

August 2004

Enjoy the Music.com®



Entry Level Vinyl Spinner... Pro-Ject 1 Xpression And Speed Box

Review By Phil Gold
[Click here to e-mail reviewer](#)



PASS LABS
audio pure and simple
P2, P3



We Know

Are you sitting on a pile of dusty LP's that don't get around much anymore? If so, you may be tired of reading how good vinyl can be, given that moving coil cartridges alone can cost well into four figures. There is a way to get some of this high-end sound without breaking the bank. Before Pro-Ject came along, the price of admission for most respectable analog sources was well into four figures, and the market was dominated sharply on high end manufacturers like Linn, Basis, SOTA and so on. This level meant Rega with their timeless Planar 2 and Planar 3 (now P2, P3) dominating the UK market but making less impression stateside.

One man, Heinz Lichtenberger, set out to fill this vacuum. His first turntable, the Pro-Ject 1, was developed from a simple model he found in a Czech factory. Improving the rigidity of the turntable arm combination through the use of better materials and tighter tolerances, Heinz decided to offer the Pro-Ject 1 at a remarkably low price due to the low component costs. The Pro-Ject 1 became a remarkable success, and was followed by the more upscale Pro-Ject 2 and Pro-Ject 6, turntables at higher price-points, but offering similar value for money. Over the





the Model 1 was updated to the Model 1.2 (\$400), and the range of Pro-Ject turntables expanded greatly, ranging up to the sexy looking Model 1.2 (\$1,500). A cheaper turntable, the Pro-Ject Debut was introduced at the turn of the century to bring a taste of analog to a new generation of impecunious audiophiles, and as the Debut II it is now the world's best-selling turntable, available in your choice of 10 colors plus the standard black finish. I understand they sold 60,000 Debuts in the UK alone last year.

Cables!

Good People. Good Advice.
Great systems,
one customer at a time.

The new model we are looking at today, the Pro-Ject 1 Xpression features a Carbon Fiber armtube and several other significant upgrades over the Pro-Ject 1.2. In England it comes standard with an Ortofon OM10 cartridge, but in Canada an Audio Technica AT-95E cartridge is bundled with the package, which retails for a remarkable \$549 CDN (about \$410 US). The 1 Xpression has not yet reached the US market so we don't yet know which cartridge will come standard there.

The AT-95E moving magnet cartridge alone retails for \$45 US, and performs well for its price, but you can substitute a much better cartridge in this arm, moving magnet or moving coil, since it possesses good bearings and rigidity. Due to the carbon fiber construction and tapered armtube, this arm is free of the standing wave reflections that often afflict inexpensive arms. It can compete at the level of the Rega RB300, with the additional benefit of VTA adjustment. Anti-skate is provided (SME-style) by way of a dangling thread, in the interests of removing a possible source of resonance, while the low mass aluminum headshell is glued securely to the armtube. Azimuth adjustment is also available via a small screw at the bearing end of the arm. The inverted bearings consist of four hardened stainless steel points balanced upon sapphire thrust pads. The standard counterweight is suitable for cartridges in the 3.5g to 6.5g range, but an optional counterweight can accommodate cartridges up to 9g. The single-screw fixing of the armtube allows rotation for easy azimuth adjustment, while the internal wiring is of high-grade flexible copper from the headshell right through to the connection cable, which has gold-plated plugs.

A quiet running 16 volt AC motor with a two-step motor pulley (33/45) drives the hub and platter via a flat-ground belt. The platter system is a sandwich construction utilizing the hub, a fine-balanced aluminum alloy platter weighing 5 lbs and a felt mat. A low-tolerance chrome-plated stainless steel axle runs on a polished ball bearing in a brass bearing housing. The bearing housing is mounted in the medium density fiber plinth standing on four shock absorbing feet, while the motor is decoupled from the plinth to reduce vibration. Most turntables use a 120V AC motor, which inherently generates a much larger magnetic field when it runs than a low voltage AC motor does. As the tone arm (with the cartridge) moves closer to the motor when a record is being played this magnetic field can cause audible distortions, such as phase shifts and hum. That is the main reason why Pro-Ject uses an in-house custom-built 16V AC motor with an outboard power supply. This solution keeps Radio Magnetic Interference (RMI) down to an absolute minimum.



