

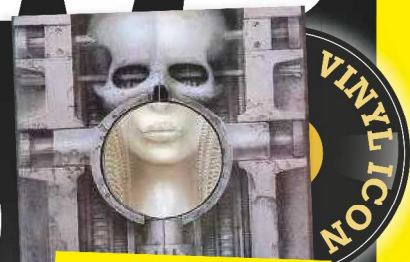
hi-fi news

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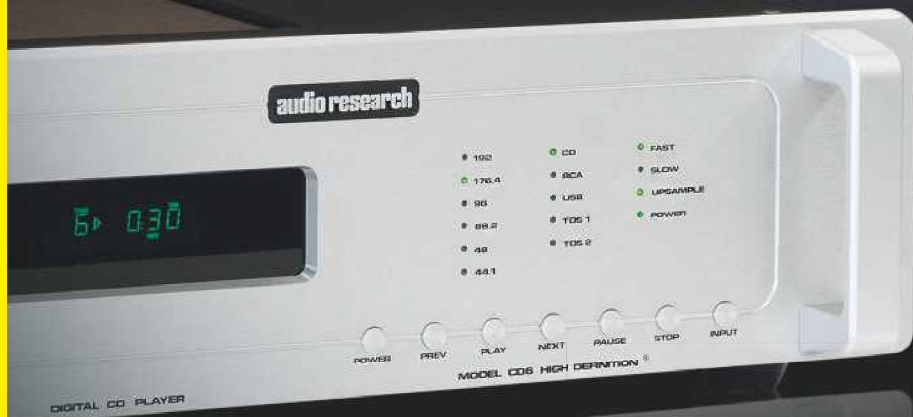
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Rega RP8/RB808

Along with its striking skeletal chassis, this model combines several other innovations in pursuit of long-held design ideals. Is this the start of a new chapter for Rega?...

Review: **Steve Harris** Lab: **Paul Miller**

To begin with, Roy Gandy of Rega made a turntable that looked rather special. For the original Planet of 1973, he used a platter that consisted of three small circular pods, because this was cheap to make, and it looked interesting. Among those who were inspired by the idea was Amstrad, whose TP12D was as grotesque as the Planet was neat and elegant.

After the Planet, Gandy focused on designing products that sounded good, rather than looking good. And yet, 40 years on, Rega's new RP8 turntable has been feted as a style icon, being selected by designers Jony Ive and Marc Newson for their RED charity auction, which took place in November last year [see *HFN* Mar '14].

Of course, the RP8 hasn't been designed just to look pretty. It's a great example of form following function. But the story of this product goes back a few years, to the time when CD player sales really slowed down while turntable sales began to grow spectacularly. One year, says Gandy, Rega's turntable sales actually doubled.

Looking to the future, he knew that it made sense to invest in developing new turntables. So Rega has worked on producing a cost-no-object 'ultimate' turntable, which would take the tried-and-tested Rega design precepts to an extreme.

Among other things, this meant making the lightest and stiffest possible chassis. In the concept prototype, the chassis was a carbon fibre moulding, developed with the help of a Formula 1 supplier, with ceramic brace pieces. The research also involved commissioning some other extremely expensive one-off parts, such as ceramic bearings and spindles.

The benefits, though, were soon seen not just in some ultra-exotic product that no normal person could afford, but in a complete new range, using what Rega named Double Brace

Technology. In this system, stiffening braces above and below the plinth provide the greatest rigidity just where it is needed, between the turntable main bearing and the arm mounting.

DOUBLE BRACE, DOUBLE BELT

The first model to introduce the double brace feature was the RP3 [*HFN* Oct '11], the braces being of phenolic material rather than ceramic. Because the bracing technique provided the required stiffness, the plinth itself could now be made economically from standard furniture board. But the RP3 was followed by the RP6 [*HFN* Apr '12], which has a much more luxurious high-gloss paint finish.

There was a further plinth development on the way, though. Thanks to the double brace, Gandy was able to envisage a plinth construction that would be much, much lighter than even that of the Planar 9 or its successor the P9. In the RP8, and with the

RP10 sister model, the plinth has given way to a very light skeletal chassis [see below].

From a functional point of view, the RP8 on its skeletal chassis is complete in itself. But Rega has added a separate outer frame, using the same foam-sandwich construction, to support the dustcover. The only points of contact are three small rubber-ring location devices, which enable the outer frame to sit on the feet of the turntable proper.

In both RP6 and RP8, the two brace pieces are of two different materials, to further reduce any resonant properties in the 'stressed beam' that's created by the braces and the metal pillars that connect them together. This further reduces pickup of airborne vibrations. For the RP8, the lower brace is phenolic while the one on top is magnesium.

Although it's the chassis design that makes the RP8 look different, there are other innovations, most notably in the



RIGHT: Here's the RP8 with platter off, showing the skeletal chassis and the magnesium upper brace piece between main bearing and arm mount



platter. Rega's flat glass platters had been sourced from the same supplier for about 30 years, until the owner of the business retired, but the need to find a new supplier opened up new possibilities.

