

Super Audio CD/CD Player

X-05



Black version available April 2008

**The new "X-05," an integrated player featuring VRDS-NEO/VMK-5 and dual mono DACs!**

**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 an evolution of 20 years of ESOTERIC turntable disc drive mechanisms. The new "VMK-5" is optimized for high speed disc rotation of Super Audio CD software, incorporating a high precision aluminum turntable. The polycarbonate anti-resonance disc clamp 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 conventional 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.

**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 design (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 X-05.

**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. This "differential gear" system enables exceptionally smooth disc loading operation thanks to the seamless engagement of the tray and disc clamp gears during the entire loading operation.  
(JP PAT. 2861798 TEAC CORPORATION).

**2 channel dedicated analog audio output / Precise imaging and deeper sound stage**

The D/A converter incorporate Cirrus Logic's 24-bit / 192 kHz processing DAC device, model CS4398 in a dual mono configuration. The analog audio output circuits are also in a dual mono configuration producing exceptionally good channel separation. This 2 channel dedicated circuit design contributes to precise imaging and a deeper sound stage for the X-05.

**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 implementation, the "VMK-5" applies VRDS technology in a compact and low-profile design. The short spindle shaft design contributes to very stable turntable rotation, eliminating vibration and random movements associated with long 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 capability. By comparison, conventional mechanisms cannot detect motor speed before reading disc information.

**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 signal path.



### Word synchronization

The X-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 (Single freq. compatible w/ SACD/CD and DVD). 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, acoustic transparency, staging, imaging and detail often improve.

### Highly rigid chassis construction for optimal resonance control capability

The X-05 front panel is made of thick extruded aluminum. This helps to insure chassis rigidity which reduces unwanted resonance and provides a stronger support structure for the center mounted VRDS mechanism. The top and side panels are made of 5 mm thick aluminum. The bottom chassis features a heavy duty 5 mm thick steel plate. The toroidal transformer support base also features 5 mm steel plate for better resonance absorption. Combined with three pinpoint isolation feet made of quenched steel, this chassis design helps to isolate 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 during disc load and unload operations, enhancing both its mechanical and cosmetic appeal.

MAIN SPECIFICATIONS			
System		Super Audio CD/CD/CD-R/CD-RW	
Audio output (analog audio)	Output terminals	XLR jacks (2 channel) x 1 RCA jacks (2 channel) x 1	
	Maximum output level	2.2 Vrms / 10kΩ (1 kHz, full scale)	
	Frequency response	5 Hz to 80 kHz (Super Audio CD, DSD mode direct)	
	Signal-to-noise ratio (S/N)	130 dB (Super Audio CD, 1 kHz, JEITA)	
	Dynamic range	107 dB (Super Audio CD, 1 kHz, JEITA)	
	Total harmonic distortion	0.001% (Super Audio CD, 1 kHz, JEITA)	
Audio output (digital audio)	OPTICAL	Optical digital jack x 1	
	COAXIAL	RCA jack x 1	
	Multi-channel output (optional)	i.LINK (AUDIO) terminal / 4-Pin x 1 i.LINK (AUDIO) terminal / 6-Pin x 1	
Word synchronization input format	Input terminal	BNC jack x 1	
	Input frequency	44.1, 88.2, 176.4, 100kHz (rectangular wave)	
	Input level	TTL level / 75 ohms	
General	Power supply	Europe model	AC 230V, 50Hz
		U.S.A./Canada model	AC 120V, 60Hz
		Korea model	AC 220V, 60Hz
	Power consumption	15W	
	External dimensions (W × H × D)	442 x 153 x 353 mm	
Weight	17 kg		

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

**ESOTERIC**

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