

# Continuum Audio Labs Obsidian turntable and Viper tonearm

by Alan Sircom

A few years ago, Continuum Audio Labs made the Caliburn turntable. It was an air-suspended, air-bearing, air-and-vacuum everything design that pushed the frontiers of both what you can get out of a record and – let's be brutally honest, here – just how much you can spend on a record player. Just 100 of these six-figure decks were made, and then Continuum became little more than

a footnote in sister brand Constellation Audio's back story. The electronics brand was growing exponentially at the time and making a hundred six-figure turntables was considered saturation point, even with a deck as highly prized as the Caliburn and its Copperhead arm partner. Many thought that would be the last we would ever see of Continuum. And many were wrong, because the company is back with the new Obsidian turntable and Viper tonearm. ▶



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► The Obsidian is a complete departure for Continuum. Where its predecessor was all air and vacuum, sucking the record in place and creating an almost suspension, the Obsidian is a solid chunk of deck. This doesn't mean compromise, however, every aspect of the turntable might be different from before but that doesn't make it inferior, more 'differently better', and given that you could buy almost three Obsidians for the price of a Caliburn, 'differently better' is one hell of an achievement.

Obsidian is actually the end result of the project that spun out of the Caliburn. Launched in 2005, that turntable was Continuum's vision of the best turntable it was possible to make at the time. With more than a decade of research into turntable design and materials science since then, the Obsidian represents Continuum's vision of the best turntable it is possible to make today. That the vision itself is very different does not change the goal.

The root of the clever parts of the Obsidian is that ability to not be hide-bound by past conventions, and especially by past glories, and instead to start 'tabula rasa'. In the process, Continuum liken the development of the Obsidian to that of an elite sports car, spending dozens of man-years researching into motor technology, bearing manufacture, chassis design, platter design, and more. The company didn't just throw out all the elements of the Caliburn for the sake of it; they analysed the original project to see what aspects of the design could be recycled, transplanted, or improved upon, and what parts could be consigned to history.

For example, the nested platter is retained, but radically improved. The turntable maker deployed a lot of finite-element analysis modelling to damp vibrations, both the ones coming from the stylus-record interface, and the ones coming through the ground via the base. By careful design, any unwanted resonances are pushed way outside of the audio band where their influence is minimised. According to Continuum, the platter is the component that contributes the largest amount of character to the sound thanks to those resonances. By removing those resonances well outside the audio band, the turntable loses an intrinsic character of its own. As you will see, this is something of an obsession at Continuum. It's also worth noting that the new version of the nested platter is of sufficiently high mass to create its own flywheel effect.

That can be exploited if the platter sits on a bearing hard enough (both in literal 'Rockwell' and figurative 'hard man' terms) to benefit, and Continuum nailed this by going big. Really big. The massively oversized bearing in the Obsidian is larger than that of almost every other turntable brand on the planet. In fact, this is not simply to help spin a massive platter, it's because of the relationship between bearing size and platter resonance that only Continuum and a handful of other deck makers seem to have noticed. By replacing the normal spindle-sized bearing with one that wouldn't look out of place on an axle of a small truck, resonance is kept below 10Hz.

The really interesting part here is the bearing is magnetically opposed, but does not float, so it acts as a low-friction design, but retains a mechanical grounding path. That means none of the risk of wobble found in other mag-bearing designs. It also has a ball and shaft made from tungsten, which means torque transfer is excellent and the bearing will last a lifetime or three.

The obsessiveness applied to the bearing and platter housing are echoed in the design of the motor and its housing. Continuum refers to this motor as The Quiet One because the 35mm, 60V DC motor uses a high-power design with graphite brushes and ball bearings instead of sleeve bearings, making sure that any vibrations are damped elsewhere in the structure. The DC motor itself is servo controlled at a higher rate (53.6kHz) than its competitors, meaning cogging effects are functionally zero. This is fed by an off-board power supply that can be used to set precise, drift-free 33 and 45 rpm, or can be speed controlled slightly through a series of button pushes on the external box's front panel. The logic to drive the speed control is a little 'modal' (press to engage 33 rpm, depress to disengage 33, then press to engage 45 rpm, and so on) but this soon becomes second nature. Almost.