Working with a young glass engineering company using the very latest CNC equipment, Gandy found that it was now possible to machine glass accurately enough to make a two-part glass platter. For the RP6, a 10mm-thick outer rim is bonded on to the 6mm-thick main disc give extra flywheel mass.

A logical next step was the three-part stepped platter used here. Between main disc and outer ring there is now an additional, wider, 6mm-thick middle ring.

Under the platter of the RP6, the traditional Rega moulded subplatter is topped by an aluminium disc, machined with the six raised nibs that actually contact the glass. In the RP8, these two components are replaced by a single metal part, with a steel spindle. Also, the usual single standard drive belt is replaced by two of Rega's higher-grade belts.

Like the RP6, the RP8 comes with the Rega TTPSU power supply, which is fed in turn from a small plug-top transformer. It

produces a 24V AC signal with a claimed less than 0.1% distortion, unaffected by mains fluctuations or noise, to drive the motor, and provides switching for 33.3 and 45rpm. Each RP8 motor is hand-tuned and matched to its TTPSU, to minimise noise and vibration, using the anti-vibration circuit built in under the deck.

As with all Rega turntables, the tonearm is a major part of the package. Outwardly identifiable by its gloss paint finish, the new RB808 is based on the newly-retooled casting introduced with the RB303, but with improved bearings and a tightened spindle-fit tolerance.

Reducing the mass of the turntable meant that the mass of the arm had to be reduced

too, to avoid any ill-effects due to vibration travelling through the structure suddenly reaching a large mass. So a new and lighter vertical bearing assembly was designed.

As usual with Rega, after balancing by adjusting the counterweight, cartridge tracking force is applied by a spring, controlled by a calibrated dial. A simple pull-out button applies bias compensation.

Finally, the audio signal emerges via new low capacitance phono cables. These come

ABOVE: An outer frame surrounds the skeletal chassis and supports a hinged dustcover. The Rega Apheta cartridge seen here [not reviewed] is available as a £600 factory-fit option

fitted with chunky phono plugs that have a twist-and-clamp action.

EVERY DETAIL REGISTERS

I'd really looked forward to getting my hands on the RP8, and I have to say immediately that I wasn't disappointed. I tried it with several cartridges, including an Ortofon Cadenza Black, the Rega Exact moving-magnet and the Rega Apheta moving-coil. But I started listening with the trusty Benz Micro Glider SL.

When it came to conveying depth or space in a recording, whether wholly natural or cunningly enhanced, the RP8 was very impressive indeed. The perennial *Muddy Waters: Folk Singer* [Discovery HDR 1001] demonstrated this very well, with Muddy's voice sounding both intimate and tremendously powerful in the seemingly cavernous acoustic.

On Waters' incredible, emotive guitar, you could hear every detail as the bottleneck rasped on the wound strings. Buddy Guy's clean-and-clear single-note obbligatos, on the second acoustic guitar that I used mistakenly to think was electric, could be heard to come from his seated position to the rear right of the singer, just as you see in the original session photos. Willie Dixon's bass was full and weighty, again seeming firmly placed in space.

I also felt that the bass was outstandingly good on the classic direct-cut, *The King James Version* [Sheffield Lab LAB 3] with the Harry James band. The bass line had real precision and urgency, the ability to stop and start, combining with a tight drum sound in a way that was both natural and also got your feet tapping.

The fine sense of musical flow and rhythm wasn't confined to certain types ↪

'I was impressed at what Rega had managed to pull out of the hat'

THE LIGHTEST YET

In pursuit of minimum mass and maximum stiffness, even the earliest Rega Planar turntables had a plinth where phenolic skins sandwiched a core of fairly lightweight particle or fibre board. In flagship models like the Planar 9 the concept was refined by removing as much as possible of the core material between the skins, leaving just a skeletal shape connecting the main parts. But the RP8 carries this much further. Instead of board, the core of the sandwich is a nitrogen-expanded closed-cell polyolefin foam which, of course, is extremely light; it's also self-coloured black. Initially, glue had to be hand-rolled onto the foam before the parts were assembled and stacked in a press, and it's taken a lot of work with the supplier to get the desired result in quantity production. But Rega says that the RP8 plinth is seven times lighter than the original Planar 3's.

REGA RP8/RB808



ABOVE: Rear view shows the strong metal mounting parts of the new RB808 tonearm (not seen here are Rega's new higher-quality signal cables and phono plugs)

of music, and I put on a late 1960s recording by István Kertész and the LSO in Brahms's *Serenade* No 1 [Decca SXL 6340]. With the RP8, the music immediately came over with a great sense of flow, sweeping all before it.

Then I moved up to a rather more expensive cartridge, the excellent and beautifully-made Ortofon Cadenza Black. Staying with Eric Clapton, the RP8/Ortofon combination gave a different view of the music. Here was a sound that was more analytical, giving an impression of precision rather than warmth. The Ortofon has a stronger, solid-sounding bass, and yet the result was really just as foot-tapping, but (if this makes sense) in a slightly statelier, measured kind of way. Yet on a track like 'I'll Make Love To You Anytime' the Ortofon's super-detailing paid off.

