

## Optical cartridge pioneer DS Audio launches new flagship: the Master 1



In 2013 DS Audio pioneered the world's only optical phono cartridge, the DS-W1, which was an immediate hit in its native Japan. International distribution soon followed, as did rave reviews from the worldwide audiophile press. Now the company is proud to announce its new flagship, the Master 1.

DS Audio's new flagship Master 1 features a number of significant advances over the company's original DS-W1. During a two-year development process, every aspect of design and construction was re-evaluated and no detail overlooked.

The Master 1 uses a Micro-ridge stylus in place of Shibata and a sapphire cantilever rather than boron. A duralumin body provides exceptional rigidity, while an enhanced optical-mechanical system enables the re-designed micro-optic sensor to be placed closer to the stylus, resulting in a much shorter optical path length. In addition, the use of a wire-suspended cantilever considerably lowers the compliance, making the Master 1 able to perform effortlessly at its best with a much wider range of tonearms (whereas the DS-W1 should be paired with a low-mass tonearm for peak performance).

The Master 1's matching phono stage/equalizer features fully discrete dual-mono analogue circuits. To achieve flagship-level performance, each channel has its own dedicated power supply, while a third supply is dedicated to the cartridge's LED drive system. Both single-ended RCA and balanced XLR outputs are provided, with a choice of three subsonic filter settings.

The unit's robust 24kg weight is the result of the twelve 120K  $\mu$ f electrolytic capacitors and three transformers housed within. To achieve the lowest possible impedance, a pure copper bus-bar provides the optimal connection between them.

### **Why go optical?**

Optical cartridges aren't actually new. Many audiophiles will remember them from the 1970s, when their performance was hailed as a radical step forwards. But at the time, optical technology had several shortcomings which, combined with the dawn of the digital age, led to their disappearance from the market. Fast forward 40 years and now massive improvements

in optical technology have allowed DS Audio to completely redesign the optical cartridge to deliver its full potential.

In contrast to moving-magnet (MM) and moving-coil (MC) cartridges that work on the principle of electromagnetic induction, an optical cartridge uses a beam of light to read stylus/cantilever movement. The advantage of this system is twofold: it makes the cartridge much lighter and more agile, while also completely eliminating the frictional force caused by magnets and coils and the resulting influence on stylus/cantilever movement.

A further key advantage lies in the cartridge's output. In conventional MM and MC designs, the output signal depends on the velocity at which a tiny magnet or coil moves in an electromagnetic field. At lower frequencies the magnet or coil moves slowly so the output signal is small, while at higher frequencies it moves more quickly and so the output signal is disproportionately large – hence the need for equalization. In contrast, in an optical cartridge the output signal depends on the distance that the styles moves, so there are no disparities between high and low frequencies. Therefore no equalization is required (other than RIAA curve correction) and low frequency reproduction is much enhanced, since an optical cartridge can theoretically detect signals as low as 1Hz.

The resulting sound has delicacy, subtlety, natural warmth and a deep richness. Most important, it is stunningly real, capturing all of the miniscule yet critical details that make a musical performance come to life.

### Technical specifications

#### DS Master 1 optical cartridge

Body material	Ultra duralumin
Cantilever	Sapphire
Stylus	Micro-ridge
Needle pressure	1.6-1.8g (1.7g recommended)
Signal output	Photo-electric conversion
Output signal level	> 500mV
Channel separation	> 25db (@ 1kHz)
Weight	8.1g

#### DS Master 1 phono stage/equalizer

Input	RCA terminal
Outputs	RCA terminal x 3 XLR terminal x 3
Rated output voltage	500mV (@ 1kHz)
Impedance	120Ω
Dimensions	436 (w) x 161 (h) x 395 (d) mm
Weight	24kg

### Pricing & availability

The DS Audio Master 1 optical phono cartridge is available now, priced at follows (inc. VAT):

DS Audio Master 1 optical phono cartridge & phono stage/equalizer	£19,995
DS Audio Master 1 optical phono cartridge	£8,150

DS Audio Master 1 phono stage/equalizer

£12,695

All DS Audio cartridges are fully compatible with any of the company's accompanying phono stages/equalizers, allowing you to mix and match.

[www.ds-audio-w.biz](http://www.ds-audio-w.biz)