five inputs with an abbreviation of a maximum of four letters and that each input can be individually adjusted by a few dB in volume. If you have an especially power-hungry speaker, the Mimas also offers an internal gain adjustment of 15 decibels by means of a jumper – and it really makes a difference, adding slightly more dynamics and openness. For those unsure: if the loudspeaker has a sensitivity of about 85 dB or more, it is definitely worth a try. And for the curious and experimental it is a hard-to-resist temptation – isn't it? The mechanical quality of the case and keys is also very trustworthy and allows you to expect years of untroubled listening pleasure.

Working with giants

Right from the beginning there was an especially difficult task on the agenda - to get the 116 kilo heavy and man-high PMC MB2 XBD SE running, perhaps the most voluminous loudspeakers that ever found their way into our listening room. Immediately the Mimas was ready to go and fascinated with the most wonderful and rarely experienced variety of timbres. Voices from Lyn Stanley and Diana Krall to Alexis Korner appeared charmingly, giving the impression of transporting the performer's exact mood while recording.

The American amplifier revealed another quality when it came to depicting spaciousness and depth, doing it on an almost wasteful scale – you could nearly feel the air in the room. Contours, though,

where drawn with a broad brush rather than a sharp pen, thus slightly blurring the very last detail. Listeners of magnetostats will know this effect, which can also occur if the speakers are either too far apart and/or have not been angled to the required extent. We also noticed the bass being springy and swinging, lacking a bit of tightness, though never sounding too soft.

In the next listening session, having moved into the small STEREO listening room, the Mimas first played on the brand-new Canton Reference 8K and was compared to the entire elite of integrated amplifiers that we were able to find in-house (see box: test components).

Different speaker, different experience

Listening to the set-up, all being fed by T+A's streamer/CD player Music Player Balanced, combined with the Canton, the Mimas again captivated the listener with an extraordinarily emotional address, without crossing the border to being beautifully colored and flattering. In direct contrast the opponents seemed a little cool, almost clinical. The Mimas, on the other hand, has to take some critique in the bass-range, which we experienced lively and powerful, but without the last kick of precision.... Nevertheless, there was a definite consensus about the performance: strong! You can be perfectly happy for a long time with this setup... if you don't make the mistake of letting a Gauder DARC 100 play instead of the Canton. Sure, the twelvefold price is a bitter pill that can only be swallowed by very few fortunate people, but the experience left a lasting impression – there was truly only music in the room.

Whereas before some kind of comparison was required to find a personal favorite, Aesthetix has proved itself to be the master of the situation with David Munyon (Track 8, Stockfisch Vol. 4) as well as with the Supreme Sessions of the Swedish loudspeaker manufacturer Marten. Its warm, friendly tone, which previously sounded a tad impure combined with the Canton speakers, is now its trump card, while any trace of lacking precision has been wiped out. None of the competitors can keep up with its naturalness. They all sound comparatively emotionless. If you haven't given Aesthetix your attention before, you should do so now at the latest.

Michael Lang

TEST-COMPONENTS

- TURNTABLE: Transrotor Rondino nero; Technics SL-1000R
- CD-PLAYER: T+A MP 3100 HV; Music Player Balanced
- AMPLIFIER: Audionet Watt; T+A 3100 HV; Symphonic Line RG9 MKIV
- SPEAKERS: Canton Ref. 8K; Gauder DARC 100; PMC MB2 XBD
- CABLE: div. Audioquest

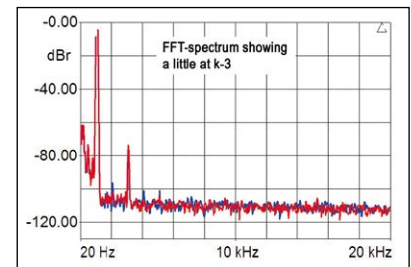
AESTHETIX MIMAS




from 7950€
 (available in silver and black;
 phono- and dac-module optional,
 each costing around 1000 euro)
 Dimensions: 46x15x44cm (WxHxD)
 Warranty: 2 years
 Contact: Aesthetix Audio
 Tel.: +1 805-529-9901
 www.aesthetix.net

Conclusion: The work of an expert. Sounds extremely emotional, yet very three-dimensional. Excellent workmanship. Expandable by phono and DAC module.

MEASUREMENT RESULTS



Continuous output (8 Ω/40 Ω)	181 W/261 W
Pulse output 4 Ω (1 kHz)	338 W
Distortion factor at 50 mW/5 W/1 dB max level	0.01 %/0.02 %/0.1 %
Intermodulation at 50 mW/5 W/1 dB max level	0.02 %/0.006 %/0.05 %
Signal to noise ratio at 50 mW/5 W	71.2 dB/90.4 dB
Attenuation factor with 4 Ω (63 Hz/1 kHz/14 kHz)	33/33/40
Upper cut-off frequency (-3 dB/40 Ω)	>80 kHz
 Mains Phase on tested device	Crosstalk line1 > line2 79.5 dB
Volume at -60 dB	0.02 dB
Power consumption standby/idle	47 W/112 W

LAB COMMENT: Flawless performance in the lab, superior channel equality and crosstalk attenuation, very broad band, powerful. Low attenuation factor due to the circuitry.

