



T for TTtwo

The table-top Hugo TT now has a matching TToby stereo power amp. **David Vivian** supplies the source, speakers and verdict

Hugo, Chord Electronics' portable headphone amp/DAC, over achieved to such an extent in the DAC department that people that didn't even own headphones bought it for its decoding talents, some even utilising its fine digital volume/preamp functionality to drive a comparatively massive power amp in their home hi-fi systems. This turn of events suggested a number of possibilities to Chord. It had become apparent that a fair slice of Hugo customers had no intention of popping their purchase in a pocket, a destination for which it was a little bulky anyway. Yet, plumbed into a

system with expensive interconnects worthy of its abilities, it tended to hover a few centimetres off the deck, suspended by the stiff cables. There were two very obvious ways for Chord to go. One, make a truly pocketable Hugo sibling aimed more personally at headphone users and call it Mojo – see page 31. And two, make a bigger, weightier table-top version of the Hugo with expanded connectivity and battery life and even better sound quality and call it the Hugo TT. This, in turn, has influenced the design of Hugo 2 (a sort of scaled-down TT, acknowledging the advent of the Mojo for proper portable

DETAILS
PRODUCT Chord Electronics Hugo TT
ORIGIN UK
TYPE DAC/headphone amp/preamp
WEIGHT 3kg
DIMENSIONS (WxHxD) 235 x 55 x 225mm
FEATURES
• 32-bit/384kHz PCM and DSD256-capable DAC
• Inputs: optical; coaxial; 2x USB Type-B; aptX Bluetooth
• Outputs: 6.35mm and 2x 3.5mm headphone jacks; RCA; balanced XLR
DISTRIBUTOR Chord Electronics Ltd
TELEPHONE 01622 721444
WEBSITE chordelectronics.co.uk

duties). Proper table-top duties, however, are re-joined with the launch of the TToby, a stereo power amp with a claimed 100W per channel and the same form factor as the Hugo TT. We're talking concentrated clout, here – or the art of 'compact living' in Chord's terms. Although the crisply cut, almost uniformly square design of the Hugo TT and TToby are plainer than some of Chord's more elaborate offerings, it's the original thinking and solidity of build that makes the biggest first impression. This is a design language that simply doesn't contain the words 'flimsy' or 'fragile', and there's little in the world of hi-fi, at any price, that looks or feels quite as 'hewn-from-billet' as the Hugo TT and TToby. Socketry includes two asynchronous USB-B inputs, one that supports 32-bit/384kHz PCM data streams as well as DSD in 64, 128 and 256 forms, the other (marked 'SD') limited to 16-bit/48kHz, mostly intended as a plugin for phones and tablets without needing dedicated driver software. There are two non-USB digital inputs. The coaxial has a push 'n' twist BNC

connector and will accept signals up to 32-bit/384kHz while the optical link is good for 24-bit/192kHz. Chord was a pioneer of aptX Bluetooth implementation so its inclusion here should surprise no one. A custom-made module with the aptX codec feeds a digital signal directly into the DAC circuitry. To connect the Hugo TT to a preamp at line level or a power amp making use of its digital volume control, you can use either single-ended or balanced XLR cables. And, of course, the same is true hooking it up with the TToby, though you'll be relying on the Hugo TT's volume control to set the level. Just remember that if you want to use a turntable or other analogue source, you'll need the extra inputs a conventional separate preamp provides. Headphone users are well catered for with three headphone outputs on the front panel – two 6.35mm and a single 3.5mm – and a three-stage crossfeed function to give headphone users a more spatial 'out of head' experience. The Hugo TT's user interface is uniquely Chord, which inevitably

