

# Simaudio Moon 380D & 330A

This standalone DAC comes in various guises and is a class act from Canada's Simaudio. We test it alongside a matching power amp from the firm's Moon Series

Review: **John Bamford** Lab: **Paul Miller**

**Y**ou don't know what you're missing if you've yet to embrace today's audiophile world of hi-res digital file downloads. Of prime concern to all enthusiasts enjoying listening to 'studio master' files is ensuring unsullied output from a computer source. Next, of course, comes a really fine quality DAC – probably with a hi-res-capable USB input. Perhaps Simaudio's Moon 380D is on your shortlist as a possible candidate. If not, it certainly should be.

Introduced last spring, the base model currently costs £3200. Simaudio's M-AJiC32 processing (Moon Asynchronous Jitter Control in 32-bit mode) lies at the heart of the 380D, and at the core of this is an eight-channel ES9016S Sabre DAC from ESS. The latter is already widely employed in high-end audio products for its excellent jitter rejection, although Simaudio claims to have improved performance still further with its own 'Alpha Clocking System' [see Lab Report, p61].

## BEST WITH XLRs

The 380D has separate power supplies, each with a toroidal transformer and 11 stages of voltage regulation, for its digital and analogue sections. The analogue stage is a fully differential circuit and balanced XLR connections are strongly recommended, although single-ended (RCA) outputs are of course also provided.

The unit has eight inputs covering the full range of interface options: two AES/EBU inputs (XLRs), S/PDIF via two optical Toslink inputs, three electrical inputs and a B-Type USB socket for pushing data in from a computer source. All inputs accept signals up to 24-bit/192kHz. Additionally there's a digital 'monitor' in/output loop for hooking up external devices such as room correction processors.

For its galvanically isolated asynchronous USB input Simaudio uses

**RIGHT:** Note the DAC's twin power supplies and optional add-on volume control and network client PCB modules fitted top centre of our inside shot. The DAC stage is on the right

the well-established XMOS microprocessor interface that supports bit depths from 16 to 24-bits at all sampling rates from 44.1 to 192kHz. USB Audio Class 1.0 functionality (data up to 24-bit/96kHz) is a straightforward matter of plug and play, while USB Audio Class 2.0 (higher data rates) is also natively supported for Mac OS X and Linux computer operating systems. Driver software, sourced from Theyscon, need to be downloaded from Simaudio's website and installed on PCs running Windows. The company first introduced this hi-res-capable USB interface as an add-on module for its 650D and 750D DAC/CD transports – models in its more luxurious Moon Evolution Series – in November 2011, since when it has become a standard feature in all its DACs.

The busy rear panel sports a main power switch next to the IEC power cord inlet plus a 12V trigger output and a socket for an external IR receiver. There's also an RS-232 port to cover all manner of custom

installation requirements. Further mini jack in/output sockets labelled SimLink enable unified control operation when the 380D DAC is hooked up to other components from the company's range.

## HANDSET UPGRADE

An infra-red handset is provided. It's a perfunctory plastic affair of the type commonly supplied with inexpensive mini systems [shown at the bottom of p61] with keys for controlling a Moon CD transport and volume up/down, mute, display on/off and standby keys. If you're feeling flush, a considerably more swanky aluminium handset with built-in backlighting is available at £399. Below the front panel's large status-display window there are push buttons for scrolling through the DAC's inputs, plus standby, mute, digital monitor and display on/off controls. The bold red display is easily read from across a room, showing the input number and the sampling frequency of incoming data.





A row of LEDs on the left of the fascia indicate what type of input connection you're using – USB, Toslink, AES, etc.

There are two additional options available for the 380D. An extra £900 buys a remote-controlled volume circuit.

This seems a lot to pay for simply adding a volume control, but if your system comprises only digital sources it does of course negate the need to buy a preamplifier and interconnect cables.

Employing a resistive array circuit that Simaudio calls M-eVOL, it provides gain adjustment in 1dB increments and claims to avoid sonic degradation of the audio signal at all volume settings.

