

Continuum Obsidian/Viper

Continuum's third LP-spinning package, the Obsidian and Viper, departs from the template of its vacuum-equipped predecessors. Can the brand do 'conventional'?
 Review: **Ken Kessler** Lab: **Paul Miller**

Looks can be deceiving, especially if you first see a Continuum Obsidian turntable and Viper arm fully-assembled. Its three-legged, dust-coverless design recalls innumerable open-plan decks from affordable up to high-five-figure absurdity. Then you note the Continuum's price tag and realise it's of the latter: the Obsidian sells for £39,998, the Viper £11,998. Generously, you can save a grand buying the pair for £49,998.

As this is a print article and not a video, you can neither hear my sharp intake of breath nor see the shaking of my head. Yes, ol' KK, who's been apologising for obscenely-priced gear for nearly 40 years, is reaching his militant capitalist limits. The problem? Next to the Obsidian is the TechDAS Air Force III Premium [HFN Jun '19], one of its more obvious rivals, and a must-compare for any potential customer.

What I do *not* see are the air bearing, vacuum hold-down, complex suspension or myriad other features supplied by TechDAS for £29,998 (less arm). That's *ten grand* below the Obsidian, and it challenges the thought that worth can only be defined by the customer, and if he/she can afford a given item. It took effort on a par with quitting smoking to stifle my antipathy toward the Obsidian, based on perceived value. I had to will myself to abjure any need for placing it in a financial context.

CLOSE TO PERFECT

Despite this unit looking much simpler than it actually is, any dream of easy installation is undermined by the cleverly-concealed complexity. It comes in a single, massive flight case, everything securely packed in fitted foam. The weight is an imposing 30kg without arm, of which 10kg is the nested, multi-part platter. The bearing is so perfectly engineered that you will rejoice in watching how long it takes

RIGHT: The asymmetrical shape of the low mass, 3D-printed Viper tonearm enhances its rigidity [see Lab Report, p45]. The 60V 'zero-cogging' DC drive motor was designed specifically for this deck

to settle. Crucially, you then notice that which eludes audiophiles obsessed solely with sound-*uber-alles*.

For those weaned on audio during the 1970s and 1980s, the audiophile value system dictated that the *only* thing that mattered was what came out of the speakers. All else was superficial, thus enabling excuses for tonearms with bearings that make Lego blocks look like medical equipment and plinths with the structural integrity of a takeaway pizza box.

Continuum's standards, on the other hand, suggest that someone spent a lifetime in Switzerland. In essence, the build quality of the Obsidian – in direct contrast to the Viper, which I will get to – is as close to perfect as I have ever seen. The engineering, machining, fit and finishing are flawless. Aside from the Delrin platter's susceptibility to the oil from one's fingers (a reason not to touch it), this turntable is a

visual and tactile treat; for once, the styling matches the integrity of the build.

ABOVE REPROACH

Everything is top-grade, from the motor pulley to the feet, the platter to the screw-down puck, the tonearm base and adjustments – none of it would shame a camera lens maker. Its weight inspires confidence as such a detail always does, while the outboard power supply, the speed controls, the umbilical wires and the auto-lift mechanism

'Conditioning, ignorance and prejudice are all at play'

(recalling the Audio-Technica Safety Raiser of yore) are above reproach.

Once more, appearances can be deceptive, as this goes way beyond being merely a motor and platter in a skeletal chassis. The absence of a conventional plinth places the tonearm and motor on separate, mechanically-isolated mounts, for damping or re-channelling vibration.



Continuum was generous with the tungsten, chosen for its strength, density and natural damping characteristics.

ON THE QUIET

What the eye also doesn't see is that the entire arm mechanism is magnetically attached to the base of the Obsidian, using tungsten contact points instead of fixed mechanical means, *eg*, bolts or screws. Continuum says that, 'In a sense, the mechanism floats on these tungsten contact points'. Tungsten is also used in the bearing shaft, the bearing itself being a magnetically-opposed, if non-

floating design. Continuum fits a 60V, servo-controlled, 'zero-cogging DC motor' designed and constructed specifically to accommodate the Obsidian's platter and which is said to possess the highest power currently available in a motor of its size. The motor – dubbed 'The Quiet One' – uses stainless steel, pre-loaded ball bearings, and graphite brushes for better current conductivity when driving a heavy platter. Best of all, the motor is indeed super-quiet, and gets up to speed quickly.

