

*designed to realize the full potential
of the SACD format*



(a pair of) D-01

D - 0 1 M O N A U R A L D / A C O N V E R T E R

- Input terminals: XLR (2 systems), RCA (1 system), IEE1394 (2 systems).
- SACD DSD signals are input through the IEE1394 input terminal or the XLR1 input terminal (original Esoteric ES-LINK format).
- PCM format signal can be input up to 192kHz (DUAL transformation or STEREO transformation).
- When the signals output by the player are either STEREO or MULTI-CHANNEL, the unit outputs the channel as selected by the MENU.
- There are 3 digital filters to choose from: FIR, RDOT, FIR+RDOT. The digital filter can also be turned completely off. The signal is converted up to 768kHz before being sent to the multi-bit D/A converter chips, Burr-Brown PCM1704s. SACD DSD signal is converted either to 88.2kHz or 176.4kHz, before inputting to the digital filter.
- Signal output from the digital filter streams into D/A converter IC through a FIFO (fast in / fast out) circuit, which reduces signal jitter.
- The D-01 is equipped with 8 D/A converters per unit (24bit Multi-bit D/A converter: PCM1704). With the use of 8 DACs per unit, S/N ratio and linearity is greatly improved. This DAC configuration results in very precise musical expressiveness and enhanced ambience, presence and transparency.
- Esoteric uses $\pm 42V$ descreet power circuit construction in the driver circuits for analog signal outputs. This very high rail voltage produces prompt circuit drivability and excellent transitional rates.

The World's first* monaural D/A converter - designed to bring out the full potential of the SACD format.

The advantage of developing a D/A converter as a monaural unit is to avoid channel cross-talk. A monaural unit also allows proper power distribution for each individual analog audio circuit. In addition, separate D/A converters eliminate the differences in sound between the left and right channels because each separate unit has the exact same parts and PCB layout pattern.

In a dual or stereo converter, placement of components usually differs, channel to channel, because they are placed in different physical locations and varying orientations within the single cabinet. By exactly replicating component locations, the result is an audible improvement in which the air around the instruments becomes more defined, and the image of each musical instrument becomes clearer, more transparent with enhanced ambience and presence.

* 2004/Aug.

P - 0 1 M A I N S P E C I F I C A T I O N S



Main Unit



Power Supply Unit

- System**
- SACD, CD, CD-R, and CD-RW
- Digital output**
- IEE1394 jacks x 2
 - XLR jacks x 6 Multi-use
ES-LINK Output: 6 terminals (L, R, C, SW, LS, RS)*
XLR output: 3 terminals (L/R, C/SW, LS/RS)*
 - RCA jacks x 3 (L/R, C/SW, LS/RS)**
 - RCA jacks x 1 (Normal)***
- Word synchronization input**
- BNC x 1
- General**
- Power supply: AC 120V, 60Hz (US) / AC 230V, 50Hz (Europe)
 - Power consumption: 29 W
 - Weight
Main unit: 28kg (61.8 lbs.)
Power supply unit: 16kg (35.3 lbs.)
 - External dimensions (W x H x D)
Main unit: 445 x 158 x 420 mm (17-5/8" x 6-1/4" x 16-5/8")
Power supply unit: 240 x 158 x 420mm (9-1/2" x 6-1/4" x 16-5/8")

* These XLR terminals are used for units with ES-LINK capability.

** These RCA jacks are provided for DVD-Audio use. At this time, this unit does not output DVD-Audio format signals and these connectors are not functional.

CD, CD-R/RW format only. These RCA jacks do not output SACD DSD ** formatted signals. DSD Digital signals will output through the ES-LINK or IEE1394 outputs.



D - 0 1 M A I N S P E C I F I C A T I O N S



- Electrical characteristics**
- Dynamic range: 112dB
 - THD: 0.001%
 - Frequency response(-3dB): 2Hz - 80kHz
 - S/N ratio: 118dB
 - Volume control range: 0 - 99.5dB (Analog) 0.5dB step

- Input terminals**
- Digital inputs: IEE1394 x 2 / XLR x 2 (ES-LINK) / RCA x 1
 - WORD SYNC input: BNC x 1

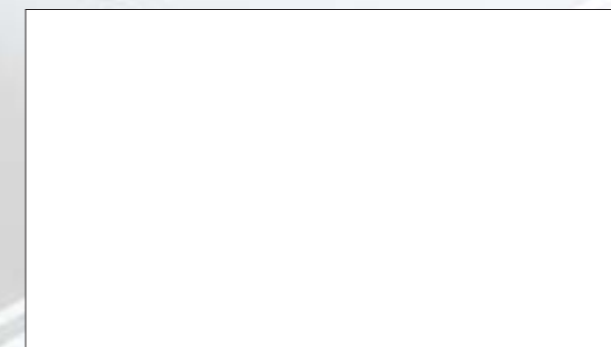
- Output terminals**
- Analog outputs: RCA x 1 / XLR x 1
 - WORD SYNC output: BNC x 1

