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Reprint

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Amplifier Audionet DNA:

The Avantgardist

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How many options can a human actually take? Probably the answer is: the more options there are, the harder it will be. We rather prefer things to be clear, plain and hence simple. In either-or-situations we mostly make up our mind fast and are happy or at least content in retrospect with our choice. Basically this is also a fundamental idea of high-end, for all components of a system for high-quality music reproduction should be limited to the essentials. Purism for optimal sound, so to speak.

DNA stands for »Digital Network Amplifier«

The 25 kilogram Audionet amp is an integrated stereo amplifier in its original meaning, complemented with streaming client and some other goodies, which is available in different model versions starting from 10,490 EUR. Those who register their device in Bochum will get a third year of extended warranty in addition to the statutory two years. The list of

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Due to technical innovations, however, this concentration to the core in a multiple way can also take place within the enclosure of a single component. Where formerly was at best room for a pre- and a power amplifier, today a D/A converter, digital interfaces, digitally based frequency correction filters, a phono board and an FM tuner will also fit in. The jack-of-all-trades in the high-grade audio sector? Sounds like a suicide squad. But Audionet is most definitely not famous for hara-kiri actions!

In the Audionet DNA integrated amplifier the digital and analogue domains merge into an audiophile delicacy. Plus it offers comfort functions which make this high-end amp the most attractive in its class. What follows is an intensive approximation to the allrounder.



This is the brave new world in the Audionet DNA: Analogue (left) and digital (right) sections in peaceful coexistence. If the router is located too far away from the amplifier, the DNA may also simply be integrated »wireless«. The bottom line: Despite all those fascinating possibilities, it still remains one thing above all – a superb sounding integrated amplifier.

available options includes an MM/MC phono board (fitted in the reviewed unit, four selectable gain factors, 490 EUR) and the EPS G2 external power supply (1,990 EUR). The Harmony One Audionet system remote control is already included. As usual the front panel is available in either black or silver and with a red or blue display.

On the front panel we meet again with Audionet's four-button design which comprises the power switch and volume control. At this point one could also click into the menu and operate the basic functions. However, much more easily, neatly and comfortably than even with the remote, these things can be done via the RCP – Remote Control Point – through a computer, iPhone, iPad or Android-based smartphone. The control software is simply downloaded from the Audionet website, and as soon as the DNA has been recognised as a network unit, you can experience a really new dimension in the control of high-end components, but more on this later.

Digital and Analogue Connections

The sight of the DNA's rear panel has a calming way about it. After all, the connection groups are reasonably arranged and it won't take long to get an overview. There are four analogue inputs, one of them balanced with Neutrik XLR sockets. In case a phono board has been fitted, two RCA inputs will still remain. Next to the preamp output there are no less than two configurable outputs for subwoofers. Therefore with the DNA a 2.2 setup can be realised whose acoustic adjustability is unique. Alternatively a second zone in the flat or house can be filled with sound.

The digital input section offers four coaxial and two optical inputs. These are complemented with the network connection (LAN) and a USB input plus the threaded bush for the supplied W-LAN antenna. Just below it we have a 75 ohm antenna input – strictly speaking, the DNA is actually a receiver. But chief designer Volker Wischniowski conjures forth a pcb on the table, slightly larger than a thumb nail, and comments dryly: »This is the radio. Works great, the DNA owners don't need a separate FM tuner any more. Yet in view of all the things the amp is capable of doing, this is really no more than a side note.«



After the power has been amplified, it leaves the DNA via WBT pole terminals of the Nextgen series. Next to the EPS connector we have the Audionet Link connection which uses optical cables and takes over the control of other Audionet components – central power-up and turn-off, for instance. For the integration into domestic control systems, which appears sensible for the first time, there is an RS232 interface. The trigger output can be switched with an input-related gate voltage of either 12 or 5 volts. The two ground terminals can be used for connecting the ground of the turntable and for an external earth wire which can produce audible differences, depending on the system.

The Engine Room

The power supply opens with a vibration-dampened 700 watts toroidal mains transformer for each channel. Electrolytic caps with a total capacitance of 144,000 μF stand by as storage medium for the energy. A third transformer takes care exclusively of supplying the input and driver stages; when the external EPS power supply is used, it's out of the job. Several dozens of voltage stabilisers make sure then that energy is available at all points with no delay and in sufficient quantity. At eight ohms the DNA puts out about 150 watts, at four ohms twice as much. The other lab specs are excellent, too – just as we would expect from Audionet.

