

Pro-Ject Audio Systems X1

With a nod to the past, plus the benefit of some 28 years' experience of design and manufacturing, Pro-Ject launches its most refined sub-£1000 turntable package yet
Review: **David Price** Lab: **Paul Miller**

With that familiar sparkle in his eye, Pro-Ject's Heinz Lichtenegger unveiled a brand new CD player at the recent EISA Convention in Antwerp [see p21]. What does this have to do with this new X1 turntable, you might ask? Well, he proudly explained that what he's now doing with CD spinners is precisely what he did with record players back in the early 1990s.

The X1's forebear – the Pro-Ject 1 [see PM's boxout, p73] – was a genius move on Heinz's part. He realised that all the major record player manufacturers were abandoning the market because the sales volumes were no longer there. Being smaller and more nimble, his company didn't need to sell vast quantities of decks to turn a profit, so he duly launched a highly affordable product that was not only simple but decent sounding.

The Pro-Ject 1 – which sold for £200 in 1991 complete with a pre-fitted Ortofon 510 MM cartridge – has now been reborn as the £699 X1 you see here. If you ever come across an original 1 then you will see the family resemblance, but that's not to say that there aren't some significant differences between the two models.

LESS IS MORE

Now, as then, the formula is a basic belt-drive, manual turntable designed in a way that makes it both easy to use and cost effective to make – in other words, less is more. The deck comes pre-fitted with Pro-Ject's new 'Pick-it S2' MM cartridge, so there's no need for fiddly alignment before you use the deck for the first time. This is voiced by Heinz and manufactured by Ortofon, and he's right when he says that it's far superior to the pick-up fitted to the original. You can also buy the turntable without the Pick-it S2 for £100 less.

The X1 wins no prizes for styling. The similarly-priced £649 Rega Planar 3 with its

RIGHT: With felt mat removed [see Lab Report, p75] the sub-platter, peripheral belt and AC motor are all revealed beneath the 1.5kg acrylic platter. 78rpm is also accommodated

Elys 2 MM cartridge, is prettier to my eyes. Still, you can't say the X1 doesn't appear purposeful, and there are clear signs costs haven't been cut in the way they were in the Pro-Ject 1. Importantly, here the plinth is made from MDF rather than the particleboard of yore, which Heinz says confers sonic benefits. The idea being that MDF is denser and therefore traps less air, giving a tauter bass. This plinth is also well finished, with a choice of the walnut wood veneer you see here, or black or white gloss with eight layers of paint and hand-polishing.

The platter used is more substantial than the oldie, too, and is machined from acrylic, weighing in at a decent 1.5kg. Pro-Ject also supplies a thin felt mat with the deck, but its use is not mandatory and the choice is left up to you [see PM's Lab Report, p75]. Meanwhile, the motor is aspirated by an electronically

controlled power supply with a DC/AC generator – this new synthesised PSU conferring very real benefits.

NEED FOR SPEED

The motor drives an aluminium pulley that connects to the inner platter via a choice of round-section or square-section rubber belts. Again, it is for the user to choose which one. Meanwhile, a push-button speed control offers the choice of three speeds compared to the original's two – no-one would have given 78s a second thought in the early '90s,

but now they're garnering a niche of their own. The whole base assembly sits on decently made isolation feet, and a fairly sturdy dustcover is supplied.

The tonearm is certainly of better quality than one might expect at this price and boasts a one-piece armtube of carbon

'It's what hi-fi civilians mean by "the sweet sound of vinyl"'



and aluminium sandwich construction. It measures 8.6in long and features the company's TPE-damped counterweight, but is arguably most impressive for its sheer adjustability. There's both azimuth and VTA calibration – unusual for a deck at this price – with a thin white line running along the side of the armtube to assist with the latter. The bearing, meanwhile, is an 'ultra-low friction' 4-pin Cardan-style design. Finally, the deck is completed with the company's shielded 'Connect it E' interconnects with gold-plated RCA terminations.

To get the X1 up and running you need to remove all the deck's bits from the box, place the base on a level surface and start to build it up. That means fitting the belt, then the platter, then attaching the power lead and tonearm RCA cables and ground. Lastly you need to fit the counterweight, balance the tonearm, fit the 'thread and

weight' bias adjuster, and then you're ready to go. Absolute beginners might find this procedure a faff but the X1 is still simpler to set up than many decks.

HIGHER GROUND

Anyone who heard the original Pro-Ject 1 would have come away thinking it wasn't a bad deck for the money. Although corners had been cut, the sound certainly wasn't disappointing, being crisp and enjoyable in many ways. Yet the new X1 needs fewer excuses, because it's a whole tier higher in the great scheme of vinyl things.

