

Pro-Ject Juke Box E

A 'get-you-off-the-ground' solution, Pro-Ject's compact Juke Box includes a deck, arm, cartridge, Bluetooth receiver and amplifier. Is this a 21st century 'music centre'?

Review: **David Price** Lab: **Paul Miller**

Most *Hi-Fi News* readers will be seasoned practitioners in the art of upgrading, having begun a good few years ago and slowly climbed up the hi-fi ladder. Spare a thought though, for those starting out in life. If you're young, and/or unschooled in such matters, what do you buy to play music on?

Your first point of contact with audio will likely have been via a computer, tablet or smartphone – but wanting more, you're suddenly in a quandary. Your attention could be drawn to a turntable because it is practically the only thing that your 'i device' cannot do. The ability to play 'vinyls' (as they're so infuriatingly misnamed these days) is something that many millennials now crave. This – at least in part – explains the inexorable rise of vinyl LP sales [see Investigation, p24 and Opinion, p103].

VEGETABLE AISLE

Go into any decent music store these days, assorted cool cafe/bars or even supermarkets, and you'll probably see a range of so-called 'turntables' for sale. These are distant descendants of the Dansette-type record players of the '60s, with built-in amps, speakers and a cartridge that tracks heavier than a sack of potatoes.

There are many sub-£100 models on sale, but what about something for those wanting just a little better? Pro-Ject's new Juke Box E is an 'active turntable' which sports a record player, phono stage, preamplifier and power amplifier. For the princely sum of £369, you simply add a pair of speakers to get a full vinyl-spinning system. The company recommends its Speaker Box 5 (£199) but any smallish pair of sensitive speakers can be used.

The new Juke Box E is effectively a stepping stone between the supermarket spinners and a 'proper' vinyl separates

system. So how well does it play that role? No one should criticise it for not sounding as good as a £1500 separates system, or laud it for being better than a cheap plastic record deck. The first criterion must surely be ease of set-up, and here the Juke Box E scores well. The Juke Box E is near enough 'plug and play'. Pulled out of the box, the belt needs attaching to the motor pulley and the stylus guard removed, and you'll have to plug in the external PSU. If you intend to use the standard Bluetooth facility, I found it paired easily enough. Finally you'll need to hook up a pair of loudspeakers via the rear banana sockets.

Compared to those 'plastic fantastic' supermarket record decks, Pro-Ject's Juke Box E is built like a tank – but by real hi-fi standards it's a bit flimsy. The gloss painted MDF plinth (available in a choice of white, black or red) is hard to fault at the price, and the straight 8.6in aluminium tonearm is better than those fitted to ultra-budget designs but can't hold a candle to an

entry-level Rega, for example. In use the deck doesn't feel too crude, the arm is reasonably smooth to cue and the supplied Ortofon OM 5E cartridge tracks surprisingly securely. This MM is certainly more than just a throwaway; you can change it but few will want to because it matches the deck so well. Standard Pro-Ject electronics control the AC synchronous motor, which spins the 300mm, felt mat-topped plywood platter quietly at 33.3 or 45rpm. A decent quality acrylic lid is supplied.

AN AMPLIFIER TOO

The amplifier fitted to the underside of the unit develops a claimed 50W/4ohm from its Texas Instruments power module [see PM's Lab Report, p73], while the phono preamp is a tweaked version of the company's Phono Box MM with slightly more gain. Preamplifier control is via a Princeton Technology DSP and offers bass, treble and loudness controls. The front mounted plastic volume knob wins no



RIGHT: The 33.3/45rpm speed change is manual but all the Juke Box E's other functions are accessed via a combination rotary volume/input selection control and back-lit LC display



prizes for ergonomics or style, despite having a reasonably smooth action. You would expect it also to work as the main on-off switch but it doesn't – there are separate rocker switches for the turntable and amp sections under the plinth.

The top mounted backlit two-line display looks crude but works well. It shows the volume setting and source selected (a choice of either turntable, line input or Bluetooth). The best way to work the Juke Box E is via the supplied remote control [p73] while, around the back, you get a choice of line and phono (turntable) outputs, a line input and speaker outputs. Power is supplied by an external 24V encapsulated PSU.

The Juke Box E has 'energy absorbing' feet, but they're less effective at quelling external vibrations than a turntable with a sprung suspension, so you do need to take some care when siting it. The obvious point

is that it shouldn't be near the speakers, or indeed the floor. A light coffee table is good, or a wall shelf or, better still, a dedicated equipment stand.

VINYL DEMAND

Anyone who already owns a good budget separates system is unlikely to be bowled over by the Juke Box E – but that's a little unfair because it was never designed to compete with such things. But as a step up from the supermarket specials, Pro-Ject's Juke Box E makes a great deal of sense – indeed it sounds spectacularly better.

