

## POWER AMPLIFIER

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  
Prices: £27,500 (silver); £29,500 (black, each)

# AUDIO FILE

hi-finews  
OUTSTANDING  
PRODUCT

# D'Agostino Momentum M400

More horses: Dan D'Agostino has upgraded the original Momentum Monoblock from its 300W rating to a mightier 400W, but the evolution is not just about the wattage  
Review: **Ken Kessler** Lab: **Paul Miller**

**M**y falling in love with hi-fi ran concurrently with car-worship, and it was obvious that one element was common to the two passions: power. Just as the versions of the Pontiac GTO or AC Cobra with added cubic inches beyond that of their less well-endowed siblings meant better performance, so, too, would a Marantz 1060 integrated amp better a Marantz 1030. The original Momentum Monoblock from D'Agostino, launched five years ago [HFN Jul '11], has now been superseded by the nearly-identical M400, which adds another 100 watts to the factory spec.

### UPGRADE PATH

At £27,500 apiece (with an extra £2000 per unit for black, due to the huge cost of anodising all that otherwise bare metal), the M400 is also priced the same as its predecessor. The great news is that owners of current Momentum Monos and Stereos can have them upgraded to the new power specification (prices to be determined), so it's a win-win situation: no obsolete Momenta to clutter the secondhand market... not that they would linger.

Suffice it to say, this new model is primarily an improvement in the manner that matters most if you adhere to the more-is-better approach. What was not expected were gains in the *nature* of its sound. At the heart of the power boost is a new 1,800VA toroidal PSU transformer, which delivers a 20% increase in capacity and capability. To accommodate this, D'Agostino also developed a brand-new output stage, which also features 'a number of major enhancements'.

For the M400, the driver stage is now fully complementary with no fewer than 16 pairs of transistors (compared to the earlier unit's 12 pairs) employed for the positive and negative halves of the

musical signal. According to the manufacturer, this 'nearly doubles the current drive necessary to maximise the enhanced output stage that follows'. Other components have been updated as necessary [see PM's Lab Report, on p49].

I mentioned earlier that this new model is nearly identical to the original Momentum. It will take an eagle-eyed audio nerd to notice without prompting that there are slight changes to the copper sections on the faceplate sides, which now wrap around the curve to the vertical fascia section; and a touch of lateral thinking lets you spot the display's scale change, necessary to deal with the greater power output.

As before, the soft-touch power-on button is hidden away, beneath the meter on the underside of the fascia. At the back, the connections remain the same, with a single pair of multi-way binding posts, sockets for AC mains and remote triggers, and two minuscule toggles that you're unlikely to activate by accident. One deals with the meter illumination, the other with the sensitivity of the meter. Because this thing is so brutally powerful, you might

find – as I did even with my Wilson Alexias [HFN Mar '13] – that the needles barely move when adjusted to the least-sensitive (400W) setting due to the drive delivered by those 'first' watts.

### A NEW LIGHT

Like its predecessor, the Momentum M400 is a ludicrously heavy device, weighing a back-straining 43kg, while its dimensions remain as before. The rear provides for a balanced line input only, so keep this in mind if you wish to pair it with a 'legacy' preamp. I tested it with both the Audio Research REF6 [HFN May '16] and the matching Momentum Preamplifier [HFN Nov '13] with balanced cables from Transparent and Crystal – so no adapters were needed, other than for unbalanced-only players such as the Marantz DV8300, which required phono-to-XLR converters. The Alexias were used for the primary listening, but I also employed a pair of KEF LS50s [HFN Jul '12] for low-level assessment, just to see how the M400s fared when asked to play softly.

Warm-up time is not as critical as one might think, given that the Momentum



amps as a breed run up the temperatures a bit. For fun, I played some mono through one channel after the amp had been on for an hour, while the other was played 'cold', swinging the balance from channel to channel. I also swapped channels, even though my room is truly symmetrical, and the differences between them remained barely detectable.

