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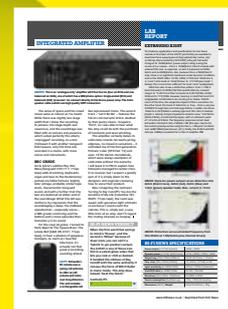


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EXTRAUDIO X250T



“This is, simply put, a sexy little minx of an amp. And I’ll regard the muting intervals as foreplay.”

- Ken Kessler, Hi-Fi News, May 2020 Issue

Note: This page is not part of the original review and has been created by Whole Note Distribution to promote the 'Hi-Fi News Highly Commended' award for the Extraudio X250T review in this PDF.

Extradudio X250T

An artisan brand with its own take on Hypex's tried-and-tested Class D amp module offers both tube and transistor variants to taste. Here's the low-down on the latter
 Review: **Ken Kessler** Lab: **Paul Miller**

Hybrid amps have always amused me. I still dream of Radford's TT100. This hi-fi equivalent of grafting two plant species hopes – ideally – to combine the best of a brace of disparate technologies. Too often, they marry the worst. Extradudio's X250T represents a first for me in that it promises to take efficient, compact Class D amplification and endow it with the sonic virtues of Class A, hence Class AD. Which made me think of playing with Krell's way back in 1985 [PM covers off the technology in his boxout, p51].

Given that this £8495 integrated amp's £4000-dearer sibling, the X250, is a hybrid of a different sort, in which valves and Class D are combined, one might infer that the founders of this Dutch company suffer schizophrenia, if not, ADD. But the proposal is sensible, if you are told the X250T's goal is to offer 1) value for money, 2) zero obsolescence, 3) reliability and 4) a 'Listening experience at affordable price'.

MINIMALISM MASTERED

Hmmm... No 1 is relative, No 2 impossible to predict, and No 3 not calculable during the period of the review, but No 4 can be assessed. I am assuming they left out the adjective 'Pleasurable' or 'Musical', because clearly it offers 'a listening experience'. What is certain from the initial, empirical exposure to the X250T is that this is a delightful object exuding superlative build quality, sensible layout and svelte styling.

Available in matte black or silver, as opposed the X250's more vivid orange, the X250T is surprisingly compact for a factory-rated, 200W/ch unit [see PM's Lab Report, p53], occupying only 445x125x395mm (whd) and weighing a wieldy 18kg. It is minimalist in a way that only the Northern Europeans seem to have mastered, the

RIGHT: Dual PSU/dual-mono line preamp [top] is supplemented here by the optional HP-1 MM phono stage [top right]. Note motorised volume pot and [red] Jantzen coupling caps [also top right]. The Hypex Ncore Class D power amp module has its own switch mode PSU [bottom]

front panel self-explanatory, with rotary source selector on the left and level on the right, and LEDs in between denoting which source is active: Phono, CD, Tuner, Auxiliary, Processor and Balanced. Below them is the illuminated power-on button (from standby) in the form of the Extradudio logo, which is similar in shape to rival Gato Audio's signature fascia profile. Go figure.

All inputs – four via RCA, 'Balanced' via XLR – are line level, while the one marked 'Processor' is not a throughput loop *per se*, as in the days when you might have inserted a graphic equaliser. Instead it accepts, via RCA or XLR balanced inputs, an AV preamp or processor input or audio bypass input for a home cinema setup. The X250T then

acts as a power stage only and turns off all other systems and the preamp section.

