

STEREO

GERMAN HIFI MAGAZINE

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› Slim — but superb

T+A's new R-Series



› Optical Cartridge
The sensational
DS Audio W1

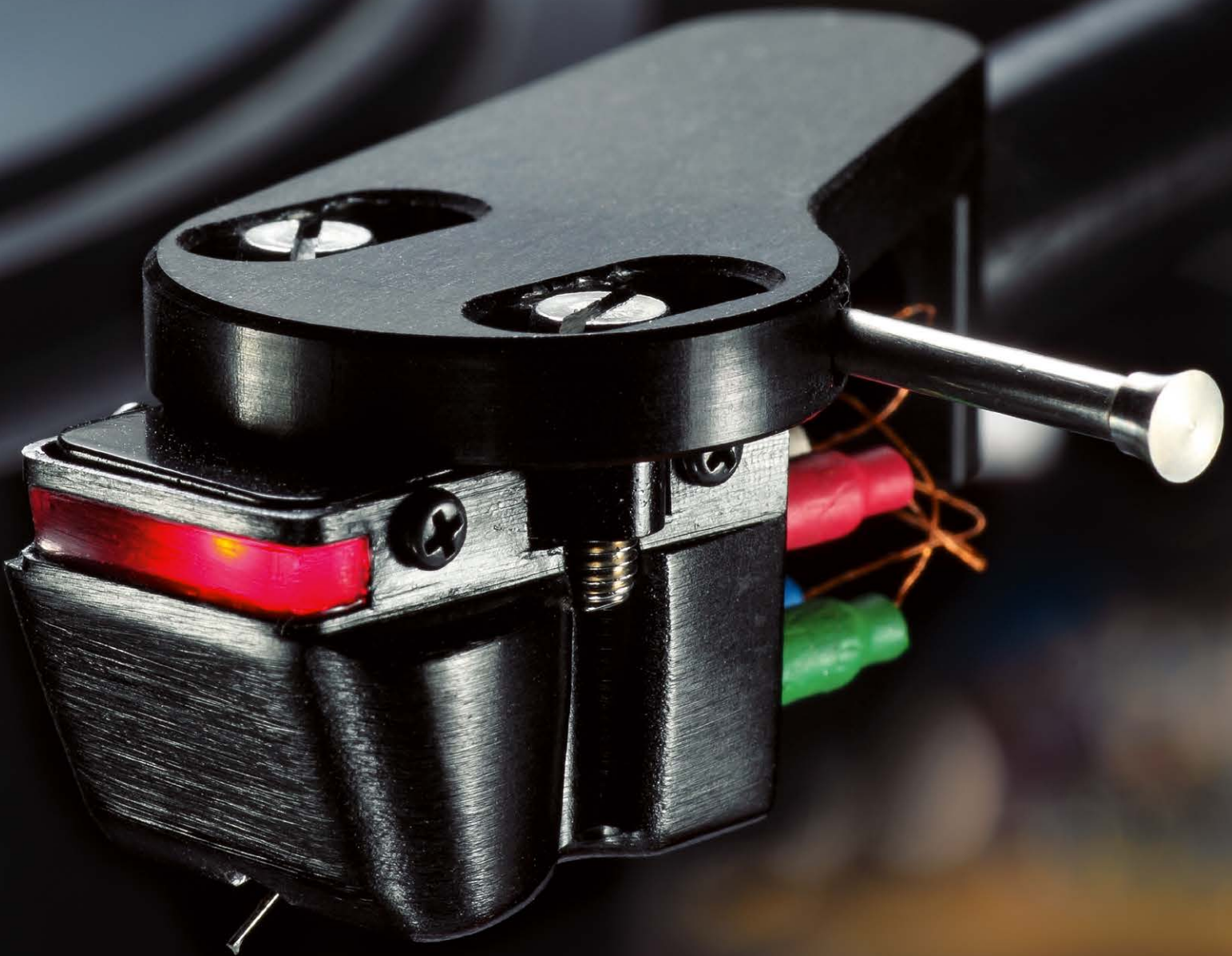
REVIEWS: RAIDHO X3 +++ OCTAVE V80SE +++

AUDIOQUEST NIGHTHAWK +++ TRANSROTOR JUPITER +++

DAC COMPARISON +++ DALI ZENSOR 1AX/PICO +++ DENON RCD-M40

EXCLUSIVE INTERVIEW: SOUNDGURU BERNIE GRUNDMAN

LET THERE BE LIGHT!



