



## REGA PLANAR 6

### TURNTABLE

**R**ega's entry-level turntables—currently Planars 1, 2 and 3—have consistently been a top choice for those re-entering the vinyl world on a budget. The company's latest turntable, the Planar 6, offers a jump to a higher level. You might view this as a halfway house to Rega's reference offerings, the RP8 and RP10. But in fact it seems from the new technologies and materials here that Rega intends the Planar 6 to lead the way, rather than merely offering middle-ground for upgraders.

#### THE EQUIPMENT

Philosophy first. You might think this looks a fairly bare-bones kind of turntable for the price of \$1,999 without cartridge. Some rivals offer large and solid plinths, following the thinking that high mass will create rigidity, lowering and spreading any possible resonances, and rejecting external vibration.

That is not the Rega way. Rigidity yes, but not through piling on weight. Mass absorbs energy, notes Rega. Slowly-released energy adds colouration, and lost energy equals lost music. The company's founder, Roy Gandy, [who, for declaration's sake, once put this reviewer up overnight in his castle-like residence] settled on his engineering-based view long ago—for Rega it's all about lightness, stiffness and bracing. It aims for the lightest possible chassis, with the stiffest

possible brace. Over the years the company's turntables have implemented this ideal to ever-higher levels as new materials and investment costs have allowed.

So is this approach right, and the mass-gatherers wrong? Mr Gandy certainly thinks so, even if results from both sides would suggest there are clearly merits to each approach. Some cite a car comparison—consider a Lotus versus a Mustang. Both can win races, but they offer hugely different driving experiences.

But first things first. Is the new Planar 6 a potential race-winner at all? At first glance the light plinth looks a little plain, but closer examination shows that the dark surface is not a common plastic but a Polaris HPL (high pressure laminate) which is matte grey on top, and mirrored-polymer shiny along the plinth edges, which nicely matches the smoked lid when it's down. Polaris comes from Italy's Abet Laminati, makers of synthetic resins for (amazingly) more than 60 years, tarantella-ing through the decades with a devastating dance-card of designers, most notably the Alchymia and Memphis movements which defined modern Italian style. Its Polaris HPL is non-marking and scratch-resistant, and also follows Rega's philosophies by exhibiting high rigidity. I am not sure which thickness of Polaris laminate Rega has selected, though I notice the 10–12mm variants make use of a phonic resin core, a long-time favourite of Mr Gandy.

As for colours, Polaris is, so far as I can ascertain, only available in shades of grey, and one of those is the standard finish here. So for now it seems there'll be no repeat of the 2012 RP6, which arrived in Australia with a stock-challenging number of high-gloss colour options (eight, to be precise).

Between these laminate layers lies an aerospace-developed ultra-lightweight polyurethane foam core called Tancast 8. It's the first time Rega has used this particular material, and I note that other Tancast variations are available, up to 'Tancast 20' at double the density of Tancast 8. But as we've seen, Rega is against the density thing! If there were a Tancast 4, we suspect it would be been snapped up.

The platter has two layers—one smoked-Pilkington glass, one OptiWhite

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clear—bonded together so that the outer edge is thicker than the centre, thereby achieving a stability-enhancing flywheel effect without increasing the platter mass to a level which might affect the bearing. The platter is one area Rega where does compromise between the requirements of stability versus mass. *'The turntable platter itself needs to be of enough weight to spin at a constant speed within the confines of the chosen bearing and motor drive system,'* the company (and it reads like Mr Gandy) writes in its RP10 manual. *'Many amateur designers choose one component in a design and try to achieve an extreme in size, weight and quality. They believe that by taking one theory to its extreme, the design will become 'perfect'. The reality of all engineering, design (and life) is that perfection is not possible. Based on this reality, Rega's goal has always been to optimise a mixture of numerous 'correct compromises' thus bringing the designer nearer to the unachievable goal of perfection.'*

Gandy restated this philosophy in relation to the entire turntable in a 2013 conversation with *Stereophile* magazine. *'The turntable is a whole,'* he told UK hi-fi stalwart Steve Harris. *'The cartridge, and the arm, and the turntable itself are all one measuring machine—that's the way I like to look at it—and it measures vibration. You can't make it perfect. There's no such thing, in life or engineering. But you design the compromises to get the closest to perfection in a number of conflicting engineering parameters, and that's it. That's a turntable: a series of real-world engineering compromises.'*

