

# Thiele TT01/TA01

The man behind more than a few iconic and longstanding turntable designs – including Thorens – has distilled that lifetime’s experience into his own brand. Welcome, Thiele...  
 Review: **Adam Smith Lab: Paul Miller**

It’s always exciting when a designer of great renown finally brings to market an own-name product. So while many of us may not instantly recognise the name Thiele – not to be confused with the Thiel Audio brand of the US that declared bankruptcy in 2018 – there is every chance that we’ve already come across one of Helmut Thiele’s many creations.

With loudspeaker designs for companies including Castle, Tannoy, ALR Jordan and Heco under his belt, plus turntable products for Magnat, Genuin Audio and Thorens, Helmut Thiele has a design career spanning over 40 years. His first own-brand product is the TT01/TA01 turntable/arm combination, which harks right back to his beginnings, and a university diploma thesis [see boxout, p55]. The standard deck retails for £23,998 as tested, or £26,998 with a bronze-finished tonearm and gold platter mat. In both cases the plinth colours are black silk matt, anthracite silk matt or any RAL colour on request.

## THAT’S THE SPIRIT

The Thiele TT01 is a belt-driven design based around a three-layer plinth that makes use of constrained-layer damping for vibration control. The bottom layer comprises a sandwich of bamboo between two layers of ‘multiplex wood’ (similar to plywood, but with more layers) and carries the three feet, the motor, the drive electronics and the output XLR terminals. The feet are conical and adjustable from the top for levelling – a task made easy by the two spirit levels recessed into the plinth [see picture, right].

The centre layer of the plinth carries the armboard and is entirely multiplex wood, separated from the lower and upper layers by a special adhesive. Finally, the upper layer is bamboo and sports the main platter bearing and control panel.

**RIGHT:** The TT01’s constrained-layer chassis is supported on three adjustable feet for precise levelling (note the inbuilt spirit levels). Electronic speed control is included while the hard foam platter mat is ‘user optional’ [Lab Report, p57]

The TT01’s synchronous motor is driven by the deck’s own internal circuitry. Speed adjustment of ±5% is offered through trim pots [see pic, p57] and main power is provided by an offboard switchmode PSU. Three lovely, sturdy illuminated buttons select off, 33rpm and 45rpm.

The motor drives a metal sub-platter via a flat belt and this spins on a 10mm-diameter bearing shaft with a 7mm ball bearing at its base, and an ebony record spindle at its apex. The bottom bearing housing includes a ring-shaped Delrin surface, rather than a flat base plate, that Thiele claims ‘creates an even, controlled braking torque that keeps the drive motor constantly running against a small load’. Smooth and predictable running are the cited benefits.

Similar to the plinth, the TT01’s platter is a three-piece construction. An acrylic disc fits over the alloy sub-platter and then a final aluminium outer platter drops onto this. Again, the arrangement of materials

contributes to good damping with peripheral mass for added stability. To top the platter, Thiele’s RM01 mat, made from a hard, foamed plastic, is supplied though users may prefer a choice of their own.

## THALES’ THEOREM

Arguably the star of the show, the TA01 tonearm is similar in concept to the 5A/5T models from Reed [HFN Apr ’24], both designs making use of Thales’ Theorem in order to keep the cartridge parallel to the groove across its travel. Applying Thales’ maths to the configuration of the tonearm bearing means that the headshell remains at a right angle to the groove as the arm hugs a tangent, rather than describing an arc, across the record surface.

The result is that Thiele’s TA01 arm boasts a minimal 0.036° error in lateral tracking angle. Naturally, there’s a lot going on with the linkages required to achieve this, but the engineering quality

*‘The TT01/TA01 harks back to a university diploma thesis’*



‘Thiele’s TA01 arm boasts a minimal 0.036° error in lateral tracking angle’



is such that they impart minimal adverse effects – free play – on the assembly.

The TA01 has a twin-walled carbon fibre armtube with a gel filling inbetween. The two levers that guide the arm through its intended path are made from ebony, as is the insert within the counterweight. There's also an ebony 'damping layer' on top of the headshell.

### ARM WRESTLING

Although there is no tonearm rest as such, the arm can be locked into a secure position using a screw on top of the bearing housing. After unplugging a small connector, the whole arm assembly can be lifted off for easy cartridge fitment. VTA and azimuth are both adjustable and the elegantly damped cueing device is accessed from the top of the bearing housing. Setup of the arm is more complex than some, but the manual is clear and walks you through the steps logically.

