

## *Review Aurender AP20*

*Reference All-In-One Music Server Class D Integrated Amplifier*



The South Korea-based Aurender manufacturers high-end digital playback systems, several of which have been reviewed by Dagogo, including the \$3,300 N100SC caching music server and streamer, the \$16,500 A20 reference analog output network player, and the \$13,750 N20 ultra high performance digital output network transport. The company established its reputation early on with its cache digital transports that married niche craftsmanship and metalwork with innovative user interface and class-leading designs and performances such as the N100. The design speaks to that group of savvy audiophiles who has a keen eye on avant-gardism and value, and are attracted by the exquisite melding of finesse and craftsmanship in products. I pay particular attention personally to what this company is doing because it is one of a few companies exhibiting comprehensive technological knowhow, user interfacing finesse and pricing constraints. Its management prices the company's products below those of competitors consistently and often rather precipitously while offering comparable performances.

The \$24,200 AP20 Reference All-In-One Music Server arrived amidst a series of auditioning of four other digital integrated amplifiers. Two of them were of budget range and another two in addition to the Aurender were of the \$10,000+ flagship status. While neither of the budget designs excelled, the \$10,000 Technics SU-R1000 GaN-FET digital integrated amplifier impressed me and landed a review last year. The auditioning of the other flagship ultimately didn't result in a review due to a persistent, midrange coloration that while eminently pleasant with all music, failed to reproduce sounds of instruments faithfully. The Aurender AP20 is the third and last one that passed the audition, and is the only one with an integrated cache player.

Featuring only analog outputs, including a pair of XLR Preamp Out in addition to speaker cable connectors, the AP20 evolves from the company's \$16,500, 31lbs A20 Reference Analog-Output Server, charging an extra \$7,700 and twenty-six pounds heavier for the new class D output stage. Under the chassis, a pair of the Danish Purifi 1ET400A analog class D amplification modules runs in a dual-mono, fully linear configuration, capable of pumping out 200 watts per channel, up to 350 watts into 4 ohms. This amplification module sports an efficiency of over 90%.

The power supply for the two Purifi 1ET400A modules is a fully linear, dual-mono design centered around premium audio-grade Toroidal transformers from Toroidy of Poland — the same supplier behind the all-new power supply in the upcoming flagship streamer/server, the N50. These are the highest-performing toroidal transformers Aurender has used in any product and were chosen specifically for their exceptionally low noise and superior regulation, making them ideal for Class D amplification supposedly.

According to Aurender Lead Product Designer Justin Jang, as relayed by the company's America Sales Director Kelly Scheidt, "each channel is equipped with six 6,800 $\mu$ F Nichicon capacitors, totaling 40,800 $\mu$ F per channel. This substantial capacitance not only ensures smooth and stable DC voltage but also provides deep current reserves to deliver effortless dynamics and authority, even under complex speaker loads. The

combination of a linear power supply and robust capacitor bank brings out the full potential of the Purifi modules, achieving exceptional clarity and musicality.”

The Technics that I reviewed last year was a marvel at what it offered and at a price as only multinational conglomerates with the advantage of economy of scale could manage, but it did convert analog inputs digitally, and while the performance speaks for itself and I consider it of reference caliber, having the analog signal processed digitally is not a savory notion to a good many audiophiles. The Aurender costs more than twice the Technics and passes analog inputs straight through to the power amplification stage with no conversion.

In addition, the Aurender also outputs 50 watts more than the Technics in both 8- and 4-ohm loads. Its DAC section uses the Asahi Kasei Microsystems AKM 4497 “Velvet Sound” series 32-bit chipset, and it features an analog preamplification section with two pairs of RCA and one pair of XLR analog inputs. Again, no A/D conversion. The most seeming disadvantage of the design lies in the fact that Aurender possesses no prior analog preamplification engineering knowhow at the level Technics does, although many will prioritize the AP20’s performance on its DAC first and foremost understandably.

