Monoblock power amplifier. Rated at 400W/8ohm
Made by: D'Agostino LLC, Connecticut, USA
Supplied by: Absolute Sounds Ltd
Telephone: 0208 971 3909
Web: www.dagostinoinc.com; www.absolutesounds.com
Price: £90,000 per pair

AUDIO FILE

hi-fi news OUTSTANDING PRODUCT

D'Agostino M400MxV

A bigger PSU, more power transistors and a new input/driver stage – all inspired by the 'Relentless experience' – gives D'Agostino's M400MxV monoblocks more Momentum!
Review: **Ken Kessler** Lab: **Paul Miller**

Avoirdupois aside, Dan D'Agostino Master Audio Systems' Momentum M400MxV monoblock just may be the least fussy or fiddly power amp one can aspire to in the extreme high-end. Of course, something cute and tiny like a PS Audio Sprout [*HFN* Feb '15] or Quad Vena [*HFN* Jan '15] can be lifted with one hand and requires no degrees in electronics, but that's 'real world' gear. At £90,000 per pair, the M400MxVs are as exclusive as it gets, and such a strong physical presence is *de rigueur*.

However, that's as far as high-end excess goes because these Momentum M400MxV monoblocks may run warm, but not fry-an-egg warm [see PM's boxout, p49]. And while I have never begged for more power with the Momentum Stereo [*HFN* Aug '12], the early ones delivering around half the power of the monoblocks, the M400MxV simply sounds 'louder' and more powerful even when set to the same levels. Clearly this is the aural manifestation of an amplifier working less hard than another, the ease in the sound being so readily discernible that it almost overshadows the other virtues – and they are legion.

LEGACY LOOKS

Visual conditioning, at least for followers of audiophile fashion, must also be a given – the lacquered copper heatsinks with venturi tunnels, choice of natural- or black-anodised alloy, and Breguet-style dial being staples of D'Agostino's amps since the beginning. So handsome are these green-lit dials that I can't imagine anyone opting to dim them. There's only one needle per chassis – it's a monoblock, after all – but as with other D'Agostino amps, the scale on this power meter is essentially uncalibrated.

D'Agostino describes the various MxV models (updating the M400 and S250, and legacy models) as featuring 'new concepts, components, and manufacturing techniques developed and learned throughout the past decade'. Having upgraded the original M400s [*HFN* Oct '16] after six years, the MxV status clearly wasn't developed in haste, D'Agostino adopting a Wilsonian attitude toward design stability – infrequent upgrades, but extensive when undertaken. Even the suffix to identify them has resonance with the company's history: MxV stands for 'Mass times Velocity', which is the definition of Momentum.

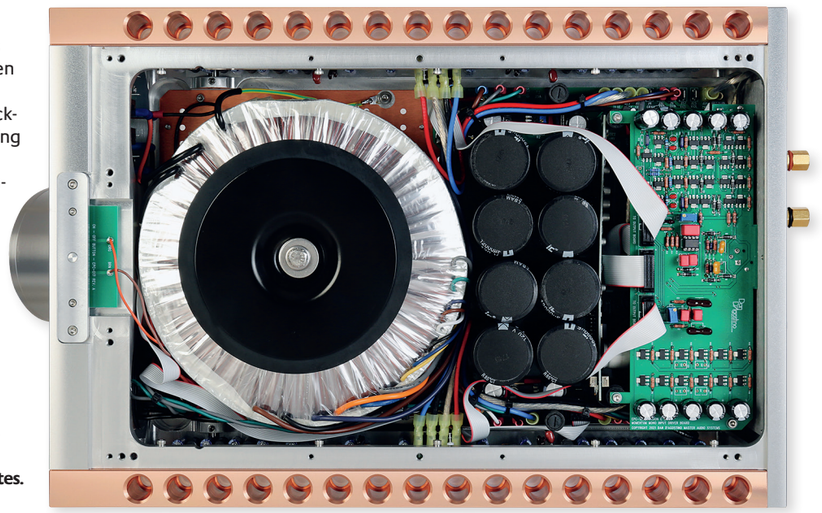
As expected, the upgrades are genuinely comprehensive and much trickles down from the research undertaken for the flagship Relentless monoblocks [*HFN* Mar '20]. The latter's fresh front-end circuitry has been adapted for these Momentum MxV amplifiers, while all major sections – the power supply, and the input, driver and output stages – have been upgraded.

