



The Very Unusual but Worthy Aurender FLOW

By John Grandberg • Posted: Jan 22, 2016



Anyone who's picked up an audio magazine, browsed an enthusiast website, or been to an audio show anytime recently knows what product categories are hot right now. You'll still see plenty of buzz around preamps and speakers and amplification, but I'd call those "flat" in terms of growth...at best. A lot of attention seems to go towards headphones and digital audio—hence the existence of InnerFidelity and Audiostream respectively.

DACs are incredibly popular. Seems every brand has at least one, from upstarts to audiophile stalwarts of all price classes. Also hot? Digital Audio Players, aka DAPs, which have really exploded in the past few years. Keeping up with all the latest models has been a challenging but enjoyable experience as I've recently learned.

Every once in a while, a product launches which straddles category lines enough to grab my attention. Sometimes I discover it's all a gimmick and I quickly move on. Occasionally, however, I stumble upon something worthwhile, and in those cases I feel compelled to examine the good, the bad, and the just plain weird aspects that come along with what I'll call a "blended" product. Is it unique? Yep. In a useful way? Maybe... I'll let you be the judge of that.

The product in question is the FLOW (\$1295; yes, all caps per company literature) from Korean firm Aurender. When you hear the name Aurender, you most likely think of music servers, which makes sense as those have been the primary focus of the brand up until just this past year. I've been using an Aurender X100L in my reference setup with fantastic results, and Tyll tapped their beastly W20 as front end during his epic Big Sound 2015 project. Yes, Aurender knows music playback devices quite well, but they also seem keen on venturing out into other categories as of late.

To that end Aurender has some newer models that aren't centered around playing music files. The X725 is an integrated DAC and speaker amplifier which matches the form factor of my X100L just perfectly. That combo would make for a deliciously effective, space saving system, if my needs were suitably simple. Alas, with no way to integrate a headphone amp into the mix, the X725 goes over my head.

Also launched in the not-too-distant past is the UC100 USB to SPDIF converter. It brings SPDIF out capability and thus increased DAC connectivity to the several Aurender servers in the lineup which only have a solo USB output. Not that you'll find many new DACs lacking a USB interface, but still...someone with a Berkeley Alpha DAC (to name just one example) would appreciate this thing, as would those folks using vintage DACs from Theta or Parasound or Sonic Frontiers etc. I tend to use a direct USB connection with my X100L, so again this product isn't really my bag, but I can see why Aurender offers it.

Then there's the Aurender FLOW (\$1,295) which is decidedly more up my alley. At first glance the FLOW looks like a somewhat large DAP. Its subtly-curvaceous enclosure is more along the lines of a rather chunky Chord Hugo than a svelte Astell&Kern or Calyx M. It has the requisite display surrounded by a large volume wheel, a 1/4" headphone jack, and a battery rated at 4450mAh. And yet, this is not actually a portable player....

Ok, maybe it's just a portable DAC with integrated headphone output, along the lines of the previously mentioned Hugo. It's got the necessary headphone jack, and a pair of digital inputs, though one of them looks bit strange (we'll get to that). So it's a DAC, right? Getting warmer, but that still doesn't quite capture the whole of it.

In truth, the Aurender FLOW sits in a class of its own. Yes, it's a DAC—complete with ESS9018K2M Sabre chip and a USB solution from XMOS. It handles hi-res PCM up to 384kHz and DSD up to DSD128. FLOW could rightly be called "buzzword compliant" when treated as a standard DAC. And yes, it's got a headphone jack, sporting an output impedance of 0.06 ohms—which is exceedingly low.



But hold on now, there's more going on here than meets the eye. While FLOW is happy to play music via USB or Toslink connections, it also has nifty transport buttons on the side for controlling playback. But it won't play by itself...those buttons are simply used for instructing the host computer on what action to take. It's a neat trick that works well on every computer I've tried, though it obviously doesn't function over Toslink. But here's the kicker: FLOW can also store its own music via internal mSATA solid state drive. Huh? Why would anyone want to store music on a device which can't actually play it back? That's the rub—some people will find great value in the solution here, and some just won't.

First off, mSATA: It's not the most common storage format out there but neither is it what I'd call rare. It's just not something the average consumer is likely to handle—mSATA drives are commonly found in laptops and most people aren't as comfortable poking around in those as compared to desktop systems. Aurender does require installation which means popping the rear cover of the FLOW. It's not difficult at all (they even throw in a proper tiny screwdriver in the accessory bundle), though all through the 10-minute installation I found myself thinking "Why not just use SD cards like everyone else?" SD cards are easier to swap out and are competitively priced per GB of storage. As I write this, a 256GB SD card goes for around \$100 but not long ago commanded nearly double that amount. (I know, I bought several in the past few months...where's my price adjustment?)