I spent many hours of discovery with familiar material – and that's one of the ultimate tests of a new piece of kit in one's system. Even though I have lived with the Momentum Stereo, and had just had a serious bout with the new Mark Levinson No.536 [HFN Sep '16], the M400s revealed more nuances than I expected, even from a roster of overly familiar works.

These included Lou Rawls' *At Last* [Blue Note CDP 7 91937 2], Detroit Emeralds' *'Feel The Need'* [Greatest Hits; Westbound

CDSEWD 119 CD], 'Rock The Boat' by The Hues Corporation [*The Very Best Of The Hues Corporation*; Camden 74321 603422 CD] and *Belafonte At Carnegie Hall* [Analogue Productions SACD CAPF 6006SA]. I've also been revelling in my as-new copy of Johnny Winter's *The Progressive Blues Experiment* [Liberty

LP-12431] because his bottleneck guitar work is simply dazzling. It was the metallic twanging of Winter's National Steel Standard, battling with harmonica and mandolin in a lean, unplugged recording of his 'Bad Luck And Trouble' that threw up enough treble activity to excite sibilance, rattling or anything else 180° away from silky or smooth. Via the M400, the sheer presence of the National Steel (and I dropped into a musical instruments store to hear one close-up during the listening

**ABOVE:** As with other Momentums, the amp's frontal aspect is dominated by what is now recognised as the company's signature look: a meter inspired by a watch hand from 1783

period) was visceral, the vibrations in one's ear matching conclusively the scintillation I heard in person.

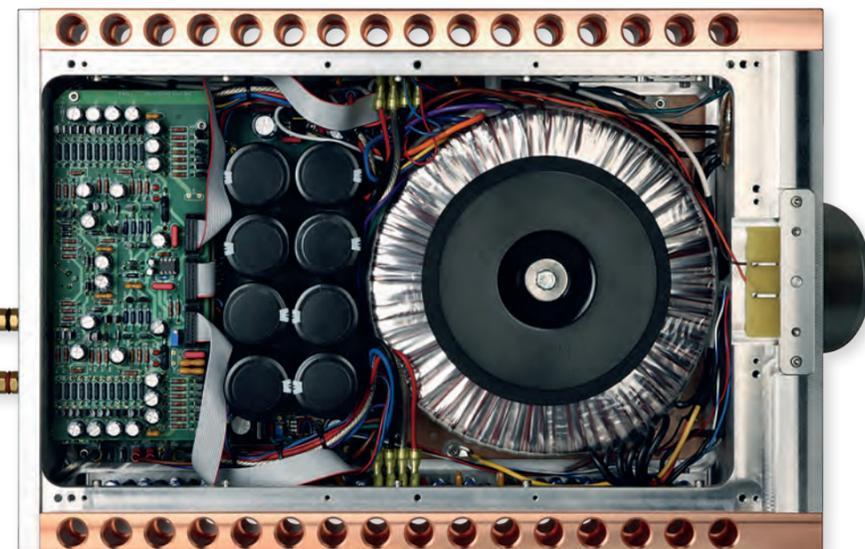
### IN HARMONY TOGETHER

Winter's speed is enough to confound a listener, let alone a sound system. The M400 separated each note, respected their attack and decay and blended the lot into a cohesive whole. But there's a caveat.

Alternating between the REF6 and the Momentum Preamplifier, I enjoyed a vivid illustration of the role of the control centre in a system, beyond the obvious valves-versus-transistors dichotomy. I also learned about synergy.

While the REF6 was undeniable 'wider' sounding and more open, the readily apparent empathy between the D'Agostino siblings paralleled the perfect matching of REF6-plus-REF75SE – you can't beat a preamp/power amp combination from the same manufacturer, especially when you know how successfully they were voiced to work together.