With the DS-W1 Night Rider from Japan, a world sensation comes to Germany—a pickup which produces its music signals photoelectrically. STEREO exclusively reviews this unique DS Audio phono cartridge, which has a solid phono pre-amp partner.



At first, only the lonely sounds of an accordion are heard, but suddenly what unfolds is a carpet of sparkling guitars, over which there's a beguiling collage of floating voices, the spreading sound of synthesizers, and various other elements - almost magically shimmering and humming. Like beads glistening in the sunlight, the strings sparkle, while the remaining parts rise and fall before the listener. Then the powerful, dynamic, resilient bass line, and the room is filled by a choir with the power of a mountain range. An extraordinary audiophile experience.

Have we ever heard 'Iduzkia' by the Basque band Oio sound so light and dazzling, so spread out and organized—in short, so perfect? The performance was, in any case, the very best thing to come from this record.

It was a worthy debut for a world sensation—a cartridge system that's all set to write a new chapter in the luxury phono category for vinyl playback. This revolutionary system, the DS-W1 by Japanese

▲ The DS-W1 phono preamp is brimming with components. In addition to the low-leakage C-core transformer, there's an armada of smoothing capacitors.

manufacturer DS Audio, consists of the cartridge and a power supply / signal unit which works entirely differently from other cartridges—namely by making music out of light waves.

Our entire team was on hand with premier fever for its arrival. The likes of which the editor has only witnessed a couple of times before in his professional career—something unprecedented. The ionic tweeter, where sound is produced by a plasma flame, created a similar stir, as did the first digital amp. And now the unique photoelectrically based DS-W1 Night Rider.

For decades, phono cartridges have generated their output voltage electromagnetically. Aside from a few piezoelectric exotica, whose energy was created by the deformation of a crystal, either

KEYWORD

MM, MC, MI: These abbreviations stand for 'moving magnet', 'moving coil', and 'moving iron'. MC cartridges require different loading values.

WHO IS DS AUDIO?

The recently established company is a subsidiary of Digital Stream Corporation, headquartered in Tokyo. For the last 25 years DSC has been among the leading manufacturers of laser optical systems in this industrial sector. Here you use a combination of Microsoft and a computer mouse to develop products. It was on the basis of competence in this area that 28 year old Tetsuaki Aoyagi, the DSC founder's son, was able to realize his dream and create a cartridge which produces sound with light. To accomplish this, he made use of technologies from within his own company. In addition he was able to use modern components such as cool LEDs, which were formerly not available. And DS Audio has plans for continuing innovation. It should be interesting!

magnets (MM) or coils (MC) have typically moved to create the electromagnetic energy. Occasionally variable reluctance cartridge designs have been implemented in which both are fixed, and an iron armature oscillates in the field (MI).

Sound from infrared light

There is now another type—the 'moving light' cartridge. This is a direct result of what the Japanese newcomer DS Audio is presenting. There is a design that breaks with everything that came before, at least in terms of commercially producible

◀ This equalizer / preamplifier is part of the set. It not only processes the signals, but also provides the phono cartridge with the necessary energy.



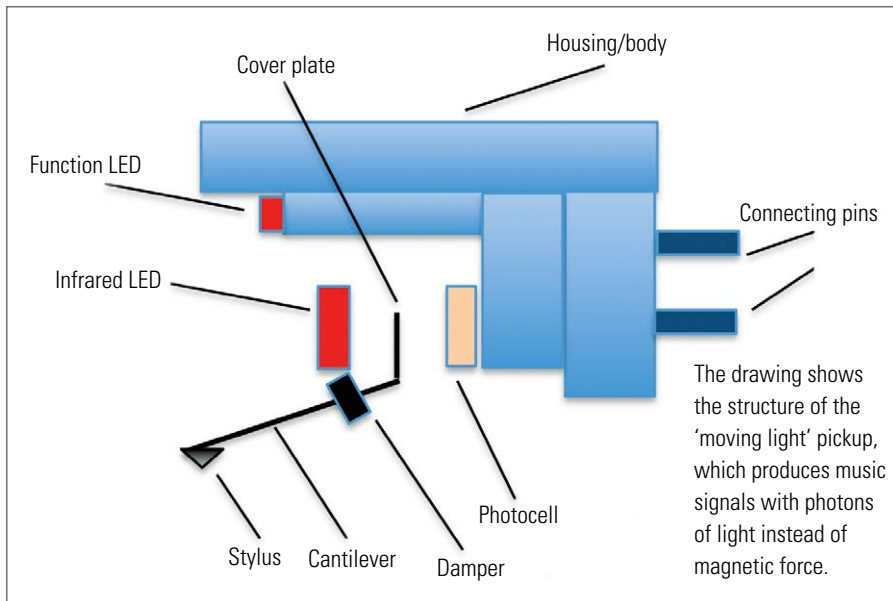
*All prices listed are German retail prices incl. VAT valid at the time of evaluation.

