

Takumi TT level 2.1DC

Electronic speed control, decoupled DC motor, all-acrylic plinth and platter, and custom titanium-tubed tonearm. Takumi is out of the blocks and racing into the lead...
 Review: **Adam Smith** Lab: **Paul Miller**

Fans of affordable vinyl reproduction are somewhat spoilt in Europe as the continent is home to the titan that is Pro-Ject Audio Systems, responsible for half the turntables sold above €200 or so. It becomes easy to understand why some manufacturers might take the route of ordering an OEM model from this Austrian powerhouse and labelling it as their own.

However, Netherlander Rik Stoit is made of sterner stuff and, with a background in engineering [see PM's boxout, p63] and a great deal of knowledge at his disposal, he took a different route into turntable manufacturing. His Takumi-branded models are all made in-house and the first design to arrive on UK shores, courtesy of distributor Sound Design Distribution, is the £1599 Takumi TT level 2.1DC.

SMALL BEGINNINGS

Rik's first turntable design was the Takumi 2.0 – the brand name coming from a Japanese term meaning 'artisan' or 'skilled'. Made from third-party parts, the limited run of 100 decks sold out quickly in the Netherlands, encouraging Rik to build something new, designed from scratch. As he puts it, 'my goal was clear: to create a turntable that not only sounded better, but also had a refined appearance, while remaining reasonably priced'.

As of today, there are three Takumi turntables – the TT level 1.1DC (£1199), the TT level 2.1DC tested here, and the TT level 3.1DC (£2299). Takumi also has a trio of MC cartridges available to match these decks, in the form of the £349 Aka, £699 Kuro and £1199 Shiro.

Acrylic features heavily in the design of the TT level 2.1DC, the material chosen for both its physical and aesthetic properties. The 19mm-thick acrylic plinth is CNC-machined to very tight tolerances to

ensure the tonearm base, bearing assembly and motor are all precisely aligned. The deck is available in both transparent ('glass') and black finishes and is supported on three machined feet that are both adjustable and, once levelled, may be locked into position.

An aluminium sub-platter supports the TT level 2.1DC's acrylic main platter. No mat is supplied – by design – but a lightweight record puck is, this not adding any appreciable mass but helping to couple the record to the platter. Another neat touch from Takumi is the slightly oversized platter centre hole which is centred on the spindle by a rubber washer, providing isolation between the bearing and the LP.

As its name suggests, the TT level 2.1DC uses a DC motor. This is isolated from the plinth on O-rings and drives the sub-platter using a flat belt that exits from two slots with a cylindrical cover. A hall sensor reads

a series of magnets under the sub-platter, providing feedback to the motor control system. As a result, there's an anticipation that the TT level 2.1DC should suffer less from low-rate drift than some other DC-driven decks [see PM's Lab Report, p65].

OUTBOARD OPTION

Electronic speed control also brings the advantage of switchable 33.33rpm and

45rpm selection, in this case via a lever at the rear of the plinth that's reminiscent of the Dual CS505 cueing wand from the 1980s [*HFN* Feb '13]. However, Takumi is bundling its SpeedPod [p65] with the TT level 2.1DC.

Normally a £179 extra, this

bypasses the lever and adds push-button stop, start and speed change, plus pitch adjustment of ±1rpm in 0.01rpm steps.

Also, to my eyes, the TT level 2.1DC's partnering tonearm bears more than a passing resemblance to the classic Breuer ➔

'It was chewy, funky and a delight to the end'



RIGHT: Seen from above, and through the CNC-machined acrylic platter, Takumi's DC motor is screened within a cylindrical housing and decoupled on O-rings. The inset spirit level [green, top right] is a thoughtful addition



'The TT level 2.1DC's
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titanium armtube'



Model 8. Takumi's arm is bang up-to-date, though, featuring a thin-walled titanium armtube and high-quality bearings. The headshell is fixed but adjustable for azimuth, and VTA is set using an Allen bolt from above for precise, fine adjustment.

ON THE LEVEL

The cueing device is also easily adjustable for height using another Allen bolt and the arm's parking place is simply a clip built onto the end of the lifting platform – there is no separate arm rest. Arm wiring is fixed, and comprises a 1.2m-long shielded cable with a dual ground system.

Overall, build quality and fit and finish of the TT level 2.1DC appear first-rate. The turntable is supplied with a full dustcover and there's even a bubble-level built into the plinth – another very

neat touch. Takumi's Start Guide covers off the assembly and setting up of the turntable, but there are limited alignment instructions for the tonearm. If in doubt, your dealer will assist!

VINYL WITH VIGOUR

To get you going, the TT level 2.1DC comes with an Audio-Technica AT3600L cartridge. Fine performer though this is, the deck certainly deserves better than a sub-£20 conical MM that tracks at 2.5-3.5g! Consequently, I fitted my regular Ortofon 2M Black [HFN Mar '11] for this audition.