Especially in the DNA's digital section Audionet has gone to great lengths. Hereby two premisses were relentlessly followed, without taking neither time nor costs into account. First the digital section had to be specially protected against interferences both from outside and inside. And on the other hand the signal transmission must function perfectly. So the data transmission takes place via LVDS (Low Voltage Differential Signaling). Designer Volker Wischniowski handles the increased interference susceptibility of this mode of transmissi-

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on in the one volt range with a pc board layout of which he affirms convincingly: »Here we've truly come off with something special.«

When the signals arrive at one of the DNA'S coax inputs, they will first undergo a clock rate purification. Some of the involved parts have been quietened with some plasticine to efficiently suppress the emergence of even the faintest microphonic components. After that the Audionet generates its own new clock rate – this is a Bochum speciality with a high sonic relevance. The DSP board is equipped with a sampling rate converter which is used to upscale all signals to 192 kilohertz with no exception. In particular a good deal of brainpower was put into the component selection some of which are custom-made for Audionet – such as the Burr Brown PCM 1794 – and the construction. For it's another Audionet speciality to keep jitter values extremely low. The audiophile connoisseur may allow the remark that Burr-Brown D/A converters of the highest and thus most expensive selection grade are used for the main channels in a dual mono configuration, hence exactly like

Audionet chief designer Volker Wischniowski is the father of the DNA. Apart from the innovative circuit layout he primarily exercised utmost care with the component selection. If standard solutions won't do, he simply orders custom-made types. But as his know-how meanwhile includes network technology as well, he's been assisting i-fidelity.net with the configuration of their editorial router which at first refused to take notice of the DNA. This man can not only build high-end amplifiers ...

In the end it's almost 5,000 components the sum of which makes up the DNA. But instead of a loveless mass production there are a lot of small and fine details in the DNA that help establish its sonic potential. Right beside the green DNA name plate we have a speed-controlled fan which started up in the i-fidelity.net measuring lab only during the high performance test, producing nothing but a minimal noise.

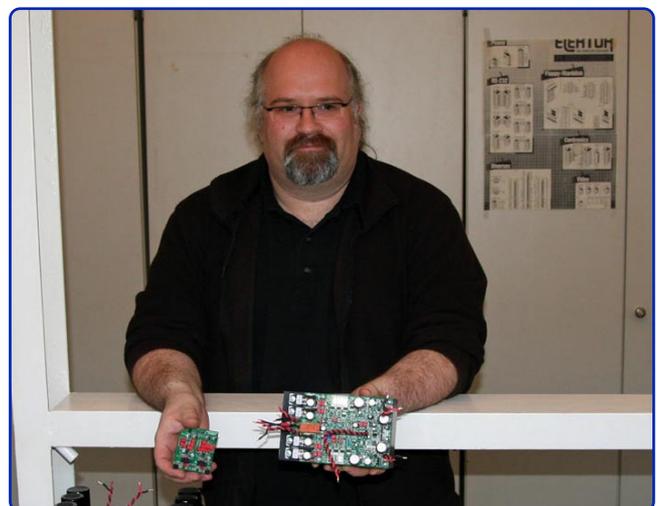
in the VIP G3. Even for the D/A conversion of the subwoofer channels we can still find Wolfson 8740s. This type also fulfils the same task in the MAP I multi-channel preamp.

Commands from the Bridge

All these operating and configuration options can be comfortably organised from the laptop via RCP. The inputs are given distinct names and adjusted in their volume to avoid noticeable level jumps. For the pickup the gain factor and type are specified, and finally the loudspeaker configuration must be entered. For example stereo with one or two subwoofers. Then we can begin to manipulate the frequency response curves very cautiously and store them as individually named setups.

But the right path to the perfect result is taken by downloading the free Audionet room acoustics software Carma from their website and sizing up the listening room. However, utmost care is needed here. To ascertain precise data, only a high-quality, frequency-calibrated microphone should be used. These can then be loaded very easily into the DNA via RCP and the correction will follow automatically. Delay adjustments can be made in steps of 5 centimetres (2 inches), carrying the optimisation to the extreme. For this function alone competitors already call up more than 5,000 EUR in separate components.

In practice, once these settings have been made, the DNA operates as easily as any other integrated amplifier with



a considerably shorter list of features. All that remains is the question which kind of music shall be played and which source it shall be fed from.

