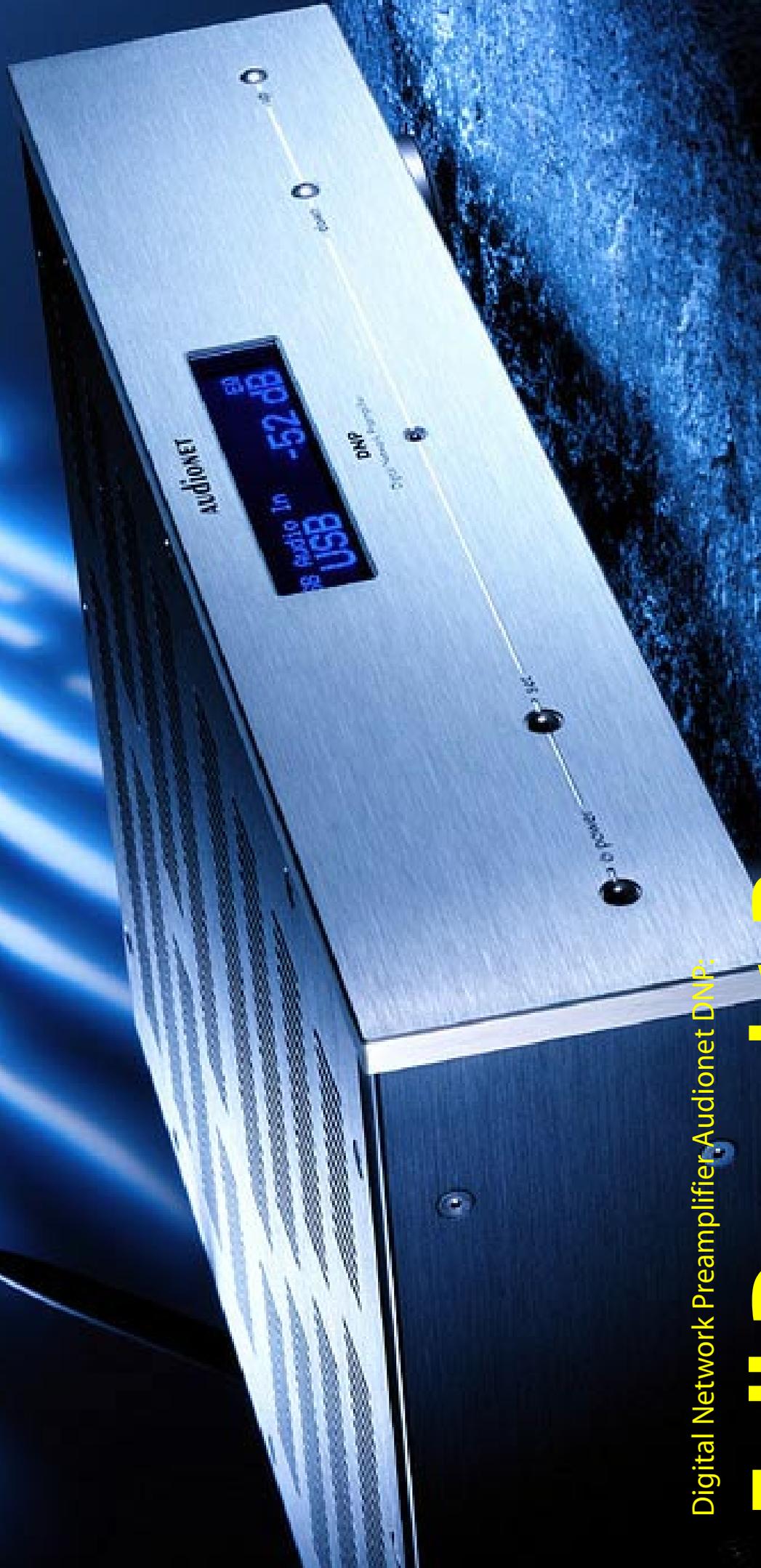Digital Network Preamplifier Audionet DNP:

