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ESOTERIC 20th Anniversary Models

20 years of ESOTERIC history has been a perpetual quest for ultimate digital source quality. This Super Audio CD / CD separate component system is a new realization of our obsessive passion to create a moment of truth – a true musical emotion.

Super Audio CD / CD Transport P-05



Stereo D/A converter D-05



The History of ESOTERIC's Separate Player Systems

1987

To bring the highest level of musical experience to demanding audiophiles, TEAC launched the "ESOTERIC" brand as a separate business operation which exclusively engineered and manufactured high end audio products. Esoteric's first introductions included the P-1 / D-1 separate CD player system. The P-1 was Esoteric's first introduction of the truly unique VRDS mechanism, attracting serious attention among many audiophiles of that era.

1988

The first decade of ESOTERIC history was a rush of new models; the X-1 CD player, the following X-1s, X-10w, and the X-10wD. The P-1 CD transport evolved to the P-2, and then to the P-2s. ESOTERIC's "mechatronics," technologies were highly enhanced and accumulated, then fed back to engineering development for more new CD Players; the P-10, the P-30 and the P-50.



1997

ESOTERIC introduced the legendary P-0 as their 10th Anniversary model. The P-0 featured a unique “Lossless sled,” optical pickup mechanism providing extremely accurate data retrieval. This ultimate masterpiece was a winner of many famous Japanese magazine awards and was the pinnacle of the CD player scene at that time



2001

The P-70 / D-70 combination was introduced. The P-70 CD transport incorporated new VRDS which technological enhancement applied from the P-0. The D-70 D/A converter incorporated “RAM Link” function, Word Sync function and many new technologies for jitter-less sound reproduction. This combination evolved to the P-70VU / D-70VU, corresponding to higher precision clock requirement.



2004-2005

“The world’s finest separate digital source playback system, designed to meet the challenge of capturing all the potential of the Super Audio CD format” – the reference P-01 / D-01 combination system was born. The P-01 transport uses ESOTERIC’s highest quality VRDS-NEO mechanism and is powered by a separate power supply unit. The D-01 is the world’s first monaural DAC designed for ultimate fidelity. This reference source system has become the “benchmark” for digital source systems worldwide.



2005-2006

The P-03 / D-03 system was introduced in 2005. (P-03UNI followed). Advanced technology combined the highly acclaimed separate design concepts of the P-01 / D-01, and applied new DSD signal processing technology. A system reproduces highly detailed musical performances surrounded by extreme transparency - right down to the performer’s breath -.



2007

In honor of the 20th anniversary, ESOTERIC introduces the P-05/D-05 components, incorporate a completely new VRDS-NEO mechanism model “VMK-5,” and also use **the world’s first 32 bit D/A converter technology**. Matching G-03x and G-0Rb master sync clocks also introduced.

NEW: VRDS-NEO model “VMK-5” Vibration-Free Rigid Disc-Clamping System

An evolution of 20-year ESOTERIC turntable mechanism technology



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Super Audio CD / CD Transport P-05



High End “Disc-Pit Traceability” and Stability

VRDS-NEO “VMK-5” mechanism – a completely new development by ESOTERIC, incorporating high reliability and exceptionally quiet turntable rotation. In combination with the P-03 series shaft-mounted pickup system, the “VMK-5” ensures the ultimate in disc-pit traceability!

VRDS-NEO “VMK-5” mechanism – incorporating high reliability and exceptionally quiet turntable rotation The VRDS-NEO “VMK-5” mechanism is a completely new development by ESOTERIC and evolutions of 20 years of ESOTERIC turntable disc drive mechanisms. The new “VMK-5” is optimized

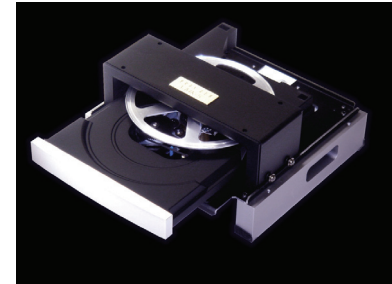
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for high speed disc rotation of Super Audio CD software, incorporating a high precision aluminum turntable. The polycarbonate anti-resonance disc is attached to the turntable to reduce unwanted resonance associated with single material turntable design. As a result of this engineering implementation, the “VMK-5” keeps the rotational inertia within a minimum level, as compared to the other turntable designs. This ensures high reliability, controlled resonance and extremely quiet operation.

