

ifi



XDS5
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



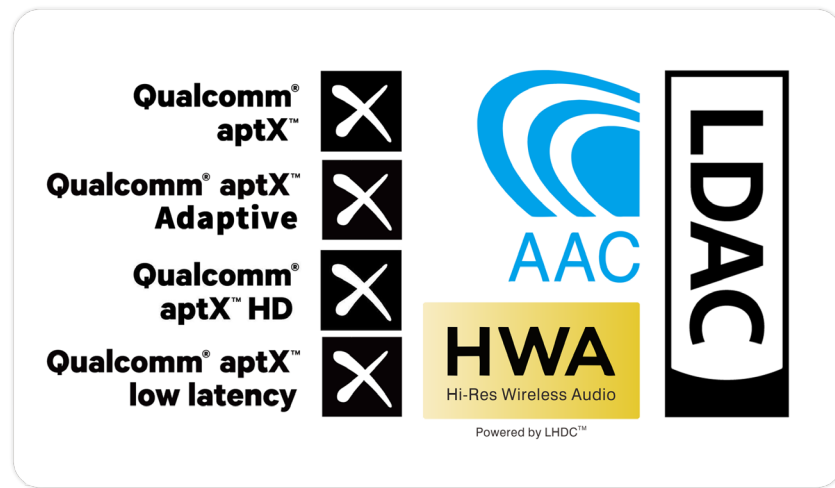
Ultra-Res DAC/Amp

- 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)



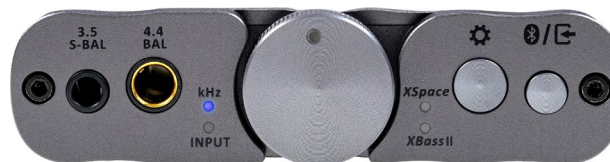
PCM 48/44.1kHz



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%



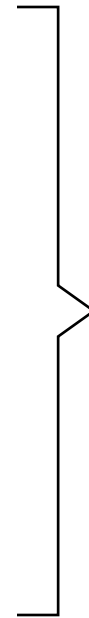
-95 to -57 dB
37%-0%



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

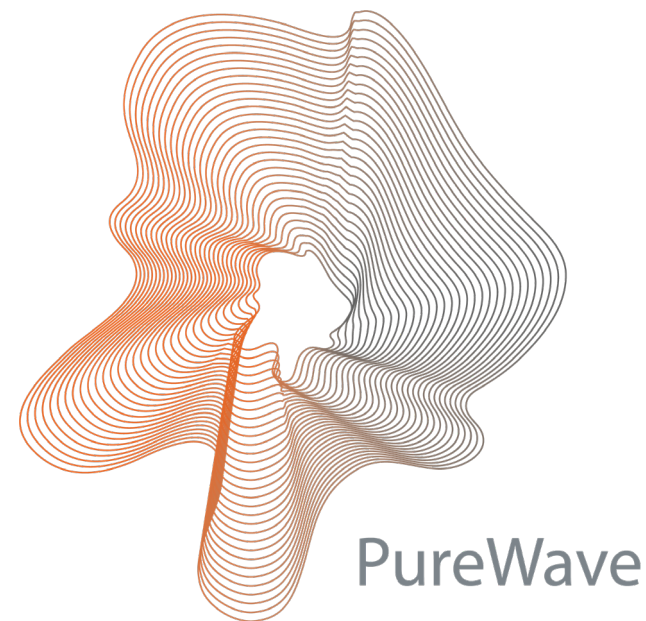


Purewave Balanced Circuit Design

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.



PureWave

OptimaLoop

'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.