TURNTABLES COMPARED

Looking back to the RP6, I remembered how I'd found it pretty easy to quantify the gains over the base model RP3, which, it must be said, is an astonishing turntable for the money. Yet the RP6 was more sophisticated in every way, in the best sense of that word, because this didn't mean that it was ever too restrained or polite sounding.

On the contrary, it could sound every bit as urgent and foot-tapping as you'd hope, while in terms of detail, clarity and texture, it improved on the RP3 in every department from top to bottom of the spectrum. Little details in the treble became cleaner and clearer, the midrange was more open and airy, giving a truly excellent portrayal of vocals, for example, allowing the lyrics to convey emotion effortlessly.

And in fact on good recordings the effortless, flowing quality of the RP6 seems to reveal the proper dynamics of every instrument, in

a sound that had a convincing, coherent wholeness about it.

So what about the RP8? For this review I was able to compare the RP8 directly with the RP6, using Rega's own Exact cartridge. And, not for the first time with a Rega product, I was really impressed at what the company had managed to pull out of the hat.

There were some pretty obvious gains. Returning to the Brahms *Serenade*, the sound of the orchestra's double-basses was evidently clearer while having no loss of impact, and now enjoyed a greater sense of clarity than when heard via the RP6.

Another major feature of the RP8 was an increased ability to portray really low-level detail, digging previously-unnoticed minutiae from even the most familiar recordings.

For example, on the track 'Fast Car' from the album *Tracy Chapman* [Elektra EKT 44] there's a credit for Ed Black on steel guitar, but this instrument is mixed so far back you could probably listen to the song 100 times without really noticing it, or recognising it. With the RP8, though, I found myself picking up on it straight away. ☺

HI-FI NEWS VERDICT

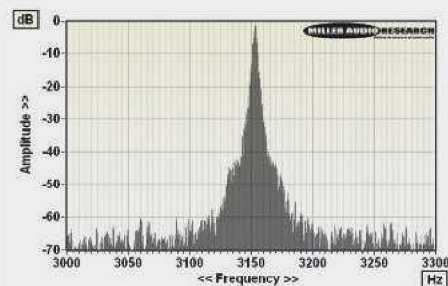
A claim that the RP8 is 'probably the biggest step forward' in the evolution of Roy Gandy's turntable design philosophies isn't just hype, because this model embodies the fullest realisation of Gandy's ideas yet. It rewards the listener with a sound that has confidence, depth, purity and realism that belies its moderate price. If it's also Rega's most stylish turntable ever, that's just the icing on the cake.

Sound Quality: 87%

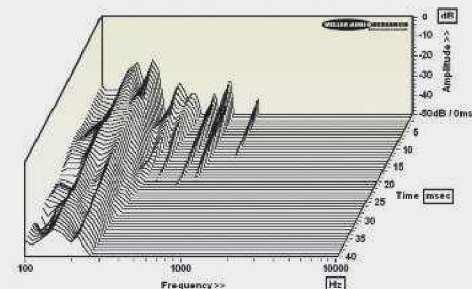


Rega's RP6 [HFN Apr '12] was the first turntable in its range to employ a laminated glass ring platter while the newer RP8 takes it one step further by laminating three rings together to produce an enhanced flywheel effect. The TTPSU, with its crystal-locked sine generator, and Rega's 24V twin-phase synchronous motor with hand-tuned 'anti-vibration circuit' look unchanged from the RP6 and yet the RP8's ~4sec start-up time is no slower. There's certainly an improvement in low-rate wow, however, as this RP8 offers the 'sharpest' W&F spectrum we've seen from the marque and a peak figure of just 0.03% [see Graph 1, below]. Through-groove rumble is comparable to that of the RP6 at -69.4dB with the felt mat in place as is the through-bearing rumble of -70.8dB.

However, the real star of the show is the RB808 tonearm, its mass redistributed (over earlier Rega arms) with varying tapers. The overall effective mass is slightly reduced at 10g (from 11g) and friction minimal at <10mg in both planes, but instead of one principal beam mode, the resonant behaviour of Rega's new tapered tonearm resolves into two distinct and separate frequencies - 160Hz and 215Hz [Graph 2]. In practice there's probably little difference in the energy released along the structure but by distributing this as a broader, lower-Q resonance its effect is likely to be more benign. The higher frequency modes at 550Hz, 680Hz and 1.02kHz are quickly damped and related to the fingerlift, bias mechanism and other appendages. Readers may view full QC Suite reports for Rega's RP8 turntable and RB808 tonearm by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Wow and flutter re. 3150Hz tone at 5cm/sec (plotted ±150Hz, 5Hz per minor division). Some flutter but wow is lower than with RP6



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	33.45rpm (+0.34%)
Time to audible stabilisation	4sec
Peak Wow/Flutter	0.03% / 0.03%
Rumble (silent groove, DIN B wtd)	-69.4dB
Rumble (through bearing, DIN B wtd)	-70.8dB
Hum & Noise (unwtd, rel. to 5cm/sec)	-62.3dB
Power Consumption	7W
Dimensions (WHD)	446x105x363mm