

Computer Audiophile

WHERE HI-FI AND HIGH TECH CONVERGE

aurender A10



Dollar Store, Dollar General, Dollar Tree, it might as well be free. I could go on with an endless list of stores carrying disposable plastic junk, but that would be way too depressing. All of us are bombarded daily by inexpensive, expendable, items that were designed to be, as Chris Rock said, "Here today, gone today." To paraphrase almost everyone I know, they just don't make them like they used to. Or do they?

Aurender music servers are the robust aluminum antithesis of Thom Yorke's fake plastic trees, and are truly built like they used to build them. That is, if music servers were built back in the day. Aurender started building its servers back in 2010. Over the years, the company has built one rock solid product after another. Products that discerning consumers enjoy using and displaying in their homes. In fact, the Aurender S10 music server was the Computer Audiophile product of the year back in 2011.

The newest audiophile heirloom from Aurender is the A10. OK, no music server should be considered an heirloom, but the A10 is fairly future resistant rather than future proof. The world's first component to support full MQA hardware decoding and include onboard storage and streaming, the all-in-one A10 is the right product at the right time. I've spent nearly one month with the Aurender A10 and have really enjoyed the splendor, simplicity, and excellent sound quality.



Introduction

Aurender isn't a new kid on the block anymore. The company was shipping music servers while many companies were designing "new" CD players. What's new from Aurender, is its all-in-one component. After years of designing and manufacturing music servers with only digital audio outputs via USB,

S/PDIF, AES/EBU, and Toslink, Aurender has released the A10. The A10 includes the highly praised Aurender music server platform in addition to a high-end DAC. Officially it's known as a "caching network music server / player with analog outputs." Whereas one previously had to connect an external DAC to an Aurender music server, the A10 includes everything one needs inside a single chassis.

Hardware

The Aurender A10 all-in-one music server is built like a tank. On the outside, its thick aluminum chassis is unmistakable and contributes substantially to its 22.5 lbs weight. The full-width, yet compact A10, features a 3 inch AMOLED screen, four control buttons, and a volume knob.

The AMOLED screen is nice, but it's a bit less useful than one would think. For example, almost all information visible on the screen, is visible through the Aurender iPad app. It may be nice to see the currently playing artist and track without opening the app, but this is the type of information one would likely know without even looking at either screen or app. That said, I can envision a couple scenarios where a quick glance at the AMOLED screen to obtain this information would be nice.

One issue I have with the A10 is the tiny size of the MQA sample rate displayed on the AMOLED screen. It's only visible from within a few feet, even with a new prescription from my optometrist. What's more, is that this information isn't displayed in the Aurender iPad app, unless the MQA file is purchased and stored locally. The AMOLED is the only place to see the MQA sample rate when streaming MQA files from Tidal. Hopefully an app update will improve this situation.



Internally, the Aurender A10 is a thing of beauty. It contains a split chassis housing the music server digital components on one side and the DAC with analog output stage on the other. A thick piece of aluminium separates the electrically noisy digital side from the sensitive analog side. Speaking of noise, the A10 emits nothing audible from within inches of the unit.

The music server side of the A10 houses a custom designed Aurender motherboard, large aluminium CPU heatsink that eliminates the need for spinning fans, a 120GB solid state drive for the system and music file caching, a 4TB traditional hard drive for music storage, and a linear power supply for everything this side of the demarcation line.

The A10 disk drives work in conjunction with the custom Aurender software, to reduce electrical and acoustical noise from the spinning 4TB drive with its moving platters, heads, and motors. The theory is that a sleeping drive is electrically and acoustically quiet, benefiting overall system performance. Thus, music files are cached to the SSD before playback and the HDD is put to sleep. When an already-cached file is requested, the HDD remains asleep. In addition to less noise, this improves the speed of accessing one's music as well.

The A10 as a whole contains full linear power with four toroidal transformers powering the server, digital circuits, and dual DAC chips. DAC chips have been turned into the rock stars of digital to analog conversion lately by many participants of online communities. These chips are important, but I think

this level of adulation is misleading. Performance is all about implementation and the art of engineering.

