

# How we test

Hi-Fi Choice employs the most rigorous test and measurement regime in the business. Here's how we do it...

## Unique group tests

Our *Group Tests* are supported by rigorous and exhaustive listening tests carried out by experts

### PHONO STAGE GROUP TEST

**AS GETTING TO** grips with the various settings that each of our phono stages offers requires repeated listening sessions with different cartridge types (high-output moving magnet and low-output moving coil), it isn't practical to carry out this month's *Group Test* with our usual listening panel present. This allows the process to be extended and a more tailored procedure applied.

Listening is carried out using carefully chosen pick-ups that each represent the best of the budget to mid-price breed, which are typical of the models that the phono stages in our group are likely to find themselves called into duty to serve. At £295, Ortofon's 2M Bronze with its

Nude Fine Line stylus is a superb cartridge that tracks well, while being consistent across all music and with good channel symmetry.

For MC duties, Denon's low-output £320 DL103R represents a classic cartridge that's brought up to date with its high purity 6N copper coils, making it popular with audiophiles as the mid-priced MC of choice, thanks to its excellent tracking ability. And with its claimed output of only 0.25mV, it helps to ensure our phono stages have their work cut out.

All of our phono preamps are put through the same cycle of music from four different test records, each of which has been chosen to reveal varying audio traits.



### BLIND LISTENING TESTS

This crucial process is very carefully controlled so that we get reliable and consistent results in a relaxed and friendly atmosphere. Our listeners must not feel that they're being tested, despite being unaware of the brand or price of the products they are auditioning.

The session begins by setting the volume level to an agreed point, one that all three panellists feel comfortable with, yet that is

high enough to make differences easily discernible. Then the choice of music is agreed – it needs to be familiar, but also well recorded and of sufficient variety to give meaningful listening comparisons. The chosen selection of music is played, and the panellists are encouraged to discuss their impressions of the sound of the product. This is then repeated, and periodically the panel listens to earlier products for reference purposes. The

consensus, or otherwise then forms the basis of our sound quality section.

At the end of the session, there's a final debrief when panellists discuss their findings. It's an exhaustive process, but carried out in this way is free from prejudices based on brand, price or appearance, while the different sensitivities of the listeners help to round out the analysis in order to make it more widely applicable.

### REFERENCE SYSTEM

**TURNTABLE**  
VPI Scout 1.1 with JMW tonearm  
**AMPLIFIER**  
Musical Fidelity M6PRE/M6PRX  
**LOUDSPEAKERS**  
Dynaudio Focus 260  
**CABLES**  
Crystal Cables/Van Damme

### TEST MUSIC

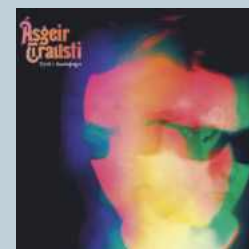
**THE HANDSOME FAMILY**  
Singing Bones  
Vinyl



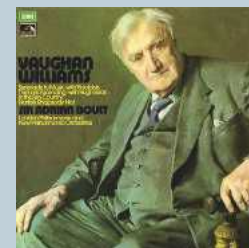
**PIXIES**  
Doolittle  
Vinyl



**ÁSGEIR TRAUÐI**  
Dýrð í dauðabögn  
Vinyl



**VAUGHN WILLIAMS**  
The Lark Ascending conducted by Sir Adrian Boult  
Vinyl



# Group test



PHONO STAGES £200-£649

## Stage directions

**Andrew Simpson** gets in a spin with six mid-market phono stages that will take your vinyl to the next level

**THE HUMBLE PHONO** stage is something of an unsung hero among its hi-fi separates contemporaries, where main amplifiers and turntables usually get the limelight. But given these little boxes can carry out the lion's share of your total signal amplification from cartridge to speakers, the importance of the role they play in contributing to the overall sound quality cannot be overstated. You may have splashed your cash on the turntable of your dreams, but if its partnering phono stage isn't of sufficient quality then your lavish vinyl spinner will be held back, and precious audio

information lost in the chain. Help is at hand, as we put six lovingly crafted small (and one not so small) phono stages from entry-level models upwards to the test.

