

Dan D'Agostino's Progress to Progression

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To accompany my review of the Dan D'Agostino Master Audio Systems Progression monoblock amplifier [elsewhere in this issue](#), I talked to [Dan D'Agostino](#) about the amplifier's design. I started by asking him what were some of the major differences between the [Momentum](#) and the Progression monoblocks?

Dan D'Agostino: I took the best parts of the Momentum's more sophisticated and complex circuitry and put them in the Progression, without using the same high parts count. Each stage of the Momentum's gain amplifier is separate, with input stage and driver stages on separate rails. All of the Momentum's devices are designed for maximum performance in a small package, which requires a lot more of them, and a significantly bigger input card than the Progression's. These differences create subtleties, because I'm able to run much higher current in the Momentum's front end.

I can get more power from the Progression because it's a balanced amplifier with a balanced output stage. The Momentum's output stage is unbalanced, as in most other amplifiers. That the Momentum can output in excess of 400W is a remarkable achievement, because you can't go much higher without going balanced.

The Momentum's unbalanced output stage can also drive much lower impedances than a typical balanced amplifier. There are ways around that, such as adding the Progression's additional output and driver devices, which allow us to get down to lower impedances.

The Progression and Momentum both have Super Rails, which run the front end of the amplifier at a much higher voltage than the rear/output stage of the amplifier. The main reason I do this is to keep the front-end transistors at a constant voltage regardless of the output of the amplifier. This gives you an extra edge on power and big dynamics without the front end being crushed by the output stage.

When you use a Super Rail, which is a fully regulated front-end rail at a high voltage, nothing collapses. The output stage will run out of power before the input stage does, which makes the amplifier totally solid, totally

stable, and able to drive huge amounts of current into very low impedances without affecting its performance.

Jason Victor Serinus: *Why do you use circular holes rather than heatsink fins to cool the amplifier?*

D'Agostino: When we did the Momentum, we made holes in the heatsink because I couldn't get enough fin depth to cool it. On the Progression, the holes became very efficient because we can drill them bigger, which gives them more volume. There's also more cooling area than if we cut fins, because circles use the whole sink.

The last thing I wanted to do was to show heatsinks, because Krell had become so synonymous with really sharp heatsinks. While I used to make covers for them and put them inside, a covered heatsink is not quite as good as one that's not covered. By making the heatsink open and on the outside, the amp gets the airflow it needs. Plus, I think it adds some beauty to the unit, and makes it possible to lift the amp without cutting your hands or clothes. I have a very expensive Canali suit with a big rip in it from a heatsink, and it can't be fixed.

Serinus: *What are the differences between the Progression and the Krell amps?*

D'Agostino: In Krell's early days, our amplifiers were really based on sound. I listened to every one. Later on, we became a super-technical company where we [were] really interested in becoming the first to apply new, patented technologies to our amplifiers.

When we started this new company, I really wanted to express my love of music. Because I wanted the Momentum to sound like music, I designed it in a totally different fashion. There's nothing in the Momentum that I used at Krell. It has higher distortion than what we made for Krell, but it's made for sound. Oftentimes, something that sounds good doesn't necessarily measure as well as something that's *made* to measure.

When I first designed the Momentum's circuit, I had some friends over. We'd listen to a few cuts and talk about them, and then I'd make changes to alleviate things I thought were negative. I never did that at Krell other than in the very beginning, with the first 50W and 100W class-A amplifiers. The new products are designed with different goals, using new things I've discovered to reproduce a musical event with correct tone, timbre, and beat. I want it to come out as it was supposed to in real life, including reproducing how the image is laid out onstage, and the depth and feel. Sometimes it's almost like a texture is missing in a design that doesn't have the musicality.

Serinus: *What more would you like to share about your journey?*

D'Agostino: It's over 35 years since I started Krell. I'm a more mature listener, with better reference components and wires that provide more information, which I can use to make better design decisions. We also have better transistors and parts, and design in labs where we can hear what the smallest change in a capacitor or resistor makes. That being said, my old KSA-100 and [KSA-50](#) amplifiers were a breakthrough. They set benchmarks because they were sweet compared to what was out there in the field. Some of those 1980s solid-state amplifiers sounded like a chain saw on the top end, and would tear your ears out.

I listen to a lot of jazz and vocalists, as well as some classical and rock. When I listen to a new product and I've got it right, first I get goose bumps, and then tears in my eyes, because it brings me where I want to go with it. It brings a life experience to me that I remember from that music in the past. I want to have that electric feeling in my skin. This is the fun part of doing what I do.