PRODUCT review

ANTHEM® STATEMENT D2 WITH ANTHEM® ROOM CORRECTION (ARC™)

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"… I WAS TOTALLY AMAZED BY HOW MUCH OF AN IMPROVEMENT THE ARC MADE … THE DIFFERENCE WAS HUGE."

Reviewed by Ken Taraszka, MD

The most frequently overlooked aspect of a great-sounding audiophile or dedicated home theater system is the room itself. No matter how good your components are, you can't beat the physics of a badly designed and/or optimized room without a little help. While there are many devices to control reflections such as diffusers and bass traps, in the real world, most of us have our systems installed in multi-use rooms of our homes, like the living room, that are subject to significant wife acceptance factor. We can't treat all the corners with traps and pad the walls. In fact, our wives would think we needed to live in padded rooms just for making the suggestion. Even in multi-use rooms, getting professional acoustical advice is always the best bet, but the cost, aesthetics and effort often leaves us looking for other, more realistic solutions to audio nirvana.

The concept of room correction has been around for a while, but wasn't affordable or even really that feasible until recently. High-end companies like TacT (Lyngdorf) have had two-channel room correction for years, and while they work very well, they were affordable for only a few. Newer players, like Neptune Audio, that just came out on the market have very cool 7.1-channel room correction systems for less money. Our in-house acoustician, Bob Hodas, tends to use pretty pricey Meyer Sound analog EQs when tuning his clients' studios or audio rooms. Z Systems has made digital audio EQs for years that were very cool but often hard (or impossible) to integrate into a dedicated theater system. Audyssey has made inroads in the home theater receiver world as an additional feature, while Wisdom Audio is using their room correction technology in a higher-end system coming to market later this year. Sherwood Newcastle has their Trinnov Optimizer. Relative to this preamp, Anthem just released their own very cool room correction software, based on work done for the Athena Research Project by Canada's National Research Council (NRC). The NRC did extensive research to find the best in-room target response. The point of this research was to optimize frequency response, taking a more complete human hearing into account. Anthem's new ARC uses this research's findings to set their goal response.

The ARC is different than many room correction software systems, as it works on both high and low points. While many room correctors cut down the peaks, Anthem's system also enhances low points, making for a more complete solution to the problems created by the room. The ARC system makes independent calculations for each and every speaker in the system, setting crossover points,

output levels and room correction parameters. You can even set separate movie and music configurations and can take measurements in five to 10 different locations for each configuration.

To handle all these corrections, Anthem employs Super-Efficient Infinite Impulse Response filters to minimize potential delays and reduce processing gain noise to inaudible levels. The dual DSP processors in the Statement D1 or D2 processors easily handle the demands of the ARC software, while during measurement taking, an attached PC's 64-bit floating point processor does all the intense calculations, minimizing rounding errors. This all comes together and allows Anthem to offer state-of-the-art room correction that is easy to use and very flexible. The ARC only does room correction; it does not calculate distances, so you will still need to do this yourself.

One other thing that really sets Anthem's system apart is the attention to detail. Each microphone is tested and calibrated for each processor and the included software. Most other companies' microphones are assessed in bunches and the responses are averaged. Anthem chose to take the high road here, individually calibrating every microphone to give everyone who purchases this system the absolute best performance possible.

The ARC comes in the all-new Anthem Statement D2 AV preamp and, as an add-on, the ARC-1 for any existing D1 or D2. The best part of the update is that you don't need to send your processor back for it; all you need to do is give Anthem the serial number of the unit and they send the software, cables and the individually calibrated microphone and mic stand to you. The only other thing you need is a PC running either Windows XP or Vista and a male-to-female RS-232 cable.

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SETUP

Included with the new Anthem statement D2 processor and the ARC-1 add-on for existing Anthem processors are a software disc, individually calibrated microphone, a long USB cable and a stand. The stand is a straight bar with a weighted base and adjustable headpiece that allows you to angle the microphone, which is recommended to be vertical during measurements. I might have liked an extension to allow me to more easily position the microphone where my ears would be for the different seating positions, but I was able to get it there without difficulty. You won't be doing these measurements very often, so the included stand is more than adequate.