EQUIPMENT

Five RCA/XLR inputs each; pre out Cinch XLR; one pair of speakers with bananas or cable lugs; home cinema mode; headphone output; subwoofer output with switchable high-pass filters; LED display for input selection and volume, dimmable; remote control; metal remote control + 400 Euro; phono & DAC module each 1000 Euro

STEREO - TEST

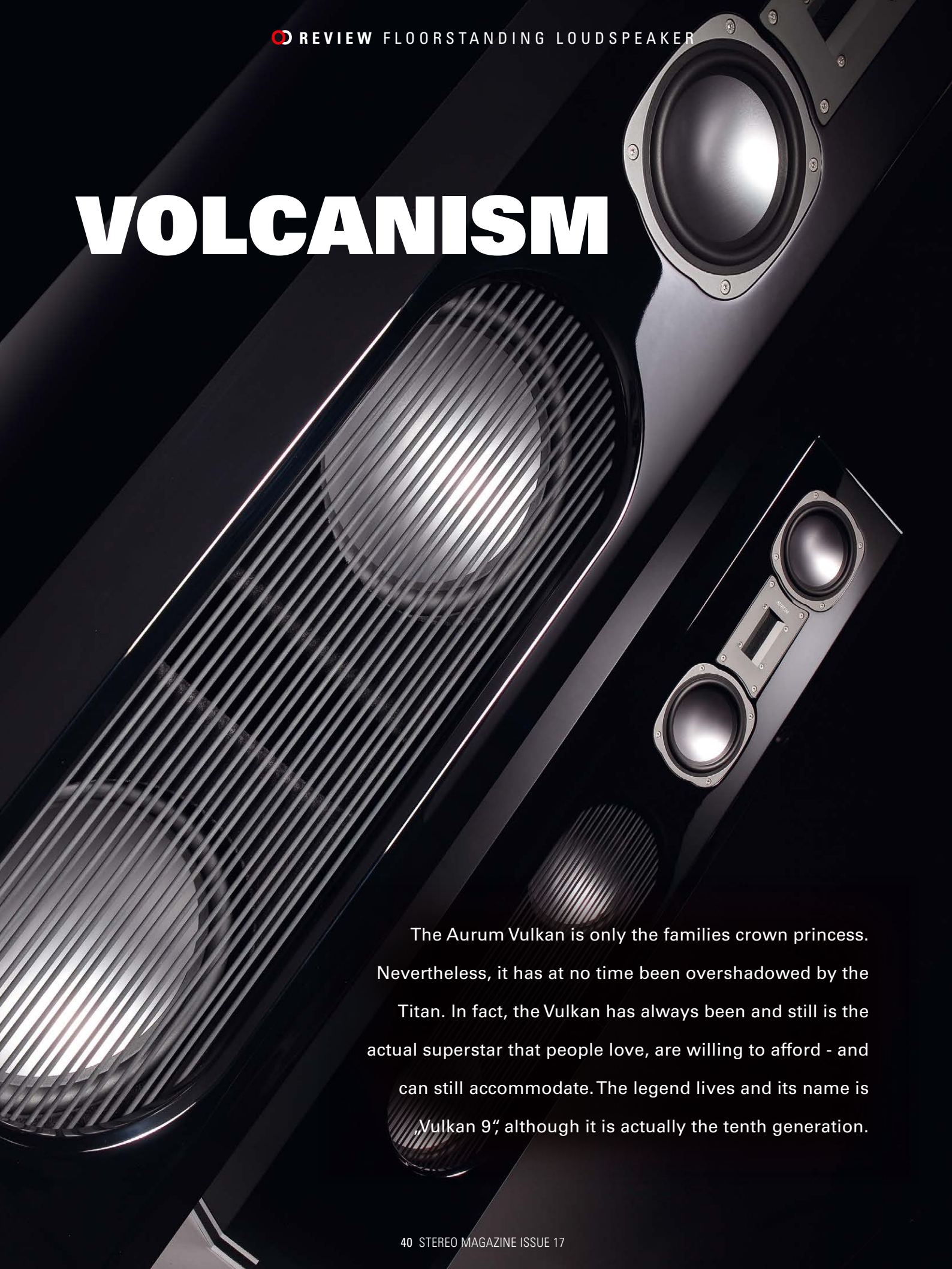
SOUND QUALITY 98%

PRICE/PERFORMANCE



OUTSTANDING

VOLCANISM



The Aurum Vulkan is only the families crown princess. Nevertheless, it has at no time been overshadowed by the Titan. In fact, the Vulkan has always been and still is the actual superstar that people love, are willing to afford - and can still accommodate. The legend lives and its name is „Vulkan 9“, although it is actually the tenth generation.