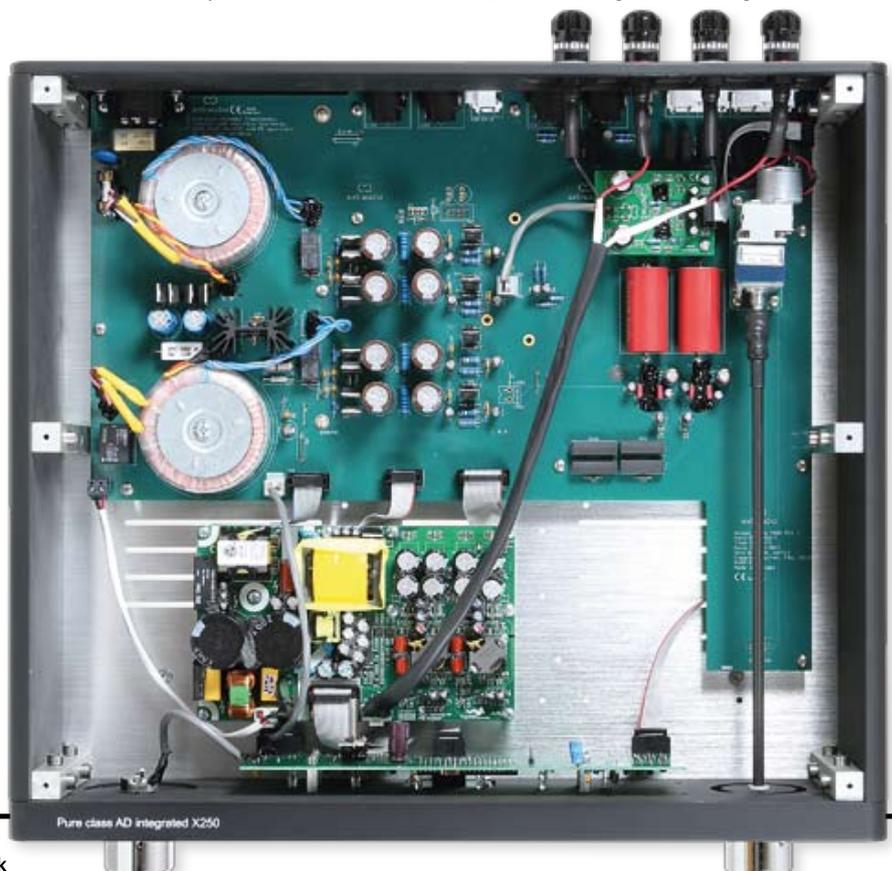
ERGONOMIC JOY

Extradudio can fit the Phono Preamp MM PH1 module as a £525 option, but supplies the amplifier with an RF remote handset to provide power on/off, volume up/down and mute. Using an RF coil to deliver instructions to the amp at distance is unusual, particularly when others are using BT remotes, but

that's all part of the charm!

From switch-on, the X250T takes exactly 62 seconds to come out of mute, the light changing from orange to white. Now I am used to this delay because, daily, I use a Quad VA-One [HFN Dec '16] and Audio

'Ryder can only ever sound like a punch in the head'





Research equipment, both of which make the listener suffer through a warm-up period. I don't like it, but I get it. What I cannot fathom, however, is the operation of the mute via the remote once the system is up-and-running.

When my phone rings, for example, and I hit 'mute', I want instant silence. This unit languidly turns down its motorised volume control for an agonising 6.5sec according to my chronometer-certified timepiece. Same procedure when you want the volume back on, but pressing the mute button again doesn't restore the level: you have to hold down the volume + button. Again, I want the sound back asap, not after I have enough time to go and bake a cake. Oh, and power down takes 20secs.

That aside, this is an ergonomic joy. As mentioned before, the front panel

is intuitive, the remote carries all you need and the back is perfectly laid out, with the nicest speaker terminals I have encountered – even when using notoriously heavy cables which were designed by some sadist to break off one's binding posts. The unit was up and running in mere minutes... warm-up included.

HAMMERING HOME

I got a short, sharp shock (not literally, that is) when I turned on the unit, because I think it remembers the previous level: it blew me off my feet, it was so loud. The dots around the volume control were lit, so I should have guessed what would come out of the Wilson Sasha DAW loudspeakers [HFN Mar '19]. Then again, it was Mitch

ABOVE: Black and chrome finish distinguishes this X250 as the 'transistor' rather than (orange) 'tube' model. Both knobs have a heavy feel – the left side is a rotary encoder for input selection

Ryder & The Detroit Wheels' 'Jenny Take A Ride' from *Sockin' It To You* [RPM QRPMT549] via my Marantz CD-12/DA-12 CD/DAC combo, chosen because it has both single-ended and balanced outputs for comparison. And that music sounds loud even when played softly.

Not knowing what to expect, as my previous exposure to Class D amps has ranged from the execrable to the excellent, I was delighted to hear a cohesive wall-of-sound as befits Ryder's music. The drums were vast, meaty, with powerhouse attack, while the detail was worthy of an audiophile pressing – and Ryder's oeuvre is such that it can only ever sound like a punch in the head. Maybe I was approaching the X250T ass-backwards, starting with material that actually demands no refinement at all.

Suffice it to say, I was listening here for immersion into a track designed to get 16-year-olds jumping a half-century ago. The coherence was impressive, the amp conveying the live, party feel which was essential to Ryder's music.

His gutsy, shout-y vocals were sibilance-free and sufficiently menacing, and the rhythm section hammered home hormonal teen passion in all its sweaty glory.