With a cartridge of this quality, the Takumi TT level 2.1DC proved a confident performer. It has an almost 'feisty' demeanour and can establish a wide, deep and solid soundstage. Such involving listening makes you remember just how

ABOVE: Available in gloss black or 'glass' acrylic as pictured here, the TT level 2.1DC's plinth hosts the bearing and alloy sub-platter, the custom titanium-tubed arm and motor speed control electronics [rear left]

good vinyl can be, even at the more affordable end of the spectrum.

Of course, the TT level 2.1DC isn't a true budget unit, and its performance is a reminder of that fact. Within its capacious soundstage, instruments, vocals and effects are well ordered and easy to place, leading to a tactile musical quality. The bell tolling quietly at the beginning of the epic title track from the Eagles' *Long Road Out Of Eden* [Universal 0602517546950] – one of my regular demo platters – had a generous resonance and spatial decay to go with its ominous, metallic weight.

Indeed, the low-frequency handling of the TT level 2.1DC is very impressive. Its drive system is well controlled and stable, helping to create tight, deep bass with a sense of sure-footedness and timing. It almost brings to mind a good direct-drive turntable, digging down into the lowest notes without them becoming overblown or bloated. Any sort of rhythm, from jazz to rock to bangin' Ibiza-style dance tunes, is portrayed with an unflappable confidence.

BACK TO FRONT

Better still is how the TT level 2.1DC can tease the low stuff out of hiding. The bass guitar playing on The Innocence Mission's 'Black Sheep Wall' 10in single [A&M Records AMX563] is intricate and taut but too often disappears into the background of the mix. Not through Takumi's turntable though, which pulled it forward by just the right amount to ensure it was clearly audible and an integral part of the track, ➔

TAKUMI'S RIK STOET

Born in the Netherlands in 1962, Rik Stoet grew up surrounded by electronics of one form or another. His grandfather ran a factory producing transformers and valve amplifiers for communication gear, and began teaching Rik about tubes when he was just six years old. In his late teens, Rik worked as a programmer for the Dutch government, developing software to visualise sonar data from survey vessels. He earned a degree in Information Technology, specialising in chip substrate design. While never pursuing IC fabrication professionally, instead he spent nearly eight years working in his father's factory, gaining hands-on experience in transformer winding, power electronics, and circuit building.

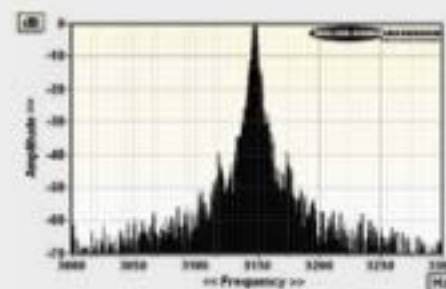
Crucially, Rik inherited his grandfather's transformer production tools, including winding machines, a vacuum tank, and curing ovens. This allowed him to build his own high-quality output transformers and launch the Stoetkit series in 1993. This line of DIY tube amplifier kits included the Stoetkit II, an innovative 300B SE design with EL34 bias compensation that tolerated gapless push-pull transformers with an extended bandwidth. The Heart line of 'finished' amplifiers followed [HFN May '98], accompanied by over 1200 tube-modified Marantz CD6000 CD players [HFN Dec '99]. His first turntable arrived soon after, and the Takumi TT level 2.1DC is a direct descendant built on what Rik describes as 'Newtonian mechanics and honest engineering'. PM

LAB REPORT

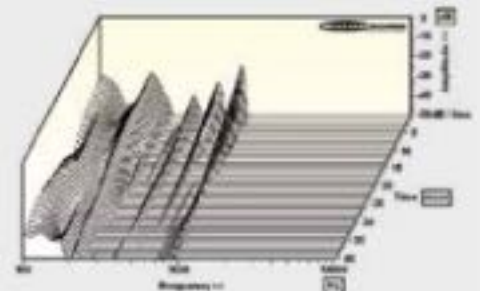
TAKUMI TT LEVEL 2.1DC

With the small black grommet in place under the acrylic platter's spindle hole – ensuring precise alignment with the alloy sub-platter underneath – the TT level 2.1DC achieves a swift 2-3 second start-up and a fine absolute speed accuracy of -0.06% . The servo system keeps low-rate drift to a minimum, or at least lower than with most DC motor solutions we've tested, holding peak-wtd wow to 0.03% and higher-rate flutter to 0.08% , the latter with discrete sidebands at $\pm 28\text{Hz}$ [see Graph 1, below]. The stainless steel bearing, running on a hardened steel ball, realises a -69.5dB rumble (20Hz - 20kHz , DIN-B wtd, re. $1\text{kHz}/5\text{cm/sec}$) with a very slight improvement to -69.9dB through-the-groove with the Delrin puck in place. These are not state-of-the-art figures but are very fine indeed for a complete deck/arm solution priced below £2000.