DETAILS
PRODUCT Chord Electronics TToby
ORIGIN UK
TYPE Stereo power amplifier
WEIGHT 3.7kg
DIMENSIONS (WxHxD) 235 x 55 x 225mm
FEATURES
• Quoted power output: 2x 100W RMS (4ohm)
• Class A/B design
• Balanced XLR and single-ended RCA inputs
DISTRIBUTOR Chord Electronics Ltd
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involves glass viewing portals, miniature steel ball bearing switches and an internally illuminated, top-mounted, rotating volume orb that does the entire spectrum from red to violet. Quirkily, red is the cool end of the volume setting, green is comfortable listening and blue-towards-violet really heats things up. Given the price difference between Hugo and Hugo TT, customers can rightly anticipate a step up in sound quality as well as size, facilities and the provision of a matching power amp. Under the lid, the TT has the same Rob Watts-designed DAC with a Spartan 6 FPGA (Field Programmable Gate Array) at its heart and a competition-thrashing 26,000 filter taps contributing to the Hugo's famously huge dynamic range. The

such, it features high-frequency power supplies and manages without heatsinks thanks to cooling air provided by a sonically closed anechoic miniature multi-speed quadruple-fan plenum chamber. Power is quoted at 100W per channel into a 4ohm load, but this drops to 50W at the more usually cited 8ohm.

Sound quality
Who doesn't love a great double act? Laurel and Hardy, Abbott and Costello, Morecambe and Wise, Ant and... sorry, Hugo and TToby. It would have been good to have Chord's Blu mk2 up-scaling CD transport to complete the dream team, but my regular Cyrus CD Xt Signature (HFC 386) is an able substitute that has been a reliably excellent partner for the original Hugo over the months. The combo is tried with a variety of speakers as well, ranging from the diminutive Totem Mite (HFC 422) to the towering ATC SCM40 (HFC 389).

The sonic upshot of the duo is even more impressive than the sum of its parts

big difference is in the power supply – a battery with twice the capacity and 14-hour play time (though the Hugo TT has been designed to run continuously from the supplied charger) and Supercap energy storage, a technology that might be more familiar to F1 fans where supercapacitors back up the cars' batteries by sharing the load and charge demands. For the Hugo TT the claims are extended battery life and improved dynamics, especially on demanding transients. The TToby should help make the point. Small it may be, but it's a proper Chord powerhouse taking full advantage of the company's proprietary technologies and design knowhow. As

But I start with Quad's Z-1 standmount (reviewed on p16) and will admit to being knocked back by a sound dense with energy and brio, Hugo TT and TToby coalescing into a fabulously resolute, potent and rhythmically solid driving force that makes the superbly transparent but tonally slightly lush Z-1 really get a grip and come alive. I'm not usually a big fan of Jamiroquai's formulaic funk and Jay-K's latest album, *Automaton*, is hardly an exception. But the bass and drum-heavy production is outrageously punchy and dynamic and lots of hi-fi fun. It's cat nip to the Chords, the combo getting hold of the visceral, depth charge synth bass on the title track with stunning precision and authority and turning the super-refined and sophisticated Z-1 into a super-refined and sophisticated ▶



Q&A

Matt Bartlett

Director, Chord Electronics Ltd



DV: What trickled-down tech from Chord's bigger amps makes the TToby such a muscular little box?

MB: Essentially we have taken everything we know from our larger power amplifiers and compressed it into a smaller box. So we still use switched mode power supplies, but in TToby rather than one large power supply we use two smaller but still powerful 180W supplies. This helps us keep a high power density in a small space while still keeping everything cool. The TToby audio electronics are fundamentally the same as its bigger brother's so we still use our Class AB analogue amplifier design. The output power comes from similarly designed dual die enhancement mode output MOSFETs and we use four of these per channel. The dual die transistors give larger power density while keeping the devices thermally matched. Other than that we have the same low noise, low distortion drive circuitry to maintain good signal-to-noise ratio even at lower power. Finally TToby retains the short circuit and over current protection, so even if you accidentally join the speaker cables together or try to drive TToby too hard it will automatically shut down.

The THugo can be placed on top of the TToby. Do they get a bit hot?

