MEDIA SERVER REVIEWS

Aurender N10 Music Server Review

**Rafe Arnott** | Mar 26, 2019

Noise.

Sometimes it's hard to hear what's really going on because there's so much of it in our lives these days obscuring what we're really trying to listen to.I mean, do you have any idea how much electronic hash is being generated by your laptop or PC as it navigates millions of computational cycles in processing overhead while handling operating-system daemon sub-routines (computer programs that run in the background, not under user directive) while you are listening to music? Of course you don't and neither do I, you have to log into the 'Activity Monitor' on a Mac (or 'Task Manager' on a PC) to find out exactly what's happening and I can tell you it's a somewhat staggering amount of binary heavy lifting. This is because a computer, its myriad, multi-sensory hardware appendages and slots (graphics card, sound card, keyboard, mouse, SCSI, USB, PCI, VGA ports, etc. and the operating system software designed to run the software layered on top of the OS is designed to handle all sorts of disparate processes from web browsers, weather, social media, graphic and multimedia apps to software updates... a computer is meant to serve us in as many ways possible as their designers can think of. Not so a dedicated music server for audiophile use. No, that is designed with a very narrow and specific task in mind when it was first conceived on the drawing board.

Design and Construction

Take the Aurender N10 Music Server for example. It is meant to take the place of your laptop or PC completely and run "headless" via an app you can run off an Android smartphone or tablet or on an iPad. Aurender has been focused on this type of product for several years and is dedicated to making the quietest, most design specific/appropriate hardware and software for music playback they are capable of producing. From the circuit and processing architecture and implementation, to the motherboard, board components, CPU, hard drives, power supplies, RF and EMI isolation, shielding and chassis design the N10 is an executed concept in isolating critical components from both internal noise and external noise generation. It is meant to operate in complete and utter silence and allow only the digitally-recorded event to pass through, unfettered, to whatever DAC you choose to connect to it.
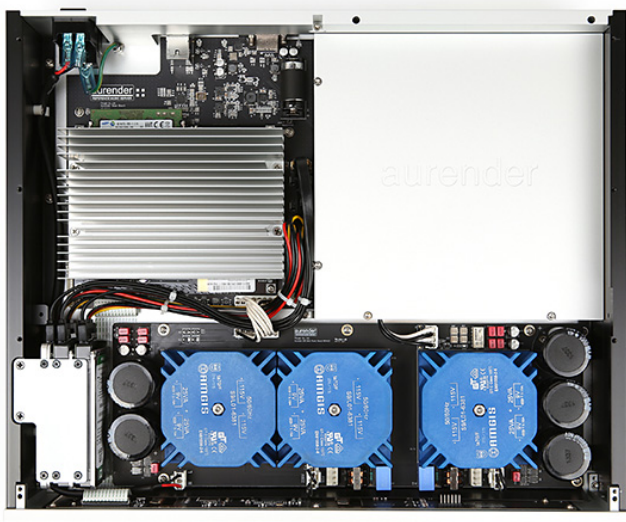
The N10 features a 4TB internal hard drive for file storage and a 250GB solid-state hard-drive cache dedicated for file playback. It uses an FPGA (Field Programmable Gate Array) for on-the-fly DSD to PCM conversion, dual linear-power supplies an OCXO (Oven-Controlled Crystal Oscillator) for "… long-term jitter reduction …" because of its dedicated thermally-regulated clock enclosure. According to Aurender OCXOs have proven to be one of the most stable/accurate clocks available, which they claim "are orders of magnitude more accurate and stable than commonly used

ordinary crystal oscillators usually found in computers." The company says that because regular crystal oscillations fluctuate with even subtle temperature changes and become less accurate over time, the OCXO clocks are inherently the superior choice because of their temperature-controlled enclosure.


