Tech Lowdown

ifi

XDSD

GRYPHON

Tech Lowdown
Ultra-resolution Portable DAC & High-power Headphone Amplifier

The xDSD Gryphon is for the serious music lover/headphone user who desires its unique combination of facilities and performance.

It combines the functionality and technology of not only the renowned xDSD but also the xCAN, enhanced and re-engineered across the board to create the most comprehensively equipped portable DAC/headphone amp on the planet.
A Hi-fi System in your Pocket

- State-of-the-Art, Ultra-Res digital technology
- Three dedicated stages – Bluetooth, DAC and amplifier - optimized for max performance
- PureWave analogue technology
Ultra-Res DAC/Amp

- Ultra-res PCM up to 32-bit/768kHz via USB (192kHz via optical/coaxial)
- Native playback up to DSD512
- Full MQA decoding (up to 384kHz)
Ultra-Res DAC/Amp

• Advanced 96kHz Bluetooth 5.1 +module with QCCS100 chipset
• Supports HD Bluetooth formats including aptX HD, aptX Adaptive, LDAC and HWA/LHDC
Audio Format LEDs

PCM 768/705.6/384/352.8/192/176.4/96/88.2kHz

PCM DSD 512/256

Original Sample Rate (MQB)

PCM 48/44.1kHz

MQA

DSD 128/64

MQA Studio
Input LEDs

- Line (Balanced 4.4mm/S-E 3.5mm)
- USB
- S/PDIF
- Bluetooth
Volume LEDs

-2 to +6 dB
100%-92%

-20 to -3 dB
91%-74%

-38 to -21 dB
73%-56%

-56 to -39 dB
55%-38%

-95 to -57 dB
37%-0%

Mute
Multi-function Knob

- Power ON/OFF
  long press 3s
- Analogue volume control
  turn
- Mute/Unmute
  a short press
- Menu settings
  long press item 9 Settings button (1s).
  Control menu refer to item 9
Purewave Balanced Circuit Design

PureWave is the name we have given to the advanced, symmetrical dual-mono circuit topologies found in our latest premium-level devices, such as the NEO and Diablo DAC/amps.

The name refers to the sonic purity these designs achieve, thanks to exceptional linearity and infinitesimally low levels of noise and distortion.

The xDSD Gryphon is the smallest and most affordable device to feature PureWave design.
‘Negative feedback’ is used in amplifier circuits to compare the output signal with the input signal and correct errors, in order to control gain and reduce distortion.

For sound quality, this is positive but a one-size-fits-all approach to ‘global negative feedback’ can highlight different problems whilst solving others – corruption of the error signal, phase shifts, group delay. These have a negative impact on sound quality.

Different parts of a circuit benefit from specifically optimised feedback loops, so we have developed a negative feedback system that is much more accurate than the usual approach.

This incorporates multiple feedback paths instead of one global loop, each path optimised for a particular function and working synergistically with the others to deliver optimal overall performance. We call this new configuration OptimaLoop.
Unique Sonic Tailoring

Tailor sound to suit your headphones and personal sonic taste.

Analogue bass boost.
Enhances low frequencies without muddying the mid-range.
It 'adds back' lost bass response for more accurate reproduction of the original music.

Analogue headphone spatialiser.
Opens up your music to give you the spaciousness of a live concert.
It recreates a holographic sound field. The purely analogue signal processing circuit is designed for listening to headphones as if you were listening to speakers.
Digital Filtering

The xDSD Gryphon features three digital filters:

- **BP** – Bit Perfect, no digital filtering
- **GTO** – Upsampled to 384/352kHz, minimum filtering, no pre-ringing and minimum post ringing
- **STD** – Modest filtering, modest pre and posting ringing
The xDSD Gryphon also has a built-in iEMatch.

With the iEMatch, even the most sensitive In-Ear-Monitors (IEMs) can be matched to the xDSD Gryphon.
Connection Guide

Output 3.5mm
S-Balanced

Output 4.4mm
Balanced

Selector
Input/Bluetooth Pairing

USB-C Charging
DC 5V Input

USB-C Input
PC, Phone, HDD

S/PDIF Input
Digital

4.4 Input
Balanced

3.5 Input
Single-Ended
Murata Low-ESR high Q multilayer capacitor

Precision digital interface analogue volume control

High-density Lithium-polymer Battery

Precision low-noise power supply

OLED Display

Tantalum Polymer Capacitor: Ultra-low noise/distortion

4.4mm Balanced circuit

3.5mm S-Balanced output stage

Balanced Performance
## Specifications

<table>
<thead>
<tr>
<th>Inputs</th>
<th>USB -C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bluetooth 5.1</td>
<td>(aptX, aptX HD, aptX Adaptive, aptX LL, LDAC, HWA, AAC and SBC Codec)</td>
</tr>
<tr>
<td>S-PDIF Coaxial</td>
<td></td>
</tr>
<tr>
<td>Balanced 4.4mm</td>
<td></td>
</tr>
<tr>
<td>Single-Ended 3.5mm</td>
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<table>
<thead>
<tr>
<th>Formats</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>DSD</td>
<td>DSD512/256/128/64, Octa/Quad/Double/Single-Speed</td>
</tr>
<tr>
<td>PCM</td>
<td>768/705.6/384/352.8/192/176.4/96/88.2/48/44.1kHz</td>
</tr>
<tr>
<td>DXD</td>
<td>768/705.6/384/352.8kHz, Double/Single-Speed DXD</td>
</tr>
<tr>
<td>MQA</td>
<td>384/352.8kHz</td>
</tr>
<tr>
<td>Bluetooth</td>
<td>Up to 96kHz</td>
</tr>
</tbody>
</table>

| DAC                      | Bit-Perfect DSD & DXD DAC by Burr Brown      |

<table>
<thead>
<tr>
<th>Battery</th>
<th>USB -C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charging via USB-C, BC V1.2 compliant up to 1900mA charging current</td>
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<table>
<thead>
<tr>
<th>System</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>123 x 75 x19 mm</td>
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<tr>
<td></td>
<td>4.8&quot; x 3.0&quot; x 0.7&quot;</td>
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<table>
<thead>
<tr>
<th>Weight</th>
<th>215 g</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>0.5 lbs</td>
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# Specifications

<table>
<thead>
<tr>
<th>Line Section</th>
<th>Outputs</th>
<th>Balanced</th>
<th>6.7V max. (variable)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UnBAL</td>
<td>3.5V max. (variable)</td>
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<tr>
<td>Output Impedance</td>
<td>Balanced</td>
<td>≤200Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UnBAL</td>
<td>≤100Ω</td>
<td></td>
</tr>
<tr>
<td>SNR</td>
<td>Balanced</td>
<td>&lt;110dB(A) @ 0dBFS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UnBAL</td>
<td>&lt;110dB(A) @ 0dBFS</td>
<td></td>
</tr>
<tr>
<td>THD+N</td>
<td>Balanced</td>
<td>&lt;0.007% @ 0dBFS</td>
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</tr>
<tr>
<td></td>
<td>UnBAL</td>
<td>&lt;0.015% @ 0dBFS</td>
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</table>

<table>
<thead>
<tr>
<th>Headphone Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outputs</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Output Power</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Output Impedance</td>
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