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EQUIPMENT REVIEW

Simaudio Moon 100D USB digital converter

By Neil Gader

Any conversation about computers reminds me of my son-in-law, Dan. Classic Gen Y profile. Thirty-two years old, just married, a professional with an advanced degree. Dan, like much of his generation, is a savvy computer guy (Apple, of course) and music junkie. Dan loves the indie scene, respects the classics—classic rock anyhow. In most ways he embodies the audio ethic of his generation, meaning he's a fervent music-downloader and disc-ripper. Dan pays very little out of pocket for his musical fix. Until recently his 'system' was almost entirely iTunes/iPod-based, but after discovering his dad's vinyl collection, he sprung for a budget turntable and speakers and began assembling an entry-level system. High end was the last thing on his mind. But that was then. He's discovered that sharing a life and paying a mortgage leaves little room for earbud listening in the man-cave. Yet, with thousands of tracks on a hard drive that he wants to access through his growing two-channel rig, what to do? The short answer might be something along the lines of the Simaudio Moon 100D.

The Moon100D is a stoutly built and elegantly finished component, whose looks are consistent with the extensive Simaudio lineup. Its front-panel layout includes LED indicators for sample rate and pushbuttons for power and input selection. The Moon 100D is based on the Burr Brown PCM1793 high resolution 24-bit/192kHz D/A with an 8x oversampling digital filter. An asynchronous sample-rate converter upconverts all input signals to 24-bit/192kHz. As is Simaudio's practice, a highly accurate digital clocking system maintains the DAC's extremely low jitter levels. Three stages of DC voltage regulation are incorporated into the 100D power supply, as well as traditional Simaudio touches like pure-copper circuit board traces and a symmetrical circuit design.

Taking centerstage is the USB input which accepts a digital audio signal of up to 16-bit/48kHz. Like a favourite pair of slippers, USB has become a mainstay of the computer world for its convenience—and this is in spite of the audio limitations

that frequently draw fire in many high-end circles. Simaudio is refreshingly candid about the fact that due to jitter, phase errors, and other latency issues USB was never intended to appeal to audiophiles — it was meant for mundane data transfer only, not time-domain oriented audio signals. In Simaudio's words, "We opted to provide the best possible power supply, D/A converter, and analog stage in the Moon 100D at this price level."

Simaudio, however, is an old hand at high-end digital, so it's armed the 100D with both optical and S/PDIF inputs to make the most of its 24-bit high-resolution DAC when used in conjunction with a CD transport's digital output or a computer equipped with an S/PDIF high-resolution soundcard. However, if your computer doesn't have one of these outputs, don't despair. There's an easy work-around via a USB-to-S/PDIF interface. There are quite a few available, reasonably priced, and many will work with USB datastreams up to 24-bit and sampling rates up to 192kHz. For example, near the top of the rung is state-of-the-art models like the Berkeley Audio Design Alpha USB, but there are also more down-to-earth models like the Musical Fidelity V-Link, a modestly priced 24-bit/96kHz asynchronous USB interface. While wildly different in price, both take advantage of the superior continuous bitstream of S/PDIF.

Moon's setup is a snap. Using my MacBook equipped with Pure Music software from Channel D, I clicked on the Sound icon of System Preferences, which identified the DAC instantly. Just double-check that you've selected the USB for output, and you'll be off and running.



▶ For those of you accustomed to the run-of-the-mill iTunes experience, straight-line performance through the 100D USB will be a revelation. A laundry list of deleterious artifacts, from indistinct imaging to tonal hardness to treble etch, will begin to fade away. Bass pitches and harmonics will tighten up and lighten up considerably. The overall sound becomes more robust and limber. There will be an expanded sense of musicians occupying physical space, rather than flat-footed images on a tent-card. Dynamics will be livelier, low-level resolution higher. In general, music via the USB provides an easy listening experience, while manifesting a character that is a bit darker on top and a bit truncated in bass decay. In retrospect, this signature is paradoxically the near polar opposite of early compact disc sound. Back then, CD was noted for its powerful bass punch and icy, often brittle treble. Here the 100D USB input softens and shades the sound somewhat, and transients don't quite have the urgent call-to-arms response of live music. It's for this reason alone that I praise Simaudio for offering the S/PDIF option. Adding the V-Link USB-to-S/PDIF interface allowed Jen Chapin's cover of 'Renewable' to develop a greater degree of openness and bloom across the tonal spectrum. As micro-dynamics fully ignite, it's simply easier to trace individual notes in space, whether they be delicate piano motifs or the nylon-stringed guitar riffs from Ana Caram's cover of 'Fly Me To The Moon' [Chesky]. And on a 24-bit/88.2kHz recording like Malcolm Arnold's *A Sussex Overture* [Lyrita], the orchestra seems to come alive in three dimensions—the once papery and pita-flat soundstage replaced with complex acoustic textures, the venue seemingly inhaling and exhaling with ambience and presence. But the improvement doesn't just apply to highs; the benefits are easily appreciated on stock 16-bit/44.1kHz.

So how does the 100D compare to the prevailing digital standard of the last thirty years, namely CD? Close and growing closer, but ultimately falling short. Something like the outstanding Audio Research CD5 renders timbral and textural detail with more sophistication. When, for example, the melodies of singer Jen Chapin and the baritone sax begin to parallel each other, the CD5 maintains a warmer midrange, and breathes a bit more upper-frequency air and buoyancy into the performance. The CD5, to borrow an analog term, just seems to track a bit more cleanly, thereby allowing images a stronger sense of spread across the stage and a fuller, more complete sonic presentation. And while the sonic backgrounds that underlay a venue's acoustic are very quiet through USB, they are midnight black with the ARC. In imaging and three dimensional soundstaging, the S/PDIF input hews closer to the ARC with only minor subtractions in image focus.

The 100D is a flexible and forward-thinking solution for addressing the diversity of computer-based audio. It's a glitch-free device with an all-important upgrade path for those inspired to stay ahead of the curve. And to the extent that it allows a family member like Dan to have a few thousand tunes at the touch of a finger and



to bypass the CD format entirely, its potential impact cannot be underestimated. When it comes to the brave new world of digital music there is seemingly no end in sight. But Simaudio offers an ideal place to begin.+

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TECHNICAL SPECIFICATIONS

Inputs: S/PDIF, USB, TosLink

Dimensions (WxHxD): 12.7 x 7.3 x 16.5cm

Weight: 1.8kg

Price: £549

Manufactured by: Sim Audio

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