Full Draught Power

Full Draught Power

Digital Network Preamplifier or DNP for short is the name of Audionet's youngest offspring, that fine high-end electronics manufacture from Bochum. And design-wise it appears to be a trend-setter, possibly not only for Audionet. The device category 'amplifiers with integrated D/A converter and streamer' has been around for quite some time and enjoys a growing popularity. Indeed, it offers unmissable benefits on the technical side and on the other hand an easier operation than a stack of separate components. In most cases the makers will therefore plant the digital parts as a module into a remote-controllable amplifier. Well, the Bochumers don't take such an easy way out here, which is a good thing.

If you peek through the venting slots in the sturdy bonnet or, like the reviewer, dare to unscrew the massive piece to dive into the labyrinth of circuits, even the expert will be amazed by how much incredible effort went into the production of this manufacturing masterpiece. Several large circuit boards with the dominating and impressive power supply are fitted with dozens of small to tiny little slave boards. And if, like the reviewers, you ever had the rare honour of talking with chief designer Volker Wischniowski directly at his workplace in the R&D department, you will know how much brainpower goes into every detail. One can listen to the graduate engineer for hours on end and thereby learn more about analogue and dig-

With the DNP Audionet has launched their most complex product so far. The multi-purpose machine contains an analogue balanced pre-amp, a D/A converter, an active frequency crossover, an electronic room compensation, a high-end audio streamer plus an FM tuner. By the way, phono may either be upgraded or ordered ex works. If all that even sounds good on top – maybe the centre of almost every future high-end system could be like that?

ital technology than in a whole semester at the university, while he keeps picking one board after the other out of the sample unit, or he fishes parts from the spare box, and besides the sober technical details and the fascinatingly described sound properties he can even tell a little anecdote about every piece.

Hardly replicable in the finished amplifier, but only visible in the partly disassembled sample are the developing efforts which were particularly tricky to realise on the DNP, i.e. to keep

the signal paths – no matter if analogue, digital or mixed – as short as possible and thus minimise the mutual interference between the different assembly groups. The square of the circle had to be solved here, because either the components sit close to each other and influence each other on short paths or vice versa. Furthermore, this should apply to analogue and at the same time to digital signal components in the device as well..

At this point we're getting to the abilities that the DNP brings in its train, and these fill a long list. Some things, however, are already quite obvious if you take a look at the rear connection panel. It starts on the left with the IEC socket which has a decent mains switch. Right above it we see a massive brass screw terminal for an additional earth lug. A suitable Schuko dummy connector with an extra-thick ground wire is supplied as standard. Depending on the mains connection used, the additional earthing brings more calm into the sound image. Next comes a socket for an external power supply. There are also connections for tethered control commands via Audionet-Link, trigger signal or RS-232. The next block is to receive all kinds of data, either from a LAN cable or the WLAN antenna (supplied as standard), via USB port with iPod interface and via USB 2.0 audio port for audiophile treats up to 192 kilohertz directly from the computer.

Unlimited versatility

On we go with an antenna connection for FM and no less than nine digital audio inputs with one AES/EBU socket and four RCA and TosLink sockets each. The last connection block is dedicated exclusively to analogue in- and outputs, there is one balanced stereo pair for each type. If the optional phono module (450 EUR, MM/MC configurable via jumper) is installed, line input 5 will double as the phono connection with its own earth clamp. Right below it is the large headphone jack socket which is separately switchable and controllable in the menu. Together with the XLR pair we have a total of three stereo pre outs which can also be used in parallel, e.g. for wiring a professional bi-amping setup.

The final pair of output sockets either drives a second listening zone or can be used for professionally driving one or two subwoofers. For this purpose the DNP offers a comprehensive bass management complete with active crossover, room compensation, level and delay time setting. By the way, one selectable input can be switched to »full draught«, the

DNP is then merely just a piece of wire. This way it even integrates as a high-end stereo source into a surround system. Considering this wealth of interfaces, it should cater for all tastes.

