

ESOTERIC

Stereo D/A Converter **D-07X**



Newest evolution of our 32 bit dual/mono D/A converter, "D-07X," utilizing cutting edge technology while embodying the philosophy of the ESOTERIC D-02 and K series:

"Reproduce the inspiration of the original musical recording, free from stress and coloration"

This state-of-the-art D/A converter provides uncompromising quality with PC audio playback using a USB connection, S/PDIF Coaxial, AES/EBU or TosLink Optical as well as when connected to an ESOTERIC Super Audio CD/CD transport. Audio performance has been improved using a dual/mono configuration in which multiple 32 bit D/A conversion circuits are combined in parallel, as well as by utilizing a parallel buffer amplifier for unbalanced analog outputs. This model uses cutting edge technology, including 192kHz/24bit USB input compatible with asynchronous transfer, high accuracy clock circuit, multiple D/D conversion options.



Stereo D/A Converter D-07X

Dual mono D/A converters based on the concept of ESOTERIC K series digital source device

The D/A converter IC's of the D-07X incorporate 32-bit "AK4392" chipsets, manufactured by ASahi KASEI Microdevices Corporation. Two circuits per channel in parallel/differential output configurations are provided to achieve phenomenal linearity and low noise. The converters and analog output circuits, which make up a fully dual mono configuration, are located on the left and right hand sides of the board, completely separated from the digital signal processing circuit. This layout allows an excellent channel separation and high-quality playback with rich localization and sonic depth.

High quality buffer circuits

For the final stage of analog audio output (buffer amplifier), New JRC's high end audio operational amplifier MUSES is used. These buffer circuits are laid out symmetrically for each of the hot/cold signal lines to construct a fully balanced configuration. When the RCA audio output is selected, the buffer amplifier is switched to parallel configuration. These enhancements provide the best sound quality for each of the balanced and unbalanced audio signal outputs.

Substantial power supply

A high quality power supply is essential to high end audio equipments.

The power supply circuit of the D-07X is substantially built with extra large, low loss, low magnetic flux leakage R-core transformer, multiple large capacitors and high speed Schottky diode. This circuit supplies low-impedance, clean, stable power to all circuits very quickly to achieve ultimate level of detail expression.

High sampling rate digital inputs

The D-07X features multiple digital inputs (USB, XLR, optical x1, coax x2), and all these inputs support high-sampling-rate sources up to 24 bit / 192kHz.

The D-07X supports ES-LINK (XLR) connection with ESOTERIC SACD transport for SACD playback.

USB input supports asynchronous transmission up to 24 bit / 192kHz

The USB input supports asynchronous transmission up to 24 bit / 192kHz using ESOTERIC's original driver software for PC or MAC. Additionally, a USB isolator allows high quality reproduction of studio master sources by blocking the noise from computer.

Multiple D/D functions to suit multiple sources

In addition to playback at the original sample rate and word length, extensive D/D conversion modes for PCM formats include PCM up conversion to x 2 or x 4 from the original sampling frequency, using the "RDOT" algorithm, as well as PCM > DSD conversion to convert the PCM audio signal to DSD format similar to Super Audio CD. Super Audio CD is directly converted into analog signals and played back.

Digital filter "Off" mode and four types of digital filters

The D-07X features Digital Filter Off mode recommended by ESOTERIC, which is characterized by a smooth and subtle sound quality. The model also features four types of digital filters for PCM signal processing. In addition to two types of FIR (Finite Impulse Response) digital filters, two types of Short Delay digital filters (Referred to as "apodizing" filters) are installed. These filters eliminate the pre-echo in the impulse waveform to reproduce audio signal as a more natural and precise sound.

VCXO high-precision clock

A high-precision VCXO (voltage controlled crystal oscillator) is used for the internal clock circuit. A dedicated stabilized power supply circuit improves the stability of the clock.

The high precision clock signal generated by the VCXO substantially reduces jitter, and helps to create a broader soundstage and more focused imaging.

Sync playback with external device is enabled by variety of clock sync functions.

The clock sync function, one of the core ESOTERIC technologies, synchronizes playback of the source device and the D/A converter greatly reducing jitter. In addition to the clock output mode, which outputs the high accuracy clock generated by the internal VCXO to the transport, a clock input mode is included, which allows synchronization with external master clock generators (ESOTERIC G series). It supports 44.1 and 48kHz based word clock frequencies as well as 22.5792MHz master clock output/input for connecting ESOTERIC "Direct Master Clock Link" supporting transport. The D-07X also supports a 10MHz clock input from GPS based clocks. Also, sync playback with the external clock is enabled when the PC is connected to an asynchronous USB.

High-grade re-clocking function

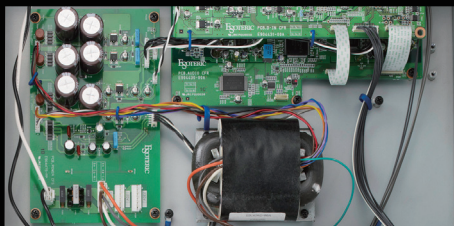
Two types of PLL circuits (PL L1/PLL2), having different characteristics, are included for connection with a transport that does not have a clock sync function. Broadband jitter can be effectively reduced by the high accuracy re-clocking that uses the internal VCXO.

Excellent usability

- 32 bit accuracy digital attenuator function
- Output level switch of XLR audio output (0dB/+6dB)
- XLR pin assignment change (Hot 2/Hot 3)

Headphone jack

Volume control is independent from the line output level.



Specifications

Audio output (Analog Audio) XLR (2 channel) x 1, RCA (2 channel) x 1, Headphones x 1 **Output impedance** XLR : 100 Ω RCA : 25 Ω **Maximum output level (1 kHz, with full-scale input)** XLR : 2.45 Vrms (when set to 0 dB with 10 kΩ load), RCA : 2.45 Vrms (with 10 kΩ load), PHONES : 20 mW + 20 mW (with 32 kΩ load) **Frequency response** 5 Hz to 55 kHz **Signal-to-noise ratio (S/N)** 115dB **Total harmonic distortion** 0.0015%(JEITA) **Digital audio input** XLR x 1 RCA x 2 OPTICAL x 1 USB port (B connector) x 1 **Input sampling frequencies** 32, 44.1, 48, 88.2, 96, 176.4, 192 (kHz) Note: The XLR input (only) supports DSD input in ES-LINK (single) format. **Clock sync output** BNC x 1 **Output frequencies** 44.1, 88.2, 176.4, 48, 96, 192, 100 (kHz/rectangular wave) / 22.5792, 24.576 (MHz) / Same frequency as input (when set to thru) **Output level** Equivalent to TTL levels (with 75 Ω load) **Clock sync input** BNC x 1 **Input frequencies** 44.1, 88.2, 176.4, 48, 96, 192, 100 (kHz) / 10, 22.5792, 24.576 (MHz) **Input impedance** 75 Ω **Input level** Square wave: equivalent to TTL level. / Sine wave: 0.5–1.0 Vrms (with 75 Ω load) **General Power supply** AC 230 V, 50 Hz / AC 120 V, 60 Hz / AC 220 V, 60 Hz **Power consumption** 7 W **External dimensions (W x H x D, including protrusions)** 445 x 106.5 x 356 mm (17 1/2" x 4 2/8" x 14 1/8") **Weight** 10.4 kg (22.93 lb) **Accessories** Power cord x 1, Owner's manual x 1, Warranty card x 1

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