

EQUIPMENT REVIEW



Brinkmann Bardo

By Jason Kennedy

There's an interesting piece on the Brinkmann website which tells us a lot about the way Helmut Brinkmann's mind works. In essence it explains how Helmut noticed that the tiny screws that adjust the cantilever on the EMT cartridge were made of steel and realising that this was probably not a good idea he set about trying screws of different materials and in different arrangements to find the best sounding arrangement. These screws are 1mm in diameter, the man's attention to detail is clearly in another league to that normally encountered even in German engineering. After considerable experimentation he came to the conclusion that having one of the three screws in titanium produced the highest fidelity. I'm impressed that he made the time to listen, clearly German TV is no better than the programming we get over here!

The Bardo is Brinkmann's second direct or magnetic drive turntable. It was preceded by the Oasis (which looks like the same design on a plinth) and has the same rather elegant drive system. The motor and the bearing are one piece, that is they are combined because they both need to be in the same place. This is obviously not new, Technics and many other Japanese manufacturers did something similar over thirty years ago but I can think of only one other example with audiophile aspirations. That example is the Goldmund Studio which is no longer produced but had a pretty strong reputation even in the context of that company's exalted range.

While the idea of putting the motor around the bearing would seem to be a logical thing to do in practice it's not without difficulties. The main one is that electric motors 'cog', that is their rotation isn't totally fluid but consists of a series of small jumps as the rotor is pushed from one coil to the next. Brinkmann has sought to combat this by placing the coils at 22.5 degrees to one another and having overlapping magnetic fields, this was found to reduce cogging and make for higher sound quality compared to a traditional 90 degree layout. The Bardo also has somewhat more substantial platter than direct drives of yore, it weighs 22lbs (10kg) and the inertia that this provides further helps to smooth out any remaining cogging.

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Interestingly the speed control system uses analogue electronics where a digital system would undoubtedly have been cheaper, but as you will have surmised Brinkmann is not about making things at minimum cost. The speed control is done with a strobe or tachometer under the magnet in the bearing/ ▶

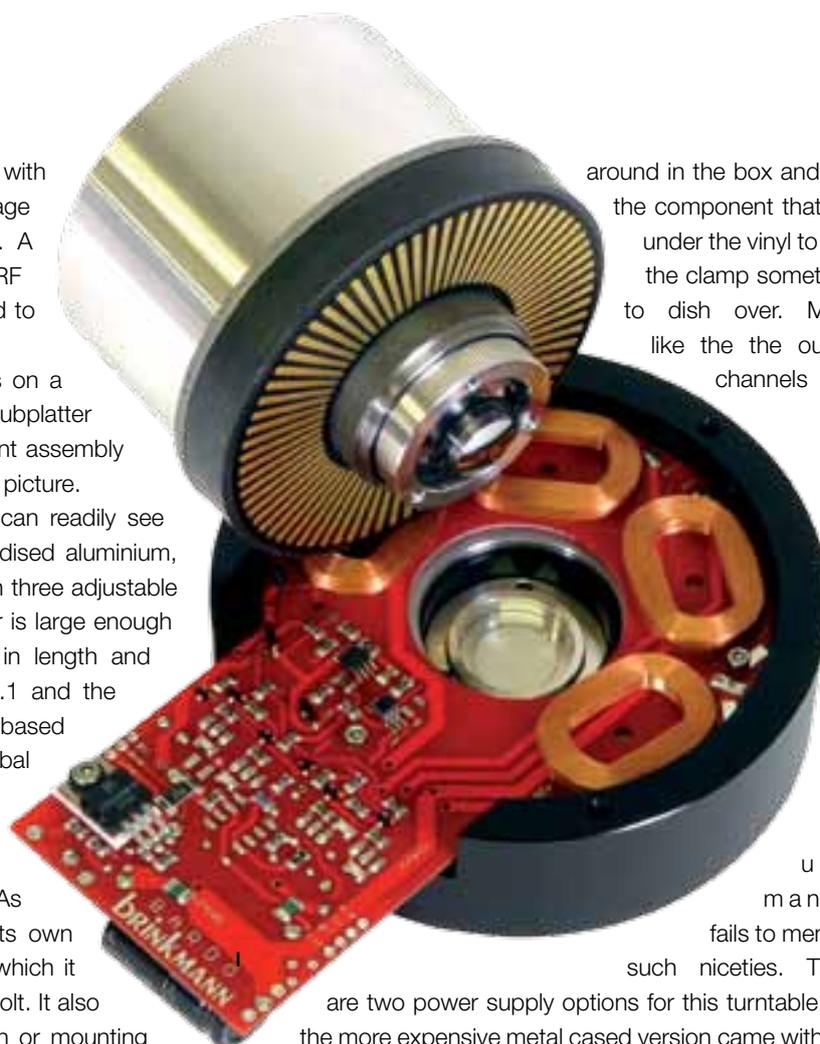
▶ sub-platter, its voltage output is compared with a temperature stabilised reference voltage and feedback is used to align the two. A digital system would be simpler but its RF emissions were considered to be a hazard to sound quality.