### Choice options

With a range of new budget moving coil pick-ups hitting the shelves that are designed to go toe to toe with the moving magnet types typically found at these price points, such as Ortofon's new Quintet series, it's sensible thinking to look for a phono stage that caters for both MM and MC types from the outset. That's why every model in our test covers both

bases, and with some offering more tailoring options than others.

The budget MyGroov lets you switch between each pick-up type with a flick of its front panel flywheel, making it a pain-free process, while those wanting a customisable pocket-sized approach may welcome Clearaudio's new V2. Lehmannaudio's and Pro-Ject's offerings come with similar price tags but are radically different, with solid state tech for the former and tubes for the latter. For Edwards Audio and Sonneteer, power supplies are key with both boasting toroidal transformers to show that they mean business. ▶



## ON TEST



**Clearaudio  
Nano Phono V2**  
£225 **p27**

Small in size but big on spec, this revised little unit from Clearaudio packs plenty of options into its solid case. For MM fans it's a breeze to use, while MC users can fit their own resistors for maximum tweaking.



**Edwards Audio  
MC1/PSU1**  
£500 **p29**

This twin box package gets an updated PSU in matching backlit livery and caters for both cartridge types via internal jumpers. Its spec is one of the best here, promising a sophisticated bang for your buck.



**Lehmannaudio  
Black Cube**  
£400 **p31**

The Black Cube's looks won't win it any design awards, but it's what's on the inside that really counts, and Lehmannaudio's pro audio backing and rich feature set make the Black Cube the dark horse of the group.



**Micromega  
MyGroov**  
£200 **p33**

With its simple settings the Micromega takes the pain out of vinyl replay. Easy to use and modern looking, the MyGroov follows the brand's My range ethos with a smooth user experience and a quality product.



**Pro-Ject  
Tube Box DS**  
£425 **p35**

It's impressive how much Pro-Ject has managed to squeeze into the DS. Tube fans and tweekers alike will delight at its little bottles and impressive feature set, including front-panel knob for setting load on the fly.



**Sonneteer  
Sedley USB**  
£649 **p37**

As the only full-width model on test, the Sedley is the heavyweight of the group, packing a large internal PSU. It has lots of cartridge settings and an internal ADC/DAC with USB port for digitising your vinyl.



## STUDIO MASTERS

Lehmannaudio's highly customisable DIY approach to tailoring the Black Cube's settings reveals the brand's history in the pro-audio sector. Norbert Lehmann was a young audio engineer in Cologne when he founded Lehmannaudio in 1988. His early inspiration stemming from hearing amplifiers with seemingly identical specs producing music that sounded worlds apart. Such contrasting sounds led him to dig deeper into exploring the intricacies of circuit details, power supplies and components before going on to create his own phono preamps.

Launched in 1995, his first audio product was the original Black Cube, which was updated in 2006. Remaining a benchmark in the company's portfolio, the Black Cube still carries elements of its pro-audio heritage inside its case via its input stages, which can also be found in top-notch mixing consoles and professional microphone preamps. Alongside its phono stage product line, Lehmannaudio also produces a range of dedicated headphone amps.

# Lehmannaudio Black Cube £400

With its utilitarian looks and pro audio backing, the Lehmannaudio's focus is on performance over style

### DETAILS

**PRODUCT**  
Lehmannaudio  
Black Cube

**ORIGIN**  
Germany

**TYPE**  
MM/MC phono  
stage

**WEIGHT**  
0.7kg

**DIMENSIONS**  
(WxHxD)  
113 x 45 x 108mm

**FEATURES**  
• Optional gain  
settings  
• Fixed and  
customisable load  
settings  
• External DC PSU  
• Optional bass filter

**DISTRIBUTOR**  
Henley Designs

**TELEPHONE**  
01235 511166

**WEBSITE**  
henleydesigns.  
co.uk

**C**ompared with the other models on test, the Black Cube won't win any awards for its looks. But within its staid casing lies a very clever product. Sitting above the entry-level £300 Black Cube Statement, the standard Black Cube offers a number of upgrades, including a low-noise 2x 15V DC standalone regulated PSU, with shielded umbilical cord and Neutrik plug, instead of the Statement's AC wall wart.

