

Chord Electronics Hugo 2

When Chord Electronics released the first-generation Hugo headphone amp/DAC in 2014 it started a revolution in more ways than one. First, the Hugo proved that a headphone amp the size of a paperback novel could not only compete with but also potentially surpass the performance of full-sized desktop or rack-mount components. Second, the Hugo introduced many audiophiles to a whole new way of thinking about DACs and the digital filters used in them. Even though the Hugo was relatively expensive it became a huge commercial success. Now, Chord is back with a better and even more capable new Hugo 2.

What's different and better about the Hugo 2 vis-à-vis the original Hugo? Just about everything.

On the amplifier side of the equation, Chord sought to give the Hugo 2 more power, lower distortion, and a reduced noise floor. Accordingly, the Hugo 2 puts out 1050mW at 8 ohms (up from 720mW at 8 ohms in the original Hugo), distortion rated at 0.0001% at 1kHz/3V (down from 0.0005% in the Hugo), and a 126dB signal-to-noise ratio with "no measurable noise floor modulation" (an improvement on the 120dB dynamic range of the Hugo). Chord says the Hugo 2 amplifier features a full Class A "discrete OP stage integrated into the DAC output amplifier and filter" that is "capable of 5V RMS and peak output currents of 0.5A." The Hugo 2 analog amplifier section also features second-order noise-shapers said to "reduce distortion with load(s)."

In turn, Chord has dramatically increased the capabilities and all-around sophistication of the Hugo 2 DAC section relative to the original Hugo. The first-gen Hugo's DAC was a four-element pulse-array design with a digital filter offering about 26,000 filter taps; in comparison, the Hugo 2 DAC is a ten-element pulse-array design whose digital filter offers a stonking 49,152 filter taps. Chord claims that "pulse-array DACs have innately very low levels of noise floor modulation."

Apart from eliminating noise wherever possible, the real secret to the Hugo 2's sound lies in its very sophisticated WTA (Watts transient alignment) filter system. In the Hugo 2, the filter system is implemented via a powerful, custom-coded Xilinx Artix 7 FPGA (field programmable gate array) device, which uses the equivalent of "45 208Mhz DSP cores in parallel to create the WTA filters." The Hugo 2 offers four user-selectable, color-coded filter options: an incisive neutral "ultimate reference" filter (white), an incisive neutral filter with HF roll-off (green), a warm filter (orange), and a warm filter with HF roll-off (red). Thus, users can fine-tune filter settings on the fly to obtain to the best sound quality possible with the recordings at hand. Finally, the Hugo 2 provides an adjustable/defeatable crossfeed circuit designed to make headphone/earphone soundstaging sound more like the presentation heard from high-quality speaker-based systems.

When used as a stand-alone DAC, the Hugo 2's defining sonic characteristics involved neutral but also naturally warm and organic-sounding voicing, exceptional resolution of low-level transient and textural detail in the music, truly striking three-dimensionality, and extremely quiet backgrounds.

When I used the Hugo 2 in my speaker-centric hi-fi system, I found its sound different from but also very much competitive with that of my PS Audio DirectStream DAC, which is saying a mouthful (the \$6000 DirectStream DAC itself has a reputation for terrific performance for the



money). The DirectStream DAC enjoyed an edge in terms of definition, focus, and incisiveness. In contrast, the Hugo 2 offered a more holistic and organic-sounding presentation, equal if not slightly superior amounts of low-level detail, and a noticeable edge in three-dimensionality.

When used as a transportable headphone amp/DAC, the Hugo 2's sonic character is much the same as when it is used as a stand-alone DAC, but with the added benefit that top-shelf headphones make the Chord's low-level details and three-dimensionality even more apparent.

I found the Hugo 2 more than quiet enough to use with high-sensitivity earphones, yet powerful enough to drive all but the most demanding full-sized headphones.

If I sound deeply impressed by the Chord Hugo 2, that's because I am. At this time I can't think of any other transportable headphone amp/DAC that can compete with the Hugo 2. Granted, the Hugo 2 is not inexpensive, but it performs at such a high level as a headphone amplifier and especially as a DAC that it deserves your careful consideration and our strongest recommendation. **Chris Martens**

SPECS & PRICING

Type: High-resolution portable headphone amplifier/DAC

Digital inputs: MicroUSB (PCM up to 32/768, native DSD from DSD64 to DSD512), coaxial SPDIF via 3.5mm combo jack (32/768), optical via 3.5mm combo jack (24/192), TosLink (24/192), Bluetooth (Apt X implementation, 16/44.1/48)

Analog outputs: One 3.5mm headphone jack, one 6.35mm headphone jack, one stereo analog output via RCA jacks

Power output @ 1kHz, 1%THD: 300 ohms, 94mW; 32 ohms, 740mW; 8 ohms, 1050mW

Output impedance: 0.025 ohms

Dimensions: 100mm × 21mm × 131mm

Weight: 450g

Price: \$2379/£1800