The bearing is a steel shaft that sits on a Teflon cup but the rest of the motor and subplatter is machined from aluminium, it's an elegant assembly and I hope that there is space to publish a picture.

The parts of the turntable that you can readily see are finished to a superb standard in anodised aluminium, it's a simple single beam construction with three adjustable feet and a single arm mounting. The latter is large enough to accept arms from nine to 12 inches in length and Brinkmann makes two tonearms the 12.1 and the 10.5, the name indicating size. Both are based on the classic Breuer design and have gimbal bearings for both axis. The counterweight is a split type that can cope with a wide range of cartridges but the effective mass of 12g would appear to suit moving coils. As mentioned the company doesn't make its own cartridges but has a variant of the EMT which it calls Ti presumably in honour of that tiny bolt. It also has a resonance optimised contact patch or mounting made with a sandwich of materials. It has a Van den Hul stylus and various other modifications as well as a medium to low compliance suspension.

The Bardo sample sent for review had a pair of XLR sockets on the plinth beneath the arm but you can order this turntable with RCA phono sockets or use a DIN plug straight into the arm itself. Inconveniently the XLR outputs are not channel marked so you need a familiar record to establish this particular fundamental. Even though few phono stages take advantage of the fact the phono cartridge is naturally a balanced output transducer, so XLR sockets make a lot of sense. Fortunately I was able to use another German component to assess its potential in this respect, namely a Burmester 100 phono stage which has the requisite sockets and is a very fine piece in its own right.

But before I get carried away with the sound its worth pointing out that the platter is normally supplied with an acrylic top surface but for a premium can be had with glass instead. It comes with a screw down clamp that's made to the same high standards as the rest of the player but you need to route



around in the box and find the component that sits under the vinyl to give the clamp something to dish over. Much like the the output channels the

user manual fails to mention such niceties. There are two power supply options for this turntable and the more expensive metal cased version came with this sample. On/off and speed switching is achieved with the toggle switch under the plinth, the tip of which glows green when its up to speed (or red if you push down for 45rpm).

The final part of the puzzle is a granite slab that Burmester supplies as an option and which provides a solid ground for the turntable. You don't need it to use the thing but it's relatively inexpensive and has a positive effect on the low end performance, adding gravitas and power that you don't get even with a well isolated stand. This 1.25 inch thick slab is supplied as standard in the US but it's a £339 extra in these parts.