If you check out the latest Samsung EVO drives (which Aurender recommends) you'll find the 250GB version going for a comparable \$90. So in those capacities it seems SD cards and mSATA are all tied up in terms of price. However, the 500GB mSATA models go for under \$200 at time of writing. A similarly sized SD card currently sells for double that price, so you start to see the mSATA appeal as capacity ramps up. Beyond that, mSATA goes to 1TB (roughly \$350 at the moment) while SD cards in that capacity haven't yet seen the light of day.

As I mentioned, laptops tend to use mSATA or other forms of SSD storage. Going from a spinning platter drive to an SSD is probably the most satisfying improvement one can make on a laptop; the difference in boot times and general usage is not the least bit subtle. But most laptops are stuck with smallish drives—128GB is common, with 256GB popping up in higher end models, and 512GB being fairly rare unless big bucks are spent. And here we were getting accustomed to 1TB or larger traditional drives, even in affordable laptops. The FLOW, packing a 1TB mSATA, allows us to carry big

libraries on the go without crowding that precious internal storage. True, an external spinning platter drive can do the same job for less expense, but now we've got added complexity and cables to deal with. Plus that's not an option for devices like a Surface Pro or new MacBook which pack just a single USB port—already spoken for by the USB DAC.

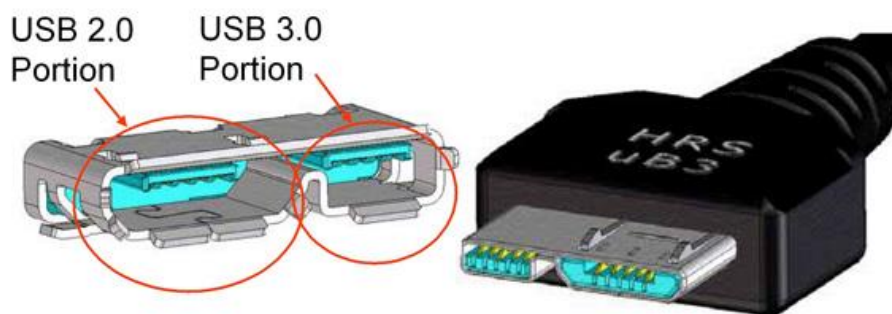
That's the general idea. Business travelers, for example, would pack their laptop and the FLOW and...that's it! No other bulky hardware needed (aside from headphones, obviously) for access to a huge library and high quality playback. Is that a compelling differentiation from the flood of more conventional devices out there? Though I suspect a lot of people won't ever have need of the internal storage option, I do know a few who would find this device absolutely compelling. It's quite literally the answer to a question they may not have known they had. Thankfully though, Aurender doesn't just count on that one aspect alone. There's also iDevice and Android connectivity, each with its own dedicated mode to maximize compatibility. Indeed, I had more luck with the FLOW using my iPad and various Android tablets/phones than I've had with most any other portable DAC/amp. So this is no one-hit wonder. But...is the sound on equal footing with the diverse feature set?



Before we talk about sound quality, I have to take a moment to discuss the build of this device. It's incredibly well done! I particularly enjoy the machined aluminum enclosure with various unique aesthetic touches like the slight wave to the front panel. Aurender was apparently intending to call this thing the WAVE until they discovered a potential trademark issue there. Anyway, along with design, the build is absolutely top notch. This thing has a satisfying heft and every part the user interacts with (buttons, knob) has a precision feel to it. I just can't sing Aurender's praises loudly enough for the look and feel of the device, which is completely at home along side their highly regarded music servers.

Unfortunately, that solid feel may work against it with regard to on the go use. If someone intended to take this thing on the road, maybe strapped to a phone or DAP using either USB or Toslink...that could make for a tough load to carry. Not only is it somewhat heavy for a portable, but the size is a

bit larger than most DAPs, and the corners are particularly unfriendly to the pocket—which is to say they're very sharp. (Ask me how I know.) The USB input is rather interesting and I initially thought it would also be an obstacle to portable use, though I later discovered I was mistaken. Aurender chose the USB3 micro B connection which is commonly seen in portable USB3 hard drives—makes sense as a key component of the FLOW involves storing large amounts of data. The USB3 connection allows it to achieve very quick transfer speeds when loading music to and from the internal mSATA drive. In exchange, we get the somewhat unusual connection—unusual from an audio standpoint, but normal as far as external drives go. I thought this would hinder choice of cables until I realized USB3 micro B is backwards compatible with USB2. So the cable most people already have for charging their Android phone, tablet, DAP, etc, works just fine, only sacrificing higher transfer speeds which doesn't impact playback at all.