A little excursus on the subject of current: it does make sense to supply the entire hifi system from a single power outlet so that all components refer to the same ground potential. But unfortunately many power strips have way too few connections. i-fidelity.net has solved the problem in the test cinema with the Oehlbach Powersocket 905, which offers at least eight turned Schuko sockets and also has two USB power connectors to recharge e.g. the iPad and the smartphone. You think that no one needs so many sockets? Well, let's see: the DNP required up to three sockets – for mains supply, additional earth connection and recharger for the remote control –, add to this two active speakers and one active subwoofer, a Blu-ray player and a TV set ... hey presto, all eight outlets were already occupied. And this although neither a cable or sat receiver nor the server or the router had been plugged in. Therefore a minimum of eight power outlets for the system is definitely reasonable and helps e.g. to minimise ground loops.

In view of all these possibilities the DNP seems to be highly complex, but luckily it is – I may anticipate that – really easy to operate in practice. First the DNP can simply be used like any other analogue stereo preamp: select a source, turn up and down the volume – done! If you don't want to do this on the device, just make yourself comfy in your armchair with the included system remote from Logitech. The streamlined hand control offers all the usual keys for amplifier, TV and sources and – instead of confusing menu levels – a modern colour touchscreen. The Logitech is pre-programmed for all Audionet components, so you can instantly get started. You want to have your other devices included in the good box as well? To this end Audionet has already created a Logitech account, so it's

Rebel with a cause: its versatile functions necessitate the high complexity of the Audionet DNP. Notably the stable power supply of the individual assembly groups has been perfectly implemented. The fact that the effort spent is justified, is shown by the DNP's sensational measuring values in the i-fidelity.net test lab.

client, as is demonstrated time and again by numerous devices from various makers and price categories. Short signal paths, local D/A conversion and low jitter are indeed audible, it's as easy as that. The DNP makes no difference here. But this can also be done professionally from the server. The connection with the local network via cable or WLAN was instantly successful during the review. Immediately the local servers appeared in the list, and also the navigation clicked faster than average. The clear graphic matrix display on the front nicely indicates the selected directories and tracks and also the data of the track in play, the capacity of the data cache as well as the sampling rate.

Who wishes for an even clearer representation and wants to use lists and cover displays, can download the Audionet Music Manager (aMM) in Google's play store. The app is not yet available for other platforms. But with a market share of over 70 percent in the smartphone market, chances are significantly higher that somebody owns an Android device than with Apple who have about 21 percent (source: IDC Worldwide Mobile Phone Tracker, Feb. 14th, 2013). In the worst case one can still buy an Android tablet for under 100 EUR, which is cheaper than a good system remote. With aMM the basic functions of the DNP can be beautifully shown on the graphic display, and there's even a really sensitive volume control which may be rotated authentically. However, the core of the aMM is the comfortable UPnP control for the streamer.

easy to get TV, sat receiver and other components quickly onto the keys, too. A shapely charging cradle keeps the noble remote handy and charges the battery.

Owing to the digital audio inputs one can just as easily play stereophonic digital signals, no matter if from a CD drive, a DVD or Blu-ray disc player or the sat receiver. Here already the DNP understands resolutions of up to 192 kilohertz and 24 bit, as they are supplied e.g. by the fine classical recordings of the Scandinavian 2L label via Blu-ray. Thanks to the USB port an iPod/iPhone/iPad or a memory stick and even harddisks with music may be directly connected: select a directory, press Play, the music's playing. Apple devices can even be fully remote-controlled with the DNP. In the easiest case the navigation will show the wonderfully clear, large graphic display on the front of the Bochumer. The DNP plays all common file formats, even the still relatively exotic AIFF and ALAC (Apple Lossless Audio Codec) and, of course, the most important ones like Flac also gapless, i.e. without a break between the tracks.