Underneath the platter, Rega's 'upgrade belt' is fitted as standard to the Planar 6, around the single-piece machined aluminium sub-platter and the custom drive pulley, driven by a new 24V synchronous motor which is *'hand-tuned and matched'* to its own Neo power supply. And again this is clear evidence of the higher levels to which the Planar 6 aspires—the outboard power supply offers electronic speed change and user-adjustable fine electronic speed adjustment, something which was previously only available on the range-topping RP10. You use an Allen key to move through steps of 0.01rpm—not that Rega anticipates you needing to correct its factory-set speed, mind you, but this adjustability could allow pitch-correction when an LP has been recorded at the wrong speed, or tweaking if the speed of an LP is required to be altered to bring it in tune with a fixed-pitch musical instrument, such as a piano.

The Power Supply Unit (PSU) styling follows Rega's usual friendly design, the company logo illuminating on the front when powered up by the first pushbutton, while the second button changes speed, with the Rega logo changing from red for 33.33rpm

to green for 45rpm. Its electronics are built upon a high-stability crystal controlling a 24V a.c. signal that Rega claims is: *'completely unaffected by any changes in the mains/line voltage and conditions.'*

While much of the turntable incorporates new materials, the handmade precision RB330 arm is more familiar, as is Rega's double-brace technology, which works to further support the lightweight plinth, being mounted specifically where the increased rigidity is required, between the tonearm mounting and the main hub bearing (what Rega in its engineering-speak calls a structurally sound



'stressed beam' assembly). It's 'double' because two different materials are used for the stressed beam—not specifically stated here but previously magnesium on top and phenolic resin on the bottom. Combining the two different materials lowers the influence of airborne vibrations on both elements.

There are also aluminium foot trims on the Planar-style feet, not that you'll see them unless your turntable shelf is quite high. Finally (though first out of the box), there's a very nice 'smoked' hinged lid, which stays

open at 90 degrees, and closes properly with no gap to the plinth.

## IN USE AND LISTENING SESSIONS

I note that in Europe the Planar 6 is being promoted mainly with the sexy transparent moving-coil Ania cartridge. This particular combination is available in Australia as a \$2,799 package. My review sample was supplied with a factory-fitted yellow 'Exact' moving magnet cartridge—a \$2,399 package. The Exact's bright yellow shell may encourage some to investigate the higher option, but as we'll see, it's no slouch in performance terms. If you'd prefer to buy the Planar 6 *sans* cartridge, you can... for \$1,999.

Set-up was enjoyably simple; up on the turntable shelf for levelling, remove the transport card from the sub-chassis, load the platter and fit the felt mat. Run the flying output cables to your phono stage or amplifier's phono input. (There's no earth spade, because Rega turntables earth through the arm cable's own screening.) For power you connect the lead to the Neo PSU, the PSU to the mains—it uses a 24V 350mA a.c. adaptor plug, and given the attention to detail elsewhere it's surprising the thick cable to this adaptor is folded so tight in transit that it's doomed to a very kinky existence thereafter.

Follow the *Owner's Manual's* instructions to move the counterweight up until the RB330 arm floats at a zero point just above a disc on the platter, then apply the 2.8g recommended tracking force on the dial and (as close as you're able) to the bias adjustment slider underneath. *Et voila.*

I was up and listening within 15 minutes of slicing open the carton. One early revelation came from the 3-LP set of the 1979 'No Nukes' concert at Madison Square Garden. Side two kicks off with what sounds at first a slightly muddy-vocalled take of *The Times They Are A-Changin'* with James Taylor, Carly Simon and Graham Nash reprising the Peter, Paul & Mary arrangement. But as they warm to the task, the harmonies and the performance solidified under the Planar 6 and Exact combination into quite the hair-raising delight. I listened on: after Graham Nash's fine performance of *Cathedral* he's joined by Jackson Browne for the *Crow On The Cradle*, where David Lindley's fiddle work is a standout, rendered here as immediate and stadium-intimate as I've ever heard it. The Rega delivered the spatial impression of the arena and crowd throughout, thanks to continuous but subtle crowd-miking (under the artists' own production, according to credits), maintained even when *Crow...* rises to its climax sections.

