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# Reed Muse 1C/3P

Artisanship and innovation meet in this precision-engineered turntable/arm combo that brings 21st century know-how to bear on a pre-Millennium turntable technology  
 Review: Ken Kessler Lab: Paul Miller

Maybe you can teach an old dog new tricks. After decades of being dismissive of idler- or rim-drive turntables, if not downright hostile towards them, I have had my ears opened by Reed's Muse 1C. A previous owner of a Thorens TD 124 [HFN Jun '59] and a Garrard 401 [HFN Dec '65], I never considered them to be as rumble-free nor as quiet as direct-drive or belt-drive turntables. The Lithuanian-designed and built Muse 1C, at £9998 without arm, the least expensive model in a range of three, has changed all that.

Reed calls its reimagining of this technology 'friction-drive', and as it defines the belt-free review sample, it just may be about the most user-friendly turntable I have experienced in decades. Installation of the arm notwithstanding, this was a no-brainer to set up – I only looked at the manual to investigate one novel feature...

## SCIENCE FRICTION

Driven by a hefty external PSU, the Muse 1C has only one connection to address and that's the socket around the back to accept the power source. This Reed deck, like so many others, will accommodate a variety of other arms but it's worth noting that the leads exit from the arm itself here and not via sockets at the rear. The accompanying power supply has a main on/off switch, while the deck is operated by five buttons on its top panel for power-on from standby, and the choice of 16, 33, 45 or 78rpm, the last of those with fine speed adjustment from 70-85rpm [see pic, p51].

But back to the drive system [see PM's boxout, p49]. Reed told me that it believes the biggest advantage of a 'precisely made friction or rim-drive compared with belt- or direct-drive is rotating disc speed stability'. Moreover, the manufacturer states that

wear-and-tear of its drive wheels will not affect speed stability.

Note that I wrote 'wheels' plural because Reed's Muse 1C is driven by two direct-current motors. To reduce possible mechanical vibration [see PM's Lab Report, p53], Reed has fitted traction rollers of different diameters, 'spinning at different velocities and having mathematically non-multiple diameters to driving disc diameter'. Disc rotation (speed) is stabilised by a quartz-based phase-locked loop (PLL) system, and Reed specifies an average speed deviation of ±0.05%.

As if having studied the psychology of audiophiles, and reminding me of the late Tim de Paravicini producing his first EAR-Yoshino amplifiers in both valve and solid-state form with the same circuit, Reed has addressed belt-drive devotees despite preferring friction-drive. I was told that, 'For belt-drive fans, we left the possibility to convert the friction-driven to a belt-driven system in minutes by replacing

the traction rollers, putting on a belt and setting a switch to the correct position'. How amazing is that?

## DREAM SCREEN

Easy the Muse 1C may be to install, but you might want to look at the manual to discover the ingenuity of the display. In addition to showing the speed – and this deck is fast when it comes to start-up – it also indicates if the deck is perfectly level thanks to an electronic inclinometer. The user can thus achieve faultless horizontal positioning without needing a spirit level as the LCD displays via pointers how to adjust either of the two front feet, leaving alone the one at the back.

Let's discuss, however, the elephant in the room – or how this deck is drop-dead gorgeous. The chassis shown here is sculpted from Karelian birch ply, which coincidentally matched the side view of my DeVore O/93 loudspeakers [HFN Mar '23], while the basic model is finished in 'Moonlit

'This was dazzling stuff from a well-known album'



RIGHT: The slender platter and raised centre section allows the rim-drive mechanism [see boxout, p49] to be housed without resorting to inelegantly thick plinth. Arm mount hosts 9.5-12in types while speed control LCD also facilitates an electronic inclinometer



Black'. It is substantial at 15kg and not tiny at 485mm wide but headache-free as there is no floaty suspension to futz around with once you've ensured that it's level. The composite platter is topped with a soft suede mat, and – though not supplied – I used it both with and without pucks.

## TAKE YOUR PICK

Fitted to the deck was the 12in 3P arm which starts at £4298; it is the middle model of a range of five. I have never seen an arm with so many options, including five wooden arm wands and one in carbon fibre; five finishes; 9.5in, 10.5in or 12in arm lengths; eight cable types; DIN or phono plugs; three counterweights; two headshells; and a full complement of spares. Ours was fitted with the 12in

option (£215), the Palladium Satin finish (£720) and Cocobolo wand (£170).

Diametrically opposed to the ergonomic brilliance of the deck, the tonearm portrays the designer [see interview sidebar, p51] as both a genius and a sadist. As operationally simple as is the turntable, the arm requires the hands of both a watchmaker and brain surgeon. I was reminded of cranky models of yore where once you balanced one area, another was knocked out of alignment.

