



North Star Essensio Plus (£1250)

North Star Design's new 'Plus' version of its Essensio DAC employs the same architecture as the model we tested last July. It also has the same suite of inputs, the price premium of £280 buying a headphone amplifier built-in and a digital volume control. You can drive a power amp or active speakers directly – assuming a digital-source-only system, as there are no analogue inputs provided. Its IR handset provides remote control input switching, volume control, standby on/off and mute. USB Audio Class 2.0 drivers are included on a CD-ROM to allow 32-bit/192kHz data transfer via USB.

Pressing and holding in the volume knob accesses the Essensio Plus's setup menu. You can determine whether the DAC operates in direct mode or via its volume control, and turn the headphone output on/off. The maximum level of the analogue outputs can be set to 1, 2 or 4V *without* invoking on-chip digital attenuation. The converter chip provides 0.5dB volume steps, but as you'll lose around one bit of resolution for every 6dB of attenuation it's sensible to set the analogue output level as near the 0dB mark as is practical (according to power amp gain and desired listening levels). We left the 'Plus' in direct mode for the listening tests.

CLEAN AND AIRY

As with the 'standard' Essensio, this Plus version delivers music in a free-flowing manner while its tonal character allows observation of micro details without sounding hyper-detailed or edgy. Nor does



ABOVE: Display shows volume level unless in Direct mode. LEDs indicate input and in-coming sampling rate

its personality appear to change between its coaxial S/PDIF and USB inputs: important for those seeking to enjoy music from a computer source without compromising quality or having to invest in a high quality USB-to-S/PDIF converter.

The percussive elements in Jeff Beck's 'Behind The Veil' and Seal's 'Killer' sounded clean and airy, free of grain and splash. Where MF's explicit M1 DAC errs to a 'warts 'n' all' presentation, the Essensio somehow manages to pull off the neat trick of sounding silky and refined while giving nothing away in terms of clarity and image focus. It sounds fresh and open at low frequencies too, less creamy and characterful than the Rega and Wyred 4 Sound models, with hear-through clarity and fabulous LF extension. The North Star's openness and ability to describe the character and texture of instruments resulted in the hi-res recordings of Britten and Stravinsky sounding sublime.

Sound Quality: 85%

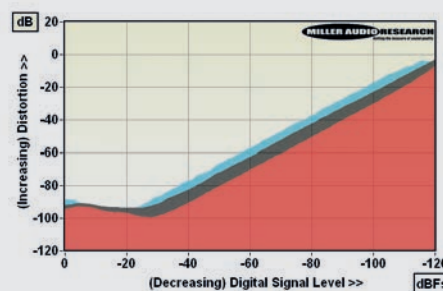


ABOVE: Analogue output is single-ended (RCA) only, but in addition to USB there are five S/PDIF inputs – three optical (Toslink) and two coaxial (RCA)

HI-FI NEWS LAB REPORT

This 'Plus' version behaves exactly as the original Essensio [*HFN* Jul '11] but with the advantage of a built-in preamp offering a low 73ohm output impedance. Performance is still determined by its choice of Crystal's CS8421 32-bit/192kHz upsampler, Burr-Brown PCM1795 '32-bit/192kHz' DAC and, of course, North Star's proprietary analogue stage that confers an impressively uniform ~0.003% distortion right across the audio band, also broadly unchanged over the top 30dB of its dynamic range [see Graph, below]. Jitter is impressively low at 35psec (24-bit/48kHz data) and 50psec (24-bit/96kHz data) via S/PDIF with USB achieving parity at 40psec.

