

CDS3 CD player

Twelve years after Naim revolutionised the design of Compact Disc players, the new CDS3 sets an impressive standard for high quality Compact Disc replay.



All the trademark features of a Naim player are brought together in the CDS3 along with a host of new and innovative engineering solutions pioneered during the development of the flagship NAC552 and NAP500 amplifiers. Together with the elegant styling, the result is a truly stunning, thoroughly satisfying musical performance.

The CDS3 features the latest generation Philips CD10 transport using a high quality hall motor disc drive VAM 1250 mechanism. The crucially important suspension system for the transport consists of three precisely tuned leaf springs to optimise servo operation. Two further independent suspension arrangements isolate both the digital and analogue circuit boards from the environment, using optimally damped spring decoupling.



The Naim-designed e.f.m signal "eye pattern" processing filter precedes a Philips CD10, SAA 7324 servo controller chip which is responsible for transforming wave patterns into digital data, error correction and all transport drive functions. Following this, the digital data is routed to a 24-bit - 8 times oversampling digital filter with HDCD decoding. The data is then sent to two (one per channel) Burr-Brown PCM 1704-K, 24-bit mono D to A converters. HDCD decoding is only activated when playing encoded discs.



A separate, fully optimised master clock controls digital to analogue conversion and the clock circuit configuration and layout are engineered to minimise jitter that is further reduced by special Naim designed data re-clocking circuitry. A seven-pole analogue filter follows the DAC to remove spurious noise. The current to voltage conversion stage and all analogue filter stages use discrete transistor amplifiers to optimise performance.

The CDS3 has 26 low-noise, regulated power supplies on the main circuit board, fourteen on the analogue output board and four on the servo board. Power for the whole machine is provided by the XPS power supply, which has six separately regulated, very low-noise outputs. Thus all critical circuitry is triple regulated.

Naim research proved that divorcing the main power supply in this way is wholly beneficial, whereas the more common arrangement of housing the converter circuitry in a separate box causes many problems.

To minimise coupling of external vibrations from the housing to the drive, as happens in the vast majority of players that use a drawer loading mechanism, the CDS3 has a simple and straightforward top loading system. Discs are held securely to the drive spindle by means of a low-inertia, resonance-controlling magnetically attached disc clamp, a technique that ensures rigid coupling (and mild damping) without adding to the task of the drive servo mechanism by increasing rotational inertia.

Worthwhile user features have been incorporated in the CDS3: in addition to a clearer layout of the back panel, an RC5 port has been fitted (with the further option of an RS232 port), allowing seamless integration into even the most complex of home installations. In common with the flagship NAC 552 preamplifier, the CDS3 has user-configurable outputs, offering a choice between the preferred DIN or RCA phono outputs, allowing the CDS3 to be used with a wide range of other manufacturers' cables and components.

All the main control functions of the CDS3 are handled by a microprocessor

running software written by Naim.

Every aspect of the SAA7324 servo controller/decoder functionality is under software control with the Naim-written code allowing all areas of performance to be maximised. For example, the machine optimises the transport parameters for each disc as it is loaded. In addition, care has been taken to ensure that the player/user interface is as logical and intuitive as possible, with extra features such as Display Off (providing improved sound quality) and Program Cancel, whereby the listener can quickly select tracks not wanted to be played.

The CDS3 is close to the top of Naim's CD hierarchy, which allows someone to purchase a CDX2, to upgrade by adding an XPS and then trade up to a CDS3 with the XPS. The highly sophisticated power supply features a toroidal transformer and 6 power regulators, ensuring complete stability of the ultra-sensitive circuitry.

The Naim CDS3 delivers truly rewarding musical reproduction, providing the involvement of the very best analogue sources combined with tremendous consistency and reliability.

Specifications

Frequency response	10Hz 20kHz + 0.1dB 0.5 dB
Output level	2.0V rms at 1kHz
Output impedance	10 Ohms maximum
Phase response	Linear phase, absolute phase correct
Laser type	Semiconductor AlGaAs
Wavelength	780nm ± 20nm
Light output (cw)	Maximum 0.5 mW
De-emphasis	± 0.1 dB referred to main response
Distortion and noise	<0.1% 10 Hz - 18 kHz at full level
Mains supply	100V, 115V, 230V (50 or 60Hz)
Dimensions (H x W x D)	87 x 432 x 314mm
Finish	Black