Among the developments are a new transformer winding pattern credited with the potential for over 50% more current from the same transformer 'footprint' [see PM's Lab Report, p51], and new transistors in both the driver and output stages. What's described as a new 'bias stability circuit' provides a claimed 50% increase in operating bias, which may remind readers of Dan D'Agostino's Krell philosophy of a lifetime ago, directly expanding its Class A operation. This, of course (for audiophiles of a certain, er, bias) might promise a correlation with improved sound quality.

> 'Ted Nugent's fiery guitar work had all the grit, fuzz and wail'

UPGRADE PATH

Now, the good news. The MxV upgrades are retrofittable to earlier Momentums, including the S200, S250 and M300, but it does require a return to the factory. The price quoted to upgrade an M400 to M400MxV status is £29,000 per pair. Before you let out an audible gulp, please factor in depreciation, the many years of usage of your M400s and the fact the M400MxVs cost around £12,000 more per pair from new.



RIGHT: Massive 2.2kVA toroidal transformer and 8x12,000µF/120V reservoir cans feed 14 pairs of ON Semiconductor power transistors mounted onto solid alloy and copper side plates. Copper slabs are drilled with cooling venturis

Once in place in the listening room – and at 43kg apiece without their optional stands you may need help – it couldn't be easier. Input is via a single XLR for balanced operation (there's an RCA-to-XLR adapter in the box if your preamp doesn't have balanced outputs) while the sturdy binding posts take spade connectors or bare wire. The only other items on the back [see p51] are for IEC mains, sockets for remote on/off triggers and a three-way mini-toggle to select the meter illumination. As before, on/off is through a soft-touch button secreted away underneath the front edge of the fascia.

PETTY DIFFERENCES

Luckily for me, years of Momentum Stereo usage had attuned my ears to the nature of the archetypal 'D'Agostino amplifier'. Despite my own predisposition toward valves, I always found Dan D'Agostino's solid-state creations to be as accessible and 'ear-friendly' as the best valve amps, if slightly less warm. That has changed with the MxV upgrades, and I am tempted to phone a reader who found the previous generation of M400s too edgy. These sound positively cuddly.

It started with the magnificent Tom Petty CD collection, *'Wildflowers' & All The Rest* [Warner 093624899112]. Rich with guitars of various textures and Petty's distinct, slightly nasal voice, the first impression was of a deceptively analogue-like warmth which – I swear – made me think of open-reel tape rather than vinyl. The title track, despite familiarity to any Petty devotee, possessed a freshness which I had to attribute to the amplifiers' greatest strength: openness.

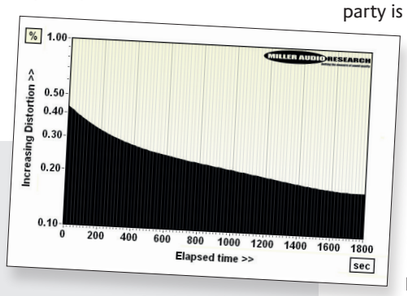
It's worth recalling that, since Day 1, all Momentum amplifiers have delivered bottom octave solidity and extension rivalled by the precious few. Allied to this foundation has always been a retrieval of detail which would impress Sherlock Holmes, while the transient attack across the frequency spectrum has never been less than fast, smooth and convincing. Decay has always been correctly progressive while the three-dimensionality of the soundstage was always close to the best of the triode glitterati. What the Momentum amplifiers needed was a touch more warmth – not that they were ever too icy or hygienic.

ABOVE: While the green-illuminated meter – inspired by a watch hand from 1783 – has become D'Agostino's signature 'look', it's function is decorative rather than indicative!