We're no longer at the stage when you have to qualify it with 'for the price' or 'considering its cost'. Rather, this little turntable sounds good full stop. It means that for a whisker under £700, vinyl junkies can enjoy their black plastic without wishing they had chosen differently.

ABOVE: Seen here in 'satin wax' walnut guise, the machined MDF plinth also comes in gloss black and white finishes. The X tonearm is fitted with an (Ortofon) Pick-it S2 MM cartridge

The most striking thing about this deck is its expansive, open presentation. This is the first requirement of any decent turntable, but normally you would have to pay more to find it. For example, cue up some classic easy listening in the form of John Cameron's 'Half Forgotten Daydream' [The Sound Gallery; Studio 2 Stereo TWO2001], and you're suddenly swathed in a sea of strings. And not only is the music wide in scale but it's surprisingly deep too, giving the track a really immersive feel.

Of course, it's possible to quibble with the accuracy of the image location, pointing out that instruments aren't locked down with quite the pin-point precision that you'd get from a more expensive vinyl front-end – but still it really is rather good.

The same goes for its tonal accuracy too. Affordable turntables have a tendency to sound thin and weedy, but not the Pro-Ject X1. Indeed, it's reasonably neutral, just a slight bloom in the upper bass – allied to a subtle softness low down – to remind you you're not listening to a more expensive design. Actually, the overall effect with the fitted cartridge is quite euphonic – it's what most hi-fi civilians mean when they talk about 'the sweet sound of vinyl'.

There's something of a soft sepia tint to the presentation that makes modern electronic pop, such as the title track to Empire Of The Sun's album *Walking On A Dream* [Astralwerks 2547371447] sound more palatable than it actually is. In truth it's a bright, forward, heavily compressed

THE PRO-JECT 1

It was 1990 and despite CD being at its commercial height a young entrepreneur and 'vinyl evangelist', Heinz Lichtenegger, persuaded the owners of the Tesla factory (SEV Litovel s.r.o) in the Czech Republic to continue manufacturing turntables. With the tooling and engineering know-how already on site, Heinz set about crafting his first belt-driven turntable, his ambition, then as now, 'to offer the best analogue experience for a very reasonable price'. Launched in 1991, the Pro-Ject 1 was a reworked version of the 'Gramofon Tesla NC 500', a two-speed belt-driven deck with an AC motor mounted, as with so many of Pro-Ject's current decks, using a two-point rubber suspension at 10.30 o'clock in the back of the plinth [see www.vinylio.cz/tesla/tesla-nc-500-stereofonni-gramofonovy-pristroj-cerveny-prospekt]. Pictured here is the subsequent Pro-Ject 1.2 model with its straight armtube and headshell. What followed, as every audiophile knows, is arguably the biggest success story in hi-fi history. Pro-Ject Audio Systems' new headquarters is based in Mistelbach, Austria [see *HFN* Sep '18]. PM



TURNTABLE



ABOVE: Stereo phono sockets are mounted beneath the far left of the plinth with Pro-Ject's 'Connect-it E' RCA cables supplied as part of the turntable package

mix yet the X1 soothes and balms it slightly, so things are softer-sounding and more cordial to the ear. It does something here that digital audio just cannot do, which is to add charm – regardless of whether it was there or not in the first place.

Being so much better than its ancestor, the Pro-Ject X1's sins are largely those of omission. It adds little that is bad to the end result, but falls down trying to convey all of what is good on a recording. You can hear this on fast, propulsive dance music such as Chic's 'My Forbidden Lover' [*Risque*, Atlantic P-10701A], where it simply doesn't quite have the grip to keep up with that wonderfully sinewy bass line.

PASTORAL PLEASURE

The X1 is still enjoyable though, delivering a bouncy rendition of this classic disco track that's never wanting for musical engagement. The deck slurs the leading edges of instruments ever so slightly, so snare drum strikes aren't quite as punchy as when heard via a high-end turntable, but still it strings the musical picture together well.

I found myself enjoying the phrasing of the lead vocal line, and how it played off against the bass guitar. It was really easy to get into the musical groove, the deck showing a decent amount of control and impressive dynamic shading. This is only possible because it has far better speed stability than the original, and a capable tonearm too.

Classical music sounds best to me on vinyl, and the X1 reminded me why. The first movement of Beethoven's 'Pastoral' Symphony [Karajan, Berlin Philharmonic; Deutsche Grammophon 2531106] was a joy. All the aforementioned attributes of the deck came together with surprisingly good midband detail retrieval to create a vivid and

engaging performance. Instrumental timbre was impressive, with violins having a lustre that showed off both the basic rightness of the motor unit, and the tonearm's fine tracking ability. Overall the deck delivered a tangible sense of a real orchestra playing in a concert hall, rather than it sounding like a facsimile. Dynamics were convincing, and the music rolled along with gusto.

