

# DS Audio

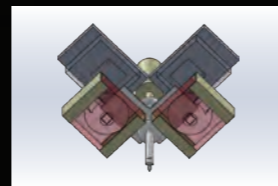
We Will Create the Future of Analog Music

# GRAND MASTER

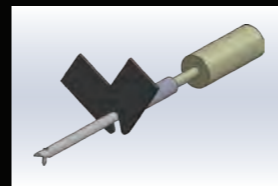
The quest for analogue utopia comes to an end.  
Enter the next generation... enter Grand Master.



## Cartridge



Independent LED and photo-detector arrangement for the left and right channels



Weight of shading plate reduced by more than 50%



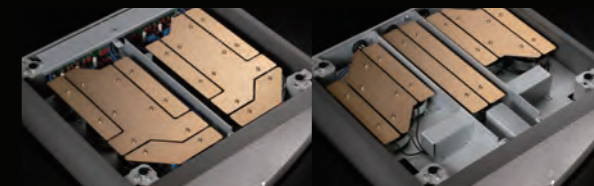
Diamond cantilever

The new Grand Master optical cartridge system has been optimized, by implementing an independent LED and photo-detector arrangement for the left and right channels. As a result the cartridge output voltage has greatly increased from 40mV to 70mV. The Grand Master cartridge offers a greatly improved S/N ratio when compared to its stable mates, resulting in an even lower noise floor and far greater musical clarity.

The implementation of independent left and right channel LED's allows for the positioning of the optical system to be optimized as well as necessitating the use of a new shading plate that has been significantly reduced in size compared to our earlier designs. In addition to this reduction in size, the material used to produce the shading plate has changed from aluminium (as used in the second generation cartridges) to 99.9% pure beryllium.

A first for DS Audio, the Grand Master cartridge features the combination of a diamond cantilever with a microridge stylus. The cartridge body structure has been designed in such a way as to promote maximum rigidity. In addition to these features, the Grand Master utilizes internal wiring 1.6 times thicker than used in the second generation cartridges in order to reduce impedance.

## Equalizer



Power unit and equalizer unit are completely separate units



Total of 6 optional low frequency cut off point

The DS Audio Grand Master equalizer features separate equalizer and power supply units, each contained in completely independent housings. The use of 2.34 million uF and 2.97 million uF electrolytic capacitors within the equalizer and power supply units respectively has resulted in a significantly stronger power supply design and made improved reproduction of deeper low frequencies possible. In addition to this, the Grand Master equalizer incorporates special film capacitors custom built to DS Audio's specifications and non-induction winding resistors. The design features a total of three transformers, each with a capacity 1½ times greater than that of the DS Master 1. One each, for the left and right channels, with the third handling the power supply to the optical cartridge.

The Grand Master equalizer offers both single ended RCA and balanced XLR outputs and a total of 6 optional low frequency cut off points in order to allow the Grand Master to be tailored to marry seamlessly with any hi-fi system.

### Grand Master Optical Cartridge

Signal output	Photo-electric Conversion
Channel separation	27db more (1KHz)
Weight	7.7g
Output signal level	70mV more
Canti-lever	Diamond
Body material	Ultra duralumin
Cantilever holder material	Stainless
Needle pressure	2.0g~2.2g(2.1g is recommended)
Stylus	Micro Ridge

### Grand Master Equalizer for Optical Cartridge

Output voltage	700mV(1kHz)
Output impedance	RCA 120Ω XLR 120Ω
Pre amp input impedance	More than 10kΩ
Input terminal	RCA terminal
Output terminal	RCA terminalx3, XLR terminalx3
Size	W45.2cmxH15.2cmxD48.6cm(Both)
Weight	25.1kg(Equalizer unit) 29.8kg(Power unit)

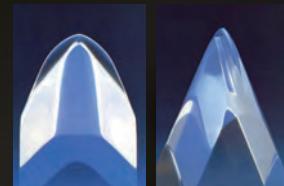
# DS MASTER 1

DS Audio Flagship model “Master 1”

Writing a new chapter in the history of Analog Music.