FOLK TREASURE

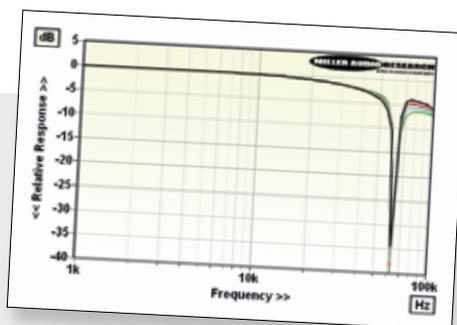
I also used this opportunity to compare balanced with single-ended, and – at the risk of repeating myself – the balanced bettered the single-ended. After an hour of raucous rock, I began to suspect this wasn't the X250T's forte, because it was so graceful even under duress. Turning to the Otari MX5050, a balanced-output-only tape deck, I dug out my copy of Joan Baez's *In Concert* [Vanguard VTC1653; 7½ips tape], a glorious souvenir from her 1962/3 tour with just voice and guitar. ☺

MOD'ING THE MODULE

Hypex offers a series of 'High Efficiency Self Contained Amplifier Modules' to hi-fi and pro audio companies. The NC252MP – used by Extraaudio here – is one of six Ncore 'plug-and-play' solutions that also incorporate a switch mode PSU. They feature the brand's compact Class D technology first seen in its popular UcD modules, but now with improved load-independence, lower distortion and lower output impedance [see Lab Report, p53].

Hypex's 'special sauce' lies in the 'phase shift controlled self-oscillating loop' that takes feedback right at the speaker output rather than before the filter network. So, unlike many other competing Class D offerings, the Hypex modules offer a more reliably flat and uniform response regardless of the swings in impedance of the attached loudspeaker.

The Ncore modules are designed so that OEM brands can drive straight into the control circuit giving them a chance, it was suggested to me, 'of adding their own fairy dust'. However, the control circuit must be driven by a voltage source if the transfer functions of the various circuit blocks are not to wander. So any modification to the Ncore module that alters the response of the local feedback loop around the PWM stage can impact on the cancellation network. This may explain the 40dB notch in response at 62kHz which should, if I read Hypex's data sheet correctly, be a few dB only [inset Graph: unloaded/8/4/2/1ohm = black/grey/red/blue/green traces]. How this influences sound quality is not clear, but it shows Extraaudio has stirred its own ingredient into the Hypex brew! PM



INTEGRATED AMPLIFIER



ABOVE: This is an 'analogue-only' amplifier with five line ins (four on RCAs and one balanced on XLRs), one of which has a MM phono option. Single-ended (RCA) and balanced (XLR) 'processor' ins connect directly to the Ncore power amp. The 4mm speaker cable outlets use high quality WBT connectors

The sense of space and the crowd noises were as natural as I've heard. While there was slightly less stage width than I know the recording to possess, the stage depth was cavernous, and the soundstage was filled with an airiness and presence which suited perfectly this utterly 'unplugged' recording. As a test I followed it with another Vanguard folk treasure, only this time one recorded in a studio, with more voices and instruments.

BBC GRADE

Ian & Sylvia's sublime *Play One More* [Vanguard VTX1717; 7½ips tape] adds drumming, keyboards, organ and bass to the *Hootenanny!* protest-era folkie formula. Slightly later vintage, probably similar tape stock, characteristic Vanguard sound, and with a further trial: the two are stationed at either end of the soundstage. What this did was reinforce my impression that the soundstaging is deep, the midband reproduction – especially voices – is BBC-grade convincing and the bottom end is more valve-like than transistor-y in its sound.

For the *coup de grâce*, I turned to Herb Alpert & The Tijuana Brass' *The Lonely Bull* [A&M OR-4101; 7½ips tape], to hear a phalanx of gorgeous trumpets. As much as I love the

title track, it's actually not that great a recording, sounding almost

LEFT: Extraudio's RF remote uses a spring coil antenna to offer on/off, volume and mute over long distances. The unit includes a rechargeable cell



like reprocessed mono. The second track – 'Let It Be Me' – features the full-on cod-mariachi shtick, abetted by that jaunty classic, 'Acapulco 1922', so I was able to hear what the amp could do with the punchiest of transients and even whistling.