You can plug the wall-wart power supply directly into the turntable, or you can pony up an extra \$129 CDN (\$99 US) to buy the Pro-Ject Speed Box, a miniature component that sits directly under the chassis of the 1 Xpression. This little box regenerates the 16V AC that drives the motor using a quartz oscillator, and greatly improves the speed stability of the turntable. It also saves you the hassle of switching the belt from pulley to pulley to switch between 33 and 45 rpm, since it has a little button that alters the frequency of the AC it generates. I much preferred the sound with the Speed Box in circuit, and given its modest price, I wouldn't hesitate to recommend it. The extra speed stability it provides reduces the workload on the motor, and the resulting music sounds more relaxed, pitch-stable, and extended at both ends of the spectrum. My only qualm is that it does run quite hot, but I am assured that's the way it is supposed to be and there is no danger of overheating. Remember to set the pulley position to 45rpm on the 1Xpression if you use this box, or your turntable will actually run at 24.2/33 instead of 33/45. I know, I tried it!

The Canadian distributor, Kurt Martens of Essential Audio, was kind enough to set up the 1 Xpression for me on my wall mounted Target support, and he was careful to check the setup with a spirit level. Installation was quick and easy and well described in the instructions. He set the tracking weight at 2g, with the anti-skate in the middle of three positions. I used the excellent Graham Slee Era Gold MkV phono stage for most of my listening, although I also got good results from the less expensive Pro-Ject Phono Box SE and the Pro-Ject Tube Box, both of which will be the subjects of a later review.

Wouldn't it be wonderful if I could tell you the 1 Xpression trampled all over my digital source! Fortunately for Meridian, this is simply not the case. The Meridian G08 is frequently praised for its analog like sound, but it is more directly comparable to my reference Linn Sondek LP12/Ittok/Koetsu than to this inexpensive package. The reference turntable is naturally in a different class to the Pro-Ject, as it should be, despite the 24 years showing on its birth certificate. So while I could compare, disc by disc, the performance of the Pro-Ject and the Linn, or of the Pro-Ject and the Meridian where I have duplicate repertoire on vinyl and Redbook, such a comparison would be unfair. Instead, let's just listen to the Pro-Ject and judge it on its own merits. Remember we are listening to something in the three digit range, not the mid four digits of the reference units.

Well, I'm impressed. Even before the needle drops into the groove, the fit and finish of the 1 Xpression belies the sticker price. I'm also surprised at

how well the turntable resists mechanical and audio feedback. You can knock directly on the plinth and not affect the speed stability or disturb the secure tracking. The Linn, with its floating suspension, doesn't measure up on these tests. The on/off switch is a little hard to reach, and the silicon damped armlift is not as smooth as the Linn's and lacks a locking position, but everything works first time and reliably.

How does it sound? Much better than any digital source in its price range for sure. While not highly resolving or spectacular in dynamics, the overall sound is smooth and refined, with good imaging and tone color. The arm is well up to the task of extracting the best from the modest cartridge supplied, while rumble is well down, and surface noise is moderate. The truth is, you can play any disc and enjoy it, for its errors are those of omission not commission.

Starting with a couple of Direct to Disk recordings, *Rosie O'Grady's Good Time Jazz Band* (Direct Disk Records DD103) and Thelma Houston's *I've Got The Music In Me* (Sheffield Lab 2), a clear, lively and forward sound emerges. Transient snap is strong, but the treble is a little brittle, indicating a peaky top and then a rapid roll off at the high frequencies. The midrange is a little recessed, while mid-bass is strong although rolled off in the deep bass region. What impresses most is the spatial coherence of the sound, instruments being clearly located in three dimensions and staying in place no matter how complex the mix. Also notable is the lack of strain as climaxes approach, for which we can credit the excellent low resonance tonearm, which provides a solid platform in which the cartridge can do its work.

