

CLEAR QUALITY

With vinyl continuing to taunt the digital age, Pro-Ject has created a deck that adds visual flair to sonic gorgeousness.



Pro-Ject 6 PerspeX turntable

Price: \$2399 (without cartridge)

Pro-Ject has been leading the way in the budget-priced turntable sector for so long that it's easy to forget the company also manufactures a fine line of higher-end turntables, such as the Pro-Ject 6 PerspeX reviewed here. All the company's turntables are manufactured in the European Union using production lines in the Czech Republic and Slovakia, with Pro-Ject saying that it produces nearly all critical parts in its own factories, including motors, chassis, bearings and tonearms.

As for the Perspex, it's only fairly recently that turntable manufacturers have discovered the virtues of acrylics. In the case of Perspex, the prime acoustic advantages are that the material is dense and non-resonant. The cosmetic advantage is obvious — the Pro-Ject 6 PerspeX looks great! Perspex is, of course, simply a brand name that describes one manufacturer's version of a transparent thermoplastic material called polymethyl methacrylate (PMMA), variously known as acrylic glass, acrylic, or Plexiglas. Many other high-end turntables also use PMMA in their construction, but from different manufacturers (so it's also called Lucite, Optix, Acrylex, Acrylite, Acryplast or one of half a dozen other names).

In fact the most significant technological advance on the Pro-Ject 6 PerspeX is that it uses a magnetic suspension to help isolate the platter and subchassis from the environment.

EQUIPMENT

Although the varieties of PMMA all appear to be the same stuff, there can be important differences. One is that PMMA is quite soft and easy to scratch, so some manufacturers add an external scratch-resistant coating, using a process not dissimilar to that which your optician may offer you when you order a pair of spectacles with plastic lenses. But it's not glass, and it's worth remembering that PMMA has quite low resistance to many quite ordinary cleaning solutions, so be careful to use only cleaners that have been approved for use with plastics. If you need to clean the surface of the Pro-Ject 6 PerspeX, use only soapy water, or a mild cleaner such as Windex.

Although the chassis of the Pro-Ject 6 PerspeX is made from Perspex, the platter itself is made from MDF. Why not go the whole hog and make everything from Perspex? It appears that designer Heinz Lichtenegger

has been experimenting for many years with platters made of MDF, metal and acrylic, in various combinations, and his final word on the matter is that it's not so much the material itself that has the greatest effect on the sound as the combinations of materials. And that it can vary depending on where it's used, so that an MDF platter on an acrylic base will sound completely different to an acrylic platter on an MDF base.

On the Pro-Ject 6 PerspeX, Lichenegger has introduced even more variables, because the platter is made from MDF with a top surface made from vinyl — the perfect interface, of course, for a vinyl LP. The platter sits on an inverted, stainless-steel axled bearing tipped with a ceramic ball that rotates on a ceramic bearing plate. The bearing plate is let into the suspended sub-chassis (made of Corian), which in turn is partially suspended above the Perspex base plate by six magnets, formed in such a way as to make three magnetic field isolators. (When I say 'partially', it seemed to me that although magnets are used, the sub-chassis is additionally supported by other more physical means, including sorbothane padding. However, without actually completely disassembling the turntable, which I wasn't prepared to do, I could not determine the exact nature of the other support mechanism.)

The platter is driven by a synchronous AC motor via a two-step pulley. The flat-edged belt loops around the outside edge of the platter.

The 9cc 'Evolution' tonearm fitted to the Pro-Ject 6 PerspeX is an amazing arm. It's almost completely made from carbon-fibre and has ball-race vertical and horizontal bearings. The result is that it's so lightweight that moving it with your hand is a little like grasping air. Indeed the most significant mass other than the counterweight (four counterweights are supplied, for different cartridge weights) is the phono cartridge itself, which on our sample was the curiously-named 'Pick It' PU-C-1H high-output moving coil cartridge built specifically for Pro-Ject by Danish phono cartridge manufacturer Ortofon. This was apparently originally developed for midrange tonearms such as the Pro-Ject 8.6c and Pro-Ject

9c. It's normally available separately for \$329 (RRP) but distributor International Dynamics had fitted it specifically for this review, at our request. A low-output version of this cartridge is also available for \$269 (RRP).

