

ATI AT527NC and AT524NC Amplifiers Review

By [David Vaughn](#) • Posted: Mar 21, 2017



AT527NC & AT524NC Amplifiers

Performance - Features – Ergonomics – Value

PRICE \$3,695, \$2,595

AT A GLANCE

Plus

Very powerful
Natural and balanced
Made in the U.S.A.

Minus

LEDs are too bright

THE VERDICT

The days of looking down on Class D amps are over.

Two and a half years ago, I reviewed my first ATI amplifier, and to say I was impressed would be an understatement. The ATI Signature AT6005 five-channel amp set a new benchmark for its designer, Morris Kessler—to the point where he put his John Hancock on the faceplate.

Last year, S&V editor-at-large Bob Ankosko sat down with Kessler to talk about his design philosophy over the years, and the subject of Class D amps was broached. Kessler mentioned that his current designs were all Class A/B, but he was following the developments of Class D very closely—though the initial efforts in this area didn't meet his high standards because frequency response varied greatly as the impedance of the speaker changed. He hinted at the time that he may have finally found a Class D solution that he could deem acceptable, which turned out to be the latest Hypex Ncore modules. These modules are from Bruno Putzeys, one of the next generation of audio engineers.

His company, Hypex Electronics (located in the Netherlands), burst onto the scene in 2001 with their first Class D amps, named UcD. Ten years later, his designs developed into the Ncore modules, which combine the stability of the progenitor UcD with improved load independence, lower distortion, and lower output impedance. This was achieved not only via improved circuitry but also through advancements in understanding the underlying theory and mathematical models involved to implement it.

Kessler believes that the Hypex Ncore modules are arguably the best Class D amplifiers available because their measurable performance is very good, and they compare well with linear amps. With their efficiency approaching 90 percent, leading to less heat generation than is typical of an equally powered linear Class A/B design, the chassis can be 25 percent smaller and lighter. For those reasons and others, Kessler chose the modules for his new line of Class D power amps, the AT5XXNC series. But can they live up to the hype?



The Details

I currently run a 7.1.4 setup that supports both Dolby Atmos and DTS:X, so in order to power all 11 channels, ATI sent me two versions of their Class D amp: an AT527NC to drive my three front speakers and four surround speakers and an AT524NC to drive my four overhead speakers. The AT5XXNC series comes in two power configurations. The AT52XNC amps (including the models reviewed here) are rated at 200 watts RMS per channel into 8 ohms (300 watts into 4 ohms) and are available with two to eight channels. The AT54XNC amps, which use two Ncore modules per channel in a differential bridged output configuration, deliver 500 watts RMS per channel into 8 ohms (900 watts into 4 ohms) and are available with two, three, or four channels. The first “X” in the model number of an AT5XXNC series amp refers to the number of modules (two or four), and the second refers to the number of channels (two to eight).

My current speaker configuration consists of three M&K Sound S-150s (4 ohms nominal) across the front and four SS-150s (4 ohms nominal) for the surround speakers, together with four Atlantic Technology IC-6 OBA (6 ohms nominal) in-ceiling speakers for the overheads. Low bass support is provided by SVS PC-Ultra and Hsu Research VTF-15H MK2 subwoofers.

My reference five-channel amp is the John Curl–designed Parasound Halo A 51, which weighs 80 pounds and is a back-breaker to get in and out of my A/V rack. My rear surrounds and overhead channels are powered by a Parasound ZoneMaster 1250, bridged into six channels. I already owned the A 51 when I installed my Atmos system back in 2015, and it was difficult finding a six-channel amp that didn't break the bank or weigh more than 100 pounds. The A 51 offers 400 watts per channel into 4 ohms, while the bridged ZoneMaster is rated at 200 watts per channel (also into 4 ohms).

Setup and Specs

Unboxing the two ATI amplifiers was a pleasure, given their relatively light weight of 65 pounds for the seven-channel model and 40 pounds for the four-channel. The faceplates are identical, with a modest-sized ATI logo in the center and two LEDs sitting in vertical alignment underneath it; the lower LED indicates Standby mode, and the upper one signifies that Peak power has been reached. At the bottom is an illuminated power switch that pulsates slowly when inactive and glows solid when the amp is triggered on.

My only gripe about the LEDs is that they're quite bright in a darkened room, but they're easily covered by electrical tape or other means.



The rear panel of each amp has both unbalanced RCA inputs and balanced XLR connectors (with toggle switches to choose which input method you prefer) and corresponding speaker outputs that support banana plugs—all of which makes setup a breeze. If you want to hand-wire each speaker, the binding posts give enough space to maneuver in, so even thicker fingers won't struggle too much. Finishing things off is a ground terminal, a 12-volt trigger, and a 20A IEC power connector.

