Preamp/mono power amplifiers. Rated at 500W/8ohm
Made by: D'Agostino LLC, Arizona, USA
Supplied by: Absolute Sounds Ltd
Telephone: 0208 971 3909
Web: www.dagostinoinc.com; www.absolutesounds.com
Prices: £65,998 (Momentum C2Z)/£63,998 (Momentum Z, each)

D'Agostino Momentum C2Z/Z

Celebrating the D'Agostino brand's 15th anniversary, the Momentum Z and partnering C2Z two-box preamp are next-generation realisations of the original amplifier platform

Review: **Ken Kessler** & **Mark Craven** Lab: **Paul Miller**

It was at Milan's TOP Audio show in 2009 that Dan D'Agostino parted ways with Krell, the company he had founded nearly 30 years earlier. Within two years, he had designed a new solid-state amplifier with which to assault the high-end, and launched a new company, Dan D'Agostino Master Audio Systems. The two units reviewed here show careful evolution, retaining a recognisable look while adding to a legacy of fewer than 25 models over 15 years.

It's the power amps that most recall the original Momentum [*HFN* Jul '11], the new Momentum Z Monoblock (£63,998 each) boasting the now-familiar Breguet wristwatch-inspired meter which dominates the front of its 45kg, 320x130x540mm (whd) chassis. Equally 'signature' are the machined copper heatsinks that form the sides. Placed next to an original Momentum, the resemblance is as close as John and Julian Lennon. The same meter occupies the centre of the C2Z preamp (£65,998), where it doubles as a rotary volume control.

JFET FUELLED

Where these amps differ from D'Agostino's earlier Momentum models is their new 'Z' technology, which introduces a JFET-based voltage gain stage [see PM's boxout, p47]. This Z circuitry is retrofittable to the brand's Relentless 800 [*HFN* Jun '24] and Relentless 1600 power amplifiers, the Relentless Preamplifier, and the original Momentum C2 preamp from 2024. That unit remains on sale but shouldn't be used to drive the new Momentum Z, or any future 'Z-based' D'Agostino amp, in its standard guise.

It should also be noted that the line-level C2Z preamplifier has only one upgrade option. The DSM (Digital Streaming Module), priced £11,998, offers USB-B, optical and coaxial inputs as well as wired/Wi-Fi Ethernet, with files up to 384kHz PCM and DSD256 supported. D'Agostino's DSM app, available only for iOS devices [Note to Dan: Please release an Android version], integrates the Qobuz, Tidal and Spotify streaming platforms.

No phono module is available for the C2Z, although as it has three XLR balanced inputs and one RCA single-ended input, and the world is awash with standalone phono stages (and DACs for that matter), it's not too great a loss.

