

# SAMPLING NYQUIST



For the new Brinkmann „Nyquist“, two specialists fully aware of digital and analogue technology worked hand in hand. The result can be seen - and heard.

**S**cheibenkleister, this thing is good!" That very polite expletive – think "Sugar!" and you're just about there – was my first impression when I encountered Brinkmann's brand-new Nyquist streamer/DAC, and I'm pretty sure anyone will feel the same when they slot it into a familiar system. With 30 years of digital history behind it, Brinkmann's digital device had already staked its claim.

For this first acquaintance, I'd used the "Sounds and Silence" CD, filled with introverted delicacies from ECM, into the drive for gentle learning. Among the tracks is "To Vals Tou Gamou", an extremely fragrant, delicately detailed instrumental number written by Eleni Karaindrous; -I've heard it a thousand times, but never as it sounded via the Nyquist, which created a dazzling, highly-layered air-lock of vibrating tension between the loudspeakers, much to my surprise.

## Team Brinkmann & Lück

Yet this was to prove just the overture to an experience that was to shift our standards for digital reproduction: the Nyquist, handmade by Brinkmann at Lake Constance, has a sound to drain all the colours from your face, as the blood rushes to the ears.

Named after the digital pioneer Harry Nyquist, this product was made possible by intensive collaboration between Helmut Brinkmann and Matthias Lück, who was a PhD in digital technology, worked on software development at Nokia and most recently had the same task in Harman's automotive division. But Luck



▲ The back view of the Nyquist, with the inputs integrated on the digital module and the externally placed analog outputs



◀ The digital electronics are assembled in a screwed module, which can be exchanged in case of updates.

The supplied metal remote control allows switching of inputs, phase reversal and level changes. ▶



sampling-rate) played easily and smoothly, and so it proved with other MQA titles. We controlled the Brinkmann via a “Room” app, this ingenious software with its endless information about the music and the artists also being implemented.

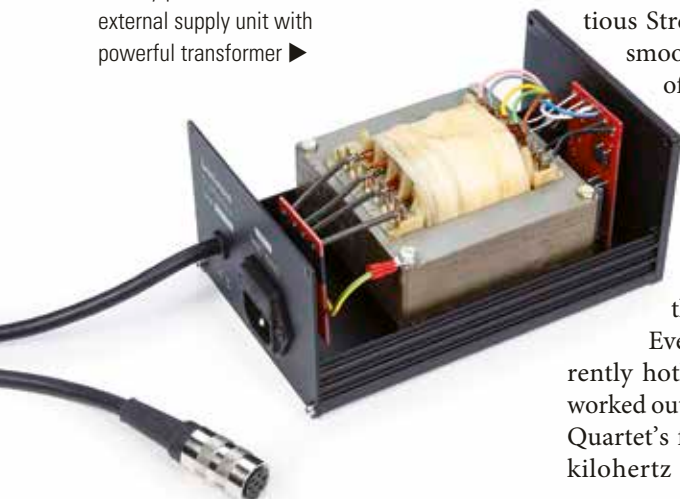
And everything here is easy: even a module exchange was absolutely problem-free. Our test sample was supplied without a LAN socket for Ethernet, but switching over to the module with one fitted took just one minute. Then connect, switch on and listen as if nothing had happened. Simple!

The remote control not only changes the inputs, but also controls the volume across a 10dB range, which is handy if the amplifier being used lacks remote control. Also useful is the switchable signal phase: it's amazing how many recordings have been made or mastered in reversed phase, so if a title appears to be somehow strange or disagreeable it's always worth trying this 180-degree phase invert function,

is a high-end audio enthusiast at heart, and a passionate Brinkmann fan for more than 25 years: now he's with the company, Nyquist is his debut.

It was clear to Lück that precision and high-end thinking alone would not suffice: a buyer spending so much money wants to be able to reproduce all available formats in all possible ways, and also have the reassurance that their investment is futureproof. For this reason, the Nyquist's complete digital electronics package, including all inputs and interfaces, sits in a thick-walled aluminum box held in place with just two screws. Remove these and it can be taken out, to be modified or replaced. If there are new formats and / or even better chips in the future, the Nyquist will simply grows with them.

The Nyquist is fed from this external supply unit with powerful transformer ▶



## TEST-COMPONENTS

CD PLAYER / STREAMER: T + A MP3000HV

D / A CONVERTERS: Accustic Arts Tube-DACII, Chord DAVE, MBL1511F

PREAMPS: Accustic Arts Tube Preamp II-MK2, Amp II-MK3

LOUDSPEAKER: B & W 802 D3, Dynaudio Contour 60

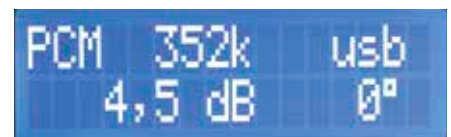
Cables: Audioquest Diamond, van den Hul Triaxial Prof. (digital), HMS Granfinale Jubilee (NF), In-Acoustics LS-2404 (LS)

## Perfect in handling

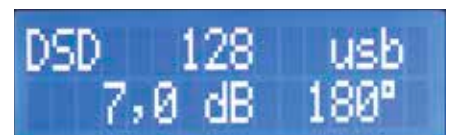
Currently, the device is fully up to date, not to mention being built in resonance-free casework typical of Brinkmann, as is the thick 12kg granite slab on which it sits. The usual inputs are available for digital signals – including USB from PC or Mac – as well as network streaming, and everything from MP3 files to high-bit PCM up to 32 bits / 384 kilohertz or quad-DSD 11.2MHz can be accommodated.