Another £900 add-on option is to have a network client built-in, to allow music

streaming from digital music libraries stored on computers and NAS drives on a home network, plus access to internet radio and music services (using the familiar vTuner platform). Introduced at the beginning of this year – and also available

as a standalone network player with a digital output for connecting to *any* DAC of choice – Simaudio calls its network client MiND: Moon intelligent Network Device (the company sure loves

its acronyms). It's a UPnP renderer with DLNA 1.5 compatibility and – yes – it *does* support gapless playback of segued tracks and all the lossless file formats necessary to satisfy an audiophile's requirements, as well as a plethora of lossy codecs. If the MiND module is fitted to your 380D, its

'It's immensely confident-sounding, with a hear-through midband'

**ABOVE:** The 380D's large display shows input selection and sampling frequency. Needless to say, it's sitting on top of the matching 330A power amp purely for photographic purposes

rear panel gains a RJ45 Ethernet socket and wireless antennae, although for hi-res audio streaming you must connect the 380D to your router via Ethernet cable, as its Wi-Fi capability is limited to 16-bit/48kHz. There's a £400 saving to be had if you buy a 380D 'fully loaded' with both the volume control *and* the network card pre-fitted, (hence the £4600 price quoted in our Audio File panel).

An important feature of Simaudio's MiND network player is its free control app. It's currently only for iPad/iPhone/iPod Touch devices, but Android-compatible software is currently being beta tested and should be available by the time you read this. Thoroughly well executed, it doesn't only allow access to your digital library but also provides complete armchair control of a Simaudio system, if the 380D is connected via SimLink to a Moon amplifier. Moreover it includes independent zone selection should you have further Moon components in other rooms.

Since our review sample was a fully loaded 380D with both the MiND streamer built-in and the variable output option, UK distributor Renaissance Audio supplied a matching Moon stereo power amplifier, the 330A. Rated at 125W/8ohm it's housed in a fairly slim enclosure less than 9cm high yet weighs 15kg. This is due to its substantial linear power supply based on a 400VA toroidal transformer placed centre-front within the chassis, plus a reservoir bank with 85,000µF of capacitance.

The amplifier is a 'zero global feedback' Class AB design that claims to operate in

## OVER THE MOON

The history of Simaudio dates back to 1980 when the company was founded in Montreal, Canada, by Victor Sima. Initially manufacturing under the Sima brand name, producing a range of integrated and pre/power amplifiers, later models sported the Celeste marque – notable for their oval-faced front panels. In 1993 the company was sold to Jean Poulin, an engineer who had enjoyed a long association with the company as a supplier of audio transformers. Poulin remains the firm's proprietor and CEO to this day, having managed the company's steady growth over two decades to the point where it now employs around 50 people in a 45,000ft<sup>2</sup> factory in Boucherville, a suburb of Montreal. Jean Poulin harboured ambitions to design and manufacture a no-holds-barred line of high-end audio components that would be marketed via a limited network of specialist dealers, introducing the Moon brand in the late 1990s. With the exception of painting and anodising metalwork, everything is manufactured in-house. Populating circuit boards is carried out at a separate plant nearby that specialises in surface-mount technology and additionally works as a supplier of PCBs for all manner of products including personal computers. Edinburgh-based Renaissance Audio has been Simaudio's UK distributor since 1999.

