

# Pro-Ject RPM 3 Carbon

Blending simple looks, carbon arm and a ready-mounted pick-up, this deck could be just the ticket for newbies wanting a fuss-free intro to the world of quality vinyl replay  
 Review: **Andrew Simpson** Lab: **Paul Miller**

**W**ith sales figures set to reach a 20-year high in 2015, vinyl is officially 'cool' again. And with turntable manufacturers keen to capitalise on this new-found popularity, there's never been a better time to choose from a range of quality decks built around a simple plug and play approach. Pro-Ject Audio Systems is, of course, no stranger to this part of market, and has been offering turntable packages at beer budget prices for years, with upgrades at every turn [see boxout, p69].

Pro-Ject's RPM 3 Carbon joins the longstanding RPM range, sitting above the RPM 1 Carbon (£325). Both decks follow the original Genie aesthetic – eschewing a traditional rectangular plinth in favour of a stripped back boomerang-shaped chassis, which extends out from under the platter to support the arm and external motor.

The RPM 3's extra £275 outlay over the RPM 1 buys you a range of upgrades to take it to the next level, including a better platter, 10in tonearm (instead of the latter's 8.6in version) and a newly-designed Ortofon 2M Silver MM cartridge in place of the 1's 2M Red model.

## RESPLENDENT FINISH

Every aspect of this turntable feels solidly constructed, and while the RPM 3's 33mm-thick MDF plinth may be minimal in meat, it's certainly not in attention to detail. Our test model's resplendent white finish looked top quality, and this was emphasised by its finely chamfered upper edges and countersunk bearing screws.

The bearing itself is an inverted design comprising a 50mm polished stainless shaft with a ceramic ball pressed into its tip, spinning inside a brass sleeve pressed into the platter's underside. The lower bearing shaft passes through an oversized hole in the plinth and attaches to a 20mm-thick round steel plate, bolted to the deck's

underside. At over 1kg this plate comprises a sizeable slice of the deck's 5.5kg heft and serves to balance the deck's weight distribution, while keeping bearing noise low [see Lab Report p71].

The RPM 3's 32mm-thick sandwich platter is made from MDF topped off with a 5mm layer of recycled vinyl bonded to its upper surface – ensuring the mating surface between vinyl LPs and the platter have similar properties. Flipping the platter over reveals yet more detail, with numerous strategically drilled holes of varying depths around its outer edge designed to dynamically balance each platter – just as you would a car wheel with weights distributed around the rim.

To get the platter spinning the RPM packs a standalone AC motor that's powered by a wall wart transformer/synthesiser. The cylindrical motor sits within a dedicated cut-out in the plinth, which gives a neatly integrated look while helping to ensure correct positioning and thus belt tension to aid speed stability. Alongside its twin

pulleys for 33.3 and 45rpm, the motor also features a top-mounted on/off switch with a red LED, along with a foam base that offers impressive levels of grip. The main chassis sits on three cone-style feet with accompanying cups, with the two rear feet packing rubber isolators sandwiched between their uppers and lowers, while the small solid front cone is bonded to the bottom of the bearing plate.

## HYBRID ARM CONSTRUCTION

Bringing the package bang up-to-date is a new arm and cartridge combination that boasts a wealth of exotic materials for a deck of this price. The tonearm blends a traditional S-shaped arm wand with a thoroughly modern-looking carbon fibre skin. I say 'skin' because this arm is actually a hybrid carbon/alloy construction, a design partially inspired by *HFN* lab tests revealing a range of unfavourable high-Q resonances in pure carbon fibre tonearms.

To counteract this, the RPM 3's arm uses heat



**RIGHT:** The motor sits in a dedicated hole in the plinth, offering manual speed change for 33 and 45rpm via a stepped pulley. Vinyl topped MDF platter is dynamically balanced at the factory



and pressure treatments to bond a layer of carbon over an inner alloy tube, improving its mechanical behaviour.

The arm's superbly finished joint-free headshell, finger-lift and main wand are fixed to a barrel-like bearing housing and arm-pillar which offer a range of adjustments including VTA and azimuth, via recessed hex bolts. And to keep set-up simple, the arm also includes a new type of magnetic anti-skate, which is operated by a smoothly governed finger-wheel and accompanying sliding scale that's neatly integrated into the arm pillar.

Downforce is set via the traditional sliding weight method using a solid alloy circular counterweight with TPE damping around its off-centre hole.

Completing the deck is Ortofon's newly-released 2M Silver pick-up, which costs £150 on its own and upgrades the entry level Red version with silver spools in its generator system.

With the deck unboxed, set-up is as straightforward as Pro-Ject intended. Simply site the chassis on a level surface and then add the platter, motor, external

drive belt and power supply. Reinforcing its box-ready ethos, our model came with its cartridge already aligned, so all that was left to set was tracking force, which means resorting to the supplied see-saw weight and printed alignment paper, although we used a digital scale to ensure a more precise figure. Our test model also came equipped with Pro-Ject's new interconnect cable that's destined for future models and sports a woven design with a translucent jacket and separate earth lead.