Aurender elected to use a dual-mono architecture with two premium AK4490 VERITA DAC chips. Each chip handles a single right or left channel. The AK4490 is capable of 32 bit / 768 kHz PCM and 11.2 MHz DSD audio. However, Aurender has currently limited the A10's DSD playback capability to DSD64 (2.8224 MHz) and DSD128 (5.6448 MHz). The company is working on an update that will enable DSD256 (11.2896 MHz). This AKM chip also enables use of five digital filters, user selected within the Aurender app, Sharp Roll-off, Slow Roll-off, Short Delay and Sharp Roll-off, Short Delay and Slow Roll-off, or Super Slow Roll-off.

Inputs and outputs on the all-in-one A10 are wisely limited. A single digital input via Toslink (limited to a maximum of 24/192 PCM) and a single digital output via USB. If consumers want to use an external DAC now or down the road, the A10's USB output is dedicated, shielded, and designed with ultra low noise power circuitry, to ensure the best possible playback. Analog output on the A10 is via either balanced XLR (4Vrms) or unbalanced RCA (2Vrms) connection.



The last piece of important hardware is the included physical remote control. This is a really nice feature, and a must of DACs. Sure software volume control is convenient, except when it isn't. I often listen to entire albums from start to finish. With a four year old daughter running around the house and entering my listening room frequently, I need adjust the volume, mute, or pause playback quickly. No matter how well an app is designed, it's no match for the speed and convenience of a real, old-school remote control.

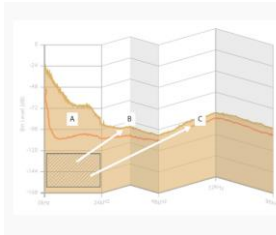
Using the A10 to listen to entire albums or playlists, I used the physical remote to skip forward/backward between tracks when necessary. In addition to next/previous buttons, the remote has standard volume, mute, display, input, and power buttons.



MQA

The A10 was originally released with all the hardware in place to do MQA decoding, but without this decoding enabled. Aurender went through a months long process of working with MQA Ltd to certify the A10 as a full hardware decoding device. Of the three methods of MQA playback, 1. Software /

Core Decoding, 2. Software / Core Decoding with Hardware Rendering, and 3. Hardware Full Decoding, the third option, the one that is implemented in the A10, is purported to be the best. Once the A10 was certified, it started shipping with MQA enabled and a firmware update was released to enable it in all existing units.



- **Full Decoder:** A full decoder includes: stream Authentication, Origami unfold to Core and then further unfolds with precise file and platform-specific DAC compensation and management according to the hierarchical target. *This is the highest possible sound quality.* Full MQA decoders also accept the MQA Core signal and complete the unfolding process.

Software

Aurender's remote control / library management app is called Aurender Conductor. It's only available for iOS running on an iPad. This limited hardware requirement is fairly common among HiFi companies who develop apps from scratch. It's a way to keep the experience consistent without dealing with all the Android devices.

Aurender Conductor has remained very consistent since I began using it in 2011. The look is the same and the core functionality is very similar. Over the years Aurender has added some really nice features to this Conductor core product. Rather than cover how to use Conductor and the standard features that have been covered many times, I'm going to focus on some updates and features that deserve attention.

My favorite feature is what I'll call Add To My Library. This feature works in conjunction with Tidal's streaming service. In the past Aurender users could browse their local libraries and browse Tidal separately. Play queues could contain content from both sources, but browsing had to be done on different tabs. Add To My Library changes this with a nice enhancement. Rather than browse through 30 million Tidal tracks, users can find the albums / tracks they like in Tidal, select them within the Conductor app, then select Add To My Library.

After Conductor runs through the Add To My Library process, links to the selected albums from Tidal are placed inline with the local Aurender music content. Browsing the Aurender library then shows the user both local and Tidal content in the same window / tab as if all the music was stored local. The Tidal music isn't copied to the library, just a link is placed to make it appear local. On each album cover art a small Tidal logo is present to notify the user that the content is coming from Tidal.

In addition to adding Tidal content to the Aurender library via a link, the Add To My Library process optionally marks the albums as Tidal favorites. What's great about marking albums as Tidal favorites is they now appear in the Tidal app as favorites as well. I always use Tidal on my Google Pixel Android phone, and it's great to see albums I found via the Aurender Conductor app and added to my library, appear as a favorite in my mobile Tidal app.

A little change that would make the Conductor app more powerful would be a two-way synchronization between Tidal favorites. Not only would the existing way work, by adding content to the library and marking it a favorite in Tidal, but marking an album as a favorite in Tidal would also add it to my Aurender library. This way, when I'm on the go and someone recommends a great new album to me, I just mark it as a favorite in Tidal and it appears on my Aurender when I return home. Hopefully something like this can be implemented. Either way, Add To My Library is a great music library unification feature that I can't live without.

