

Pro-Ject Tube Box DS2

Alongside its range of turntables, Pro-Ject's diverse Box series of hi-fi separates – from streamers to phono preamps – has come to define the 'world vision' of its founder
Review: **Ken Kessler Lab: Paul Miller**

One of the nicest by-products of the vinyl revival is the constant flow of affordable phono stages, essential to allow newcomers to adapt to LP playback the line-level-only integrated amps that have proliferated since 1983. Thorens, Mobile Fidelity, Musical Fidelity, NAD, Cambridge – there are too many to list, but the go-to brand for me is the one that also 'owns' the entry-level turntable market: Pro-Ject.

Among the 16 phono stages in its catalogue is a 'sweet spot' model at £550, the Tube Box DS2. Available in black or silver, with a choice of wooden side cheeks, and with those triode tubes sprouting out of the top, it was the perfect yin to the MoFi UltraPhono's solid-state yang [HFN Mar '20]. And unbeknown to editor PM as he organised a product for this review, I already owned one: I needed a phono stage that did everything, but cost well under £1000 so I could use it with entry-level cartridges and turntables.

LET THERE BE LIGHT

This product actually fits in the middle of the six-range Pro-Ject catalogue. If your budget won't stretch to this model, there are plenty from £60 on up. If you want something a bit more lavish, there is the RS range. The Tube Box DS2, however, will address all of your audiophile needs, and a bare bones description will have you salivating if you need a phono fix without having to break the bank.

Let's dispense with the back first. Unusually for a phono amp at this – or any – price, the Tube Box DS2 accommodates two turntables, offers two sets of RCA outputs, has power from an 18V 'wall wart' and features 12V trigger input/outputs. This tells you that you can integrate it into most systems with auto-power-on and you have the choice of two decks if so inclined.

RIGHT: Inside the Tube Box DS2 a volume pot [bottom] provides the variable MC loading while gain is switched via a sequence of [white, top] relays. The ECC83 triodes provide gain 'inside' the passive RIAA and are fitted with alloy coolers

While the front panel looks like you might want a trip to the owner's manual, it's actually intuitive and user-friendly. Press the tiny button on the left and it switches on, a blue LED lighting up above the button. Other LEDs come on at this point to show which input has been chosen, whether or not the subsonic filter is engaged and which loading, capacitance and gain settings have been selected by the user.

Then, for precisely 30 seconds, the on/off LED flashes during the warm-up period, the muted output preventing any nasty pops from greeting the user at switch-on. To demonstrate just how closely Pro-Ject pays attention to the tiny details, even with cost-effective models such as the Tube Box DS2, the LED that shows which output has

been selected doesn't light up until the warm-up period ends.