The player as a whole is extremely revealing and very even handed, it's not as warm as an SME but it's considerably more full bodied than a Clearaudio of similar price. The balance is on the lean side really but it could never be described as forward, in fact it's very good at getting out of the way and letting the music through in all its emotional glory. I was struck by how much woe there is on Conjure's 'Oakland Blues', this is a fabulous song written by Carman Moore and sung so effectively by Robert Jason that I have been listening to rather

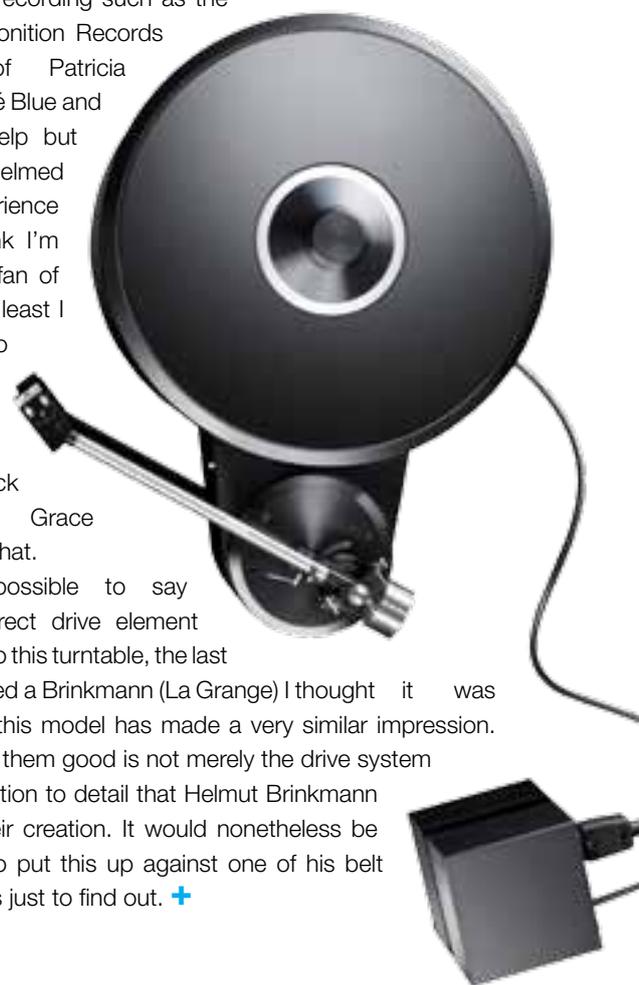
► a lot on streamers of late but it takes on whole new depths with this turntable. It sounded very real thanks to the layers that the Bardo reveals in pretty much everything you spin, it also extracts the life in the recording in no uncertain fashion. A lot of seemingly neutral turntables fail in this crucial respect and effectively undermine one of the key qualities of vinyl, but this one lets all the vitality of the music out in the context of a presentation that's as open as the recording allows.

Its timing, while strong, is not in the front league, high mass turntables, whatever the drive system, rarely

are but this is not all that apparent without comparison. What it does rather obviously is put the music squarely in the room, it creates a physical presence that makes everything in the mix more real and tangible. This is largely because it tracks dynamics so well, maximising the contrast between the various instruments and voices in the mix gives the result a true sense of life that is hard to resist.

This is all the more apparent when someone like Leo Kottke starts picking his acoustic guitar, the quality of playing is intoxicating because the turntable has no apparent overhang – notes stop and start with precision but without any undue emphasis or ring. As mentioned the Bardo can sound a bit lean at times and needs the rich muscularity of the EMT cartridge to balance this out, but its tautness and body with a van den Hul Condor is also extremely engaging. So much so that I found myself listening at unnecessarily high levels just for the fun of it. Under such circumstances its musical skills are brought to the fore and the records sound even better, at least for as long as the neighbours can tolerate it. Put on a spectacular recording such as the recent Premonition Records pressing of Patricia Barber's *Café Blue* and you can't help but be overwhelmed by the experience – to be frank I'm not a huge fan of her work, at least I didn't used to be. In the Bardo's hands the second track *Mourning Grace* changed all that.