But the best sounds do not come from these demonstration discs. Rossini's *6 Sonate à Quattro* (Philips 6769 024) claims that honor. A warm, sweet sound with strong presence, especially for the violins of Salvatore Accardo and Sylvie Gazeau, bring the small ensemble right into the living room. All the instruments are nicely laid out before you in a realistic perspective, while the color of the two violinists' instruments are nicely contrasted. Surface noise is low, rumble undetectable and the music is captivating.

"NA CL" (yes, salt) from Kate and Anna McGarrigle's *Pronto Monto* (Warner Bros BSK 3248) tells a different story. Here the sound is thin, and the recessed midrange is evidenced by a lack of body to the voices, while the top end lacks air. On the positive side, there is no trace of sibilance on this track or in any of the tracks I auditioned. This story is repeated on Dylan's "New Pony" from *Street Legal* (Columbia JC 35453), where Dylan's lines are easy to decipher but lacking in body. The lead guitar work of Billy Cross is tuneful but rather restrained and Bobbye Hall's percussion sounds weak and tizzy.

How does the 1 Xpression fare on large-scale orchestral music? An old favorite of mine is Istvan Kertesz' magnificent performance of Dvorak's Eighth Symphony with the LSO at the peak of their form (Decca SXL 6044). I must admit to some disappointment here. The orchestral sound is thin and I do not sense the overwhelming power of the orchestra in full flight.

Finally the Pro-Ject turntable acquits itself well on the ubiquitous *Kind Of Blue* (CBS 62066). Paul Chambers' bass provides a solid and tuneful foundation upon which to set Miles Davis' gentle trumpet and the dueling sax from John Coltrane and my personal favorite Jazzman, Cannonball

Adderly. Bill Evans on piano and James Cobb on drums come off less well than their colleagues, the piano sound lacking somewhat in color and body, while the snap of the drums is rather light in weight. Not perfect, but you'll need a pretty fine digital source to reproduce the drive and the atmosphere the 1 Xpression captures so clearly.

I asked Kurt if he would like to conduct a little experiment with me. Could we try to use the 1 Xpression with my Koetsu Black Goldline cartridge, a \$1500 US low output moving coil. Kurt jumped at this opportunity and spent an evening setting up the experiment, and taking measurements, while I sat back and just listened to the same records again.

First, the measurements. We found that the tracking ability of the Koetsu measured identically in my Ittok and on the 1 Xpression, tracking cleanly at +14 dB lateral and at the limit of the test record +12dB vertical. The AT-95E did even better on the 1 Xpression, cleanly reaching +18dB lateral and again +12dB vertical. Ideally, the tonearm/cartridge resonance should be in the 10 to 12 cycles range. The Koetsu measured 9 lateral and 10 vertical in both arms, while the AT-95 on the 1 Xpression measured 10 lateral and 10 vertical. So a clean bill of health for all the combinations.

To audition the 1 Xpression with the Koetsu, I switched from the Era Gold phono stage, which does not support low output moving coil cartridges, to the Pro-Ject Tube Box. So this is strictly speaking not a fair comparison. The Era Gold is a much more refined phono preamplifier, with greater extension at both frequency extremes. However my purpose here was not to compare the two cartridges against each other, but to see if this inexpensive deck can provide a good platform for an exotic low output moving coil cartridge like the Koetsu. We did have to switch to the heavier counterweight, but apart from that it was all plain sailing. The most noticeable difference is the much greater low end extension the Koetsu provides, with more air on top and greater body to instruments and voices alike. Records that were thin before, such as the Dvorak, are passable now, while the best recordings, like the Rossini and the Thelma Houston are bigger, bolder and more dynamic still. Comparing the sound of the Linn LP12/Ittok/Koetsu/Tube Box and the 1 Xpression/AT-95E/Era Gold, then this 1 Xpression/Koetsu/Tube box combination comes midway between the two.

