This amplifier certainly belies its solid-state innards. No teeth-jarring edginess, no closed-in sensations – it reminded me of the first-generation Primare 'cube' [HFN Feb '19] and even 1970s Denon monoblocks, which were always exemplars of solid-state without the austerity. I will leave it to PM to explain how Extraudio managed to render Class D so musical, but I suspect a goodly part of it is simply down to the designers and engineers knowing how to voice their product.

Was I imagining the lushness? Turning to Ray Conniff's *You Are the Sunshine of My Life* [Columbia 1R1-6085; 7½ips tape], the room was awash with gossamer-light schmaltz so unctuous I could count the calories. This is, simply put, a sexy little minx of an amp. And I'll regard the muting intervals as foreplay. ☺

HI-FI NEWS VERDICT

When the first word that springs to mind is 'finesse', and the second is 'Whoa!' because of sheer slam, you can call it a 'hybrid' in yet another context. The X250T is one of those iron-first-in-a-velvet-glove amps that lets you rock or chill as desired. It handled the silkiness of Ray Conniff with the same authority it conveys the force of Mitch Ryder in manic mode. This amp does, indeed, 'beat the Dutch.'

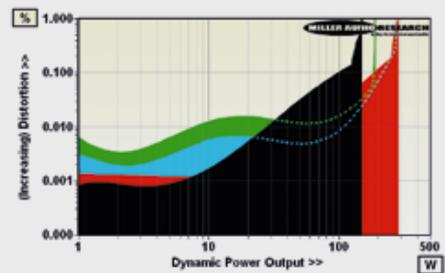
Sound Quality: 85%



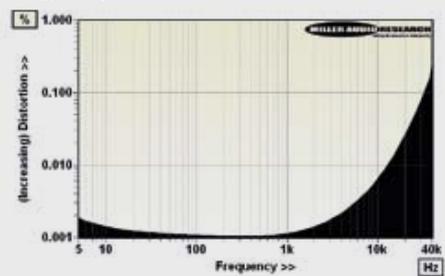
EXTRAUDIO X250T

The features, applications and specifications for the Ncore module at the heart of the X250T (and X250) are available to download here: www.hypex.nl/img/upload/doc/ncore_mp/nc252mp/Documentation/NC252MP_02xx.pdf. Extraudio changed its '200W/8ohm' power output rating during the course of our review – this is a 150W/8ohm Class D module with onboard PSU and, as expected, on test it delivered 2x150W/8ohm and 2x280W/4ohm. Also, because this is a PWM/Class D amp, there is no significant headroom under dynamic conditions, and so the X250T offers 151W, 285W, 275W and 195W into 8, 4, 2 and 1ohm loads at 1kHz/10msec at <1% THD [see Graph 1, below]. This is more than sufficient for most 'sane' loudspeakers.

Distortion also shows a distinctive pattern. From 1-10W it bests Extraudio's 0.008%/1W/1kHz specification by a decent margin at ~0.001% but then increases to 0.007%/20W, 0.06%/50W and 0.11%/100W. However, bearing in mind that most hi-fi amp/speaker combinations are running at or below 10W for much of the time, the subjective impact of this is uncertain. On the other hand, the trend of distortion vs. freq. – from a very low 0.0009% through bass and midrange before a sudden rise above 10kHz to 0.03%/20kHz is entirely typical of this Class D module [Graph 2, below]. Output impedance remains a low ~0.019ohm (20Hz-20kHz), as indicated by Hypex, with an ultrasonic peak of 1.01ohm at 93kHz. The frequency response cannot meet Extraudio's claimed 0.5Hz-350kHz-1dB (this spec may be for the custom preamp section only) but has a -1dB point at 25kHz and -6dB/100kHz [see boxout, p51]. Finally, the 83dB A-wtd S/N ratio (re. 0dBW) is excellent for a Class D amplifier. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 14.0A



ABOVE: Distortion versus extended frequency from 5Hz-40kHz at 10W/8ohm (one channel driven)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	150W / 280W
Dynamic power (<1% THD, 8/4/2/1ohm)	151W / 285W / 275W / 195W
Output imp. (20Hz-20kHz/100kHz)	0.020-0.017ohm / 1.01ohm
Freq. resp. (20Hz-20kHz/100kHz)	-0.15dB to -0.75dB/-6.1dB
Input sensitivity (for 0dBW/150W)	201mV / 2525mV (balanced)
A-wtd S/N ratio (re. 0dBW/150W)	83.1dB / 104.9dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.00085-0.029%
Power consumption (Idle/Rated o/p)	17W / 175W (3W standby)
Dimensions (WHD) / Weight	445x125x395mm / 18kg