## Cartridge



Sapphire cantilever with micro-ridge stylus



Overwhelmingly high rigidity

The micro-ridge stylus of the DS Master1 features a minimum-curvature radius and is mounted to a sapphire cantilever. The super low mass optical generator, which eliminates the need for magnets and coils as found in conventional phono cartridges, is free of ultra-sonic ringing. These features allow the Master1 to reproduce every element of musical information with stunning nuances and brilliant detail, redefining flagship-level performance.

Advanced Material Science was employed throughout the development phase of the DS Master1. No detail was overlooked. Over the past two years, all aspects of the design and components have been re-evaluated to ensure the highest rigidity possible in the Master1 cartridge. From its Ultra-duralumin body to its amethyst power indicator window, we have carefully selected each material and component to ensure that the DS Master1 represents a phono cartridge of the highest quality.

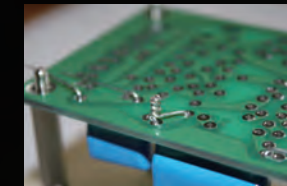
## Equalizer



Dual mono circuit



Fully balanced XLR output



Hand-made in Japan circuit board

The DS Master1's matching equalizer features expertly designed, fully discrete dual-mono analog circuits with three independent power supplies. Each channel of the Master1 equalizer has its own discrete power supply to deliver more than ample power, with the third power supply dedicated to the DS Master1 cartridge's LED optical drive system. This solution delivers unparalleled performance.

Offering a choice of outputs and low frequency response options, the DS Master1 equalizer features three sets of RCA and XLR outputs and three separate low frequency cut-off points. Each low frequency contour is accessed by its own dedicated single-ended RCA or balanced XLR output for a total of six sets of dual-mono outputs, providing ultimate flexibility.

Every component part used in our products is tested and evaluated by our expert Japanese technicians. In addition to using a specially printed circuit board, twist-connection of the component legs is further evidence of DS Audio's excellent attention to detail. Each and every product is hand-made and quality assured by our skilled engineers.

### DS Master1 Optical Cartridge

Signal output	Photo-electric Conversion
Channel separation	25db more (1KHz)
Weight	8.1g
Output signal level	50mV more
Canti-lever	Sapphire
Body material	Ultra duralumin
Needle pressure	1.6g~1.8g(1.7g is recommended)
Stylus	Micro Ridge

### DS Master1 Equalizer for Optical Cartridge

Output voltage	500mV(1kHz)
Output impedance	RCA 120Ω XLR 600Ω
Pre amp input impedance	More than 10kΩ
Input terminal	RCA terminal
Output terminal	RCA terminal×3, XLR terminal×3
Size	W43.6cm×H16.1cm×D39.5cm
Weight	24.0kg

# DS W2

Our latest addition, recipient of  
'The world's best cartridge award'



## Cartridge



World beating optical cartridge technology

The DS-W2 is the successor to our DS-W1 optical cartridge design, which was awarded the title of world's best phono cartridge by two major audio magazines in Germany: Stereo and Audio. This praise helped to establish the popularity of our unique technology, setting a high standard and paving the way for further development. The extensive advancements and refinements of the DS-W2 design have resulted in performance that is far in excess of the already impressive DS-W1.



Boron Cantilever with Micro-ridge stylus

The DS-W2 is equipped with a boron cantilever and Micro-Ridge stylus representing a further upgrade from the Shibata stylus used on its predecessor DS-W1. This combination precisely traces the record groove and yields the utmost quality of sonic reproduction. A hand-crafted, "Natural Rose quartz" LED indicator adds an eye-catching detail to this unique piece of audio technology.

## Equalizer



Upgraded equalizer featuring a sophisticated power supply.

The DS-W2 equalizer houses 12 large capacitors, each with 50000µF capacity; more than those normally found in a phono pre-amplifier. In use, the benefits of this design choice are obvious, with fantastic musical control and an effortless presentation. A 1.5mm thick pure copper plate bus-bar is employed to connect these capacitors, ensuring maximum power transfer. This also functions as a shielding plate for the transformer, revealing more low-level musical detail. All of the improvements of the DS-W2 equalizer have created a component three times larger than the predecessor DS-W1, and sonic performance is of an even greater magnitude. The result is ultimate enjoyment from your record collection. Expect to hear more from DS Audio.