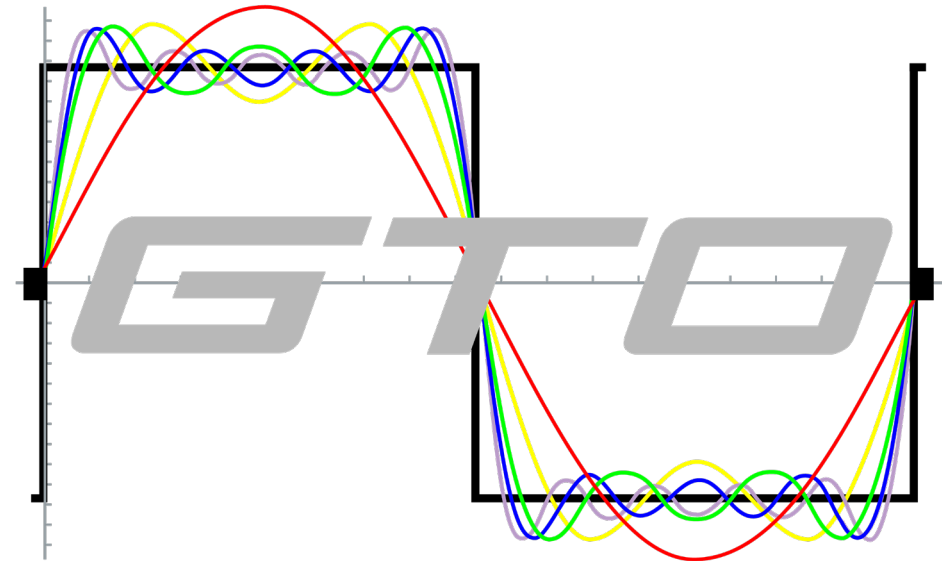
Opens up your music to give you the spaciousness of a live concert.