Under the hood, each amp features a plethora of technologies that should please both casual listeners and audiophiles alike. As stated earlier, each model has Ncore Class D amplifier modules (the ones here are the NC-500), coupled with an ATI-designed custom analog gain stage and large linear power supply. The AT527NC boasts two toroidal transformers, wound by ATI in their Southern California factory, while the AT524NC has one. [Editor's Note: We ran measurements for only the seven-channel model; see Test Bench.—RS] This product line is the first of ATI's amplifiers to tout a microprocessor for

control of turn-on delay. Also onboard is a new “sleep” circuit that activates when the amp receives no input signal for a period of 10 minutes. If that occurs, power is removed from the output modules, and the front-panel LED begins to flash slowly, but as soon as an audio signal is detected on any channel, normal playback occurs instantaneously. Additionally, there’s automatic AC voltage recognition and configuration. And the amps are manufactured and assembled here in the States.

The hardest part of the setup was removing the reference amp from my actively cooled A/V cabinet that sits about 5 feet off the ground and is built into a side wall. I hooked up each of the ATI amps via custom-made Canare L-4E6S Star-Quad balanced cables with Neutrik NC3 connectors to a Marantz AV8802 preamp/processor. Other source components included an Oppo UDP-203 Ultra HD Blu-ray player, a Logitech Squeezebox Touch, and a TiVo Roamio DVR. One physical plus to the ATI amps is that they aren’t as deep as either Parasound amp I own, so it was much easier maneuvering them into my enclosed rack and making all of the connections.

Power Play

ATI recommends running the amps continuously with music for the first seven days to expedite the break-in period. Some argue there’s no science behind this, but I have to admit that the more I listened to the ATI amps, the better they sounded over the month I had them in my system. Did my ears adjust to the tonal quality, or did the amps actually improve? Hard to say, but these are outstanding amplifiers, regardless of the amount of hours put on them.

I customarily spend the vast majority of my audition time on multichannel movies. However, I was fortunate enough to be on vacation from my day job for the majority of this ATI review

period, so I dedicated a lot more time to two-channel music listening than I usually do, tapping into the folder of FLAC files I keep on my home server. My familiarity with each track's nuances allows me to quickly hear if anything is lost—or gained—when a new piece of gear is introduced to the chain.

“My Love Is” from Diana Krall’s Love Scenes is a great demo track, starting with finger snaps setting up a beat that’s soon accompanied by the bass. The simple jazz tune has a faint echo, giving the recording a very airy sound that can be lost with lesser amps, but the AT527NC conveyed it without any polluting of the sound—very clean and natural. When Krall’s sexy voice kicks in, the imaging is mesmerizing, and it gave the illusion that the center channel was active, even though I was listening in stereo; it was perfectly balanced, making my front wall come alive as if it were one giant speaker.

The same could be said of the amp’s performance on the title track from Janis Ian’s Grammy-nominated Breaking Silence. The FLAC file has a very analog vibe to it, even though it was sourced from a CD. I love using it to test dynamics and imaging. The song opens with a quiet solo-voice section that draws you in before the close-miked percussion and acoustic guitar enter. With high quality equipment, you can actually hear the fingers moving over the guitar strings, and that’s exactly what you get with the ATI: unabashed transparency. The amp doesn’t color the sound in any perceptible way, which is how I like it and how it should be.



Moving to multichannel music, I popped in the Blu-ray of the Eagles' Farewell I Tour: Live from Melbourne, which boasts a powerful DTS-HD Master Audio 5.1 soundtrack that I upmixed using the Dolby Surround mode in my pre/pro to utilize all 11 speakers plus my two subwoofers. The 5.1 track is very engaging and features a robust midrange and some added punch in the LFE channel. The program includes 30 songs from over the years, and whether I listened to a soft ballad like "Peaceful Easy Feeling" or a harder-hitting number like "Life's Been Good," the ATI amps delivered a jaw-dropping experience. As with my two-channel test, vocals were clear and lifelike, imaging deep and wide—and frankly, the music sounded completely natural and uncolored. I felt like I was sitting in the crowd, which is the highest compliment I can pay.

Movie soundtracks were just as impressive, especially the Atmos versions on some of the latest Ultra HD Blu-rays, such as Sully and Suicide Squad. The latter movie is mediocre at best, but its Atmos mix is quite active and features plenty of pans and discrete overhead action. The ATI stack never broke a sweat, even with the challenging load presented by my M&Ks, and directional cues were placed perfectly in the room. Dialogue was clean and intelligible, and the soundstage definitely conveyed the best of what advanced audio brings to the table.

