

Integrated DAC/amplifier. Rated at 100W/8ohm
Made by: Cambridge Audio Ltd, PRC
Supplied by: Audio Partnership PLC, London
Telephone: 0203 514 1521
Web: www.cambridgeaudio.com
Price: £4500

AUDIO
FILE

Cambridge Audio Edge A

Named after Cambridge Audio's founding father, this new integrated amplifier includes a DSD-compatible DAC and Bluetooth aptX HD. But does it really have an *Edge*...?
Review: **Andrew Everard** Lab: **Paul Miller**

There's one very noticeable thing about the new Edge range from Cambridge Audio – well, apart from the fact that these hefty new high-end components are quite a long way from the company's usual entry/midrange territory, that is. Look at any of the new products and you'll notice the branding – it simply says 'Cambridge', as if to set this range apart, and fit in with the minimalist-but-purposeful vibe of the whole lineup.

Launched as part of the company's 50th anniversary celebrations, the Edge range is named in honour of one of its founders, Professor Gordon Edge, who died five years ago. He was responsible for the first Cambridge Audio product, the P40 amplifier of 1968, not to mention the development of the 'technology cluster' based around Cambridge University, from which Cambridge Audio sprang.

'Edge' takes the brand into what is – at least in the modern era – uncharted territory for Cambridge Audio. The range comprises the £4500 Edge A integrated amplifier, the £3500 Edge NQ network player/preamp, and the £2500 Edge W, claimed to be the best power amp the company has ever made which, like the Edge A, is rated at 100W per channel.

INSPIRATIONAL DESIGN

The designs are all-new, though PM's boxout [see p49] suggests that not all Cambridge's legacy innovation has been removed from the tool box. At first glance it must be said that the look and build of the range is every bit the equal of other components in the high-end arena into which Cambridge is launching itself, including many products costing much more than the Edge lineup. The curvaceous front panels and immaculate finish instantly inspire confidence, and if the image the brand summons up in your mind is the

RIGHT: The heatsinks are not for show – housing five pairs of huge Sanken power transistors per side, the switch-on power consumption is 255W and once the amp is up to temperature (max 47°C) this drops to 145W

budget aesthetic of bargain amps of the past, it's certainly time to think again. Mind you, by the time you've hauled all 24.4kg of the Edge A from its beautifully considered packaging, chances are you'll have realised that!

The result of a team of nine engineers working full-time for three years, the Edge range is certainly ambitious, and the company makes great play of the fact its brief was one of no limitations in cost or engineering. It simply wanted these new products to be the best it could make. And before you say 'Yes, but how will all that play on the shelves of Richer Sounds?', bear a couple of things in mind. First, that retailer, the sole source of Cambridge products in the UK, has come a long way from its roots as a place to buy ultra-cheap recently discontinued products and the like; and second, around the world the

Cambridge Audio brand stands on its own feet, and consistently does rather well.

COMPLEX SIMPLICITY

The first question most are likely to ask when faced with the Edge A, looking at that simple fascia with its single control, is 'How does that work, then?'. Welcome to Cambridge's concept of 'complex simplicity', for that knob is actually a volume control with a concentric knurled ring for input selection. This accesses the amp's three analogue ins (one on balanced XLRs, two on RCAs), five digital connections (USB Type B for computer input, two optical and one coaxial, and even an HDMI with Audio Return Channel for TV sound), and Bluetooth HD.

Rather in the manner of the Hegel H590 [HFN Oct '18] this is a high-performance amplifier designed for real-world use, and

for all its minimal looks, this isn't a limited, tweaky device. It's about as hard to set up and use as the average £300 mini system, but sounds much, much better. Aiding that ease of use is a remote handset that's almost as minimal-looking as the amp itself [see p51] – although it does have track-skip buttons to control a player as well as volume up/down, mute and source selection. However, a row of four programmable buttons below the main 'wheel' of controls on the handset is rather clever – press and hold one of them and you store both the currently selected input and its volume level.

As well as the convenience of selecting inputs once these buttons are set up, you can of course use this functionality to set one of the analogue ins to suit working with the front left/right pre outs of an

AV receiver or processor, thus enabling the amp to be integrated into a home cinema system if required. The Edge A will drive a single set of speakers, but also has pre outs to feed an external power amp, on both XLRs and phonos. PM noted an anomaly when they are used without speakers connected, however. In practice

it's not possible to turn off the internal power amplification, so the amp will still clip and shut down if the protection is triggered due to the preamp volume being advanced too far...

