

EQUIPMENT REVIEW

Chord Electronics Hugo TT tabletop DAC/headphone amplifier

by Chris Martens



When the Chord Electronics Hugo portable DAC/headphone amplifier arrived on the scene back in 2014, it took the high-end headphone world by storm. The paperback book-sized Hugo was brilliantly conceived, beautifully executed, and bristled with technical advancements and evidence of outside-the-box thinking. Indeed, the portable Hugo provided a DAC section so good that it could and routinely did exceed the performance of standalone high-end DACs that cost as much if not more than the Hugo itself.

However, not long after the launch of the original Hugo, Chord Electronics began work on an even more ambitious headphone amp/preamp/DAC called the Hugo TT, where 'TT' stands for 'Table Top'—the environment for which the Hugo TT was explicitly created. What's more, the Hugo TT offers expanded functionality that enables the product to step beyond the headphone amp/DAC category to serve as a full-featured digital preamplifier suitable for use in full-size hi-fi systems.

What exactly are the differences between the original Hugo and the Hugo TT? One of the most important differences is that the Hugo TT provides a rechargeable battery that offers fully twice the capacity of the original Hugo's battery. Then, beefing up the power supply further still, Chord equips the Hugo TT with a 10,000µF bank of super capacitors, which are said to, "smooth out the instantaneous power demands", made upon the unit. By design, the Hugo TT is set up so that it can be, 'permanently connected to the (included) AC power adapter', meaning that the adapter can top off the battery's charge level as needed. In day-to-day operation, however, the Hugo TT always runs directly from its battery/super capacitor-equipped power supply—not from the AC mains.

Hugo TT also offers a somewhat different and arguably more versatile mix of digital inputs than the original Hugo. Specifically, the TT provides dual asynchronous, galvanically-isolated USB B-type jacks, one serving as a driverless 16/48-capable Standard Definition input, the other serving as a High Definition input supporting 32/384 PCM playback and ▶



“There are tremendous sonic benefits to be had when designers are able to use very large tap-length digital filters.”

- ▶ DSD 64/128. The High Definition USB input does not require additional drivers for use in Apple or Android systems, but does require installation of a Chord-supplied driver for use in Windows systems (the requisite driver is supplied on a USB-type memory stick).

Other digital connections include an optical TosLink input (24/192-capable) and a BNC coaxial digital input (32/384-capable). Finally, Hugo TT incorporates an A2DP/aptX Bluetooth input (16/44/48-capable) that offers up to 30m of range.

On the analogue side, Hugo TT again offers expanded connectivity options vis-à-vis the original Hugo. Accordingly, the TT provides two faceplate-mounted 6.35mm headphone jacks and a 3.5mm headphone mini-jack, and offers—on the rear panel—a set of fully balanced stereo analogue outputs via XLR connectors, plus a stereo pair of single-ended analogue outputs via RCA jacks. The Hugo TT can be configured to provide either fixed line-level or variable-level analogue outputs, depending on whether the unit is used as a standalone DAC or as a digital preamplifier.

In terms of appearance and ergonomics the TT is considerably different to the original Hugo. For starters it is, as you might expect, considerably larger so that it looks like an almost square-shaped (225mm x 235mm) aluminium slab that is 45mm thick. The faceplate sports an on/off switch, two 6.35mm headphone jacks and a 3.5mm headphone mini-jack, two small domed control buttons (one for input selection and the other for controlling the Hugo TT's crossfeed modes), plus a scalloped cutaway in which a small alphanumeric display is fitted. When control buttons are activated the context-sensitive display will briefly show the inputs selected, volume adjustments just made, or changes in crossfeed settings.

The chassis of the unit is die cast, embossed with the Hugo TT's logo, and treated to a satin silver or black finish. In keeping with longstanding Chord design motifs, the top panel of the unit provides a porthole-like viewing window beneath which are shown a variety of multi-coloured lights that indicate the unit's battery's charge status, the input currently selected, and the crossfeed setting. But perhaps the most fascinating element of all is a colour-coded backlight for the porthole, to indicate the resolution level and type of digital audio file currently in play (whether PCM or DSD).

Just to the rear of the top-mounted porthole window is a scalloped cutaway in which is found a touch-sensitive, backlit, translucent dome that serves as the Hugo TT's volume control. If you rub the dome from left-to-right with your fingertip the volume output levels will increase, and vice versa. Volume level changes are denoted by colour changes in the backlit volume control, with red and yellow indicating lower volume settings, green to cyan indicating mid-level settings, and blue to white indicating the highest volume settings. Unlike the original Hugo, however, the TT also comes with a beautifully machined aluminium remote control module that is ideal for applications where the TT must be placed beyond reach of the user.

The TT uses the same terrific Rob Watts-designed DAC section as found in the original Hugo, where Watts uses a computationally high-powered (but low power consumption) Xilinx Spartan 6 FPGA device to implement a sophisticated digital filtering system that leverages no less than 26,000 filter taps. There are tremendous sonic performance benefits to be had when designers are able to use very large tap-length digital filters—an area where both the Hugo and Hugo TT excel vis-à-vis their competition. As a result, both the Hugo and the Hugo TT deliver a smoother, more three dimensional and more finely focused sound than other DACs in their respective classes.