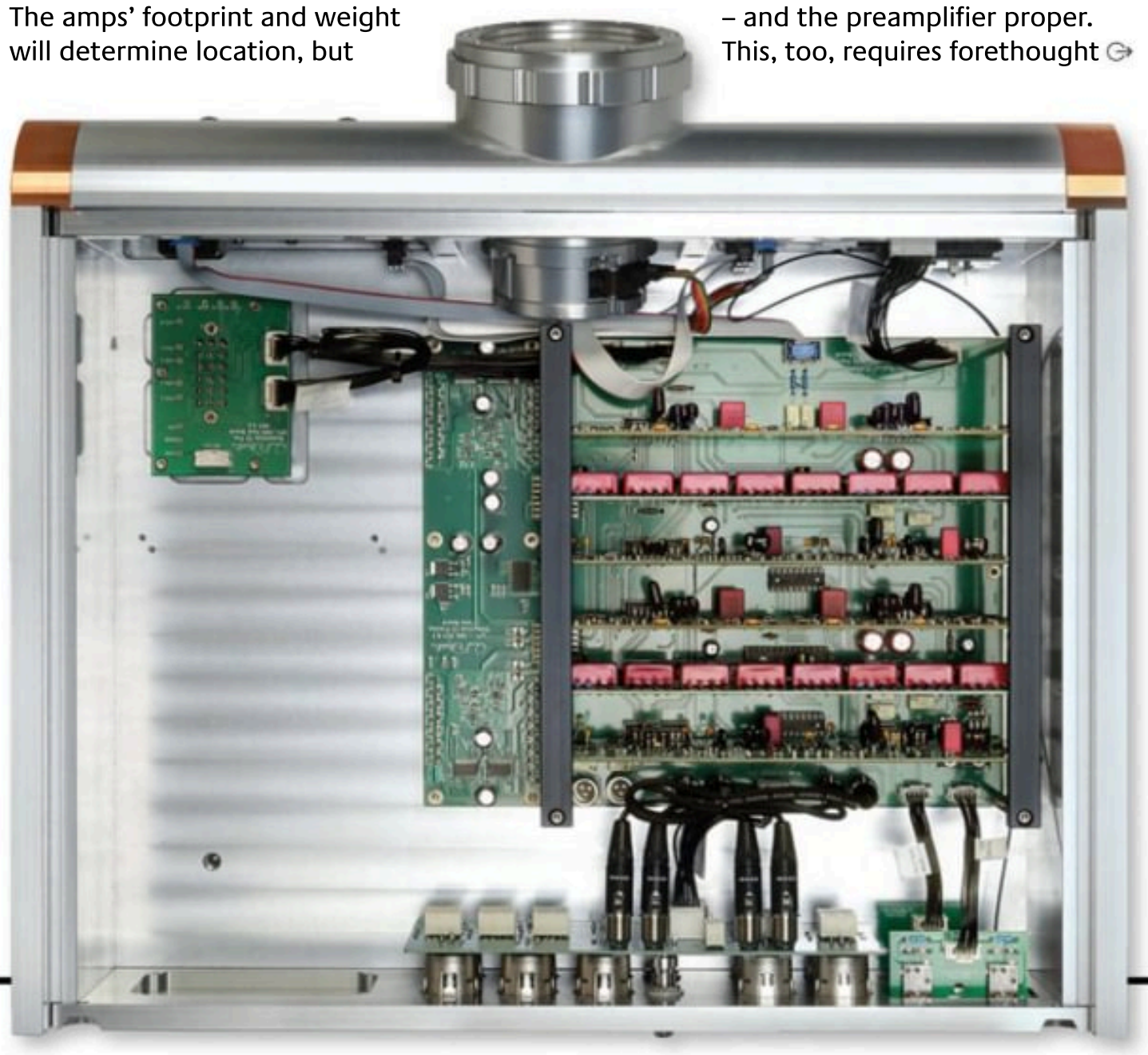
> 'The new "Z" tech introduces a JFET-based voltage stage'

Connection to the Momentum Z monoblock is via balanced XLR only, D'Agostino including a set of RCA-to-XLR adapters in the amp's accessories box. A fully balanced design, its power rating is 500W/8ohm, doubling thereafter into 4ohm and 2ohm loads [see PM's Lab Report, p49] and delivered by 24 pairs of bipolar output transistors. The amps' footprint and weight will determine location, but the units do run fairly warm so adequate ventilation is a consideration.

TAKING THE PULSE

Rear-panel connections, in addition to the single XLR input, are a 15A IEC mains input, 12V trigger in/out sockets, a pair of spade-only speaker terminals, and an Ethernet port. The last of these is a first for D'Agostino and enables real-time monitoring of the power amp's performance data via a web browser. Useful for both professional installers and owners, this covers operating voltages, temperature, bias, DC offset, 12V trigger status, and other specifications. The 'dashboard' can also be viewed on the company's DSM app.

