

## **PS Audio : Metrum Acoustics : Naim Audio : 3 Streamer/DAC combinations**



Curious as we are, let's not lose the chance to compare three Streamer/DAC solutions with each other in the listening room. The occasion is the temporary availability of a PS Audio Perfect Wave DirectStream DAC with Network Bridge and the recent appearance on the market of the Naim Audio NDX 2 Streamer/DAC.

A Metrum Acoustics Adagio DAC with I2S interface from my own home is the partner of the always available Metrum Acoustics Ambre ROON Endpoint - which usually has the cheaper Metrum Jade DAC connected to it. Lexicom Multimedia offers all three Brands as a Dealer, so it is just interesting to pit these three solutions against each other for our readers.

### **In brief**

The three Dacs differ from each other with the chosen solutions for conversion of Digital signals to Analog, differences in quality plus outputs, in the software with which they operate and as expected in appearance. It runs too deep in order to cover all the ins and outs of each device, which we would like to discuss in the shop with you in detail but I will briefly explain the main principles of the three Brands.

## Naim NDX 2

ANDREW EVERARD THINKS THAT THIS SECOND-GENERATION OF NAIM'S NDX NETWORK AUDIO PLAYER HAS THE POTENTIAL FOR GREATNESS



The Naim NDX 2 Streamer offers features such as UPnP Streaming, AirPlay, Chromecast, Bluetooth AptX, Spotify Connect, TIDAL, Roon, Vtuner Internet radio and multi-room streaming, via USB and Digital inputs. Apart from the Naim new streaming platform, Naim provide a better DAC than its predecessor and there are discrete output circuits. Internally, the Digital to Analog conversion is based on a Burr-Brown PCM1792A Converter. Playback has been further improved with Naim-designed filters and the discrete flow-spanning converter directly behind the DAC. The Streamer can accommodate all HD Audio formats up to a speed of 32bits/384kHz and DSD128. Not the source but the clock in the NDX 2 is guiding and controls the DAC. All data is oversampled to a resolution of 40bits in a SHARC DSP before the data reaches the DAC. The NDX 2 uses a built-in low-noise power supply with a custom transformer, equipped with separate coils for the Digital and Analog sections. In addition, the player can be further upgraded with an external XPS DR or a 555 DR power supply. The Naim NDX 2 is delivered for a price of €6,100. The optional XPS DR power supply costs €4,975.

### Kick off



The PS Audio Perfect Wave DirectStream DAC is "from scratch" designed by a computer scientist and Audiophile Ted Smith, a great lover of the DSD format. DSD means Direct Stream Digital and is the file format of Super Audio CDs (SACDs). The well known "regular" CD is recorded in PCM format. Smith believes that DSD offers better musical quality than PCM and has therefore designed a DAC that works entirely in the DSD domain. So all incoming PCM files are converted to DSD before they are converted to Analog. Unlike DACs from most competitors, PS Audio does not use standard DAC chips from the well-known chip manufacturers.

Their solution is implemented in an FPGA, programmed with its own PS Audio software. The DirectStream DAC has a Digital volume control, which is bit-perfect. The volume control does not throw bits away if the volume drops, thereby you can use the DAC also as a Digital Preamp. In addition, a so-called "Bridge" can be built into the DirectStream DAC, allowing you to play music from a NAS directly, without the intervention of a network player/streamer. The bridge has one restriction : you cannot listen to Internet radio, Spotify, Tidal Qobuz etc. via

that bridge directly. Fortunately, the Bridge is a ROON Endpoint and that brings you Tidal and rudimentary Internet radio as well. Rudimentary in the sense that radio stations are being introduced but the sound quality is excellent. The output section of the DirectStream DAC also deviates from the usual construction method, because instead of an active Analog reinforcement section, the DirectStream has a passive output section. Just before this section, the signal is converted by "High speed Class A video Amplifiers", after which the signal is routed via passive audio transformers to the outputs of the DAC. These transformers provide galvanic isolation to the "outside world" and also act as a primary low pass filter needed to provide a perfect output signal - with low distortion and a low noise floor upon exit. The price for the PS Audio DAC is €7,395 and the Network Bridge can be built-in for €899.