## LIONEL GOODFIELD

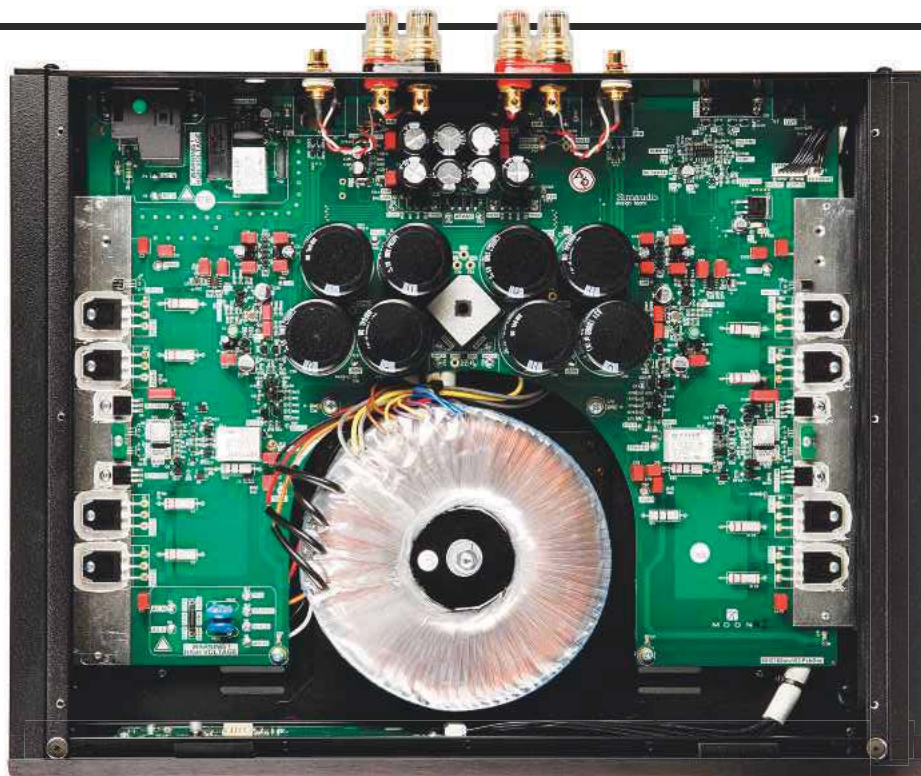
'I joined Simaudio full-time in 1998, around the time the company was introducing its Moon Series components and planning to expand its worldwide sales,' says VP of Marketing Lionel Goodfield.

By chance Lionel found himself helping out in a friend's hi-fi store in Montreal in the mid-'90s and discovered an aptitude for marketing and selling hi-fi. 'Of course, I'd been a music lover and hi-fi enthusiast since high school – even as a teenager I'd saved up for a pair of Magneplanars – but after graduation worked as a software development engineer, and never really imagined I'd end up working in the high-end audio business.'

'As with so many people in the specialist audio industry, it's a passion for hearing music reproduced sublimely that drives us. All our engineers are music nuts first and foremost. We have two listening rooms in our factory used for R&D and product evaluation, and for demonstrating our products to visitors. But rather than focus on a favourite loudspeaker for tuning our components we try to ensure a satisfactory match with as wide a variety of models as possible.'

'For example, as well as Wilson Sophias we have speakers from Dynaudio, ProAc, MartinLogan and Audio Physic... I've always had a soft spot for ProAcs, although they can be something of a torture test for many amplifiers.'

Since he has a background in software development, Lionel also acts as the company's webmaster.



Class A up to 5W output, using four output transistors for each channel. These are proprietary bipolar devices that Simaudio has specially made for them – necessarily requiring the purchase of batches numbering several thousand at a time.

### SPOOKILY HOLOGRAPHIC

Although the computer I use for my 'digital library' is a Mac mini, I operate it under Windows because I'm a fan of JRiver Media Center's GUI and extensive functionality. (JRiver software for Mac OS is still in beta form...) Anyway, I can report that installing the requisite 'HD Audio' drivers was a breeze and the 380D performed flawlessly throughout the few weeks it was in residence. In observing the performance of this DAC/preamp and power amp as a combination I found the sound to be noticeably even-handed and free of coloration. Certainly there is no 'tubby' warmth or exaggerated presence to the midband: rather it sounds uncommonly balanced and neutral – and delightful to listen to for hours on end.

