



Aurender Content Server ACS10 Full Review

The Aurender ACS10 or Aurender Content Server is a product that was on the design table for a couple years. I remember hearing about the concept several audio shows ago and telling the Aurender team that it was an ambitious but very worthwhile project. Immediately afterward Aurender founder Harry Lee and I began our usual geek fest conversation in which every sentence started with "You know what would be really cool..." or "Have you thought about doing ...". This happens at every audio show when I see the Aurender team. Harry and I think about cool, sometimes crazy ideas that we'd like to see in Aurender products, Sales Manager John-Paul Lizars tries to wisely bring us back down to Earth as he imagines his product availability dates slipping with each new "feature" and lead software developer Eric Shim remains composed as his workload increases dramatically with each minute of the conversation.

As readers of Audiophile Style know, I eat sleep and breathe HiFi and technology. When I get an opportunity to talk to a manufacturer who is willing to listen, I unload an internal list of wants and needs that our community has likely been talking about for quite a while. I bring this up because of the nature of the Aurender ACS10 and Aurender's ability to execute the features its customers sent and need. The Content Server's flexible platform is only limited by one's imagination and ability to implement ideas. The ACS10 is a great product now and will continue to get better with each new software release. Let's dig in.

What is the ACS10?

Aurender calls the ACS10 a caching music server, streamer, CD ripper, metadata editor, library manager, with dual hard drive storage and USB audio output. That's a mouthful, but it's accurate. Dissecting this a bit makes it easier to digest and understand. The ACS10 can be used just like all other Aurender servers with music stored on the internal hard drives or streamed from the cloud and the Aurender conductor iOS app to control music playback. Connect a USB DAC and off you go.

The real beauty of the ACS10 is in all the features above and beyond a traditional Aurender server. CD ripping either manually one disc at a time or up to 100 using the optional Nimble USB autoloader, simple editing of metadata, simple movement of music to manage one's library and many more features that I'll dig into later in the review. In addition to the aforementioned features the ACS10 brings Aurender into the world of multi-zone audio with centralized music storage in an all-Aurender ecosystem. The ACS10 can host all one's music and serve it out to other Aurender components throughout one's network. But, don't worry about typical network issues that arise with DLNA or UPnP because the Aurender ecosystem doesn't touch that non-standard standard called UPnP. The thing to remember about the ACS10 is simplicity. Usually when the number of features rise, so does complexity. Not so with the Content Server. In addition, Aurender has developed this platform to operate 100% of the time without requiring a traditional computer for setup, music management, or even loading music on the server. It can all be accomplished through the Aurender ACS Manager app for iOS.

Is ACS10 for You?

Of course everyone must make this decision for themselves, but I can help ease the process and shorten the time one will spend considering the ACS10.

ACS10 is for you if:

- You value simplicity over ultimate configurability
- You like the Aurender ecosystem
- You value high end customer support
- You prefer to keep traditional computers out of your HiFi life
- You have an Aurender server and want more storage
- You have an Aurender server and want better library management and metadata editing and CD Ripping and NAS-type storage
- The acronym NAS is something about which you have no desire to learn
- You've tried a few other digital HiFi solutions and given up due to complexity
- You have many compact discs to rip and prefer not to spend the rest of your life ripping them

ACS10 isn't for you if:

- You like projects and resolving issues that pop up during the course these projects
- You like setting up and managing storage solutions such as NAS
- You don't mind rolling up your sleeves when something isn't working right
- You believe you can do it better for less money
- You prefer to edit metadata with a very granular tool on a traditional computer
- You understand `rm -rf /`
- The terminal isn't only a place to hop on an airplane



ACS10 Hardware

The ACS10 hardware platform is the only part of this product that's set in stone. The ACS10 is more powerful, in terms of computing power, than all other Aurender servers to date. Other Aurender servers only contain as much power as needed to play music at the highest quality level possible. This means no extraneous processing or disk activity. In fact, it's one reason why Aurender elected to provide customers with the AMM library management tool that ran on traditional computers rather than enable heavy library capabilities on the audio servers. AMM was an attempt to enable the workhorse aspects of maintaining a music library while keeping the audio servers "pure."