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



Built in iEMatch

- 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



S/PDIF Input
Digital



4.4 Input
Balanced



3.5 Input
Single-Ended

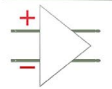
muRata

INNOVATOR IN ELECTRONICS

Murata Low-ESR high Q multilayer capacitor

Perfecting the Art of Electronics
ALPS

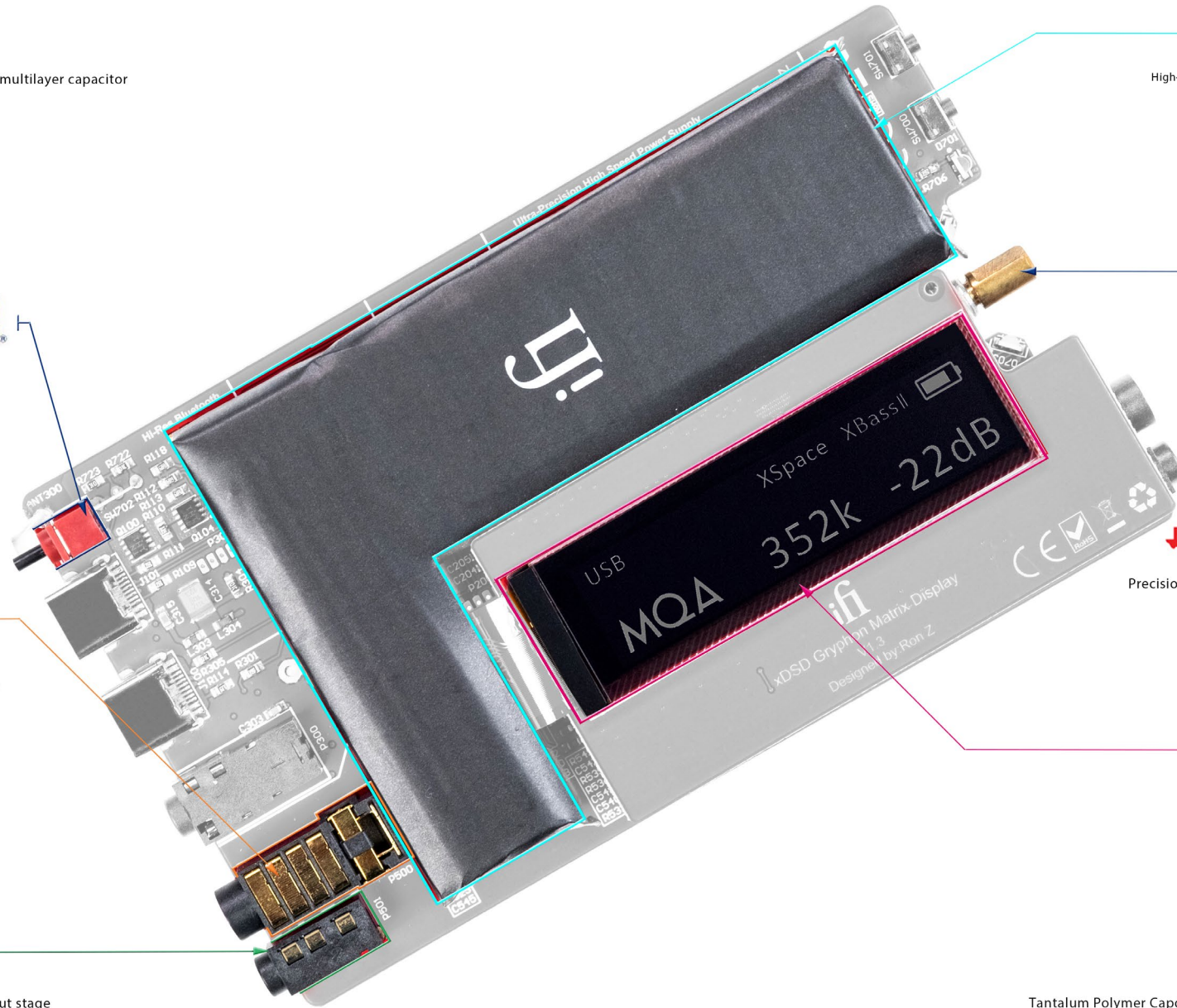
Balanced



4.4mm Balanced circuit

Balanced
Performance

3.5mm S-Balanced output stage



High-density Lithium-polymer Battery



Precision digital interface
analogue volume control

**TEXAS
INSTRUMENTS**

Precision low-noise power supply



OLED Display

KEMET
CHARGED!

Tantalum Polymer Capor Itra-low noise/distortion

Panasonic ECPU

Panasonic film capacitors



Stepped attenuator IC: W990VST



COG capacitors

For audio use with extremely low distortion



ifi operational amplifier,
high-performance,
low-noise OV2637 and 4627



Fully MQA Decoding
XMOS 16-Core controller with
ifi optimised firmware



Qualcomm 5100 series Bluetooth chip
Bluetooth5.0®(aptX, aptX HD, aptX Adaptive, aptX LL,
LDAC, HWA/LHDC, AAC and SBC)



