

Moon by Simaudio 680D streaming DAC

by Eric Neff



Over the years I have had many opportunities to enjoy some quality equipment from Moon, made by Simaudio of Boucherville Quebec, Canada. Now in its fortieth year, Moon has become one of the world's premier audio brands. I have always been impressed by their products fit and finish and the ten-year warranty. There is a clear sense of pride in their work, and it shows in all of their products.

There is a good range of Moon digital products for an audio fan to consider, covering all the bases from traditional disc spinners and headphone amps with built-in DACs, through add-on streaming devices and network streaming DACs in preamps and integrated amps right up to cost-no-object flagship designs. The new 680D streaming DAC is second in line to the throne currently occupied by the 780D v2 flagship. And, from experience, the wide range fits all well, because this isn't my first Moon rodeo. I have been using the Moon 430HAD Headphone Amp/DAC for many years and it is a reference piece for me; we reviewers can be a fickle lot (continual exposure to all the new toys can do that), so anything that resists the urge to swap boxes bespeaks of high quality and high-performance products. The 680D streaming DAC exudes that same quality, albeit to an even higher degree as befits a DAC of its class.

The 680D is a streaming DAC and therefore removes the need for a computer in your network audio chain. Plug your ethernet cable into the unit and you get access to Qobuz Sublime+, Tidal Masters, Deezer HiFi and Spotify Connect. Or you can stream from your own NAS or Apple Airplay 2 via Moon's excellent MiND2 streaming hardware. All of which can be controlled using Moon's MiND2 App or through Roon if you so subscribe. I used both during the review period and found each to be easy and intuitive to use with the 680D. One specific benefit of using the MiND2 App is if you are connecting the 680D to another piece of Moon gear like the 740P Preamp, the Simlink cable (included) allows you to control system volume (amongst other features) both from within the MiND2 app and from within Roon. A nice feature for system building, especially in a multi-room context.

Physically, the 680D occupies a full shelf in your rack, but although exceptionally well-built, doesn't have the imposing 'I've got a Man Badge' over-the-top build of some more showy digital products. With three finish choices (Silver, Silver/Black or Black) you can select your preferred look. All three are handsome options. My review sample was their classic Silver and Black. It looked great on my rack. The large red LED's provided playback information such as file bit rates and track time. You have three light brightness levels to choose from. The DAC will process to PCM 32/384 and DSD to DSD256. The unit is fully MQA certified and Roon Ready. At its core, there beats a heart of pure digital royalty: the ESS Sabre 9028pro DAC chip. This is one of the most highly respected converter systems available at this time.

As you would want and expect, the Moon 680D is able to seek and play from all of the major sites and all hi-res source material. If your home is so configured it will also support multi-room synchronous playback. The 680D offers nine input options covering all of the expected options including USB, AES/EBU, S/PDIF, Optical, Ethernet, Wi-Fi and aptX audio for Bluetooth, and to aid wireless set-up. The unit has two included Wi-Fi antennae giving a nod toward the robustness of the wireless capabilities. The FRM-3 metal remote is robust and very capable.

The MiND2 app is also your path toward all firmware updates. One was available during my time with the 680D. It was simple and painless. Nice to see as they typically incorporate a half dozen or so updates annually. As I opened the app it indicated a firmware release was available and initiated the update. Simaudio handles all aspects of audio in house but they do work with some outside programmers who excel at network related programming to make sure all aspects of their MiND2 works optimally on as wide a variety of systems and networks as possible. MiND2 is, of course, totally proprietary. All of the audio specific portions of MiND2 are developed and maintained in house. Once initiated, the 680D's screen indicated an update in progress. A few seconds later it was done and on with the music I went. No Harry Potter style Dark Arts mastery required; Moon does offer

“By using daughterboards, Moon can switch out the DAC chip to something more advanced when the time comes.”

YouTube instructional videos should you want to watch how to install, but these are not mandatory to set up the 680D. Given the net-savvy skills of the average six-year-old today, it's literally child's play.

One welcome upgrade feature is an external power supply. The £7,200 Moon 820S can provide DC for power up to two separate components, from a pool of six products in the Moon range. So, if you had the aforementioned 740P preamplifier (or, for that matter, the 810LP phono stage) it could also utilise the 820S to power both units with higher end power and greater isolation. It's always nice to have a system upgrade path should you want one.

Speaking of upgrade paths, one challenge with DAC's is advancing technology. A great amp or preamp can provide decades of reference quality functionality. DAC's, however, can be surpassed with changes in digital technology. Many of my colleagues have expressed concern about expensive

DAC's becoming outdated in short order. How can you have confidence that your new pricey DAC will be credible in the future? I spoke to Dominique Poupart, Moon's product manager, who said that product obsolescence was not a concern with Moon's DAC design. By using daughterboards, Moon can switch out the DAC chip to something more advanced when the time comes to move on from the ESS 9028Pro chip. This would be a dealer upgrade to manage warranty concerns. Dominique did mention that since the 680D was a fresh design there were no current plans for any chip changes on the table currently, yet the path was already in the planning for the future. Also upgradeable is the MiND2 platform; should a MiND3 ever become available the upgrade for the dealer would be very straightforward. This is not an empty statement either; any owner of an original MiND streaming platform was able to upgrade in this same fashion to the new MiND2 when it became available. That's



“The 680D opens up the song smoothly and allows the band to bring the listener along for a great sonic ride.”

