

# EQUIPMENT REPORT



## Dan D'Agostino Master Audio Systems Momentum Preamplifier and Amplifier

Dan D'Agostino's Finest Effort

Anthony H. Cordesman

One of my friends who makes a constant series of jokes about my obsession with the high end described the sculptured look of the D'Agostino designs as “the best equipment I’ll never listen to”—the most positive remark the earbud-wearing twerp has ever made about any hi-fi components. If you don’t like the D'Agostino Momentum preamplifier and amplifier even before you listen to them your soul is simply dead.

You can get superb performance from, say, a car that has an understated “form-follows-function” design, like the Porsche

911. The Pass Labs preamp and amp I use as references have that kind of utilitarian, Bauhaus character. You can also, however, signal functional excellence through a visual image so unique that it is really a work of art.

In the Momentum’s case, the closest analogy I can think of is the kind of “art-follows-function” design you get with a highly styled Italian super-car. The Lamborghini Murcielago Reventon is an instance—from the bodywork down to the electronic display on the dashboard. The D'Agostino Momentum preamplifier and

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amplifier are the first examples of this paradigm I've ever seen in high-end audio—from the copper finish of the heatsinks to the hole in the needle on their custom-designed meters.

To paraphrase another car-related image, these also are not your father's Krell designs—a reference to the iconic company D'Agostino founded in the early 1980s. They are personal designs from Dan D'Agostino—one of the greatest amplifier designers in high-end audio. They are custom-made in virtually every area with quality as the object and little regard to cost. The Momentum preamp sells for \$32,000; the Momentum power amps sell for \$60,000 a pair, although an only slightly less powerful stereo version sells for \$32,000.

Talking to Dan D'Agostino during setup made it clear that to some extent making the Momentums was a liberating experience compared to running a full-range audio company like Krell. He was able to both go back to his roots and reinvent most of his approaches to design. The visual style of his preamp and amp has a clear functional rationale. Like the Lamborghini Murcielago Reventon, they are intended to define the state of the art and they are priced accordingly. They are the audio equivalent of *autent* products—the result of the design skills and ears of one of the most proven engineers in the high end, rather than a corporate product or one thought up by the equivalent of a committee.

Yes, this does make them unaffordable for me and at least 95% of TAS readers. At the same time, they almost have to set a precedent for making equipment as much fun to look at as to listen to. More importantly, they provide any audiophile who listens to them with the kind of sound quality that can help aid him in choosing far more affordable equipment. You can't set your standards by comparing one affordable preamp or amplifier to another affordable one. You need to choose your trade-offs by listening to the best.

### The D'Agostino Momentum Preamplifier

Let me begin with the preamp—both because it comes first in the audio chain and because preamps are always more fun to describe than power amplifiers. Dan D'Agostino summed up some of the key features in the Momentum preamp as follows in an interview for this review: “The Momentum preamplifier is an all-discrete design using all through-hole components. The preamplifier is pure differential with all of the circuit boards exhibiting one plus phase and one minus phase with the board split down the middle. The preamp consists of six plug-in boards, three per channel. Plug-in boards allow for future updates making the design future-proof.

“The audio circuits of the preamp are very wideband using multiple current mirrors and zero feedback, and are built using all through-hole devices that are matched and assembled by hand. The power supply is all discrete and has separate transformers for analog and digital supplies with separate ground paths.

“The tone control is a separate amplifier board which is completely isolated from the main amplifiers of the preamp and has its own power supply. When it is switched on it is inserted between the input and volume control board by a high-precision relay. When the tone control is switched off it is completely out of the circuit.

“The volume control, one of the most important parts of a preamp, is made up of a discrete ladder using special 0.1%

resistors and high-precision, very-low-loss aerospace relays. The volume control itself uses an optical encoder with a 2½"-diameter, rotating encoder-wheel, which will give extremely good linearity with very small increments of change possible. The knob is assembled with two sealed ball-bearings. The two bearings are assembled into a preloaded chamber, which allows a perfectly smooth precision feel to the volume control.”