Then we come to the arm. While I admit that conditioning, ignorance and prejudice are at play, this 3D-printed 'ABS

ABOVE: The Obsidian has a three-part 'nested platter' comprising aluminium alloy, tungsten and Delrin to manage the egress of unwanted vibrations. The chassis incorporates three adjustable feet and will support two tonearms

terpolymer' construct of an arm wand is as alien to me as cooking with an AGA instead of controllable flames. From the unipivot down, it is a beautifully-machined, complex structure with precise adjustability on offer. But that ludicrous black plastic banana, in contrast to the deck to which it is fitted, inspires no wonder in this observer, nor any sense of looking at *twelve grand*.

That said, once someone with greater patience than I was prepared to install the cartridge in front of me and fiddle with wires the diameter of a spider's pubic hair and the fussy little connectors, the set-up allowed the cartridge to be optimised in every parameter. This included front-view azimuth, a function that sadly has disappeared from most arms with fixed headshells or cartridge platforms.

SWEPT AWAY

Fortunately, whatever reservations I had about the Viper and the price were swiftly swept away within seconds of the stylus touching down on the new pressing of James Taylor's *Sweet Baby James in The Warner Brothers Albums 1970-1976* [Rhino R1 587550]. This LP is a feast of both acoustic and electronic instruments, ☺

AUSSIE ANALOGUE

For a decade-and-a-half, Continuum has enjoyed a permanent position among the world's most influential analogue campaigners, who regard it as one of the very finest turntables money can buy. Manufactured in Australia, from the outset the original turntables were hailed as game-changing, offering a product that was a mix of disciplines, including metallurgy, physics, chemistry, engineering and manufacturing. Announced in 2005 before the vinyl revival fully 'exploded', Continuum's ground-breaker was the three-chassis Caliburn with Cobra arm and vacuum hold-down. Its six-figure price tag created demand for a less-costly offering, so it was soon followed by the simpler, single-chassis Criterion. The Obsidian reviewed here makes the line even more accessible.

Says Vice President of Sales Irv Gross, 'Continuum Audio Labs was always a team project, not the work of any one individual. The lead engineer on the original design team was Mark Doehmann. There were two other individuals, Joe Persico and Michael Baribas, without whom the products could not have been brought to fruition. There were numerous other professors and experts who contributed to the design, but those three were the core of our dream team'.

TURNTABLE/ARM



ABOVE: With uppermost platter removed, the black Delrin/alloy 'mid-platter' is revealed in position over the massive stainless steel/tungsten bearing. Grooves accept the round-section drive belt

sublimely recorded, but above all is that voice. If ever a singer exuded warmth and intimacy, it was Taylor circa-1970.

BRASS ATTACK

With Air Tight's PC-7 moving-coil in place, the sound was rich but absolutely devoid of any unnecessary, overblown exaggeration. It was immediately apparent that the Continuum Obsidian/Viper duo was, with minimal exertion, in full control. This may prove a metaphorical stretch for some, but there's a direct link between the way this deck sounds and how it looks, feels and operates. By this I mean it is one of the simplest turntables you will ever use. Once used to handling the Viper – like all unipivot arms with a disconcerting 'free' feel – you note that the deck gets up to speed swiftly, responds to its controls without fuss and ignores airborne aggravation. What this did for the James

Taylor tracks was to retain their delicacy without any compromise.

Amusingly, given that I started out with music relatively free of bombast, the next selection showed that the Obsidian could deliver power without *any* sense of restraint. Its dynamic capabilities perfectly suited the big band excess of my recently acquired, 'period' audiophile pressings, both for the power of the brass attacks and the weight of the bass. It was *Ultimate Stereo Presentation* [EMI Studio 2 Stereo TWO 3] and Bravo Brasso's kitschy if impressive cover of the Beatles' 'When

'For once, only the term "visceral" will really suffice'

I'm 64', which proved revelatory. If you ever see this in a charity shop, grab it: the tracks are spectacular, exemplified by this one, which really challenged the Obsidian.

AMAZING GRACE

The brass ran the gamut, but most revealing was the almost-comical tuba, deep, resonant and so authentic that I could only nod, too, in recognition of the capabilities of Wilson's Sasha DAW loudspeakers [*HFN* Mar '19]. For once, only the term 'visceral' will suffice.