- reassuring to know when you are spending almost nine grand on a DAC! Dominique was excited that Moon is able to allow its products to evolve and yet bring existing owners along with the advances in technology.

I also asked Dominique about the collaboration necessary to integrate Roon and MQA into Moon's products. He said that both companies were very attentive to manufacturer differences when integrating their technologies into Moon products. An example with Roon centred around how the volume control programming was written at Roon did not function well with the Moon volume control. They worked together to write new software to correctly meld Roon, MiND2 and the 680D DAC function when using Simlink and a Moon preamplifier. That tight collaboration between vendors ultimately works for the benefit of music lovers.

Enough preamble! How does it sound? In fact, the preamble gets you through the few weeks of burn-in you should spend before opening up the 680D's throttle for some critical listening. First up after the burn, was 'Miss Marlene' from Donald Fagen's Solo album *Sunken Condos* [Warner Music]. Fagen sets a strong groove with this song that really drives the music. The guitar work is crisp and precise. Fagen's control of the sound space is well represented. Clear spatial definition outlines each instrument within the whole. The bass

guitar and drums provide a funky strong rhythm that gives the song a jump that engages the listener. The 680D opens up the song smoothly and allows the band to bring the listener along for a great sonic ride.

Next up was the new Evanescence album, *The Bitter Truth* [BMG] and the song 'The Game is Over'. Amy Lee is one of my favourite female singers. Her voice can be powerful, subtle and bewitching. Combine her vocal prowess with hard crunching metal guitar work and you get a symphonic rock sound that is wonderful. 'The Game is Over' showcases her soaring operatic power to full effect. The 680D gave perfect shape to her impressive range while framing it with the crunch and growl of the drop D guitar assaults. The presentation is at times kaleidoscopic and thrilling. Ultimately, I listened to the entire album enthralled by the 680D's wonderful presentation of this great new work by Amy and the band.

One evening listening with the 680D and Roon radio up popped Duncan Sheik's 'Barely Breathing' [*Duncan Sheik*, Atlantic]. I have always enjoyed this breezy song. What I took notice of was once again the clarity of the presentation. Duncan's voice was smooth and relaxed. The band was presented in a near 3D sonic field. The song is now twenty-five years old, and it still sounds fresh and new, and it sounded as grain free and pure as I have ever heard it. Coming across as a ►



“I expect recordings that are hi-res and directed at audiophiles to sound pristine but to have 16/44 older recordings transformed is outstanding.”



► random stream it was exciting to have a sit up and take notice moment that I place at the feet of the 680D's exceptional technology. I expect recordings that are hi-res and directed at audiophiles to sound pristine but to have 16/44 older recordings be transformed is outstanding.

Moon's goal for the 680D was to provide as much of the capability of the flagship 780Dv2 for a lot less money, which – given the 780Dv2's reputation for high performance – is no small achievement. However, Moon's 680D more than delivers the goods. The 680D is also an expensive piece of audio equipment and the engineering team is very aware of the investment being made by their customers. Their goal was to give the end user many years of high-end sound with low maintenance or fuss. I like the idea of years of set it and forget it. I would heartily agree that they accomplished their mission. The 680D is certainly not inexpensive, yet after spending time with it you wonder how much farther could you go for better sound and at what price? Add to that the now required function of streaming and a ten-year warranty with an essentially obsolescence proof upgrade path and you have the beating heart of a modern high-end system. Do yourself a favour and seek out a Moon dealer for an audition. This one should go home with you and stay there for a long time. +

TECHNICAL SPECIFICATIONS

Type: Streaming digital converter

Digital inputs: USB, AES/EBU, SPDIF, Optical, Ethernet, Wi-Fi and aptX audio for Bluetooth

Music providers supported: Spotify Connect, Tidal Masters, Deezer Hi-Fi and Qobuz Sublime+ Music Services, HighResAudio (where available)

AirPlay 2: compatible

Roon: Roon Ready

PCM Bit-depth range: 16 – 32 bits

PCM sampling frequency rates: 44.1 – 384 kHz

DSD sample rates: DSD64, DSD128 & DSD256, DSD and MQA decoding from all digital inputs

Multi-room synchronized playback

Power supply: MOON Hybrid Power (MHP) DC output, 12 stage DC voltage regulation with two stages of M-LoVo (MOON Low Voltage Regulation) and 4 stages of i2DCf (Independent Inductive DC Filtering)

Frequency response (full range): 2Hz–100kHz +0/-3dB

THD @ 1kHz, 0dBFS (A-weighted) 0.0005 %

Intermodulation distortion 0.0003 %

Dynamic Range: 123 dB

Signal-to-noise Ratio: 123 dB @ full output

Channel Separation: 120 dB

Intrinsic Jitter: 1 Pico seconds RMS

Analog Output @ 0dBFS: 2.0 V

Analog output impedance: 100 Ω

Shipping weight: 18 kg.

Dimensions (WxHxD): 47.6 × 10.2 × 42.7 cm

Price: £8,900

Manufacturer: Simaudio

URL: simaudio.com

Distributor: Renaissance Audio

URL: renaissanceaudio.co.uk

Tel: +44(0)131 555 3922