To switch platter speed from 33 to 45rpm, you manually move the belt from one step of the pulley to the other. If this is too much hassle, you can purchase a Pro-Ject SpeedBox or Speedbox SE and adjust electronically.

PERFORMANCE

A brief warning — the three feet underneath the PerspeX 6 (three rather than four, because three will be stable even if the surface on which you place the turntable is uneven) end in such sharp points that I accidentally scratched the expensive French polish finish on my side table. My own fault, of course, but it puts me in a position to warn you not to do likewise!

When checking the cartridge alignment of the supplied cartridge, I would disagree with the description in Pro-Ject's Owner's Manual of how to set Vertical Tracking Angle (VTA). The manual suggests that VTA will be 'correct' when the tonearm tube is parallel with the LP record beneath it. This may be true when using some phono cartridges, but not for all. I would recommend setting VTA so that at the correct tracking weight, the angle formed between the cantilever and the record surface is 22 degrees. (In most cases, you will find this geometry occurs when the top of the cartridge is parallel with the record surface.) However, it's far more important to get Stylus Rake Angle (SRA) correct, and this involves actually examining the stylus itself, which should be tilted approximately 2 degrees away from the vertical so that it's slightly forward (that is, the part of the diamond stylus that's fixed to the cantilever should be slightly further away from the tone arm pivot than the tip of the diamond stylus). It's an alignment developed by Maier and Risch in the 1980s.

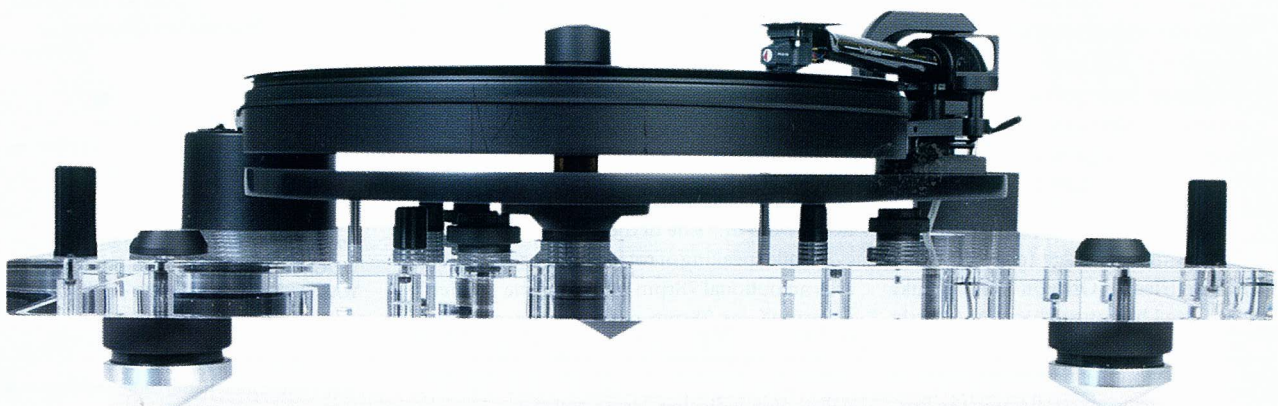
The manual is much better when advising on adjustment for azimuth angle, and it's great that it's so easy to do on the Evolution tonearm, adjusting a small screw at the bearing end of the arm until the stylus (when viewed

from the front, unlike SRA, which is viewed from the side) is exactly perpendicular to the record surface. As the manual correctly points out, you should not make this adjustment while the arm is in the groove. (Also, you should not make the common mistake most audiophiles make, which is to adjust SRA and azimuth while the stylus is resting on a mirror, in order to make the angles easier to see. This puts the entire weight of the tonearm and cartridge directly on the tip of the stylus, which can damage it.)