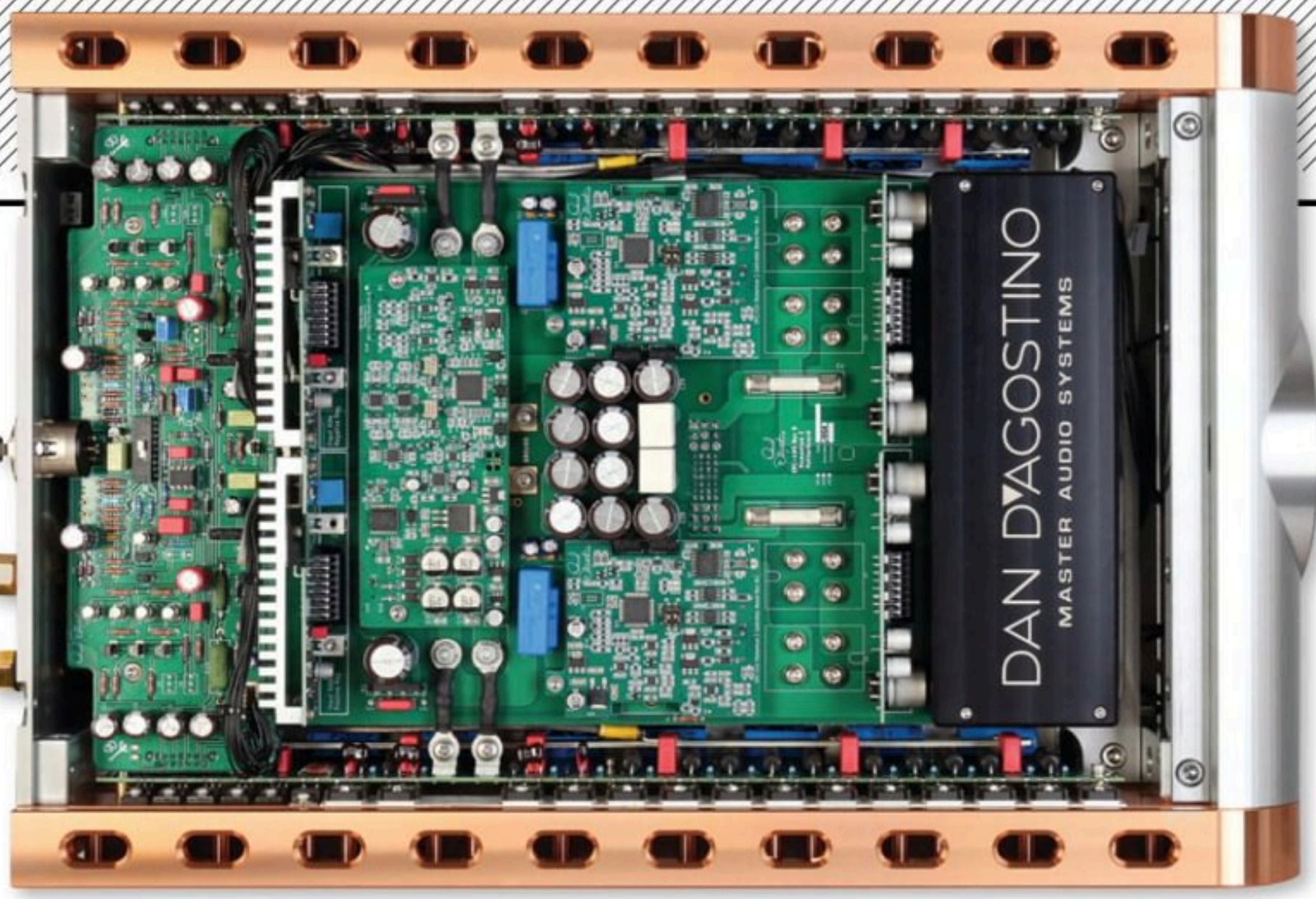
Built to the same overkill standards as the amps, the two-chassis C2Z comprises the power supply – which acts as a base – and the preamplifier proper. This, too, requires forethought



RIGHT: The separate DC supply [see pic, p45] enters underneath the C2Z [top left]. The balanced JFET input, tone control and output PCBs are edge-mounted onto the main board [right] with wired connectors to the XLRs



'The Z's meters combine a 3.5in LCD with the brand's emblematic analogue wand'



LEFT: Signature copper 'venturi' heatsinks are machined from 19kg billets, wicking heat from the 12 pairs of bipolar output transistors per side of this balanced/bridged monoblock. Two 1.2kVA toroidal transformers [under the PCBs] support a multi-rail PSU feeding the JFET input and power amp stages. The 'Z switch' is behind the XLR input [left]