ACS10 is the high-end and ultra simple way of offloading resource intensive processes and brings the Aurender ecosystem to the next level. I use the term offloading as a descriptor but in reality the ACS10 may be the main or only music server in one's environment. Thus, offloading nothing and handling everything from library management to HiFi playback. Due to the methodical design of the ACS10, I see no issues with using the ACS10 in this manner. One limitation may be the single USB audio output rather than interfaces such as S/PDIF, AES/EBU, and Toslink.

The ACS10 features a dedicated USB audio port as its only audio output for a direct attached DAC. Aurender maintains that this output is equivalent to the N10's USB audio output. I have both the ACS10 and N10 and can affirm the high quality of both outputs. In fact, I'd likely fail a blind listening test between the two devices.

In addition to a USB audio port the ACS10 features a USB 3.0 "data" port for movement of music to or from a USB hard drive should the need arise (backing up to a USB drive is coming in a later release). USB 3.0 is likely faster than any external USB drive or drive array, so there's no need for USB 3.1 Gen 2 or Thunderbolt 3.

A really cool feature of the ACS10 hardware is the built-in Ethernet switch. Many people struggle to get even a single Ethernet cable their audio systems, let alone multiple cables for every device that may require a hardwired connection. I have a network switch directly behind the wall of my listening room, but not only was running an additional cable not required it was possibly an inferior way of connecting my system with the ACS10. In my Aurender ecosystem I connect my DAC to the W20 via AES or dual AES and pull all the music from the ACS10 (more on this later). Both the ACS10 and W20 require wired Ethernet connections. The ACS10 is connected to my LAN via its LAN2 port and the W20 is connected to the ACS10 via its LAN1 2x Isolated Ethernet port.

This configuration enables Ethernet into the ACS10 on a "regular" LAN port and Ethernet out to the W20 for audio playback via a doubly isolated Ethernet LAN port. It isn't only a nice to have feature, it's possibly a superior way of connecting audio components to one's network.

Let's talk discs and disks. The ACS10 features a high quality TEAC optical drive for ripping CDs to the highest quality files. Because the internal drive is always the same in the ACS10, Aurender was able to fine tune its software for optimized ripping. This doesn't mean ripping via the Nimble autoloader is necessarily inferior because the Nimble is another variable with which Aurender is very familiar. The team has developed and tested its software with the Nimble for a long time and has made sure it rips CDs equally as accurate as the internal drive.

Note: The Nimble NB21-DVD is the model Aurender recommends. Its price has risen from \$560 last year to \$750 as of this writing.

The ACS10 is available in a number of different storage configurations from a 16TB model up to a 24TB model. ACS10 contains two 3.5" spinning hard drives that ship in a RAID1 configuration. This means one drive is an identical copy of the other. A mirror that the end user isn't required to setup or know anything about. Data is copied to both drives behind the scenes as the user sees only single drive. ACS10 owners have the option to use both the total storage capacity of hard drives without an internal mirror of the data. This means an ACS10 shipping with two 8TB drives will have 16TB of total storage space available as opposed to the default configuration enabling only 8TB of that space to be used.

Like all Aurender servers the ACS10 is an elegant solution for those seeking something more refined than a PC and a component that looks the part in a well-oiled HiFi system.

ACS10 Software

Yes the ACS10 hardware is very nice, but the piece that makes it sing is the software. This ever improving system is incredibly simple to use and hides complexity behind a simplified user interface. For example, using the ACS10 to rip CDs is as simple as putting a CD into the tray and closing it. ACS10's software takes over from there without user intervention required. Those who've dabbled in ripping CDs with traditional computer based apps know the options can be quite involved and confusing to someone who isn't skilled in this area or someone who just doesn't have time to run a few Google searches and go down the rabbit hole of ripping arguments online.

Once in a while a user may want to adjust the default ripping settings. The ACS app enables simple adjustments of the folder in which CDs will be ripped, ripping speed (normal or slow), eject or not after ripping completion, file format of WAV, FLAC, or AIFF, and what the software should do upon encountering a duplicate (append, skip or overwrite). All of these are simple finger tap adjustments on an iPad.