Less complex than Reed's 5A tonearm reviewed previously on the Dohmann Helix Two Mk3 deck [HFN Jul '23], which is essentially a moving parallelogram, the 3P is a 'tri-pivot' – a unipivot horizontal bearing with two pivots for vertical movement, all with

ABOVE: Seen with Karelian birch plinth, our Muse 1C had a 12in 3P arm in Palladium Satin finish and fitted with a Cocobolo wand. The platter is topped with a soft leather mat

magnetic stabilisers [see close-up pics, p51]. Ultimately, Reed describes it as a gimbal that acts like a unipivot, attributing to it the rigidity of a former with the low friction of the latter.

The vertical pivots are not captive *per se*, so you have to be careful not to pop them out of the cups. As with any item you encounter with *outré* behaviour, you soon develop familiarity, but I was berated by the distributor for not acting as if the 3P was as simple to use and as self-explanatory as a toothpick.

It is not. Nonetheless, the hassle is worth every curse word I uttered because the performance on offer here is quite exceptional.

Among its features are VTA adjustment while the record is playing, as well as azimuth adjustment with the LP in motion – and wow (pun not intended), are these settings audible. The magnetic anti-skating, too, is user-variable while the record is playing, and one cannot overstate the value of all three capabilities when using cartridges with fine-line styli or types such as Deccas which are extra-critical about VTA. While I still find the 3P unduly demanding of the user's attention and the need for kid-glove handling – this is no SME V nor Rega RB3000 – the sound is truly fabulous, and cartridge obsessives will think it's Christmas every day.

## REED ALL ABOUT IT

While I was tempted to play only records by Jimmy, Jerry or Lou Reed, *et al*, I eschewed gimmickry and went straight to one of this year's milestone reissues, ↪



## IDLE THOUGHTS

Old-school idler-drive decks from the 1950s onwards – including Garrard's 301, 401 and the Thorens TD 124 – pre-dated the modern direct- and belt-drive solutions that have subsequently dominated the market. These classic models typically employed a motor, stepper pulley and rubber capstan wheel that was engaged up against the inside rim of the turntable platter, 'driving' it along. A separate braking system was added to stop the platter in its tracks but problems with these solutions could manifest over time. For example, the mechanisms were typically greased rather than oiled, and could gum up in less than dust-free environments. Similarly, leaving the capstan wheel pressed up against the platter or stepper pulley when not in use could result in flat spots along its edge. Increased wow & flutter was the upshot just as noise was injected directly into the platter as the 'shaded pole induction' motors aged and the rubber compounds hardened.

Reed's solution is not only more 'direct' but also benefits from improved rare-earth magnet/motor technologies, quartz-locked speed control electronics and the promise of improved mechanical tolerances. In this case the platter is not driven via its rim but via two high-speed DC motors with soft polymer pulley wheels [the orange discs in our inset picture] that press up against the periphery of a sub-platter. Both motors pivot on a suspension and are drawn, via an electronic clutch, either away from the sub-platter or onto its edge when in play. And, because the 16-78rpm speeds are directly governed by the electronics and DC motor, there's no need for a stepper pulley. So, as direct-drive is making a comeback, will modern 'idlers' be the next big thing in vinyl replay? PM

## VIDMANTAS TRIUKAS

Although Reed's founder/owner Vidmantas Triukas is an audio designer, he's also a passionate art lover who studied art history in Russia from 1980–1982. He left that world in 1985 for radio engineering, specialising in acoustic and ultrasound research. 'I focused on the transmission of acoustic noise in different materials, earning three patents in this field, and this work has informed the usage of woods, composites and other materials in Reed turntables and tonearms.'

In 1987, Triukas and a few friends built a system consisting of a turntable, speakers and an amplifier, to present in USSR's largest technical achievement trade show in Moscow. Their efforts were rewarded with a bronze medal in the audio equipment category for various innovations including automatic speed control for turntables and an amp with low linear distortion.

Following a hiatus from working with hi-fi, Triukas realised audio was still his passion. In 2007, he decided to start a business that would introduce what he says was, 'something amazing to the market. After a year of continuous research, prototyping, design and testing, we produced the first Reed tonearm'.