I have had the privilege of using an Anthem Statement D2 in my home for a year now. It is a favorite of this magazine's reviewers, and for good reason. The Anthem Statement D2 AV preamp is an amazing unit, offering incredible flexibility, sound and video scaling. It is widely known as the most reliable HDMI-based AV preamp currently on the market. I won't dwell too much on the basics of this unit, as they have already been documented in a prior review. I will instead focus on the ARC room correction.

I placed the new D2 with ARC into my reference rig, which currently has the Definitive Technology Mythos ST speaker system powered by a Mark Levinson 433 amp for the fronts, a Proceed HPA-2 for the rears and a Paradigm Servo 15v2 subwoofer. For sources, I used my Scientific Atlanta SA8300 HD DVR, Toshiba HD-XA2 and Teac Esoteric DV-50s. I used Transparent Reference balanced inter-connects to my amps and also used their reference speaker wires.

Connecting the D2 was a snap, thanks to the simplicity HDMI offers with a single connection for both digital audio and video. I also ran coaxial digital cables from my sources, as I had some Transparent Reference digital cables on hand, so I could use either the HDMI or coaxial cable for the digital audio feed. I wired the DV-50s using six analog cables for multi-channel audio playback and ran the D2's HDMI out to my Sony KDS-R70XBR2 TV through a Meridian HDMaxx 121 extender, all wired with Monster M1000 and AudioQuest HDMI cables.

I managed to get all the connections done in about 20 minutes, partly because it was pretty simple and partly because I have torn this system apart so many times I could do it in my sleep. Once all the connections were made and my remote updated, I turned the system on and set the speaker distances and levels as I normally would, using an analog SPL meter. I was now ready for the room correction. I made sure obvious extraneous noises would not interfere, such as the grandfather clock or the dogs, and loaded the software that Anthem includes onto my PC. I connected Anthem's micro-phone and long included USB cable to the laptop. In a minute, the microphone was recognized and the software prompted me to connect the PC via an RS-232 cable to the D2 processor. Once the pre/pro was recognized, I was ready to go.

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The Anthem software allows for five to 10 test points, and for separate measurements for both movies and music. A fully automated system is recommended, but advanced options are available to custom-tailor the correction filters and crossover points. Once everything was connected, I again made sure all was quiet and started the software, which sent a full-frequency sweep tone through each of my speakers for each of the five points I used.

Many of you familiar with other room correction will see similarities, though the test tones used by Anthem are very different than any I'd heard before. One thing that concerned me was that the test tones started immediately after I clicked the start icon. I would have preferred a little time to escape the room so that I couldn't affect the measurements. One time, I ran out of the room, and the sound I created registered the reading as erred. The program warned me the reading needed to be redone. Standing away from the mic and out of speaker array is adequate. I repeated the measurements without incident, but was glad to see the system

could pick up on extraneous noises so accurately. Once all the measurements were done, a few moments of calculations occurred, the profile was uploaded to the processor and it was ready for use.

" … better definition … livelier and more open nature to the midrange and highs … I was impressed at how much better the surround speakers sounded — front-to-back transitions were more balanced and timbre-matched … ARC really improved the surround speakers' output …"

The Statement D2 allows massive flexibility in its control of room correction, and each source can be set up independently. You can use different room correction profiles based on your seating position, for example, if you lie down for movies but sit up in a different area when jamming tunes. It also takes into account varying room issues, such as closed drapes that deaden a glass during movies. You can even turn the room correction on or off for each source. I found this feature to be paramount in my reviewing of the ARC, as it allowed me to immediately A-B the processor with and without the room correction in effect.