THE RIGHT STUFF

What the MxV upgrade brings to the party is a removal of any last traces of the artifice often attributed to either solid-state amplification or digital sources. It was clear with the Petty CD and with The Amboy Dukes' *Journey To The Center Of The Mind* [Repertoire REP 4176WZ], also on CD, that the openness, speed, clarity and other strengths of the M400MxV were having the opposite of the anticipated effect: instead of forcing the listener to hear more of what was wrong with digital playback, it seemed to be showcasing what was *right*. Ted Nugent's fiery guitar work on the title track of the Dukes' album had all the grit, fuzz and wail I recalled of the vinyl.

But three revelations, all on tapes, ensured that the MxV upgrades were game-changers, such that I cannot wait to hear what they'll do to the Momentum Stereo amplifier I've been using for so long. First were the duets on Vronsky and ⮑



ARE YOU WARM YET?

With over 400W/8ohm on tap, and some 55A in reserve to support over 3kW into the lowest impedance loads, the M400MxV will pull nearly double that from the wall in use. Even idling, the rich bias current, together with other losses, amounts to 77W being sunk into its thick copper and alloy chassis as waste heat. And this, in tandem with D'Agostino's relaxed application of corrective feedback, means the M400MxV has a very long warm-up time. When first taken out of standby, a 'cold' M400MxV shows a relatively high 0.42% distortion (1kHz/10W/8ohm) but over the first hour or so this reduces to 0.18% [black infill, inset Graph] as the metal mass, and multiple parallel power transistors, slowly warm up to about 42°C in a 20°C living space. There are measurable differences in distortion over the next 12 hours by which time the thermal latency is almost entirely resolved, and the distortion settles out at 0.085%/10W [beneath the Y axis here]. For more, see Lab Report, p51. PM

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ABOVE: Each mono M400MxV includes an XLR balanced input and single binding posts for spades or bare cable. Tiny toggle switch sets the meter's green illumination

Babin's *176 Keys – Music For Two Pianos* [RCA FTC-2034 open reel tape]. As ignorant as I am of classical music, a real-life piano sat 1.2m away from my left elbow as I typed. The scale and presence these recordings manifested via the D'Agostino M400MxVs was nothing short of the truly realistic.

Next came classical from the other end of the dimensional strata, the orchestral majesty of Handel's *Royal Fireworks Music* [Vanguard VTC-1621] with Edmund Appia conducting the Vienna State Opera Orchestra. I have no doubt that my susceptibility to its charms was enhanced by my listening sessions taking place during the weekend of Queen Elizabeth's 70th Jubilee celebrations, but the sheer mass of the recording filled the room in width, breadth, and yes, height. Arguably, the most stellar element was the massed brass, heard with such clarity and incision that my possession of a UK passport suddenly seemed all the more life-enhancing.

COMMAND AND CONQUER

Up to this point, I hadn't really cranked up the sound to see if I could rattle the Wilson Sasha DAWs [*HFN* Mar '19], which responded to the M400MxVs with such ease that my respect for them increased, even though it had already reached a state of near-worship. What I learned via the M400MxVs was that the Sasha DAWs were even more capable, more commanding than I had thought when fed a full orchestra. Imagine taking delivery of a hypercar and sticking to the speed limit, followed by a session on a track to really stretch it. This amplifier was proving too addictive.

Then came the third epiphany, an experience so revelatory that one visitor – from a rival speaker brand – was driven to say it was the best sound he had ever heard in my listening room, and he's a frequent caller. It was, of course, the recording which helped, and it just might be the finest I have ever heard, beyond even the soundtrack to the 1967 *Casino Royale* or any of the usual audiophile milestones.

A NEW LEVEL

Recorded in 1956, *Josh White Comes A-Visitin'* [Livingston Master Tape Treasury T-1085] captured the folk-blues legend with a small group in one of those early stereo situations where multi-tracking and too many microphones were yet to infect the industry. The sound wasn't merely captivating or convincing. It was mesmerising, the experience all the more noteworthy because my fellow listener was an ex-BBC engineer with a golden ear and four decades' worth of pedigree.

We both agreed: a new level had been reached in realism, authenticity and sheer transparency. Truly dumbstruck at the recreation of the studio space, the harmonic overtones on the acoustic instruments, and the reproduction of White's voice… I am humbled.

