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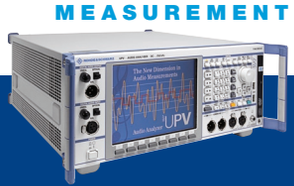
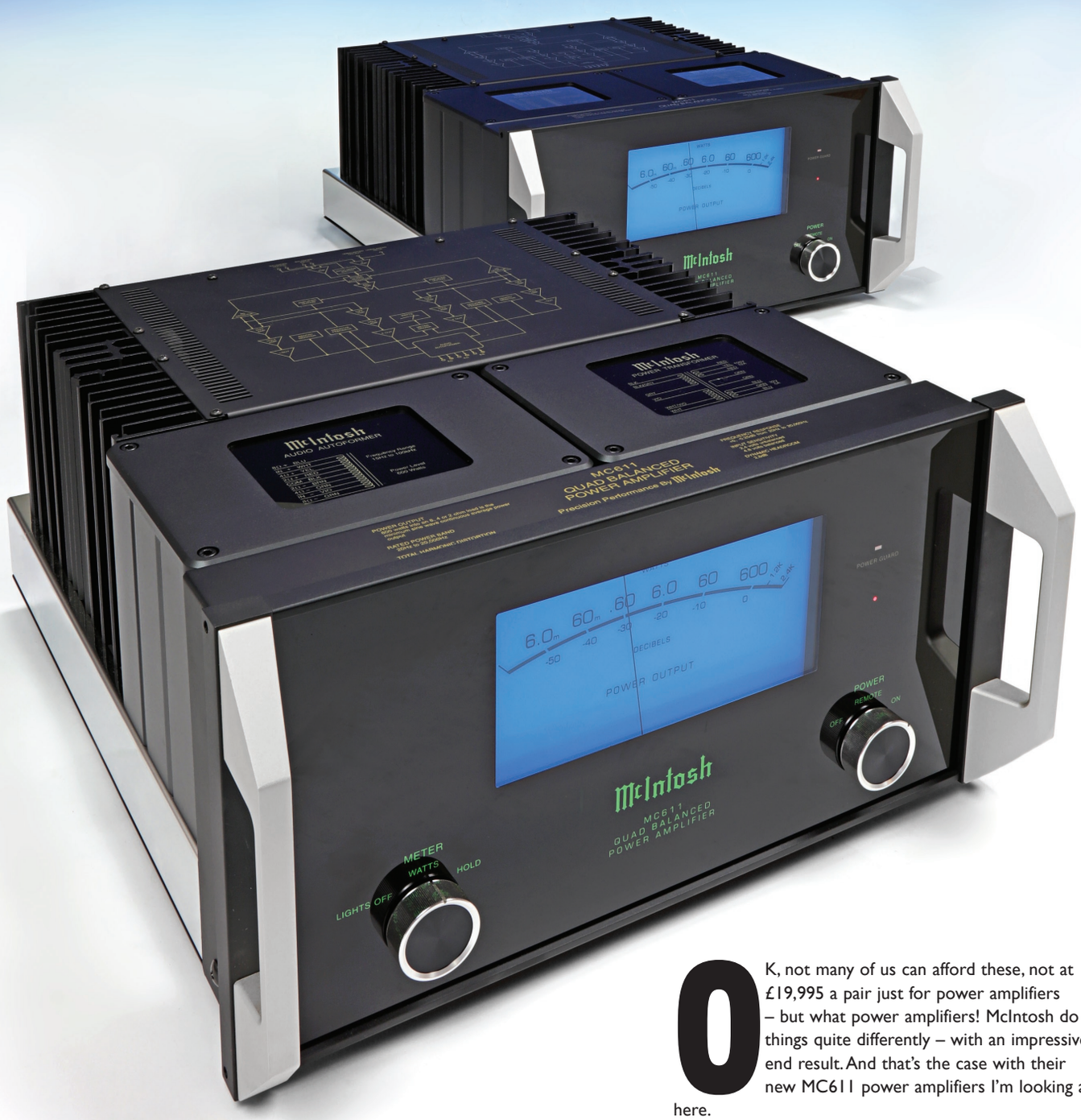


7 PAGES OF LETTERS – THE BEST WINS A PAIR OF TANNOY MERCURY 7.2 LOUDSPEAKERS! (UK ONLY)

HI-FI WORLD

Display Of Power

Big, expensive but massively impressive – Noel Keywood relishes the sound of McIntosh's new MC611 monoblock amplifiers.