To facilitate bi-amping with a separate Edge W power amp, the Edge A has Link In/Out sockets to allow the connected power amp to be switched in and out of standby in sync with the integrated, or indeed to let a connected source, such as the Edge NQ, turn the amp

CROSSOVER DISPLACEMENT

Cambridge Audio has ceased championing the 'Class XD' power amp topology that served its earlier models, including the 840W [HFN Aug '08] and 851W [HFN Jun '14], so very well. Nevertheless, with just one small reference to something called 'Class XA' in its 27-page promotional booklet, Cambridge's novel XD, or Crossover Displacement, still looks to be alive and well, albeit with a tweak or two, in its new Edge A integrated and forthcoming Edge W power amps. Like its predecessors, the Edge A offers a marriage of low noise, impressive speaker load tolerance and supremely low distortion – right through to the highest frequencies – that the vast majority of 'one size fits all' solid-state amp brands might only dream about [see Lab Report, p51]. And the low distortion, at least, is all down to Class XD, or XA, or whatever it's called this season.

This is the Edge's method of eliminating the crossover distortion suffered as music signals 'cross' from positive to negative-going (and vice-versa) and the pairs of power transistors momentarily switch off. Without, I might add, the cost and wasted energy of deploying a large standing current in the output stage (Class A operation). In practice, Cambridge's elegant alternative doesn't eliminate crossover distortion, but shifts it away from the zero-crossing point of the waveform – hence the name 'Crossover Displacement' or XD. By applying a negative bias current, the position of the crossover point is shifted without creating a DC offset. Indeed at low signal levels, where the effect is most deleterious, the crossover point is moved *below* the maximum negative swing of the audio waveform, yielding all the benefits of pure Class A. PM

ABOVE: A large multi-function control governs volume and input selection while the smooth curves of the new fascia and chassis brings a real sense of elegance to its heavy-duty engineering

on and off. It's also worth noting that the front-panel headphone socket does mute the speaker outputs, as one might hope, and that the amp has an Auto Power Down facility to switch it into standby after 20 minutes of no signal. This can be defeated using a little slider switch on the rear panel.

PM discusses the 'Class XA' working of the Edge A power amplification, which comfortably exceeds the quoted 100W/8ohm [see Lab Report, p51], but other notable aspects of the design include its twin toroidal transformers, mounted back-to-back to cancel common-mode noise and interference. Also in the quest to minimise distortion, the preamp board eliminates capacitors in the signal path in favour of a DC coupled topology, while the solid-state volume control, 'driven' by that single (well, double) knob on the front panel, boasts a very accurate channel balance across its operating range.

The digital board is bang on the money in terms of format handling, able to cope with 384kHz/32-bit PCM and DSD256/11.2MHz, although Windows users will, as usual, need to download a driver, available from the Cambridge Audio website, to achieve these highs.

COMPETITIVE EDGE

I happened to have the new Hegel H590 integrated to hand when auditioning the Edge A, and comparisons between the two proved very illuminating. The Norwegian amp is of a similar size and weight, and has a similarly minimalist ethic despite its inclusion of network streaming capability.

Yes, it's more powerful than the Edge A – if you get hung up on maximum power output – but, although it's also twice the price, I could readily imagine anyone looking for a 'big integrated' considering both models side by side, as I had the ➤

opportunity to do. So I'm not going to tease you with the pros and cons of the two, as – aside from those considerations just mentioned – the two amplifiers are very similar in performance, which simply means the Cambridge Edge A walks it by doing all it does for half the price of the Hegel. Indeed, you could read much of the sonic description of that amp last month, 'find and replace' the two model designations, and you'd be just about covered – apart from the even more enthusiastic verdict on this page, taking into consideration the price differential.

PLAIN MAGNIFICENT

What the Edge A does is, to put it bluntly, instant communication. Spin the alternative take of Canned Heat's 'On The Road Again' from the 2017 re-release of the band's 1967 eponymous album [Liberty UICY-78381] and, from the opening studio banter the amp captures the attention with the sense of the band in the studio, the simple percussion backing and the vibrato of Alan Wilson's harp. It's a so-familiar track laid out afresh, and through this

amp, even when fed via USB from a simple Asus Tinkerboard running Roon, it sounds just plain magnificent.

Take it down to Jackson Browne's beautiful version of 'For A Dancer' on his 2005 *Live Acoustic Vol 1* set [Inside Recordings 0094634494021], and the total focus of the amplifier, and the way it reveals

both vocal and instrumental timbres, is the kind of thing that has you trying one track and then listening to a whole album.

The same is true with the rich acoustic of the recently released St John's College Choir recording of Vaughan Williams's 1920 anthem 'O Clap Your Hands' [Signum SIGCD541; 96kHz/24-bit]. This isn't a close-up sound, but one that places the choir in a credible space, and it's revealed perfectly by the Edge A.

The amplifier is just as convincing with the Amsterdam Sinfonietta's beautifully recorded recent programme of Bartók and Brahms [Channel Classics CCS 37518; DSD256]. The striking dynamic ability on offer brings out all the drama of the music while maintaining entirely natural instrumental tones and musical flow, such that the performance seems to be over all too soon.