We designed TToby to be stacked with Hugo TT on top. A large part of the design was managing the cooling and airflow through the electronics and out of the aluminium case to make it as efficient as possible. Unlike our larger amplifiers where we have the space to use a large heatsink with multiple fins to increase surface area and aid cooling, with TToby the space constraints meant we did not have this luxury. So we had to think very carefully and use a combination of the solid aluminium casework to act as the heatsink along with forced air cooling to draw air through channels inside the case and in and out through specially placed vents on the top, rear and sides. Using these methods means stacking the products is really no problem.



Who else but Chord Electronics could design a chassis like this?



There are other compact 'desktop' components that do more or less the same thing, but hardly any with the build, finish and sonic aspirations of the Chord duo. Though the Hugo TT and TToby represent exceptional value in absolute terms, you are looking at over £6k for the pair. For a more affordable alternative, NuForce has some attractive, even more space-efficient, solutions in the shape of the tiny uDAC5 USB headphone amp/DAC and STA200 power amp (HFC 415). The latter offers clean design and compact dimensions, a meaty 80W per channel and very decent sound. And the good news for those on a budget is a total price of £1,200.

disco monster that, eyes closed, you'd swear was a pair of driver-festooned, monoblock-driven, 2m towers. That's how good it sounds.

Sticking with pop but switching to the titchy Totem, production whizz Trevor Horn's master touch on ABC's classic *When Smokey Sings* is laid bare in sensational fashion, the rich but brilliantly balanced tonal textures and colours striking true. The mix of dry and reverberant, of crystalline highs, steely strings and fast, tautly damped bass and Martin Fry's perfectly weighted vocals are given space to breathe and develop within the expansive, meticulously layered soundstage. It's busy and challenging material to get right and delivered with exquisite clarity and finesse by the Cyrus/Chord combo. But the Mite possesses a similar will to keep everything in proportion so that Horn's slightly OTT signature is preserved 'just so' and doesn't spill into messy excess.

The big, heavy, sealed box ATC – a benign load but by no means a walk in the park to drive to decent levels – doesn't faze the TToby. In truth, it has seldom sounded more controlled or dynamic, which is saying something as it has been on the end of amps claiming far more power than the TToby's 50W a side. Slipping the original soundtrack CD of the

sci-fi movie *Arrival* into the Cyrus transport, I'm not quite sure what to expect, though I'm pretty sure it won't be the menacing, disturbing, moaning, infra-bass infused modal morass I heard in the cinema. It isn't. But it's freakishly close in terms of scale and power, the SCM40 perhaps digging deeper, with more control and definition, than I've ever heard it do so before. The darkness and melancholy are perfectly conveyed and, I'm pretty sure, with a degree of detail resolution no cinema audience will have heard.

Conclusion

As a long-term Hugo user, I've doubted things could get much better at anywhere near the price. The Hugo TT is a little more than twice as expensive and, of course, it isn't twice as good. But where it does exceed the original Hugo – in its dynamic acuity, bass power and an enhanced sense of muscularity – it synergises so well with the terrific TToby (no surprise) that the sonic upshot is even more impressive than the sum of its parts. Table top or not, the Hugo TT and TToby pairing make most price peers look pale and uninteresting. Starting a system from scratch, I couldn't think of a more effective way to allocate budget. Outstanding ●

Hi-Fi Choice

OUR VERDICT: HUGO TT

SOUND QUALITY



LIKE: Extra flexibility, connectivity and even better sound quality

VALUE FOR MONEY



DISLIKE: Small, hard-to-operate remote, despite classy aluminium casing

BUILD QUALITY



WE SAY: If you can't stretch to Chord's astonishing DAVE, this is the next best thing

FEATURES



OVERALL



Hi-Fi Choice

OUR VERDICT: TTOBY

SOUND QUALITY



LIKE: The perfect partner for the Hugo TT aesthetically and sonically. Astounding clarity, resolution, grip and drive

VALUE FOR MONEY



BUILD QUALITY



DISLIKE: Nothing

FEATURES



WE SAY: Great in its own right, it sounds sublime teamed with the Hugo TT

OVERALL