products. Although DS Audio relies on an old Toshiba patent from the seventies, that design couldn't technically be implemented for continuous operation. These earlier light cartridges—as evidenced by former prototypes—were simply too hot because of their lights.

Thanks to cool LEDs this problem was resolved, and developer Tetsuaki Aoyagi could see his sensational concept come to life. While the technical challenges weren't insurmountable, DS Audio's parent company, the Digital Stream Corporation, took them seriously and confronted the delicate and ticklish challenges with an incredible amount of diligence. It was precisely this kind of professional approach that was required for the groundbreaking DS-W1 Night Rider.

Its parts are what you would expect from a very high quality cartridge system, including the accompanying phono amp. (The phono amp supplies the pickup with power and processes signals for downstream connection to a pre or integrated amp.) An aluminum body houses the lightweight 6.5 gram cartridge and its boron cantilever—which is as light as it is stable, and outfitted with a fine-cut Shibata diamond stylus.

Normally, the small boron shaft would move a miniature coil armature in a magnetic field, but in this case everything



works differently. In fact, the shaft drives and optical element that sits between an infrared LED and light-sensitive photodiodes. This small plate changes the photon stream of short wavelength infrared light, from which the diodes detect the signals of the two channels. Basically, a simple process which admittedly requires a high level of expertise. But why would you want to abandon all the proven paths for scanning vinyl? Because the light technology offers clear advantages:

- The black anodized pickup, with its

high output voltage, needs just 20 decibels of gain (roughly 40 dB MM/MI; and 60 dB. MC). This keeps distortion and noise low.

- The optical element's moving mass is significantly lower than that of conventional coil armatures, which enhances impulse response and precision, and allows the stylus to more closely follow the groove undulations.

- Unlike electromagnetic designs, the light-based pickup, with its increased tracking speed, is not louder at high

LIGHT PHOTONS VERSUS MAGNETIC FORCE — BATTLE OF THE SYSTEMS

At such an historic moment, it is a pity that not all analog freaks could sit on the sofa with us in the large STEREO listening room. On the program was nothing less than the best in phono cartridges, where the DS Audio DS-W1 let its light shine, and the Benz LP-S defended the honor of the MC group. The latter costs about €3,200*. And in combination with our reference phono preamp, the Brinkmann Edison, which costs about €9,000*, they are significantly more expensive than the Night Rider system, which is priced proudly at €8,800*.

The cartridges were on an AMG 'Viella12' turntable, aligned and mounted on two in-house tonearms (as in the photo)—the DS Audio on a 12-inch arm and the LP-S on an otherwise identical 9-incher. The phono amps in each case were connected via HMS Gran Finale Jubilee cables to Acoustic Art's



great preamp, followed by other top components. An example was selected to show what happened.

In the intro to the 1968 recording in which Claude Nobs introduces Bill Evans and his companions, the Night Rider attacked the Benz/Brinkmann pair with two of its primary qualities—conciseness and plasticity. The Montreux

impresario was presented as prosaic and clearly outlined. While the conventional phono pair was tonally similar, they were a breath narrower, and not as open. So the direction was clear. Admittedly with the LP-S/Edison combination, Eddie Gomez's bass was hardly less lively; the sound was organized with comparable excellence, but the naturalness and coherency of the 'luminous' system wasn't quite matched.

Close, but we had a winner!

frequencies. As a result, its RIAA equalization is a lot less complicated. Instead of the usual 40 dB that's required over the range of the lowest to the highest frequencies, only about 10 dB is required here. Gentle filtering is always preferable, because it is less prone to phase errors, which could compromise imaging.

- There are also no magnetization effects, which could cause time-related problems sonically, and a possible saturation of the coil due to the high amplitudes. These are not issues with the DS Audio design.