The Vulkan was and is the real star in the portfolio of the Aurum series, which are the flagships from Hanoverian company Quadral. And this has, in fact, been the case since 1981, when the first generation began its triumphant rise. The German living room measures about 25 square meters on average, which is, while probably being too small for the mighty Titan, the perfect size for the Vulkan, although it would also tolerate a few square meters less and appreciate a few more. In the legendary loudspeaker's tenth generation the development team from Berlin and Hanover have, again, placed great value on versatility. The new Aurum Vulkan should be easy to operate, i.e. efficient and uncritical in terms of impedance and installation, sound full-bodied even at low levels, naturally have pronounced audiophile virtues and, if necessary, be able to unleash nearly abnormally explosive dynamics. In addition, of course, they had to embody a certain elegance and, committing to the company's legacy, use the most noble ingredients. All of these goals were achieved brilliantly – and even a few more. The Vulkan reaches very deep into the bass-range and represents the lower frequencies with an unobtrusive sovereignty that is unparalleled even in the 10,000 euro

environment. The tremendous power is always tangible, even if it is not directly used. They benefit a lot from potent electronics, as our test models outgrew themselves in proportion to the driving electronics and made even supposedly small changes in the chain, an XLR cable between the used Bryston amplifiers, for example, or even a power cable on the T+A player, easily traceable. It is no secret that the Quadral Aurum Vulkan also enjoys an enormous reputation for ambitious home cinema installations. The author has already heard them several times in such an environment and was deeply impressed by their performance. In fact, even under absurd strain they remain completely unaffected and always deliver what they're supposed to, without ever compressing. Compared to its, especially early, predecessors – we've also met the Titans and Vulkans of the 80s several times – it is noticeable that the modern Aurum is a much finer, more precise and more flexible representative. It is much better than the somewhat coarser and more two-dimensional ancestors, which, still, sounded impressively at the time. The current Vulkan conquers its audience more with the naturalness and effortlessness of its virtues than with spectacular



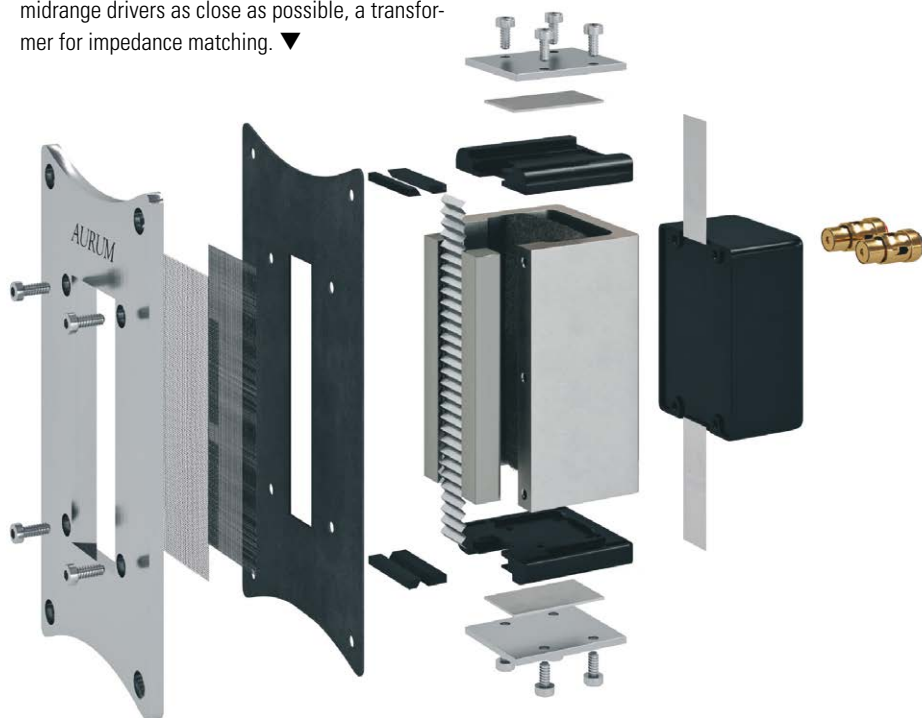
▲ Cross-section through one of the new Quadral drivers with "ALTIMA" membrane

effects. Its strengths are more those of an outstanding heptathlete than being highly specialized.

Typical Quadral flagship

Of course, the concept again includes a powerful ribbon tweeter called „quSense“, which was developed and manufactured in-house and whose 10µ thin aluminum diaphragm has a large surface area that optimizes dispersion characteristics. Two fast 160 drivers, surrounding the high-resolution tweeter, frame the midrange and two long-stroke 24-centimeter bass drivers, located in the pressure-chamber bass-reflex cabinet, are responsible for the low frequency range. All cone drivers

The ribbon tweeter developed by Quadral in modular view: the cut front serves to position the midrange drivers as close as possible, a transformer for impedance matching. ▼



▲ Room correction: the bass can be raised, mids and trebles can be raised or lowered.

were fitted with new, extremely stable cast aluminum baskets, powerful drives and ultra-rigid, lightweight diaphragms made of aluminum, titanium and magnesium.