- General**
- Power supply: AC 120V, 60Hz (US) / AC 230V, 50Hz (Europe)
 - Power consumption: 23W
 - Weight: 21kg (43.4 lbs.)
 - External dimensions (W x H x D): 445 x 108 x 420 mm (17-5/8" x 4-1/4" x 16-5/8")

ESOTERIC

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PRINTED IN JAPAN 1204L05-D-5901

ESOTERIC



SACD/CD Separate Player

SACD/CD Transport

P-01

Monaural D/A Converter

D-01

The World's finest separate digital source system



P-01 Main Unit



P-01 Power Supply Unit

Separate power supply unit, utilizing an isolation theory inherited from the P-0

The power supply unit is separate from the main unit in order to provide very high-performance supply voltages while completely isolating the player from the power conversion process. This power supply unit consists of three transformers: one for the mechanism motors, another for the signal processor/up-converter, and a third for digital processing (i.e. clock circuit). Transformers for the mechanism motors and the digital processor are extremely efficient WB type transformers.

VRDS-NEO MECHANISM

Ultra-high-precision turntable system

When an SACD or DVD disc is played, the higher-speed rotation causes increased and unwanted vibration. This vibration causes the disc surface to shake, making it difficult for the laser pick-up to read the data accurately.

The VRDS turntable is designed to physically correct all vibration and completely stabilize the disc so adverse effects during high-speed rotation can be minimized. High-speed rotation also requires that the spindle shaft be more rigid than in the past. The turntable, considered the heart of the VRDS mechanism, is supported by high-precision, highly rigid mechanical components.



Coreless motor with no rotational irregularities

Esoteric has developed a new, long-life three-phase brushless spindle motor for high-speed rotation. Development of the magnetic circuit, consisting of neodymium magnets, was completed through numerous tests and scientific validations, including magnetic field analysis. The optimized magnetic circuit minimizes rotation irregularities in the motor and makes it possible to reduce fluctuations in the motor drive current, thereby lessening any effects on audio circuits and other areas.

Newly designed magnesium turntable

During SACD or DVD playback, the maximum rotation speed is some 4.5 times greater than the rotation speed during conventional CD playback. In order to ensure that the turntable could handle this high-speed rotation, Esoteric selected

magnesium as the turntable material. Magnesium, with a specific gravity two-thirds that of aluminum, is extremely lightweight. Magnesium also has excellent vibration absorption properties that reduce unwanted disc vibration during disc rotation. This precision-machined turntable is made from superior materials.

Rigidity and precision are significantly improved by the use of highly precise ball bearings used in the spindle shaft bearing assembly

A pair of precise ball bearings is used in the spindle shaft assembly and a pre-load is applied to the bearing's inner rings to significantly reduce rattling and shaft-shaking during use. This technique dramatically increases the precision of the bearing unit and greatly improves rotational and positioning accuracy. As a result, the correlation precision between the disc and pickup is improved, a factor closely related to transport performance.

Massive bridge unit made from S5400 steel supports the turntable and spindle unit

The precision and rigidity improvements to the turntable and spindle alone will not ensure good results if the bridge supporting them is not also improved. Therefore, Esoteric selected 20 mm-thick, S5400 steel for the newly designed support bridge. The bridge is directly joined to a 10 mm-thick steel bottom frame. Any vibration coming through the spindle during rotation is subsequently attenuated by the mass of the bridge-bottom frame combination.

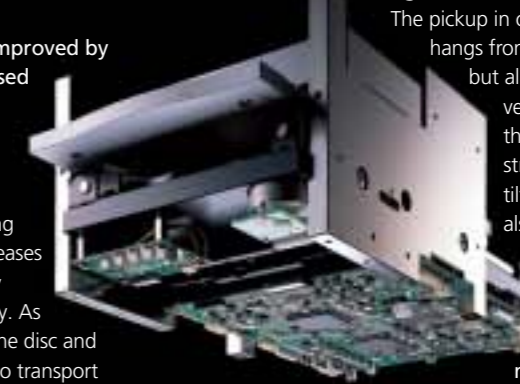
Advanced pick up technology - thread servo feedback controlled sled

Esoteric developed an ingenious component structure for driving the pickup lens and a new sled structure that moves the pickup unit with extremely high accuracy. This new system ensures that the laser optical axis is always positioned at the very center of the pit track for optimal reading.

These modifications to earlier VRDS mechanisms (P-0) make it possible

to minimize the adverse effects of disc surface shaking and eccentricity at higher rotational speeds.

Pickup structure designed to prevent laser optical axis tilting during lens movement



The pickup in ordinary players is designed so that the lens hangs from a wire. This design is not only low in rigidity, but allows the laser optical axis to tilt away from a vertical orientation as the lens moves. In contrast, the pickup used in the P-01 has a sliding shaft structure that prevents the laser optical axis from tilting even when the lens is moved. Esoteric has also increased the rigidity of the parts supporting the lens.

Speed feedback-controlled sled transport with superior response and minimal extraneous pickup lens movement

In order to provide a very high-performance pickup, capable of smooth, continuous movement, a proprietary hall element sensing-type, three-phase brushless motor is used in the sled transport. Powerful electronic speed feedback circuits control this sled mechanism. This is yet another design feature that improves the precision of the data acquisition function.