Fully balanced XLR output

Offering a choice of outputs and low frequency response options, the DS-W2 preamp/equalizer features two sets of RCA and XLR outputs and two separate low frequency cut-off points.



Hand-made in Japan circuit board

Every component part used in our products is tested and evaluated by our expert Japanese technicians. In addition to using a specially printed circuit board, twist-connection of the component legs is further evidence of DS Audio's excellent attention to detail. Each and every product is hand-made and quality assured by our skilled engineers.

### DS-W2 Optical Cartridge

Signal output	Photo-electric Conversion
Channel separation	25db more (1KHz)
Weight	8.1g
Output signal level	50mV more
Canti-lever	Boron
Body material	Aluminum
Needle pressure	1.6g~1.8g(1.7g is recommended)
Stylus	Micro Ridge

### DS-W2 Equalizer for Optical Cartridge

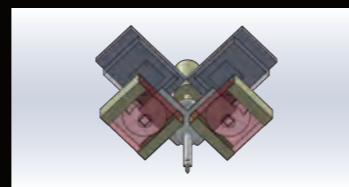
Output voltage	500mV(1kHz)
Output impedance	RCA 120Ω XLR 600Ω
Pre amp input impedance	More than 10kΩ
Input terminal	RCA terminal
Output terminal	RCA terminal×2, XLR terminal×2
Size	W43cm×H10.7cm×D38.4cm
Weight	12.0kg

# DS 003

Inheriting the essence of the Grand Master

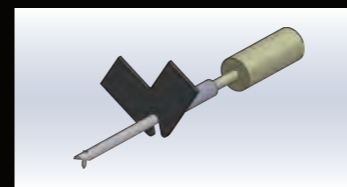


## Cartridge



Independent LED and photo-detector arrangement for the left and right channels

The new DS003 optical cartridge system has been optimized, by implementing an independent LED and photo-detector arrangement for the left and right channels. As a result the cartridge output voltage has greatly increased from 40mV to 70mV. The DS003 cartridge offers a greatly improved S/N ratio when compared to its stable mates, resulting in an even lower noise floor and far greater musical clarity.



Weight of shading plate reduced by more than 50%

The implementation of independent left and right channel LED's allows for the positioning of the optical system to be optimized as well as necessitating the use of a new shading plate that has been significantly reduced in size compared to our earlier designs. In addition to this reduction in size, the material used to produce the shading plate has changed from aluminium (as used in the second generation cartridges) to 99.9% pure beryllium.



Aluminum cantilever & Aluminum body

The DS003 cartridge features the combination of an aluminum cantilever with a line contact stylus. The cartridge body is made by aluminum and the structure has been designed in such a way as to promote maximum rigidity. In addition to these features, the DS003 utilizes internal wiring 1.6 times thicker than used in the second generation cartridges in order to

## Equalizer



Changed the thickness of the circuit board and the thickness of the copper foil.

Compared to the DS002 equalizer, the thickness of the circuit board has been changed from 1.6 mm to 2.0 mm, and the thickness of the copper foil has been changed from 35  $\mu$  to 70  $\mu$ . In addition, the DS003 equalizer allows you to select the cutoff frequency for the low frequency range from four types, allowing you to select an output that better matches your system.



Hand-made in Japan circuit board

Every component part used in our products is tested and evaluated by our expert Japanese technicians. In addition to using a specially printed circuit board, twist-connection of the component legs is further evidence of DS Audio's excellent attention to detail. Each and every product is hand-made and quality assured by our skilled engineers.