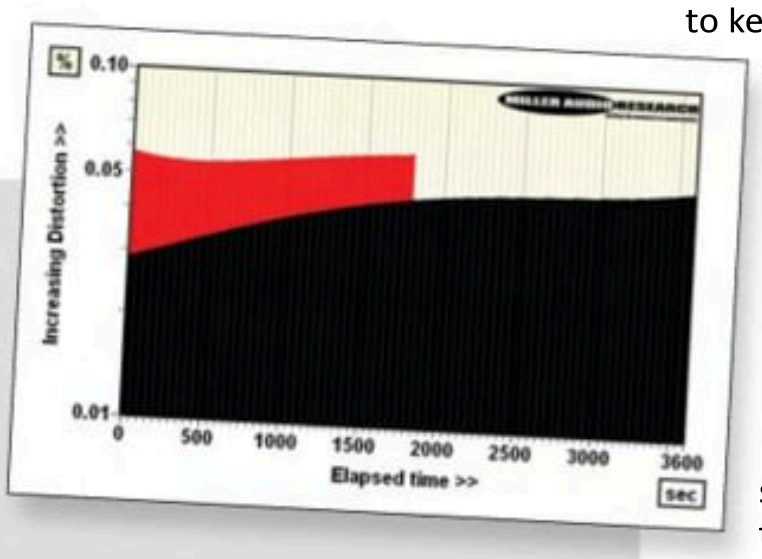
for placement. Combined, it weighs 33.1kg and has a footprint of 432x226x386mm (whd). The upper preamp section must be lowered precisely onto the lower power supply chassis so that the latter's multi-pin connector isn't damaged.

FACE VALUE

Our C2Z was supplied *sans* DSM module, resulting in an uncluttered back panel and making setup a breeze. A 13A IEC 3-pin mains cable enters the lower chassis, where the main on/off switch resides. A small rear-panel aerial provides Bluetooth signalling to the table-top remote [see pic, p49], while the back also has 12V trigger sockets and RS232 system connection.

Among a cluster of buttons to be found on the left of the C2Z's fascia is one for power-up from standby. Source selection, mute and headphone are also accessed by these buttons, while those on the right side, below bass and treble rotary tone controls, operate the digital module, if fitted. It's worth mentioning that inserting a headphone cable into the C2Z's socket, which is nicely protected by a sliding cover to keep out *schmutz*, doesn't mute the preamplifier's main output. Pressing the headphone button takes care of that, as well as selecting the headphone amp section.

The preamp's large circular display indicates gain while a slightly smaller LCD porthole on the power supply mirrors the screen of that multi-function remote control, showing selected input, balance and polarity setting, volume, *etc*. Meanwhile, the meters on the Momentum Z monoblocks combine a 3.5in LCD with the brand's emblematic analogue wand.



GENERATION Z

A JFET-based voltage gain stage is at the heart of the big upgrade to D'Agostino's Momentum pre and power amplifiers, but with a twist. While JFETs are typically employed for their very *high* input impedance (and other tube-like characteristics), the Z circuit is specifically engineered to present a very *low* impedance (low 'Z') input. At 300ohm, instead of 47kohm or higher as is typically the case, the Momentum Z can only be driven via a preamp with a very low, balanced source impedance – the C2Z has a sub-1ohm output, seen only in the best headphone preamps – and with the current to maintain this voltage as the signal conditions demand. Why do this? The advantages are esoteric – thermal noise is reduced just as stray EMI/RFI picked up by the interconnect is more easily shunted to ground. The high current drive also mitigates any charge developed in the cable's dielectric, rendering the Z pre/power fairly 'interconnect agnostic', especially over long runs. Using another preamp? Turn the low-Z input 'off' via its internal switch [see pic, above].