When I first installed the ACS10 I wanted to copy all my music from a Synology NAS to the local ACS10 hard drives. Using a "traditional" Aurender server I would have opened a couple windows on my iMac and copied the files from one to the other, routing the several terabytes of data through my computer. Using the ACS app is not only easier but more direct. The ACS

app has a Copy / Move / Delete utility that enabled me to select my NAS source folder containing the music I wanted to copy and select the ACS10 destination folder within which I wanted the music stored. After selecting the folders, I tapped Copy and away it went until completion. The music files copied directly from my NAS to the ACS10 without the intermediary hop through a computer. I didn't have to monitor the copy or make sure my computer was on during the copy. If I wanted to check-in on the copying I just opened the ACS app and looked at the status of the task. Ultra easy.



Tag editing is a feature that was long in coming to the Aurender platform. It's finally here with ACS10 and has been implemented with user simplicity in mind. Album covers are of the utmost importance to me. It's how I view my music as I browse through my library. If I see a Mobile Fidelity album cover or an Analogue Productions image, I know the version immediately. Given the length of some album titles, it isn't possible to see which version one is looking at with a glance. Album art makes this simple. Within the ACS app's Smart Tag Editor it's possible to view the front and back album cover. Whats more, it's possible to tap the image or non-image to reveal a menu of options including Search Internet for Album Cover, Take Picture of Album Cover, Select from my Library, and View Full Cover. Any option selected stays within the ACS app to accomplish the task. For example, when selecting search the internet for album cover a little window pops up with options from the internet. Selecting one of the images then enables the user to select Use as Front cover, Use as back cover, or close. Again, all without leaving the ACS app.

Those of us with many special versions of albums from MoFi, Analogue Productions, Audio Wave, FIM, etc... value the special cover art that comes with these versions. Often these aren't available online or if they are the images are of very low quality. Fortunately the ACS app's ability to take a picture directly with one's iPad and save it as the front or back cover of an album is the perfect solution to the problem. A short wizard walks the user through taking the picture and setting it as the front or back cover. That's it.

Editing the other fields is currently limited to Artist, Album, Track, Genre, Composer, and Conductor. More fields will be available in the future for editing but I like the limited capability for the most part and wouldn't be upset if it stayed this way or there was an option to see this streamlined view. Aurender assured me that it will maintain a simple interface for those who don't have an interest in complex or a variety of metadata tagging capabilities. ACS Manager isn't for those who really like to dig in and get down to the last metadata field with custom information, but for everyone else it's wonderful. No right or wrong here, just preference.

ACS10 Software With More Than One Server

I've had an Aurender server in my system since 2011. I started with the S10 and have used nearly every version including the W20 and N10 that remain active in my house today. Using the ACS10 in conjunction with the aforementioned servers was really easy and offers some options unavailable in other configurations or server ecosystems. I started with the simplest and most logical configuration to me, all content stored on the ACS10 with the N10 and W20 pulling this content at time of playback. This enabled me to have a single source of music serving two Aurender Zones. I could've used the ACS10 as a third playback zone if desired. All content across my Aurender ecosystem was synchronized, whether it be local storage on the ACS10 or music from Tidal and Qobuz. Playback and control is still done via the Aurender Conductor app. Selecting a specific Aurender sever is done with couple taps as the server names auto populate within the app for easy selection. This synchronization works by keeping a separate library database for each Aurender (W20, N10, ACS10) and copying this data to the iOS device automatically. When switching from the N10 to the W20 via the Conductor app, the new library loads upon server selection. Why not just have a single library? Because a single library would stop the other features from working, namely what I'll call unique sub-libraries through Aurender's SmartMerge.



SmartMerge comes into play when ACS10 has content and another Aurender server has content, for example my W20. SmartMerge merges the library visually while not moving a single file behind the scenes. The user looks at albums stored on the ACS10, W20 and cloud services in a single interface. Only the cloud audio is indicated as such. This is all seamless to the end user. This is why I call it a unique sub-library. Only when the W20 is selected in the Conductor app can the user see the SmartMerged library. Neither the N10 nor the ACS10 libraries contain the music stored locally on the W20.