The AKM 4497 is a circa 2016 32-bit two-channel DAC chip. I have fond memories of enjoying music from CD players and DACs of the early 2000 using AKM chips, and I have found those made by Burr Brown, Analog Devices, Wolfson, etc., all adopted by manufacturers at one time, promising. The ESS chips of late are a different breed as their design is so integrated that manufacturers often take advantage of it and create their consumer products with minimal additional original engineering. The result is various models from manufacturers all sounding similarly. There are exceptions, of course, such as in the case of the Audio Research DAC 9.

On the company’s choice of selecting the AKM 4497 chipset, it is noteworthy that an October 2020 fire at the AKM facility disrupted supplies of the AKM 4499EQ, the latest flagship. Aurender Director Harry Lee offered that, “When we developed the A-series (Analog outputs) about 10 years ago, we had narrowed down our choices to AKM and ESS DAC chips. The decision was primarily made due to sound signature of the AKM chips winning out with our development team. Because this essentially became part of our A-series house sound [on top of the disruption of the 4499EQ chip supply], we decided to stick with the AKM 4497 and push the envelope on getting the very most out of this brand of chip with each new iteration/model.”

Aurender upgraded my digital audio source in early 2024 from the discontinued N100SC to the N200, a slightly higher performing cache network transport, which is now reusing the same 4TB SSD previously feeding the N100SC. I know people whose music library consists of 8TB of audio files and more, but even the 4TB is going to last me a very long time, partially because I routinely chuck those music that I never accessed. If I haven’t listened to a recording for over a year, chances are it is not important to me and it’s just taking up space and I won’t miss it. Despite my ongoing hoarding of a considerable CD collection, I access the Aurender more and more. For the review, I installed a separate SSD with 2TB of files into one of the two rear docking compartments of the AP20. There is no discernible difference in sound quality between sourcing the music files from the N200 via an Audience frontRow USB cable or from the SSD in the AP20 itself. Note that there is no digital output on the AP20, meaning its cache player feeds only the internal preamplifier and cannot be used as a reference cache player to pair with an external DAC.



The AP20 has comprehensive streaming settings that accommodates Qobuz, Tidal and Internet Radio, in addition to optional services such as AirPlay, Qobuz Connect, Roon and Spotify. Tidal and whatnot are not on my radar; I suppose I am like some in my generation that prefer disc ownership than streaming subscription. The idea of paying for the privilege of playing some music for ten years and by the time one cancels one owns nothing and all the music is gone is not appealing. Favorite recordings are something I want to own. I guess it must be appealing to some listeners and of certain music type to play as much music as one possibly can via streaming services during the course of a day.

Speaking for myself, classical music as recorded with certain conductors and ensembles distinguish itself from similar recordings and is therefore preferred, so I rip my CDs and SACDs, on top of downloading files from online retailers, and subscribing to the Berlin Philharmonic Digital Concert Hall and the Deutsche Grammophon Stage+ for the live concert video performances. But even with the live concert broadcast, I am less and less enamored by the cinematographic focus on conductors and not the orchestra, although occasionally we do get choreographers and directors who know the music and direct the cameramen to capture relevant moments of instrumental groups. But I also know the organizers want to sell more tickets, and those seating behind the orchestra are nonsensical. Aside from facing the conductor, you are now hearing from behind the orchestra with the tympani and bass drum literally in your face. And the conductors themselves are not that watchable, save for a few highly methodical and communicative ones, like the late Claudio Abbado, or Sir Georg Solti; but even superstars like Karajan had his eyes closed during conducting. Conducting is not acting; conductors are not actors, and those that affect his audience through his art are far and few in between.