I was able to connect my Android phones/tablets using the included OTG cable as well as to an iPad via the Camera Connection Kit, each using their respective mode selections in the FLOW menu. Again, I had excellent compatibility with various models. The downside to this is that the mSATA drive isn't accessible during playback from these devices, so that feature might be less useful than some users might have anticipated. Battery life when taken on the road will obviously depend on which headphones are used and how loudly the music is played. I managed anywhere from 6 to 9 hours depending on the load, which is decent if not spectacular. My initial reaction was to be somewhat underwhelmed considering the size and weight of the FLOW. If the Astell&Kern devices come in a lot smaller and lighter, yet do more stuff, and manage to last slightly longer, why can't the FLOW get twice this time? But then I remembered the specs—FLOW delivers 570mW into 32 ohm loads which is quite a bit more than most DAPs can manage. And, due to the space required for the SSD, FLOW has less battery room than one might initially assume. In the end, I consider this thing more of a "transportable" device. The battery is nice to help minimize cable mess when connected to a laptop, but ultimately, like Chord's Hugo, this is not a device I would carry around on a regular basis as a true portable system. Your mileage may vary on that one. Judging sound quality against feature set is always difficult, as the needs of each user will be different from those of the next. Thus the lengths one is willing to go and the amount one is willing to sacrifice for size, weight, battery life, good looks, etc, will differ from person to person. Seems to me the best way to judge SQ is to start from a no compromise baseline and move out from there. So that's just what I did. The FLOW went into my main system being fed by a "matching" Aurender X100L filled with about 5TB worth of music. It played everything from CD quality FLAC files to DSD128 material without a single hiccup, and the nifty transport controls worked perfectly with one odd exception—the skip forward and skip back functions are reversed in relation to the labels. And these aren't simple graphics or stickers, but are actually very nicely etched into the metal of the buttons themselves. Seems like this could be fixed with a simple firmware update if it really bothered someone—I adjusted quickly and never gave it a second thought. The FLOW was initially paired with relatively easy to drive headphones like the Grado PS500 and the sensitive Noble K10 custom IEMs. I was immediately impressed by the sound, or

rather, the lack of any sound. Hiss, that is. The Nobles played with a dead black background, unleashing striking dynamics on Stravinsky's Firebird Suite (Reference Recordings HRx release). The Grados don't normally hiss, but they do often have issues when an amp has too much gain. It can be difficult to dial in a comfortable level when I go from quiet to "ouch!" with a mere half-inch rotation of the volume knob. FLOW has no such issue. I can easily go back and forth from quiet vintage recordings to modern loudness war casualties, all the while knowing the FLOW will get me where I need to go with precision.



I do believe I've fallen in love with the volume control on this thing. It's got a certain "rightness" which can't fully be explained—the size and tactile feel are just about perfect. In addition, Aurender describes their design as being "Velocity Sensitive". A quick spin of the knob results in a large volume jump, while slow rotation nets 0.5dB increments. This seems like the type of thing that could easily go awry but Aurender really nailed the implementation.

Switching to power hungry planar magnetic designs or high impedance dynamic models shows the FLOW is no slouch when it comes to delivering the juice. I'm able to comfortably drive difficult cans like the Audeze LCD-3 (pre-Fazor) and even the Mr Speakers Alpha Dogs without issue. The higher impedance Sennheiser HD650 is no problem either, but I do feel the 600 ohm beyerdynamic T1 sounds slightly compromised here. It may be just a case of poor synergy as I'm not necessarily in love with every aspect of the T1 anyway. But I get a sense of blunted dynamics which is decidedly uncharacteristic for the Aurender. Regardless, that and the always-hard-to-drive HiFiMAN HE-6 seem to be the only issues for this otherwise highly versatile device.

With the transportable form factor being a limiting factor in terms of size, I was worried the FLOW would necessarily involve sonic compromise. After all, there exists a huge number of excellent desktop DACs in this price range, many of which also feature quality headphone amplification. After spending much time listening I'd say my fears were unfounded. The FLOW sounds damn impressive and is very competitive in its class.

Musical example: "Free for All" by Art Blakey & the Jazz Messengers is less than 37 minutes long from start to finish. In that short amount of time it (arguably) packs more excitement than pretty much any other Jazz Messengers release—of which there are quite a few worthy choices. This particular Messengers incarnation features Wayne Shorter, Freddie Hubbard, Reggie Workman, Curtis Fuller, Cedar Walton on piano, and of course Art himself on drums. Talk about a potent lineup. It's as if a jazz aficionado dreamed up a super group—I wouldn't substitute a single member of this crew. The FLOW had me absolutely lost in musical bliss for the entire 74 minutes (yes, I played it twice). I've heard DAC/amp combinations render the brass as overly prominent in the mix, and I've heard many systems which give it a nasty glare. FLOW handles this performance like it was a 7th member of the band, with all the balance and dexterity of an old pro.