Exploring a bunch of audiophile recordings to test the combo's mettle showed it to be immensely confident-sounding: fast and precise with deep, taut bass, a hear-through midband and sweet, fatigue-free treble. Guitarist Stew Cutler's *Insignia* album [Naim CD058] sounded fresh and alive, the reproduction

**ABOVE:** The 330A is a balanced, symmetrical design with a huge 400VA toroid and two pairs of bipolar output transistors per channel

of the space around the drum kit clearly painted to create a palpable image of musicians performing beyond the confines of my monitors. Similarly Patricia Barber's *Companion* CD [Blue Note/Premonition 7243 22963], a live set recorded in a

Chicago jazz club, sounded spookily holographic, the essence of her band's masterful performances as they work their way through interpretations of Sonny and Cher's 'The Beat Goes On' and Santana's

'Black Magic Woman' delivered with both grace and assurance.

I was bewitched by the Moon units' reproduction of transients that gave staccato bass lines buoyancy and punch, while the stability and focus of the image didn't waver whatever was happening dynamically. Indeed, it highlighted the fact that my aged Mark Levinson No.383 integrated amplifier – delightful though it is – sounds a little bloated and tends to blur bass information, masking textural detail, when the going gets tough during harried musical passages.

As I've suggested before in *HFN*, I have tended to prefer the sound of music files pushed directly into a DAC's USB input rather than streamed via a network ⇨

'The staccato bass lines were given buoyancy and punch'

## SIMAUDIO MOON 380D & 330A



**ABOVE:** With eight digital inputs of all varieties – and the network client providing a ninth digital source – both single-ended (RCA) and balanced (XLR) analogue outputs are provided. Power amp has balanced inputs too, plus RS-232 and 12V triggers

client. But with the 380D I struggled to hear any perceptible difference in image focus or musical dynamics between the 'DAC direct' and the MiND network player.

I'd swear the sound quality is all but identical. This is only the second time I've been able to say this, the first being when I made the same listening comparison for our review of T+A Elektroakustik's Luxurious MP 3000 HV network-enabled DAC/CD player [HFN June '13].

My only criticism of Simaudio's MiND app is that it doesn't allow 'scrubbing' (fast forward/rewind) within tracks, but even this is being rectified. We're told an update is imminent: at around the time the app for Android devices is released.

### THE LITTLE THINGS COUNT

Although easy-going and mostly comfortable sounding, the Moon combo nevertheless proved adequately transparent to reveal detail a-plenty. For example, in the soundtrack of Hans Zimmer's stirring score for the 2010 science fiction thriller *Inception* [Warner/Reprise 9362 49650], although the sound is majestically all-enveloping, with acres of width and depth to the soundstage, there is a curiously 'dirty' quality to the sound of the orchestra. I assume its sonic purity was mangled during the extensive manipulation of digital sound effects prior to final mastering.

Many systems gloss over this, the immensely powerful, grumbling low frequencies and startling dynamic swings disguising the recording's underlying grainy 'digititus'. Not so with the Moon combo, its superb clarity laying the recording's faults bare... while curiously managing to

avoid being in the least bit harsh or uncomfortable.

It's the *little* things that seem to matter to we audiophiles, certain elements in the sound of a replay system that once noticed become distracting and prevent you from loving it. What I found enchanting about this Moon combo was the complete absence of such annoyances. Partner it with loudspeakers that work well in your room and it delivers prolonged listening without fatigue and is captivating as it simply gets out of the way of the music.