### A SENSE OF WARMTH

As soon as the deck's elliptical stylus hits the groove of Ron Sexsmith's 'Me

Myself And Wine' from his *Forever Endeavour* LP [WEA 1-534463], the Pro-Ject illustrates perfectly why vinyl's appeal has endured through the ages. With the deck hooked up to my Primare R32 phono

stage [HFN Jan '12] and partnering Musical Fidelity M6PRE/PRX amplifiers [HFN Nov '13], I'm greeted with music that's a well balanced blend of mature detail and plain fun. Sexsmith's vocals are nicely opened up

'It's hard to tell  
this vintage  
pressing from a  
brand new LP'

## VINYL PACKAGE

Founded in 1990, Austria's Pro-Ject Audio Systems has spent the last 25 years establishing itself as the planet's biggest hi-fi turntable maker, churning out around 10,000 units each month. Since launching its Pro-Ject 1 deck over two decades ago, the company has gone on to lead the charge in offering curious consumers a dizzying selection of entry-level packages that blend style and simplicity with genuine sonic substance. First came the Debut in the late '90s, followed by the stripped-down Genie. Fast forward to today and Pro-Ject has squeezed down prices even further with its Elemental line-up starting at £159 – each model pre-installed with an Ortofon MM pick-up, set-up and ready to play fresh from the box. And with options including USB outputs plus lots of upgrades, Pro-Ject continues to make getting into vinyl all the more accessible.

**ABOVE:** S-shaped carbon fibre tonearm boasts an alloy inner tube, magnetic anti-skate adjustment and a new Ortofon pick-up. The deck's gloss finish also comes in red or black

to reveal their intentionally relaxed tones, while each shake of the tambourine is presented with a natural ring and decay.

What's also apparent from the outset in the Pro-Ject's overall character is how well it tackles detail delivery for a deck in this class, without it being so spotlighted that the music becomes overly clinical or dry. The horn sections within the track have a welcome sense of warmth around their edges, which makes the track all the more accessible, while at the same time retaining enough focus for them to be equally well defined in the soundstage.

What also hit me early on about the Pro-Ject's performance were the impressively low levels of background noise. Cueing up a 1984 pressing of Foreigner's *Agent Provocateur* [Atlantic 781 999-1] that's seen plenty of action, I'm expecting to hear two decades' worth of use within each 'silent' groove separating the tracks.

But with the Pro-Ject and partnering Ortofon calling the shots I'm hard pressed to tell this vintage edition from a new LP straight out of its shrink-wrap. And when the slow-building music kicks in from the standout power ballad 'I Want To Know What Love Is', the deck rolls back the album's years to show its production remains just as enticing today.

The sustained echo of the synthesisers and percussion has real body in the midrange, showing that the RPM package is well equipped to punch beyond what its physical form might suggest. And when the track's grand dynamics kick in there's no sense of the Pro-Ject ducking for cover as it gracefully moves from the subdued beats of the quieter sections to scaling ➔

## LAB REPORT

### PRO-JECT RPM 3 CARBON



**ABOVE:** Junction box with gold plated RCAs lets you replace the deck's standard phono cables when the upgrade bug bites. Freestanding motor connects to a 15V PSU

the heights as The New Jersey Mass Choir belt out their backing vocals.

What also comes across is a real sense of cohesion, suggesting arm and cartridge are pulling together, working in harmony. On most budget spinners it's usually a single aspect of this track that grabs my attention, whether it's the scale of the soundstage, the sweetness in the treble or the quality of the bass.

With the RPM 3 Carbon, however, there's no single sonic aspect that stands out; instead you get a very even delivery of the music, making it all more involving to listen to – and harder to analyse – as you're drawn in, enjoying the music.

#### SILVER DETAIL

Switching to more delicate material via an original pressing of *Fotheringay* [Island Records ILPS 9125] lets the RPM 3 settle further into its stride. After confidently treading through the opening track's complexities, the Pro-Ject package moves on to the second song, 'The Sea', where it really shines. The treble sounds mellow across Sandy Denny's vocals and without coloration, while the soft guitar strums have gentility in their restrained attack.

Having heard all of the 2M cartridges in recent years, it's clear that the Silver offers many of the range's characteristics, sounding extended and clean while still adding a dash of its own flavour. Compared to the cheaper Red variant, the Silver sounds much more detailed in its bass delivery and with some added weight.

With the Red and Blue [HFN Oct '08] models I usually find the upper limit of their recommended tracking forces gets the best out of them, which is in the region of 1.9g. With the Silver however, 1.7g seems to be the ideal sweet spot between bass depth and clarity.