At a more pedestrian level (arguably the first mixed metaphor in this review), the Momentum Preamplifier is a six-input linestage preamp, but it does have a number of special features. Its six XLR balanced inputs include a theater input (the theater input has unity gain regardless of the volume-control setting). It has a remote control that can either be used to control a small IR sensor-tower wired to the rear-panel input, or the front IR sensor in the meter housing. There is a meter to show the volume and a large ring around the meter that controls the volume. This is a beautiful design feature in itself.

The remote control adjusts balance and signal polarity as well as volume and source-selection. There are truly functional tone controls that are carefully designed to allow you to increase the amount of bass at low frequencies or reduce a trace of boom, and alter the upper-frequency balance to adjust for hardness or dullness in the upper midrange and treble with minimal impact on the rest of the midrange. Almost all of these features affect the lighting and colors on the front display in a subdued enough way to complement rather than spoil the design, and the remote is a round unit suitable to live on a table or hold, with buttons spaced far enough apart and labeled clearly enough to actually use easily.

## SPECS & PRICING

### Momentum Preamplifier

**Inputs:** Six balanced XLR stereo (one of them theater-bypass)  
**Outputs:** Two balanced XLR stereo  
**Frequency response:** 0.1Hz-1MHz, -1dB; 20Hz-1MHz, +/-0 dB  
**Distortion:** <0.006%, 20Hz-20kHz (full output)  
**Signal-to-noise:** -105B, unweighted  
**Gain:** +6 to +12dB, adjustable  
**Weight:** 75 lbs.  
**Dimensions:** 18" x 4.3" x 12"  
**Price:** \$32,000

**Outputs:** High-quality binding posts  
**Power:** 300 watts into 8 ohms, 600 watts into 4 ohms, 1200 watts into 2 ohms  
**Frequency response:** 1Hz-200kHz, -1dB  
**Noise:** -105dB, unweighted  
**Gain:** 26.5dB  
**Weight:** 98 lbs.  
**Dimensions:** 12.5" x 4.3" x 18.5"  
**Price:** \$60,000 per pair

### D'AGOSTINO MASTER AUDIO SYSTEMS

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Carefree, AZ  
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### Momentum Monoblock Power Amplifier

**Inputs:** One balanced XLR, one unbalanced RCA (adapter supplied)

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**JONI MITCHELL: WILD THINGS RUN FAST**  
by *Bill Gader* | Feb 14th, 2013

Joni Mitchell  
**Wild Things Run Fast**

Label: ORG  
Media: LP  
Genre: Rock/pop  
Ratings: **Music** ★★★★★  
**Sounds** ★★★★★

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There are also 12-volt trigger jacks that can control power amps and other equipment, and a DB9-type input, which allows the Momentum preamp to be controlled by home automation systems that use the RS232 protocol. The preamp also fits on a power supply unit connected by a cable in the rear that adds to the sculptural effect, making it quite a display item if you like showing off your equipment (and easy to conceal if you don't).

You can get more of these details in the preamp manual at the company Web site; it's a fun read regardless of your real-world equipment budget.

### D'Agostino Monoblock Power Amplifier

Dan sums up the features in the D'Agostino monoblock power amplifier as follows:

"The circuit for the amplifier is very different from anything I have done in the past. With very low nested feedback of 5dB and no global feedback, the Momentum is an extremely quiet design, typically -104, -105dB unweighted. The low-gain design is harmonically accurate and true to the input signal.

"The use of copper allows me to get much more output power from a very small package, not requiring large aluminum heat sinks. Copper absorbs heat 91% faster than aluminum keeping all the output devices at a constant safe temperature. The Momentum amplifier can produce huge amounts of power—1200 watts into 2 ohms—and has enough output to drive any speaker with power and authority.

"All components in the amplifier are matched and curve-traced for maximum linearity and repeatability. The selection of parts is based on sound with a cost-no-object approach. All of the operating circuits are analog and all parts are through-hole, allowing for maximum reliability."

The Momentum amp is a visually compact design (although it weighs 98 pounds), and draws less than a watt in standby, allowing you to keep it operating constantly at little cost in electric power. Although the Momentum amplifier sounds good at turn-on, it requires approximately 30 minutes to reach optimal operating temperature.