It uses a passive RIAA equalisation circuit, which some favour over active designs, located between two linear gain stages using low-loss precision MKP foil capacitors. All resistors are of the low-noise metal film variety and the switches for gain and load settings have gold-plated contacts.

On the base are small DIP switches to configure the Black Cube for a range of settings, with 47kohm (100pF) for MM and high-output MC pick-ups, and 100ohm/1kohm settings for low and mid output MCs, while a third setting lets you select a custom load by installing your own resistors on its dual mono circuit board.

The gold-plated RCA sockets are well spaced on the front and rear flanks of its non-magnetic alloy case, which has a special anti-resonance treatment applied to its top cover.

Removing the lid via four screws gives you access to more customisable features, including removing jumpers to adjust the MM's +46dB gain and MC's +66dB gain by -10dB each, with more jumper options to activate a bass roll-off filter and bridge its output capacitors.

### Sound quality

As soon as the needle hits the groove I can hear that the Lehmannaudio is able to conjure an expansive and open soundstage. But it's not just the size of the sonic landscape it paints which is of merit, where its strengths also lie is in how it lets instruments and voices work together as a cohesive whole, which really brings the music to life. The way Brett and Rennie Sparks' vocals in the Handsome Family track separate into the left and right channels before being joined back together at the centre of the soundstage largely passes me by with the other phono stages, as simply a quirk in the mix to keep me on my toes. But with the Lehmannaudio in the driving seat, I can hear how this technique subtly reveals each voice to complement the other as the Black Cube brings their unique tonalities to life, more so than any of the other phono preamps in this roundup.



Perhaps revealing its pro audio origins, it majors on a clean sound and its talents are also shown in its ability to clearly define instruments. On the cheaper phono stages, such as the MyGroov and Clearaudio, lead guitars on the Pixies' track sound rich and suitably dense, but not that well separated. Via the Lehmannaudio each chord change and riff is better defined and revealing, with sharper leading edges and a more balanced sustain and decay. At the extremes and when being driven hard via the Ortofon cartridge, it can lean towards emphasising the sibilance in Frank Black's voice, but this is a very minor dent in what is otherwise a superb all-round performance ●

## HIFIChoice

### OUR VERDICT

**SOUND QUALITY**  
★★★★★  
**LIKE:** Open, detailed and lifelike sound

**VALUE FOR MONEY**  
★★★★★  
**DISLIKE:** Utilitarian case

**BUILD QUALITY**  
★★★★★  
**WESAY:** Get past its dull box, and this is a very capable phono stage that's unbeatable for the money

**FEATURES**  
★★★★★

### OVERALL





## LOT OF BOTTLE

Despite being largely replaced by solid state transistor designs from the seventies onwards, valve-based amplifiers have remained popular due to the unique analogue warmth they bring to the music, which has led to a renaissance in recent years.

The ECC-83 tube was developed around 1946 by RCA engineers in New Jersey and its popularity with valve amp enthusiasts has helped keep it in continuous production ever since. The original ECC-83, also known as the 12AX7, was based around bringing two 6AV6 triodes into one package. The 12AX7 is typically a high gain, low plate current triode best suited for low-level audio voltage amplification, such as in preamp stages, making it ideally suited to phono stages. The version employed in the Tube Box DS and cheaper Tube Box S is a low-noise 12AX7A variant. And with so many ECC-83 tubes to choose from, the DS brings with it the option for experimenting with valves from a range of suppliers, until you find a flavour that best suits your palate.