### DS 003 Optical Cartridge

Signal output	Photo-electric Conversion
Channel separation	27dB more (1kHz)
Weight	7.7g
Output signal level	70mV (1kHz cartridge output)
Canti-lever	Aluminum
Body material	Aluminum(A5052)
Cantilever holder material	Stainless
Needle pressure	2.0g~2.2g(2.1g is recommended)
Stylus	Line contact

### DS 003 Equalizer for Optical Cartridge

Output voltage	500mV(1kHz Equalizer output)
Output impedance	RCA 120 $\Omega$
Pre amp input impedance	More than 10k $\Omega$
Input terminal	RCA terminal
Output terminal	RCA terminal $\times$ 2
Size	W33cm $\times$ H9.2cm $\times$ D29.5cm
Weight	5kg

# DS E1

DS Audio's first entry model product.



## Cartridge



Using vibration system of the same design as DS Master 1 and DS-W2 and DS002

DS-E1 has a wire suspension mechanism which is the same design as DS Master 1 and DS-W 2 and DS002. By implementing it, you realize high channel separation and stable music playback. Moreover, by arranging the position of the slit at the position close to the needle point, it is possible to retrieve information with higher freshness.



Aluminum Cantilever with Elliptical needle

Like the more expensive DS Audio cartridges, the DS-E1 cartridge body is machined from aluminum and echoes their distinctive design for best optical performance. The DS 002 features an aluminum cantilever and Elliptical needle to accurately reproduce the music recorded on the vinyl record album.

## Equalizer



Small size, big performance

The DS-E1 equalizer employs an operational amplifier at the heart of its amplification circuit, greatly reducing the number of components required. This also allows the DS-E1 to possess an extremely compact form factor, around 1/3 the size of the DS-002 equalizer, whilst still offering the world leading performance you have come to expect from DS Audio.



Proudly manufactured in Japan

The DS-E1 features precision machined aluminum casework, an element it shares in common with its illustrious stable-mates. Each DS-E1 is manufactured by hand in DS Audio's facility in Segamihara City.

### DS-E1 Optical Cartridge

Signal output	Photo-electric Conversion
Channel separation	24db more (1KHz)
Weight	8.1g
Output signal level	50mV more
Canti-lever	Aluminum
Body material	Aluminum
Needle pressure	1.6g~1.8g(1.7g is recommended)
Stylus	Elliptical Needle

### DS-E1 Equalizer for Optical Cartridge

Output voltage	500mV(1kHz)
Output impedance	120Ω
Pre amp input impedance	More than 10kΩ
Input terminal	RCA terminal
Output terminal	RCA terminal
	(Switch two outputs with switch)
Size	W20cm×H7cm×D16cm
Weight	1.4kg

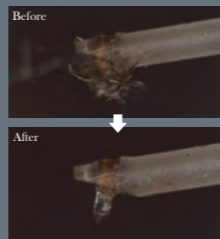


## DS Audio Stylus Cleaner ST-50

The ST-50 Stylus cleaner is equipped with a micro-dust cleaning gel specially designed for laboratory clean room applications.

The ST-50's cleaning gel is made of a urethane resin developed specially for the purpose of atmospheric micro-dust control in clean rooms. Extremely effective cleaning properties are required to meet the specified standards for such applications. The ST-50 gives you the very best in stylus cleaning performance.

Many stylus cleaners apply excessive force to the stylus and cantilever during the cleaning process. The DS Audio ST-50 cleans your stylus at the tracking force set on the tone arm.