There aren't many features to describe: 12V control, input and output jacks, and switches for meter brightness and power sensitivity. The D'Agostino monoblock is designed for XLR inputs, although RCA adapters can be used. It is also far smaller and far "greener" than most power amps.

If you want a full description of all the operating features, the on-line manual describes the product, and the cover photo shows its visual beauty

### The Sound

I normally review the sound of preamplifiers and amplifiers separately even when they come from the same manufacturer. In this case, however, the only meaningful differences between the sound of the preamp and the amplifier were largely the product of the amplifier/speaker cables. There was no meaningful difference in the sound character of each unit except for the impact of the speaker-dependent interface—something that became clear by shifting my different reference speakers in and out, and by using the D'Agostinos to drive the speakers of two of my friends.

In general, I would also recommend that you stick with preamps and amplifiers from the same manufacturer, and at the same level of quality in that manufacturer's line if you can afford to do so. It may be possible to get lucky and get the best possible sound with a mix-and-match between either the D'Agostino preamp and amplifier and a different manufacturer's preamp or amplifier. For instance, the D'Agostinos certainly worked well with my Pass Labs XP-30 preamp and Pass Labs power amps. But with almost all top equipment you almost always get the best results when you use a matching amp and preamp. You reduce coloration, hear what the preamp and amplifier designer actually meant you to hear, and reduce the risk of any trace of a hum loop or other interface problem.

This is particularly true with products of the quality of the D'Agostino preamp and amplifier. They are far too neutral and accurate to use them to try to compensate for the colorations in another piece of gear. Like the other preamps and amps that top today's high end, they do not have a characteristic sound that shapes the music. They are not warm, bright, or hard, and don't favor or penalize

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some part of the sound spectrum. They do not perceptibly alter dynamics from the subtlest to the loudest levels I can stand to listen to.

While some high-end gear seems designed to shape the sound of all the music that passes through it, the D'Agostino Momentum preamplifier and amplifier seem to free music from such alterations, getting the best of detail, dynamics, soundstage, and imaging.

Part of this "freeing" of the music is due to the fact that the preamp and amplifier seem so truly quiet. I don't just mean they are low in hum and noise, although once properly set up they are outstanding in those respects. The music simply seems to come without any of the faint electronic cues of character that make you at least subtly aware the sound is electronic and not natural.

Some audio designers and reviewers refer to this as a "black" sonic background. Whether they mean "black" in the sense of a black film background, a black hole, or any other interpretation of "black" that mixes visual and sonic images, the end result is still an oxymoron. It's simply one more instance of struggling to describe a sound that isn't there.

That does not mean the D'Agostino Momentums don't have their peculiarities. Like the other state-of-the-art preamps and amplifiers I have listened to, they have extraordinary transparency. This becomes clear almost immediately if you listen to them with really good recordings on a really good system, and then shift to otherwise top-quality, high-priced preamps and amplifiers. There is none of the slight rise in midrange energy which in some electronics gives the impression of added detail, or for that matter any of the softening that slightly reduces real detail

and natural musical edge. You don't hear additional detail and musical realism in the form of some sudden new insight into the music or an unexpected change in a given recording. When it comes to preamps and amplifiers, I always find such "discoveries" to be a warning of a problem in either the item under review or the one it is being compared to. Changing today's preamps and amplifiers should never make those kinds of changes in sound quality unless there is a real design fault in at least one of the components under review.

What you do hear are clear dynamic shifts, more low-level detail, better definition. Differences between really good digital recordings in the 24/96 world—copied from masters made directly at the performance at these rates—show up the potential of high-resolution digital. If the recording is good enough, you also hear a more natural, articulate, and three-dimensional soundstage. The stage seems to expand in width without stretching instruments or voice. There is a more natural spread and more centerfill, and, particularly with the Momentums, more depth. In addition, imaging is not only more precise; images are placed more realistically in both width and depth.

It is important to note here that, while their nuances are hard to describe, there are audible differences between the Momentums and other state-of-the-art preamp and amplifiers. For instance, both of the Momentums tend to be more mid-hall than front row in perspective. The problem is that the differences are small enough, and enough dependent on the recording, that I can't be sure that any coloration is involved when comparing the D'Agostinos to other top electronics because I have no way of knowing what the actual performance was like.