The Metrum Acoustics Adagio is a DAC with a unique volume control. Where manufacturers like Naim regulate the volume in the Analog domain or like PS Audio who prefer Digital, Metrum choose to vary the supply voltage over the ladder converter. This means that the volume control is completely independent of both the Digital and the Analogue circuit and does not give any loss. "Forward correction" technique has been used on both mono DAC boards. For this purpose, Metrum Acoustics uses developed and fabricated modules in its own management, in which the 24bit signal at the entrance is split into two 12bit signals, each transmitted to its own 16bit ladder converter. By shifting the LSB (Least significant bits) for the second converter to MSB (most significant bits), the most linear part of the two converters per module is always used. The software therefore, stored in a FPGA, has been developed by Metrum Acoustics itself. The Adagio is a non-oversampling non-filtering DAC.



The Adagio is unlike the Naim and the PS Audio as it does not have an App or other software to control - it is pure DAC only and leans for streaming on an external solution like the Metrum Ambre. The Ambre is a small and handy High-End device, built with top class components, fully certified by ROON. Unique with this combination is the I2S exit and entrance. An I2S connection is superior to all other Digital connections because unlike S/PDIF data and clock signal at the exit are not merged and broken down at the entrance of the DAC but always remain separate, something that normally is only possible with distances of about ten centimetres. The Metrum Acoustics Adagio sells for €6,655 - and Ambre costs €1,199.



## Not all equal

How simple would it be to draw an unfair comparison in streaming playback and in Digital to Analog conversion between the devices by using different Apps, cables, power supply and other prerequisites? To get a fair comparison a happy medium is therefore chosen - only where necessary - and it really cannot be otherwise to show differences. That difference has everything to do with the Naim NDX 2, Naim only features a DIN and an RCA output, while the PS Audio and the Metrum ideally work through a balanced output. For Naim I therefore opted for Audio Quest water RCA interlink and for the other two Audio Quest water XLR balanced interlink.



Power supply for all three comes from a Naim Power gel. Because the DACs have the ability to regulate the volume, I connect them directly to a Bryston 4b power amplifier, which in turn hangs through Chord Signature Reference speaker cables to a pair of Focal Kanta 2 loudspeakers. Chord Ethernet C-Stream runs to a switch, the same type of cable also works as I2S connection between the two Metrum's. Of course you can set up a search for the best power cord per streamer/DAC - you can also think of much better Ethernet cables and there are still higher performing interlinks, plus net filters to better etc. These are things that can be considered when buying a device. Here it is about comparing as fairly as possible. This is why when operating software it is exclusively by ROON, the Core is implemented on a Lexicom multimedia NUC. I get music partly from our own Lexicom NAS and partly from Tidal.



### Kick off

The start is with a (for many) well-known track, Diana Krall off her CD "Live in Paris" - the ripped "Devil may care". The PS Audio provides a rather tame presentation with little speed in it. The stereo image is small and the drums appear approximately in the neck of Krall. Cymbals do not come out of the mix, piano lacks the rich sound of the instrument, the whole remains restrained and does not want to ignite. The drum solo misses the explosive power that I am used to. It is not a combination where I can get very warm feelings. This can of course be the whole arrangement so quickly to the Metrum Adagio/Ambre. From the intro, the reproduction is a whole lot more dynamic, the brake that was on the music previously is gone. Welcome small sounds that can always be heard on a podium. Piano regains its body and strength. While Krall shows her teeth, the view is fast, the bass pops up that just wasn't even present before. Pitch and rhythm come back into the music.