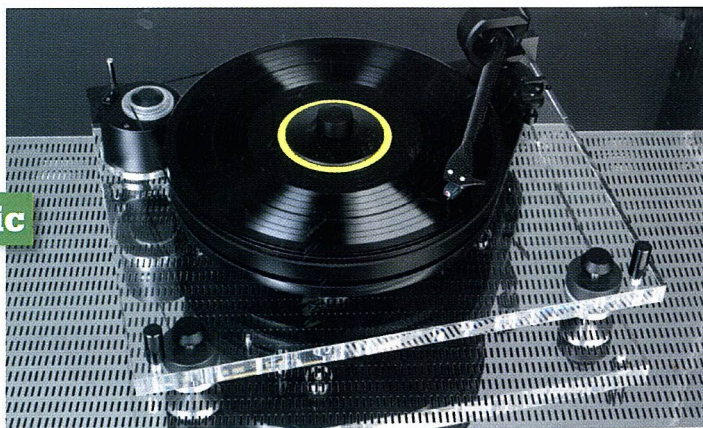
Anti-skating adjustment is easy, because there are only three possibilities when using the 9cc Evolution arm. There is one setting to be used when using down forces of 10–14mN, another for downforces of between 15 and 19mN, and a final setting for down forces in excess of 20mN. (Note that the use of milliNewtons for down force is technically correct, though it's really only used in Europe. Australians will have to use a 'grams to mN' conversion table — Pro-Ject doesn't include one in its manual.)

During my alignment checking process, I discovered that the cartridge in my sample had been incorrectly aligned, and, amazingly, the cartridge pins had been incorrectly connected to the tonearm wiring loom, despite the colour coding on the cartridge and matching tonearm wires. (International Dynamics subsequently advised that the person responsible is no longer employed with the company.) The last turntable reviewed from International Dynamics was perfectly aligned in every respect, so this is obviously a one-off. Still, all this aligning, re-wiring and alignment cross-checking took a deal of time, reminding me of at least one reason why the CD format was so popular when it was first introduced!

The pay-off comes when you spin up your first slab of vinyl and hear the sound quality, which is so supremely gorgeous that you then wonder why the CD format became popular at all! I do love it when friends come around and ask "What's that great CD you're playing?", and I get to see their faces when I tell them I'm playing vinyl. With a proper 'CD vs. LP' demo they can clearly hear that when it comes to



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musicality, LP sound quality blows CD sound quality out of the water. My demos usually conclude with a lecture (some call it my highly politicised conspiracy theory polemic) explaining how certain foreign multinationals made sure CD became the predominant format by shutting down vinyl pressing plants and telling blatant porkies about the CD format: 'Perfect sound forever'...

I trialled the supplied record clamp in a with/without scenario with several LPs, and found that Neil Young's *Harvest Moon* on Reprise best highlighted the subtle differences, the fading echoes on the track *Unknown Legend* sounding a little forced and artificial with the clamp on, while without it there was a far more 'dreamy' quality to the sound. Which is correct? I'm not 100 per cent sure, but there sure is a difference! Of course if any of your LPs is even slightly warped, the answer then becomes a no-brainer: use the clamp.

As it was, I happily played my way through my favourite vinyl, rediscovering great-sounding LPs that for some reason had fallen from my playlist (inevitable I suppose... there's lots of music out there!). For example, I'd forgotten just how good the Classic LP version of Crosby, Stills & Nash's self-titled LP really sounds on vinyl... particularly the harmonies. Ditto Anna Netrebko and Rolando Vilazon's incomparable *Duets* (on Clearaudio via DG). Then there's *The Complete Clapton*, on ½-speed 180g vinyl, very possibly one of the greatest four-disc LP sets ever, IMHO.