Old School

In a first step we simply hooked up both the Audionet VIP G3 and the Audionet PAM G2 EPC with the DNA via analogue cables. Not for marketing, but for technical reasons the display will then read »Pure Analog«. Those who may be puzzled because of the ample digital section will calm down for now and can fancy listening to music over the SAM G2's »big brother«. Who prepares mentally to discover subtle differences, will be surprised a few minutes later.

Because the DNA has its own, very distinct character. So it reveals »The Look Of Love« by Dusty Springfield in an unusually fresh manner. It sounds as if the musicians were rejuvenated and their instruments cleaned. Fascinating how clearly the strings come into their own and how the track's overall transparency is enhanced. Not to mention the rhythm that is worked out much more exactly, something the DNA subsequently succeeds in doing with every other piece, by the way. This guy has really good rhythm vibes.

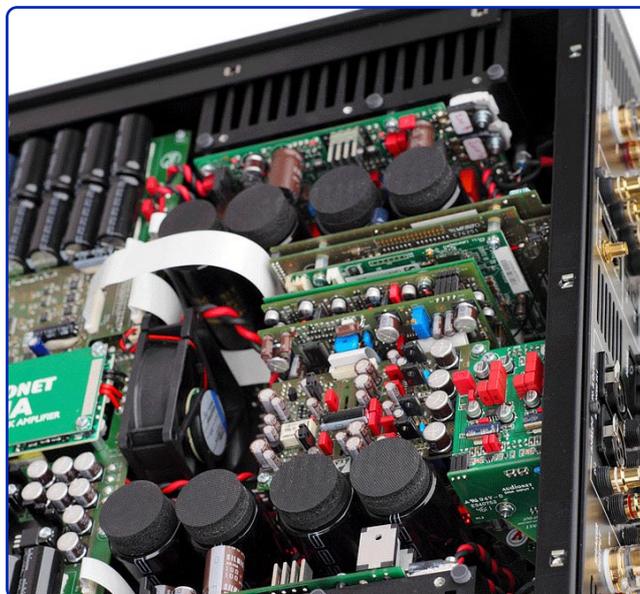
The analogue ride through Björk's latest album »Biophilia« almost puts a brusque end to this report, for why still test something else now? The music is flowing, its message gets through to the listener – nobody under the sun needs more. In particular the sometimes complexly interwoven choirs are resolved down to the smallest structure by the DNA. And joined by the EPC, we also feel an authentic punch like we've never experienced from any other combination. Honestly, no one needs more to be happy!

From Zero to 192 Kilohertz

After the VIP G3 had been deprived of its analogue link to the DNA, the signal was fed into the DNA on the digital route. The sound image is characterised by great clarity, the desired highly precise localisation and a splendid spatiality. Furthermore the DNA's resolution capability tears everything to the surface which otherwise is drowned sometimes in the tonal mix without a whimper. CDs that we had believed to know well get a new, fresher touch. Until now this combination of airiness and power could only be heard from strikingly higher-priced and mostly separate components.

May I introduce myself? Smooth Jazz from California

Users who don't want to rely on their own music, can while away the time with the internet radio. All you need to do is create an account at vTuner and sort your stations there. The reviewer e.g. didn't have the Smoothjazz.com transmission variant of 256 kBit/s; simply add it to the list, and after restarting the DNA you can dial in this station. What is heard then will make you slightly cock your eyebrows.



Of course, due to the medium the superb sound quality of the DNA's analogue and digital sections is gone, but the quality has meanwhile reached an acceptable level. Nobody who deliberately or incidentally got the chance of listening to web music over the DNA, was complaining about the sound quality. Au contraire, the question popped up every now and then if a »plus« in sound quality was really needed. The answer is definitely yes, for the emotional experience supplied by LP, CD or harddisk brands itself much deeper on the perception. But nothing speaks against enjoying »Linn Jazz« instead of exposing ourselves to the broadcasting monotony.

The harddisk rings in »Music Nonstop«

Currently the Audionet can handle WAV and Flac up to 96 kilohertz/24 bit, MP3, AAC, WMA and Ogg Vorbis. It's also worth mentioning at this point what the DNA still generates from a »sub CD resolution«. With barely no exception it was able to surpass a system that was run in parallel to play CD, fed with a 320kbit/s AAC version of the »Folia Variations« by Stephen Stubbs. Incredibly good what the DNA can still get

out of actually degenerated MP3 files. Naturally this source will really shine if Peter Gabriel's album »New Blood Special Edition/ FLAC 24« is played from the harddisk.

Seasoned reviewers were stating that they did like CDs, but never really got round to love them.