Guitar is much brighter and now the drum solo has a number of explosions in store for us. Bass lines are much more evident. Especially the drive and the tension that makes "Devil may care" so special and in this setup is clearly audible. The Naim exposes the structure in the music, shows very clearly the body and soul with all the sounds. Rhythm is as to be expected from Naim strong, dynamism is broadly present. Drums have impact, bass lines sound

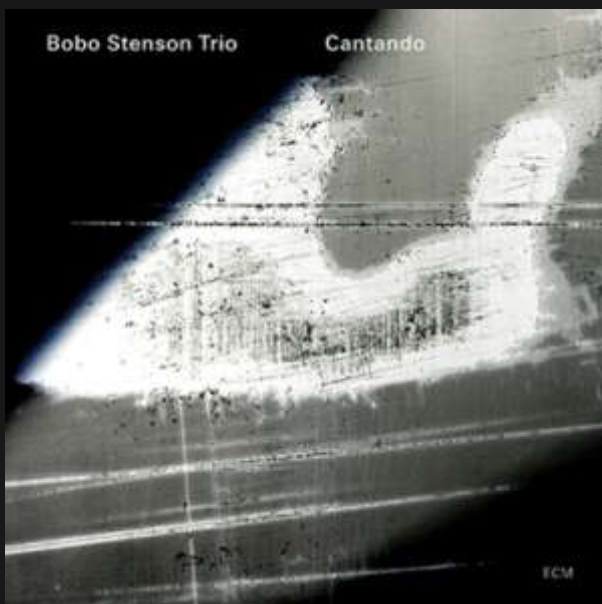
beautiful in the background. The view is darker in color than with the Metrum, the quality level is just as high. However, there is no shortage of upper registers witnessing the ring of cymbals. Detailing is exceptional during the drum solo, where the Metrum was doing a bit better when it comes to dynamism. Music though has been given a bit of a hasty character, I am slightly nervous about it.

## Title track

I left the Naim connected when I start with Stacey Kent, from her CD "Raconte-moi" - I choose the title track. Naim creates delightful voicing with acoustic instruments as part of the music, percussion is well presented without being insistent. Small taps on drums and cymbals are lifelike. The playback is completely free in the listening area and the speakers disappear. Intelligibility is perfect. Nice to listen to because music is so organic and the listening space flows with great ease, conviction and suppleness. The cymbals at the end of the track let us hear just how subtle the Naim is in resolution. O, O, oops, in this arrangement the Metrum is a gem. What comes from Stacey here, with the band behind her, does full service to the Lady and lets every note come to life.

Just not as fluent and organic as the Naim but with the same strong rhythm feeling. The view is a bit brighter than with the Naim, so subtle details come out just a bit easier. Hitting the drums has audible less attack, the ring of the cymbals goes a step further than with Naim. Mutual differences are small and a real preference I can hardly indicate when it comes to the band, but for Stacey's voice I prefer the Metrum in this setting. Here the PS Audio is out of its depth. Still the view is on the dark side and the joy of life is limited by lack of expression and vibrancy. Music sounds measured, vocals come with a slight degree of boredom in the voice and the band seems to need a boost. Too bad cause I was expecting more from a streamer/DAC in this price range. Of course there are combinations to make, the Metrum Ambre on a digital input instead of the Bridge, or the Naim digital out, but that's not the intent, I look at a total solution per manufacturer.

## MQA



Give the PS Audio a head start with Tidal MQA encoded files is the thought behind the track "Love, I've found you", from the Bobo Stenson Trio on the album "Cantado". Stenson is known for very good drumshots in which

percussion has an important place, piano is always strong and bass lines draw attention. This track is subtle and has no huge impact with the PS Audio, music flowing in a pleasant way, rich in details as far as the percussion is concerned. Piano lets us hear more of the notes than the body and the bass does not make a very deep impression on me when it comes to distinction between the tones, the notes and the ambience. But occasionally the bass lives on.

Naim does not go into the MQA stream, yet the NDX 2 from the first note offers more life than the PS Audio throughout the track. Much more power is evident and listening to the bass, there now are differences. Percussion is at once bright and present, piano no longer abandons me and puts the trio in the foreground. So I want to experience Stenson and the music as I am accustomed to from these people. I regularly have my doubts about MQA and in addition, ROON for the Naim already has the first unfold - offering the file to the Ethernet port in high resolution. To eliminate errors in a filter is the second unfold but that's lost on the Naim - which does its own thing.