Otherwise, designer Dan D'Agostino's familiar multi-parallel transistor output stage still has a protracted warm-up as the amplifier's thick copper and alloy chassis achieves thermal equilibrium [red trace, inset Graph, shows the original Momentum, *HFN* Jul '11]. With over 500W/8ohm on tap, and some 58A in reserve to support 3.4kW into the toughest loads [see Lab Report, p49], the new Momentum Z sinks ~110W at idle. This, together with D'Agostino's relaxed approach to corrective feedback, means the Momentum Z shows a modest 0.03% distortion at 1kHz/10W/8ohm from cold but this *increases* to 0.05% after an hour [black trace, inset Graph]. After a full two hours, the chassis reaches a very warm 50°C and distortion settles out slightly higher still at 0.08-0.09%/10W. PM

EASY DOES IT

Before the amps made their way to KK [writes Mark Craven], they were put through their paces in the *HFN* Listening Room [*HFN* Yearbook '25 & p43]. In truth, the monoblock pair, compact in high-end hi-fi terms, looked small next to Wilson Audio's towering Alexx Vfx floorstanders – yet they were in no way overmatched. The impression of easy-going power was ever present as tracks were played through the dCS Varèse streamer/DAC [*HFN* Feb '26].

'Dangerously Easy', from Olivia Dean's *Messy* [PLG/Capitol, 96kHz/24-bit], has a gentle tempo and ostensibly simple arrangement, but there were spatial layers that the Momentum Z amplifiers brought to the fore in an unflashy fashion. Dean was



an unrestrained central presence, ahead of her background singers and what sounded like a Fender guitar at the rear-left of the stage. The punch of the bassline and drums was tight, yet the performance retained a lush smoothness.

ABOVE: Seen here with the 'Digital Streaming Module' installed (not included on our sample), the C2Z sits on a combined DC PSU and isolation base, offering four line ins (three balanced on XLRs) and two balanced outs. The BT aerial [right] serves the remote [p49]

RICH AND POWERFUL

More revealing of the system's lower-octave *nous* was Alison Krauss and Robert Plant's 'Through The Morning, Through The Night' [*Raising Sand*; Craft Recordings 96kHz/24-bit]. Here the amps found new depths as they leant into the plump double bass, conveying its weight and texture. Meanwhile, Krauss and Plant's exceptional vocal synergy was rendered with real sweetness and excellent definition.

Indeed, despite the appreciable power of the Momentum Z monoblocks, you don't get the sense that notions of smoothness and 'musicality' have been jettisoned in a quest for outright slam, grip and transparency. If it's richness you're after, these amps oblige. The shimmering percussion and piano on the title track of Don Henley's *The End Of Innocence* [Geffen 96kHz/24-bit] were balanced by a liquid-like bassline and a sonorous quality to Henley's lyrics of lost youth.

The amps showed their gutsier side when building the dense soundscapes of the 2013 Mike Oldfield/YORK remix of 'Ommadawn' [*Tubular Beats*; UMC]. There was impact and weight to the programmed drums, delivered on a scale that proved the amplifiers' speaker-driving credentials. Yet equally beguiling was the voluminous and rich nature of the synths, and the way the music ebbed and flowed across the soundstage. Over to you, Ken…

> 'If it's richness you're after, these pre/power amps oblige'

COSMIC SCALE

Such was the allure of these amplifiers that I listened to a dozen albums with breaks only for the unavoidable. It turns out that the Zs ('zee' as in 'ZZ Top') love Wilson Audio speakers – I used The WATT Puppys [*HFN* Sep '24] – while judicious use of the output levels also let me hear the amplifiers through LS3/5As.

My obsession for the wee monitors aside, the latter would limit savouring the full impact of the system. These amps can deliver sheer force, bass extension and (yes, ZZ Top-esque) maximum SPLs. The WATT Puppys valiantly presented the opening drums (kettle/tympani?) of 'Also Sprach Zarathustra' [*Selections From 2001: A Space Odyssey*; Columbia MQ1067 open-reel tape] with you-are-there levels and scale. The presentation wasn't just impressive – it was near revelatory.