Speaking of conductors, in the hands of conductors of the last century, like Wilhelm Furtwangler, Arturo Toscanini, Bruno Walters, Herbert von Karajan, Georg Solti, Kiril Kondrashin, Ernest Ansermet, to name a few, the music they play became a living thing, resplendent in suspense and drama. Abbado (1933-2014) belonged in the latter part of that generation, and his music carries vitality, and an unmistakable disciplinarian core. It is this core from which the foundation of music must develop, onto which structures of magnificence can then be molded into form. Regardless of arguments to the contrary, an ensemble without iron-forged discipline is not capable of greatness. The Berlin Philharmonic is famous for the discipline trained into it by Karajan. Orchestral music playing at the highest level resembles the military discipline. But even the mighty Berlin must give nods to the French ensemble of old, Orchestre de la Suisse Romande. Witness the staccato effects of the violins in the Mussorgsky "Night On Bald Mountain" in the 1959 recording by the ensemble with Ansermet conducting. Again, discipline demonstrated to perfection.

Nearly sixty pounds heavy, the AP20 has the largest footprint of any Aurender before it. Per Kelly, "the case work has been modified to hold the extra electronics (amp modules, power supply capacitors and dual toroidal transformers) and the machined aluminum feet are taller than any other feet supplied with Aurender products. This helps ensure adequate airflow beneath the chassis and keep operating temperatures low. Like other products, it is recommended to have 3-4 inches of space around the sides and top of the unit for optimal heat dissipation."

The AP20 runs rather warm to the touch. On this, Justin: "The AP20 should actually run very cool and this is one of the key benefits of using Class D modules. In fact, I find that it runs noticeably cooler than our streaming DACs (A15/A20/A30). You can find [the operating temperature of your unit] by pressing/holding PLAY on the front panel for 7 seconds and the next screen will show the operating temp. Then tap the top/left button to change the display back to your preference."

Following Kelly's instruction, I found my unit to operate at 39C, equivalent to 102.2F, which is within the normal operating range.

Fundamentally, the point of an integrated amplifier is to be a cost effective alternative to separates, so it begs the question how an integrated amplifier gets to cost \$24,200, especially one of class D, which is marketed by companies that manufactures the amplifiers as more affordable, more energy efficient and equally musical to conventional designs. Indeed, integrated amplifiers such as two of the \$3,500 PS Audio Stellar Strata Mk2 that Doug Schroeder reviewed recently and the aforementioned \$10,000 Technics SU-R1000 are demonstrably mature designs of superior constitutions and performance that rival comparably priced class A and class AB designs. Case in point, the \$5,000 pair of Orchard Audio Starkrimson Mono Ultra Premium monoblocks that I reviewed in March this year are now sounding markedly even more dynamic than observed during the review period when driving my Sound Lab M945, meaning certain internal components are taking longer time to achieve break-in equilibrium.

The tonal character of the Aurender is exuberant to the extent that in a few aspects it mirrors class A. The glossiness of its tonality in the late Abbado 2013 Lucerne live recording of the Bruckner Symphony No. 9 CD,

an era-defining release in its time, satiated my craving in the textural smoothness and midrange glow, and the Aurender's handling of the exceptionally wide dynamic range and contrasting resembles high-bias class A intensity and strength. The Aurender's timbral definition capability edged out even the Technics'. So I fed it a 24/192 remastering of the same work from Herbert von Karajan's 1975 cycle, and it turned out to be a bit compressed dynamically with a softer dynamic transient albeit a supremely sympathetic rendition. The 1959 Bruno Walter conducting the Columbia Symphony Orchestra milestone in its 24/192 remastered edition reflected even less refined textures and tonal definition. I just can't listen to lesser recordings with the Aurender for the time being, I'm sure I'll cycle back some other time.

Similarly, playing a ripped Esoteric SACD live recording of Mahler Symphony No. 1 from 1989 with Berlin Philharmonic and Abbado produced a top demonstration class experience, as the meticulously recorded event prompted the electrostatic panels to reveal one of the rarest masterclass examples of the capture of an immense dynamic divide from the softest passages to ground shaking crescendos, utterly free of compression. The Deutsche Grammophon recording engineers and Esoteric mastering engineers coerced a recording of such force as only the likes of a symphony of the scale of a Mahler can accord. The depth of emotion embedded in his work is never reenacted more spectacularly technically and emotionally.