# Pro-Ject Tube Box DS £425

With its glowing bottles and settings galore, this little box blends a rich feature set with retro appeal

### DETAILS

- PRODUCT**  
Pro-Ject  
Tube Box DS
- ORIGIN**  
Austria
- TYPE**  
MM/MC phono stage
- WEIGHT**  
1.1kg
- DIMENSIONS**  
(WxHxD)  
103 x 72 x 144mm
- FEATURES**
- Two ECC83 valves
  - Three gain settings
  - Stepless load from 10 to 1,000ohm
  - Four input capacitance settings
  - Optional subsonic filter
- DISTRIBUTOR**  
Henley Designs
- TELEPHONE**  
01235 511166
- WEBSITE**  
henleydesigns.co.uk

**B**oasting no fewer than 11 compact models to choose from, Pro-Ject is quite clearly the king of the phono stage add-on market, with an offering to suit every budget and cartridge going. The DS is the most expensive valve-based phono preamp in the company's vast arsenal, and sits just below the Box range's flagship £650 transistor-based Phono Box RS (HFC 368).

Crucially, what sets the Tube Box DS apart from every other phono stage in our group is its use of valves in place of transistors in its output section, in the form of a pair of ECC-83 models with gold pins, which are employed within its dual-mono tube triode circuit. For many the sight of these little bottles will be enough to get their vinyl pulses racing, but Pro-Ject isn't ending the DS' feature set there. While MM pick-ups get the standard 47kohm loading, the DS' 4mm-thick alloy front panel also sports a rotary knob with infinite adjustment for MC pick-ups through 10 to 1000ohm.

Round the back are banks of jumpers to access a range of settings, with gain available at +40dB for MM pick-ups, +50dB for high output MCs and +60dB for medium-to-low output MCs. Input capacitance can also be adjusted to 47/147/267/367pF, while a final set of jumpers lets you bring in a subsonic filter below 20Hz.

Understanding all the jumper settings takes a bit of getting used to, and it's likely that you'll need to refer back to the supplied manual for guidance from time to time. But all in all, this is a highly versatile, well made and easy to operate product.

### Sound quality

While the Pro-Ject certainly lets its valves cast their analogue spell on the music, it becomes obvious quite quickly that it has been engineered to retain certain nuances that you'd also attribute to solid-state designs.

The dark and slow brooding tones of The Handsome Family track are where the Tube Box DS is most in its element, and there's a sense of rich romance in the vocals and trumpet that's absent from the Clearaudio and Edwards models. But aligned with this is a sense of instrument separation and bass control that's almost up there with the Sonneteer and Lehmannaudio offerings.

While the DS may not be as accurate in the imaging stakes as say the Lehmannaudio, the slightly warm tonality it brings to the music across both of its MM and MC circuits makes for an equally inviting listen. As the violin climbs the upper frequency

range in *The Lark Ascending*, the DS ensures these higher notes are wrapped in silky textures to prevent them from becoming sibilant or grainy, which makes the music sound all the more natural

While the Pro-Ject's soundstage doesn't push out as wide as some of the phono stages on test and nor is it as deep, its boundaries are well defined with instruments well spaced within it. On the Ásgeir Trausti track, everything is given space to breathe and there's no sense of any two sounds or instruments competing for your attention. Feed it some Pixies and things get a little more clouded and if pushed I'd welcome more body and grunt from the lead guitar ●



## Hi-Fi Choice

### OUR VERDICT

- SOUND QUALITY**  
★★★★★  
**LIKE:** Plenty of features; smooth valve sounds
- VALUE FOR MONEY**  
★★★★★  
**DISLIKE:** Could be more focussed
- BUILD QUALITY**  
★★★★★  
**WE SAY:** Well built and fully loaded, the DS adds valve amp flair without breaking the bank
- FEATURES**  
★★★★★