With solid arguments, and everything else mere theory, what do these things really mean in practice? First, you'll find that the pickup's operation and

its incredible wealth of detail. This magnificence wasn't limited to Oio. The cartridge was just as splendid, bursting with acoustic embellishments, with the tracks from 'Seeds Of Love', the brilliant pop album by Tears for Fears.

The title song was both sparkling and breathtaking as presented by this Japanese phono system. The DS-W1 made it possible to see the song's elements floating into each other, to see how they amassed then collapsed together. No detail was overlooked; and you never had the impression that the cartridge was overly loud or distressed by difficult passages. The DS-W1 impressively mastered every challenge with ease and dignity, and it did so with that special high-end aura that we see from only the most ambitious high-end analog gems.

the sideline? We don't areally know. Is it a serious competitor to the proven best cartridges/phono preamp combinations? Absolutely! And more than that. It is a bright light among the highlights in what is certainly not a poor vinyl scene.

Matthias Böde

COMMENT



MATTHIAS BÖDE

DS Audio has landed a direct hit. With its high tech background, this newcomer is showing the established competition how to launch a sensation. And as an ancillary effect, it is putting the analog market segment, which is already growing, into further focus. Also among those audiophiles who had already committed to the LP. Their motto—'did you see that?!' It doesn't surprise me that the Night Rider comes from Japan, once the laboratory of innovation for our hobby. Recently it was Technics that represented that comeback, and now DS Audio. Japan is back.

that of its 'EQ Unit' is absolutely problem-free. Were it not for the LED on the cartridge, which indicates its operating status, there wouldn't even be a hint of its uniqueness. Also, with regard to its excellent tracking ability and the other special qualities it possesses, Night Rider is certainly a cartridge with high-end expectations, and also one that barely warms after hours of operation. That said, what about the sound?

We got an immediate glimpse at the very beginning of our evaluation. We tried not to get too excited; but this infrared-based cartridge and its matching matched amp sounded simply phenomenal. The system won us over with its exemplary cleanliness, openness, and

Phenomenal sound

All eyes and ears were naturally on the cartridge; but its unassuming 'supply unit' deserves its share of credit for the outstanding results. Its thick-walled, stable chassis has feet shaped like spikes, and inside there's discrete cutting-edge technology. The only control is the power switch. This is sufficient, because the electronics, which were designed and optimized exclusively for this cartridge, make other options superfluous. There's nothing here for other cartridges

The fact that the amp has only unbalanced outputs is sonically not an issue. The listener has the choice between a linear signal path and one that inserts a subsonic filter, where deep bass frequencies are rolled off. This is the setting we preferred, because it resulted in a nuanced, more homogeneous midrange reproduction.

This Japanese analog phono system transformed our LPs, one after the other, into a real treat for our ears. Ella Fitzgerald, in 'My Reverie', was vividly outlined, standing in front of her band, in our listening room. She delivered her typical, lightly textured timbre and the sonorous energy in her voice. Even the record's pops were having a tough time keeping up. Night Rider has to be striking fear and terror in the hearts of competitors at the very high end.

Then there's the question—does the DS Audio DS-W1 kick all conventional high-end analog approaches to



▲ Boron cantilever with a polished Shibata diamond stylus. Here are the convincing details.

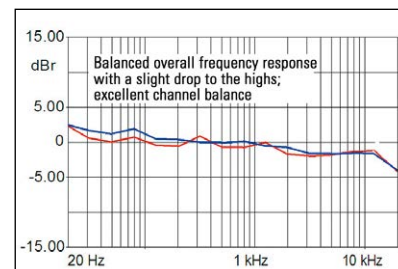
DS AUDIO DS-W1 NI. RIDER

Approx. € 8,800*
(cartridge incl. electronics)
Mounting: ½ inch; Warranty: 2 years
Contact: High-Fidelity Studio
Tel.: +81 427/47090
www.ds-audio-w.biz

Fortunately for the competition, the set is inseparable. As such, it is a force, and in a class of its own!

TECHNICAL DATA

Weight	6.5 grams
Compliance	12 µm/mN
Output voltage	500 mV (5cm/sec)
Recommended tracking force	13 to 17 millinewtons



STEREO - TEST

SOUND QUALITY 100%

PRICE/PERFORMANCE

★ ★ ★ ☆ ☆

VERY GOOD

*All prices listed are German retail prices incl. VAT valid at the time of evaluation.