In case you were wondering, yes – the Edge A will do all the chest-beating and room-shaking you could ever want, running at very high levels while maintaining both grip and control, but then that's almost the easy part for a big, powerful amplifier. What sets this one apart is the seemingly effortless purity it brings to everything you play, which is always a delight. ☺

HI-FI NEWS VERDICT

Ambition is rewarded in the Edge A. The Cambridge brand may in recent years have been better-known for entry-level/midrange hi-fi, but this is a truly high-end contender with totally convincing performance, design and build, and capable of compelling delivery of music. You'd have to spend considerably more to match or better the quality on offer here, making this nothing short of a conspicuous bargain.

Sound Quality: 89%

0 - - - - - 100



LEFT: Cambridge Audio's new, and deceptively heavy, Edge remote caters for input selection, volume and mute



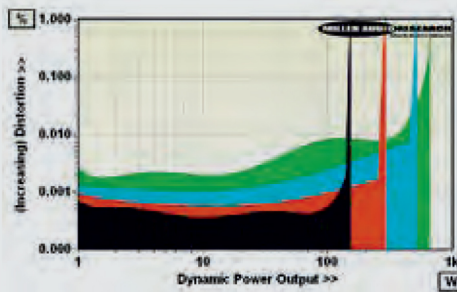
ABOVE: Two line ins (on RCA and balanced on XLR) are joined by variable pre outs (RCA and XLR) plus digital ins on optical (x2), coaxial, HDMI (audio return channel), USB-B (384kHz/32-bit, DSD256) and wireless (Bluetooth aptX HD)

LAB REPORT

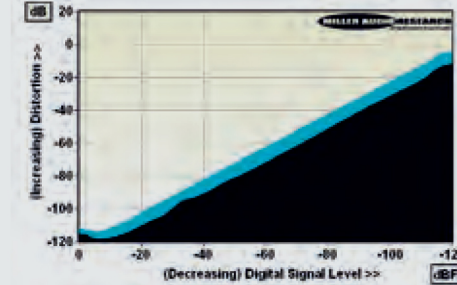
CAMBRIDGE AUDIO EDGE A

I'm delighted to reveal that the Edge A integrated really does have the 'edge' on much of its competition. Rated at 100W/8ohm and 200W/4ohm it delivers 2x138W/8ohm and 2x234W/4ohm (a stiff +2.3dB increase in power) with sufficient in reserve to accommodate 150W, 290W, 520W and 670W into 8, 4, 2 and 1ohm under dynamic conditions at <1% THD [see Graph 1, below]. The field-cancelling toroidal transformers assist in the near elimination of hum while the A-wtd S/N ratio clocks in at a very wide 94dB (re. 0dBV) and 114dB (re. 100W/8ohm). The amp is DC-coupled but (sensibly) not flat to DC with –1dB points at 2Hz out to 80kHz (–0.13dB/20kHz), all served by a low 0.028ohm source impedance that rises slightly to 0.07ohm/20kHz before lifting to 0.63ohm/100kHz. Most impressive of all is the controlled linearity of the Edge A with distortion holding to a very steady 0.0003-0.0005% from 1-100W/8ohm through the midrange and from 0.00015-0.002% across the full 20Hz-20kHz audio range.

The digital board is based on a tried-and-tested ES9018 DAC with a standard linear phase filter selected by Cambridge. Set to a 2V preamp output, it offers a vanishingly low 0.0002-0.0003% distortion (20Hz-20kHz, 0dBfs) with a minimum of 0.00012-0.0002% at –20dBfs [see Graph 2] and with response limits of –0.2dB/20kHz, –1.35dB/45kHz and –3.6dB/90kHz with 48kHz, 96kHz and 192kHz media, respectively. The A-wtd S/N ratio is a respectable 109dB and jitter lower than achieved with most outboard line-level DACs at <10psec across all sample rates. This is a remarkable performance for a DAC that's integrated with a very powerful amp and situated adjacent to a large PSU. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 25.9A



ABOVE: Distortion versus 24-bit digital signal level over a 120dB range at 1kHz (black) and 20kHz (blue)

HI-FI NEWS SPECIFICATIONS

Continuous power (<1% THD, 8/4ohm)	138W / 234W
Dynamic power (<1% THD, 8/4/2/1ohm)	150W / 290W / 520W / 670W
Output impedance (20Hz-20kHz)	0.028-0.070ohm (91ohm, pre)
Freq. resp. (20Hz-20kHz/100kHz)	-0.0 to -0.13dB/-1.35dB
Digital jitter (S/PDIF at 48kHz/96kHz)	<10psec / <10psec
A-wtd S/N ratio (re. 0dBW/0dBfs)	94.3dB (Analogue) / 109.1dB (Dig)
Dist. (20Hz-20kHz; 0dBW/-20dBfs)	0.0001-0.002%/0.00012-0.0002%
Power consumption (idle/rated o/p)	255-145W / 397W (1W standby)
Dimensions (WHD) / Weight	460x150x405mm / 24.4kg