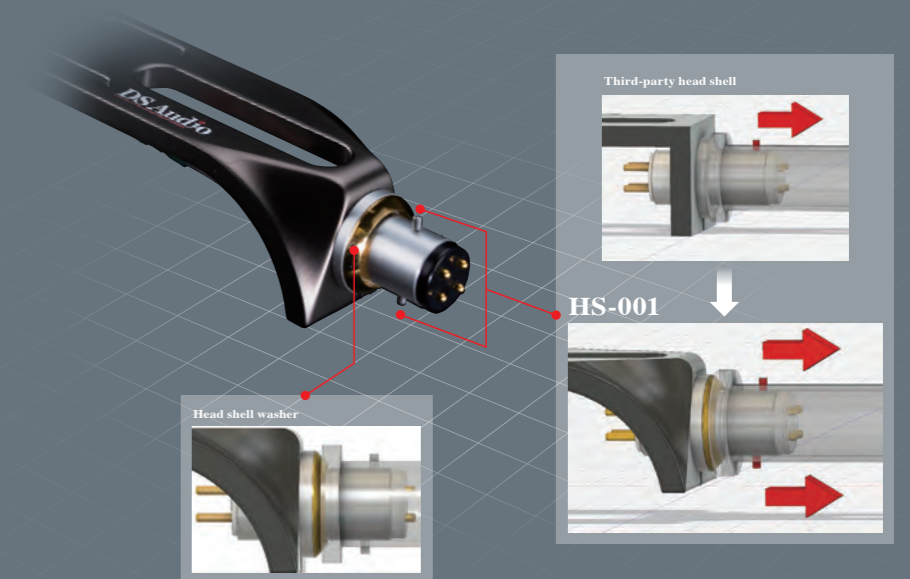
## Solid Head Shell HS-001

Vertical pin structure achieves uniform pressure of electrical contacts. Contact surface stabilized by spherical washer

Conventional head shells have the connecting pin attached only to the upper side, causing uneven contact pressure between the arm and the head shell.

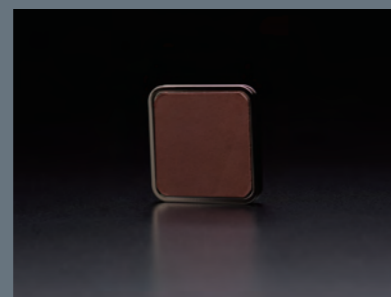
However, the HS-001 Solid Head Shell adopts both an upper and lower pin structure, equalizing the pressure on the contacts and applying force evenly across the connection to the tonearm.

Moreover, by using the spherical head shell washer developed by DS Audio independently at the contact point with the tonearm, stable contact is achieved over the entire circumference of the contact point, providing improved stability and resonance control.



### ST-50 Stylus cleaner

Size	L42mm×W42mm×H13mm
Weight	28g
Gel size	L28mm×W28mm×H3mm
Case material	Aluminum (Nickel treatment)



### Top class materials incorporated into a fantastic new design

Optimize your vinyl playback system and enjoy the highest levels of aural satisfaction. This exclusive design will complement your audio system, an essential for all vinyl audio fanatics. The casing is crafted from an aluminum block before being carefully buffed to perfection. It is then nickel-plated and the precision laser cut markings and leather cushion are installed. The finished article is a beautiful item that reflects the high quality standards DS Audio represents.



### Washable Urethane Cleaning Gel

The DS Audio ST-50 gives you the best stylus cleaning performance every time. The urethane gel is washable and re-usable. Simply rinse it gently under tap water and let it dry for 30 minutes at room temperature. Its cleaning performance will be completely renewed.

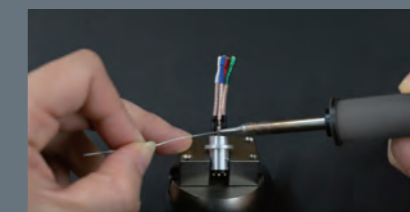
### HS-001 Solid head shell

Material	Ultra duralumin
Connector part	Aluminum
Connector terminal	Gold plating
Connector terminal	Gold plating
External dimensions	H 21 × W 40 × D 55 mm (excluding connector part and protrusion part)
Weight approx	10.5 g (excluding shell lead wire)
Shell lead wire	Litz wire 4N φ 0.08 × 10 × 3 core rings
Screw	Stainless steel bolt M 2.6 L 8 × 2, M 2.6 L 12 × 2



### Machined Ultra Duraluminum

DS Audio precision machines each HS-001 out of a solid billet of duralumin for the ultimate in rigidity and resonance control.



### Hand soldered Litz signal leads

After extensive listening tests within the company, DS Audio chose a Japanese made Litz wire. Further advances were realized by hand soldering this delicate lead wire to preserve signal integrity for the optimal in sound performance. (Lead wires and connector parts are available unsoldered as well, by dealer request.)

## Technological aspects of DS Audio Optical Cartridges

The technological principle behind the DS Audio Optical cartridge fundamentally differs from traditional MM / MC cartridges, where the needle motion is detected by electro-magnetic force. Our optical cartridges utilize a beam of light to detect needle-motion.