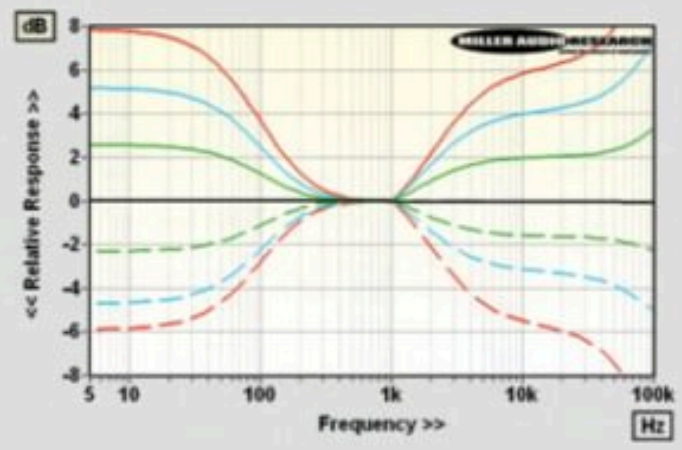
Part of the delight came from the sheer quietness and freedom from

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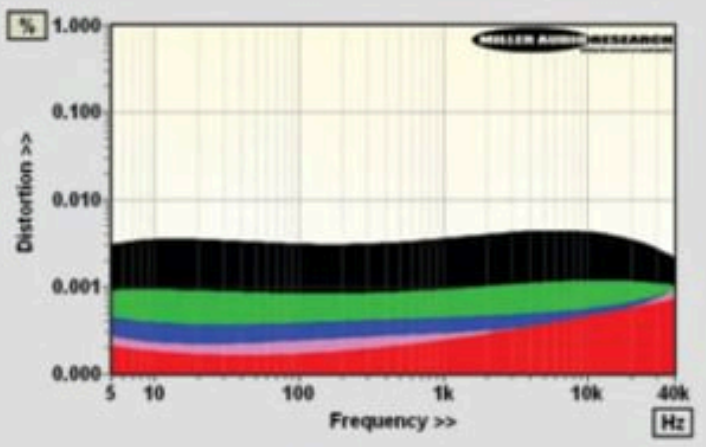
D'AGOSTINO MOMENTUM C2Z

As with the original Momentum preamp [*HFN* Nov '13], the C2Z's display meter arm indicates *gain* rather than output level. Full gain is +17.3dB (volume 100, with a maximum 30V balanced output from a very low sub-1ohm source impedance) with 0dB gain realised at volume '61'. The steps are within ±0.5dB over the top 90-100 of the volume range, offering a 4dB span that increases to 4.5dB from 80-90 and 70-80, and 5dB from 60-70, 50-60, 40-50 and 30-40. The volume steps from 20-30 occupy a total 10dB, with 12dB from 10-20 and 2dB per division from 6-10. With steps varying between 2-4dB over the lowest 1-5 volume settings, the C2Z's effective working range is 73.5dB with '0' as a mute position (–91.5dB relative to full output).

The C2Z preamplifier's response is flat to within ±0.01dB from 2Hz-20kHz out to –0.07dB/100kHz [black trace, Graph 1] while stereo separation is better than 90dB (re. 20Hz-20kHz). The profiles of the bass/treble tone settings are also revealed on Graph 1 [±2dB, green; ±4dB, cyan and ±6dB, red], the traces normalised to 0dB at 1kHz. Note that there's an ultrasonic boost beyond 20kHz with the +ve treble settings, and only a 1dB difference between the –4dB and –6dB bass settings. A subtle but broad adjustment is evidently possible from the ±1dB and ±2dB settings. Distortion, meanwhile, is low and impressively consistent with frequency at 0.00025-0.0004% in the full gain position [red trace, Graph 2] but increases with decreasing volume position to 0.003-0.004% at –6dB gain [black trace, Graph 2; volume setting '49']. Finally, thanks to the exceptionally well-screened and filtered DC supply, and new JFET gain stages, the C2Z's A-wtd S/N ratio is very wide at 99.6dB (re. 0dBV). **PM**



ABOVE: Freq. resp at 0dBV, normalised at 1kHz (bypass, black; bass/treble ±6dB, red; ±4dB, cyan; ±2dB, green)



ABOVE: Distortion versus extended frequency (re. 0dBV, 5Hz-40kHz – full gain, red; +12dB, pink; +6dB, blue; 0dB, green; –6dB, black)