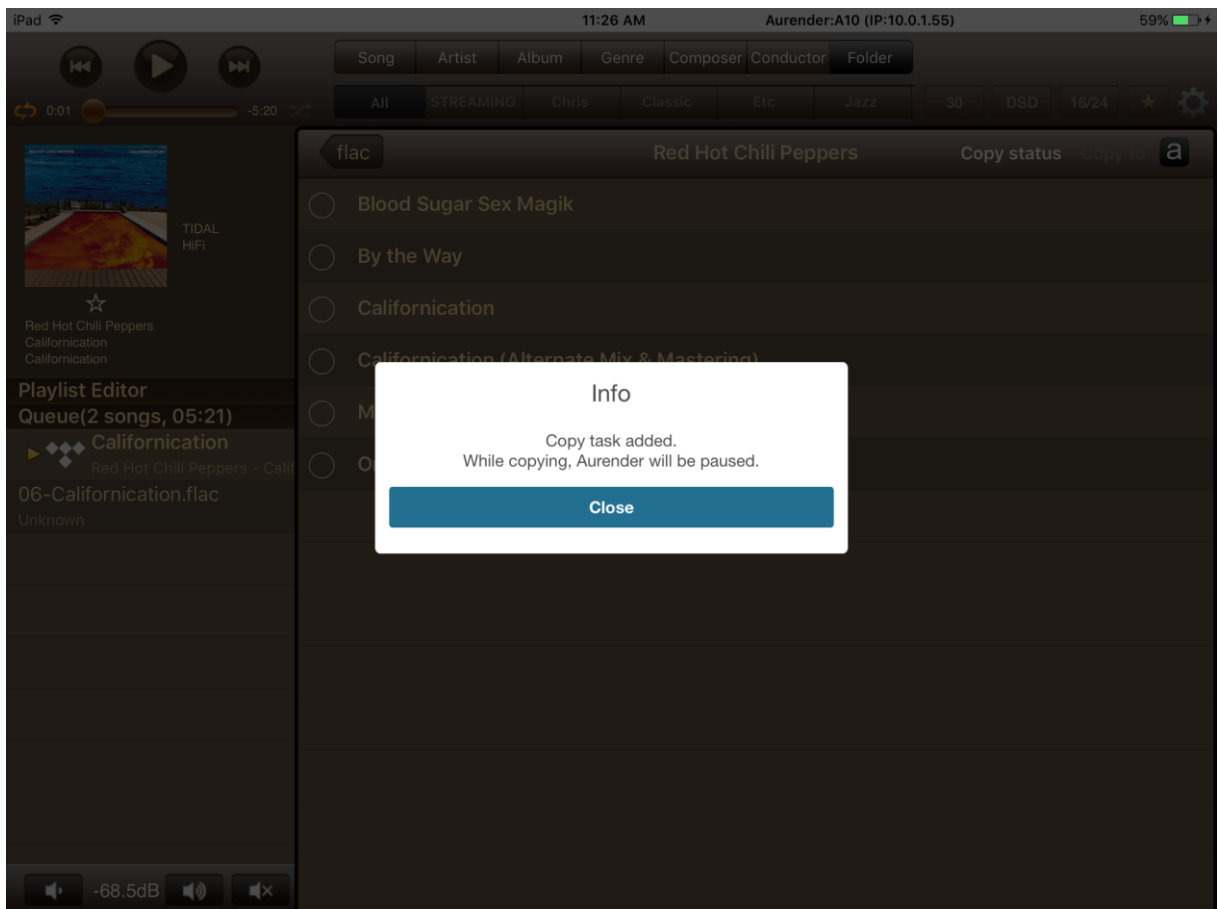
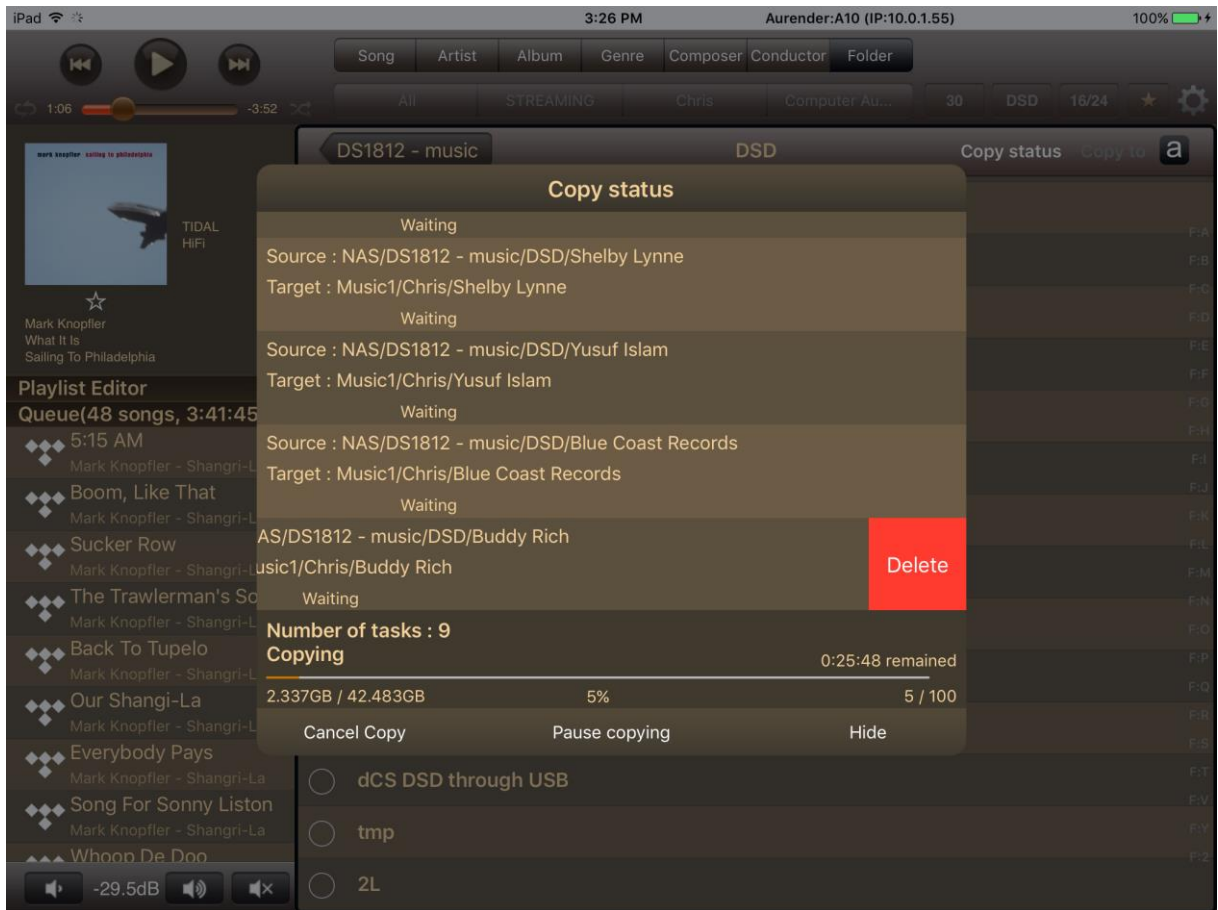
Another feature that I absolutely loved during the review process was called Smart Copy. This made life so easy. I didn't have to get up from my listening position to add music to the A10. The Smart Copy feature works like this:

My NAS contains 9TB / 300,000 tracks worth of music. The A10 holds 4TB of music. Using the Smart Copy feature in the Conductor app, I was able to browse the NAS, select folders that I wanted copied to the A10, then select Copy To A little popup window asked where I wanted to place the files on the

A10, then displayed a status screen as the copy proceeded. Music playback stops while copying files, but the real time feedback about the copy progress lets the user know when music can once again be played.

The Copy Status window is very detailed. It displays the current folder being copied, the speed of the copy, the percentage of the copy that is complete, and more. Note, the AMOLED screen also displays the percentage of the copy that is complete. Perhaps the most advanced part of the Smart Copy feature, is the ability to change what's being copied in the middle of the process. For example, I selected several folders to be copied from the NAS to the A10. I didn't realize they were a total of 60GB until the Copy Status window displayed this information. Not wanting to wait for the entire process, I selected a few folders in the list and swiped left to delete them from the copy task. The Copy Status window immediately displayed a new total GB number to be copied and adjusted the progress percentage just as fast. Adding more music to the copy task, while other folders are being copied, is also just as easy as the original Smart Copy actions. Find the music, select it, then select Copy To and it will be added on the bottom of the currently running Copy Status window. I'll include some screenshots below. This is really far easier than I made it sound.





A couple other Conductor items that are worth mentioning are the volume control buttons within the Conductor app and user selectable digital and analog filters.

Note: IN my review of the Aurender W20 I mentioned backing up the W20 from a Synology NAS. I just test this again, and can confirm it still works.

The Conductor app is pretty good, but I must address Four items:

1. I currently have over 800 albums marked as favorites in Tidal. The only way to add these to the Aurender library using the Add To My Library feature, is to select a few at a time. Selecting more than this doesn't work right. (The maximum a user can select is currently set at 30). There's no way I'm going through the process of selecting a couple album, 400 times. Aurender is aware of this issue. I'm just not sure how applicable it is to other users. Maybe I'm an edge case.
2. I would love Internet radio streaming in more countries. This currently works in a select number of countries through Aurender products. During the review I was forced to stream National Public Radio (NPR) to the A10 via AirPlay from my iMac. Not the end of the world, but far from the best option.
3. I would love a mobile phone version of the Conductor app. Maybe it's too much to ask for Android while I'm at it.
4. I would love the Conductor app to support tags. For example, I'd loved to tag all my MQA music, both from Tidal and local storage. This would enable me to filter by MQA and include Tidal albums rather than the current filter that only displays local MQA content. I also have some vinyl rips that I'd love to tag as vinyl rips from Michael Fremer or from CA contributor Igor from Ukraine.

MQA (Again)

Like it or not, MQA is here. Both Warner and Universal have committed to release MQA content, and Tidal has begun streaming this content at no extra cost to subscribers. The Aurender A10 works with MQA files seamlessly, and provides users some tools and information to increase enjoyment of MQA albums.

I'm probably like most music lovers. When new formats of my favorite albums are released I want to play all the albums to hear them again for the first time. Filtering content stored on the Aurender A10, to display only MQA files, is done by long-pressing the 16/24 button. In the popup window, selecting MQA applies the filter. Note this only displays locally stored MQA content. Perhaps Tidal will improve it's tagging and enable Aurender to filter by MQA (or even by bit depth 16 or 24).

Also note, when browsing one's music collection, Conductor offers a tab named STREAMING. Selecting this tab displays only content from Tidal. I thought I could possibly trick Conductor into showing me my Tidal MQA albums in this view, by using the aforementioned MQA filter, but it wasn't meant to be. It's just not possible to filter Tidal MQA content.



Another difference between local MQA and Tidal MQA can be seen in the now playing window and the album browsing windows within Conductor. All local MQA content appears with nice MQA logos. In addition, the fully decoded MQA sample rate is displayed in the now playing window.

In the first image below, it's possible to see both of these nice features in action. On the right side is a local MQA album, with the MQA logos next to each track. On the left side in the now playing window, it's possible to see the current album is 24 bit, decoded to 352.8 kHz, 1426 kbps, and a total size of only 38.8 MB. The distribution file, and the file that can be played without an MQA

decoder, is only 24 bit / 44.1 kHz. It's nice to see the full MQA decoder at work and unfolding the content to its maximum of 352.8 kHz.

In the second image below, it's possible to see the limitations of streaming MQA content. There are no audible limitations, only visible limitations. On the right side is an MQA album. Notice there are no little MQA logos to identify the tracks as MQA. Playing the same album as above, one can see only an MQA logo and blue light in the now playing window. I know the Aurender A10 was fully decoding this track to 352.8 kHz because it was displayed on the AMOLED screen, but it would be nice to have this information available in the now playing window just like when playing local content. The information is available, it's just a matter of displaying it within Conductor.



Sound

Using the Aurender A10 in my system for the last month has been very nice. I've experimented with a couple different configurations and settled on the the simplest setup as my favorite. This system consisted of the A10 as my music server and DAC, connected to Constellation Audio Inspiration mono amplifiers, and TAD CR1 loudspeakers. Combining the DAC and music server into a single chassis enabled me to remove a couple cables and one box from the system. Based on the DAC being used, this can also eliminate the need for a preamplifier.