despite their 57 kilograms, the pair is set up rather quickly, as the Vulkan is anything but a Diva. Slightly turned in towards the listening position, in the shape of a isosceles triangle, which is beneficial for most large loudspeakers, they push hard from the first second. Some believe due to the damping and general construction of the cabinet, spikes weren't even needed. We cannot confirm that, but we strongly recommend a second man if, like us, you place aluminum cones or

spikes under the speakers. As soon as the loudspeaker no longer touches the floor over its entire surface, the Vulkan 9 sounds again a whole class better and almost disappears as a sound source. Its cabinet was designed according to the best acoustic principles. Contrary to the, financial motivated, trend to return to straight walls, it collapses backwards in a trapezoidal shape and also tilts backwards by a few degrees. The same applies also to their midrange casing, where attention has been paid to render standing waves impossible by building non-parallel walls. In the cross-sectional view it is visible where the cabinet has been damped, stabilized or even optimized, using mass insulation.

In our neutral, living room-like listening room 2, the Quadral sounds perfectly balanced and lively, draws extremely naturally and detailed over the entire listening area, while the wide stage appears excellently illuminated and even textured bass lines can be traced effortlessly. They are also capable of filling the large STEREO listening room with pressure and to make it almost tremble with a physically tangible foundation, for example with Bach's „Toccatà“. The so-called „Kickbass“ is also remarkably lively and fast.

The sound is unified and does not afford any escapades. Instead, it is a proper pleasure to listen to this loudspeaker's extraordinarily good energy distribution. Michael Bubblé's emotional „Feeling Good“ demands transparency, timing and dynamics, in which disciplines the Vulkan performed outstandingly. However, also in a fragile and intimate atmosphere like Tori Amos' „Winter“ it does not lose any of its previously proven qualities. Amazingly, the Quadral behaves, despite all its charisma, unobtrusively like a studio monitor, without ever being blinding. This is, without a question, a speaker I'd like to have. By the way, a colleague who was involved in the hearing test – there are always at least two at STEREO – agrees all along.

Tom Frantzen

◀ The sectional model shows much of the functional structure, such as the unusual reflex channel and the wall coating.



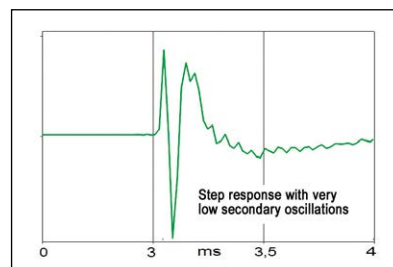
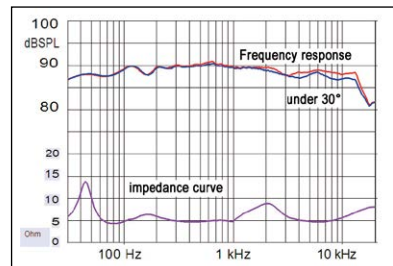
QUADRAL AURUM VULKAN 9



from 10,000 €
 Dimensions: 28 x 120 x 46 cm (WxHxD)
 Warranty: 10 years
 Contact: Quadral
 Tel.: +49 511 79040
 www.quadral.com

The new generation Vulkan is undoubtedly a wonderful speaker. It connects audiophile, neutral virtues with an explosive vividness and absurd dynamic and level capabilities down to the deepest bass ranges, making them ideal for top-class stereo as well as home cinema installations..

MEASUREMENT RESULTS



DC resistance	4 Ω
Minimum impedance	4.4 Ω at 79 Hz
Maximum impedance	14 Ω at 44 Hz
Sound pressure level (2.83 V/m)	90.2 dB SPL
Power for 94 dB SPL	4.7 W
Lower cut-off frequency (-3dB SPL)	25 Hz
Distortion factor at 63/3k/10kHz	0.3/0.1/0.1 %

LAB COMMENT: With all switches in neutral position the Vulkan shines with a straight frequency response and top radiation behavior; turning inwards is not absolutely necessary. The impedance is low, timing/distortion behavior excellent and efficiency with 90 dB above average. It goes down to 25 (!) Hertz.

STEREO - TEST

SOUND QUALITY 91%

PRICE/PERFORMANCE



EXCELLENT

Die Endstufe für höchsten audiophilen Genuss

Ausführlicher Test:
STEREO 11/2016



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MORE THAN A RADIO



With its impeccable workmanship, numerous sources and an astonishingly large, detached sound, Roberts' new S 300 blurs the boundaries between table radio and hi-fi system.

Usually we have a hard time with all-in-one all-rounders which fall into the classic category of „kitchen radios“. No one is saying there weren't any interesting devices in this segment, but they cannot be equated with traditional hi-fi systems. Even an inexpensive rack with separate speakers has a better spatial depiction. Attentive readers will have already suspected that the introducing term „usually“ rolls out the red carpet for a deviation from this rule.

In fact, calling Roberts' massive S 300 a table radio is quite problematic. With a weight of just under ten kilograms and the dimensions of two stacked 43-centimeter components, it is definitely too large. When designing their new

one-piece system, the British were apparently inspired by role models such as Naim's Mu-So. Similar to the flat console (around 1150 Euro), the S 300 is flawlessly crafted. The base and lid of the case consist of two plastic plates, which were so effectively trimmed for an aluminum look that we were convinced it was metal until we had opened the device. Meanwhile, the front, sides and back are covered by a circumferential grille, blocking the view on the eight chassis.