Retaining the edge

Until now the DNP can be used in a conventional, easy way. And it sounds sensational, which comes, again, as no surprise with top components from Audionet: it literally shines with a fine sparkle on the instruments, illuminating even the rearmost parts of the recording room, separating and staggering instruments and individual voices with crystal clarity beside and behind each other and putting all that filigree on a physically present body. The USB data are already running through the built-in media player, which is a good thing, for hardly any external source can sound as good as an integrated streaming

This already works like a charm

For those who want even more comfort and options there is the Audionet Remote Control Point (or RCP) which is available as a free Java software, executable on Windows and Mac. It may seem a bit odd at first, but it's pleasantly practical to have such a small netbook on your lap – devices like the DNP definitely cannot be operated in a more comfortable and comprehensive way. Rarely could we browse through the music archive or edit playlists in such a clear, fast and intuitive fashion.

But the RCP is so much more, and this leads us to those points which make the DNP rather unique on the market so far. After all, it contains a full room compensation and bass management system. i-fidelity.net has already written several times about the audiophile use of good subwoofers. Even allegedly full-grown floorstanders can be easily expanded downward in their frequency response by one whole octave, and this greatly enhances the sound in terms of room and bodiliness. This is especially true of compact speakers which, when teamed with a well-adjusted subwoofer, know how to combine the benefits of small sound sources and the force and dynamics of callbox-sized reference speakers. But only if the stereo speakers and the subwoofer can be successfully aligned. Of course, not only the acoustical properties of the respective loudspeakers must roughly go together; above all it must be possible to create a seamless acoustical transition. And this requires a good signal management which, in addition to level and phase, offers good high- and low-pass filters plus an accurately variable delay time adjustment. When finally a network of exactly controllable equalisers contribute the room equalisation, the sound image is suddenly aspiring to new heights. And the DNP can do precisely that hands down. Five fully parametric equalisers are available per output channel, even for each subwoofer.

Now these filters only make sense, if you know where and how you've got to set them. For this purpose Audionet offers the free CARMA (Computer Aided RooM Analyzer) measuring system, again as a Java-based multi-platform software. For quite some time version 3 has been available, the strong suit of which lies in the analysis and whose results can be imported into the RCP. The filters are then manually set. Furthermore, i-fidelity.net was allowed to cast a glance on the forthcoming CARMA 4 in its early beta version. This one will then communicate directly with the DNP and thus facilitate the analysis and above all the delay time settings. The entire setup with all bass management and room equalisation settings can be stored in 20 freely nameable memories in the DNP, which thus will even enable the easy handling of different scenarios.

Of course, the reviewers checked all this out and it's definitely big fun, because the filters sound really good and don't cause a loss in dynamics like in many other cases. Dynamics and resolution won't change from the DNP side, but if the proper corrections have been made, one will hear more details, the sound image
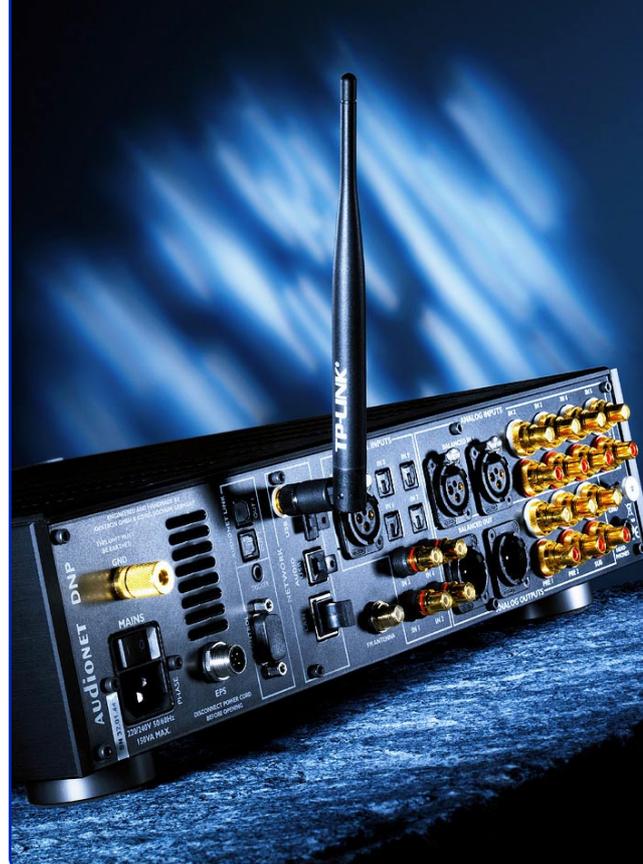
will gain in musicality and transparency. With these helpers the tonal balance can be fine-tuned nicely as well and even other annoying resonances of the listening room successfully compensated. Thus e.g. asymmetrical acoustic conditions can be largely balanced (example: a reflecting window to the left, a diffuse book shelf to the right). People who dare not to handle such tasks should look for a competent dealer, for these adaptations are worthwhile and, depending on the room and its acoustics, deliver a spectacular quality boost.