The $7,999 USD N10 is more expensive than most laptops or PCs, and it is not light physically either, tipping the scales at almost 30 pounds with a chunky, but graceful aesthetic, excellent metal/rubber o-ring isolation feet, clearly designed button-operating layout and a very large (nine-inch diagonal), white-on-black AMOLED display that is easily legible (artist and song title anyway) from the listening position (it can also be set to mimic VU meters). It is equipped with enough digital ins and outs to keep binary purists pleased with BNC, coaxial, optical AES/EBU and USB 2.0 outputs (dedicated low-noise circuitry employed) and a Gigabyte ethernet port bookended by two USB 2.0 data ports for input. Format compatibility covers everything from ALAC, AIFF, DSD64/128 (DFF, DSF) and FLAC to MP3 and M4A among others, with SPDIF digital audio handled up to 24-bit/192kHz PCM and DSD64 and USB digital audio accepting 32-bit/384kHz PCM and DSD128 files. My silver-finished N10 was also equipped with the $50 USD MQA Core Decoding option which allows for software unfolding. "This first unfold recovers all the direct music-related information and sampling rate output will be 88.2khz or 96kHz."

Conductor software

The Aurender Conductor app is easy to use and very intuitive to navigate and figure out all its myriad functions from playlist building and adding to your library to unit settings via a well-played out and logically-driven interface. The Aurender Media Manager collates everything allowing you to browse or manage through the internally-stored (4TB drive) or cloud-based library simultaneously via tabs that correlate to Song, Artist, Album, Genre or Composer. The app also allows search filters for sorting by recently added, file type, file resolution and