The affirmation for this is now delivered by this markedly higher degree of resolution, the plainly sensational imaging capability down to the remotest corner of the room and – which may have the strongest effect – the absence of consciously or unconsciously audible interference components. Furthermore all wishes in the direction of the sound image, presented by the DNA, are falling silent, there's no »here I still would ..., not quite well-balanced, ... a tadbit more precision would be desirable «, but simply quiet amazement and enjoyment.

Test result

The Audionet DNA is a phantastic integrated high-end amplifier: It sounds absolutely superb, both digital and analogue, the catalogue of its features is pure luxury, and owing to RCP it is still easy to operate, despite a high degree of complexity. No doubt, with this avantgarde amp Audionet delivers a technical masterpiece. The DNA is certainly the trendsetter for the next generation of integrated amps – not only for that i-fidelity.net is awarding a fat reference title! *Olaf Sturm ifn*

Features

Audionet DNA – High-end integrated amplifier with digital interfaces

Options

MC/MM phono preamp module
Audionet Harmony One system remote control
Audionet EPS G2

Connections

Audio inputs (analogue): 3 x RCA, 1 pair of Neutrik XLR
Audio inputs (digital): 4 x RCA, 2 x optical (TosLink)
Audio outputs: 1 Pre out; 2 x Sub out/Multiroom;
WBT Nextgen pole terminals; 6.3 mm jack socket for headphones

Other connections

- USB 2.0
- Ethernet (RJ 45)
- FM antenna, 75 ohms
- RS232 (control input)
- Dual ground clamp
- Remote turn-on
- Audionet Link out
- 3.5 mm jack socket as trigger output with 12V gate voltage (optional 5V)
- 5-pole connection for external power supply EPS G

Model versions

Front panel: Brushed aluminium, black anodised, light grey overprint or brushed aluminium, natural anodised (silver), black overprint
Display colours: red or blue

Dimensions (W x H x D): 43 x 40 x 13 cm

Weight: 15 kg

Prices: Audionet DNA: 10.490 EUR

Phonoplatine MM/MC: 490 EUR

EPS G2: 1.990 EUR

Warranty: 2 years, with registration 3 years

Contact

Audionet is a division and registered trademark of IDEKTRON

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Interview

Mr. Gessler, have you listened to FM radio with the new Audionet DNA today?

Of course I did already lend an ear, but not today. And I'm also satisfied with the sound quality. But I see the FM radio as a bonus for our customers and not as the essential point. Personally I hardly listen to broadcasting any more. Not even in my car. Way too much boring blather and not enough musical and sonic quality. In fact, it only remains the Deutschlandfunk. Plus it's a fact: Who has ever been exploring the possibilities of internet radio, will not want to listen to anything else anyway. Everything can be found there, for every taste and for every mood. It may be a journey through the world of music and through the music of the world. And you have heard it for yourself and described how amazingly well the DNA can reproduce this.

Do you foresee any difficulties in communicating the DNA's broad feature spectrum to the customers?

No, this falls into place by itself. It has just everything on board which, according to the current state of technology, contributes to an optimal music reproduction as a spectacular result. Connectivity options from the harddisk to the iPod to the server, signal processing, adjustment possibilities such as equaliser and bass management, two-zone operation and the user options via computer or apps make the DNA a universal genius and, in my view, an all-round happiness package.

What were the in-house problems you had to overcome in order to realise the hightech product DNA?

Everybody who is dealing with the DNA or just takes a look inside, will immediately understand that this is a technically extremely complex and

sophisticated system. Each DNA is made of nearly 5,000 components. We have invested many years of development work. Hard-, firm- and software: We designed and developed almost everything ourselves. In the process it's inevitable that you have to take even staggering setbacks and start from scratch in certain areas. This is what I experienced as the biggest challenge – to keep the vision of and the belief in the DNA alive and to uphold the inner excitement so high that we made it right to the end. I have a great team!

How do you handle inquiries which don't refer directly to the DNA, but e.g. the customer's private network?

Network problems indeed concern all suppliers in this segment. In any case we will help wherever we can. But in view of the vast multitude of hard- and software components which may appear in a computer network we will certainly not be able to solve every network problem of this world. However, experience shows that those are rather exceptions.

Do you truly believe that audiophile users can live with an amplifier that can be controlled via app and has USB and network inputs?