HI-FI NEWS VERDICT

Loath as I am to call this 'the best' (having heard the Relentless), these latest upgrades reassert the Momentum's role as a top contender for the 'state of the art' amp. What elevates the MxV over its forebear are greater openness and transparency, vividly revealed when heard side-by-side with its predecessors. Imagine the silkiness of a 300B SET, but with bottomless bass and limitless power. It's *that* special.

Sound Quality: 89%

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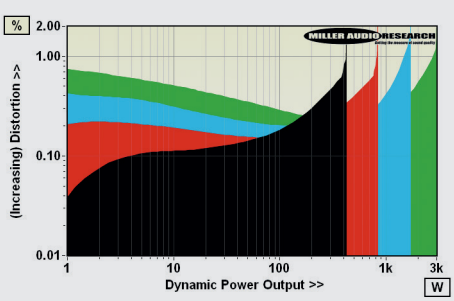
LAB REPORT

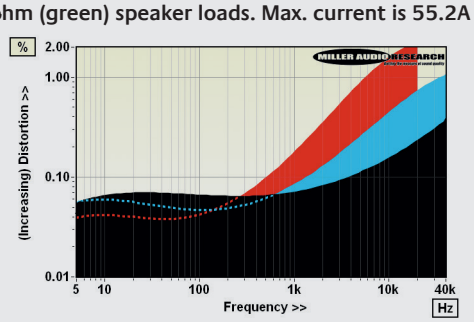
D'AGOSTINO M400MXV

D'Agostino's inaugural Momentum power amp [*HFN* Jul '11] has evolved through the M400 [*HFN* Oct '16] to the M400MxV we have here, the latter two models rated at 400W/8ohm and both exceeding this by some margin at 430W/8ohm and 810W/4ohm (M400) and 435W/8ohm and 840W/4ohm (M400MxV). Their respective dynamic outputs are very similar too at 475W, 940W, 1775W and 3010W (M400) versus 440W, 845W, 1650W and 3050W (M400MxV) into 8, 4, 2 and 1ohm loads, respectively [Graph 1, below]. The 1ohm figure promises a very substantial 55A/10msec current capability at <1% THD indicating what we already know – the M400MxV will drive any loudspeaker that's likely to cross its path even if, in practice, it's no more powerful or load tolerant than its predecessor.

The real story behind the M400MxV has less to do with raw power than D'Agostino's 'tuning' of the amplifier's input and output stage configurations. This version, quite frankly, is simply more 'colourful' and also subjectively more 'relaxed' if the figures are any guide. Specifically, reduced feedback means distortion is higher than the M400's 0.04-0.17% (20Hz-20kHz/10W) but very consistent at ~0.05-0.06% through bass and low midrange over its 400W bandwidth, increasing at HF from 0.25%/1W to 0.75%/10W and 2.2%/100W [all 20kHz/8ohm, see Graph 2]. The output impedance is also slightly higher too, from ~0.15ohm (M400) to ~0.18ohm here just as the response is 'sweetened' from –0.12dB/20kHz and –2.0dB (M400) to –1.1dB/20kHz and –9.7dB/100kHz in the M400MxV. Subsonic bass remains flat to 1Hz but noise – an innocuous white noise – is higher, leading to a reduced 84.0dB A-wtd S/N ratio (re. 0dBW). **PM**



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 55.2A



ABOVE: Distortion vs. extended frequency (5Hz-40kHz; 1W/8ohm, black; 10W, blue & 5Hz-20kHz; 100W, red)

HI-FI NEWS SPECIFICATIONS

Continuous power (<1% THD, 8/4ohm)	435W / 840W
Dynamic power (<1% THD, 8/4/2/1ohm)	440W / 845W / 1650W / 3050W
Output imp. (20Hz–20kHz/100kHz)	0.175-0.195ohm / 0.275ohm
Freq. response (20Hz–20kHz/100kHz)	–0.0dB to –1.12dB/–9.7dB
Input sensitivity (for 0dBW/400W)	126mV / 2525mV (balanced)
A-wtd S/N ratio (0dBW/400W)	84.0dB / 110.0dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.048-0.75%
Power consumption (Idle/rated o/p)	77W / 730W (1W standby)
Dimensions (WHD) / **Weight**	318x133x546mm / 43.1kg (each)