

Rega Nd3 redefines the budget MM cartridge

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Rega Nd3 moving magnet cartridge

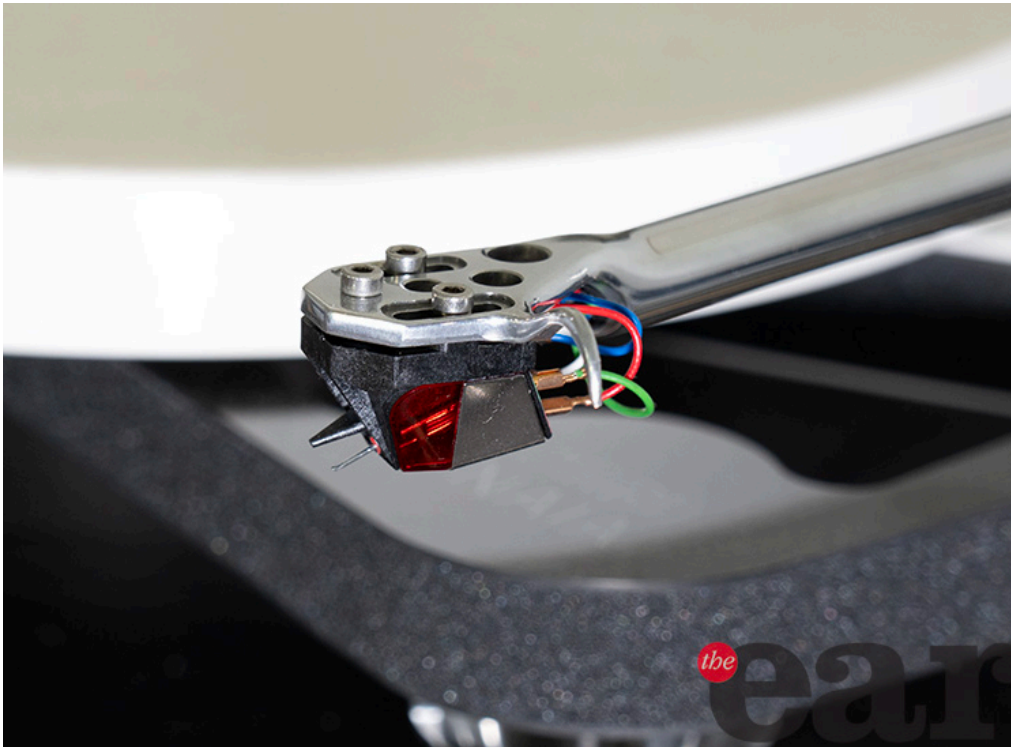
The Nd3 is the first of a new generation of moving magnet cartridges from Rega. The company showed a prototype Nd7 range topper at the last Bristol hi-fi show and there will be an Nd5 in between in due course. Unlike the previous Rega MM range the Nd models use neodymium magnets and claim to be the first to do so, this is a type of rare earth material that can be found in numerous moving coil cartridges and quite a few tweeters because it has considerably more power than ferrous magnets. This means that the magnets themselves can be smaller and thus lighter than the ferrous alternative which has obvious benefits in a moving magnet cartridge.

This is not the only thing that is different about the Nd cartridges, they also have a new design of generator which means that symmetry between the channels is much more precise than in the existing Elys 2 and Exact models. This is achieved by winding coils that are longer and smaller in diameter than usual which allows them to deliver higher frequencies than conventional designs. The arrangement of the pole pieces on these four coils is such that they allow the magnet on the end of the cantilever much more movement than conventional MM designs. This is possible because of the high power of the neodymium magnet and results in lower crosstalk/better channel balance than can usually be achieved with a moving magnet.

You can get some idea of how radical this patented design is from the large scale model that Rega made to illustrate the point. The cantilever with the stylus at one end has the neodymium magnet at the other end inside the cartridge body. This magnet sits in the middle of four pole pieces which continue onto the long bars around which are wrapped the coils that pick up the signal and connect to the four terminals on the back of the cartridge. Another key point is that the pole pieces are made of mu-metal which loses some of its magnetic properties every time it is bent or stamped, the pole pieces in the Nd cartridges are completely straight. You can see in the comparison between an Elys and an Nd3 that the mu-metal pole pieces have multiple

bends in the yellow Elys, but there are none in the black Nd3 where the same piece of mu-metal is cut in half to form the two halves of each channel.

The Nd3 replaces the Elys 2 and has an aluminium cantilever with an elliptical tip as per that model. The body is the same shape and material as Rega's Ania MC cartridge, this allows the three point fixing that is used on all Rega MCs, it provides a more rigid fixing than typical two point designs and has the added bonus of automatic alignment in Rega tonearms. All two bolt fixed cartridges need to be aligned or angled such that the stylus is at the correct angle so that it can trace the groove with minimum of distortion, this usually involves using an alignment gauge and can be a fiddly business for the uninitiated.