A Metrum DAC has no filters, so MQA is pointless in the second unfold and as mentioned above, ROON also here does the first unfold from 16/44.1 to 24/88.2. As before, the Metrum in quality is directly comparable to the Naim, while the PS Audio to my ears is lagging behind. Where the Naim plays smoothly the Metrum pulls the details a little more apart and gives a more transparent image. With a scoop of extra dynamism to serve up warmer soup.

The choice between Naim or for Metrum is personal I think, for me both systems would meet 100% expectations in a home situation. In my opinion, MQA is often overestimated in importance for Hi-res, it hardly counts with choice. MQA is, in my opinion, just a way of packaging files, so that with high resolution you can stream from an internet source like Tidal. And with that ruling I probably stub a lot of long and sore toes.

Thanks for the tip



On the recommendation of Lex Kersten I play Herman van Veen, from the album "In Bird's Eye 2" - the Wonderful "Anne". During the intro I first turn on the Metrum which displays sounds hovering in the background widely spaced through the listening room. The jingle of the child's clock is very clear. Herman's voice brings forth his unique warmth and is so recognizable. Beautifully placed at the right height and in superior recording quality. Very natural, without misused compression, without distortion or oversampling. This creeps deep into your heart and

also shows all the qualities of the Bryston with the Focal speakers .



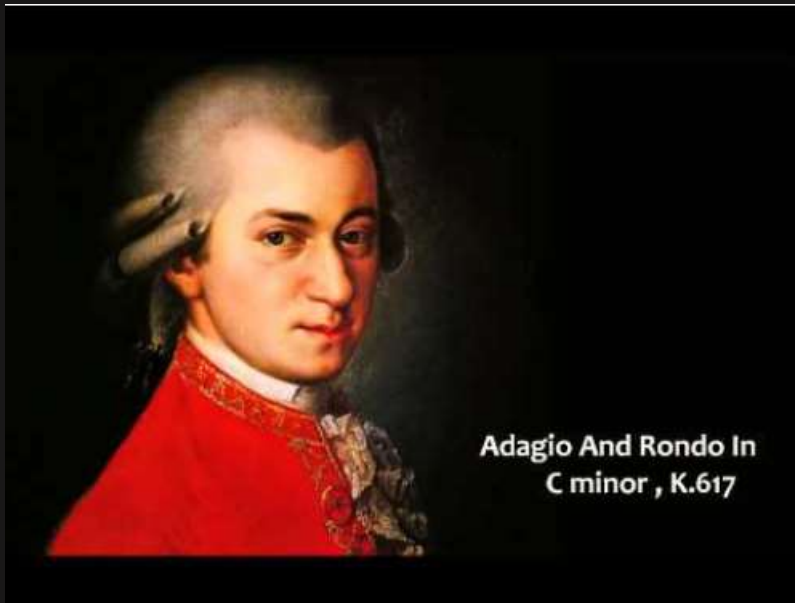
There is no doubt to me, this is top quality thanks to the man who sings it. The sounds on the intro don't go nearly as wide with the PS Audio through - space and the jingle lacks the brightness that fits well with children's clocks. Herman has it seems, a handkerchief over the microphone, his singing thereby differs and the unmistakable voice of Van Veen is gone. Still pretty nice but once you know how much better it can be, then there is no way back.

What has also disappeared is the sound space around the voice, the distance between the band and vocals, the grandeur and greater placement of the Metrum. Again it is the PS Audio that it is not going to make it against the competition I am afraid - but the Naim has yet to get his turn. Back comes the width with Naim, back is the brightness of the clocks, back is the space you feel created around each instrument. Herman has become himself again, a dash less than with the Metrum.