Transient attack, clarity, textures – I was driven immediately to hear another contrast, the vocals from the recently departed Gregg Allman on 'Midnight Rider', a 45rpm 12in single from Analogue Productions [APP 123-45]. The Obsidian/Viper handled its aching, soulful interpretation with grace and refinement. ↻

LEFT: The Viper's counterweight screws into an alloy cylinder hanging from the rear of the arm, lowering the centre of gravity below the jewelled/stainless unipivot bearing. Arm mount is 'magnetically isolated' from the main chassis



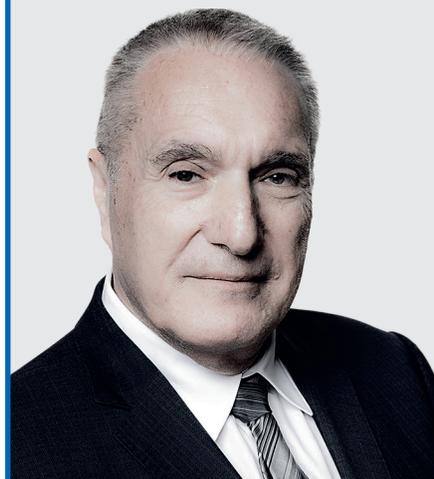
DAVID PAYES

Continuum Audio Labs co-founders David Payes and Murali Murugasu began their all-out assault on the vinyl scene over 15 years ago with a state-of-the-art turntable and tonearm design. However, both proprietors demur from taking any credit for the design and innovation behind the brand's turntables [see boxout, p41], preferring instead to declare that 'the current Obsidian/Viper is simply designed by Continuum Audio Labs'.

Not that Continuum replaces its models with great regularity. Indeed, as *HFN* was told, 'We have only ever made three turntables over the course of our 15-year+ history. The Obsidian/Viper combination represents our attempt at a reference quality combination at a lower price point, and we are justifiably proud of the result.'

'Key to achieving this is our ability to tap into multidisciplinary science, engineering and manufacturing talents from around the world, including Australia. As a consequence our production costs are expensive, but they reflect the cost of materials, specialised labour, and precision machining involved.'

This strategy of employing multiple specialists also inspired the same two founders to launch Constellation Audio in 2008. 'There was a lot of pressure on Constellation, because the Continuum turntable achieved such fame so quickly,' remembered Murugasu. Nevertheless, as reviews in *HFN* have illustrated [see p58], the Constellation amplifiers have arguably reached more audiophiles.



TURNTABLE/ARM

LAB REPORT

CONTINUUM OBSIDIAN/VIPER



ABOVE: Fine tonearm leads exit from the rear of the Viper and are terminated in a set of screened, balanced XLR cables. The black umbilical [right] connects to Continuum's outboard PSU and speed selector [pictured below]

Here, for a moment, it resembled the TechDAS Air Force III Premium, but the two still remained at some distance from each other.

Clearly, I needed a live set to complete the experience, and it was Cream's superbly-produced 2005 reunion, the 3LP set *Live Royal Albert Hall London* [Reprise 49416-1] that supplied the atmosphere and scale I needed to hear. I had forgotten how staggering was the sound and how blessed the performance – the delivery was dazzling.

FUNKY EDGE

Side 3's 'Sweet Wine' provided a moment as telling as that of the tuba from Bravo Brasso. Even though the entire performance was a demonstration of all three players' prowess, it was Ginger Baker's behemoth percussion that exploited the control that turntables at this level possess. Again, it was a case of contrasts, the Obsidian/Viper not quite matching the absolute depths of the Air Force III Premium deck, but neither was it audibly diminished enough to force the choice.

Rather, it was the nature of the bass and the scale that differed enough subjectively to tip one's



ABOVE: Outboard PSU offers 33.3 and 45rpm in auto mode with fine speed adjust offered in manual mode

personal opinion. Regarding the former, the TechDAS turntable is slightly richer, with a bit more bloom and air. Conversely, the Continuum Obsidian/Viper had a funkier edge, and one can imagine a Mingus-worshipping jazz obsessive opting for the Obsidian.

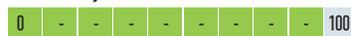
As for the scale, both created unreservedly breathtaking soundscapes, but the sizes differed, attesting to the resolving powers of the rest of the system in the way they were revealed. The Air Force III placed the line of the sound slightly above that of the Continuum Obsidian, an odd effect I'd never detected before between decks.