favourites (Starred). You can log-in through the app to TIDAL, Qobuz (or even AirPlay) for streaming services (10 preset Internet Radio stations are also provided, including several BBC Radio channels and Hi On Line Radio) and you can fill up its internal 4TB drive with as many files and file types as you desire. The file type, resolution, sample rate and whether it is a local or streaming-service based file are all included along with cover art as part of quick-to-recognize information within each album's info packet. You can either copy files over from a NAS drive, a USB drive or even over the network wirelessly from other remote drives – a neat trick I use often. While working on my laptop after downloading an
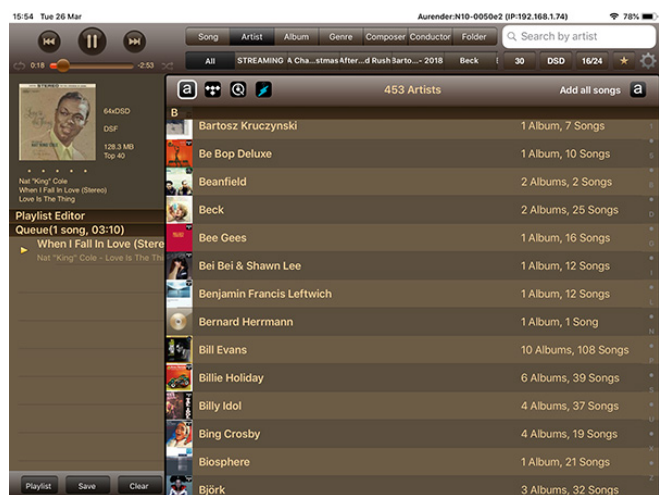
album to it I can go in via the "Connect to Server" function on my Mac and transfer files to the N10's internal drive over wi-fi. Is it Roon? No, but it does everything well enough with zero lag or wait times, is a snap to use, allows playlists and favourites along with clear navigation and myriad file-type handling abilities that most users will be happy with its level of interaction.
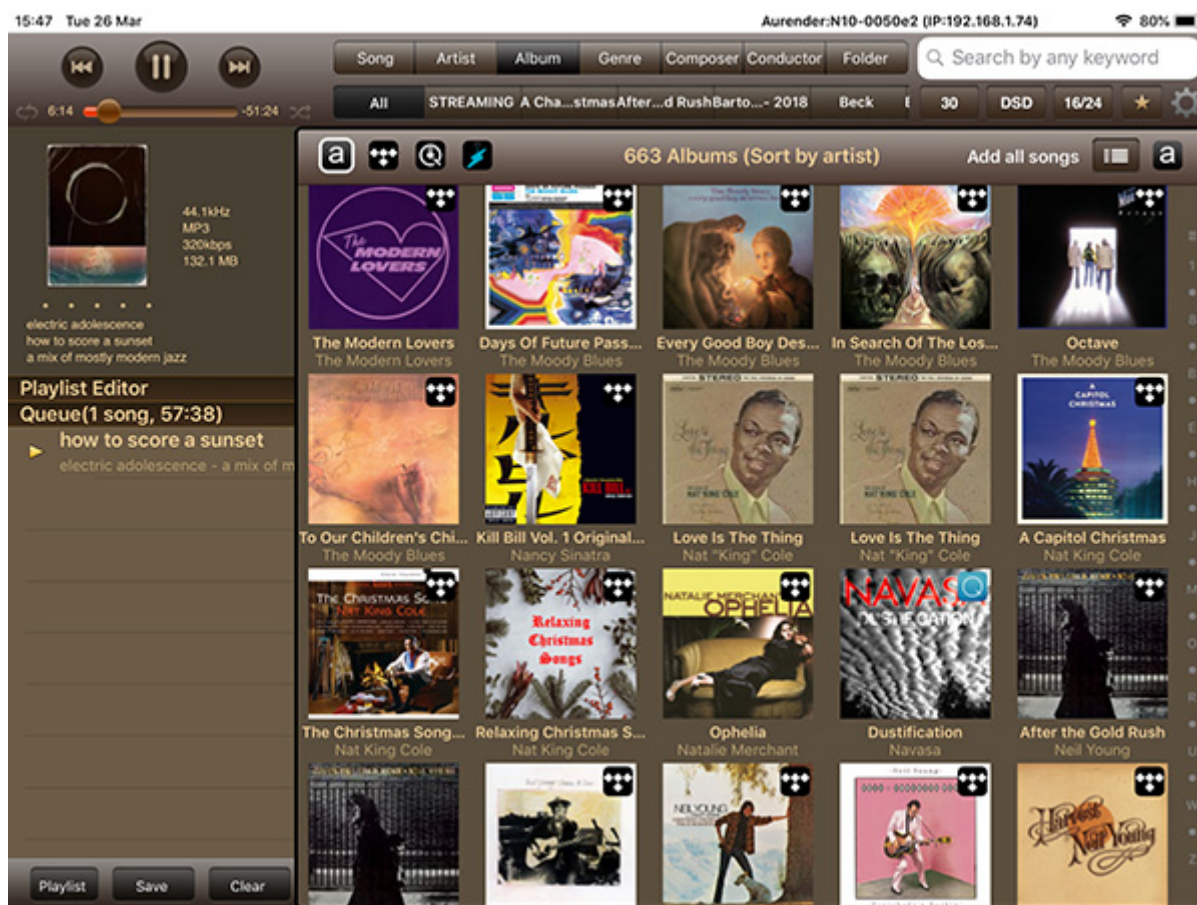
Aurender Media Manager (AMM) comes standard and software is available for both Mac (OS X 10.9 or later) and Windows7 (or later). The company says " you can run AMM software on your platform of choice, please specify the location of your content on NAS then it will automatically find the Aurender in you local network and make a combining music database." AMM ran flawlessly in the background constantly updating the music database whenever I added new songs or albums from TIDAL or Oubuz or downloaded new high-res, DSD, or Redbook files. There is also Remote Internet Technical Support which allows you to request help, troubleshoot or ask a question via the app to let Aurender engineers "quickly diagnose and fix problems over the Internet."

Associated equipment

In day-to-day use I engaged the USB output of the N10 almost exclusively as I found it to be the most practical implementation as not all all the DACs I have sent to me include an AES/EBU input, but they do all include a USB input, plus it allows for the highest file resolution to be used (and my laptop only has USB out for comparison in this review). I'll also wonder aloud how long manufacturers will continue to implement other connections which max out at 24-bit/192kHz. The review system consisted of a McIntosh C2600 Tube Preamplifier and MC611 mono blocs feeding a pair of DeVore Fidelity Gibbon X.

The N10 was on my network via LAN and all digital, speaker and RCA or balanced cables were a mix of TelluriumQ Black, Ultra Black, Silver or Diamond. Clean power was provided by a PS Audio DirectStream Power Plant 20 and AC5 cables. DACs used ranged from the Naim DAC-V1, dCS Rossini and Bartok, Audio Note DAC 5 Special (this was the one non-USB DAC I used via coaxial, and the sound was breathtakingly good, but to be fair the Pallas digital cable costs almost as much as the N10, so I'm not going to get into it for this review) and LampizatOr Pacific to the totaldac d1-direct.