Talking of which, the partnering titanium-tubed tonearm is a statically balanced design with lightweight gimbal bearings offering minimal play and with very low stiction/friction of $\sim 10\text{mg}$. The alloy headshell is not detachable but may still be loosened for azimuth adjustment and then locked tight – it adds to the medium 11g overall effective mass but the arm still remains ideal for use with most MM cartridges and higher compliance MCs. The thin-walled but very rigid main tube pushes the primary bending mode up to 130Hz with a harmonic, or twisting mode, at 215Hz and higher-Q resonances at 420Hz , 580Hz and 850Hz [CSD waterfall, Graph 2]. The latter look to be related to the square bearing yoke and other metal appendages – Takumi might look to add some additional lightweight damping within the straight tube – but this is otherwise a very 'clean' design offering the prospect of good alignment. PM



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



ABOVE: Cumulative resonant decay spectrum for Takumi's tonearm (100Hz-10kHz for 40msec) showing higher-Q modes at upper bass/midrange frequencies

HI-FI NEWS SPECIFICATIONS

Turntable speed error at 33.33rpm	33.31rpm (-0.06%)
Time to audible stabilisation	2-3sec
Peak Wow/Flutter	0.03% / 0.08%
Rumble (silent groove, DIN B wtd)	-69.9dB
Rumble (through bearing, DIN B wtd)	-69.5dB
Hum & Noise (unwtd, rel. to 5cm/sec)	-60.3dB
Power Consumption	2-3W
Dimensions (WHD, with lid) / Weight	430x150x320mm / 7kg

ABOVE: The deck may be run with or without the SpeedPod, but the external 12V 'wall wart' supply must always be connected [sockets, right]. Captive tonearm leads ordinarily exit below the mount [left] while the three feet are fully adjustable

alongside the more immediate midrange keyboard sounds and ringing acoustic guitar.

Equally, the synthesised bassline driving 'The Fate Of Ophelia' from Taylor Swift's recent *The Life Of A Showgirl* LP [Republic Records 00602478225277] was chewy, funky and a delight from start to finish. Around it, drums had excellent impact and pace, and Swift's vocals were locked firmly centre stage and projected effectively into the room.

SONIC TRAIT

One observation here, however, was that her vocal had a little more stridency than I was expecting, and this seemed to afflict some other recordings in a similar way. Karen Peris's singing on The Innocence Mission's track was unusually dominant in the mix and the synthesizers forming the basis of M83's 'Midnight City' [Rush! Up, We're Dreaming; Naïve Records NW824361] appeared to have gained in urgency and bite.

I've lived with Ortofon's 2M Black moving-magnet cart for many years and it does not possess any hint of stridency. A changeover to my reference MC cartridge, Clearaudio's MC Essence [HFN Aug '17], revealed a similar character that could not be fully ameliorated by loading adjustment. It therefore appears that this is a sonic

trait of Takumi's TT level 2.1DC, and that a smoother-natured cartridge might be wise if you're after a sound with a little more balance – something like a Nagaoka MP-500 [HFN Jan '23] could be ideal. However, don't take the TT level 2.1DC's hint of forwardness as a negative; it at least means its performance is never bland.

THE REAL DEAL

Task the Takumi TT level 2.1DC turntable with material that's less processed, and more based around real instruments, and its big-hearted, dynamic and effusive character flourishes. The double bass of Charlie Haden sounded as large as life as his Quartet West ensemble sauntered through 'Silence' from *The Private Collection* 3LP live compilation [Naim Records LP110]. Each note was warm, rich and resonant.

Equally instructive of the TT level 2.1DC's ebullient but still fine touch sonics was the trumpet at the centre of 'Blue Train' from John Coltrane's 1958 album of the same name [Blue Note JST 81577]. This arrived with a real snap and dynamism to stir the soul, while the deck's rhythmic security carried the track along like a dignitary in a sedan chair. For a sub £2000 performer that's guaranteed to make you sit up and listen, you need look no further. :)

HI-FI NEWS VERDICT

The Takumi level 2.1DC is a fine addition to the turntable market, this brand appearing seemingly out of nowhere (in the UK at least!) but with instant impact. This mid-range deck is compact, elegant, thoughtfully engineered and machined to a high standard, and the resulting sound is likely to win it many fans: precise, but also dynamic and forthright. An 'artisanal' product, but one perhaps destined for mass appeal.

Sound Quality: 86%



ABOVE: The SpeedPod takes over from the deck's rear 33.33rpm/45rpm lever, offering electronic speed control and fine pitch adjustment in $\pm 0.01\text{rpm}$ steps