The DNP sounds infectious

During the practical listening test the reviewers were also trying external digital sources as signal suppliers, which all sounded superbly slag-free and delicate due to the multi-stage signal refreshment and clock calming in the DNP. All the while they were presenting an accurate room imaging and did just not sound boringly precise, but with an organic musical flow which got the reviewers spontaneously tipping their toes. This was particularly true of the the USB audio input. The Audionet support offers a suitable driver for Windows PCs, the latest geneartion of Apple computers don't need it. Playbacks in CD quality (44.1 kilohertz / 16 bit as Flac files) already sounded slightly more open and with better fine dynamics than from the external hardware player. But only with high-resolution recordings did the DNP come to full bloom, e.g. with Andrea Bocelli's »Passione« or Nils Landgren Funk Unit's »Funky Abba« from www.highresaudio.de.

The reviewers found it even more exciting to compare the same files over USB audio and the internal streamer. The streamer sounded a bit more luscious and offered a deeper view into the room, instruments had a longer sustain. The USB playpack via JRiver media player showed a bit flatter and shorter spatial dimensions, with slightly softer dynamics, but

instead the music was flowing with still a bit more groove. However, in this configuration the internal streaming client of the DNP won the palm. The Audionet DNP is simply a total work of art that's worth every single euro.

Test Result

Taking up the question in the lead: yes, that's the way the future hifi system should be like. Audionet's ingenious combination of analogue and digital preamp with bass management and room compensation opens up a comfort level like almost no competitor, due to its control options via standard touchscreen remote, app (aMM) and laptop (RCP). And with the appropriate CARMA measuring system every setup will deliver its very best performance in every room. The overall package works so brilliantly well and, despite its complexity, as simply as only few other solutions. The DNP is a masterpiece in every respect. Never before could a single component get almost any system to sound in such a high-endy manner, with rarely heard fine dynamics and room imaging. i-fidelity.net congratulates Audionet on another reference! *Raphael Vogt* **ifn**

i-fidelity.net Reference

Sound quality	**superb**
Laboratory	**very good**
Features	**outstanding**
Workmanship	**very good**
Overall verdict	**superb**

i-fidelity.net

Audionet DNP
Test verdict: superb

Features

High-end processor preamplifier

Special features
- 2.0 to 2.2 stereo operating mode (useable as 2 analogue subwoofer outputs or multi-room outputs)
- Parametric equaliser and delay manager for all outputs
- Double precision bass manager with 48 bit resolution and freely selectable cutoff frequencies and filter Q values
- Intelligent sampling technology with asynchronous upsampling to 192 kHz/24 bit
- Bypass mode for home cinema integration
- Switchable headphone output
- Automatic mains phase recognition