The Pick It PU-C-1H cartridge body is identical to the one Ortofon uses for its MC 1 Turbo and MC 3 Turbo cartridges, so I assumed it's based on one or the other (or perhaps a mixture)? I was bothered by a slight mechanical noise on my Pick It, which turned out to be a loose exterior casing, solved with a dab of cyano-2 acrylate (that's Superglue to you). Although I was more than happy with the performance of this cartridge (after I'd glued the case), I also tried an Ortofon Kontrapunkt A, partly because I had one to hand, and partly because I'd been informed it was an excellent match. It certainly outperformed the supplied Pick It, though apart from confirming the Pro-

ject 6 PerspeX's speed accuracy, and its lack of wow, flutter and rumble, it didn't tell me much more about the turntable's performance, other than the fact that you have no fear of 'over-cartridging' the PerspeX: it will allow you to extract the maximum performance from any phono cartridge that's compatible with the 9cc Evolution arm.

As if there weren't enough variables, there's a final choice to be made — whether or not to use the hinged acrylic dust cover that is supplied with it. There's no doubt that such a surface area will 'pick up' air pressure variations in the room and transmit these down through the hinges into the turntable base, whereupon they could make their way back to the stylus/vinyl interface and potentially affect sound quality. Conversely, if you don't use the cover, your LPs will become more dusty than they would if you did use the cover, which will mean more ticks and pops during playback... and/or more record cleaning.

I found that the Pro-Ject 6 PerspeX is so well-isolated that I'd be happy to fit the cover, even allowing that it might have a small effect on sound quality, just to reduce my record-cleaning time. However, note that the magnitude of the effect on sound quality will depend on where your turntable is located with regard to your speakers and the volume levels at which you play.

I used slow piano music to do the usual 'ear test' for wow and flutter; I could hear neither. I also listened for any background rumble, mainly using a Denon test record — again, I couldn't hear any. I also checked for absolute pitch (speed accuracy) and discovered that it was close enough to perfect that I could play along with LPs on my piano without any jarring discords. (Many LPs, of course, were not pressed at the 'proper' pitch, having been speeded up slightly to ensure the music 'fitted' neatly onto one side of the vinyl.)

While speaking of rotational speed, Pro-Ject sells an optional 78rpm pulley for the Pro-Ject 6 PerspeX for 78rpm operation, an excellent and thoughtful gesture on Pro-Ject's part. Of course you'll need to fit a phono cartridge that will accept dedicated 78rpm styluses.

To conclude with a gripe, Pro-Ject has used quite a coarse thread on the spindle, and machined the thread a considerable distance down the spindle. This means you can quickly attach, tighten and remove the supplied record clamp, but also means that many after-market accessory clamps, weights and other accessories can't be used, because they either won't clamp to the threaded section of the spindle, or can't be fixed so they're exactly central.

CONCLUSION

This is a brilliant turntable. It does absolutely everything a turntable should, and in a stylish fashion. Even better, it comes pre-fitted with a superb and completely adjustable tonearm that will accommodate an enormously wide range of phono cartridges. *Tom Hunter* +

VERDICT

Pro-Ject 6 PerspeX turntable

Price: \$2399 (without cartridge)



- Perfect pitch
- Superb tonearm
- Dust cover



- Manual speed change
- Suspension not completely magnetic
- Spindle thread

NOMINAL SPEEDS: 33/45rpm (78 option)

TONEARM: Pro-Ject 9cc Evolution

EFFECTIVE TONEARM LENGTH: 230mm (9 inch)

EFFECTIVE TONEARM MASS: 8g

DOWNFORCE RANGE: 10-35mN

PLATTER WEIGHT/DIAMETER: 2kg/300mm

QUOTED SPEED VARIANCE: ±0.5%

QUOTED WOW AND FLUTTER: ±0.06%

DIMENSIONS (whd): 460 x 160 x 365mm

WEIGHT: 10.5kg

WARRANTY: Two years

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