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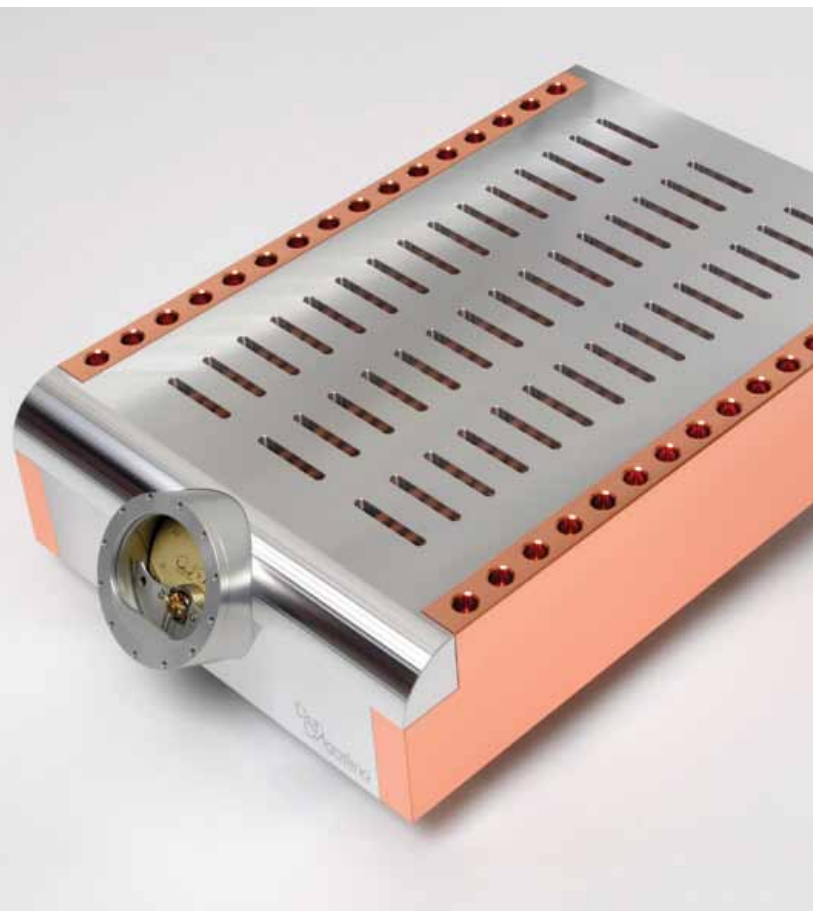
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bass. The amplifier not only has that same bass, but does an exceptional job of controlling the woofers in good associated speakers—even ones that are difficult to drive. I suppose you could argue that the amps make a slight trade-off between bass detail and sheer energy, but they also make a slight gain in extension in the deep bass. In practice, this is far more a description of their sound than a criticism.

### Setup and Interfacing

The Momentum monoblock amps seems to be able to drive any speaker known to man, including older electrostatics and the earlier low-impedance Apogees. They did not present any problems with different interconnects and speaker cables, either, or exhibit any interface problems with different front-end components. They are so transparent that they will be far more revealing of the sound of the other components in the system, and this may require some adjustments in your choice of “wires,” and possibly even a slight movement in speaker location to reflect the better focus of the soundstage and to get the best bass response, but this is true of all really state-of-the-art preamps and amplifiers.

Any really good power cord, including those that came with the preamp and amplifier, functioned well in my home. The only sensitivity I found in my setup occurred where I have separate power circuits to each outlet near the speakers in my listening room, and another circuit to the components in a separate room. This did not present a problem *per se*, but the use of in-wall AC filters and a separate power conditioner did create trace ground-loops even with AC cheater-plugs. This is a common problem with a lot of top equipment, and a caution about upgrading your AC power. The value of conditioners is very supply-and-house-wiring dependent. Spending vast sums on AC outlets is ridiculous. Most of the time, using high amperage, very thick AC lines for the AC wiring that feeds your sound system, improving AC grounding, and using the cheaper high-quality outlets available at any home improvement store will produce better sound quality than using separate AC filters or conditioners on different AC circuits.