So what's *not* to like about this mature and exquisite-sounding combo? Well, you might argue that it looks a tad dated. Clearly I'm not the only fashionista to think so, since at the Munich High End expo in May the company announced a new range of classy looking components dubbed Moon Nêo. For the 380D and 330A combo the new Nêo editions will be identical albeit housed in sexier chassis. Prices will go up by around 10%. So chances are that existing Moon stock will have been sold by next spring and you'll then *have* to buy the costlier Nêo versions. ☹

### HI-FI NEWS VERDICT

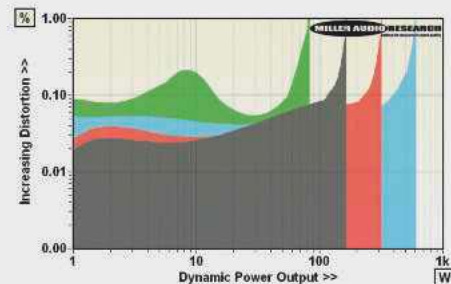
Such is this combo's even-handed nature when reproducing any type of music it's difficult to criticise it – unless, that is, you crave romantic euphony and/or specifically need a more powerful amplifier. The 380D is a fabulous USB-equipped DAC, and if you want to stream music and control your system via a tablet or smartphone you'll find the app for the MiND network player has been thoughtfully executed.

Sound Quality: 86%

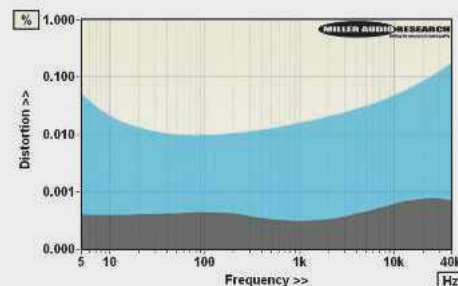


Both DAC/preamp and power amp are superb performers – the former making excellent use of the ES9016S DAC to incur a mere 10psec jitter via network, USB and S/PDIF digital inputs, the latter employing its 400VA Avel-Lindberg toroid to support a full 125W, 320W and 600W output under dynamic conditions into 8, 4 and 2ohm loads [see Graph 1, below]. Noise is very low through both components, the 380D offering a fine 109.2dB A-wtd S/N ratio that holds true via USB, demonstrating the efficacy of its asynchronous (Theyson) PC drivers. The 330A's A-wtd S/N is up with the very best analogue amplifiers at 96dB (re. 0dBW) and this, together with the fabulously low 1-3mohm (0.001-0.003ohm) output impedance and load-tolerant response (+0.0 to -3dB, 5Hz-100kHz from 8ohm to 1ohm) suggests there's plenty of 'local' if not 'global' feedback at work. Interestingly, the response of the 380D is within 0.5dB of the 330A up to 90kHz when playing 24-bit/192kHz media.

When it comes to traditional harmonic distortion, the 380D has the 330A beat, the former suffering just 0.0002-0.0005% over the top 30dB of its dynamic range through bass and midrange and 0.0004-0.001% over the same range at 20kHz. The amplifier's distortion increases with power output and also with temperature, from 0.011% to 0.02% over 30 minutes at 10W/8ohm and from 0.015% at 1W to 0.1% at 100W/8ohm. Versus frequency it increases to 0.08% at 20kHz/10W [see blue trace, Graph 2, below]. Readers can download full QC Suite test reports for the Simaudio Moon 380D DAC/preamp and 330A amplifier by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE (330A):** Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads



**ABOVE:** Distortion vs. freq. comparing 330D (S/PDIF in, 0dBV out; black) with 330A (re. 10W/8ohm; blue)

### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	135W / 215W
Dynamic power (<1% THD, 8/4/2/1ohm)	165W / 320W / 600W / 85W
Distortion (20Hz-20kHz, 10W/8ohm)	0.009–0.083%
Distortion (380D, 20Hz-20kHz, 0dBFS)	0.00018–0.00045%
Freq. resp. (20Hz-20kHz, 380D/330A)	+0.0 to -0.07dB/+0.0 to -0.15dB
A-wtd S/N ratio (380D/330A)	109.2dB @ 0dBFS/96.2dB @ 0dBW
Digital jitter (S/PDIF / USB)	10psec / 10psec
Power consumption (380D/330A)	17W / 27W idle / 400W rated op
Dimensions (WHD, 380D/330A)	429x86x333mm/429x89x356mm