I prefer to have all my content in a single location, but I can see many people using unique sub-libraries, especially when there are members of a family involved with music playback.

This multiple Aurender ecosystem isn't perfect but neither is any ecosystem. The synchronization system mentioned above works great going from the ACS10 to the "satellite" Aurender servers. The SmartMerge is also great for the unique sub-libraries. However, what happens for people like me who want a single source of music on the ACS10 and we use the new Add to Library feature in the Conductor app, that places an album from Tidal or Qobuz into the library as if it was stored locally (album cover art and metadata, not the actual music files)? Currently Aurender has elected to add the album to the local Aurender library and not synchronize it back to the ACS10. This keeps the unique sub-library intact, but this means I have to switch to the ACS10 in the Conductor app, then add music from the cloud to the library, then switch back to the W20 or N10 and wait for the library update to be pushed from the Content Server.

According to Aurender this behavior will change in an upcoming update to the software. In this update, users will be able to mark albums as a favorite in the Tidal or Qobuz app, and have those albums automatically be added to the Aurender library. This is a feature I absolutely love. I'm often out of the house or on the road when I hear about a new album. It's simple to just mark it a favorite in the Tidal / Qobuz app and have it appear in my home library. Plus, I often forget about these albums. This new way, it will be there no matter what. As part of this update, albums added to the library on a "satellite" Aurender will be added to the library of the ACS10 and any other Aurender servers. Those who want a unique sub-library of cloud content won't be able to achieve this anymore, but I think the new way is much more user friendly and convenient.

Note: Aurender doesn't use UPnP/DLNA to any other proprietary audio sending/receiving method to send audio from the ACS10 to other Aurender servers. The team wisely uses a tried and true method used in enterprises the world over. The ACS10 and the other Aurender servers on one's network map drives and use CIFS to send data to each other. I know it sounds boring, but it works excellent. There's no timing information or jitter or switch issues to even worry about. Simple file shares have been around forever and they just work.

Other Use Cases

In addition to my preferred setup of a single ACS10 hosting all the music files not in the cloud and sending that music out to "satellite" Aurender servers, there are plenty other ways to use the Content Server. Given my experience with the ACS10 sound quality, I have no problems recommending it as a main or only music server in one's system. I get it, the ACS10 costs anywhere from \$6,000 (16TB) - \$7,500 (24TB). Many people don't want to spend another several thousand dollars on an extra Aurender server just to receive audio form the ACS10. No worries here, it will work great. Don't get me wrong, it may not be the ultimate Aurender system for audio quality like the W20, but given how these servers work the difference between great and ultimate can be quite small to many listeners.

In addition to being a main music server or strictly a content server or some combination of the two, a huge use case for the ACS10 is its ripping capability. I've ripped a few thousand CDs in my life using manual modes and automated ripping machines costing up to several thousand dollars. The thing people must understand about ripping is that you only want to do it once. Peoples' time is their most valuable asset and you can't purchase more. Ripping is a gigantic time-suck. Using the ACS10 in standard mode where the users places a CD in the tray and it automatically rips / ejects the disc is pretty nice. There's no need to click OK to approve metadata or any user intervention required. For some this is a bad thing as they want to be in control of every metadata field and every bit coming off a disc before the CD starts spinning. Thats OK, but others just want their content on a server and they want to start listening.

Speaking of one's time being invaluable, I can't recommend enough using the default RAID1 mode of the ACS10. This way, if/ when a hard drive fails you haven't lost a single bit of music. Continue listening until the drive is replaced and continue listening after the drive is replaced. No need to alter one's habits due to a technology fail. If you must use both the ACS10's drives without the default RAID1 protection, I highly recommend backing up this content to a NAS. On my Synology NAS I setup a task that automatically backs up the ACS10 and continues to look at the ACS10 for changes to the data to backup in the future. This is all done on the NAS and is a bit geeky, possibly antithetical to the concept of the ACS10. So, I'll go back to saying just use the default RAID mode.