It was especially immediate and stadium-intimate as Lindley's fiddle frequencies pick up the hall ambience's higher reverberation across the width of the soundstage. So clean and noiseless were these LPs that the digital re-release couldn't hope to match this for sheer involvement—not to mention the CD's inability to present the endless inner sleeve notes and images to similar effect.

I stayed with live performance, and enjoyed the wonderful 1981 Philips pressing of 'Friday Night in San Francisco', a three-way guitar meeting of Al Di Meola, John McLoughlin and Paco De Lucia. The second track, *Short Tales Of the Black Forest*, is a duet between the first two of these three players, and while the wide panning makes the soundstage slightly artificial, the highly dynamic interplay is beautifully captured on vinyl (a Bob Ludwig master) and impressively extracted against a wonderfully quiet floor by the Rega combination, so that every entertaining wood knock and squeak of the increasingly bizarre guitar battle—the random drift into the Pink Panther theme, the drop into blues boogie, the shrieks of the crowd—it makes for a great night in.

Leaving audiophile fare behind, I span up Nick Lowe's 'Labour of Lust'. While the Rega sounded just a little light on opening track *Cruel to be Kind*, by *Cracking Up* and *Big Kick*, *Plain Scrap!* the Planar 6 was showing how its nimble nature could drive along Terry Williams' beats and the Rockpile rhythm with enough cleanliness to survive full reference-level replay without any sense of distortion.

Beethoven's *Symphony No. 7* (1960s DG Australia pressing of von Karajan/Berlin Phil) simply soared in this early stereo recording (the 1953 mono recording in the digital EMI Karajan 'Complete' is far thinner in tone), whether driving the rhythmic first movement or the second's sad restraint—and then a disc flip was required, reminding me why the 74 minutes of CD was such a revolution for classical listeners!

**In this turntable Rega has delivered a perfect step up for those desiring a real hi-fi level of playback from their vinyl.**

Moving to the other end of the temporal scale, I punched the second button on the PSU and the front-panel Rega logo turned a delightful 'Rega' shade of green, indicating a speed of 45rpm. I pulled a hand-grab of 'O' singles from the rack and listened to the Planar 6 punch out delight after delight, so much, indeed, that after a couple of discs I ran the preamp's tape loop sockets to a Zoom recorder and started archiving them for posterity. Of three singles by The Only Ones, only the classic *Another Girl Another Planet* is digitally in my collection, and that a different version to the single. The B-side *As My Wife Says* was an interesting novelty, but the B-side of 'Trouble in the World' a real discovery, *Your Chosen Life* proving a languorous blues with a trippy flanged vocal. Here the Rega went all magical on me with a glorious presentation of the big generous natural drum sound flanked by edgy guitar, a band clearly loving the almost Zeppelin-esque groove. Thank you Rega!

*Orange Juice* followed, but I stopped archiving when I hit a wall of Osmonds singles, family and solo, through which I chose not to tread.

But case proven for single replay, especially given none of these 45s had enjoyed other than a Nagaoka Rolling Record Cleaner swipe per play since their original acquisition back in the day.

Many of the Planar 6's merits mentioned so far focus on delicacy and detail, but I should supplement that with the experience of one of the last LPs I played—for simple pleasure by this stage—'1000 Airplanes on the Roof' by Philip Glass. The roaring intro and the synth-led title track absolutely energised the room, the overtones of the brass and the undertones of Martin Goldray's synth bass pushing the limits of vinyl's envelope, and all clean as a whistle, tight as a platypus pocket, even at full climax—not a hint of compression, distortion or soft edges, but full-on bass and in-yer-face impact. (This through a Musical Fidelity phono stage.) I've always known this album on vinyl; my digital version at 160k is pressed into service only for road trips—and that no longer, as I took the opportunity to digitise the Rega Planar 6 delivery. For 50+ minutes, it entranced.

Case proven, then. As for competition, I made direct comparisons with a reference somewhat below this price, the \$1,499 Thorens TD 203. Both turntables are wonder-performers at extracting detail, but did deliver slight differences in tone and tracking. The Rega/Exact combination defined the soundstage more clearly in its tightening the image of, say, a central vocal, where

the Thorens could shift some lower-mid frequencies from the vocal slightly sideways. This translated to a more exact soundstage overall from the Rega. The trade was a slightly leaner sound, where the Thorens could sometimes warm the guts more. But overall, as the price might suggest, it was a win for the Rega.