It can also be just that in my home situation, I have got accustomed too much to the Metrum. Because the Naim also takes you on the musical journey which Herman creates with his "Anne". There is an intermediate piece in "Anne" where the band/orchestra is playing. With the Naim this piece is best to hear, the PS Audio does not make it for me at the moment, the Metrum needs to be a bit softer because it provided too much energy.

Adagio & Rondo





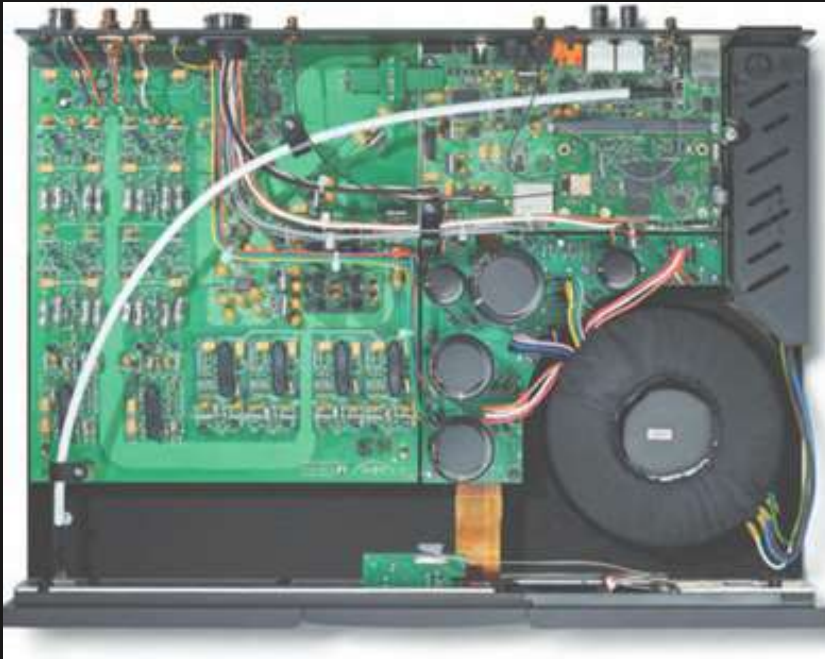
To conclude, the work of W.A. Mozart resounds with the "Adagio & Rondo - for playing glass harmonica, flute, oboe, viola & cello in C minor, K. 617". First on the Naim. It is a recording from 1977, released by Philips, beautifully executed and very well recorded, especially the flute which is remarkable acoustically. So real that it prompts higher volume for my ears. The glass harmonica plays its very own role on the whole, a rather unknown instrument that "sings" under the fingers. It makes the music almost sound unearthly. An atmosphere that the Naim shows up very well.

Playing cello and violin are very clear and easy to follow as instruments. This is listening with a capital letter "L". Unfortunately, the PS Audio again takes the life out of the music and puts the presentation on the dull side of the scale. Oh, certainly still glass harmonious and pure, let there be no misunderstanding. But it is not just about being pure and according to the book, I expect to be caught by the music and taken on a journey through the composition. With the latter, the PS Audio takes a sharp fall. Enough to put it beyond all doubt - beneath the Naim when deciding the rankings.

Frankly, I don't even get to the "Rondo" and so connect the Metrum Adagio to the Bryston for the final stage. With the Metrum we are again at the point where we want to be, side by side with the quality of the Naim. Music is alive taking you with it, is present in the smallest details and pure, lets the glass harmonica sing, flute, oboe, violin and cello draw you along - each one in its own place as a whole. Set free from the speakers, with nice placement in the overall stereo image. A characteristic of the musical situation is that as "Rondo" starts, I am already very much drawn into it, so I am gripped by the music and the presentation quality.

### Difficult choice ?

Anyone looking for a streamer in this price range, possibly integrated or combined with Digital to Analog conversion can make quite a few choices. PS Audio, Metrum and Naim are three of the Brands that Lexicom Multimedia offer, in addition to Auralic, Aurender, blue Sound and Lumin. What we have tried above is to demonstrate the essential differences in each when circumstances are kept constant. ROON as operating software, equal cables, unambiguous power supply and always the same music and components.