OK, not many of us can afford these, not at £19,995 a pair just for power amplifiers – but what power amplifiers! McIntosh do things quite differently – with an impressive end result. And that's the case with their new MC611 power amplifiers I'm looking at here.

For your money you get no less than 600 Watts

Internally, paralleled output transistors and their associated emitter resistors (white) sit on circuit boards attached to large heatsinks. This is a classic Class A/B amplifier, not Class D.

per channel – that's the headline figure most people will look at even if it is hard to use except in the biggest homes – as these amplifiers so clearly demonstrated with their meters.

For me the headline feature of these big Macs is their transformers. Yep, I know it sounds boring but McIntosh amps are a story in themselves here and my experience with designing valve amplifiers informs me of their potential. McIntosh do the seemingly insane: use output transformers in a transistor amplifier. They add massively to size, weight and cost – and the whole point of transistors (sort of) was to do away with such things. Yet these massive McIntoshs have them – for reasons I will explain later.

As a result it took three of us to lift one monoblock amplifier, each weighing 44kgs (98lbs). The big grab handles at the front aren't cosmetic – the transformers and weight are at the front. Each monoblock is 44.5cms (17.5 in) wide so will fit a standard 19in rack. It is 56cms (22in) deep and 24cms (9.5in) high. But you'd need a strong rack. They run cool.

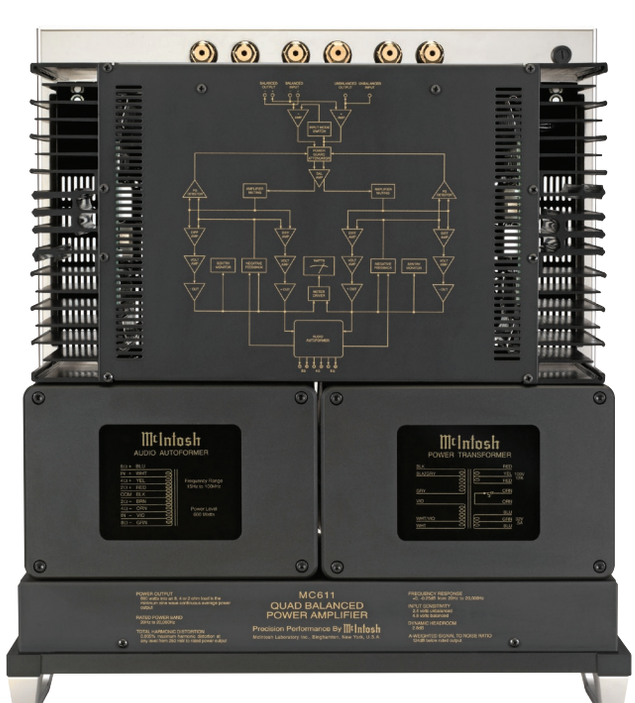
The front panel carries a rotary meter switch at left to select illumination of the meters or additional peak hold. With peak hold selected you get to see how large were the shortest of musical peaks; our tests showed the drive circuits captured everything.

The right rotary is a power switch and it's important to remember here that any source must be turned right down beforehand, or the loudspeakers may go into orbit. There are comprehensive protection circuits but they only work after 600 Watts has been emitted – way too much for most loudspeakers or humans close by.

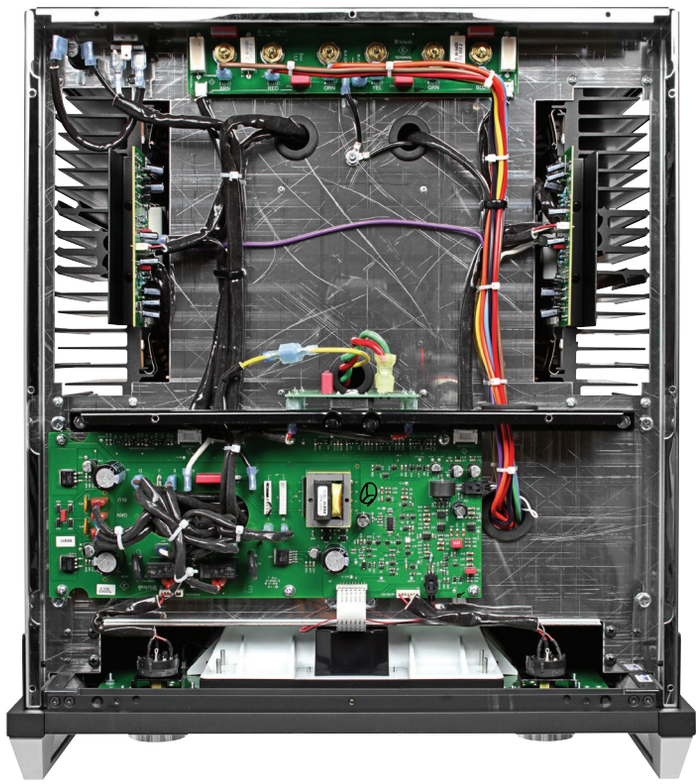
The rear panel carries both RCA phono socket (unbalanced) input, and XLR (balanced) inputs, as well as outputs. There are three pairs of large gold plated loudspeaker output sockets for 8 Ohm, 4 Ohm or 2 Ohm loudspeakers, accepting 4mm banana plugs, bare wires or spades.