Moving to The Hues Corporation, the flow of the bass was infectious, which is as it should be with dance music. What the Momentum Preamplifier did was to add a level of command manifested in a sense of extension and solidity that the Audio Research delivered with its own matching amp. What I cannot say is how much of the improvement over the original Momentum was due to added power, and how much to the circuitry revisions. ↪



**RIGHT:** Top view shows the massive toroidal transformer and cooling venturis drilled into the solid-copper side sections. Sixteen pairs of output transistors are mounted with stainless steel fasteners for maximum thermal transfer

### ULTIMATE MOMENTUM?

Not yet available but seen at a number of shows, the new Progression Monoblock – rated at a massive 800W/8ohm – has confused some fans of the brand. In practice, the Momentum remains the flagship series in D'Agostino's catalogue. Like the Master Power and Classic series, the Progression amps form a separate range, the idea being lots of watts in a larger chassis, with a whiff of the Momentum models' luxury, but not quite: a Progression mono costs about £7000 less than a Momentum M400. Its specification is mighty, those 800W doubling to 1.6kW/4ohm and again to 3.2kW/2ohm. Inside, a fully complementary driver stage faces 84 output transistors, with a 4000VA transformer and 400,000µF of storage capacitance in the power supply. Styling is similar, the meter remains, but the Progression isn't quite as sumptuous. One suspects that its role is pure grunt, while the Momentum's is grace: muscle car versus grand tourer. Watch this space.

## LAB REPORT

### D'AGOSTINO MOMENTUM M400

As an evolution of D'Agostino's inaugural Momentum power amp [*HFN* Jul '11], the logically-titled 'M400' monoblock is rated some 100W higher at 400W/8ohm. In practice it bests this by some margin at 430W/8ohm and 810W/4ohm with a dynamic output of 475W, 940W and 1775W into 8, 4 and 2ohm and with a scary 3010W (that's 55A) into 1ohm. The original Momentum delivered 335W/8ohm and 575W/4ohm with 380W, 725W, 1.33kW and 2.22kW under dynamic conditions into 8, 4, 2 and 1ohm loads, so this M400 is both more powerful and more load tolerant [see Graph 1, below].

Like D'Agostino's other Momentum amps, the M400 has a moderately high 0.15-0.18ohm output impedance but its uniformity ensures its response is very flat from 1Hz through to 20kHz (-0.1dB) and 100kHz (-2.0dB) within a tolerance of 0.3dB at 100kHz into loads down to 1ohm. Loudspeakers with a more wildly varying impedance trend will promote a less uniform system response, however. Distortion, also, is not vanishing low but 'engineered' to be within that of most partnering loudspeakers. Versus power, midrange distortion increases from a minimum of 0.023% at 1W, levelling out at ~0.045% from 10-50W before increasing to 0.06%/100W, 0.10%/200W, 0.2%/300W and 0.37%/400W. Versus frequency [see Graph 2, below] distortion is impressively uniform through bass, midrange and low treble but increases to 0.14%/10kHz, 0.17%/20kHz and 0.19%/40kHz.

This new M400 is certainly a lot quieter than earlier Momentum's – some 10dB quieter, in fact, and sufficient to encourage a 90dB A-wtd S/N ratio (re. 0dBW). This, and the extra power, are its key refinements. PM

**ABOVE:** Each Momentum offers an XLR balanced input and single binding posts only. The two tiny toggle switches define the meter sensitivity and green illumination

Far more impressive was the sense of space. The Belafonte set has been dazzling music lovers for over a half-century, and anyone who's ever visited a massive venue the size of Carnegie Hall knows the feeling of hearing a small combo in a huge area. Reviewers have been trying to describe the impression of 'air' reproduced by a superlative system, from a stellar recording: via the Alexias, the walls of the room disappeared, and the scale was simply enormous.

#### POWER AND DELICACY

Even more exciting, given the context, was the experience of this recording through the KEFs. Here we have small, standmount speakers that probably cost less than the two shipping crates for the M400s, but the grip provided by those amplifiers, allied to the sheer finesse of the speaker, resulted in a bizarre case of £50k-plus amplification elevating a sub-£1000 speaker to a whole new category. I don't know what impressed me more: the delicacy of which the M400 is capable, or the way the KEFs rose to the occasion.