Essentially, it has a smooth and warm sound that doesn't grate in any nasty way. Unlike the aforementioned ultra-cheap decks, it's possible to put on a record and enjoy it more for what it is, than what it could be. You get a reasonably full and decently rhythmic sound, but still in strict hi-fi

'It's a stepping stone from the supermarket spinners'

ABOVE: The Juke Box E comes fitted with a Pro-Ject 8.6 E tonearm and Ortofon OM 5E pick-up. Note the 'eye' on the front edge of the chassis – for the partnering IR remote control

terms the turntable section is obviously compromised. Most noticeably, speed stability is poor and dynamically the deck sounds sat-upon, and in the worst instances sucks some life out of vinyl LPs.

I cued up Nirvana's grunge classic 'Smells Like Teen Spirit' [*Nevermind*; DGC-24425] and first impressions were good, for the deck wasn't as noisy as you might imagine and it threw out a reasonably large soundstage. As soon as the rhythm section kicked in, the Juke Box E pushed things along in a reasonably propulsive fashion, although it was clear that those hard, fast leading edges to snare drums and guitar power chords had rather melted into the mix, losing some bite in the process.

So this was not as crisply carried as it might be, the song sounding softer and more recessed than it should, making this razor-sharp rock standard feel more like easy listening. It was by no means an unpleasant effect, but neither was the rendition accurate. Part of this phenomenon seems tied to the deck's marginal speed stability [see PM's Lab Report, p73], and is particularly evident in the bass where, on occasion, one note will slur and blur into the next.

STRANGE EUPHONY

In some respects I was perplexed by this deck: dynamic transients were blunted to the point where the music could sound quite compressed, then again, as with the speed instability issue, this 'compression' often had a strangely euphonic effect! For example, Scritti Politti's 'Perfect Way' [*Cupid And Psyche*; Virgin V2350] came across as unexpressive and somewhat ➔

WHO ARE YOU?

Whatever the Juke Box E may be, it is *not* a jukebox – it doesn't have an autochanger like those old fashioned disc spinners of yore, and can't supply music in an endless loop. In truth, it's far more like a 'music centre', the sort of thing that every self-respecting middle-class household aspired to owning during the 1970s, at the time when a 'stereo' was the third largest purchase a family would typically make after a house and a car. These bulky devices sported turntables, radio tuners and usually cassette sources, plus an amplifier with an auxiliary input. The breed was the last gasp of the mass market British audio – as opposed to 'hi-fi' – industry, with badges like Fidelity and Binatone resplendent on their faux teak casework. Soon the Japanese muscled in, with Sanyo and Hitachi becoming big sellers. By 1978 the music centre was at its peak, with higher-end brands like Sony cleaning up – the swish direct-drive HMK-80 was arguably one of the finer ways to play your prized copy of *Saturday Night Fever*. By contrast, the Juke Box E is effectively a marriage of existing products in the Pro-Ject lineup. In some respects it doesn't compare so well, as music centres almost all had superior ergonomics, thanks to their automatic turntables.

TURNTABLE/AMP



ABOVE: No ordinary turntable! RCA sockets are provided for a native (tonearm) output, an RIAA-equalised output and a line input. A Bluetooth antenna connection sits alongside 4mm terminals/binding posts for speaker cables. Power is via a 24V PSU

flabby, but still quite jolly. The punchy bass synthesiser work was carried reasonably well, yet it lacked articulation and didn't dominate the song in quite the way that it should. The ringing digital keyboards further up the midband lacked their usual lustre, and appeared to be more deeply blended into the mix than is actually the case. Even a good budget deck such as Rega's latest Planar 2 [HFN Feb '18] has them chiming out like bells in the night, but this deck has no phono stage or amp, of course.

Stereo imaging was also rather vague. I cued up some cool '60s jazz from Lou Donaldson in the shape of 'One Cylinder' [Alligator Bogaloo; Blue Note 7842631], and it gave a pretty nebulous sense of the recorded acoustic. It was wider than you might expect, but was distinctly two-dimensional and ponderous, with little sense of the exact location of instruments.

The supplied Ortofon OM 5E cartridge isn't the world's most forensic MM and was typically unable to recreate the magic happening in the studio. This said, the Juke Box E served up a soft bloom that many will think to be the singular trait of analogue vinyl LPs!

CD VERSUS VINYL

Step away from the turntable section and the Juke Box E gives a better account of itself, even though the improvement is not transformative. Indeed, while vinyl lends this 'active turntable' a reasonably friendly feel, playing a CD in through the line stage exposes the quality of the integrated amp still further. Neil Young's 'Like A



Hurricane' [Decade; Reprise Records 7599-27233-2] gave a considerably cleaner sound via CD than when spinning vinyl, with a tighter bass and less coloration, for example. Yet still the amplifier section sounded rather opaque compared to the best of the budget amplifier breed.