It's impossible to say what the direct drive element contributes to this turntable, the last time I reviewed a Brinkmann (*La Grange*) I thought it was superb and this model has made a very similar impression. What makes them good is not merely the drive system but the attention to detail that Helmut Brinkmann puts into their creation. It would nonetheless be fascinating to put this up against one of his belt drive designs just to find out. +



TECHNICAL SPECIFICATIONS

Drive: Direct drive magnetic field

Bearing: Hydrodynamic journal bearing

Platter: Aluminum alloy with glass surface

Chassis: 15mm Duralumin

Armboard: Movable (rotating) quick release

Connectors: RCA, XLR or 5-pin DIN

Speeds: 33 1/3, 45rpm

Dimensions: (w x d x h) 420 x 320 x 100 mm

Weight: 14.8 kg (Chassis 5 kg, Platter 9.8 kg)

Accessories: Granite platform 440 x 310 x 30mm

Price: £5,885

Tonearm: 10.5

Effective length: 259.8mm

Overhang: 15.8mm

Effective mass: 10g

Weight: 280g

Price: £3,895

EMT Ti

Type: Moving Coil

Weight: 11g

Stylus: vdH, radius 4 µm

Compliance: 15 µm/mN

Tracking force: 1.8 - 2 g

Output voltage: 0.21 mV (velocity 1 cm/sec)

Output impedance: 25 Ohm

Price: £2,495

UK Distributor: Symmetry Systems

Tel: 01727 865488

URL: www.symmetry-systems.co.uk

Manufacturer:

URL: www.brinkmann-audio.de

MEET YOUR MAKER

Brinkmann

I asked company founder Helmut Brinkmann a few questions about the path he took to his current situation and about the details of the Bardo.

JK: How long have you been making turntables?

HB: Our first “own” turntable was at our former company called Audiolabor, the model was the Konstant. We made that because a friend joined our company who was experienced in making turntables, but not in drive motors. So we came together for this first model, from about 1980 to 1984. That was a belt drive.

JK: What inspired you to start the company?

HB: In 1984 we sold the Audiolabor company which was owned by me and two others. My turntable friend and I had thought about making a better TT and that was the birth both of a new company under my own name and our first turntable model Balance, which we still have in production.

JK: Is the Bardo the same as an Oasis but without the plinth?

HB: The Oasis and the Bardo are made with the same motor, same PSU, arm board and platter. The chassis parts (the metal plates that hold the motor and the arm board) are different, the feet are different as well as some parts of the inner construction and of course the Oasis has the wooden plinth. Because of that both TT give a different sound, but not in performance quality, more in the colour and character of the sound. The Bardo is minimalist and the Oasis has a much bigger and more massive construction. The sound differences are difficult to explain but obviously noticeable.

JK: How does your magnetic drive differ from the system used by companies in the studio field such as Technics?

HB: Our DD is not made for fast start ups, it runs smoother. The electronic speed control works very slowly, below the audible bandwidth, in this way it is just used for the stability of the speed over the time, to compensate for thermal runaway. We need to have a very smooth working bearing and a quite heavy platter to achieve this.

The motor just speeds up the platter and then the platter spins by itself, the electronic control just keeps it spinning with a very small amount of magnetic energy. We found it essential to keep pulses of either mechanical or electronical noise outside the audible bandwidth.

JK: I note that you publish wow and flutter measurements for the Bardo but not your belt drive designs, is the Bardo better in this respect?

HB: The belt drives have similar measurements. We would not publish this for the DD, but people started discussions in threads and the magazines published their measurements. Wow and flutter is usually limited by the record, so it is OK just to be somewhat below that. If you make a special effort to keep these figures very low you need a highly controlled mechanism, which in my opinion limits the musical quality.



JK: What is the platter made of?

HB: The platter is made of aluminium, a kind which is softer and contains a little copper. This has a good inner damping and is further damped by the glass plate which is about 4mm thick and is glued onto the platter with a kind of soft glue.

JK: Finally, why call it Bardo?

HB: Wikipedia says: Bardo is a concept of a transitional state in Buddhism. It is also used as a forename. We thought it would describe our smallest TT as a transitional state (to go on or to stay for longer :-)) to our bigger turntables. And we looked for a short word, which was not yet used elsewhere in the hi-fi scene. +