It's clear that the Momentum M400 was not going to show any limitations where power, speed, attack, control or other wattage-related matters are concerned. Nothing, from the hard funk of The Detroit Emeralds to the fiery guitar of Winter, revealed any weaknesses. Rather, the M400 impressed me because it is a 'gentle giant'. Anyone can throw barrels of power at a speaker – the forthcoming Progression Monoblock [see boxout, p47] will probably drive any loudspeaker you can name to pain-inducing levels – but harnessing and delivering such power to exhibit delicacy is akin to creating a supercar that rides like a limousine.

All it needed was a confrontation with Rawls' 'At Last', the backing from studio maestri of jazz's A-list demanding a system that venerates subtlety. The M400 – as far removed from the refinement of a mid-1960s, 25W/ch, EL34-equipped valve amp as it gets – sounded as if it had been mentored to mate with a pair of Quad's classic ESL-57s.

Vocals were conveyed with every breath, every exhalation, every enunciation appearing in the listening space with a body attached. The notion that one was transported to studio or stage was uncanny, with only the merest hint of 'ssss-ing' on the disco-era tracks, but that is as much the fault of the recording techniques of the day: what the M400 does *not* do is lie to the listener by artificially sweetening the sound.

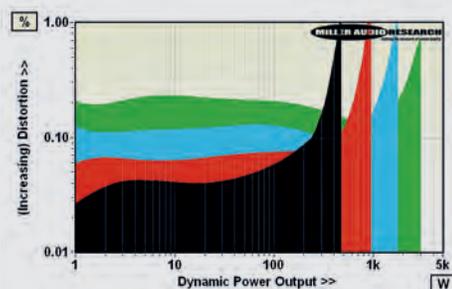
Don't take that as a criticism – rather, it's a warning that the Momentum Preamp/M400 combination reveals all, and your associated equipment must be of the same calibre. To put it simply, the M400 is phenomenal and at £55,000 per pair, it should be nothing less. Nor is it. ☺

#### HI-FI NEWS VERDICT

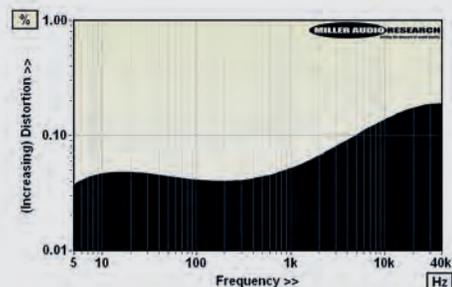
Sonic non-sequiturs keep this hobby exciting: with the Momentum M400, I was anticipating extra grunt and nothing else. Instead, I got more musicality, even more control and a top end that borders on the tube-like. Without any circa-mid-1980s, pure Class-A Krells to hand for comparison's sake, I'm risking saying this, but the M400 just may be the best-sounding amp Dan D'Agostino has ever created.

Sound Quality: 91%

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**ABOVE:** Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) loads. Maximum current is 54.9A



**ABOVE:** Distortion versus extended frequency from 5Hz-40kHz at 10W/8ohm

#### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	430W / 810W
Dynamic power (<1% THD, 8/4/2/1ohm)	475W / 940W / 1775W / 3010W
Output impedance (20Hz-20kHz)	0.150-0.181ohm
Frequency response (20Hz-100kHz)	+0.00dB to -2.03dB
Input sensitivity (for 0dBW/400W)	139mV / 2805mV (balanced)
A-wtd S/N ratio (re. 0dBW/400W)	89.9dB / 115.9dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.040-0.17%
Power consumption (Idle/Rated o/p)	116W / 715W (each)
Dimensions (WHD) / Weight	318x133x546mm / 43kg (each)