The perceived stage depth was all but identical, but the TechDAS Air Force III's presentation was marginally wider. Yes, it really does get down to such picayune variances. But that's why you have to listen before you buy. ☺

HI-FI NEWS VERDICT

So distinctive is the Continuum Obsidian/Viper's performance compared to other top-end decks that I've used that I'm being seduced by the cop-out that 'personal taste will be the determinant'. But that doesn't tell you the system delivers peerless retrieval of the bottom octaves, utterly realistic soundstage recreation and transparency that lets you hear exactly what's in the grooves.

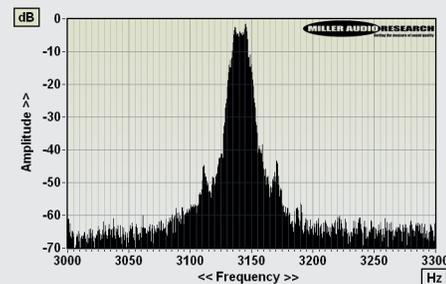
Sound Quality: 85%



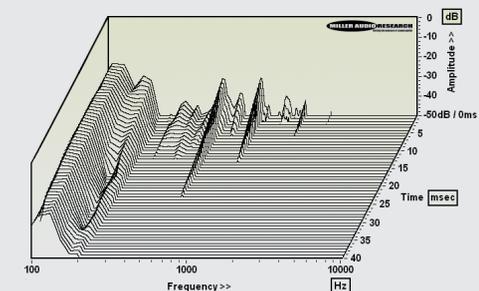
Much is made of Continuum's 'nested' flywheel-effect platter, supported on a very substantial, magnetically-assisted bearing. The latter includes a 25mm stainless shaft running in a tungsten sleeve on a ball bearing, placing the centre of the rotating mass some distance *above* the pivot point. Nevertheless this is a very quiet bearing design, with through-spindle rumble just -72.0dB (DIN-B wtd, re. $1\text{kHz}/5\text{cm}/\text{sec}$) and a through-groove rumble of -70.7dB without the screw-down clamp, improving to -71.4dB with the vinyl pressed tight to the platter's surface. I'll remind lucky owners that keeping this surface scrupulously clean is vital!

This upper platter weighs some 7kg, the entire three-piece section higher still at 10kg, but the start-up time remains an impressive 4-5secs courtesy of Continuum's custom 60V DC motor. Although the motor is governed by a high-frequency servo, our sample was running fractionally slow at -0.38% in its 'auto' mode and – as we have seen with numerous DC motor applications – showing some evidence of low-rate drift, below the traditional 'wow' frequency. Conventional peak wow is just 0.05% and flutter 0.06% [see $\pm 35\text{Hz}$ sidebands, Graph 1 below].

The partnering Viper tonearm features a 3D printed 'tube' – the profile determined by FEA – that combines a low 9g effective mass with a controlled resonant behaviour [see Graph 2, below]. Its contoured geometry gives rise to a pattern of low-Q resonances at 118Hz and 180Hz (a diffuse sub-100Hz mode is below the X scale of Graph 2) with mild and swiftly attenuated resonances at 570Hz, 750Hz and 1kHz. The Viper will likely have an uncoloured mid and treble, revealing any pick-up 'bloom', and deferring any subjective contribution to low bass frequencies. PM



ABOVE: Wow and flutter re. 3150Hz tone at 5cm/sec (plotted $\pm 150\text{Hz}$, 5Hz per minor division)



ABOVE: Cumulative tonearm resonant decay spectrum, illustrating various bearing, pillar and 'tube' vibration modes spanning 100Hz-10kHz over 40msec

HI-FI NEWS SPECIFICATIONS

Turntable speed error at 33.33rpm	33.17rpm (-0.48%)
Time to audible stabilisation	5sec
Peak Wow/Flutter	0.05% / 0.06%
Rumble (silent groove, DIN B wtd)	-70.7dB / -71.4dB (with clamp)
Rumble (through bearing, DIN B wtd)	-72.0dB
Hum & Noise (unwtd, rel. to 5cm/sec)	-55.6dB
Power Consumption	5W
Dimensions (WHD) / Weight	370x178x350mm / 30kg