

Sure Azur



Cambridge Audio's flagship 851N network player promises audiophile sound quality at a realistic price. Jon Myles says it more than meets its goals.

Cambridge Audio has made its reputation by producing great sounding, well-engineered products that offer superb value for money.

On a sound for your pound basis its entry-level range of electronics is hard to beat and has become a best-seller for exclusive UK distributor Richer Sounds.

But the engineering team behind the brand has never been afraid to push the envelope – as evidenced by the development of Class XD operation for its 851A amplifier or the use of BMR (Balance Mode Radiators) in its Aero loudspeakers.

So when Cambridge unveils a new flagship network player you tend to sit up and take notice – especially when you take a look at the specifications for its relatively modest asking price of €1699.

The 851N is a combined UPnP streamer/DAC/pre-amp with support for all current popular PCM codecs up to 24bit/192kHz, as well as DSD 64 via a computer connected to one of the USB inputs. Added to this is built-in support for Spotify Connect and Apple AirPlay, as well as internet radio. An optional BT100 dongle is also available for those looking to add Bluetooth capability.

Internally, all signals are up-sampled to 24bit/384kHz before being passed to a pair of Analog Devices AD1955 DACs operating in dual-differential mode, while Cambridge has made use of a sturdy toroidal transformer for the power supply.

Both wireless and wired streaming is supported and the 851N features no less than five USB inputs – four Type A for HDD/flashdrive connection and one asynchronous

Type B designed for hooking up to a Mac or PC. Do note that with the latter the unit has to be switched into USB 2.0 mode via its menu system to support 24/192 files – with Windows users needing to download the appropriate driver from the Cambridge Audio website.

Other connections include digital AES/EBU, two S/PDIF coaxial and two Toslink optical inputs as well as balanced XLR and unbalanced RCA analogue and AES/EBU, coaxial and Toslink optical digital outputs.

The front of the unit features a colour 4.3-inch screen for displaying album artwork plus track and menu information, flanked by the rotary volume control and small buttons for playback control and access to the three digital filter options available – Minimum Phase, Linear Phase and Steep (more of which later).

All functions can be accessed

via the front panel controls or the supplied fully-featured remote – but like most streamers nowadays the best way to operate the 851N is through the free dedicated control app (both Android and iOS versions are available) via a smartphone or tablet. Dubbed Cambridge Connect, it's a relatively slick affair which allows input selection, volume and balance control, browsing, adding and removing tracks and albums from the play queue as well as storing favourite internet radio stations.

SET-UP AND OPERATION

Feature-packed it may be, but the 851N is admirably easy to set-up and operate. Connected wirelessly it took just a few seconds to find and list all music files stored on two MacBooks – and a NAS device also sharing the network. Plugging a USB stick into the front socket also saw its contents immediately listed under the Music Library section of the operating menu.



Inside, the Cambridge 851N uses a beefy toroidal transformer in its power supply. And just look at all those heavyweight digital chips...

"not only were the strings relayed with realistic pitch and timing but the bass-drum and triangles jumped out with astonishing dynamics and speed"

Switching inputs and controlling volume with the Cambridge Connect app via an iPhone 6 Plus proved smooth, with no undue time lag – and the wireless connection remained robust throughout.

Cambridge recommends using a wired connection for file sizes above 24/96 but in practice I experienced no drop-outs with streaming 24bit/192kHz material wirelessly – although much will depend on your own network and the amount of other data on it.

Spotify operation was similarly fuss-free, the Cambridge establishing a connection immediately and remaining rock-solid throughout playback.

SOUND QUALITY

The first thing that strikes you about the 851N is just how clean and neutral it sounds. This is not one of those products that seeks to impose its own sonic signature on the music

but instead seems to let it flow with as little interference as possible.

With the Cambridge in digital pre-amp mode feeding a Sugden FBA-800 power amplifier, a 24/96 FLAC stream of Nick Cave and The Bad Seeds' 'Murder Ballads' had excellent clarity and openness. There was excellent separation between the layers of drum, bass and guitar while Cave's vocals were suitably raw and edgy.

It's a quality that pays dividends on complex material such as the Mark Lanegan Band's 'Blue Funeral' where the Cambridge managed to cut through the slightly dense mix to reveal much more of the musical information, with greater detail.

A well set-up high-resolution streaming system can better a similarly-priced CD player and the Cambridge proves the point by bringing a more organic, free-flowing feel to the sound than you'd get via silver disc.

Switching between the three digital filter options made no massive difference to the sound. The steep option did sound a little smoother on some edgy 44.1kHz pop material – but the effect was extremely subtle.

Moving onto computer-based replay, I connected a MacBook Air for the DSD recording of Michael Tilson Thomas and the San Francisco Symphony's 'Mahler No 1'. This is a visceral, dynamic performance and the 851N portrayed it with all the necessary impact. Not only were the strings relayed with realistic pitch and timing but the bass-drum and triangles jumped out with astonishing dynamics and speed. There was no missing the sheer scale of the orchestra while the switch between dark and light passages was handled with aplomb – the Cambridge seeming to handle the dynamic contrasts without batting an eyelid.