MUSIC AND MOVIES

I started out with Ray Charles' *Genius Loves Company* (Monster Music). This is one of the best-recorded albums I've heard in years and, since it first came out, has been something I have used to demo systems. From the first track of "Here We Go Again" featuring Norah Jones, I was totally amazed by how much of an improvement the ARC made. I switched it on and off several times and the difference was huge. The soundstage opened up, getting much wider and giving a more open feel to the music, almost as if my system was just having an easier time reproducing it. This song is full of stand-up bass and, while I personally feel this instrument is overused in demoing audio gear, the bass tones came through smoother and clearer than without the ARC. Norah Jones' voice was better placed and truer to life. "Sorry Seems to be the Hardest Word" adds Elton John into the mix. The vocals of the two men were more realistic with the ARC, and there was better separation. On my favorite track of the album, "Fever," the bass really shone. I know my room has a node at 50 Hz, and this can readily be heard on this song, but not once I engaged the ARC. The bottom end tightened up and any rumble that was present without the room correction was gone. I listened to this song several times in awe of how much improved it was with the ARC. Several times, I tried to leave the room and switch it on and off from afar so that when I came back in I would not know its state, but each time I immediately could tell accurately if the ARC was on or off—the differences were that easy to appreciate.

To test out the multi-channel experience, I cued up the Grateful Dead's *Workingman's Dead* (Rhino) on DVD-Audio. "Uncle John's Band" had better definition in the bottom end, while also showing a livelier and more open nature to the midrange and highs. I was impressed at how much better the surround speakers sounded with the ARC on, especially in a system that has identical front and rear speakers. The front-to-back transitions were more balanced and timbre-matched than before. I hadn't noticed the imbalance before, but once you A-B the ARC on and off, it was clear that the ARC really improved the surround speakers' output as well. "Casey Jones" was so much more lifelike with the ARC on that I stopped comparing and just sat back and listened to the rest of the disc. The benefits of the room correction were so apparent that I had no need to test it further on this disc.

For movies, I put in the HD DVD of *Dragonheart* (Universal Studios Home Video) with Sean Connery as the voice of the last dragon on the planet. The movie is dated and a little weak, but it has some excellent audio. Sounds such as the breath of the dragon, the splashing of water and waterfalls were better placed and more detailed. Again, the soundstage was markedly wider than without the ARC and the bass was better controlled without being subdued. Voices were easier to discern and there seemed to even be better dynamics to the soundtrack. The balance between the five speakers was better as well, making transitions smoother than without the room correction on. Sonically intense scenes, such as those of the dragon rising, were handled as well as the subtle details of breaking twigs in the forest and hooves of horses striking the ground. Changes the ARC made to the sound were so significant that it was tough not to see the difference.

THE DOWNSIDE

I usually find this one of the easiest sections to write in a review. My extreme demands allow me to pick apart minute problems in even my reference gear, but for the ARC, this section is the toughest I've ever written, as there is virtually no downside. Perhaps from a less-is-more perspective, the ARC processes more of your signal, but when you listen to the system, it sounds better, so how can less be more in this instance?

CONCLUSION

I knew I had to try this system out when I heard what it could do for a hotel room at CES earlier this year, but I wasn't prepared for what it did for my room. The wider soundstage improved detail, bass control and accuracy, as well as improving front-to-back balance in my system with identical front and rear speakers. We all work to maximize the placement of our front speakers, but even in my system, surround speaker placement is often a matter of where they fit, not where they will sound best, and the ARC really showed me how much better these speakers could perform.

" Anthem Room Correction software makes a huge improvement to what is already one of the best processors made … enhanced clarity and detail … wider and deeper soundstage … raises the bar previously set by the Anthem Statement processors to a whole new level."

If you own one of these processors, call your local Anthem dealer immediately with the serial number of your unit for the ARC-1. It will be the best audio investment you've made in a long time. If you are looking for a high-end processor and considered the Anthem Statement line but haven't bought one yet, you need to go re-listen to it with the ARC. This has improved so much on an already kick-ass piece that you won't believe your ears.

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The Anthem Room Correction software makes a huge improvement to what is already one of the best processors made. The enhanced clarity and detail, as well as the wider and deeper soundstage, make this a must-have for anyone who already owns a D1 or D2 processor, and truly raises the bar previously set by the Anthem Statement processors to a whole new level. I have lived with an Anthem Statement D2 for over a year now without the room correction. After only a short time with the new model with the ARC, I can't imagine how I lived without it.