Advantages:

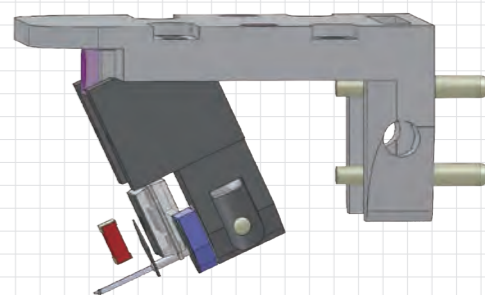
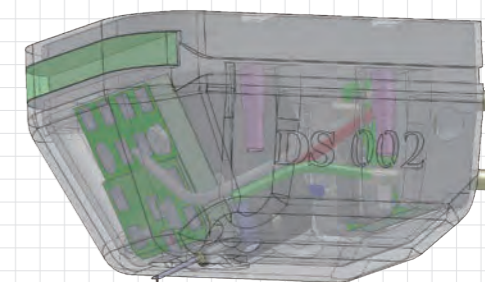
**1 No magnetic resistance:** MM / MC cartridges suffer from electro-magnetic inductive force. This electro-magnetic force creates friction, which acts against the needle's motion. No matter what the design, it is an intrinsic property that all MM/MC cartridges are affected by. Optical cartridges, however, are totally free from such problems.

**2 Extremely low moving mass:** MM/MC cartridges function on the basis of the detection of bar magnet motion, or coil motion within a magnetic field. Since the optical cartridge requires only a tiny light shielding plate of 100 microns or less in thickness, it is able to detect the needle's motion with the finest accuracy and optimal response time.

**3 Simplicity:** the purest sound comes from using the simplest, cleanest circuit designs.

Technically speaking, MM/MC cartridges are classified as 'velocity proportional analog reproduction systems', whereas optical cartridges are classified as 'amplitude proportional analog reproduction systems'. The difference is as follows: in MM/MC cartridge systems, the change in the speed of the needle's motion is converted to Analog sound. As a result of this, MM/MC cartridges produce very weak output signals in low frequency ranges (bass-sounds), and stronger output signals in higher frequency ranges. These uneven output characteristics require extra electronic treatment in order to balance the varying output signals across the various frequency ranges of the recorded information. This job is performed by the phono pre-amplifier in MM/MC based systems and the quality of this correctional process carried out by your phono pre-amplifier determines your sound quality in play back.

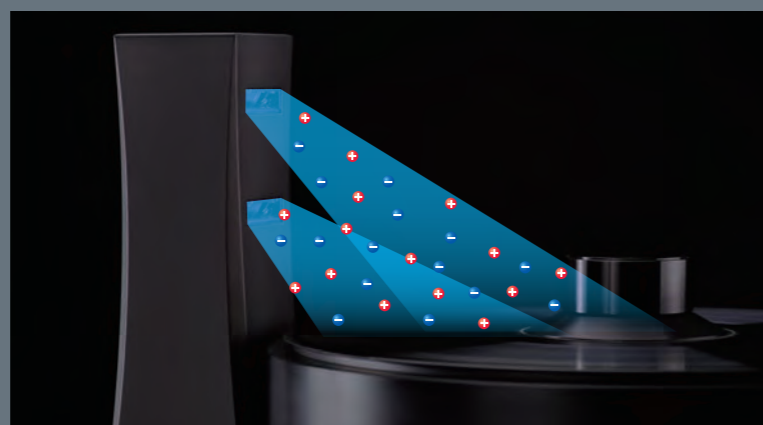
In 'amplitude proportional analog reproduction systems', such as our optical cartridges, the output signal is based on the position of the needle, or displacement of the needle. This is to say that the output signal from our optical cartridges is purely based on the shape of the recorded groove, not on the speed change of the motion of the needle. There is no imbalance in output levels across the frequency range of the recorded sound on the disc. Therefore, almost no correctional processing is required. For this reason, our optical cartridge technology has the far-reaching advantage that the simplest and cleanest electronic circuit is required to perform the RIAA conversion.