Spinning Massive Attack's 'Safe From Harm' from their debut album *Blue Lines* [Wild Bunch Records WBRLP 1], the RPM 3 Carbon isn't afraid of digging deep into the groove and presenting the resulting bass with enough low-end grunt to get my Dynaudio Focus 260's woofers worked up. And while its bass is not ultimately at the wall-shaking and window-rattling level of the best sub-£1k decks, neither is it to be found wanting. With this deck the devil is more in the detail, and the well-rounded nature of the lower notes is where its focus lies.

Unlike many entry level decks, which can sound hollow in these lower notes, Pro-Ject's RPM 3 Carbon conveys enough body and presence to ensure bass instruments sound convincing and lifelike. As Mike Mills' bass line in his opening riff on REM's 'Belong' from the 1991 LP *Out Of Time* [Warner 9 26496-1] promptly heads south, the deck reveals every notes' changing texture as their resonances become deeper.

This goes to the heart of what this Pro-Ject deck is all about: delivering a performance that lives and breathes in a surprisingly persuasive manner! ☺

#### HI-FI NEWS VERDICT

With a good selection of decks to choose from at this price point, the Pro-Ject RPM 3 Carbon faces stiff competition from the likes of Rega and Inspire, to name but two. And yet the Pro-Ject has plenty to shout about thanks to its superb arm, bearing and MM pick-up. But what really marks it out from the crowd is its sheer 'completeness', delivering a sound that hugely exceeds the sum of its modest parts.

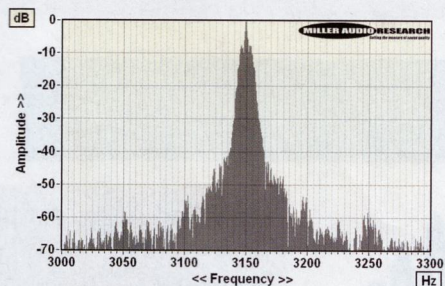
Sound Quality: 85%



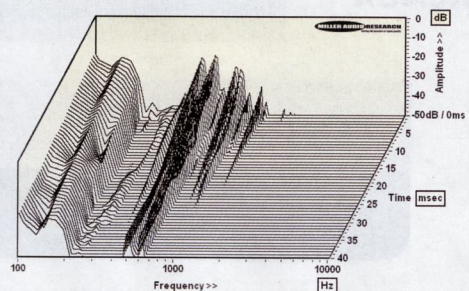
Perhaps the success of this little turntable is at least partially down to its light weight because the RPM 3 turns in a better set of figures than some of Pro-Ject's costlier, heavyweight decks. Through-groove rumble is comparable with the Xtension 9 [HFN Aug '14] but the RPM 3's far lighter MDF platter (with vinyl top surface) and tough ceramic-ball inverted bearing deliver a far superior through-bearing rumble of just -71.6dB. Wow and flutter is low too at 0.06% all-in (peak wtd) while the absolute speed accuracy is bang on the money [see dead-centre peak in Graph 1, below]. Start-up time is appropriately quick at 4-5secs.

The S-shape of the partnering '10s Carbon' aluminium/carbon hybrid tonearm necessarily yields a lower frequency and slightly more complex (150Hz/180Hz) main resonance than one of Pro-Ject's straight carbon arms, but the improved damping has also quelled those high-Q breaks that would typically appear between 1-3kHz. In this instance those stiff, carbon-esque resonant modes are reduced to 510Hz, 615Hz, 830Hz and 890Hz – a mix of harmonics, torsional modes and, above 1kHz, flexion within the headshell itself [see Graph 2, below].

Overall effective mass is a little higher than Pro-Ject's 9in carbon arms at 14g and although lower than Pro-Ject's 16g specification is still perhaps better suited to a lower compliance MC than the 20cu 2M Silver that's fitted. Also, although the two-part bearings betrayed very little friction (<10mg in both planes), some slight play was detectable in the pillar that governs horizontal movement across the LP. Readers are invited to view full QC Suite reports for Pro-Ject's RPM 3 Carbon turntable and 10s Carbon tonearm by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** Wow and flutter re. 3150Hz tone at 5cm/sec (plotted  $\pm 150$ Hz, 5Hz per minor division). Absolute speed is very accurate indeed



**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    | 33.32rpm (-0.03%)     |
| Time to audible stabilisation        | 5sec                  |
| Peak Wow/Flutter                     | 0.03% / 0.03%         |
| Rumble (silent groove, DIN B wtd)    | -68.5dB               |
| Rumble (through bearing, DIN B wtd)  | -71.6dB               |
| Hum & Noise (unwtd, rel. to 5cm/sec) | -64.4dB               |
| Power Consumption                    | 5W                    |
| Dimensions (WHD) / Weight            | 447x118x373mm / 5.5kg |