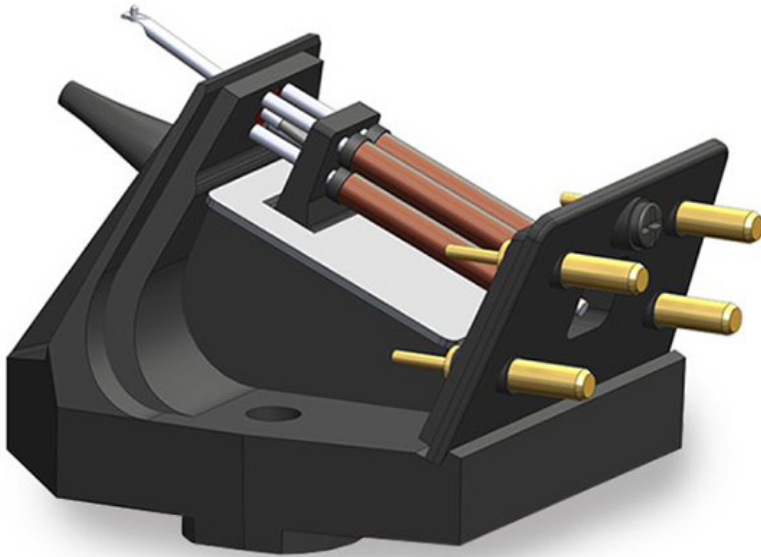


The other benefit of the Nd housing is that the bolts thread into the top of the cartridge and there is no need to screw small nuts onto tiny bolts. The holes in the Nd3 do not have brass inserts for the bolts to screw into but a thread is cut into the body. Given that the body is plastic I was concerned that tightening with the Rega torque driver might strip the thread but was assured that this is the way they are fixed in the factory. It must be decent plastic.

Sound quality

Rather than fitting the Nd3 to the Rega Naia that I usually play records with I dug out a Planar 2 and used that with its Carbon MM cartridge on for a while to get used to the sound of a real world MM before installing the Nd3. The process of changing from one cartridge to the other is straightforward but the connection pins on the back of the Nd3 are smaller than those on the Carbon so I had to carefully squeeze the delicate tags so that they made a tight fit on the new cartridge. Fitting is just a case of fixing three bolts through the headshell into the sockets on the top of the cartridge and tightening them by approximately the same amount each.





That done and with the downforce set to 1.75 grammes I let the Nd3 run in for a few hours before giving it a listen, actually I put the Carbon back in so that a direct comparison could be made with that admittedly less expensive MM. The change was not subtle, the Nd3 is open and extended in the treble and superbly timed for its asking price, it really makes the Carbon sound course and dull in the high frequencies. I suspect that it would make the Elys 2 sound rounded off as well, the Rega MMs have tended to time really well and deliver decent bass and mid but with limited treble extension. The Nd3 changes all that by adding high frequencies that define soundstage, reverb and harmonics far more effectively.

It is a very sophisticated cartridge for the price, one that is capable of delivering the fine detail of vocal effects, and give those vocals a degree of expression rarely heard in relatively affordable cartridges. Depth of image is particularly good too as is bass, both are a reflection of the increased resolution in the highs that the Nd3 delivers. Strange as it may seem bass has been noted to improve when using a supertweeter that is limited to frequencies above 10kHz, this is because these high frequencies form the leading edges of sounds across the band, it is one of the main reasons why MCs usually outperform MM cartridges.

Rega's work on the Nd series is challenging the notion of MC supremacy, the Nd3 is the base model with the most down to earth cantilever and tip profile but it proves that MMs are not intrinsically rolled off in the treble and that they can deliver plenty of detail and serious bass. Prince's *One Night Alone* proves that quite clearly while Sun Kil Moon's *Ghosts of the Great Highway* proves that this cartridge can do beauty and sadness with ease. Also that the Liv Andrea Hauge Trio can deliver a similar message with greater eloquence using instruments alone.

Nd3 conclusion

You get an awful lot of well balanced engagement for your money with the Nd3, it proved really difficult to do sudoku whilst almost any decent piece of music was playing. The less obvious the music the more distracting and interesting it becomes with this needle in the groove. Being a Rega Naia user I couldn't resist the urge to try it in that fabulous turntable, the Nd3 naturally has a much higher output which brings impressive dynamics to the picture. It is inevitably not as revealing as that far more expensive MC but tells you an awful lot about every record that you put on, Joni Mitchell's *All I Want* is still tonally thin and forward but the musical message is powerful and so sublime that you have to close your eyes. The Nd3 is a softer, less precise version of Rega's best cartridge and that is a major achievement at the price, I for one cannot wait to hear what the 'bigger' Nd models can do.