I'd say FLOW is neutral if very slightly on the warmer side. Perhaps "warm" is going a bit too far, but there's certainly a focus on note density and dynamics versus something like the effervescent Chord Hugo. The FLOW reminds me of an improved version of the Pono player—not the most flashy "HiFi" sound, yet something I suspect will have broad appeal with a wide variety of listeners. And don't let me scare you into thinking FLOW isn't detailed or insightful...on the previously mentioned Art Blakey release, it can easily differentiate between the somewhat bright, thin 2004 Rudy Van Gelder remaster and the dulled top end of the Japan-only "TOCJ" version. The original CD release handled by Ron McMaster remains superior to both of those, while the fairly recent HD Tracks download (remastered by Alan Yoshida) seems even better still (by just a hair), though probably not worth the extra dough if one already has the McMaster disc. Yes, FLOW is plenty resolving; it just doesn't beat you over the head with it.

Using the bundled adapter to go from 1/4" output to stereo RCA interconnects, I used the FLOW to feed my Adam Audio F5 monitors. Aurender gives us multiple options: variable output, or fixed at either 2 or 5 volts. I stick with 2V most of the time as it seems to be more broadly compatible with other gear, but more options are always nice. The FLOW plus F5 combo made short work of playlists containing much variety: Sophie Ellis-Bexter, Automat, Jorane, Honeyroot, Tesseract, Joe Pass, and Alicia Saldanha? No problem. Then maybe a little Information Society, All Out War, Anna Von Hausswolff, Bartok, Mark Houle, and The Mammals. All in a days work for this little wonder box. I've owned vastly more complex setups costing many times as much that weren't nearly as versatile. They could do great things with Mozart and McCoy Tyner but fell flat when tasked with electro or gritty rock. The Aurender is to my ears an ideal balance for real world listening.

Now, back to that internal SSD. There will be readers thinking "I can just stream lossless music from Tidal without taking up any extra room, so why bother?" That's a fair point, but consider this: as much as I love Tidal, the provenance aspect can be an issue. In the case of Art Blakey's "Free for All" Tidal only has the inferior RVG remaster. With other material we simply don't know which version we might get as it isn't specified. And that's not to mention the ever-prickly classical music situation. I still love Tidal and they are improving in this area (the "Track Info" section now often shows composer, though certainly not always) but if you're particular about your versions as I sometimes am, and maybe own some hi-res PCM or DSD material you really enjoy, the FLOW allows you to take it all with you without any fuss.

By way of alternative options, I'd call the FLOW very competitive against the vaguely similar devices I have at hand. The \$899 Asus Xonar Essence One Muses Edition (waaaaay too long of a name by the way) matches the FLOW in sheer resolution but falls short in midrange palpability and convincing bass heft. The cleverly named Rega DAC (\$1,095) dulls transients and, in direct comparison with the FLOW, sounds like someone dropped a wet blanket over the output stage. The Mytek Stereo192 DSD (\$1,595) doesn't sound as natural—FLOW has a more organic feel, and better balance too. The Mytek

seems tipped up and strident with a lot of music, so I've never been completely sold on its treble presentation. Aurender's little FLOW is just flat out superior to the popular Mytek on every test track I can think to try.

Lastly, and I realize this is an absurd comparison: my big Esoteric D-07x (\$4,500) is overall a better DAC, digging into the recording and throwing a wider, more spacious presentation (especially when used with speakers). The Aurender isn't as far behind as the price would suggest but I won't claim it beats the far more expensive Esoteric on DAC duty. However, the Esoteric does have a headphone output, hiding in the black area used by the LCD display. In this aspect the FLOW can in fact claim superiority. Esoteric's headphone implementation isn't terrible but neither is it up to the high standards set by rest of the device. Aurender's headphone out is better at delicately driving sensitive IEMs, better at powering through tough planar magnetic models, and better even with a run of the mill pairing from Audio Technica or Ultrasone —headphones which aren't particularly difficult to drive. Again, the D-07x is respectable but just can't keep up with Aurender's headphone-driving prowess.

CONCLUSION

I admit, when I initially got this device in for review, I was stuck on the whole "portable" thing. I didn't quite see the point of lugging around a big enclosure with a huge library on it. Turns out I was mostly wrong—as a transportable device, it does in fact come in handy, at least for me and the 128GB hard drive of my MacBook Air. And I'd say the FLOW has merit even if we ignore the storage aspect. It's just a killer DAC and very capable, versatile headphone amp with a crowd-pleasing sound signature. Ergonomics are excellent though I might want something like this if I planned on making FLOW a semi-permanent resident at my desk. In any case, hats off to Aurender for successfully branching out beyond their (industry dominating?) music playback offerings. The FLOW is certainly worth a look, and doubly so if you might have use for its unique capabilities.