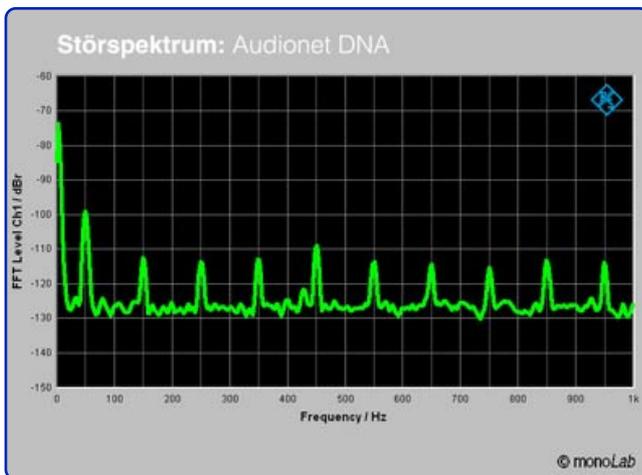
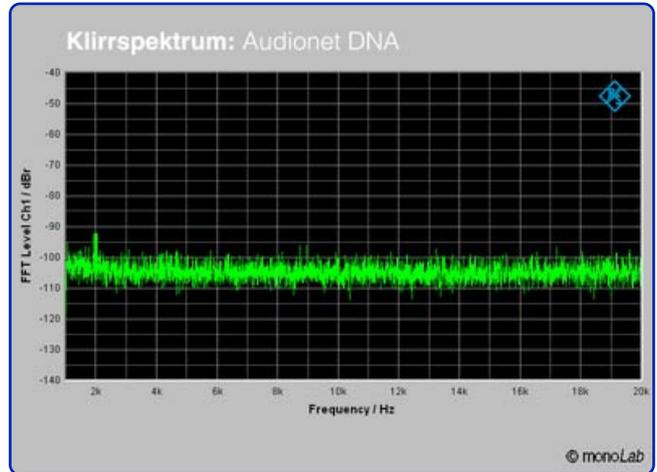
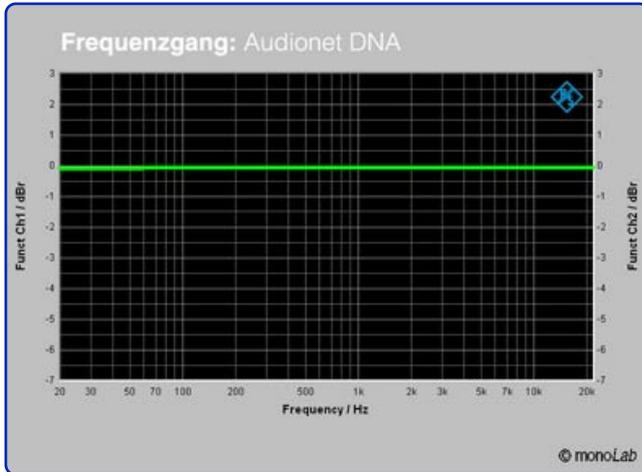


Audionet CEO Thomas Gessler.

Well, Mr. Sturm, thanks for the provocative question, but the world keeps turning and changing and so do the demands and needs of the people. When we launched our first preamp nearly 20 years ago, it almost brought about our downfall. The PRE had a remote control, I think it was the second high-class preamp with a remote ever. Many audiophiles were firmly convinced then this simply couldn't sound good, an analogue system with a digital remote control. Period!

From where we stand this is hard to believe. Who has ever heard how good music from the harddisk or computer can sound – not to mention the resolution possibilities – and which comfort an app can offer, will not only be able to live with it, but want to have it that way. *ifn*

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Lab Report

Output power:

Nominal output power @ 4 ohms (1% THD):
309 W

Nominal output power @ 8 ohms (1% THD):
155 W

Distortions:

Distortion factor (THD+N,
10 watts @ 4 ohms): 0.0062 %
IM distortions SMPTE
(5 watts @ 4 ohms): 0.0075 %
IM distortions CCIF
(5 watts @ 4 ohms): 0.0008%

S/N ratios:

Unweighted SNR (- 20 kHz): -85.4 dB
Unweighted SNR (- 250 kHz): -71.5 dB
S/N ratio (A-weighted): -87.9 dB

Others:

Upper limit frequency
(-3dB / 10 W @ 4 ohms): > 185 kHz
Channel deviation: 0.034 dB
Input impedance: 45.5 kohms
DC output offset: < 0.5 mV

Power consumption:

Stand-by: < 1 W
Idle state: 129 W

Sound quality

superb

Lab

very good

Features

outstanding

Workmanship

very good

Overall score

outstanding

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Audionet DNA

Test verdict: superb