Nowadays most loudspeakers are nominally 6 Ohms and can be connected to either the 8 Ohm or 4 Ohm terminals but it is best to use the latter to cope with 4 Ohm bass drivers. I used the 2 Ohm terminals to match our Martin Logan X-Stat electrostatic panels that sink to 1 Ohm at 20kHz but this really isn't critical; 4 Ohms would do since the MC611s are not going to be stressed – meaning distort or run out of current – by such a load.

Build quality was superb as it has to be to support the weight of the transformers – and finish excellent too. Like all McIntosh products, turn on brings forth a bright display from the meters and the back-lit fascia: these monoblocks



McIntosh made their name with powerful valve amplifiers employing complex output transformers. The MC611 similarly uses a complex output transformer at left and a mains transformer at right, complete with circuit diagrams.



A stainless steel chassis supports the weight of the transformers, heavy coloured wires from the output auto-transformer, at right here, leading back to large gold plated loudspeaker binding posts at rear. There are no cooling fans so the unit runs silent.

SOUND QUALITY

The MC611s were connected to our Martin Logan ESL-X loudspeakers through Chord Signature Reference cables, fed direct from our Oppo UDP-205D universal player connected by XLR, to spin both CD and accept hi-res digital from an Astell&Kern AK120 portable player.

The sound was so intriguing I also, alternatively, connected in an Icon Audio PS3 valve phono stage that, like the Oppo, has a volume control so can be used direct with no intervening preamp. It was fed by our Timestep Evo modified Technics SL-1210 Mk2 turntable with SME309 arm and Ortofon Cadenza Bronze moving coil cartridge.

Spinning high dynamic range CDs brought out some fascinating properties. The MC611s were supremely smooth to silky in their treble – reminding me of our Icon Audio Stereo 30SE valve amplifier. They also have quite a full-bodied quality – again like valve amplifiers. But then there were the dynamics: sudden swings from a very quiet background to quick stabs out into the room, for example at the start of Safri Duo's 'Sam Adagio' where a quick rustle that heralds track start lanced out of the 'speakers, before the droning synth bass kicked in with force.

The "quick rustle" was peculiarly sweet and tinsel like in a beguiling

> "This made for a lovely organic presentation, underpinned by massive dynamic contrasts."

are no shrinking violets!

The meters have drive circuits that accurately capture even the shortest peaks (see Measured Performance) but it may seem ironic that getting much past 6 Watts at centre scale was difficult. I managed to hit 60 Watts for a brief moment on a Saturday morning with nobody in the office building but could never listen at that level. McIntosh's notes on their protection circuits gave me the feeling some of their customers do use such power and they also make a 1.2kW amplifier if these little monsters aren't enough.

But why transformers? To allow the use of 'fast' output transistors working at low current (but high voltage), resulting in less distortion. The 611s – like our in-house MC152 – produced negligible distortion at all frequencies and outputs, including at 40Hz and 10kHz – quite unlike most other amplifiers on the market.

Easy load matching is a side benefit, including 600 Watts into 2 Ohms, which requires so much current (17A) most amplifiers would melt. This also allows McIntosh amps to drive electrostatic panels (1 Ohm at 20kHz) with ease. Auto-transformers were used in early transistor amplifiers to protect fragile output transistors so it's not an unknown technique, but McIntosh have brought new understanding to it. The downside is weight and cost.

The rear carried 8 Ohm, 4 Ohm and 2 Ohm loudspeaker terminals in pairs, fed by dual-balanced internal circuits coupled through the output auto-transformer. Balanced and unbalanced inputs and outputs are provided.

The big meter is back illuminated and glows bright blue, but lighting can be switched off. It is driven by electronic circuits able to capture the shortest musical peaks, so offers an accurate reading of output level. The fascia is glass.

manner, where other transistor amplifiers have a hissy quality.