Almost more importantly, this ambitious Streamer-DAC worked entirely smoothly during our various series of tests: there was no hanging or stuttering, no communication problems with our server or any other nuisances – in fact, nothing to spoil the joy of the modern media. Seemingly, Lück is ‘earning his keep’ in this respect!

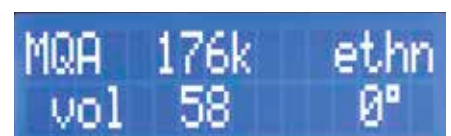
Even streaming MQA files – currently hotly debated by audiophiles – worked out right away: the Dave Brubeck Quartet's famous “Take Five” in 176.4 kilohertz (or four times the CD



▲ Sampling rates all the way up to 384 kilohertz are possible. Here it was 352 kHz.



▲ DSD files of any size are accepted - currently in „Double DSD 128“.



▲ Roon, TIDAL, MQA - the Nyquist has it all; Finely adjustable headphone output.

Helmut Brinkmann designed the analog part of the Nyquist ...



... and Matthias Lück its elaborate digital electronics.

which could put everything back in good shape. Given that this can only really be judged by the listening position, the ability to make changes in this way speaks volumes for Brinkmann's attention to detail.

The Nyquist has eleven separate voltage stabilizers for the digital module alone, and of course uses that magic audio ingredient, "selected components". Individual optimized signal paths are created for PCM and DSD signals, the latter being handled in native form rather than being converted to PCM. In fact DSD is handled by a DAC of discrete construction after precise re-clocking, this all designed to preserve the openness and airiness of the DSD sound and being followed by gentle, exactly calculated analog filtering.

In the PCM or MQA format, on the other hand, the Nyquist operates at 352.8 or 384 kilohertz depending on the sampling rate. This is handled by a powerful 16-core processor, also responsible for MQA decoding and the re-clocking before the signal is passed on to a pair of ES9018S Sabre DACs from ESS Technology. These are channel-separated, with eight D / A converters, interconnected for the best performance, working on each channel. However, all the other benefits of the multifunctional Sabre chips have been deactivated, in order not to lose a grain of quality: even the variable clock frequency was fine-tuned to this goal, Lück speaking of the "myriad decisions and variables" that had to be considered.

The inside story here could be a long one, not least taking in Helmut Brinkmann's analogue design, including the use of strictly pair-matched NOS (new old stock) Telefunken tubes, which is wrapped around the digital core of the unit. It's technology already proven in the company's reference Edison phono pre-amp, and it's part of the reason the Nyquist will leave you no change from 15,000 Euros.

### Without any artefacts

The Nyquist has an almost self-effacing holistic quality to its sound, never calling attention to itself, but instead allowing the music the flow to perfection. The delicacy and floating ease of the choir from Arvo Pärt's "Da Pacem Domine" - again from the "Sounds and Silence" set - was delivered with sufficient emotional fervor to bring tears to the eye, the sonorous music without any reference to its source. The Brinkmann is completely free from any sign of digital artefacts.

After a series of listening sessions - our reactions ranging between astonishment and admiration for the audiophile potential of this exceptional device - as well as numerous cross-checks, it's clear the Nyquist is able to set standards in terms of naturalness, extreme finesse and the way it handles voices, acoustic instruments and orchestras. Its delivers an entirely three-dimensional image, and what it can tickle out of the finest nuances is nothing short of sensational.

For this reason, the Streamer-DAC with the glass lid is the choice for those who want to get a complete view of the music.

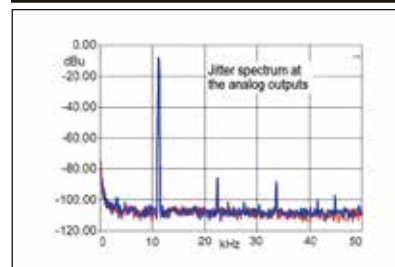
Matthias Böde

## BRINKMANN NYQUIST

To € 15,000  
 Dimensions: 42 x 7 x 39 cm (WxHxD)  
 Warranty: 3 years  
 Contact: Brinkmann Audio GmbH  
 Tel.: +49 8380 981195  
 www.brinkmann-audio.com

Boss Helmut Brinkmann and digital specialist Matthias Lück deliver a superlative device: in addition to a superb sound as a DAC, it also offers top-class streamer performance. Unfortunately its price is also in the top league.

### MEASUREMENT RESULTS



Noise level digital zero	103 dB
Quantization noise spacing 0 dBFS	101 dB
Converter linearity at -90 dB	0.2 dB
Output impedance Cinch	16 Ohm
Output voltage Cinch 0 dBFS	2,6 V
Output Resistor XLR	32 Ohm
Output voltage XLR 0 dBFS	5.1 V
Distortion factor at -9dBFS	2.4%
Distortion Factor at -60dBFS	0.01%
Power consumption Stby / Btr	/52 W

### LABORATORY COMMENT

The measured table displays truly top results. Particularly noteworthy are the high signal-to-noise ratio and low output resistance, which underlines the stability of the stage. Powerful headphone output suitable for high impedance designs



### EQUIPMENT

Three digital inputs (S / PDIF, Toslink, AES / EBU) plus interfaces for USB and Ethernet, variable-level analogue outputs on RCA and XLR, headphone output with fine-level volume control, external power supply, remote control

### STEREO -TEST

SOUND QUALITY STREAMER	100%
SOUND QUALITY DAC	100%

### PRICE/PERFORMANCE



▲ The analog circuitry is very similar to that of Brinkmann's Phono-Pre Edison, STEREO's sole top reference in this product category.