ALMOST OMNIDIRECTIONAL

They seem to be the actual heroes of the system, as their arrangement provides an astonishingly spherical and plastic sound impression. In fact, during the test, both

in the small listening room (about 24 square meters) and in the office, we always had the impression that there were more speakers hidden somewhere in the room. This is essentially due to the two passive bass radiators on the sides, more accurately the two large flat ribbons that replace the bass reflex port, but also increase the spatial sound impression. The actual woofers are located at the back of the cabinet. This detail is of substantial importance, because, like a large loudspeaker, the S 300 needs an adequate distance to the wall. All other frequencies are handled by midrange and tweeter drivers at the front of the cabinet.

The sound can be tuned in various ways. First of all, there are the usual EQ presets, five in number, which speak for themselves with names such as Music, Soundtrack and Concert. However, we liked the freely programmable three-band EQ better, which allows not only bass and treble but also the adjustment of the mid-range. Since the single-block system per

se already plays extremely powerfully, we preferably messed around with the „subwoofer“ buttons on the solid remote control. They influence the level of the two rear woofers by +/- six decibels: two dB down - and the system sounded incredibly harmoniously. Correctly tuned, the S 300 actually plays surprisingly linear and unobtrusively. Voices such as Carolin No's velvety vocals in „Still Waters Run Deep“ are projected tangibly into the listening room, miraculously filling the entire space. Of course, one should not expect such a compact „all-in-one“ device to produce a very sharp image. The sound-picture has instead always something spherical.

SOURCE RICHNESS

In terms of playback, too, the Roberts system has a lot to offer. The core is made of various receivers: DAB and DAB+ are on board, VHF as well as an extensive web radio, sorted by country and with slots for favorites - a matter of honor, as, after all, the British have grown up with radio. To enjoy Internet radio, the system must first be connected to the home network. This can be done via LAN as well as WLAN. Thanks to WPS support, it took us less

than a minute to set up the connection. Once connected to the network, the S 300 can also access UPnP servers and plays all supported sound formats up to 24/48.

All of this is controlled either via the excellent remote control or the „Undok“ app. It can also be used to integrate the system into multi-room setups with the other Roberts network products. Last but not least, all functions can also be accessed and controlled via the device itself. Thanks to a total of twelve buttons and a data wheel on the top, as well as a color display, this works quite smoothly.

In addition to the UPnP network, a CD player and two slots for USB drives and SD cards further enrich the wealth of sources. The latter two are limited to the sound formats MP3 and WMA, but compensate for this with an interesting gimmick: If a stick is inserted in the back of the device, you can record from radio and CD in the compact MP3 format, simply by clicking on the record button. Finally, Bluetooth, an analogue input (mini jack) as well as various analogue and digital outputs are also available and complete the table system to a successful all-in-one package.

Carsten Barnbeck

KEYWORD

Wi-Fi Protected Setup: The connection between router and network devices is established at the push of a button without the need to enter a password.



ROBERTS S 300

around 900 €
Warranty: 2 Years
Dimensions: 42 x 19 x 42 cm (WxHxD)
Tel.: +44 3330 142505
www.robertsradio.com

Verdict: Mighty table radio with powerful, but amazingly linear tone. Many sources and an interesting USB recording option.

EQUIPMENT

Features: All-in-one system with DAB+ and FM receiver, multi-room capable UPnP network player, Spotify Connect, CD player, Bluetooth (with NFC pairing), recording of all sources directly to USB stick, alarm function, clock, equalizer with bass, treble and midrange control, bass driver („subwoofer“) adjustable separately from EQ

Connections: Analog line-in (mini jack), analog (mini jack) and digital (optical)

Line-out, headphone jack (mini jack), USB port for Data sticks and hard drives, SD card slot, LAN/WLAN, BT antenna

Sound formats: FLAC, AAC, Apple Lossless, WAV, MP 3 and WMA (all up to 24/48 or 320 kilobits), from USB or SD media only MP 3 and WMA

Accessories: remote control, free remote app (Android/iOS), manual, three antennas

STEREO - TEST

SOUND QUALITY	58%
PRICE/PERFORMANCE	
★ ★ ★ ★ ☆	
EXCELLENT	

◀ The rear panel reveals the connection field with separate antennas for radio, Wi-Fi and BT. The two invisible subwoofers, which are installed above the connectors, can be controlled separately from the overall level and independently from the equalizer presets via the remote control.

