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From the Vault
1957 and the dawn of stereo

McIntosh MA9000
The biggest Mac yet!

Naim Audio NDX 2
Network-attached DAC

THE hi-fi SHOW Live
10-11 November
See p19

UK £5.25 US $13.00 Aus $13.50
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Integrated DAC/amplifier. Rated at 300W/8/4/2ohm
Made by: McIntosh Labs, Binghamton, NY, USA
Supplied by: Jordan Acoustics, Bournemouth
Telephone: 01202 911886
Web: www.mcintoshlabs.com; www.jordanacoustics.co.uk
Price: £12,995

McIntosh MA9000

Billed as McIntosh's most powerful integrated amp to date, the mighty MA9000 combines transistors with transformers and a 'blue' aesthetic that's truly timeless
Review: **Andrew Everard** Lab: **Paul Miller**

Right, let's get the 'and fries to go' thing out of the way first. If ever a product deserved the title, this is the 'Big Mac'. Or at least 'Big Mc', for the McIntosh MA9000 is huge in every respect, from the sheer bulk of the thing – at least by the standards of most integrated amplifiers – to the 45.8kg fighting weight, increasing to 60.8kg packed, and the £12,995 price tag.

It's also the most powerful McIntosh integrated amp to date, sharing with its MA8000 stablemate a conservatively-rated 300W output – here, thanks to the use of 'Autoformers' in the output stage, consistent whether into 2, 4 or 8ohm loads [see PM's boxout p45, and Lab Report p47]. Even from a company not known for being shy or reserved when it comes to its products, the MA9000 is something of a brute, and clearly intended as a viable alternative to a conventional high-end pre/power combination.

CHOCK-A-BLOCK

The styling is either retro-cool, with the classic blue McIntosh meters prominent in the glass-fronted panel, or relentlessly in your face, from the massive 'grab handles' – more cosmetic than of much actual use when wrangling the thing into place – to the scattergun of switches and controls across the fascia. Meanwhile the 'lidless' design reveals the construction of the amplifier. Indeed, behind the impressive frontage this is more of a polished stainless steel chassis on which sit the various 'building blocks' involved. These even extend to the heatsinks which are not run-of-the-mill structures but, as the company puts it, 'McIntosh Monogrammed Heatsinks … so efficient at dissipating heat that they warrant bearing the McIntosh "Mc" logo'.

There's a lot of that trademarked stuff going on here, from the Sentry Monitor protection circuitry to the gold-plated Solid Cinch speaker outputs. But the most striking aspects of the amplifier – aside from the size, which I think I may have mentioned – are the unusual equaliser controls ranged across the front and, to the rear, the digital input section on the 'upper deck', above the chassis-mounted array of analogue ins and outs.

The eight-band equaliser is entirely analogue in operation, and can be called into play or bypassed using one of the five rocker switches on the fascia. The digital section here is entirely modular, and designed to be swapped out at a later stage if technology – or should that be fashion? – in digital audio changes.

In other words, rather than being deeply embedded in the fibre of the amplifier, the digital inputs stand alone as a discrete unit, and they merely feed into the main part of the MA9000. Two coaxial and two optical digital inputs are provided, along with a USB Type B 'computer audio' input, plus a whole load of other connections for custom installation applications. There's also a multi-pin MCT input for use with the company's MCT500 transport, allowing a secure connection for the transmission of SACD data, for example.

DACS 'N' DRIVERS

The digital section itself is based round an eight-channel 32-bit DAC, run in dual-differential mode, and able to handle up to 192kHz/24-bit via the conventional digital inputs, or 384kHz/32-bit PCM (inc. DXD) and DSD256 using the USB input. As is usual, a driver will be needed for Windows computers to use the USB connection, but none is needed to connect to a Mac.

RIGHT: Six pairs of ON Semiconductor power transistors (per channel) are coupled to the loudspeakers via custom transformers with 8, 4 and 2ohm taps. An ESS9016S DAC [centre of green PCB] handles PCM and DSD media

ABOVE: Classical 'Mac' aesthetics with an 8-band tone control, rotary input selection and volume. Unlike some meters we've seen of late, these are calibrated with absolute precision

Meanwhile, the analogue department affords two sets of balanced XLR ins, six line-ins on RCAs, and separate MC and MM phono inputs with user-adjustable loading.

Jumper bars allow the preamp and power amp sections to be separated if required; there's a fixed line output and a 'home theatre' unity gain bypass option; and a single set of speaker outputs for each channel, with 2ohm, 4ohm and 8ohm taps. Front panel switches can be used to turn on or off the amp's speaker and preamp analogue outputs.