I tried the A10 connected to a Constellation Audio Inspiration preamplifier, and considered it helpful in only one scenario. The Constellation amplifiers contain two XLR inputs. One called Direct and the other called standard balanced. The Direct input bypasses a gain stage in the amp, but also requires a bit more from the connected device sending audio to the amp. Given the Aurender A10 outputs 4Vrms on its balanced outputs, I needed to use the Constellation preamp only if I also wanted to bypass one of the amp's gain stages by using the Direct input. In other words, using the standard balanced XLR input on the amps required no preamp. The 4Vrms output of the A10 was great driving the amps directly.

This setup is very system dependent. If the A10 isn't a good match for a specific amplifier, one may hear a slight softening of transients and a bit less definition. In addition, the volume level may not reach the right heights for those who like to bathe in the full concert sound levels. Again, it's all system dependent. I highly recommend trying the A10 without a preamp, before trying anything else.

Settling in for some solid listening, I was very impressed by the sound quality of the A10 playing Elton John's acoustic version of Candle in the Wind. This version has been available in a few different formats over the years and on the Goodbye Yellow Brick Road (40th Anniversary Celebration/ Super Deluxe Edition). I have the 24 bit / 96 kHz, DSD, and Redbook (Tidal) versions. The acoustic version is producer Greg Penny's 2003 remix of the original, recorded in France on May 7, 1973.

Quiet, clean, and incredibly engaging is an accurate description of what I heard playing this track over and over through the A10. It's logical to think that an all-in-one device like the A10 may suffer from electrical noise that could find its way to one's ears, but I heard absolutely nothing that would lead me to this conclusion. The acoustic guitar, Elton's lead vocal, and the backing vocals of Davey Johnstone, Dee Murray, and Nigel Olsson all sounded clean and crisp. Elton's vocal had a touch of gloss that I

like in this recording. The gloss comes through on good systems that don't smooth out the sound or make everything sound the same.

Listening to the 24/96 version it was immediately apparent that I could hear wonderful detail through the A10. I didn't even have to listen carefully or critically to hear Elton's breathing and tongue movement just moments before each verse. These little details enable the listener to be sucked deeper into the music and forget about the outside world for 3-5 minutes at a time.

STUDIO D'ENREGISTREMENT MICHEL MAGNE										
CHATEAU D'HEROUVILLE, à HEROUVILLE 95 tél: 466-48-26 — 466-48-28						PRODUCTION ORCHESTRE SOLISTE ELTON JOHN				
à Pontoise prendre la route de Beauvais N 327 et à 7 km de Pontoise, Hérouville sur la droite										
N°	TITRES	Minutage	Piste 1	2	3	4	5	6	7	8
①	CANDLE IN THE WIND	4:00	BASS (MAGER)	B/D	← KIT →		SNARE	← PIANO →		
	(F.L.)		9 OF ACC	10 OF ACC	11 OF ACC	12 OF ACC	13 ELBEC GTR	14 OF ELBEC	15 OF VOX	16 OF VOX

One of my favorite Mark Knopfler albums is Shangri-La, and my favorite track on the album is The Trawlerman's Song. Recorded at Shangri-La studios in Malibu, CA using Studer A800 tape machines and transferred to 24/96 digital, 'Trawlerman' is all about incredible tone. To get this tone Mark used his Gibson Les Paul Standard 58 with standard tuning and reverb through a Fender Tweed Deluxe amplifier and captured by a Neumann U67 tube microphone.

Listening to the MQA version of this track streaming from Tidal and fully decoded to 24/96 through the Aurender A10, the incredible tone of Mark's guitar immediately gave me the warm fuzzies. I was hooked by the opening note. The rounded edges, reverb, and decay of his 1958 Gibson all sounded fantastic. This album is supposed to have tape saturation and an old-school analog sound. Through the A10 all of this sound, and feel, come through with ease.

The Trawlerman's Song is the opposite of Candle in the Wind, in that 'Candle' has a crisp and clean sound where 'Trawlerman' has a warm rounded sound. 'Candle' is all about vocals whereas 'Trawlerman' is all about guitar tone. Both fantastic in their own ways, and fantastic through the Aurender A10. The A10 reproduces both without melding the two sounds closer together by rounding sharp edges and squaring off rounded corners. I want to hear the recording, as released by the artist. The A10 appears to let the glory of all types of recordings shine through without imparting too much of a sonic signature.