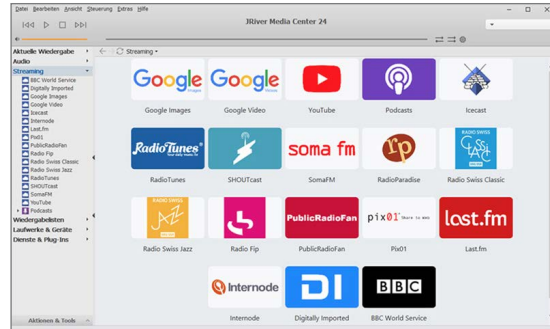
EU Commission penalizes hi-fi manufacturers

The European Commission has fined Asus, Philips, Denon/Marantz and Pioneer millions of euros for breaches of EU competition regulations. Competition Commissioner Margrethe Vestager accuses them of having imposed fixed or minimum prices on online merchants and of having threatened to stop delivery if they wouldn't comply. Pioneer had, additionally, prevented online traders from selling across borders to consumers in other Member States, in order to maintain different prices in different countries. Denon/Marantz has been fined 7.7 million euros and Pioneer 10.2 million, while Philips has to pay almost 30 million and Asus even 63 million. Commissioner Vestager wants „to protect consumers when companies are in the way of stronger price competition and better choice“. However, the question remains, who is going to protect traditional hi-fi retailers from the competition of online shops, which save themselves the trouble and expense of providing demonstration and proper customer advice.



JRiver: Media Center becomes more expensive

On July 31, JRiver increased the prices for the popular software „Media Center“. For a single computer (Windows, Mac or Linux) it now costs \$60 instead of the previous \$50 (that is around €52), and the „Master License“, which applies to all three operating systems, also costs \$10 more, hence \$80 (just under €70). Upgrades from older versions increased by \$3 to \$30 (about \$26) for the single version and to \$40 (about \$35) for the Master License. JRiver accepts credit cards or PayPal.



Focal: Evo design for everyone

Also the remaining models of the French loudspeaker manufacturer's Utopia series have now been updated to the fresh „Evo“ design. The models in question are the Diablo Utopia shelf speaker, the Viva Utopia and Viva Utopia Center and the Sub Utopia EM. The baffle now takes on the color of the rest of the cabinet, and the tweeter is matt black at front, sides and rear. The speaker stand has as well been given a matt black finish - in contrast to the high-gloss surfaces of the speaker – optionally available are Carrara White, Black Lacquer, British Racing Green, Metallic Blue or Ash Grey. The new models are obtainable as of now and have the type designations „Diablo Utopia Colour Evo“ (10,500 Euro/pair) „Viva Utopia Colour Evo“ (20,000 Euro/pair), „Viva Utopia Center Colour Evo“ (10,000 Euro/piece) and „Sub Utopia EM Colour Evo“ (10,000 Euro/piece).



Spotify: 83 million premium subscribers

As befits a listed company, the Swedish music streaming giant has published its first quarterly figures. As of the end of June 2018, Spotify had 83 million paying subscribers worldwide (40% more than at the same time last year) and 101 million free users (+23%). Most of Spotify's subscribers are European (40%), followed by North America with 31%. Average revenue per subscriber fell by 12% to just under EUR 5 per month, due to the numerous new family subscriptions. In total, just under EUR 1.3 billion flowed into Spotify's coffers in the second quarter of this year, around three-quarters of which were distributed amongst the shareholders. The remaining EUR 329 million could not quite cover the expenses for research and development, sales and marketing and general administration, which amounted to EUR 419 million, resulting in a quarterly operating loss of EUR 90 million. In addition, there are remaining debts of 302 million euros. Ergo, music streaming is still a loss-making business, by the way not only for Spotify. Currently the Swedish company employs nearly 4000 full-time employees and freelancers worldwide.

SUMMARY USER AND FINANCIAL METRICS				% Change	
	Q2 2017 ¹	Q1 2018 ¹	Q2 2018	Y/Y	Q/Q
USERS (M)					
Total Monthly Active Users ("MAUs")	138	173	180	30%	4%
Premium Subscribers	59	75	83	40%	10%
Ad-Supported MAUs	83	102	101	23%	(0%)
FINANCIALS (€M)					
Premium	904	1,037	1,150	27%	11%
Ad-Supported	103	102	123	20%	21%
Total Revenue	1,007	1,139	1,273	26%	12%
Gross Profit	232	283	329	42%	16%
Gross Margin	23.0%	24.9%	25.8%	-	-
Operating Loss	(79)	(41)	(90)	(14%)	(121%)
Operating Margin	(7.9%)	(3.6%)	(7.1%)	-	-
Net cash flow from operating activities	72	84	30	(58%)	(84%)
Free Cash Flow ²	59	74	18	(69%)	(76%)