The Aurender's 200 watts output into 8 ohms is much scarier than the 250 watts from the Starkrimson, in that a playback of the Ondekoza Dotou Banri 24/196 file not only made full use of the vast panel of the Sound Lab, producing the most expeditious of transients I've heard in my system, class A or not, and windows were about to shatter and the roof flying off beams and the Aurender just kept punching and punching in the cleanest and most definitive lower midrange to bottom-end rendition through the panels to date. Houses made of concrete will get the most out of the Sound Lab experience for sure.

Then, I undertook what must be done and broke off the auditioning of the AP20 as an integrated amplifier and connected the AP20's XLR and RCA analog inputs to the Bricasti Design M21 DSD DAC via Audience frontRow cables. I took out my iPhone, opened the Conductor app and tab the "RCA 1" and "XLR" indicators onscreen respectively to activate the outputs. The AP20 features only one pair of XLR analog outputs.

Per Kelly, "The DAC output and external inputs are switched using high-performance relays to minimize signal distortion. The selected input immediately passes through a relay attenuator, allowing volume control precision of 0.25dB via high-quality MELF resistors and relays.



Balanced signals undergo individual attenuation, and each stage features two contacts connected in parallel to minimize contact resistance and prevent sound quality degradation.

After volume adjustment, signals pass through an output buffer block using an ultra-low-noise instrumentation op-amp structure. This block comprises two fully discrete Class-A op-amps.

The AP20 Preamp block is fundamentally designed to eliminate digital noise and DC components completely. After volume control, it employs a low-noise, high-quality buffer stage and an audio transformer tuned to meet the requirements of a high-quality preamplifier.”

The hollowness in the entire frequency spectrum from the preamp circuits of the AP20 is uncanny. It features one of the purest and most dynamic line stages I've experienced in recent memory. Playing a 45 Angel Sonic Series LP of Karajan Conducts Wagner via the Pass Labs Xs Phono, amplifying the signal from the Audio Note IO Ltd cartridge system and driving the Orchard Audio SMUP monoblocks, the stunning, contrasting dynamics as accorded exclusively by 45 rpm records came through unscathed. This was one of the most satisfying analog playback moments in recent memory.

The AP20 preamp is devoid of inherent impurities and taint, able to pass on the sound of the Bricasti Design M21 DAC at the highest level of integrity. The amalgamation of tonality and transient taking place inside the AP20 is of such pristineness that the Aurender projects an otherwise big, empty ballroom with space enough to shed proper light on any and all instruments and ensembles placed into it. The AP20 is more than just a world-class integrated amplifier; it is a hollow preamp of the highest order albeit featuring only one pair of analog output and in the XLR no less.

In the ensuing days I rotated everything from cartridges and phono stages to DACs, CD and SACD players of varying vintages through the Aurender just to experience what the hollowness of the Aurender would reveal. Fun! I haven't enjoyed a preamp this much for a long time. The fact that the Aurender preamp comes with a cache player, a DAC and a power amplifier is just mindboggling icing on the cake.

Perception matters. Many high-end amplifier manufacturers choose not to venture into the digital realm and risk inviting skepticism from the audiophile community. Witness the demise of companies trying to be a one-stop shop. The audiophile mindset is one that prefers a specific brand that specializes in one product category. Venturing into a second product type can induce the opposite of consumer confidence. There are exceptions, of course, such as Bricasti Design, because firstly it is a professional recording studio system specialist to begin with, and secondly audiophiles trust only one class of people above their own opinion, and that is the recording and mastering engineers. For a company to have its systems adopted by recording studios means the world to audiophiles.