Connections
Audio inputs (analogue): 4 pairs of RCA line, gold-plated, teflon-insulated; 1 pair of Neutrik XLR balanced, gold-plated
Audio inputs (digital): 4 RCA, 75 ohms, gold-plated, teflon-insulated; 4 optical (TosLink); 1 Neutrik XLR AES/EBU, 110 ohms, gold-plated, teflon-insulated; 1 USB audio type B
Audio outputs: 2 pairs of RCA pre outs, gold-plated, teflon-insulated; 2 RCA sub outs (multi-room), gold-plated, teflon-insulated; 1 pair of Neutrik XLR balanced, gold-plated; 6.3 mm headphone jack socket, switchable
Other connections: 1 USB 2.0 type A; WLAN antenna (SMA); 1 Ethernet 10/100 MBit (RJ 45); FM antenna, 75 ohms; RS232 (control input); Screw terminals for turntable earthlink; Screw terminal for additional earthlink, gold-plated; Remote turn-on via Audionet Link OUT, optical (TosLink); 3.5mm mini jack socket as trigger output with 12V control voltage (optional 5V); IEC mains input socket

Streaming formats:
- WAV (max. 192 kHz/24 bit)
- FLAC (max. 192 kHz/24 bit)
- ALAC (max. 96 kHz/24 bit)
- AIFF (uncompressed, max. 192 kHz/24 bit)
- MP3, AAC, WMA, OGG-Vorbis

Dimensions (W x H x D): 43 x 12 x 36 cm (16.9 x 4.7 x 14.2 in.)
Weight: 12 kg (26.5 lbs)
Price: 9,990 EUR
Warranty: 3 years (only after submission of warranty request)

Contact

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Audionet Managing Director Thomas Gessler

Mr Gessler, can you please explain us which category the Audionet DNP falls into? Respectively which clientele you're targeting with the DNP?

The DNP evades a classic classification. It is a typical analogue preamp with an affluence and density of information that seemed unimaginable for most listeners. Furthermore, it's a universal, audiophile hightech D/A converter which charms unbelievable sounds even from a set top box; in addition it's a streaming client or renderer which marks the state of the art both soundwise and because of its operating options, and it's also an equaliser and bass manager, which adds a truly new dimension to the subject of high-quality music reproduction, not forgetting the fun.

Thus the circle of interested people has also been outlined: plain vanilla undogmatic folks who wish for music listening on the very highest level without limiting themselves. The DNP translates the wealth of today's technical possibilities into pure euphony and creates a deeply emotional experience. By the way: right on time for the High End fair we are also going to showcase our new super power supply Audionet EPX, which is bound to raise the DNP – and not only this one – still further onto an almost incredible level.

We at i-fidelity.net find it absolutely remarkable that a medium-sized company like Audionet is able to produce such a complex high-end appliance. What did the extra mile for its realisation include?

Well, it should be generally known that we do not only distribute our systems, we also design them in the first place. And since the beginning of our company we've had a tradition to deal very thoroughly with the things. We are about knowledge, not about hearsay.

One example of this is CARMA, a software for measuring and evaluating the sound in a listening room. We were not only concerned with the topic »How do reproduction system and listening room sound together«. At the same time we also created an analyse instrument for this purpose which enables us to make substantiated statements and show definite improvement activities. That being said, thereby we have acquired an extremely profound and well-founded approach to this subject. And this is a significant reason why our equalisers admittedly sound so damn good.

By the way, the new CARMA 4 will be ready for the High End – still available as a free download on our website –, which will offer absolutely professional measuring and analysing tools in every respect. The same applies to our operating apps. Here again, we have managed to develop groundbreaking solutions out of nowhere. So we're no longer merely a hardware manufacturer, in the meantime the firm- and software development represents by far the bigger part of our work – everything homemade and thus available for our customers in the form of populated software and well-established competence. All in all it's an enormous effort that we're making in this sector!