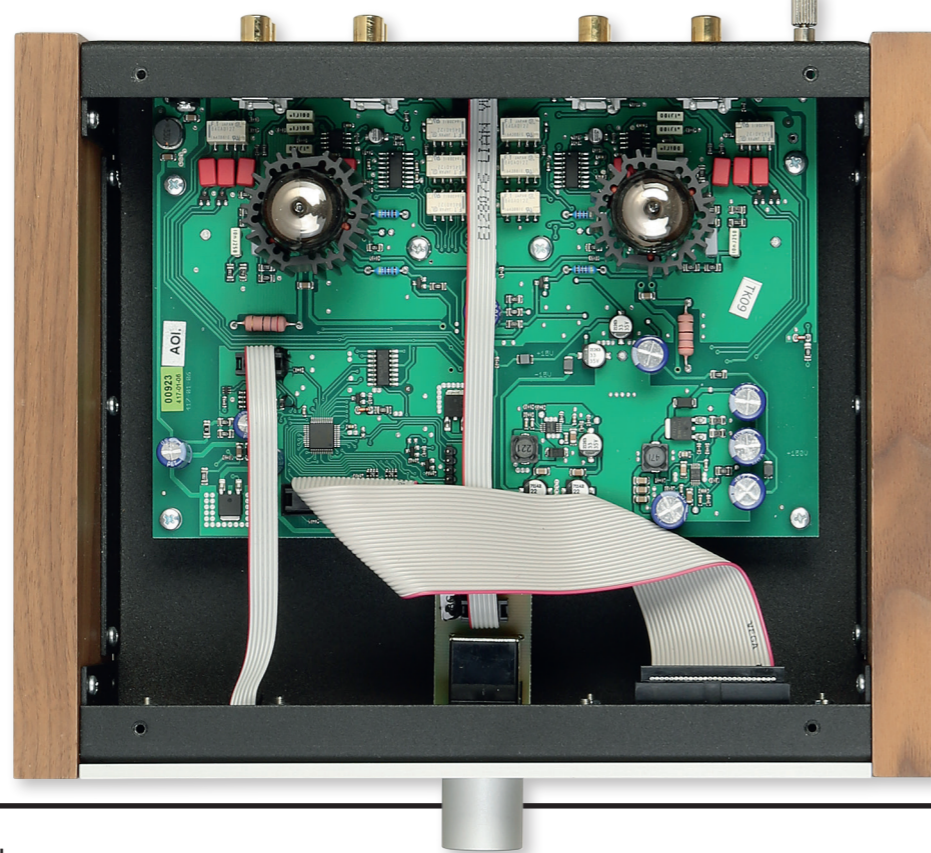
PLAY BY EAR

Dominating the fascia is the big rotary control that serves to dial in MC pick-up loading from 10-1000ohm. It lacks detents, so you will be setting this parameter by ear, but that's no bad thing for, in my experience, most cartridges exhibit a window of a few ohms either side of the manufacturer's

recommendations. Its range all the way down to 10ohm certainly proved useful when I hooked up my favoured EAT Jo N°5 MC cartridge [HFN Dec '18].

To the right of this knob are three buttons in a vertical array to select Input 1 or 2, Output 1 or 2, and the subsonic filter.

'That tube-y warmth worked magic on her honeyed voice'



LEFT: A far cry from the utilitarian Tube Box DS, this v2 model trades manual jumper connections for front-panel switching of load and gain. The variable MC loading potentiometer allows tweaking 'on the fly'!

The top button chooses between 47kohm loading for MM cartridges (or suitable high-output MC types), or 'Variable' for accessing the rotary. Below it are MM capacitance settings of 100pF, 220pF or 320pF, and the gain selector in dB. All it lacks is a remote, which would let you play with the loads and levels from the hot seat.

Editor PM advises that the first three gain settings of 40dB, 45dB and 50dB work ideally for MM cartridges, with 60dB and 65dB as best for MCs [see Lab Report, p65] though I was surprised by some of the settings I arrived at after trial and error.

TUBES FOR EVERYMAN

During the year I have been using it, I have also fed the Tube Box DS2 with the Ortofon Concorde in Pro-Ject's Yellow Submarine deck (I couldn't resist...), Decca Gold and Ortofon 2M Red [HFN Oct '08] MMs, and EAT Jo N°8 [HFN Dec '19], Koetsu Urushi [HFN Nov '19], Denon DL-103 and TechDAS TDC01 Ti [HFN Sep '14] MCs, in addition to the Jo N°5. I have spent more time with this product, prior to writing the review, than pretty much anything I've ever assessed.

TUBES 'N VINYL

As valves-vs-transistors perfectly parallels the analogue-vs-digital dichotomy, it seems logical that tube phono stages would better complement LPs than solid-state. This is not to say I'm an absolutist: my entry-level reference phono stage is the tubeless-yet-magnificent MoFi UltraPhono [HFN Mar '20]. As for the rest, I prefer the bloom or warmth associated with valves, rightly or wrongly. (See the review of the Vinnie Rossi L2i-SE, p48, for a practical testing of this belief.) My work requires phono stages at assorted price points, to address the needs of a reviewer who insists on assessing products in context, eg, a £700 moving-coil through a £7000 phono stage is an unlikely pairing. And all of mine are valve.

Pro-Ject's Tube Box DS2 has seen sterling service in my system for over a year, long before I knew I would review it. Next is the astonishing EAR PhonoBox [HFN Dec '19], tied with the similarly-priced EAT E-Glo Petit (£1200-£1500 depending on accessories). I keep both because while the PhonoBox includes fixed MM/MC gain and loading the EAT E-Glo Petit [HFN Feb '19] has adjustments on a par with the Pro-Ject Tube Box DS2. For ultimate testing? I stay with the flagship EAT E-Glo which eschews any semiconductors in its signal path in favour of four ECC83s and two ECC88s – it's among the best phono stages I've ever used.

This isn't the least expensive tube phono stage on the market, and Amazon will sell you some oddity, eg, Nobsound's Little Bear T7 for as little as £49. For all I know, it might be a gem. But Pro-Ject's Tube Box DS2 is the real deal for audiophiles on a budget – I had one of its earliest tube phono amps over 15 years ago, and it was a dandy. But this is something special.

Experience notwithstanding, PM explained to me why I made such an easy transition going from EAT's E-Glo Petit (at twice the price!) to the Tube Box DS2. EAT and Pro-Ject are sister brands, and he explained that the Tube Box DS2's design exhibits parallels with the E-Glo Petit phono preamp [HFN Feb '19], which also mixes transistors and ECC83 tubes. In both cases, the 'headamp' is a low-noise J-FET stage with the first triode in cascade, leveraging a substantial 70dB overall gain.