It is difficult to create an integrated amplifier that rivals separates, and the end result is often a hundred-pound behemoth that costs more than some very high-performing separates and must be situated in the prime real estate of a central position between speakers. The AP20 is a stunning piece of engineering and weighs a meager 60 lbs, and is considerably more than just a digital masterpiece. It marks Aurender's formal declaration of incursion into the larger high-end segment by the incorporation of an analog preamplification stage, and what an engineering feat it is.

Companies' objectives for their products vary, in the case of digital platforms, some often choose to err on the safe side by engineering their products to sound softer and less dynamic in the hope of casting a wider chasm between the mass of digital players and theirs. The Aurender is a details king, albeit a soft sounding one and never once gets in my face. Its ability to focus on tonal complexity of instruments on stage makes it deserving of the highest accolade normally achieved by prized separates.

I have to trust my mind to give the AP20 the acknowledgment it deserves, even if it were using class D amplification. Because my brain says "class A sound" every time the Aurender plays music, I decided I couldn't care less if it were running on class D. Implementation bests all.

Contrasting systems of DACs, preamps and power amps, the Aurender is a novel product that is powerful in differentiating recording qualities. With the advent of current generation of class D amplification, decades of circuit miniaturization efforts have now finally succeeded in creating the superb refinement as evident in the AP20. The need to separate stages to harness their own, dedicated power regulation for maximum performance is now moot. It is among the most class A sounding amplifiers I've heard.

With the AP20, Aurender has crossed over the great analog/digital divide and cemented its status as more than a leader in digital playback technology. In a single breakout stroke, the Aurender AP-20 demonstrates

class leading performance in analog preamplification technology, as well as digital power amplification. And to witness the digital amplification exerting its dominance over my Sound Lab is mind boggling. I don't want the Aurender to be more perfect or more powerful or more anything. Even with redbook CD files, the machine sounds like it was playing master tapes. Now, the audiophile in me is never content and will always want new things to play with, but the Aurender is the truthsayer and it deserves to be considered a reference.

To the companies charging exorbitant amounts for their products, don't tell me how good your design is, just tell me you've listened to the AP20 and your machine can beat it for less, or you're just wasting both yours and my time. Of course, Aurender would like everyone to think of the AP20 as the end-all machine, it may well be to many, but as an audiophile and knowing myself, I will never stop exploring the new products and technologies. And I will always want to come back to the AP20.

I have heard what DACs of discrete components and not namebrand chipsets such as the Esoteric, Bricasti Design and Technics have achieved, and to hear the third generation Asahi Kasei 32-bit DAC implemented in a circuitry that is capable of such sophistication in tonal differentiation and yet with such purity and glow is a treat, every time.

The AP20 follows in a long line of digital platforms from the company and represents its most evolved thinking, each section of the machine building on the success of a previous flagship, with incremental and not leaps and bounds increases in pricing. Can anyone top that and for less?

The story of Aurender begins with their thoughtfully crafted computer memory cache playback systems that contain docking ports for solid-state drives, which in turn store the music data files. The AP20 is not more advanced than the Technics SU-R1000, but it is purer sonically, and it comes with a worldclass cache player. I wish the AP20 costs less, but I don't recall hearing a purer sounding preamp in recent memory. Whether the machine justifies the \$22,000 price tag (\$24,200 as of 8/6/25) to readers shopping in and above this price range is dependent on the individual, being mindful that the U.S. recently imposed a 15% South Korea import tariff that will push the price near the \$26,000 mark in the coming months.

While the Technics produces state-of-the-art performances in a complex and complete package that includes a high-end phono stage for \$10,000, now \$12,399.99 also due to the new Japan import tariff of 15%, the Aurender achieves the feat of creating its first all-in-one integrated amplifier complete with an analog preamplification section rivaling other reference class preamplifiers.

For sheer value, the Technics is hard to beat and it remains my personal reference, but the Aurender delivers the ultimate performance at the lowest price among competitors I am aware of. It is a triumph in both sheer beauty in industrial design and cost-to-performance value. What a bold move.