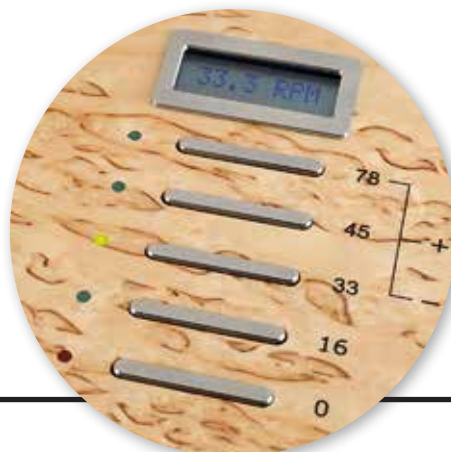
Triukas continues developing new tonearms and turntables but, he says, 'A lot of ideas stay in the drawer. Hopefully, some will become viable products in the future'. As a teaser, he reveals that a tangential tonearm he has been working on for the last five years has only now become viable in the last six months. He adds 'Finally, I have a new product'. Watch this space!



**ABOVE/INSET:** Horizontal movement is governed by a single unipivot [top of inset pic] while vertical movement is accommodated by two unipivots either side of the arm [under the screw heads]. Pivot stabilisation, and bias compensation, is achieved via chromed magnets that are inserted into the alloy yoke

the new One-Step 180g VR900 vinyl pressing of Isaac Hayes' *Hot Buttered Soul* [Craft Recordings CR00504]. While I was expecting the keyboards to reveal all, it was a matter of atmosphere and spatial ambience which made me forget about bearings in cups and other irritants. Quite simply, I couldn't believe the space around and the deep location of guitarist Harold Beane during the lengthy opening segment of the oft-covered 'Walk On By'.

**BELOW:** A full four speeds are on offer, and an electronic inclinometer for accurate levelling (the deck has three adjustable feet), all indicated on a small LCD panel on the top of the plinth



It had me swapping cartridges (not easy...) just to confirm this 3D effect, from a Decca Gold [HFN Apr '01] to a Denon DL-103 [HFN Apr '70 to Jul '09] – the champions in this area. The effect was to create not just a cavernous sound but a disappearing act as the walls fell away. It remained consistent, too, via disparate speakers and even amplifiers. Who would suspect that a turntable would have that calibre of effect on soundstage?

This, of course, would matter not a bit if the music within that space didn't sound real, natural, uncoloured. Hayes' voice had all of the familiar textures, a total absence of sibilance (yes, even with the crispy-treble Decca), while the piano opening Side 2 was as vivid as the one in our front room. Dazzling stuff from a well-known album.

### GO WEST

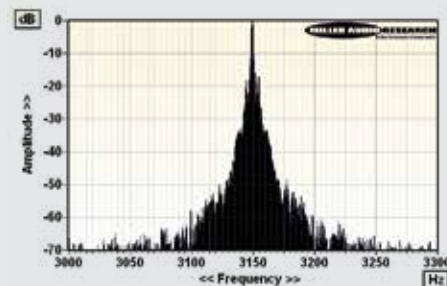
The Reed combination also demonstrated its own personality in the bass. So rich was it, so free of artifice, that I wanted to simply keep on playing Hayes' *Hot Buttered Soul*. But instead it was time to present the Reed package with a challenge: hard rock, – nay, nascent heavy metal – but of a dark, murky sound. It was begging the question asked of all high-performance gear – can it render a so-so recording more listenable... or simply less objectionable? ⇨

# LAB REPORT

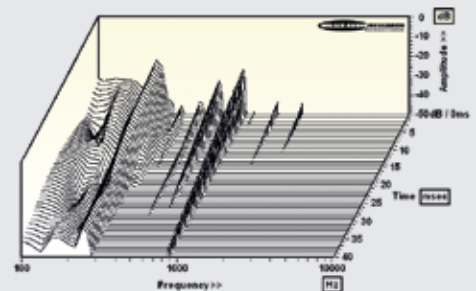
## REED MUSE 1C/3P

Turntables equipped with DC motor solutions have a somewhat chequered history in our lab tests with many exhibiting a very low-rate drift, but the edge-driven Muse 1C, powered via an outboard 12V SBooster BOTW mkII supply, proved rock-solid with an absolute speed accuracy of  $-0.03\%$  and a peak-wtd sub-5Hz wow of  $<0.01\%$ . The sharpness of the driving peak in Graph 1 would put the best direct-drives to shame but there's also a discrete  $\pm 6\text{Hz}$  wow (which would correlate if one DC 'roller' was rotating at 200rpm) that increases the total peak wow to 0.04%. This peak is visible in the un-wtd magnitude spectrum [not shown here] as are broad clusters of noise between 10-15Hz and 60-80Hz at  $\sim 75\text{dB}$  below the 1kHz/5cm/sec reference output. These contribute to the uncorrelated, noise-like shoulders on Graph 1 and the modest 0.03% peak-wtd flutter, and also manage to punch through the DIN-B weighting curve of the bearing rumble test to the tune of  $-67.9\text{dB}$ . However, and more importantly, the combination of the slightly under-sized spindle, the composite platter and leather mat draw the through-groove rumble down to a very fine  $-73.2\text{dB}$ , putting the Muse 1C in the 'top drawer'.