Finally there's a fascia headphone socket which uses McIntosh's Headphone Crossfeed Director 'to attempt to give a more speaker-like sound' by allowing some bleed between left and right channels. Along with many more set-up functions – input trims, renaming, turning off unused inputs, *etc* – this is adjusted using the amp's menu system, entered by pushing the input selector control and scrolling through the available options. A full system remote control is also supplied [pictured, p47].

TUBEY IMPRESSIONS

Initial impressions of the MA9000 were somewhat underwhelming, whether used with its USB input fed from PM's in-house Melco N1ZS20/2 server [*HFN* Jun '17], or with the mighty dCS Vivaldi One player/DAC [*HFN* Feb '18] inserted between the two to feed the amplifier's analogue inputs. Playing through the B&W 800 D3 loudspeakers [*HFN* Oct '16], as usual ruthlessly revealing of what's happening upstream of them, the amp sounded more like a caricature of what many consider to be the 'valve sound', rather than an effortlessly powerful solid-state design.

> 'OK, so 4ohm tap bad, 8ohm good? Not quite so simple...'

The overall impression was of laziness with a vague rendition of recordings known to be good, less than precise imaging, a recessed soundstage and so-so instrumental timbres, with basses and drums in particular sounding boomy, hollow and poorly defined.

TURNING THE TAP

Playing the track 'In The Mountains', from the Espen Eriksen Trio's *Never Ending January* [Rune Grammofon RCD 2173], I was particularly struck by the 'drumming on plastic barrels' effect with Andreas Bye's usually taut percussion, while the great atmospheric Royal Festival Hall organ sound at the opening of Emerson, Lake & Palmer's 'The Three Fates', from the band's eponymous debut album [Atlantic 781 519-2] was again rather anonymous and lacking in impact. This was not good, and some head-scratching ensued – I was beginning to wonder whether something somewhere in the chain had put one channel out of phase with the other, so pronounced was the effect.

The solution, when it came, was somewhat unexpected: it seems that while the transformer output of the amp does a good job of maintaining equal power whichever setting you choose, care is required when selecting the best 'tap' ⇨

TRANSFORMER COUPLING

***HFN* Apr '18 featured Perreaux's 255i, the self-proclaimed 'World's Most Powerful Integrated Amplifier' which, on test, delivered 2x435W/8ohm and 2x630W/4ohm. While this still bests McIntosh's 2x420W by the skin of its transistors, the MA9000 has its own claim to fame – the 'Audio Autoformer'. While transformers are typically used to match the high output impedance of a tube circuit, and deliver useful power, to the low (8, 4ohm, *etc*) impedance of a loudspeaker, McIntosh is using its own multifilar-wound transformers here to *manage* the power of its solid-state amp into different speaker loads without fear of overload or overheating. Thus it can rate the MA9000 as offering a consistent 300W into 8, 4 *and* 2ohm loads when measured via the 8, 4 and 2ohm secondary windings of its autoformer. (There are two secondary windings – one 8ohm and another for 4ohm with a 2ohm tap.) Moreover, with the secondaries and primaries interleaved for improved frequency response and forming part of the MA9000's feedback network, it suffers neither the high output impedance nor the distortion (at low frequencies) of the archetypal valve amp. PM**

ABOVE: No fewer than eight line ins (six on RCAs, two balanced on XLRs) are joined by MM/MC, plus fixed (RCA) and variable (XLR) pre outs and 8, 4 and 2ohm speaker outputs. There are also four S/PDIF digital ins (two coax/optical) and a USB Type B

for the speakers in use. In set-up we'd selected the 4ohm setting for the B&W speakers, but things livened up remarkably when we switched to the 8ohm output.

Suddenly the life came back into the music. The MA9000 remained on the big, rich and bold side of neutral, but a vivid energy was injected back into drums and basses, giving them timing and definition. The soundstaging tightened up too, taking on focus and three-dimensionality, and the ambience and characteristic growl flooded back into the mighty RFH organ on the Emerson, Lake & Palmer track.

OK, so 4ohm tap bad, 8ohm good? Not quite – in practice it's more a question of not making assumptions about the correct speaker output to use, whether based on nominal or minimum impedance claims, or just guesswork. Rather, the sensitivity of the interaction of the chosen output on the MA9000 with the partnering speakers suggests some experimentation is required in order to settle on the best sounding output tap.

That done, I enjoyed a wide range of music through the big amplifier, also discovering the analogue equaliser to be very subtle in its operation, if best left bypassed for critical listening. The amp showed itself capable of dramatic punch with the likes of the Britten 'Sea Interludes', from the classic Decca recording of *Peter Grimes* [414 5772], and extreme subtlety in Lake Street Dive's spare reading of 'I Want You Back', from *Fun Machine* [Signature Sounds SIG2032], with excellent shaping of bass, percussion, trumpet and voice.