On September 25, 1968 music producer Lewis Merenstein (1934-2016) assembled a group of accomplished musicians at Century Sound Studios on 52nd Street in New York City. Most of the musicians had distinguished Jazz experience, namely bassist Richard Davis who is best known for his work with Eric Dolphy. In addition to Davis, were guitarist Jay Berliner (Charles Mingus, Ron Carter), percussionist Warren Smith Jr. (Miles Davis, Gil Evans, Nat King Cole), and drummer Connie Kay (Bill Evans, Miles Davis, Modern Jazz Quartet). These musicians were tasked with recording an album with jazz-trained flautist John Payne, and Northern Irish singer-songwriter Van Morrison. Payne and Morrison had previously worked together, whereas Davis, Smith, and Kay had never worked with any of the people involved.

Once the group was ready to play, without every rehearsing or seeing a lead sheet, Engineers Shelly Yakus and Brooks Arthur (uncredited) were ready to roll tape on what would become an amazing album and piece of music history. One of the four tracks recorded that night was Madame George. The track's impressionistic lyrics were set on Cyprus Avenue in Belfast, Ireland. Leading the group during the recording of this track was Richard Davis on bass. He laid down the bottom end to support Morrison's vocals, and the rest of the talented group filled in with pure magic. Listening to the MQA version of Madame George, fully decoded to 24/192 through the Aurender A10 provided me a view into that live recording session. The rich tapestry of sounds that could be heard and enjoyed was truly amazing. The authentic sound of Davis's double bass, as he lays the foundation on which Van Morrison's vocal meanders throughout the track, is something to behold. Listening through the A10, I could metaphorically smell the wood of the instrument. The double bass is fairly soft sounding as opposed to the crisp, delineated string plucking so often heard in many audiophile recordings. This is real music, recorded in real time, with real musicians. And, the Aurender A10 delivers so much of what was put on tape that night in 1968 that it renders an incredibly enjoyable experience. I mentioned recording in real time, but the fact is that Larry Fallon's violin was the only instrument placed into the track after the fact through overdubbing. Some call Fallon's strings a bit gratuitous, but I consider them an unmistakable and critical piece of this wonderful song. While Richard Davis's bass intertwines gorgeously with Morrison's voice, Fallon's violin adds a completely different dimension to Madame George. Listening to this track through the Aurender A10, with my listening room lights off, I couldn't help but be mesmerized by the sound of the strings. The texture of the violin strings was very evident, yet completely different at different times during the track. It's as if I could hear different static and sliding friction coefficients of the rosin used on Fallon's bow.

Given that the violin was the only instrument overdubbed on the track, it's entirely possible that the bow rosin was different or at least in different states during the recording of different sections of the song. For example, around the one minute mark, Fallon's violin has the most texture, i.e. the most friction between the strings and the bow. Around the six-seven minute mark, there seems to be much less friction. The sound is terrific, but the bow seems to grip the strings much less, producing a sweeter sound as opposed to a coarse sound. All of this can be heard through the Aurender A10, or not. What I mean is that for those interested in getting lost in the music, the A10 is a great conduit. At the same time, the A10 is a great tool for those interested in hearing every last detail a recording can offer.

Note: Thanks to CA reader Tim for letting us know we forgot to mention the name of the album. Madame George is on Van Morrison's album Astral Weeks.

Conclusion



The all-in-one Aurender A10 caching music server / player with analog output is the right product for many music lovers. It's built to a high standard both inside and out. The classic Aurender, all aluminium, look and feel is unmistakable and is also present in the A10. Internally the A10's single chassis, dual purpose design has many advantages. The simplicity of a one-box solution can't be denied. In addition, the ability to bypass a preamp, connecting the A10 directly to power amps, can't be underestimated. For some listeners, it may be time to ditch the Mac Mini and external DAC, in favor of an all-in-one A10. The ability to add an amp and speakers, and call it a day with a complete audio system, is exactly what many music aficionados desire. There are no USB drivers to install, USB add-on devices or USB DAC issues or cables to be had when using an Aurender A10. The A10 is the world's first full MQA decoding music server with onboard DAC. Inside, Aurender has managed to keep electrical and acoustical noise to an absolute minimum. This design is why the product sounds so delightful. Reproducing all types of music, the A10 brought out the best in my collection and maximized my time spent listening. From deep double bass to exquisitely high pitched violins to the decaying tone of an electric guitar, the A10 delivered consistently impressive results. **Highly recommended and C.A.S.H. Listed.**