POWER PLAY

Power proved limited – even with the relatively amplifier-friendly Q Acoustics 2020i loudspeakers that I used. There was little sense that the Juke Box E had the urgency to drive the speakers loud, and towards the upper limit of its volume range things became looser and harder.

Go back down to saner listening levels, or choose even more sensitive speakers, and the Juke Box E does much better, with a pleasant enough sound – even if the top end lacks atmosphere and sparkle.

Bluetooth wasn't exactly stellar either, but the bar is necessarily set lower here. Things felt decidedly processed, but it was perfectly adequate for casual listening. Although obviously flawed in many ways, and like the deck as a whole, it was still hard to dislike. ☹️

HI-FI NEWS VERDICT

To properly assess the Juke Box E, you have to ask, what is its purpose in life, its *raison d'être*? It's not quite a latter day music centre because it lacks the operational sophistication of this long-lost breed. Better to think of it as a cheerful stepping stone from audio oblivion to real hi-fi – then you'll have its measure. If it persuades just a few vinyl newcomers to explore further, it will have done its job.

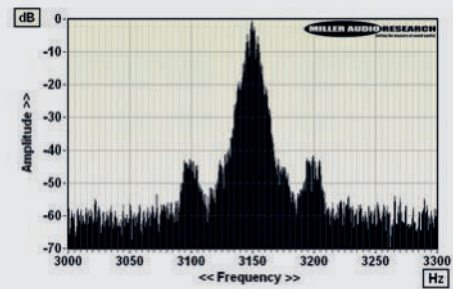
Sound Quality: 75%



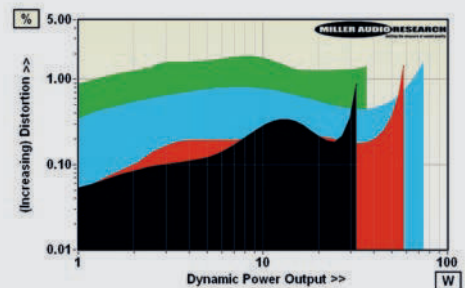
PRO-JEKT JUKE BOX E

Pro-Ject's own specification for the Juke Box E's rumble and peak-weighted wow and flutter is very realistic at '-65dB' and '0.29%', respectively. On the HFN test bench, figures of -64.8dB (through-groove) and -65.6dB (through bearing) were recorded for rumble while peak wow amounted to 0.13% and peak flutter 0.12% [see Graph 1, below]. Low-rate wow at ±5Hz is evident from the graph as are obvious ±50Hz flutter sidebands, all broadened by a complex series of W&F components occupying some 20-25Hz. However, while its pitch stability is somewhat 'fuzzy', the absolute speed accuracy is very good indeed with an error of just -0.02% at 33.33rpm – so the deck will not sound permanently 'fast' or 'slow'.

The inbuilt amplifier module brings its own 'character' to the mix. Rated at 50W/4ohm it certainly achieves this in practice with – like all Class D amps – little or no difference under dynamic conditions. Figures of 32W, 55W, 67W are possible into 8, 4 and 2ohm with 37W/1ohm limited by protection [see Graph 2]. While this is sufficient to drive most sensitive, small desktop speakers, there's clearly a marked increase in distortion with increasing output, with increasing frequency and when driving lower impedances. For example, into 8ohm, THD is low enough at 0.05%/1W/1kHz but this increases to 0.25%/10W/1kHz and a substantial 3.8%/10W/20kHz. Response is also load-dependent, so there's a treble boost of +1.2dB/20kHz into 8ohm and a mild drop of -0.4dB/20kHz into 4ohm. Noise – white noise rather than hum – is slightly high too, so the A-wtd S/N ratio is about 10dB behind a standalone hi-fi integrated at 76dB (re. 0dBV). As a 'starter' solution though, it does what it says on the tin. PM



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



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 6.1A

HI-FI NEWS SPECIFICATIONS

Turntable speed error at 33.33rpm	33.33rpm (-0.016%)
Peak Wow/Flutter	0.13% / 0.12%
Rumble (groove/bearing, DIN B wtd)	-64.8dB / -65.6dB
Power output (<1% THD, 8/4ohm)	32W / 54W
Dynamic power (<1% THD, 8/4/2/1ohm)	32W / 55W / 67W / 37W
Distortion (20Hz-20kHz, 10W/8ohm)	0.23-3.9%
Power Consump. (turntable/rated o/p)	6-11W / 80W
Dimensions (WHD) / Weight	488x118x334mm / 7kg