### OVERALL



# Group test verdict

After countless laps around his wheel of steel, **Andrew Simpson** raises the needle to sum up the pros and cons of this month's six-strong shortlist

**WHILE IT MAY** seem like a cliché to say that each model offers a sonic presentation and feature set that will appeal to different tastes and systems, it's true. If you're just starting out on your vinyl journey and want a simple solution with a forgiving nature, the Micromega could be for you. But it's also the first to head for the hills because it's outclassed by the Clearaudio, which costs only £25 more. Among its peers at the £200 price point, the Nano V2 is hard to beat in terms of its full blooded sound, but it lacks finesse compared with more costly rivals and despite

being in Mk2 guise, its DIY resistor system isn't that user friendly. Next comes the stylish Edwards with its simplified feature set and quality PSU. It's a good all-round package that has great treble clarity and is exceptionally quiet while sounding even more sophisticated in MC mode, but its bass can be overpowering on some material.

Features and finish wise the Pro-Ject is great value for money. Soundwise it walks a fine line between solid state punch and the silky sweet tonality of tubes, although valve fans may crave more of the latter. Where it falls short



is in terms of instrument separation and imaging. It's a joy to listen to, but not quite as accurate as some of its similarly priced rivals.

And so to the Sonneteer, which rarely puts a foot wrong, and neither should it as the most expensive model. Its performance is powerful yet focussed, to ensure its energy is concentrated in the right areas without leaving anything out. What's more, its USB port is a bonus that many will welcome. What keeps it from the top spot is its tendency to sometimes err on the side of being too cautious.



**WINNER**

The Black Cube's no-frills looks certainly won't win it any beauty contests, but its sound is fantastically open and detailed, with an expansive soundstage that's easy to get lost in. Put simply, the offering from Lehmannaudio performs well beyond its price point.

Make/model						
<b>Price</b>	£225	£500	£400	£200	£425	£649
<b>Sound</b>	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
<b>Value</b>	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
<b>Build</b>	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
<b>Features</b>	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
<b>Overall</b>	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
	Solid little stage that's hard to beat at the price. Easy to use with MM cartridges	Sophisticated pairing with a top-quality standalone PSU. Works well with MCs	Get past its rather dull looks and it's an unbeatable phono stage at the price	Good starter stage that blends simple features into a user-friendly package	Well built and packed with features. This gives you a taste of the valve high life	Tank-like build, lots of settings and USB adds up to a lifetime of vinyl pleasure

### Key features

MM/MC	Yes	Yes	Yes	Yes	Yes	Yes
<b>Gain settings</b>	Variable for MM/MC	Fixed for MM/MC	Variable for MM/MC	Fixed for MM/MC	Three	Fixed for MM/MC
<b>Load settings</b>	51/200/402/1k/47kohm	100ohm/47kohm	100/1k/47kom	100ohm/47kohm	10-1000ohm variable	47/100/220/1k/47k
<b>USB output</b>	No	No	No	No	No	Yes
<b>Off-board power supply</b>	Yes	Yes	Yes	No	Yes	No

### TRY WITH THESE

**TURNTABLE:**  
Analogue Works Turntable One  
From **£799 HFC 388**

This stunning deck is packed with sensible features to really get your records singing. With a low torque standalone AC motor, separate power supply unit and rubber damped alloy platter it'll bring out the best in your phono stage.



**MOVING COIL CARTRIDGE:**  
Ortofon Quintet Blue **£325 HFC 389**

From one of the planet's biggest cartridge manufacturers, this mid-priced pick-up serves as a fantastic introduction into the world of MC cartridges. Its solid body makes it easy to install while offering features from Ortofon's premium models.



**INTEGRATED AMPLIFIER:**  
Naim Nait 5si **£950 HFC 378**

This British-built integrated has a considerable pedigree owing to Naim's 40 year history of making fine high-end amps. Build quality is first class, with four line-level inputs and enough power on tap to deliver a highly musical sound that's hard to beat this side of £1k.