In practice, the USB input mirrors S/PDIF performance in all areas save the ultimate A-wtd S/N ratio – 95.8dB versus 107.5dB, respectively (North Star USB 2.0 driver/XP OS). The frequency response of all digital inputs is flat to within –0.2dB/20kHz with 44.1kHz/48kHz sources and –1.0dB/45kHz with 96kHz sources, the S/PDIF input even reaching up to –3.4dB/90kHz with very high resolution 24-bit/192kHz digital files. PM



ABOVE: Distortion versus digital signal level at 1kHz (red / SPDIF, black / USB) and 20kHz (blue / USB) over a 120dB range

Maximum output level/impedance	2.0Vrms / 73ohm
A-wtd S/N ratio (S/PDIF / USB)	107.5dB / 95.8dB
Distortion (20Hz-20kHz/OdBFS)	0.0027-0.0035% (S/PDIF)
Distortion (20Hz-20kHz/OdBFS)	0.0025-0.0036% (USB)
Frequency response (20Hz-20kHz)	+0.00dB to –0.21dB
Digital jitter (S/PDIF / USB)	35psec / 43psec
Resolution @ –100dB (S/PDIF / USB)	±0.5dB / ±0.6dB
Power consumption	7W (5W standby)
Dimensions (WHD)	300x70x170mm

GROUP TEST VERDICT

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Shanling's handsome-looking DAC-50 is exquisitely built, but it failed to shine when heard side-by-side against half a dozen peers. 'Pleasant' and 'safe' were adjectives that kept cropping up during the listening tests, the DAC-50's sonic performance being commendably free of digital nastiness but lacking in verve, especially via its limited-resolution USB input.

PUSHING BOUNDARIES

It was quite something to see the display of M2Tech's Young DAC flaunting '352' when using its USB input to play a selection of sample tracks downloaded from Norway's 2L label, recorded in DXD and delivered as 24-bit/352.4kHz WAVs. M2Tech can be applauded for pushing boundaries; however, the Young was outclassed by other DACs in our group. It delivered detail in spades, but with CD-quality and hi-res audio alike it sounded slightly monochromatic in the test system.

Rega's DAC was a different audio animal. What it lacked in resolution and finesse it made up for in verve and vibrancy. It had tremendous presence through the midband and proved highly engaging. However, in today's rapidly evolving and highly competitive market it does look a bit expensive given its limited feature set – selectable digital filters notwithstanding. Its limited-resolution USB input means it's unlikely to be the first choice for enthusiasts keen to enjoy the world of hi-res downloads.

Similarly forthright and entertaining was Wyred 4 Sound's DAC-1 which delivered music with considerable dynamism. Its tonal balance appeared dark and rosy, while its powerful and rich bass would endear it to many. It performed admirably well via S/PDIF and USB inputs, albeit the latter

being limited to 24-bit/96kHz. With balanced outputs included, it can be recommended as a good and feature-rich all-rounder, especially to fans of energetic rock music.

Next up the sound quality ranking comes Cambridge Audio's tiny DacMagic 100, proving that great things can indeed come in exceedingly small packages. Its sound is a bit 'grey' and understated compared alongside the ultra-vivid MF and North Star models, but given its bargain price it would be churlish to declare it anything less than an outstanding product.

While I can't quite forgive its lack of 24-bit/176.4kHz compatibility, this won't matter a jot to the thousands who will buy it alongside Cambridge's iD100 digital iPad/iPhone dock (£150) designed to partner it.

At just £400 Musical Fidelity's updated M1 DAC could be *the* DAC of choice for audiophiles on

a modest budget – if only its USB input was capable of 24-bit/192kHz alongside its S/PDIF and AES/EBU inputs. As it stands, you'll need to add MF's £230 V-Link192 USB-to-S/PDIF converter if you want to cover all computer audiophile bases. But this is great reasonably-priced esoterica, and tremendous value given its balanced connectivity, and so MF's M1 can be very highly recommended – provided your system can handle its stark, matter-of-fact tonality.

A DELIGHT

North Star Design's Essensio Plus proved the most delightful DAC of the group.

Its sound is sharp-focused and vibrant, with energy and bite, while obviating the squeaky-clean, hyper-detailed sound that can often make digital replay appear unnatural and hard-on-the-ear. Yes, it's the most expensive product here, but don't forget that the Italian company's cheaper Essensio performs identically if you don't require the Plus's extra functionality. ☺

'Great things can come in exceedingly small packages'



ABOVE: Two outstanding DACs at either end of the price scale in this month's group test: Cambridge Audio's DacMagic 100 and North Star Design's Essensio Plus

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