So my intuition that the 1 Xpression could sound a lot better with an upgraded cartridge was confirmed both by measurements and by ear. I am not advising you to spend that much money on a cartridge for such an inexpensive turntable, but if it can handle the Koetsu this well, then I'm sure it will handle any medium mass cartridge you would care to use.

Kurt sent me a brief note following our tests which expresses his satisfaction with the experiment.

"It is a surprise to me that the Koetsu/1 Xpression combo measured identical to the Koetsu/Linn combo. This is truly a remarkable achievement for the tonearm on the 1 Xpression and I didn't expect this. Based on the hundreds of measurements I've conducted over the years with the same test records, I can honestly say that I've never come across an entry-level turntable that measured so well with a high-end cartridge as in this case. Usually the tonearms on these turntables are not at all up to the task and measure (and subsequently sound) very poor, rendering them completely incompatible with cartridges of this level. I am very pleased now that I know

that this is not the case with the 1 Xpression and that I can confidently recommend using top notch cartridges with this turntable."

So after all this, where do I stand on the 1 Xpression (and will the warranty cover it if I do)? The problem I have in writing this review is that I keep forgetting just how inexpensive this unit is. If you want to get into analog without breaking the bank, I'd say go for it – the value for money is spectacular. Be sure to pick up the Speed Box while you're at it, and spring for a better cartridge when you can. You'll gain a solid entry into the wonderful world of vinyl at a price I would never have thought was possible. And if your budget is bigger, you owe it to yourself to audition some of the other models in the Pro-Ject range.

Tonality	
Sub-Bass (10 Hz - 60 Hz)	
Mid-Bass (80 Hz - 200 Hz)	
Midrange (200 Hz - 3,000 Hz)	
High-Frequencies (3,000 Hz on up)	
Attack	
Decay	
Inner Resolution	
Soundscape Width Front	
Soundscape Width Rear	
Soundscape Depth Behind Loudspeakers	
Soundscape Extension Into Room	
Imaging	
Fit And Finish	
Self Noise	
Value For The Money	

Specifications

1 Xpression

Arm length: 218.5mm (8.6") effective

Effective Mass: 9.5g

Overhang: 18.5mm (.73")

Cartridge: Audio Technica AT-95E

Power: Outboard power supply provides 16V/500mA

Motor: 16 V AC

Platter: Aluminum alloy 2.2 Kg (5 lbs) with felt mat

Speed stability: +/- .1%

Wow and Flutter +/- .5%

Rumble: -70dB

Finish: Matt grey with hinged dust cover

Dimensions: 16.3 x 13.1 x 4.6 (WxDxH in inches)

Weight: 14 lbs.

Price: \$549 CDN

Speed Box

Speed stability: +/- .01% (10 times improvement)

Power supply: 16V/500mA AC

Control: All functions microprocessor controlled

Finish: Matt black with black gloss face

Dimensions: 3.1 x 3.3 x 0.8 (WxDxH in inches)

Weight: 0.66 lbs.

Price \$129 CDN

Company Information

Pro-Ject Audio Systems
Margaretenstrasse 98
A-1050 Vienna
Austria

Voice: +43 1 5448980

Fax: +43 1 5456697

E- mail: info@project-audio.com

Website: www.project-audio.com

[Add Us To Your Favorites](#)

[Link Your Website To Us](#)

[Make Us Your Homepage](#)

[Audiophile Internet Browser V9 Now Available!](#)

Copyright© 1995 through 2007 *Enjoy the Music.com*®
May not be copied or reproduced without permission.
All rights reserved.

[E-Mail Our Offices](#)

[Advertising Information](#)