DAC

Digital Input	USB x1, Asynchronous 1.0/2.0; SPDIF x 1; TosLink x 1; AES x 1
Sampling Rate	Optical / RCA / XLR: up to 192K PCM 24 bits & DSD64 (DoP) USB 1.0 – up to 96K PCM 24 bits USB 2.0 – up to 384K PCM 24 bits & DSD64/DSD128 (DoP)
Digital-to-Analog Converter	24-bit DAC x 1 (up to 192Ksps, 24-bit)

Volume

Steps	192 steps by 0.5dB/step
Total Range	96dB
Accuracy	Within ± 0.1dB

Headphone

Supports 2 unbalanced headphones or 1 balanced headphone

Frequency Response	+ 0dB, - 0.5dB (20Hz ~ 20KHz)
THD+N	< 0.001% (- 100dB) (192Ksps, 24-bit, 20Hz ~ 20KHz, A-weighted, 16 ohm load, 2Vrms)
Signal-to-Noise Ratio	> 110dB (192Ksps, 24-bit, 20Hz ~ 20KHz, A-weighted, 16 ohm load, 2Vrms)
Headphone Impedance	16 ohm and up
Full Scale Output	Unbalanced : 6 Vrms; Balanced : 12 Vrms

Line out

Frequency Reponse	+ 0dB, - 0.5dB (20Hz ~ 20KHz)
THD+N	< 0.001% (- 100dB) (192Ksps, 24-bit, 20Hz ~ 20KHz, A-weighted)
Signal-to-Noise Ratio	(192Ksps, 24-bit, 20Hz ~ 20KHz, A-weighted)
Full Scale Output	2Vrms

General

Disply	128 x 64 pixels white OLED
Weight	3.5 Kg
Dimension	260 mm (W) x 250 mm (D) x 60 mm (H) (boot is not included)
Power	100 ~ 240VAC Normal Operation < 20W Standby 0.5W (typical)

COS

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COS

H1

DAC + Headphone Amplifier

H1 is an audiophile-grade DAC + headphone amplifier, featuring COS Engineer's proprietary digital-to-analogue algorithm. For those who seek acoustic joy through headphones, H1 is a 'must have' because of the details and the smooth yet dynamically powerful sound it provides.

COS Algorithm and DSP

COS Engineering's proprietary algorithm up-samples original data to 176.4K or 192K, 24-bit by a process in an array of 4096 with 32-bit precision. To rule out phase contamination that may stem from the more computationally efficient IIR filter, a linear-phase delay FIR filter is chosen. This massive computation is handled by a powerful DSP capable of 3648 MMAC (millions multiply Accumulate Operations) per second.

Buffer and Re-Clocking

H1 receives data from digital sources, whether a PC, a CD transport, or a mobile device, aligns them in exact frames with a one-second buffer, and sends them out for interpretation by the COS algorithm. The data so processed is then converted to analog signals, under the coordination of a crystal oscillator with a jitter precision less than 1ps and a dedicated re-clocking circuitry.

Power

H1 harnesses a selected switching mode power supply with specially designed circuitry for lower noise. Further added is the galvanic isolation between digital and analog circuitries, to prevent audio signals from being contaminated.

Volume Control

H1's volume control is composed of a ladder of high precision resistors and an array of analog switches which are low in resistance, noise, and distortion; no mechanical parts are used. Frequent use does not erode its precision.