Listening

For my baseline I used the USB-out and the latest version of Roon running on a dedicated-audio MacBook Air 11-inch with the latest OS and software updates available. A very cool operating function of the N10 is the fact that if a song, album or playlist is already cached to the 250GB SSD, then the 4TB HDD doesn't even spin-up – it remains asleep – eliminating any possibility of acoustic noise emanating from spinning discs. The fact that everything in the N10 is also optimized for the quietest audio playback possible – it

has no extraneous hardware or software-processing overhead – contributed to an instantly noticeable drop in the noise floor; this is the "black background" reviewers love to chin-wag about and I won't let you down here. Regardless of file played, the background haze I hadn't really noticed was there was lifted through the Aurender and when this happens, regardless of how it happens, it's like the window into the recorded event has suddenly been wiped clean: It's impossible not to hear it once it has occurred. There was also a dynamic and rhythmic uptick to drive in music playback. I wish I had a Roon Nucleus to compare the N10 to, but I'm still waiting for my review sample, as I feel that's a more fair comparison. That said, I think it is the most logical and applicable choice to use my laptop for comparison as the bulk of potential buyers of an Aurender (or other music server) would be migrating from a PC or laptop as their digital-audio source.

Digital files are like LP pressings of the same album in that no two seem to sound identical… a DSD64 file of Neil Young's Live At Massey Hall does not sound the same as a 16-bit/44.1kHz FLAC off TIDAL nor does it sound like a lossless ALAC CD-rip. There are some more obvious artefacts off more compressed files that contribute to sonic interpretation too, but the MP3 files I did listen to off the N10 sounded as good as I've ever heard them and that's what using a music server should be about: better sound quality.

Whether I was comparing a locally-stored 24-bit/96kHz FLAC of Beck's Morning Phase, a DSD64 file of Nat King Cole's Love Is The Thing, a 192kHz MQA TIDAL version of J.S. Ondara's Tales of America, an MP3 mix by AudioStream resident music master Scott Eastlick or an 88.2kHz PCM of Nick Bärtsch's Awase there was an edge in perceived mass and muscle to bass plucking, drums end electronic percussion, an increased textural context to hammers hitting piano strings and the nasal honking and blaat of trumpets and saxophones, voices took on intonation and tenor of chest emanation as opposed to throat emanation. All of which added up to a more visceral playback experience – regardless of DAC connected. These differences between laptop playback and the N10 were sometimes subtle and other

times less so, but regardless of these disparate parts which I've noted, the result was always the same: a more analog experience. The whole sonic landscape seemed to hold together with more realism, color and harmonic shadings than when the N10 was not in play. Could I chalk this up just to a lower noise floor, blacker blacks if you will? I think partially, but like the rest of the playback I was hearing, it seems to come from the choice of the heavy-duty, shielded chassis design, high-quality parts insulated from RF/EMI and dedicated, multiple power supplies along with an SSD cache-drive circuit architecture all designed to work together and eliminate vibration and external interference with a focus on delivering the bits to a DAC unmolested… something a laptop or PC is simply not specifically designed to do.

Conclusion

Is it necessary to have a dedicated music server in your system to get great sound from digital or computer audio? No. You can use a laptop or a PC and still great sound, especially if you focus some spending on higher-quality aftermarket LAN, USB or digital cabling and/or have enough operating system prowess to disable non-essential background functions which can somewhat attenuate software/hardware shortfalls inherent to a laptop or PC. That said, most users don't have that ability to go going around in a computer OS. So, if you were ask me "Will I get a better, more resolved and emotionally-involved playback experience than using a laptop or PC if I were to use a music server like the N10? Then my answer would be a wholehearted Yes. Utilizing the Aurender N10 Music Server in comparison to laptop-based computer audio playback opened my eyes yet again to what audio design focused on noise elimination form the circuit path is capable of accomplishing. The more resolving your DAC is, the more resolving your system is, the more you will get out of adding the N10 to your mix and the more thought provoking and engaging your listening sessions will be.