HI-FI NEWS SPECIFICATIONS

Maximum output (<1% THD, 47kohm)	30Vrms (Balanced)
Maximum input level (<1% THD)	7Vrms (Balanced)
Output impedance (20Hz–100kHz)	0.65-2.7ohm (Balanced)
Freq. response (20Hz–20kHz/100kHz)	+0.01dB to –0.01dB/–0.07dB
Input sensitivity (re. 0dBV)	137mV (Balanced)
A-wtd S/N ratio (re. 0dBV)	99.6dB
Distortion (20Hz-20kHz re. 0dBV)	0.00025-0.0004%
Power consumption	24W (3W standby)
Dimensions (WHD) / **Weight** (total)	432x226x386mm / 33.1kg



restraint afforded by a kilowatt into 4ohms. Even the weird 'outer space' sound effects had some sort of veracity, though it's anyone's guess as to what they should sound like. So unimpeded is the power delivery that I couldn't see any movement from either of the Momentum Zs' meters until I turned up the C2Z to levels that horrified me. With nary a hint of break-up or strain, it made me wonder how anyone can live with 3W single-ended triodes.

BANG THEORY

Reverting to subtlety rather than impact, both *Sarah Vaughan (With Clifford Brown)* [Supersense 016 mono vinyl] and Carly Simon's *Spy* [Elektra 1R1 7014 open-reel tape] revealed the system's adroit handling of breathiness and exhalation. Turning to The Bangles' delicious and poignant 'Eternal Flame' from *Everything* [CBS 462979 1], every nuance in Susannah Hoffs' delivery was communicated with authority but not heavy-handedness.

Bang, bang, bang, album after album: richly textured male vocals from Fink on *The Lowswing Sessions* [Lowswing LOSW010], and the bizarre *Beatles Arias* [Polydor 583 702] with Cathy Berberian for



ABOVE: The C2Z's alloy/Delrin (BT) remote, with LCD screen, offers control over most functions while mirroring the preamplifier's front panel display

ABOVE: The wired Ethernet port allows access to service data – including operating voltages, temperature, bias, DC offset, 12V trigger status, and more – via a web browser. A balanced XLR in and solid metal binding posts (speaker cable/spades only) set the minimalist tone

operatic interpretations of the Fab Four's hits to hear the liquidity. The big band experience of Sy Oliver & His Orchestra's smooth and silky *The Big Sound!* [Pickwick P4T-435 open-reel tape] came with room-filling dimensions. Then crystalline guitar from Chet Atkins on *The Guitar Genius* [RCA Camden CTR753 open-reel tape] and pristine harmonies from The Tokens And The Happenings' *Back To Back* [BT Puppy BTX 1002 open-reel tape] – and no listener fatigue after nine hours.

However, the headbanger in me was awakened at the end of Carly Simon's *Spy*. 'Memorial Day' boasts one of the best drum solos this side of *The Sheffield Drum Record* [Sheffield Lab, Lab 14], despite the quarter-track, 3¾ips tape. Hearing the stretch of the drumskins, the speed, the splash-*sans*-unwanted-dampening of cymbals – it showed how power corrupts in audiophile terms. The credo might go, 'It's hard to be satisfied with less'.

HI-FI NEWS VERDICT

Those familiar with the Momentum series, including the MxV upgrades, will be delighted to discover that D'Agostino has extracted even more refinement while increasing the sense of limitless power. Yes, the brand's Relentless series goes a step further, even if heading in another direction might better satisfy a quest for delicacy. But hear this pre/power system in action and you'll likely want nothing more.