You are working with different suppliers who even make custom parts for Audionet in some cases. How satisfied are you with their services?

We have housings, transformers, circuit boards, SMD mounting, but now also a large proportion of the components that we use like e.g. capacitors, custom-made for us – in India, Japan, China, but primarily in Germany as well. For instance, in the new Audionet EPX we use Elna capacitors which are exclusively made for us by this company of international standing. Every entrepreneur knows: single items are ok, bulk production is ok. But small and medium quantities will earn you wrinkles and grey hair, because the requirements are just as high as with large volumes. This means in concreto that effort and costs will rise extremely. Things are going very well with our suppliers; with many of them we've had long lasting business relations and they know our quality standards. After all, they make us pay for it.

Do you think that music listening via harddisk is the future or do you believe that it is just another, utterly comfortable source?

Music listening via harddisk is going to creep as naturally into our lives and occupy its place as e.g. the computer or the internet, of that I am sure.
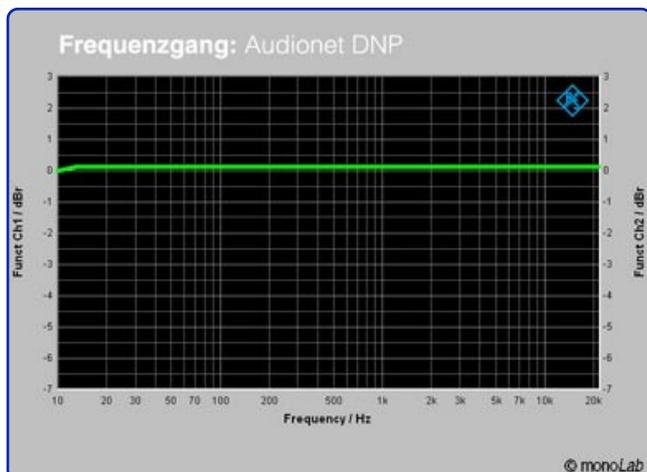
In your capacity as Audionet's managing director you have extremely rarely adapted to hip trends for more than a decade. Whereas a large proportion of the branch will meet at the High End in Munich from May 9th, you're sounding the bell for the chapter »New Ways for Munich« ein. What's it all about?