On Spotify the Cambridge was detailed enough to show the limitations of the service's reduced bit-rate – but not so much as to make music unlistenable. Instead it's a nice, solid presentation that is one step above background music but



A button laden, do-it-all, remote control.



The wi-fi antenna plugs into one of the rear USB sockets while a full range of analogue and digital inputs and outputs are provided.

just a shade below being true high fidelity. But as ever with Spotify, it's the convenience that pays dividends – so if the service ever catches up with the likes of Tidal in terms of providing 16bit/44.1kHz material then the option could become seriously interesting.

If there's any criticism to be made, it's that some may find the Cambridge a little too polite. Overall there's not quite the sheer dynamism of

something like a Naim NDS streamer or the outright crystalline quality of the Chord DSX 1000 network player – but both those will set you back six times the cost of the 851N.

Instead the Cambridge goes about its business in an even-handed manner that doesn't draw too much attention to itself. If that sounds like damning with faint praise, it's not – it is describing just how assured the unit is at its price.

CONCLUSION

In terms of sound quality, versatility and value for money, the 851N is hard to beat. It is inherently neutral and uncoloured through whatever input you choose to use, meaning it never sounds anything less than sure footed and sophisticated. Add in its DSD capability, pre-amp function and promise of future software upgrades and the new Cambridge could well set a benchmark at its price.

PRODUCT DEVELOPMENT

Increasingly, today's sophisticated network hi-fi products stand and fall by the quality and robustness of their operating systems – and Cambridge Audio says it spent more than two years developing the streaming and software sections of the 851N.

The company employs its own software engineering team, instead of buying off-the-shelf solutions, to ensure complete control over its products.

Cambridge Audio Technical Director Dominic Baker says "All of our products are software driven and as we developed this and the streaming module ourselves we have total control over it. That also means we can supply software updates quickly and efficiently without having to rely on a third party. We see the product as living and improving from the moment you supply it to the customer".

That attention to detail also extended to fine-tuning the 851N's control interface – which involved actually videoing people using the unit to iron out any glitches.

"We make between 50 and 100 products and then send them out to people to see how they are used before collating the data" says Dominic. "We video people from unboxing the products to setting it up, so we can spot any potential problems".

MEASURED PERFORMANCE

With 192kHz sample rate digital, frequency response of the Azur 851N measured flat to 60kHz before rolling away gently to the 96kHz upper theoretical limit, our analysis shows. The filters affect this very little with CD or hi-res, 'Steep' changing the roll off rate slightly. Subjectively, their impact will be minimal, as in earlier models. But wide analogue bandwidth means the Azur 851N exploits the benefit of high

sample rate, even through the optical S/PDIF input that processed 192kHz successfully, where many optical inputs fail.

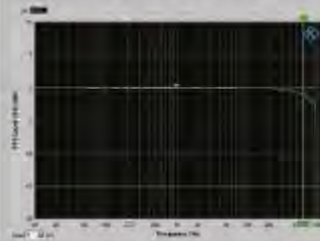
Distortion levels were low, from CD or hi-res, with distortion at -60dB measuring 0.24% from the former (16bit) and 0.03% from the latter (24bit), our analysis showing the low level of noise and absence of distortion products from 24bit.

Low noise and high output of 4.4V from the balanced XLR output, together helped the Azur return a 115dB EIAJ Dynamic Range figure from 24bit digital – if not class leading.

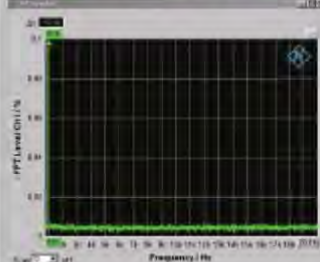
USB was limited to 96kHz in USB 1.0 mode and frequency response measured flat to 46kHz. Distortion and noise were both low, resulting in an EIAJ Dynamic Range value of 114dB, similar to S/PDIF.

The Azur 851N streamer measured well all round, although it does not significantly improve on the preceding StreamMagic and is behind Sabre32 DAC equipped market leaders. NK

FREQUENCY RESPONSE



DISTORTION



Frequency response (-1dB) 4Hz-60kHz

Distortion	
0dB	0.006%
-60dB	0.03%
Separation (1kHz)	94dB
Noise (IEC A)	-114dB
Dynamic range (EIAJ)	115dB
Output	2.2 / 4.4V

CAMBRIDGE 851N

€1699



OUTSTANDING - amongst the best.

VALUE - keenly priced

VERDICT

One of the most natural-sounding, versatile and well-equipped streamer/DAC/pre-amps available at its price. Sets the standard for rivals.

FOR

- neutral, flowing sound
- DSD capability
- comprehensive inputs
- good control app

AGAINST

- nothing at the price

Cambridge Audio
www.cambridgeaudio.com