The partnering 12in 3P tonearm, equipped with a Cocobolo wood arm wand, shows a similar low-Q beam resonance at  $\sim 60\text{Hz}$  that we observed with the Reed 5A 'tangential-tracking'/double-pivot tonearm [HFN Jul '23], although the 3P retains the low friction/stiction multi-unipivot [see p51] without the tracking error compensation of the 5A. Again, there's a clean high-Q mode at 235Hz [see CSD waterfall, Graph 2] with harmonics at 470Hz, 600Hz and 870Hz – resonances that will change with choice of wood and wand length. The high 19g effective mass suggests compatibility with low compliance MCs. 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 Reed 3P tonearm, illustrating various structural support and tube vibration modes (100Hz-10kHz over 40msec)



ABOVE: The 3P's underslung counterweight lowers the centre of gravity, further improving the stability of its 'multi-unipivot' bearing. The VTA/height adjustment dial is also easily accessible on the top pillar. The deck's 12V DC input socket is also visible

The hugely underappreciated guitarist Leslie West released a staggering debut called *Mountain* [Windfall 4500] before he created the band of that name. I have never heard a pressing that isn't thick-sounding, even when his searing leads break through. While the Reed Muse 1C deck and 3P arm could not remix the album, the benefits were not dissimilar to that sort of makeover for this 1969 release, as if a layer of muck had been removed or a better-generation tape had been found. Something else Reed's combination unveiled was low-level activity I hadn't heard before, benefitting in particular the bass and percussion which were otherwise responsible for the murk.

### PUCK AND PLAY

With the remastered anniversary release of Paul McCartney & Wings' *Band On The Run* album [MPL Communications 602455435620], surely the sonic antithesis of Leslie West's *Mountain*, the Reed Muse 1C/3P was being fed something more worthy of its skill set. I am fully aware that luxury pressings are felt to give hardware an easier ride, hence the need to experience an LP like *Mountain*, but that's an argument no less rhetorical than using better cables or aftermarket accessories. Thus, it was with *Band On The Run* that I experimented with using various record pucks.

It was a reminder that even small gains can be audible, and they're desirable, too, if neither expensive nor irreversible. Before adding a heavy puck, it was apparent that the revelatory qualities of the Reed front-end were sufficient for exposing all of the changes in a new mix or remastering. As familiar as is Wings' LP, the sound was more lively, more detailed, and when it came to the lead guitar fills, more powerful with stunning attack,

speed and authoritative transients. What I didn't expect to hear were – however small – the still audible gains from a puck.

### ALL IS REVEALED

This is no criticism of the Reed Muse 1C, in that it benefited from a heavy puck, less so a clamp. Even without either, the sound is gripping, involving and devoid of artifice. What is so noteworthy is that this Reed system reacted to every little tweak, which tells you – or me – that the 3P tonearm is a finely tuned, well-engineered device. Indeed, its response to aftermarket accessories is as one might expect of a component which exhibits, among its most admirable properties, absolute transparency and precision.

Paul McCartney's voice, the entire LP – it couldn't be more recognisable if they were family members speaking to me. But that is what made it a perfect choice for challenging the Reed Muse 1C/3P. If it could bring more to the musical event, reveal more, expose just a minor nuance or two, then it was reward enough for any fastidious listener with the necessary funds and the right ancillaries. ☺

### HI-FI NEWS VERDICT

Despite the rise of streaming, audiophiles are still enjoying a surfeit of stunning turntables. So quiet, so dependable, so delightful to operate is the Reed Muse 1C that the quirks of the 3P arm cease to matter. Regardless of cartridge, the combination delivered amazing speed and detail while eschewing fatigue or aggression. If your idea of a listening session runs to six hours, you need to hear this.

Sound Quality: 89%



### HI-FI NEWS SPECIFICATIONS

Turntable speed error at 33.33rpm	33.32rpm ( $-0.03\%$ )
Time to audible stabilisation	2-3sec
Peak Wow/Flutter	0.04% / 0.03%
Rumble (silent groove, DIN B wtd)	$-73.2\text{dB}$
Rumble (through bearing, DIN B wtd)	$-67.9\text{dB}$
Hum & Noise (unwtd, rel. to 5cm/sec)	$-60.8\text{dB}$
Power Consumption	6-12W
Dimensions (WHD) / Weight	485x140x305mm / 15kg