Similarly, the strings of Nils Lofgren's guitar in 'Keith Don't Go' had vivid power yet not the lacerative quality I'm accustomed to, possessing instead more inner detail and a richly decorated analogue feel that was lovely to hear. Again – valve-like!

This sense of laconic ease was more surprising than the massive dynamics the 611s coolly produced. I was expecting edge-of-the-seat listening – as from muscle-amps of yore – but instead heard something quite different: a laid back but sophisticated sound that was easy yet convincingly real.

The soundstage was solidly constructed and there was good sense of depth too, a gentle aura surrounding the Chicago Symphony Orchestra playing Mahler's 'Symphony No8, Veni Creator Spiritus' (24/96), without compromise to dynamics that were forceful.

As McIntosh claim, their use of double-balanced circuits does subjectively cancel noise and distortion to reveal an almost eerie silence from these amplifiers, between musical crescendos. There is of course supreme bass grip and thrust, with plenty of timbral expression within John McVie's bass on Fleetwood Mac's 'Dreams' (24/96).

LP sounded as smoothly composed as CD and hi-res. There was less contrast between our Icon Audio PS3 valve phono stage and Oppo UDP-205D universal player than I expected, but LP – as always – had a sense of pace and liveliness the 611s strongly conveyed.

CONCLUSION

The MC611s may be vastly expensive but they are equivalently impressive. Most surprising is their full-bodied sound graced by silky smooth treble, yet with fabulous mining of inner detail. This made for a lovely organic presentation, underpinned by massive dynamic contrasts. All the while their big illuminated meters provide reassurance that the loudspeakers are not about to evaporate! They're a great experience.

MEASURED PERFORMANCE

Rated at 600 Watts, under measurement the MC611 produced 750 Watts into an 8 Ohm load and 813 Watts into a 4 Ohm load. With an output auto-transformer it should in theory produce the same power into any load, differences here being relatively minor.

The big power meters have a logarithmic scale: centre scale is 6 Watts, so the needles don't sit idle whilst playing in the home, commonly peaking to centre scale. Measuring their needle ballistics with short tone bursts showed good indication down to 0.01 sec., the Hold function able to capture and display 0.001 secs (1mS) peaks. They display short-term music peaks with superb accuracy.

Frequency response measured flat from 5Hz to 52kHz from the 2 Ohm, 4 Ohm and 8 Ohm outputs.

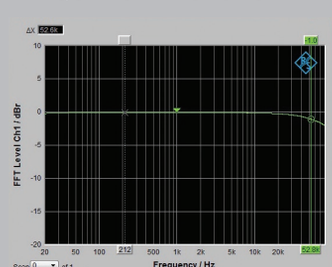
A feature of McIntosh's output auto-transformers is incredibly low distortion at all frequencies: the value at 10kHz was the same as 1kHz and 40Hz, just 0.007% – extremely low and almost unmatched by other amplifiers, especially into low loads. The output transistors work at higher voltage and lower current than is usual, low current offering higher linearity. The MC611s offer brute force with finesse. Their 2 Ohm tap matches electrostatics that sink to 1 Ohm at 20kHz

Input sensitivity was a very low 2.7V through the RCA phono sockets (unbalanced) and 5.4V through the XLR sockets (balanced): a preamplifier is needed for full output. However, the 2V output of a silver disc player will deliver 440 Watts and 1V input 100 Watts – enough for most people. A passive preamplifier can be used then.

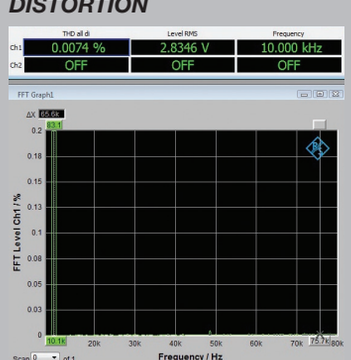
The MC611s offer massive power with minimal distortion at all frequencies, into any load. In doing so they are virtually unique. If full power is wanted a preamplifier is necessary, otherwise a passive will do. **NK**

Power (8 Ohms)	**750W**
Frequency response (-1dB)	**2Hz-52kHz**
Distortion (10k, 1W, 4Ω)	**0.007%**
Sensitivity	**2.7V / 5.4V**
Noise	**-118dB**
Damping factor	**65**

FREQUENCY RESPONSE



DISTORTION



MCINTOSH MC611 MONOBLOCK POWER AMPLIFIER
£19,995 PER PAIR

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- indestructible

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