My advice is that if you have the slightest hum, check the AC lines and their grounding. The problems will not be in the D'Agostino equipment and it makes no sense to buy electronics at this price without having high-quality and preferably dedicated AC lines. If you do not know how to do this, most dealers will be able solve the problem for you, or can recommend an experienced electrician. Good overall AC circuits are a key part of a high-end system.

### Summing Up

There are always rivals at the top of any area. You don't get constantly better without real competition. I had two new power amplifiers in for review at the time I carried out these listening tests, and each provided outstanding performance with a different mix of the more subtle sonic nuances I touched upon earlier. The fact remains, however, that the D'Agostino Momentums are as good as the high end gets. A real privilege to audition! **tas**

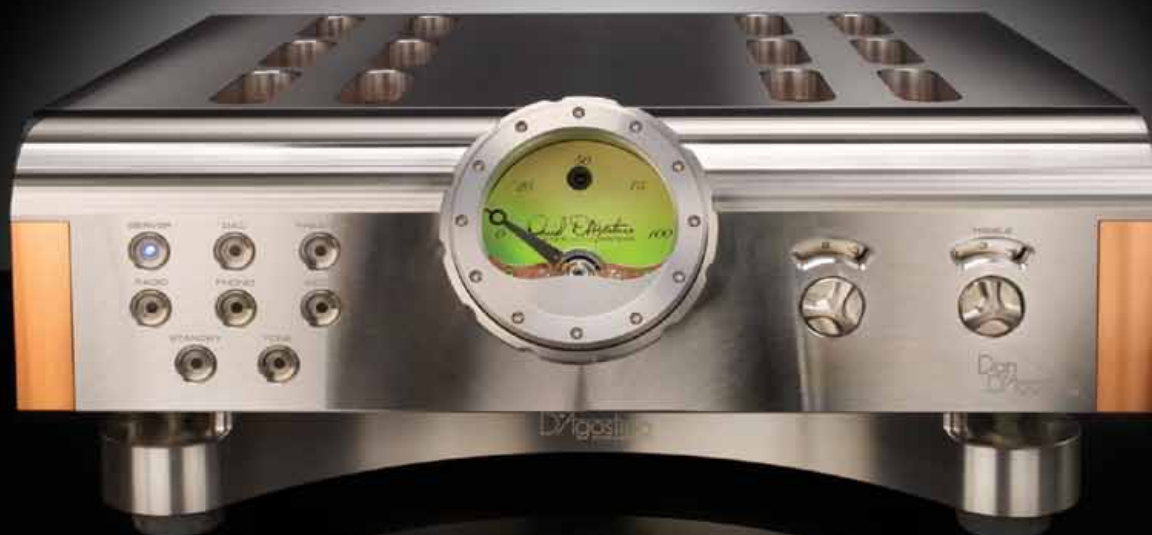
What I can say is that the Momentums' mix of imaging and other soundstage characteristics, coupled to their other merits, makes the music more listenable, more emotional, and more real on many recordings. Moreover, the sound remains deeply engaging over long listening periods.

Unfortunately, there is no audio term for the ability to produce a fully enjoyable sound over time. It isn't just a matter of avoiding listening fatigue; it is the ability to keep you engrossed in the music. These are not a preamp and amplifiers to read by or use for background music. With equally good associated components, they pull you into the music and the performance and they keep you there.

At one level, they give you truly outstanding performance with truly outstanding recordings, and are not forgiving of any defects in mediocre or poor recordings. At another, they get the best out of even the most ordinary Deutsche Dullaphon recordings (although tweaking the tone controls does help!), as well as the all-too-many jazz orchestra, symphonic, and opera recordings that tend to blur the music into a mass at peak levels on large-scale choral passages, or during those many recordings when Mahler seemed determine to cram 1000 or more performers onto the stage at the same time. The Momentums make as much sense out of the final parts of Saint-Saëns' Symphony No. 3 as possible, until a recording comes along that can actually handle all of its dynamics and detail.

There is, however, one important difference between the Momentum preamp and amplifier. The preamp has excellent

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