This was all using the supplied and fresh Exact cartridge, of course, so one can only imagine to what additional heights the accuracy would be lifted by going moving-coil with the Ania. Meanwhile it's worth noting that this is a cartridge on which the stylus alone can't be replaced, so you'll need to budget for full cartridge replacement, which might influence your thinking about buying a Rega 6 *sans* cartridge and fitting your own, perhaps one on which the stylus is replaceable. (Cartridge replacement intervals depend on your rate of spinnage, of course, with recommendations ranging from 150 to 1,000 hours, depending on how much you care. Listen, and you'll know when.)

## CONCLUSION

The Rega Planar 6 is easy to set-up, but very hard to stop playing, given the precision and musicality of its transcription. In this turntable Rega has delivered a perfect step up for those desiring a real hi-fi level of playback from their vinyl.  Jez Ford

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Readers interested in a full technical appraisal of the performance of the Rega Planar 6 Turntable should continue on and read the LABORATORY REPORT published on the following pages. Readers should note that the results mentioned in the report, tabulated in performance charts and/or displayed using graphs and/or photographs should be construed as applying only to the specific sample tested.

## CONTACT DETAILS

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**Model:** Planar 6

**RRP:** \$1,999 (see copy)

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- Great sound
- Easy set-up
- Speed adjustment



- 78 rpm
- Colour choice

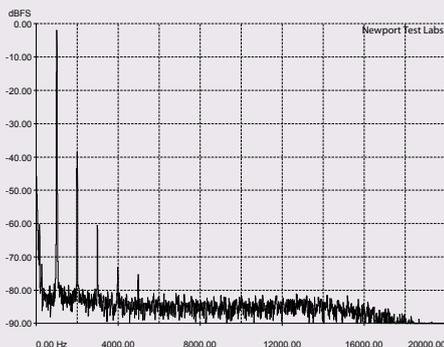
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# LABORATORY TEST REPORT

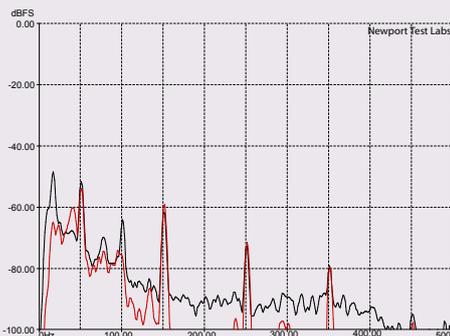
Newport Test Labs first measured the frequency response of the Rega Exact moving-magnet phono cartridge, using two different measurement techniques. The result of the first technique, which uses wideband pink noise, and is an incredibly difficult task for a phono stylus because it's forced to reproduce all frequencies in the audio spectrum simultaneously, is shown in Graph 1.

The overall frequency response (the black trace) is excellent, extending from 25Hz to 20kHz  $\pm 3.5$ dB. Channel separation (red trace) is also excellent, measuring 23.5dB at 1kHz, but is very good right across the audio bandwidth, most notably at low frequencies. You can see that most of the  $\pm 3.5$ dB variation in the response is caused by the roll-off in the Exact's frequency response above 2.5kHz, where it rolls off to  $-3.5$ dB at 6kHz before picking up in level slightly to 13kHz and then again rolling off to be  $-3.5$ dB down at 20kHz. Between 20Hz and 2.5kHz, the response is a very commendable  $\pm 2$ dB.

Graph 2 shows the frequency response of the Rega Exact cartridge measured using individual spot frequencies, but displayed in

