

## PRODUCT INFORMATION GUIDE

# Cyrus DAC X+ High-End D/A Converter



### Construction

Enclosure Material  
Cyrus Inverted die-cast chassis  
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

Extensive PSU refinements

All new, 4 pole digital reconstruction filter

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

- Greater resolution from the analogue stages, the subtlety and emotion of the musical performance is preserved
- The PSU improvements allow the response of the reconstruction filter to be changed with a significant improvement to the phase response
- 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 other sources
- Inputs can be intelligently named from the internal library
- For convenient wiring to a digital recorder or surround sound decoder (multi-channel digital audio is passed through)
- Control signals have no influence on the music signal
- Improved low level resolution
- Enhancing performance by further isolation of critical power supplies
- 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.

## PRODUCT INFORMATION GUIDE

### 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. The latest suite of improvements sound truly stunning.

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 192kHz 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 CD Xt 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, these sources are still 'passed through' to the digital output for convenient connection to a surround sound processor or similar.
- **Power supplies** –The DAC X power supply is a traditionally built linear design without compromise. An oversize toroidal power transformer including twin windings is dedicated to the digital and analogue sections with entirely separate power regulation for the DAC and analogue filter sections. Two-stage regulation is used for critical stages with separate point of load shunt regulation for both left and right channels.
- **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 galvanically isolated from both the DAC and filter stages through a bank of optical isolators, thus ensuring that no digital noise currents can enter the audio circuitry.
- **Programmable remote control compatibility** – The DAC X+ is compatible with any 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 Cyrus connected products via MC-Bus.