LEFT: The HR085 handset partners with all McIntosh separates, offering input selection, volume and mute for the MA9000 amplifier

DIGITAL DRAMA

The onboard digital stage, while excellent, lacks some of the subtlety heard when using the analogue inputs – hardly surprising, with £55k of dCS's finest supplying the tunes – but has both drama and refinement in its favour, especially when using the USB Type B input to play ultra-high-resolution tracks. In the absence off an offboard super-DAC to feed the MA9000, it's more than up to the job, enabling users to enjoy all that this excellent amplifier can deliver whether with analogue or digital sources.

Yes, this huge integrated is more than a match for many a very good pre/power combination.

HI-FI NEWS VERDICT

Get beyond the sensitive interaction between speakers and its range of output taps, which requires some experimentation, and the MA9000 reveals itself to be a very serious amp indeed – from effortless power delivery and control to its cunningly-concealed flexibility of set-up and operation. It may not be everyone's idea of a no-compromise amp, but it has the performance to back up its considerable size and mass.

Sound Quality: 85%

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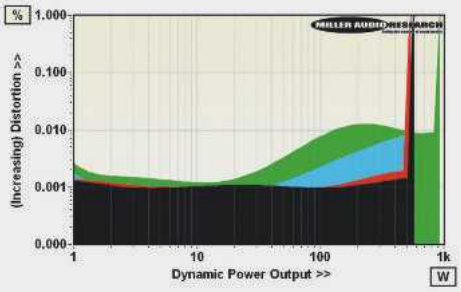
LAB REPORT

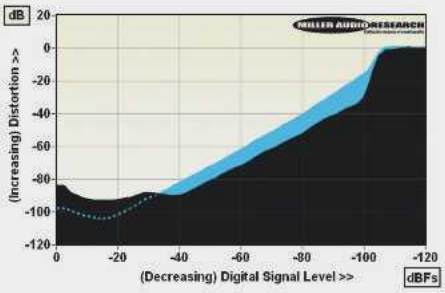
MCINTOSH MA9000

The MA9000's multifilar-wound transformer-coupled output has been a staple of its high-power amplifiers for decades [MC510, *HFN* Jun '08 and MC601, *HFN* May '11] and by offering a full 2x420W/8ohm and 2x415W/4ohm it continues its tradition of overwhelming its basic specification (300W in this instance). Under dynamic conditions this improves to 575W/8ohm, 545W/4ohm and 560W/2ohm via the 8, 4 and 2ohm output taps, respectively, with 935W/1ohm (30.6A) also via the 2ohm tap. Distortion is remarkably unaffected by output level or loading at typically 0.00075-0.001W over the first 100W [see Graph 1] and with frequency from 0.0004%/20Hz to 0.0036%/20kHz. Moreover, McIntosh's 'Power Guard' protection regime is remarkably effective at preventing THD from exceeding 1% no matter how hard the MA9000 is pushed, and the (inner) heatsink temperature holds to 48°C. Noise is moderately low, yielding an A-wtd S/N ratio of 88.1dB (re. 0dBW) while its freq. response reaches –0.25dB/20kHz and –3.35dB/100kHz (8ohm tap).

The digital board, based on an ESS9016 Sabre DAC with a standard linear phase filter selected by McIntosh, offers a moderate 0.002-0.012% distortion (20Hz-20kHz, 0dBFs) from its fixed preamp outputs (2.15V), with a minimum of 0.0009-0.003% at –20dBFs [see Graph 2] and with response limits of +0.3dB/20kHz, +0.6dB/45kHz and –8.3dB/90kHz with 48kHz, 96kHz and 192kHz media, respectively. The A-wtd S/N ratio is a respectable 110dB and jitter suitably suppressed at <90psec (all sample rates) but low-level resolution is effectively muted below –100dBFs [again, see Graph 2]. Top-billing here is the analogue amp and autoformer, rather than the partnering DAC stage. **PM**



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 30.6A



ABOVE: Distortion versus 24-bit digital signal level over a 120dB range at 1kHz (black) and 20kHz (blue)

HI-FI NEWS SPECIFICATIONS

Continuous power (<1% THD, 8/4ohm)	420W / 415W
Dynamic power (<1% THD, 8/4/2/1ohm)	575W / 545W / 560W / 935W
Output impedance (20Hz–20kHz)	0.152–0.195ohm (150ohm, pre)
Freq. resp. (20Hz–20kHz/100kHz)	–0.28 to –0.25dB/–3.35dB
Digital jitter (S/PDIF at 48kHz/96kHz)	90psec / 65psec
A-wtd S/N ratio (re. 0dBW/0dBFs)	88.1dB (Analogue) / 110.3dB (Dig)
Dist. (20Hz-20kHz; 0dBW/–20dBFs)	0.0004–0.004%/0.0009–0.003%
Power consumption (idle/rated o/p)	61W / 1180W (1W standby)
Dimensions (WHD) / **Weight**	445x240x559mm / 45.8kg