PM adds that 'much of this is lost through the passive RIAA EQ that follows – there's even a second tube gain stage between the two halves of the passive network. Thus the maximum gain available to the user is +65dB [see Lab Report, p65].

just about spot-on for the vast majority of sane MCs. Furthermore, Pro-Ject is smart enough to ensure the Tube Box DS2's compatibility with likely partnering amplifiers by buffering its output, not via the triodes, but with a solid-state Burr-Brown op-amp'.

It's worth adding that, in addition to the above list of cartridges, my Tube Box DS2 has hosted, in addition to the aforementioned Pro-Ject Yellow Submarine, the EAT B-Sharp [see p54] as well as two MoFi decks [HFN Jul '19 and Jan '20], the TechDAS Air Force III Premium [HFN Jun '19] and a venerable Thorens TD-150.

GENTLE GIANT

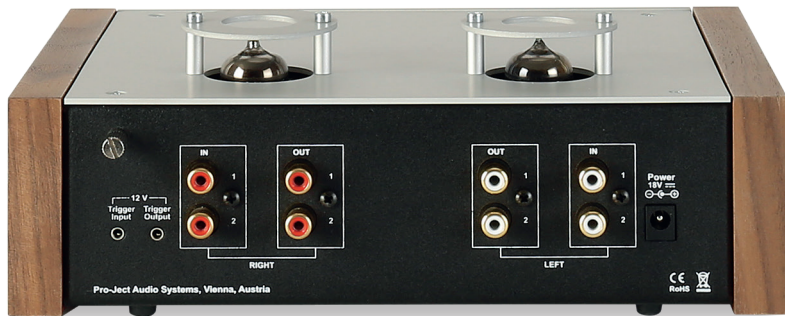
Listening to the remastered edition of James Taylor's *Greatest Hits* [Warner Bros R1 3113/603497852543], I was reminded of one of this phono stage's greatest qualities – quietness. I arrived at this through familiarity, because achieving this requires only the judicious application of the gain settings, to find the optimal amount relative to one's preamp or integrated amp and speakers.

Ordinarily, I am not too taken with the thought that 'Something In The Way She Moves' and 'Carolina On My Mind' were re-recordings rather than the Apple originals, but the openness of the Tube Box DS2 let me listen into the recording with 'new ears' – and a new pressing.

As I have quite a few hours on the EAT Jo N°5 via this phono stage, it was a case of reaffirming what I already knew. And, lo and behold, the next tracks were my old friends, 'Fire And Rain' and 'Sweet Baby James', the original recordings remastered. With all respect to the MoFi UltraPhono, which I find to be an incredible device, the addition of that tube-y warmth worked magic on a voice that's already so honeyed as to border on the calorific.

But these are gentle recordings that do not tax a system, beyond demanding finesse. Asked to rock out, with Mobile

PHONO PREAMPLIFIER



ABOVE: The Tube Box DS2 will accommodate two turntables/cartridges with separate, but switched, RCA inputs and outputs. 12V triggering facilitates a degree of system automation while the 18V wall-wart PSU invites user-driven upgrades

Fidelity's superb new version of Twisted Sister's 1984 album *Stay Hungry* [MFSL-1492], 'We're Not Gonna Take It' (a song as familiar as the James Taylor tracks) enjoyed all of the overwhelming force a heavy anthem demands, and there was just enough softness at the upper reaches of the treble to add a frisson of 'tubeness' – arguably as much of a *raison d'être* for buying the Tube Box DS2 as its raft of facilities.

ROCK SOLID

This is not, however, to suggest for even the most fleeting of moments that one should 'de-raunch' (or should that be 'Dee-raunch?') something as inherently and deliberately aggressive and volatile as Twisted Sister's harder-than-nails glam-metal. Bass was rock-solid and extended, as it was throughout the remastered James Taylor LP.

Moreover, the whole thing held together beautifully even during the most frantic moments, which is all the more surprising given that Pro-Ject's founder, and hard-core classical devotee, Heinz Lichtenegger probably knows about as much heavy metal as I do Andalusian poetry.

Another new arrival made me fall in love all over again with the Tube Box DS2, although my ardour hadn't waned at all over the past year. Al Di Meola, a guitarist of sublime subtlety as well as speed, recently released his second homage to The Beatles, *Across The Universe* [E-A-R Music/Edel 0214706EMU]. If you have no problem with instrumental covers of The Beatles' canon – and I clearly don't, owning a few hundred of them – this album of 14 tracks played in the Spanish guitar manner will surely dazzle you.

OK, so part of the challenge is keeping up with his runs, which have been accused of including too many notes, but this is like a demo LP for transient attack and detail. No blues, no smears, and a waft of the air and woodiness associated with acoustic guitar. The latter quality was never more pronounced than on, appropriately, 'Norwegian Wood', with tabla stage right to add some percussion in the spirit of the era.