When I first read about the Hugo TT at the time of its launch, I pictured it in my mind's eye as a relatively lightly hot-rodded Hugo, but once I heard the TT in action for the first time I realised it had taken much bigger sonic steps forward than I had at first imagined. While there is an undeniable sonic 'family resemblance' between the Hugo and the Hugo TT, the table top unit in many respects sounds like an altogether different and better model, which is saying a mouthful if you know how superb the original Hugo truly is. But with that said, let's explore the audible ways in which the Hugo TT distinguishes itself from its critically acclaimed little brother.

I found that the Hugo TT simply seemed quieter than the Hugo—an improvement that meant a significant amount of previously unrevealed low-level textural and transient information in recordings suddenly became easy to hear and appreciate. A great example would be the track 'Mermaids' from jazz vocalist Norma Winstone's *Distances* [ECM, CD] where the track opens with the eerie, percussive sounds of the strings of a prepared piano being struck, creating a mysterious, ▶



▶ angular, and strangely beautiful introduction for the song that follows. Through the TT, that prepared piano sounded so vivid, solid, and three-dimensional that I almost felt as if I could extend my hand to reach out and touch the instrument.

The Hugo TT proved to be so quiet that it neither provides nor requires adjustable gain switches when it is used, for example, with ultra high-sensitivity custom-fit in-ear monitors. When used with power-hungry headphones you simply turn up the volume, while with high-sensitivity models you throttle the volume settings back, but either way the Hugo TT's noise floor consistently appears to fall well below even the lowest levels of musical information contained in the tracks being played. I could, for example, effortlessly hear the almost vanishingly low-level swish and patter of percussionist Gene Jackson's brushes as they skimmed over the surface of his snare drum's head, gently establishing the pulse for the song 'Walter Pigeon' as captured on Eddie Gomez and John Abercrombie's *Structures* [Chesky, 24/96]. My point is that with the Hugo TT small bits and pieces of vital low-level information simply appear out of nowhere, set forth against dead quiet backgrounds.

I found the Hugo TT noticeably punchier and more dynamically authoritative than the Hugo, while rendering vigorous transient events with even greater 'snap' and impact. What's odd about this is that on paper the Hugo TT is no more powerful than the Hugo, though in practice it gives the impression that it is; the TT, for example, offers that elusive quality of sonic 'grunt' in spades. Just for the fun of it, I fired up the track 'Dogman' from the King's X album of the same name [Atlantic, CD] and gave the Hugo TT its head as it drove a pair of ENIGMAcoustics Dharma D1000 hybrid dynamic headphones. The result was a gloriously muscular, hard-driving sound that perfectly captured the boisterous exuberance of which this power rock trio is capable—especially so when it came time to reproduce the thunderously powerful low-frequency rumble of Dug Pinnick's 12-string electric bass. I suspect the Hugo TT's perceived punch, clout, and dynamic muscle are down to its beefier battery and bank of super capacitors serving up gobs of current on demand.

The Hugo TT offers everything we loved about the original Hugo and then some, serving up a sound that is even more finely resolved, more delicate, more three-dimensional, and, yes, seemingly more potent in its presentation. Owners should, however, plan on using USB cables (and other digital cables) of the highest quality in order to hear the Hugo TT at its finest. And exactly how fine is that? Let me simply say the Hugo TT is one of the two or three best headphone amp/DACs I've ever heard, regardless of price. +

TECHNICAL SPECIFICATIONS

Type: High-resolution tabletop headphone amplifier/digital preamplifier/DAC

Digital inputs: One TosLink optical input (24/192-capable), one BNC coaxial input (24/384-capable), one USB B-type input (16/44/48-capable), one High Definition (HD) USB B-type input (32/384 and DSD128-capable, for computer playback with support from the included Chord device driver), and an aptX/A2DP Bluetooth interface (natively handles files to 16/48) offering at least 5m operating range

Analogue outputs: Two 6.35mm headphone jacks, one 3.5mm headphone jack, fully balanced stereo XLR, single-ended stereo analogue RCA jacks

Digital Filters: 26K tap-length digital filters

Controls: Input selection button, crossfeed filter network (three user-selectable levels of crossfeed, or crossfeed defeat), power on/off, advanced digital volume control, with special control sequence that locks Hugo to stand line-level outputs for use as a standalone DAC). Note: Input, sample rate, crossfeed filter settings, volume levels are indicated by colour-change LEDs. A machined aluminium remote control is also supplied

Battery/Super Capacitor array: The Hugo TT batter has twice the capacity of the original Hugo battery, supplemented by a 10,000 super capacitor array. By design, the Hugo TT can remain connected to its AC-powered battery charger at all times, although all audio circuitry runs solely from the battery/super capacitor array

Headphone output: 110dB SPL into a 300-Ohm headphone load

Distortion: THD -140dB

Accessories: USB thumb drive with PC/Windows device driver software, wall-plug power supply/battery charger, a USB B-type digital cable, and a TosLink cable

Dimensions (HxWxD): 45 × 235 × 225mm

Weight: 3kg

Price: £2,995

Manufacturer: Chord Electronics Ltd.

Tel.: +44 (0) 1622 721444

URL: www.chordelectronics.co.uk