Note: You'll want a copy of your music stored somewhere else like a USB drive just incase. If lightning blasts your system or a fire/flood takes down your residence, you'll find solace in listening to your music that was stored at the office or the cabin or a friend's place.

Note 2: According to Aurender, the company will implement a backup to NAS feature on the ACS10 without geek level knowledge required. Users only need to input their NAS drive path and that's it. ACS10 will sync content to that path of the NAS drive, and only when music isn't playing on the ACS10. That's one advantage my geeky method of configuring my NAS to backup the ACS10 doesn't have. ACS10 knows what the user is doing, so it knows when the best time is for backing up.

Day to Day Usage

Using ACS10 for over a month I became pretty familiar with the interface and how it works hand in hand with Aurender Conductor. One benefit of prolonged review periods and an understanding of how most apps in the industry work is that I know how to find bugs and I know how to test features that are supposed to work but often struggle because they aren't simple to implement. Not only is this a benefit for the readers here at Audiophile Style, but it's a benefit to Aurender because the company can issue a software update and the issues disappear. Perhaps, most users never knew there was an issue. This is also one reason why I'm not big on reporting bugs in reviews. As soon as they are fixed my review is no longer accurate.

Anyway, one big benefit and one slightly annoying issue I should discuss are the following. Hugely beneficial for those of us with libraries over 300,000 tracks is the way ACS10 handles the library files. By copying the library to the iOS device, searching and library management are instantaneous. This isn't the case for many other apps even though they claim to cache data on the iPad. My Aurender library is well over 600MB on the iPad and I love the fact Aurender Conductor can search through it in an instant.

Probably the most annoying issue that I encountered with the ACS10 over the last couple months was a long delay between albums selection and the beginning of playback. This is only an issue for those of us who listening to an entire album, then browse for another album and add it to the queue for playback. The ACS10 places its spinning hard drives into a sleep mode by winding them down during periods of non-use. This is great for absolute silence as the drives may be audible once in a while in only the quietest rooms while no music is playing. However, it can take 5-10 seconds for an album to start playing if the drives have to wake up and start spinning again to serve the music. This wasn't an issue if I added the next album to the queue any time before the previous album was finished because the ACS10 would've got the next album ready for playback before I needed it. Same goes for queuing up playlists. The ACS10 caches what it knows the listener will need, then goes to sleep (the hard drives anyway).

Note: Speaking of going to sleep, the ACS10 has what Aurender calls critical listening mode. Enabling this mode causes background functions, buttons, and illumination to cease in order to conserve system resources and quiet things down for the best audio quality possible.

When it comes to sound quality, listening to music day-in day-out with the ACS10 in my system was no different than using my N10 or W20 by themselves. What I mean by this is that Aurender executed the ACS10 as well as possible because it imparts no sonic degradation when sending audio over Ethernet to the W20 or N10 and its local USB audio implementation is on par with the N10 when connected directly to a USB DAC. Aurender has managed to include the heavy lifting features inside the ACS10 and squeeze N10-type sonic quality from the same server. This is a plus for everyone looking to use the ACS10 as a main or only server.

Conclusions

The Aurender ACS10 brings the Aurender ecosystem up another yet level. It enables listeners to keep Aurender servers such as the N10, W20, and N100 purely audio devices while handling all the heavy lifting with its more powerful computing platform. At the same time the ACS10 can operate as a standalone server delivering N10-type quality to USB DACs without issues. The ACS10 is the missing piece to the Aurender ecosystem puzzle because it enables not only multiple Aurender audio zones but also full featured library management unavailable in previous Aurender servers. The ACS10 isn't the two door spec that gets people back and forth to work on time. It's a Cadillac component in all respects. The fit and finish is classic Aurender, as is the high-touch product support. The one-touch ripping, automatic data redundancy, and completely computer-less operation from start to finish are, among other things, what people are paying for with the ACS10. Add in the fact that the ACS10 functions on a platform of ever increasing possibilities only limited by one's imagination and continual iOS app updates, and I believe many audiophiles will find that the Aurender ACS10 is the product for which they've been looking a long time.