### HELMUT THIELE

Helmut Thiele began his training in 1972 with a degree in Mechanical Engineering at Ruhr-Universität Bochum, switching to Industrial Design at FH Krefeld. His final semester projects included designing and building a complete motorcycle, and something more manageable – a turntable and a unipivot tonearm built with the engineering assistance of a local company, Acapella Audio Arts. The result was a fully functioning turntable [see inset picture] that included an arm that is the great-granddaddy of the uni-pivot 'Point' tonearm that Thiele has more recently designed for Germany's Genuin Audio.

In return for Acapella's assistance, Thiele developed the production moulds for the midrange and bass horns of its loudspeaker series, before being commissioned to design a valve preamp and power amp for Michaelson & Austin in the UK. Forerunners of Musical Fidelity, these were released as the TVP-X and M-100 models, respectively, and came about through a friendship with Peter Mühlmeier of ATR Audiotrade, who distributed M&A in Germany. Today, ATR is Thiele's German distributor. Other products followed, including loudspeakers and racks, while Thiele secured his place as a go-to industrial designer for brands including Thorens, Magnat and Heco for many years. His 'zero tracking error' TA01 tonearm was first prototyped in 2009 and the turntable followed in 2019, both products entering production in 2021.

The TA01 arm is available on its own for £11,898, complete with a termination box containing either XLR or phono connectors, or for £11,798 with an integrated 5-pin DIN connector. You can also have the arm with bronze metal parts, gold plating and additional ebony damping inside the armtube, with any of the three termination options, for £15,000.

### RIGHT ON TRACK

With my regular Ortofon Cadenza Black MC pick-up installed on the TA01 arm, it soon became apparent that Thiele's debut system is a reference-class front-end. Playback has a depth and scale that is quite astonishing at times, meaning instruments and vocalists are cast into the listening room with captivating realism. It's almost like a set of 3D glasses for your



**ABOVE:** The TA01 tonearm features a vertical bearing hinged on its right side (seen from the front) and is set into a large yoke that's hinged on the left. As the arm traverses the platter it describes a tangent rather than an arc

ears, and accompanied by a top-to-bottom uniformity in the frequency range that means everything you need to hear is right where it should be. Nothing seems overblown, cast aside or made to sound unusual or quirky. The feeling is that you are hearing what is in the grooves – nothing more and nothing less.

### EXPERIMENTATION TIME

First, however, I did have a slight concern about groove noise. This was never hugely intrusive, but a little investigation led me

to conclude that Thiele's mat was having an effect. Changing to a Vertere Techno Mat helped with the background noise, but unsettled the otherwise sweet sonic balance of the TT01/TA01. Ultimately, I chose to stick

with Thiele's RM01 mat for the duration of my audition, but there is scope for experimentation here.

Listening like this, the TT01/TA01 proved scintillating with everything I put on the platter, giving an effortlessly balanced, insightful view of the music. The bell tolling in the distance during the introduction to the title track of The Eagles' *Long Road Out Of Eden* [Universal 06025 17546950] arrived with a proper sense of weight and impact, and Thiele's deck went on to pull Don Henley's lead vocals out into the room. Everything behind him appeared expertly arranged, and the string ⇨

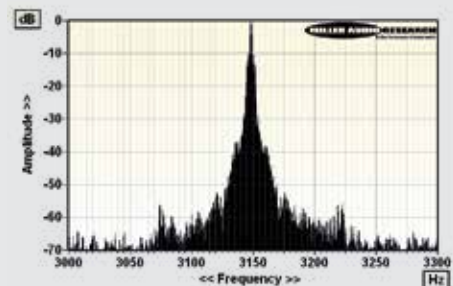


# LAB REPORT

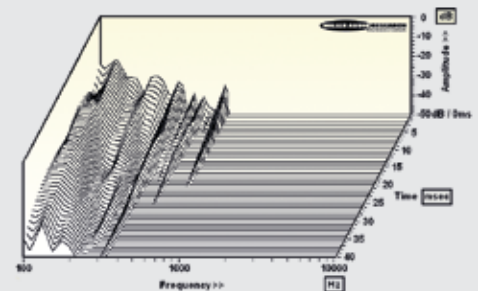
## THIELE TT01/TA01

Thiele's use of a short belt to close-couple the AC motor to the sub-platter confers good control – the peak-wtd wow is just 0.03% [see Graph 1, below] – but the technique brings with it the potential for transmitted noise. In practice Thiele has selected a motor that's both quiet and possessed of limited torque, so the start-up time is around 5 seconds. This, and the fixing of the motor to a separate layer within the chassis superstructure, does nothing to compromise the low –69.7dB noise (DIN-B wtd, re. 5cm/sec) achieved by the main bearing. The latter – a hardened steel shaft running in bronze bushes and with a ceramic ball/Delrin thrust pad – is fixed to another layer within the chassis. Transmission of mechanical noise up through the polymer inner platter is very well damped, the TT01 achieving a state-of-the-art –74.9dB through-groove noise (this increases to –73.1dB if the hard foam 'mat' is used on the platter). Absolute speed is adjustable via two trimpots [pictured, left], realising a mere –0.06% error in this example.