Highly rigid BMC + steel hybrid turntable bridge component

The turntable bridge component incorporates a highly rigid BMC (Bulk Molding compound) + a steel hybrid material design. The BMC has a high specific gravity and high internal loss, helping to enable high precision cast molding. This hybrid design reduces unwanted motor noise and vibration, while ensuring very smooth turntable rotation.



ESOTERIC’s proprietary disc loading mechanism

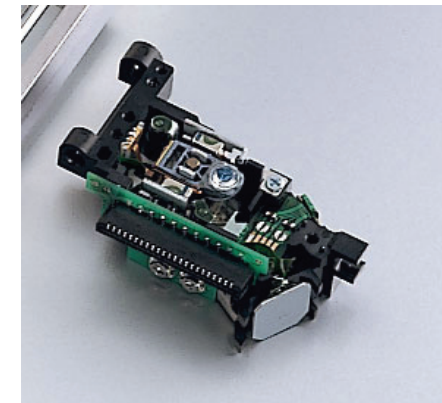
The series of operation from the tray closing (opening), to the disc clamping (release), is managed by a unique disc loading mechanism which uses ESOTERIC’s proprietary “differential gear” system. The “differential gear” system enables exceptionally smooth disc loading operations compared to conventional designs, thanks to the seamless engagement of the tray and disc clamp gears during the entire loading operation. (JP PAT. 2861798 TEAC CORPORATION)

Turntable motor spindle design

The turntable motor is placed under the turntable, and the spindle is temporarily disconnected from the turntable to accept the disc during loading operation (PAT. Pend.). With this engineering implementation, the “VMK-5” applies VRDS technology in a compact and low-profile design. The short spindle shaft design contributes to a very stable turntable rotation, eliminating vibrations associated with longer shaft designs. The spindle motor incorporates a FG (Frequency generation), sensor enabling self detection of rotational speed. This design provides ultra fast motor response and optimal speed control. In comparison, conventional mechanisms cannot detect motor speed before reading disc information.

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

ESOTERIC developed an ingenious component structure for driving the pickup lens using a highly accurate shaft-mounted laser pickup assembly. This system ensures that the laser optical axis is always positioned at the very center of the pit track for optimal reading, making it possible to minimize the adverse effects of disc surface shaking and offset tracking. This highly accurate pickup system (also used by ESOTERIC in the P-01 and the P-03 transports), and vibration-free VRDS turntable are the primary factors defining the outstanding mechanical performance of the P-05.



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Rich and high speed power supply capability

The large toroidal transformer has a highly efficient power supply capability. This provides electric power to the drive mechanism and audio circuits very quickly, without adding noise or distortion to the internal circuitry.

CD digital audio output features PCM signal up-conversion

The P-05 can output up-converted digital audio signals and a high precision crystal clock oscillator reduces jitter within the signal path. The up-convert function offers fs 88.2 kHz (x2) and fs 176.4 kHz (x4). (DSD / 1 bit 64 fs signal for Super Audio CD is directly transmitted without up-conversion.)

Word synchronization

The P-05 features a WORD SYNC input terminal to accept an incoming external WORD clock signal. The input can operate with 44.1 / 88.2 / 100 / 176.4 kHz clock signals. The unit can also operate using an ESOTERIC original 100 kHz Universal Clock signal. The incoming ultra-stable clock signal produced by external components such as a master clock sync generator, effectively upgrade the unit, delivering higher performance with better detail and a more natural sound. Because master clocks generate a signal to re-time the DAC and transport, transparency, staging, imaging and detail often improve.

i.LINK (IEEE1394), interface with flow-rate-control

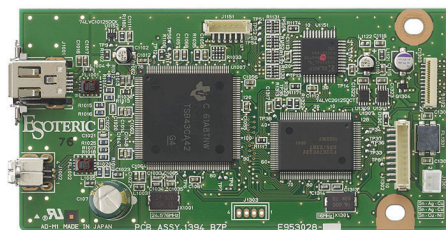
Audio grade i.LINK (IEEE1394), circuit designed by ESOTERIC with flow-rate-control technology provides jitter free signal transmission. High grade digital signals read from Super Audio CD sources can be transmitted to other i.LINK devices equipped with flow-rate-control (i.e. the ESOTERIC D-05). The signal receiving device controls the signal sender by using a high precision clock signal, optimizing the flow rate of the transmitted signal. This system fully enhances the performance and the quality of the Super Audio CD signal. (i.LINK terminals: 4-pin x1, 6-pin x1).