※DS Audio's optical cartridge technology is purely analog. No digital electronics or processing are applied anywhere within our optical cartridge systems.

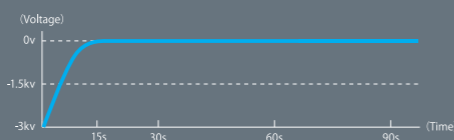
## Vinyl Ionizer ION-001

Generates positive and negative ions to neutralize and remove the static charge from vinyl records



Vinyl records have a surface static electricity charge created by friction. Two common sources of the friction that creates static build-up are the stylus drag that occurs during record playback as well as simply removing records from their jacket and sleeve. By emitting both positive and negative ions in a controlled fashion from its dual outlets, the ION-001 ionizer unit effectively neutralizes and removes static electricity from the record surface. Our unique "fan less" design allows for silent operation for continuous use while playing records. Additionally, the ION-001 performs charge removal for Compact Discs.

Note: The degree of electrostatic charge may vary depending factors including stylus tip shape, vinyl record material, temperature and humidity etc.



Test equipment  
Turntable: AMG giro  
Measurement Device: SIMCO FMX-004  
Measurement Distance: 15cm from ionizer outlet  
Testing environment: Temperature: 20 degrees Celsius Humidity: 40%



### High power ionizer with low ozone emission

The ION-001 is a very high-power device, equipped with a total of 4 ionizers, 2 each for positive and negative ions. The ION-001 utilizes a specialized power supply controller which suppresses the generation of excess ozone, preventing unwanted oxidation.

### Designed for quick installation

The architectural tower design provides placement of the ION-001 next to your turntable for quick installation, allowing easy changing of vinyl records. The tower design is effective with a wide range of turntables featuring overall platter height up to 18 cm or 7". With turntables exceeding this platter height, please use a base/riser to properly position the ION-001.



### Vinyl Ionizer ION-001

Size	84mm×84mm×250mm
Weight	950g
Input Voltage	DC12V (AC 100V-240V)
Number of ionizers	Positive(+) ion ×2 Negative(-) ion ×2
Amount of ozone	Less than 0.01ppm

## Digital Stream

Digital Stream Corporation has 30 years of corporate history. We started as a laser optic R&D company and developed the optical disc evaluation system in 1988. Thanks to this disc evaluation system, Digital Stream has become the only provider of the standard optics for CD/DVD/Blu-ray (HDDVD), and CHDVD industries.

Besides the optical disc market, Digital Stream successfully developed the optical mouse concept in 1999 together with the Microsoft Corporation. This, as you know, became the leading input device used throughout the world.

Since then, Digital Stream Corporation has expanded its R&D field to focus on not only the PC market, but also the Medical and Robotics markets.

In 2008, the Ministry of Economy, Trade and Industry Japan selected Digital Stream as one of '300 Advanced Small-Medium Manufacturers' in Japan. In April 2017, NHK (Japan Broadcasting Corporation) made a 30 minute long feature focusing on Digital Stream Corporation through their worldwide broadcast (Program name: J-TECH).

We are proud to be one of the leading companies in the most advanced realm of laser optics R&D and a leading manufacturer of state-of-the-art laser optic devices in the world.

■Main awards etc.

「Outstanding Engineering Excellence」  
1995. Microsoft

「300 Excellence companies in manufacturing」  
2008. Ministry of Economy, Trade and Industry

「NHK International Broadcasting J-TECH (Digital Stream feature)」  
2017. NHK(Japanese national broadcast)

### Digital Stream Corporation

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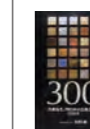
Digital Stream <http://www.digitalstream.co.jp/>  
DS Audio <http://www.ds-audio-w.biz>



Optical mouse



Disk Evaluation System



Digital Stream Co., Ltd. was certified in 2008 by the Ministry of Economy, Trade and Industry as "300 Excellence companies in manufacturing"



Digital stream Co., Ltd. was introduced in NHK international broadcasting in April 2017.



DS Audio may make changes to specifications and product design at any time, without notice.