Even the armboard has been given careful consideration, and as that is the part that is usually given lip service in a turntable design, this is impressive in the extreme. The armboard housing has two outriggers (it can be connected to both the regular position to the right of the turntable, or applied to the two covered holes in the front, allowing for two arms should you wish. The arm is actually 'suspended' using a magnetic attachment system, although this is – once again – to prevent vibration interfering with the arm's operation. ►

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► This creates a high-mass arm base, but also one that is double-isolated against the transfer of vibration or resonance. Like the deck itself, much of the mount is tungsten.

Any arm could be fitted to the Obsidian, although a 10" arm is optimal. Theoretically, Continuum could build an armbase with longer tungsten mounting bars to accommodate a longer arm, but eventually such things get self-defeating, either from an engineering standing, the cost of the custom mounting bars, and so on. But more importantly, why bother in the light of the Viper tonearm, which makes such a fine and logical match, casting the net for a better arm is almost academic.

The Viper is a unipivot with a sapphire vee jewel bearing on a hardened stainless steel pivot is a work of genius; the bearing housing itself has been designed with the Continuum in mind, and features extremely precise adjustments of VTA, Azimuth, and VTF (down to 0.001g increments). Arm tubes are easily detached and are interchangeable. It uses an underslung counterweight in a set position. Changing its balance point means running through a series of different counterweight washers. This is a bit of a pain, but ensures the geometry of the arm remains consistent no matter what. The armtube itself is exceptionally light (it's about as thick and as heavy as an eggshell, although a lot more rugged and incapable of being fried over easy).

Installation of the turntable is easy, and while the turntable is high-mass, it's not unliftable when in its component parts. You can go from box to shelf in an hour or so. The arm is not that much slower, but it demands attention to give of its best. If you aren't the kind of person that would routinely devote a day to setting up a cartridge to get it just about perfect, then you might want to call for back-up. Like any first-rate tonearm, the performance is only as good as how much time you spend on it, and this is really worth the effort.

All that obsession about resonance and vibration pays off, big time. I guess that's pretty obvious, if you think it through for a few seconds: a turntable is acting like a seismograph in reverse, so every time you introduce extraneous vibration or resonance you are going to undermine that backwards-seismograph's signal, and conversely, everything you do to make that signal less interfered with by vibration or resonance, the better it is going to sound. It's not rocket surgery!

This is perhaps the easiest part of this review to write, because the deck and arm combined do exactly what they are supposed to do: be a blank canvas for the cartridge to drag its rock through a groove. About a minute into the second album you play on this turntable, it dawns on you that the deck is just determined not to make a sound, and leaves all of that to the cartridge and the phono stage. With great power comes great responsibility, however, and this means taking an uncompromising line on those parts. Given the family history and relationships, the phono stage was from Constellation (the Perseus) and the cartridge was from Koetsu (Onyx Platinum). This was all you heard; no platter ring, no vibrations, no 'bright' no 'dark'... just what the cartridge is telling you about the record.

As I said earlier, this takes two records. You listen to the first one – in this case Marty Paich Big Band's *The New York Scene* [Discovery] – then you put on a second – in this case Duke Pearson's *The Right Touch* [Blue Note]. You then realise they sound like they were being played on completely different record players. Both record players were perfectly optimised for that record. You move on to a third and a fourth, and the same happens again. And that makes this the worst part of a review to write, because I can't pin anything down. Is vocal articulation good? On *Sweet Baby James* by James Taylor [Warner, Speakers Corner], it's sublime. On 'Figure It Out' from Royal Blood's eponymous debut [Warner, again], it's more blurred, but the guitar and drums are powerful and dynamic.