For me, the choice has become quite clear. PS Audio falls off, purely based on what I could hear from the perfect wave DirectStream DAC with Network Bridge The least of the three. It plays music in a boring way for me, smaller and darker than the other Brands brought to the mix. Of course the PS audio has its qualities but despite ever improving the software for the PS audio, other Brands seem to have gone a step further. Well, what about the Naim and the Metrum ?



If you have a Naim set, I think it is wise to go ahead with Naim and embrace the NDX 2 with or without the external power supply. This brings with it the convenience of the Naim App, interconnecting with DIN plugs for the highest quality within Naim systems, the uniformity and the choice of Internet services for choosing your music.

With the Ambre, Metrum offers access to ROON in a high-quality way, but lacks Qobuz, Spotify, Vtuner and more, just like the PS Audio Bridge that lacks these options.



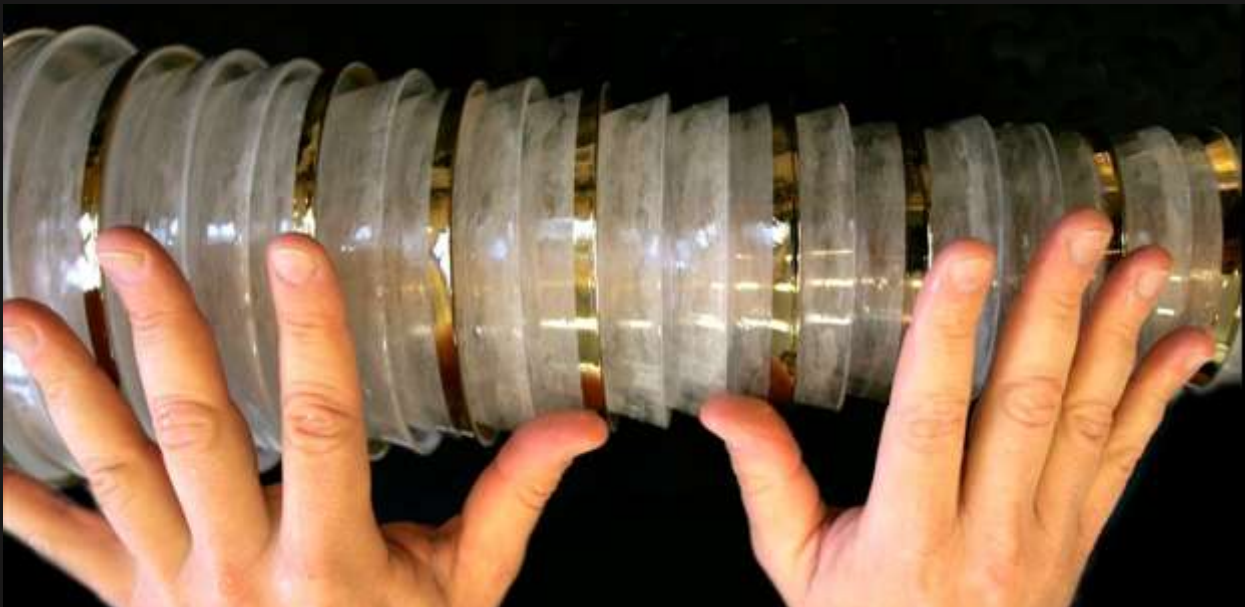
What does end up at the top is Metrum's fantastic Adagio DAC, which can be used as a preamp for Digital sources. I dare to say that the Metrum DAC offers the highest resolution of the three, the closest approach to the source and the most beautiful music converter. In a non Naim system, the Adagio (or the Pavane without volume control) has my preference. All these combinations with Naim and Metrum can be devised where they combine excellently.

Listen with wisdom, use your ears and consider what options are important to you.

Need help doing this ?

Talk about it with the members of the Lexicom multimedia team.

Note :



The name "glass harmonica" (glass armonica), refers today to any instrument played by rubbing glass or crystal goblets or bowls. Wiki