Highly rigid chassis construction for optimal resonance control capability

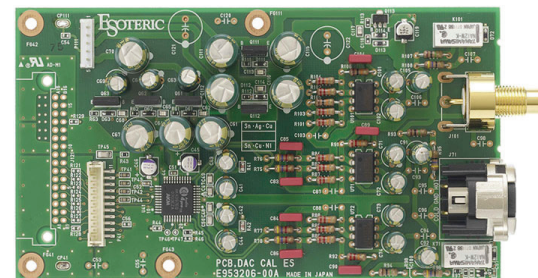
The front panel is made of thick extruded aluminum and the top and side panels are made of 5 mm thick aluminum. The bottom chassis is attached with an 8 mm thick stabilizer disc on top (inside the chassis), and a 5 mm thick steel plate on the bottom. Combined with three pinpoint isolation feet made of quenched steel, this chassis design isolates the unit from external vibrations, allowing precise mechanism mounting and highly-rigid, resonance-free system construction. The VRDS-NEO "VMK-5" and its operation are visible from the top panel window. The mechanism is illuminated with LEDs (except for the pickup is in its operation), enhancing both its mechanical and cosmetic appeal.



Pin point foot system (3).



i.LINK circuit board



Single channel DAC board

Stereo D/A Converter D-05



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High Performance Digital to Analog Conversion System

Incorporating full 32 bit processing “AK4397” Delta-Sigma DAC device

Dual mono power supply and dual mono analog audio components for high musicality, following in the footsteps of the D-03 D/A converter

The world’s first D/A converter incorporating full 32 bit processing DSD/PCM compatible D/A converter device

The D-05 is the world’s first D/A converter incorporating the “AK4397” Delta-Sigma DAC device from AKM Semiconductor, Inc., This device has 32 bit processing capability. (*) The “AK4397” was designed combining newly developed high speed / high capacity digital processing components and improved analog processing components providing premium quality sound reproduction. The “AK4397” has a highly precise D/A conversion capability thanks to its fully extended 32 bit processing throughout all stages, including digital filter and the Delta-Sigma modulator. The 32 bit processor also has enough room for 24 bit or lower data flow, and greatly contributes to high quality signal reproduction. The analog processing component of the DAC device features a completely symmetrical L/R channel layout design. Each circuit component of the device has its own power supply to reduce crosstalk or interference between each circuit. The device’s internal clock circuit also has its own power supply helping to reduce jitter produced within the device. The “AK4397” 32 bit processing DAC device combines the best properties of a 1 bit device and a multi-bit device. The D-05 is equipped with 1 chip per channel. With this implementation, the digital signal from a Super Audio CD is converted to a well defined, high-density and very smooth analog signal. The data stream from CD software is converted to a highly textured and detailed analog audio output signal.



* AK4397 is a product of Audio4pro™ by AKM Semiconductor, Inc., designed for professional digital audio solutions.

PCM to DSD conversion function

An incoming PCM signal from digital devices (CD transport, DBS receiver, digital tuner, etc.) can be converted to DSD format signals. This conversion function allows customers to choose digital formats according to their preference, from PCM formats (etched sound imaging and revealing low level signal linearity), to DSD format (full ambience throughout the entire audio range, while also providing a very smooth sound quality).

Stereo D/A converter based on the same design concept of the dual mono D-03

The D-05 has completely separate L/R channel components for power, signal conversion and analog audio output circuits. The D-05 was designed as a complete dual mono implementation. The D-05 follows the footsteps of the Esoteric mono-block D-01 and the dual mono D-03,

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combining two identical monaural D/A converter components into a one-piece body. This design concept provides even response between channels with extremely reduced crosstalk and exactly the same power-supply stability between channels. The D-03 proves the merits of these attributes in reproducing ambience and presence information recorded on the source; open acoustic space around the musical players, revealing the structure of instruments and the clear imaging of a concert hall environment.

