

PRODUCT INFORMATION GUIDE

Cyrus DAC X High-End D/A Converter



Construction

Enclosure	Cyrus Inverted die-cast chassis
Material	Lightweight non-magnetic magnesium alloy

Electrical

Digital Inputs	6 SPDIF (4 coaxial, 2 TOSlink optical)
D/A Outputs (unbalanced)	Fixed level stereo line output (RCA jacks)
D/A Outputs (balanced)	Dual balanced (XLR)
Power Supply	75VA Toroidal transformer
Communications	MC-Bus™ System Bus

Specifications

Digital Input	500mV pk-pk//75Ω
Digital Output	500mV pk-pk//75Ω
Sample rate tolerance	+/-100ppm of 32/44.1/48kHz and multiples to 192k
Sample rate tolerance (wide)	Any sample rate in range 32k – 192k
Unbalanced Output	2.3V//47Ω
Balanced Output	4.4V//47Ω
THD+N	0.002% (ref 0dBFS)
S/N ratio	115dBA
Dimensions (H x W x D)	73 x 215 x 360 (mm), 2.8 x 8.4 x 14.1 (inches)
Finish	Quartz or Brushed Black
Weight	3.8kg

Features

High-end DAC technology
True balanced topology

High accuracy dual-mode master clock

Programmable input names
Digital Output

Optically isolated digital control system
Extensive use of Star-earthing
PSX-R upgradeability

MC-Bus™ System Bus

Benefits

- Full 24 bit resolution with 192k upsampling.
- Fully balanced topology throughout digital and analogue stages
- Ultra-low jitter clock reference for quality Group 1 sources. Wide mode response for non Group 1 sources
- Inputs can be named from the internal library
- For convenient wiring to a digital recorder or surround decoder
- Zero digital influence on the music signal
- Ability to resolve to very low signal levels
- Enhancing performance by further isolation of power supply
- Integrated system control with the *Cyrus* range

Setting Up

- Run in for at least 48 Hours before serious listening.
- Use *Cyrus* Interconnect cables.
- Use **PSX-R** for ultimate sound quality.

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Cyrus DAC X & DAC XP Design Brief

Many Cyrus owners recollect the impact that the hi-fi industry felt a decade ago when Cyrus launched the Discmaster/ Dacmaster/ PSX-R combination. The combination set new performance standards for CD replay, featuring leading edge digital technology presented in a unique 4-box format.

The brief for the DAC X was to bring this 4-box formula up to date by taking the best DAC technology available today and building a class-leading stereo digital decoder to partner the CD Xt SE and a pair of PSX-Rs.

Adding a separate analogue pre-amplifier into the DAC X chassis upgrades the DAC X to the DAC XP which becomes the control centre for a super high-end stereo system.

- **D/A conversion** – At the heart of a quality D/A converter is the circuit that converts the digital source to an analogue signal. Careful design of this circuit is essential to retrieve the true dynamics of the source material and to minimise undesirable artifacts such as noise and distortion. The *DAC X* achieves this with a two stage upsampling design where all sources are initially upsampled to 192k before analogue conversion by quad high-precision 24-bit converters operating in a fully balanced configuration. The technical specifications endorse the quality of this stage with class-leading performance for THD and noise. The elevated 192k sample rate permits our designers to use far less aggressive analogue filtering techniques to remove undesirable out-of-band digital noise.
- **Jitter reduction** - Low jitter is an essential requirement for the clocks and data signals passed within a D/A converter. In the *DAC X* the sophisticated re-clocking circuit measures the precision of incoming digital signals to determine the quality of the input source. High accuracy sources such as the *CDXt SE* CD transport are digitally re-clocked by a close tolerance circuit with triple quartz references. For signals from low accuracy sources such as personal computers the circuit automatically relaxes the re-clocking precision to ensure reliable signal recovery.
- **Sample rate handling** – The *DAC X* is prepared for the wide range of sample rates available from today's digital sources and beyond. Group 1 close tolerance performance is available for 32k, 44.1k, 48k, 64k, 88.2k, 96k, 128k, 176.4k, 192k source material. For sources outside of Group 1 requirements, any sample rate in the range 32k – 192k is accepted. Non-stereo waveforms (surround sound etc) are identified and suppressed to avoid undesirable digital noise.
- **Digital output** – An optical digital output provides a useful digital feed to send the signal from the selected source to digital recording devices or to a multi-channel surround sound decoder.
- **Power supplies** –The *DAC X* power supply is a traditionally built linear design, with an oversize toroidal power transformer including twin windings dedicated to the digital and analogue sections and entirely separate power regulation for the DAC and analogue filter sections. Two-stage regulation is used for critical stages with remote shunt regulators located within the heart of the audio circuitry.
- **Control and display** – The large format display provides a clear indication of the operational status of the *DAC X*, while an interactive menu system permits easy identification of connected inputs and enables different presentation options for the display, including a large-format input display and a 3-line display including decoding status. The control section is separately powered and totally isolated electrically from both the DAC and filter stages through a bank of optical devices, ensuring that no digital noise currents can enter the audio circuitry.
- **Programmable remote control compatibility** – The *DAC X* is remote prepared with a command-set enabling commands such as standby control and input select that can be programmed into a learning handset which has RC5 capability.
- **Input naming** - Each input can be re-named from a library of 28 names or de-selected if unused. Once set to match a system, the *DAC X* input selector will scroll through only the available inputs. Where inputs have been named CD, TU or DVD, the *DAC X* will automatically send power control commands to these *Cyrus* sources and power amplifiers through MC-Bus.
- **MC-Bus identity** – The *Cyrus* MC-Bus system integrates and unifies control features within a system of *Cyrus* components. The *DAC X* includes MC-Bus connectivity and, through the menu system, can be programmed to respond to different MC-Bus commands. This feature enables a *DAC X* to be connected to the CD, TU, AV or AU inputs of a *Cyrus* amplifier and switch on when the appropriate input is selected.