Murata Low-ESR high Q multilayer capacitor



Headphone Buffer



Burr-Brown Products
from Texas Instruments
Burr-Brown Native DSD DAC



Ultra-low noise bi-polar
input transistors



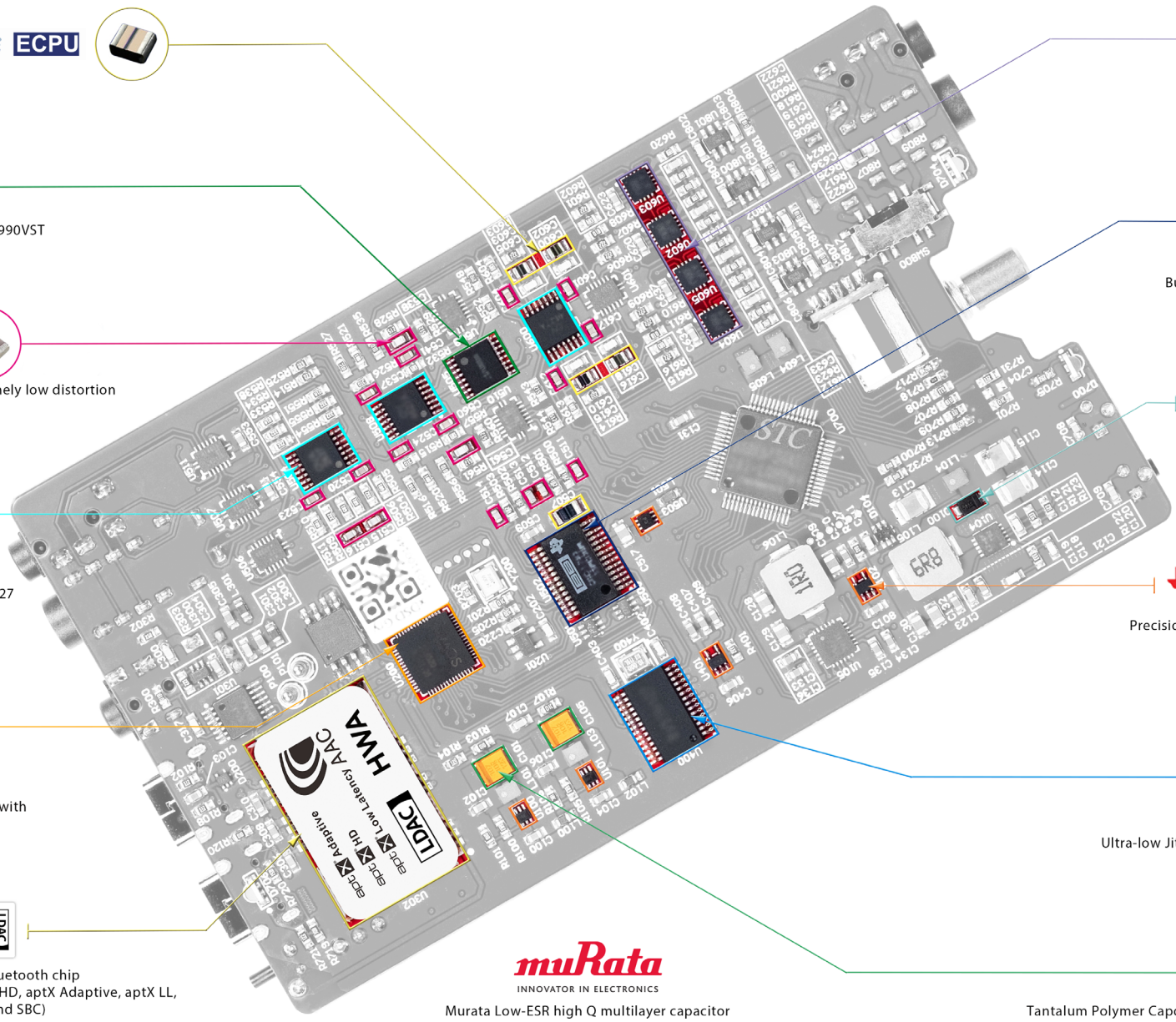
Precision low-noise power supply



Ultra-low Jitter Audio Stage Oscillator



Tantalum Polymer Capor Itra-low noise/distortion



Specifications

Inputs	USB -C	
	Bluetooth 5.1 (aptX, aptX HD, aptX Adaptive, aptX LL, LDAC, HWA, AAC and SBC Codec)	
	S-PDIF Coaxial	
	Balanced 4.4mm	
	Single-Ended 3.5mm	
Formats	DSD	DSD512/256/128/64, Octa/Quad/Double/Single-Speed
	PCM	768/705.6/384/352.8/192/176.4/ 96/88.2/48/44.1kHz
	DXD	768/705.6/384/352.8kHz, Double/Single-Speed DXD
	MQA	384/352.8kHz
	Bluetooth	Up to 96kHz
DAC	Bit-Perfect DSD & DXD DAC by Burr Brown	

Battery	USB -C
Power System	Charging via USB-C, BC V1.2 compliant up to 1900mA charging current
Dimensions	123 x 75 x19 mm
	4.8" x 3.0" x 0.7"
Weight	215 g
	0.5 lbs

Specifications

Line Section		
Outputs	Balanced	6.7V max. (variable)
	UnBAL	3.5V max. (variable)
Output Impedance	Balanced	$\leq 200\Omega$
	UnBAL	$\leq 100\Omega$
SNR	Balanced	$< 110\text{dB(A)} @ 0\text{dBFS}$
	UnBAL	$< 110\text{dB(A)} @ 0\text{dBFS}$
THD+N	Balanced	$< 0.007\% @ 0\text{dBFS}$
	UnBAL	$< 0.015\% @ 0\text{dBFS}$

Headphone Section		
Outputs	Balanced	6.7V max. @ 600Ω
	UnBAL	3.5V max. @ 600Ω
Output Power	Balanced	$> 1000\text{mW} @ 32\Omega;$ $> 74\text{mW} @ 600\Omega$
	UnBAL	$> 320\text{mW} @ 32\Omega;$ $> 40\text{mW} @ 300\Omega$
Output Impedance	Balanced	$< 1\Omega$
	UnBAL	$< 1\Omega$
SNR	Balanced	$< 116\text{dB(A)} @ 0\text{dBFS}$
	UnBAL	$< 115\text{dB(A)} @ 0\text{dBFS}$
THD+N	$< 0.005\% (1\text{V} @ 16\Omega)$	

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audio