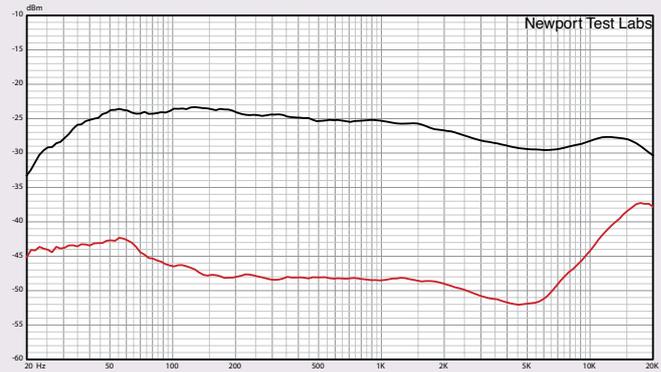


**Figure 3.** THD at 1kHz recorded at 0dB re 3.54cm per sec RMS. Rega Exact Phono Cartridge.

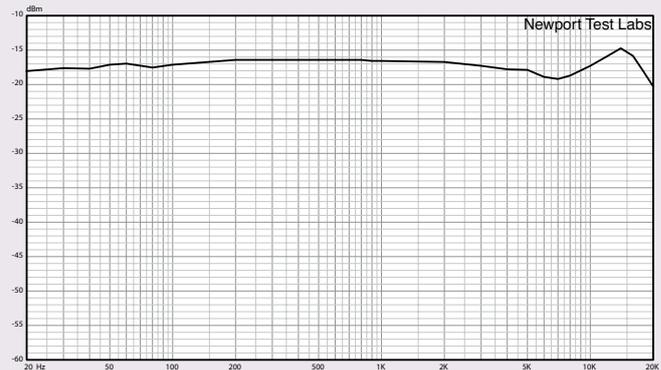


**Figure 4.** Rega Planar 6. Rumble spectrum re 0dB @ 3.54 cm per sec RMS. Red trace is background noise.

**Graph 1.** Frequency response and separation of Rega Exact phono cartridge using wideband noise recorded at  $-10$ dB re 5cm per sec RMS.



**Graph 1.** Frequency response of Rega Exact phono cartridge measured using spot frequencies recorded at 0dB at 3.54cm per sec RMS.



graphic form. Because in this test the cartridge is only reproducing one frequency at a time, it's a lot easier task to reproduce, the result of which is obvious by the tested result, with the frequency response now extending from 20Hz to 5.5kHz  $\pm 1$ dB and from 20Hz to 20kHz  $\pm 2.5$ dB.

Graph 3 shows THD measured using a 1kHz sine wave at 0dB re a recorded velocity of 3.54cm per second RMS. You can see there's a second harmonic component at  $-38$ dB (1.25%), a third harmonic at  $-61$ dB (0.08%), a fourth at  $-74$ dB (0.01%) and a fifth at  $-75$ dB (0.01%). This is an excellent result, with the second harmonic in particular being nearly 10dB lower than I'd expect for a moving-magnet design.

Newport Test Labs first measured the speed of the platter 'out of the box' and found it to be very slightly fast (around 0.3%) at both 33.33 rpm and 45 rpm, which was easily corrected using the Rega's own speed adjustment circuitry, but goes to show that you should check speed accuracy at the time of installation. That said, even if you didn't adjust it, a 0.3% increase in pitch (which would be the audible result) would be imperceptible... even if you have perfect pitch.

Once speed was set exactly, Newport Test Labs measured the Rega Planar 6's wow and flutter. At 33.33 rpm, the lab measured wow and flutter at 0.09% CCIR weighted

and 0.18% RMS unweighted. These are both excellent results, with the RMS result well inside the Australian standard for this test. At 45 rpm, Newport Test Labs measured wow and flutter as 0.08% CCIR weighted and 0.18% RMS unweighted.

Turntable signal-to-noise (rumble) is shown in Graph 4, where the red trace shows the background environmental noise (including background electrical noise) at the time the measurement was made. Note, however, that the left-most peak on the trace is not rumble at all, but the tonearm resonance and the peaks at 50Hz, 100Hz, 150Hz, 250Hz and 350Hz are also not rumble components, but mains-frequency

hum and hum components and should be ignored. You can see that turntable rumble gradually reduced from about  $-70$ dB at 20Hz to  $-80$ dB at around 110Hz, then drops further to around  $-90$ dB at 150Hz, a level it maintains out to around 400Hz, after which it rolls off to be more than 100dB down. This is excellent performance!

Rega's PSU draws power even when it's off (1.92-watts) and consumes around 10-watts when the platter is rotating.

Overall, both the Rega Planar 6 turntable and the Rega Exact cartridge returned outstandingly high levels of performance in all the tests conducted by Newport Test Labs.

Steve Holding