Sound Quality: 90%

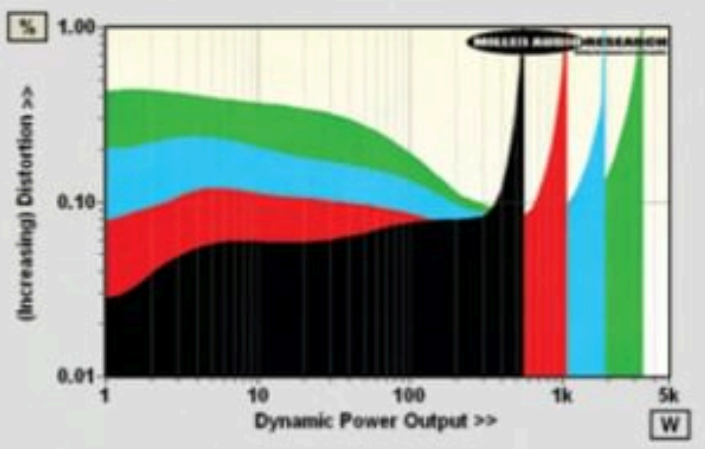
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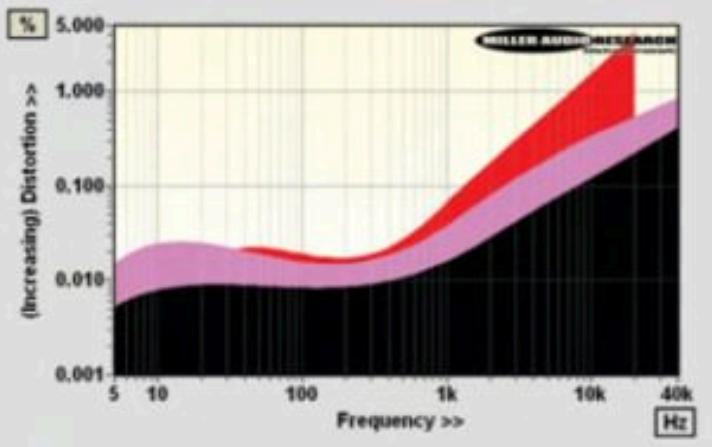
D'AGOSTINO MOMENTUM Z

D'Agostino's inaugural Momentum power amp [*HFN* Jul '11] has segued through the M400 [*HFN* Oct '16] and M400MxV [*HFN* Aug '22] but while the latter pair were rated at 400W/8ohm, the Momentum Z boasts a higher 500W/8ohm specification. And this is no idle boast as the newcomer lifts the bar to 525W/8ohm and 1025W/4ohm with 550W, 1080W, 1995W and a full 3390W (3.4kW) achieved under dynamic conditions into 8, 4, 2 and 1ohm loads, respectively [see Graph 1]. The 1ohm figure equates to a very substantial 58A/10msec current capability at <1% THD, indicating what we already know – the Momentum Z will drive any loudspeaker that's likely to cross its path.

That said, the sonic story behind the Momentum Z has less to do with brute force than the 'tuning' of its JFET input and bipolar output stage configurations. For example, the C2Z preamplifier's low noise [see Lab Report, p48] bests the MZ's merely 'average' 85dB A-wtd S/N ratio (re. 0dBW) just as the latter's 0.16ohm source impedance marginally limits bass damping, cables notwithstanding. The Z power amp shows the same 'sweetened' –0.3dB/20kHz and –4.5dB/100kHz treble as had its predecessors while its similarly conservative compensation (feedback) also means distortion may bring some gentle colour – note how THD almost doubles with each halving of load impedance from 1-50W [see Graph 1], before dropping to a minimum of 0.07% at 200W (re. 1kHz/8ohm). THD is otherwise impressively 'flat' from 20Hz-2kHz – important subjectively – but increases more markedly at HF [see Graph 2], reaching 0.25% at 1W, 0.65%/10W and a full 5%/100W (all re. 20kHz/8ohm). Adding to its 'colour', 19/20kHz IMD increases similarly (1.5% re. 10W/8ohm). **PM**



ABOVE: Dynamic power output versus distortion into 8ohm (black), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Maximum current is 58.2A



ABOVE: Distortion versus frequency versus power output (1W/8ohm, black; 10W, pink; 100W, red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	525W / 1025W
Dynamic power (<1% THD, 8/4/2/1ohm)	550W/1080W/1995W/3390W
Output imp. (20Hz–20kHz/100kHz)	0.16-0.17ohm / 0.21ohm
Freq. resp. (20Hz–20kHz/100kHz)	+0.00dB to –0.25dB/–4.5dB
Input sensitivity (for 0dBW/500W)	119mV / 2650mV
A-wtd S/N ratio (re. 0dBW/500W)	85.0dB / 112.0dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.025-0.65%
Power consumption (Idle/Rated o/p)	110W / 940W
Dimensions (WHD) / **Weight**	320x130x540mm / 45kg