This album, as did the James Taylor collection, provided the Tube Box DS2 with the opportunity to display its chops with soundstage. The width is broad enough to honour a Denon MC, but its big sister, the E-Glo Petit, just beats it for stage depth, audibly and repeatedly.

Then there's the bass: on 'Strawberry Fields Forever', it offers mass of Kodo proportions. Up top, it never sounds nasty or raspy, or comes across as too soft. There was gain a'plenty, but I'm sure there may be some oddball MC needing more. If there's anything else to criticise, I've yet to uncover it. ☺

HI-FI NEWS VERDICT

Here the verdict is a *fait accompli* as I have been using the Tube Box DS2 for over a year as my budget reference phono amp. It was enough that it handles two decks, has two outputs and adjustable loading to match any cartridge likely to cross my path. Above all, though, is the sublime valve-y sound: it's an absolute knock-out, even proving itself in an uber-high-end £100k system with a £10k MC. This is a killer.

Sound Quality: 86%

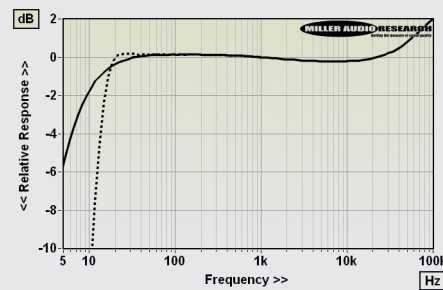


LAB REPORT

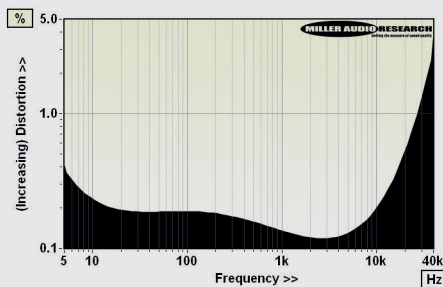
PRO-JECT TUBE BOX DS2

This little box is best described as a 'hybrid', combining a J-FET/triode gain stage with passive RIAA eq and an op-amp-based output buffer. The latter brings with it a modest 96ohm source impedance and a substantial 7.4V maximum output but, arguably, a higher distortion than might have been achieved with the solid-state electronics left 'naked'. However, with 0.12-0.5% (20Hz-20kHz, 0dBV) whatever modest colour the two-stage ECC83s might have introduced is still lower than the distortion we typically measure from any MM/MC pick-up under real world conditions [see Graph 2, below]. The freq. response [see Graph 1] is also subtly shaped with a very gentle rise of +0.13dB between 50Hz-300Hz, an equally subtle dip through the presence, followed by a lift of +2dB at an ultrasonic 100kHz. The subsonic filter steepens the LF cut to -11dB/10Hz and -35dB/5Hz.

Pro-Ject claims +40dB, +45dB and +50dB gain (which I took as default MM settings) with +60dB and +65dB notionally for MC, values that were closely matched on test at +40.5dB, +45.1dB and +50.1dB for MM, and +60.0dB and +65.1dB for MC. In practice, the lowest MM gain offers a 9.45mV sensitivity (good for high output MMs) with the highest MC gain equal to 0.56mV (556µV – and with a minimum 10ohm load option, useful for mid-output MCs). The Tube Box DS2 carries enough headroom to maintain input overload limits of 72mV, 51mV and 31mV (MM), and 10.5mV and 6.1mV (MC), which are *just* sufficient to accommodate the 'hottest' >16dB groove modulations (re. 11.2µm/300Hz). Fortunately the tube RIAA stage clips very gracefully so there's some additional margin with the first three (MM) gain settings. The A-wtd S/N ratios are also superior at 83dB (MM) vs. 63dB for the last two (MC) settings. PM



ABOVE: RIAA-corrected frequency response (subsonic filter, dashed) from 5Hz-100kHz at 0dBV via MM



ABOVE: Distortion extended frequency (5Hz-40kHz) via MM input re. 0dBV (1Vrms) output

HI-FI NEWS SPECIFICATIONS

Input loading (MM/MC)	47kohm / 10ohm-1kohm
Input sensitivity (re. 0dBV)	9.45mV-556µV
Input overload (re. 1% THD)	72mV/51/32/10.5/6.1mV
Max. output (re. 1% THD) / Impedance	7.4V / 94-96ohm
A-wtd S/N ratio (re. 0dBV)	82.7dB / 62.7dB (MM/MC)
Frequency resp. (20Hz-20kHz/100kHz)	-0.3dB to +0.13dB / +2.2dB
Distortion (20Hz-20kHz, re. 0dBV)	0.12-0.51% (MM)
Power consumption	10W (1W standby)
Dimensions (WHD) / Weight	240x93x239mm / 2kg