Since the High End can't take a clear decision if they want to be a trade or a public fair, I always felt we had the problem that we could care neither for our dealers and importers nor for our many loyal customers the way they deserve it. This year we want to free ourselves from this balancing act with a concept that will include consultations by appointment and also a free convivial part, with a new location and flexible times. From this we're expecting more fruitful and successful results for all persons involved. _ifn_
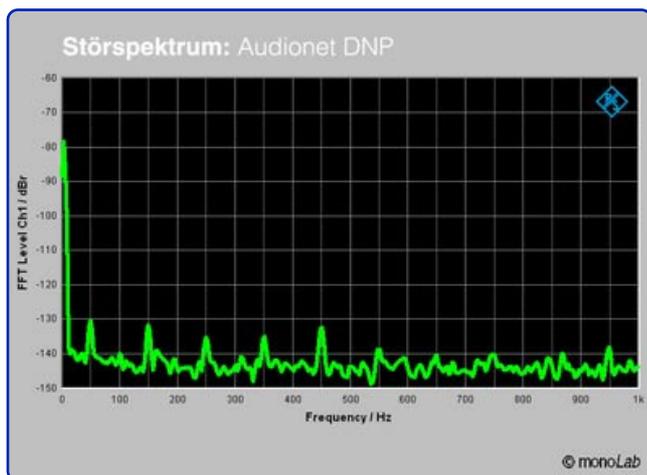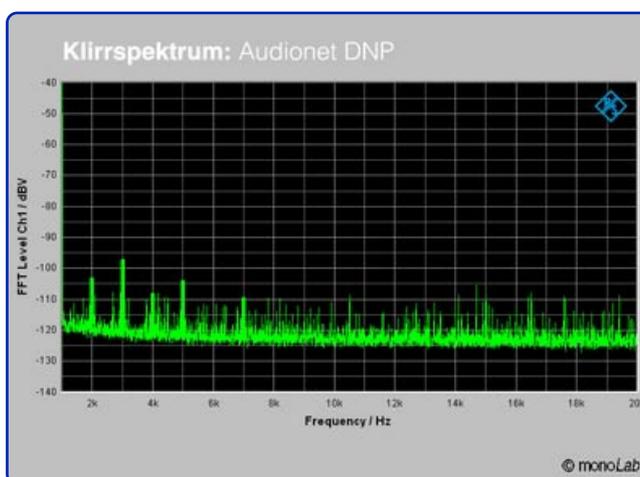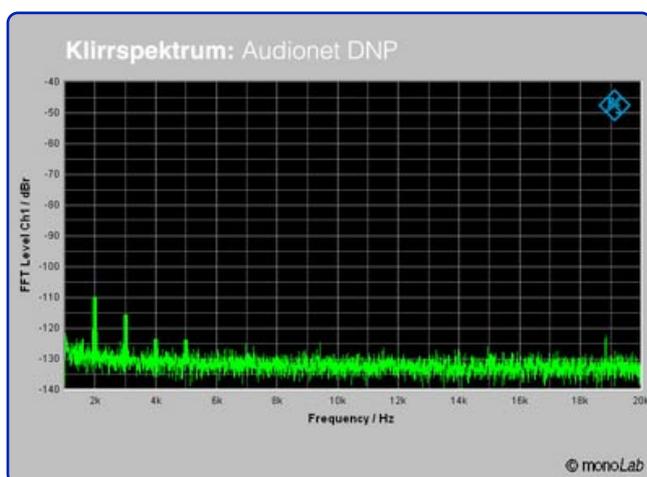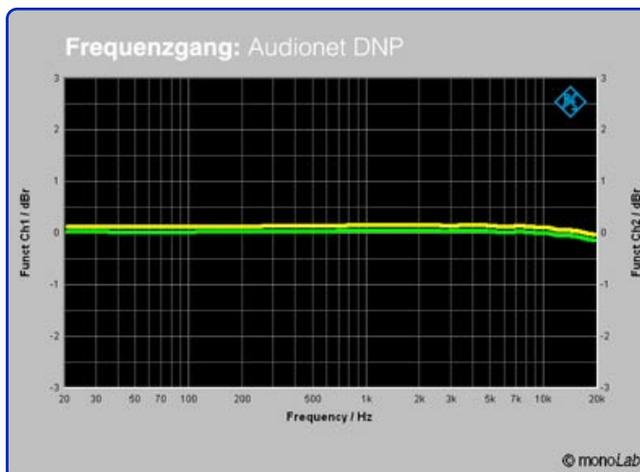
Analogue preamp

DAC section

Lab Report

Gain:
Gain factor: 10.3 dB / 3.28-fold
Max. output voltage: 6.6 V

Distortions:
Distortion factor (THD+N):   0.0005 %
IM distortions (SMPTE):   0.0005 %
IM distortions (CCIF):   0.0003 %

S/N ratios:
Unweighted SNR (- 20 kHz):   -102.3 dB
S/N ratio (A-weighted):   -104.9 dB

Others:
Upper limit frequency: > 185 kHz
Channel deviation: 0.0 dB
Input impedance (unbalanced):   46 kohms
Output impedance (unbalanced):   24 ohms
DC output offset: 1.2 mV

Power consumption:
Stand-by: < 1 W
Idle state: 88 W

Lab Commentary

The analogue preamp of the Audionet DNP shines with out-standingly low distortion figures and excellent S/N ratios – it can hardly get any better. The distortion values of the con-verter section also mark the bounds of feasibility with 16 bit, the S/N ratios are very good. A first-class work all the way, the DNP is impeccable.