MC preamplifiers from Rega

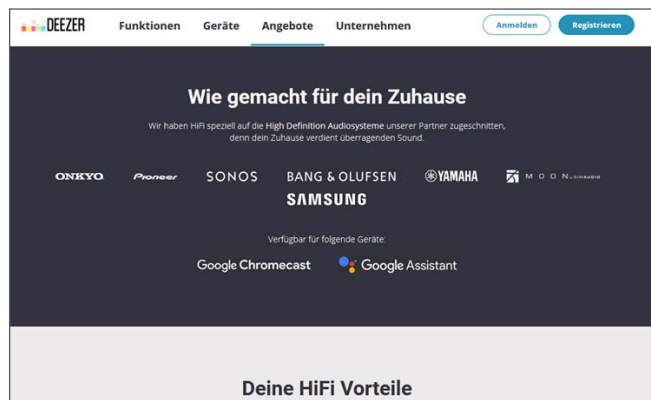
As its name „Aura MC“ suggests, Rega’s latest phono pre-amplifier is designed exclusively for moving coil pickups. In the input stage, its fully balanced electronics are operated using low-noise field-effect transistors. Polypropylene capacitors with a tolerance of just 1% provide precise RIAA equalization, while, in order to match the pickup sensitivity, the gain can be adjusted in two stages. One of 5 values between 50 and 400 Ohm is



chosen for the input resistance and input capacitances can be selected between 1000 and 5700 pF. For their own pickups Rega recommends low capacitance values and 100 Ohm input resistance. A „Mono“-button optimizes the sound for mono records, and „Mute“ silences the outputs to avoid cracking noises when engaging the needle. The pickup is connected via RCA sockets and the output signal is provided as RCA and XLR. The Aura MC is available from September at a price of 5000 Euro.

Deezer HiFi now listens to Google’s voice control

Just recently the music streaming service Deezer has released its lossless version „Deezer HiFi“ for Chromecast transmission from the smartphone app. Now they follow up with voice control via Google Assistant. With the voice command „Hey Google, play my flow“, for example, the user’s personalized playlist „flow“ is started, which is a mix of favorite and recommended songs. You can also search for specific albums, artists, playlists, songs or genres by voice. This works not only on Google’s own „Home“ speakers, but on all voice-controlled speakers with „Google Assistant built-in“.



Affordable entry: new Pioneer integrated amplifier

For an affordable 400 Euro – including the remote control – Pioneer will launch the A-40 AE integrated amplifier in August. According to its data sheet, it delivers 2x76 watts into 4 ohms and offers inputs for 5 line and 2 digital (optical and coaxial S/PDIF) sources, as well as an MM pickup. D/A conversion is performed by a Wolfson chip, processing sampling rates up to 192 kHz. Screw/banana terminals are provided to connect up to two loudspeaker pairs simultaneously, which can be operated in parallel or individually. By means of the „Direct“ switch, sound- and balance controls can be bypassed. Direct power-amp input, and the line- and headphone-out complete the set. The A-40 AE’s front is made of aluminum and is available in black or silver.



Cambridge Audio: Edge amplifiers now in stores

The big premiere of Cambridge Audio’s new top components „Edge“ was already celebrated at the High End, and if you were lucky you could hear one at a dealer event. However, only now you can actually buy one. At least the integrated amplifier Edge A is from now on available in selected specialist shops, for a price of 5000 euros. With other dealers you can at least arrange an appointment for listening. In the coming months the Edge system will be completed by the preamplifier/network player Edge NQ (4000 Euro) and the stereo power amplifier Edge W (3000 Euro).



Bluetooth speakers as stereo pair

Starting in August, Denon is going to expand its AV receiver range with models featuring Alexa voice control and Apple's multi-room protocol Airplay 2. The AVR-X 3500H (around 900 Euro) is going to start of the initiative. It is packed with 7 power amplifiers of 180



watts each, WLAN, Bluetooth, Internet radio, Spotify Connect, UPnP streaming, HiRes playback up to 24 Bit/192 kHz and DSD up to 5.6 MHz, phono input, 8 HDMI inputs, 3 HDMI outputs, Audyssey room calibration with included microphone and stand as well as support for the brand's own multi-room system HEOS. Thanks to the HEOS Home Entertainment Skill it will also be compatible with Alexa voice control while Airplay 2 will be made available as a retrofittable update. Naturally, all recent home cinema picture- and sound formats are supported. The AVR-X 4500H (1500 Euro, from September), which has 9 power amplifiers of 200 watts, is even better. The two new Marantz AV receivers SR 5013 (7 power amplifiers, 900 Euro) and SR 6013 (9 power amplifiers, 1400 Euro) are equipped similarly.

Sonos: Update to Airplay 2

Sonos Beam, One, Playbase and Play: 5 MK2 multiroom speakers are now compatible with Apple's new Airplay 2 streaming protocol. After the update, the Sonos models appear in the iOS port in the list of Airplay devices and can also form a cross-manufacturer multiroom system, e.g., together with Apple's HomePod loudspeakers. We tried it out with the "One" and, as usual with Sonos, it works brilliantly, even if set up as a stereo pair. An iOS device with iOS 11.4 is required. Under the latest MacOS 10.13.6, iTunes 12.8 is, since recently and only on Mac not on Windows, also Airplay 2-compatible.



The Sonos speakers can, hence, from now on be supplied with music from any app on iPhone & Co. and can also access the Apple Music streaming service via voice command. Apple's HomePods, on the other hand, do not appear in the Sonos app.