You then fall into the trap of thinking about the deck in terms of other decks, and you are in deep trouble. On one record, it sounds like a Linn, because the record has that kind of tonal balance that benefits from a Linn's presentation. On the other, it sounds like a VPI, for similar reasons, on a third, a Rega, and so on. This is in the danger zone for a reviewer, because it leads to 'waxing philosophically' and then you are well and truly lost.

The trouble is, there's nothing to see here, and that is a wholly good thing. A source component isn't supposed to be a filter or an influence on the sound, and that's precisely what the Continuum is or isn't doing. It has no 'drag' on the sound, no influence, no footprint, nothing. Images are as wide as the record, dynamic range changes from album to album. This deck and arm do almost nothing to the sound. ►

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▶ When you listen to a soundless turntable, you are transfixed. You are enthralled. One minute you are wiggling along with Duke Ellington taking hold of Newport in 1958, the next you are wailing in sorrow while listening to a requiem mass. The sound of nothingness is the sound we signed up for originally all those years ago. It’s the sound records are supposed to make, but seldom do in reality.

For all this, however, the turntable and arm are relatively forgiving to bad albums. OK, so I didn’t have my copy of *The Handless Organist* to, er, hand, but you play something thin and clipped it will play that without making it unlistenable. The really unsaveable recordings will stay unsaveable, of course, but even here, the Continuum’s sense of even-handed order will usually make the best of a bad job.

Of course it is on the really good records where the Continuum shines. The Columbia reissue of Berlioz: Symphony Fantastique (New York Phil, Mitropoulos Cond.), ‘Un Bal’ and its waltz-like properties were inspiring. The changes in tempo, the sense of space around the instruments, the tonality of the instruments themselves, and the absolute lack of anything getting between you and the music was extremely alluring.

And then there’s the musically wonderful moments that make it all worthwhile: playing something like ‘Crying’ by Roy Orbison. That’s not a record that I was there for the first time round, but it’s not difficult to empathise and realise that for the length of time the record played, the turntable was a time machine. Funny how records you might have only heard on a cheap 1960s turntable and stuck away for decades can have such emotive energy when played on the really good stuff.

A parting shot here was the use of a good cleaning machine, like the Klaudio. Granted this can make changes that can be heard on almost any table, but the impact it had on the Obsidian and Viper made such a thing almost mandatory. A small change on a normal turntable became a transformation of epic proportions through the Continuum.

This is a truly wonderful deck to experience, or rather not experience. It’s complete absence of sound and total neutrality is not stark, bright, or forward. It’s neutral, but not in a ‘Switzerland’ kind of way. It’s actively neutral, making a sound that is beguiling and exciting because the impact of the Continuum is so minimal on the music. It makes music come to life in a way few other turntables at any price can. +

## TECHNICAL SPECIFICATIONS

### Obsidian Turntable

**Type:** Belt-drive non-suspended turntable with DC motor

**Rotational Speeds:** 33 1/3 RPM, 45 RPM

**Supported Tonearm Length(s):** up to two 9-inch arms supported as standard.

**Drive Mechanism:** Belt driven via 60V DC motor, via external PSU

**Speed Control:** via PSU (fixed and variable)

**Platter Type:** FEA-modelled Nested Platter

**Bearing Type:** Oversized magnetically opposed bearing with tungsten ball and shaft

**Arm bases:** magnetic support base for arm, tungsten rods as outriggers

**Dimensions:** not stated

**Weight:** not stated

**Price:** £39,998

### Viper Tonearm

**Type:** Unipivot tonearm

**Bearing type:** sapphire vee jewel bearing on a hardened stainless steel pivot

**Overhang:** not stated

**Adjustment options:** VTA, Azimuth, and VTF (down to 0.001g increments)

**Dimensions:** not stated

**Weight:** not stated

**Options:** Spare arm wands (£POA)

**Price:** £11,998

**Manufacturer:** Continuum Audio Labs

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