Sully, of course, is Clint Eastwood's telling of the "Miracle on the Hudson." Although some of the interactions between Captain Chesley "Sully" Sullenberger and the NTSB are fictionalized (as are other dramatic elements), the in-flight sequences mimic the actual flight recordings and are chilling—yet they're inspiring at the same time, in light of how calm Sully was during the life-changing (and life-saving) event. This is an astounding video presentation on Ultra HD Blu-ray, and the Atmos track is just as phenomenal. As someone who flies 40 weeks a year for work, I can testify that the in-flight sounds are eerily lifelike when the perspective is inside the pressurized cabin. Exterior scenes are just as enveloping: Pans move throughout the room, taking great advantage of the overhead effects in a plethora of flybys. As with all my other demos, the ATI stack never missed a beat in conveying powerful dynamics and astounding imaging.

Conclusion

As you can probably tell, I really liked these ATI amps. They offer everything one would want: powerful dynamics and uncolored sound. Given their Class D architecture, they run extremely cool compared with my main reference Class A/B amp—which isn't such a benefit in the cold of winter but will be a godsend come summer. And now I'm really looking

forward to summer because I liked these amps so much, I actually bought them as an upgrade to replace my Parasound A 51, a well-established audiophile/videophile favorite that has been my reference for many years and through many other amplifier reviews. That's quite an accomplishment for these ATI amps, but I feel confident in saying they deserve to be placed in the same high-end category—and they represent extraordinary value to boot. I can't recommend them enough.

ATI AT527NC and AT524NC Amplifiers Review Specs

Specs

AT527NC:

Number of Channels: 7

Power Output: 7 x 200 watts (8 ohms, all channels driven)

Specified Frequency Response: +0, -0.5 dB, 20 Hz-20 kHz

Dimensions (WxHxD, Inches): 17 x 5.8 x 15.5

Weight (Pounds): 65

Inputs: XLR (7), RCA (7)

Outputs: Five-way binding posts (7)

Additional: 12-volt trigger input (1), ground terminal (1)

AT524NC:

Number of Channels: 4

Power Output: 4 x 200 watts (8 ohms, all channels driven)

Specified Frequency Response: +0, -0.5 dB, 20 Hz-20 kHz

Dimensions (WxHxD, Inches): 17 x 5.8 x 10.6

Weight (Pounds): 40

Inputs: XLR (4), RCA (4)

Outputs: Five-way binding posts (4)

Additional: 12-volt trigger input (1), ground terminal (1)

Company Info

ATI

(323) 278-0001

ati-amp.com

Test Bench

ATI AT527NC Amplifier

Two channels driven continuously into 8-ohm loads:

0.1% distortion at 256.1 watts

1% distortion at 290.5 watts

Five channels driven continuously into 8-ohm loads:

0.1% distortion at 213.7 watts

1% distortion at 250.6 watts

Seven channels driven continuously into 8-ohm loads:

0.1% distortion at 197.7 watts

1% distortion at 239.3 watts

Frequency response RCA input:

−0.13 dB at 10 Hz

−0.03 dB at 20 Hz

−0.40 dB at 20 kHz

−4.53 dB at 50 kHz

Frequency response XLR input:

–0.12 dB at 10 Hz

–0.02 dB at 20 Hz

–0.49 dB at 20 kHz

–4.72 dB at 50 kHz.

This graph below shows that the AT527NC's left amplifier channel, with two channels driving 8-ohm loads, reaches 0.1% distortion at 256.1 watts and 1% distortion at 290.5 watts. Into 4 ohms, the amplifier reaches 0.1% distortion at 377.2 watts and 1% distortion at 475.5 watts. An input level of 107.3 millivolts was required to produce an output of 2.83 volts into an 8-ohm load, indicating an overall gain of +28.45 decibels using the RCA input. When using the XLR input, a level of 107.2 millivolts was required to produce an output of 2.83 volts into an 8-ohm load, indicating an overall gain of +28.44 decibels. THD+N from the amplifier was less than 0.002% at 1 kHz when driving 2.83 volts into an 8-ohm load using the RCA input. When using the XLR input under the same conditions, THD+N was less than 0.001%. Crosstalk at 1 kHz driving 2.83 volts into an 8-ohm load was –116.09 dB channel 1 to channel 7 and –114.57 dB channel 7 to channel 1 using the RCA inputs and –115.67 dB channel 1-to-channel 7 and –115.92 dB channel 7-to-channel 1 using the XLR inputs. The signal-to-noise ratio with an 8-ohm load from 10 Hz to 24 kHz with “A” weighting was –115.17 dBrA using the RCA input and –118.06 using the XLR input.—MJP

ATI AT527NC Amplifier