Rich and high speed power supply capability – each channel with a dedicated power supply

A large toroidal transformer is used independently for each channel. Each transformer has a highly efficient power supply capability. These transformers provide power to the digital audio and analog audio circuits very quickly, without adding any noise or distortion to the signal path.

i.LINK (IEEE1394), interface with flow-rate-control

Audio grade i.LINK (IEEE1394), circuit designed by ESOTERIC with flow-rate-control technology provides jitter free signal transmission. The D-05 controls the signal sending device (i.e. the P-05), by using a highly precise clock signal, and optimizing the flow rate of the transmitted signal. This system fully enhances the performance and the overall quality of a Super Audio CD signal. (i.LINK terminals: 4-pin x1, 6-pin x1).

Word Synchronization function with other digital components within the system

The D-05 features two Word Synchronization modes; OUT mode and IN mode. When set to the OUT mode, the D-05 can supply a high quality and very stable word clock signal produced from its internal clock oscillator. When the D-05 is set to the IN mode, it is possible to control the D-05 with an incoming master clock signal from an external component. The D-05 can also input/output an ESOTERIC original 100 kHz Universal Clock signal, in addition to standard clock signal frequencies; of 44.1/88.2/176.4/48/96/192/kHz.

PLL 2 (Dual PLL) mode, reduces jitter when connected to a digital source device with no WORD SYNC function

The input PLL circuit of the D-05 consists of two stages. You can choose “PLL1” (first stage only), mode and “PLL2” (Dual PLL), mode in accordance with the specification of the connecting device. The “PLL2” (Dual PLL), mode effectively reduces jitter and improves signal phase alignment, internally providing a highly pure master clock signal produced by the high precision clock oscillator of the D-05, to the DAC device of the D-05. This function can provide jitter reduction capability to a system which does not have a WORD SYNC function, applying stability, greater detail, and a highly musical sound to that system.

Highly rigid chassis construction for optimal resonance control capability

The front panel is made of thick extruded aluminum, and the top / side panels are made of 5 mm thick aluminum. Combined with three pinpoint isolation feet made of quenched steel, this chassis design isolates the unit from external vibration effects, allowing precise mechanism mounting and highly-rigid, resonance-free system construction. The 126 mm low-profile chassis (the same height as the P-05), enclosed by a brushed finish front panel and sandblasted side / top panels. This design contributes to the sense of quality and stability found only in high end audiophile equipment.

Super Audio CD / CD transport P-05



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Stereo D/A converter D-05

**Super Audio
CD/CD transport P-05**



[System] Super Audio CD, CD, CD-R and CD-RW
 [Digital Audio Output] i.LINK (AUDIO) output (6-pin) x 1, i.LINK (AUDIO) output (4-pin) x 1, XLR output x 2 (Use 2 terminals for Dual AES output), RCA coaxial output x 1 [Word Clock] BNC x 1 (44.1 kHz, 88.2 kHz, 100 kHz, 176.4 kHz)
 [General] Power supply; AC 120 V / 60 Hz (U.S.A./Canada model), AC 220 V / 60 Hz (Korea model), AC 230 V / 50 Hz (Europe model), Power consumption; 16 W, Weight: 14 kg (30-7/8 lbs), Dimensions (W x H x D); 442 x 126 x 332 mm (17-3/8" x 4-15/16" x 13-1/16")

Stereo D/A converter D-05



[Audio features] Total harmonic distortion; 0.002%, Frequency response (Super Audio CD); 5 Hz - 20 kHz (+0.5 dB, -3 dB), Signal-to-Noise Ratio (S/N); 112 dB (JEITA) [Input terminals] Digital audio input; i.LINK (AUDIO) terminal (6-pin x1, 4-pin x1), XLR x 2 (Use 2 terminals for Dual AES output), RCA x1, OPTICAL x1 Word clock input; BNC x1 (44.1, 88.2, 176.4, 48, 96, 192, 100 kHz) [Output terminals] Analog audio output; XLR x1 (L/R), RCA x1 (L/R) Word clock output; BNC x1 (44.1, 88.2, 176.4, 48, 96, 192, 100 kHz)
 [General] Power supply; AC 120 V / 60 Hz (U.S.A./Canada model), AC 220 V / 60 Hz (Korea model), AC 230 V / 50 Hz (Europe model), Power consumption; 14 W, Weight: 13 kg (28-5/8 lbs), Dimensions (W x H x D); 442 x 124 x 332 mm (17-3/8" x 4-7/8" x 13-1/16")

- Design and specifications are subject to change without notice.
- Weight and dimensions are approximate.