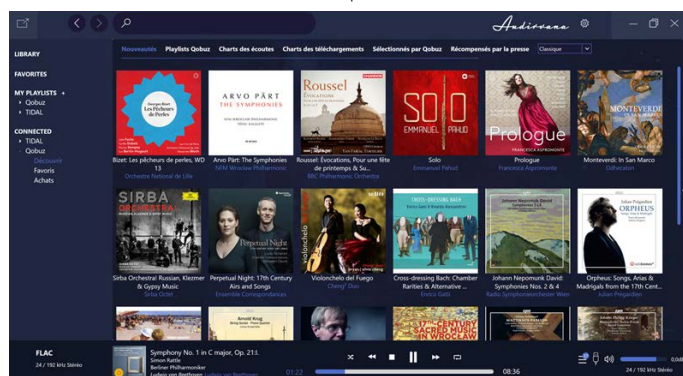
„Good vibrations“ for 10,000 pounds

The English hi-fi company Avid is launching its vinyl drive „Acutus“ in a matt black, limited and numbered edition of 100 copies as the „Acutus Dark“. As with the standard model, the 10 kilo turntable is driven by a 33 or 45 rpm synchronous motor via double belts. The subchassis is mounted on three springs with adjustable resonance frequency. Thanks to single-point bearings made of a tungsten carbide ball, a bearing mirror made of sapphire and the screw-on plate clamp, the „bad vibrations“ are supposed to be dissipated into the sub-chassis and only the „good vibrations“ can reach the feeler pin. The Acutus Dark Limited Edition costs around 10,000 British pounds, without a tonearm.



Audirvana now also for Windows

The popular music player software „Audirvana+“, previously limited to Mac, is now also available for Windows 10. Developer Damien Plisson has completely redesigned the user interface, but otherwise Audirvana Plus for Windows 10 offers exactly the same features as Audirvana Plus 3.2 for Mac. This includes support of all popular audio formats including high-resolution FLAC, WAV, AIFF and DSD files as well as an MQA core-decoder and direct access to the streaming services Qobuz, Tidal HiFi and HighresAudio. Audirvana for Windows 10 communicates exclusively with USB DACs via ASIO and WASAPI or transmits music, via home network, to DLNA network players. The sound signals are provided, with accuracies down to a single bit, at the respective original sampling frequency or, if required, converted, using a high-quality sampling rate converter. Requires a PC with Windows 10 and at least 4 GB, better 8 GB of RAM. Audirvana+ for Windows costs around 77 euros, just like the Mac version.



More receivers with Alexa and Airplay 2 from Denon and Marantz

Starting in August, Denon is going to expand its AV receiver range with models featuring Alexa voice control and Apple's multi-room protocol Airplay 2. The AVR-X 3500H (around 900 Euro) is going to start of the initiative. It is packed with 7 power amplifiers of 180 watts each, WLAN, Bluetooth, Internet radio, Spotify Connect, UPnP streaming, HiRes playback up to 24 Bit/192 kHz and DSD up to 5.6 MHz, phono input, 8 HDMI inputs, 3 HDMI outputs, Audyssey room calibration with included microphone and stand as well as support for the brand's own multi-room system HEOS. Thanks to the HEOS Home Entertainment Skill it will also be compatible with Alexa voice control while Airplay 2 will be made available as a retrofittable update. Naturally, all recent home



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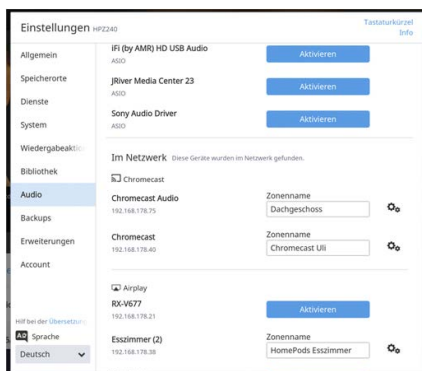
New racks from Bassocontinuo

A completely revised rack series comes from Italy: Bassocontinuo offers the „Reference 2.0“ models in six new surfaces, and its new „Harmonic Damping Resonators“ attenuate each rack level individually at exactly determined frequencies. Depending on the model, 3 cm thick shelves made of MDF or plywood carry devices weighing up to 150 kg. The racks have a modular design and can be reconfigured or expanded according to space requirements. Accessories such as cable management, headphone holder, etc. are optionally available. The prices for the „Accordeon XL4 2.0“ audio rack in the cheapest „Nighthawk“ version range from around 950 to around 1350 euros per rack floor, depending on the height. The top design „Mercurial“ is around 250 euros more expensive.



Roon supports Chromecast and Airplay 2

Since the most recent update, Roon software can also stream to Chromecast-compatible devices, such as Google's „Home“ loudspeakers, Chromecast video and audio adapters and all devices with „Chromecast built-in“. They are automatically detected in the home network and appear in Roon under Settings > Audio. Chromecast audio devices accept resolutions up to 24/96. Roon can also stream to a grouped set of Chromecast devices in multiple rooms. The new version additionally supports Apple's Airplay 2 protocol and can play music, for example, via Apple's HomePod speakers. Roon has also updated the MQA decoder.



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Mediadaten:
Media-STEREO-Magazine-2017/2018_EN
Media-STEREO-Magazine-2017/2018_DE

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