There's an inherent correctness to the way this turntable plays music. Those same attributes of a stable motor, good isolation and decent tonearm make themselves known whichever genre of music you choose. REM's 'Maps And Legends' [from *Fables Of The Reconstruction*; IRS Records IRLC 19016] showcased this so well. It's a murky early '80s indie rock track with an almost impenetrable production, yet this wee turntable scythed through it, giving a detailed, well ordered and musically coherent sound.

Yes, there is inevitably some coloration brought to bear by the X1, yet you would be hard pressed to beat its performance at the price. For a budget turntable, that is surely the mark of success. ☺

HI-FI NEWS VERDICT

The Pro-Ject X1 may be a long way from being the best turntable money can buy, but it's pretty much there in terms of being the best value. Highly capable at the price, it gives its rivals a seriously hard time and for the true turntable enthusiast there's plenty of tweaking potential on offer too. More than just a worthy successor to the original, it's an accomplished design in its own right.

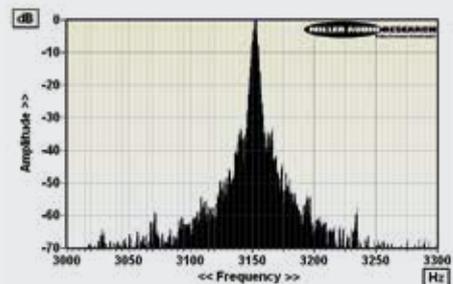
Sound Quality: 86%



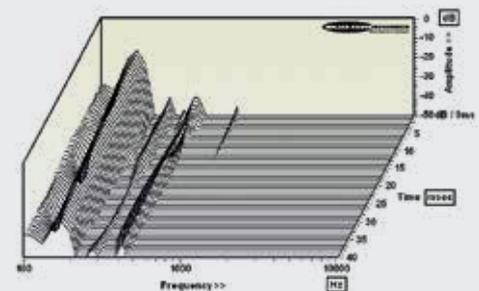
PRO-JECT AUDIO SYSTEMS X1

The excellent all-round performance of Pro-Ject's X1 turntable/arm/MM combination surely makes this its very best sub-£900 offering to date. Measured directly through its latest stainless steel/brass/Teflon bearing, rumble is acceptable at -66.7dB (DIN-B wtd), a figure that improves to -68.7dB (through groove) with the felt mat in place and -69.0dB with the mat removed. The efficacy of the latter 'naked' option will rather depend on the flatness of your LPs because I would guard against using a heavy record weight with this deck. The motor is sufficiently 'torquey' that start-up time is a rapid ~3-4secs while absolute speed is a useful +0.1% fast (AC motors inevitably slow with age and use). Thanks to the new drive circuit, both drift and low-rate wow are reduced to just 0.03% [see Graph 1, below] while flutter is a modest 0.05% with mild sidebands at ±13Hz and ±85Hz.

The origins of the partnering X1 tonearm hark back to Pro-Ject's 10CC Evolution [*HFN* Jun '10] whose lightweight but very rigid carbon fibre tube was revealed to have a diffuse main bending mode at 190Hz but two high-Q resonances at 600Hz and 1.2kHz. Pro-Ject responded to our lab tests by improving the hard carbon tube's internal damping with an alloy sleeve [*HFN* Jan '16], offsetting these midrange resonances for a stronger but less subjectively debilitating harmonic at 290Hz. The X1 represents a further improvement – a one-piece tube/headshell with a main beam resonance at 170Hz and two harmonic/twisting modes at 280Hz and 410Hz [see Graph 2, below]. The 9.5g effective mass confers wide compatibility with medium compliance MM/MCs while the four-point Cardan bearing offers very low (<10mg) levels of friction. An impressive package! PM



ABOVE: Wow and flutter re. 3150Hz tone at 5cm/sec (plotted ±150Hz, 5Hz per minor division)



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	33.37rpm (+0.10%)
Time to audible stabilisation	4sec
Peak Wow/Flutter (Peak wtd)	0.03% / 0.05%
Rumble (silent groove, DIN B wtd)	-68.7dB (-69.0dB)
Rumble (through bearing, DIN B wtd)	-67.5dB
Hum & Noise (unwtd, rel. to 5cm/sec)	-59.3dB
Power Consumption	3W (1W standby)
Dimensions (WHD) / Weight	415x125x335mm / 7kg