The partnering TA01 tonearm is superbly engineered. What Thiele describes as a 'double wall' tube is, I assume, alloy with a carbon-fibre coating (as employed by Pro-Ject) and further damped here with an internal gel. The alloy headshell and rear counterweight stub include ebony wood as a further damping component, the effect realised in the controlled behaviour seen on the CSD waterfall [Graph 2] where a primary 125Hz beam mode is joined by harmonics/twisting resonances at 215Hz and 335Hz, and a discrete mode at 655Hz. The TA01's 14g effective mass is suited to medium-compliance pick-ups while the combined hinge/gimbal bearing(s) maintain a very low <10mg friction in both planes. PM



ABOVE: Wow and flutter re. 3150Hz tone at 5cm/sec (plotted ±150Hz, 5Hz per minor division)



ABOVE: Cumulative resonant decay spectrum for the TA01 tonearm, illustrating various structural support and tube vibration modes (100Hz-10kHz over 40msec)



ABOVE: The TA01 tonearm's balanced wiring exits in a pair of XLRs on the rear of the chassis [left]. PSU input and fine speed control pots [right] complete the connections

movements on the acoustic guitars were crisp and lifelike.

In fact, often the TT01/TA01 seemed able to focus on an aspect of a track and gently present it in a more realistic manner that I'm used to. Romany Gilmour's vocals on 'Between Two Points', from David Gilmour's recent *Luck And Strange* album [Sony 19802804611], being a case in point. They sounded exquisite here – clear, natural and beautifully presented centre-stage.

Her playing of the harp at the start of the piece was also a delight, with a vivid 'squeak' to each string being plucked, yet without any feeling of artifice. Then, a few minutes in, a snare drum joins the percussion, and is struck regularly throughout the rest of the track. Again the TT01/TA01 made this sound utterly authentic, an insistent, punchy presence in the room.

### LICENCE TO THRILL

This turntable's clarity and precision meant the delicate bassline that forms the backbone of 'The Rest Of Me', from Michael Kiwanuka's *Small Changes* album [Polydor 6590614], was a pleasure to follow. The TT01/TA01 has a low-end delivery that is taut, detailed and blessed with rock-solid timing, and it made this smooth, languid track skip along with a wonderful lightness of touch. At the same time, the equally delicate background percussion was clear to hear, while Kiwanuka's soulful vocals simply did their thing in the centre of it all.

Of course, this sort of analytical behaviour is all very well on simpler productions, but if a deck falls apart when the going gets a bit more boisterous, then that's no good at all. Fortunately, the soaring, massed strings of the Royal Philharmonic Orchestra backing singer/songwriter Harriet on 'Love Will Burn', from

the deluxe edition of her self-titled debut LP [Bright Star Records V56648], powered enthusiastically into my room. Harriet herself describes this track as her 'Bond theme without a Bond film', and as the chorus reached its crescendo for the second time, I couldn't help wondering if the pen in my hand was an exploding one, and what that button on my watch that I've never pressed actually does...

### ANYTHING GOES

Other music proved that anything is within the TT01/TA01's capabilities,

and it'll get up and party with the best of them if you want it to. Michael Kiwanuka's fluid basslines and the rich, deep rumbling low-end on the David Gilmour track were

all very well, but Thiele's turntable absolutely earned its stripes with the nightclub beats of 'My Oh My' by Kylie Minogue, Bebe Rexha and Tove Lo [BMG 964050400, 7in single]. A twist of the volume control had this thumping out of my loudspeakers, the TT01/TA01 combi conveying the drive and energy of the production while maintaining excellent control. My oh my, indeed! ☺

'It's described as a "Bond theme without a Bond film"'

### HI-FI NEWS VERDICT

The TT01 turntable and TA01 tonearm are stunning showcases for a talented designer with a career spanning over four decades, and nothing to prove. These latest creations to bear Helmut Thiele's name are a distillation of this experience – the fit and finish of both deck and arm reflecting the engineering prowess and top-flight sound achievable when partnered with a similarly ambitious (MC) pick-up.

Sound Quality: 90%