Vibration isolation for spindle motor system and sled moving system

The spindle system, which may pick up fine vibrations during rotation, is isolated from the sled system. Since the sled mechanism requires very delicate control, this isolation from high-frequency vibrations ensures superior reading performance.

High-precision mechanism and new software controlled servo control for superior playability

The precision-machined proprietary mechanism combines with new system software to provide optimal servo control for each type of disc. This equates to superior media playability.

P - 0 1 S A C D / C D T R A N S P O R T

Up-convertible digital audio output (CD format only) / word synchronization

- Digital audio output signal has reduced jitter and is up-converted by the use of a highly accurate crystal master clock generator ($\pm 3\text{ppm}$) and DSRL (digital servo ratio loop) circuit. PCM formatted signal (CD) is up-convertible to as high as $f_s 192\text{kHz}$. DSD signal (SACD 1bit 64fs) is output directly without conversion.
- Up-converted output terminals are: 6 XLR terminals (6 connectors = L, R, C, SW, LS, RS for ES-LINK, 3 connectors = L/R, C/SW, LS/RS for digital XLR), 3 RCA terminals (3 connectors = L/R, C/SW, LS/RS), IEEE1394 terminals (2 connectors). Non-up-convert terminal is: RCA (1 system).
- SACD DSD format signal is output from IEEE1394 interface or output from the XLR terminals by Esoteric's proprietary ES-LINK format. The unit outputs a DSD signal automatically by ES-LINK when the unit is set to XLR DUAL output mode.
- The P-01 can accept a master word clock from other equipment. Accepted word synchronization input formats are: 44.1/88.2/176.4/48/96/192/100kHz, and 10MHz. When the input Word clock signal frequency is the same as the output sampling frequency, phase error between the clock signal and output signal is kept within 10 degrees. There are two word synchronization modes, normal IN mode and Rb IN mode. The PLL circuit is used for the Rb IN mode, specialized for highly accurate clock signals.

Equipped with ESOTERIC's most advanced VRDS-NEO mechanism evolved from the critically acclaimed X-01. Rigidity and vibration-resistant ability is improved by the use of a half inch-thick solid shaved-aluminum mechanism base plate. The motor of the Tray open/close mechanism is the same type as that used for the pick-up motor, a three-phase brushless speed-controlled neodymium motor. The smooth, elegant opening and closing motion is reflective of the superb quality of this high-end player.

Ultra-high-rigid body construction isolates the unit from internal and external vibrations.

The main chassis consists of a 10mm-thick/10 lb. steel bottom frame that provides a rigid, stable base for the player greatly improving data acquisition accuracy. Thick aluminum is used on the top, side and front panels to further block vibration.

The chassis is supported by four pinpoint feet (patent pending) that allow the unit to be mechanically isolated from its environment.

The front panel, with its highly elegant brushed finish, curved corner design and other features, contribute to the sense of quality found only in the world's finest SACD/CD transport.



Main Chassis

Superior quality internal wiring / DC power cable

Esoteric selected 6N pure copper conductors for all internal wiring as well as the AC cord and DC cables that connect the power supply to the main unit. This superior cabling achieves higher resolution and improved sound texture. The 6N cable outer jacket is Polyolefin PVC free material. None of the other wire jacketing contains PVCs to protect against environmental pollution.



Power Supply Unit

D - 0 1 M O N A U R A L D / A C O N V E R T E R

Word synchronization

The D-01 is further enhanced by the inclusion of word sync outputs/inputs. The D-01 can output or input word clock signals at any of the following frequencies: 44.1/88.2/176.4/48/96/192/48P/96P/192P/100/100PKHz (P means 4% down mode for PAL FILM).

The D-01's Rb IN mode uses a PLL circuit that is highly specialized for a high accuracy clock signals.

The D-01 itself uses a high precision crystal clock that generates $\pm 3\text{ppm}$ of accuracy. The D-01 can input an ultra-precise clock from the ESOTERIC G-0s master clock generator, which will further enhance the delicacy and articulation of the material.

Excellent grade 6N pure copper conductors for main internal wiring

AC power cable, and most internal wiring are 6N pure copper conductors for pure, high resolution sound quality. 6N cable outer jacket is Polyolefin PVC free material. None of the other wire jackets include PVCs to protect against environmental pollution.

Equipped with a high-grade analog volume attenuator / Directly connectable to a power amplifier

Analog volume attenuator enables volume attenuation without losing digital information. The volume circuit can be bypassed for use with an external preamplifier.

Highly rigid body construction eliminates harmful external vibration

Thick aluminum is used on the top, side and front panels to block vibration. The sound pressure from loudspeakers could easily affect the top panel of the D-01 so it is constructed from

8mm thick, brushed aluminum. The chassis is supported by four pinpoint feet (patent pending), allowing the unit to be mechanically isolated from its environment. The front panel is designed to be highly elegant with a brushed finish and curved corner design. All these features contribute to a sense of quality found only in the world's finest D/A converter.

