

# McINTOSH C2500 & MC452

Reviewer Edgar Kramer

PREAMPLIFIER & POWER AMPLIFIER





△ CUSTOM GOLD-PLATED SPEAKER BINDING POSTS ARE PROVIDED FOR 8-, 4- AND 2-OHM LOADS.

McIntosh can be said to be an iconic American brand. The company was founded in 1949 when Frank H. McIntosh and Gordon Gow collaborated on its first product, the 50W1, a high powered, high bandwidth and low distortion (for the time) amplifier providing 50 watts. It featured what was to later become known as the 'Unity Coupled' circuit topology, a McIntosh signature trademark that was to establish the company as a highly-skilled engineering-led manufacturer.

Naturally, as one of the oldest audio companies still in existence, McIntosh has had ownership changes and has adjusted to emerging technologies as they evolved in the 60-odd years since the company's inception. But certain aspects of McIntosh's circuit designs — its solid engineering principles and the retro-style aesthetics have been a constant. Visually, McIntosh styling is renowned for its desirable beauty; the trademark polished black glass front panels, period-look round knobs and large blue backlit wattage meters.

The company has significant firsts in terms of music history as well as engineering — McIntosh provided the amplification for the iconic 1969 Woodstock concert which then led to the design of the legendary 29,000-watt 'Wall of Sound' public address system for The Grateful Dead. Later, the P.A. system's design led to McIntosh's line array speaker products.

Regarding its ownership history, McIntosh was sold to Japanese car audio specialist Clarion in 1990. Clarion's ownership had a major impact, opening avenues in car audio and home theatre, while honouring its promise to maintain McIntosh's established identity and design independence. The relationship lasted until 2003 when Clarion sold McIntosh to D&M Holdings

(owner of Denon and Marantz among others) who maintained ownership until 2012 when it sold McIntosh to its current owner, Italy's Fine Sounds Group, which also enjoys Audio Research, Sonus faber and Wadia in its prestigious portfolio.

**THE SAME BUT DIFFERENT**

Whether true or false — more likely false as an absolute blanket concept — some enthusiasts believe that the McIntosh 'House Sound' is somewhat warm and romantic, and that the company's amplification products are ingrained thus due to the sonic signature of enormously successful products in McIntosh's earlier days. But audio enthusiast tastes are now angled more towards ultimate detail and resolution. So it would seem the company has, once again, adjusted to the call of the times.

Over the last few years Senior Electronic Design Engineer Ron Evans has, in conjunction with McIntosh President Charlie Randall, captained the design team responsible for the new McIntosh products. The current band of solidly engineered components — still proudly manufactured in Binghamton, New York — exhibit a neutral sound signature but with a light peppering of legacy valve beauty, even on the solid state designs. Some call this the "new" McIntosh sound. And that's what unmistakably came through in our listening sessions.

So here for review we have the C2500 valve preamplifier, which also includes digital inputs for the built-in DAC, and the powerhouse MC452 stereo solid-state amplifier, McIntosh's biggest two-channel power amp.

**EQUIPMENT**

Delivery was rather interesting — two massive boxes stacked and tightly steel-strapped to a 'high-tech' plastic pallet and cocooned within thick layers of heavy-duty black cling wrap, all

▶ A LARGE HEATSINKING ARRANGEMENT FLANKS THE CAPACITOR BANK, WHILE THE FRONT HALF OF THE AMPLIFIER HOUSES THE POWER TRANSFORMER WITH AUTOFORMERS ON EITHER SIDE OF IT.

near-one hundred kilograms of it left four steps down from house level by a courier with a dump-it-and-scream attitude. Somehow, in the process of single-handedly getting the kit in the listening room, all was unscathed (gear, if not and writer). Both preamp and power amp are double-boxed in heavy cardboard boxes and snugly held within thick foam. Once unpacked, audio components of extraordinary beauty are revealed, with clearly top-shelf fit and finish.

The C2500 preamplifier is based on six 12AX7a valves and is full-featured to say the least. Connectivity is comprehensive and includes six unbalanced RCA inputs, two balanced XLR inputs, two phono inputs, a processor loop, multiple balanced and unbalanced outputs, a stack of data ports and more (see panel for full listing). Several digital inputs are also provided by way of asynchronous USB (2.0, 32-bit/192kHz), optical and coaxial mated to the built-in DAC. Conveniently, there's an on-board sophisticated menu structure which can be navigated via the front display, and aside from adjusting all-manner of functionality, this can also level-match between the multitude of inputs (which can also be individually named). A rubber-coated, backlit full function remote control is included but, awkwardly, no batteries are supplied.

The C2500 is an 'Ultra Low Distortion' design (0.08 percent from 20Hz to 20,000Hz) with a frequency response of 20Hz to 20,000Hz within +0/-0.5dB, and from 10Hz to 100,000Hz between +0/-3dB. Input impedances are 44kohm and 22kohm (balanced/unbalanced) while the gain from the line outputs is 15dB and 60dB for the MM and MC phono stage.



The glorious chassis is split into two sections, with the lower part being perfectly chromed on the sides and back. The black glass fascia sports the trademark blue backlit meters flanking the dot-matrix display, here depicting output in decibels. Twin retro-style knobs select inputs and adjust volume level. A headphone output is followed (reading from left to right) by a processor switch, tone control defeat (these can

be adjusted via the menu), and the gain trim, mute, output select and standby buttons.

The monster MC452 power amp matches the preamplifier aesthetically by sporting the black glass fascia, of course, twin large meters (output wattage this time), and two knobs, one for meter control (lights off, watts and peak hold) and one for power which includes a position for remote switching via 12V connection. A new and attractive design element is provided via two large brushed aluminium handles.

The rear of the amp sports a wealth of high-quality speaker binding posts (12 in total catering for 2-, 4- and 8-ohms speaker loads) of proprietary design and in gold livery — McIntosh provides a neat little tool to adjust tension and clear plastic covers with cable entry windows for protecting the posts from possible



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A CONTEMPORARY REFRESH OF CLASSIC MCINTOSH STYLING; POLISHED GLASS, LARGE BLUE BACKLIT METERS, GREEN FONT AND POLISHED STAINLESS STEEL.



short circuits, dust and curious little fingers. Both balanced and unbalanced connections are provided for inputs (switchable) and outputs, while there are the aforementioned 12V trigger in/out. The rear half of the MC452 is all heatsink aside from a central narrow channel housing the large capacitor bank. A 1.2kVA 20-amp-rated transformer is centred on the front half and is flanked by McIntosh's proprietary 'Autoformer' transformer-coupled output (more on that later). A total of 20 high-current ThermalTrak transistors are used per channel.

McIntosh offers a suite of proprietary technologies unique to its amplifiers' circuitry as part of the company's 'Power Assurance' protection scheme. Firstly, the 'Power Guard' circuit monitors the signal's waveform between input and output and prevents the onset of clipping and the resultant distortion and potential speaker damage. Similarly, 'Sentry Monitor' fuse-less circuitry has

been designed to prevent over-current situations and basically shuts the amp down while resetting automatically (the amp did not even blink with my brutally current-hungry speakers). A thermal protection circuit prevents damage from overheating. A power-saving feature turns the amplifier off if no signal is present.

Further defence is provided by the McIntosh-designed and manufactured Autoformers which provide DC protection and can save your speakers in the extremely unlikely situation where there's

a catastrophic amp failure. The main role played by the Autoformers, however, is one of impedance power matching between amp and speakers; one per channel, the Autoformers allow low distortion equal power delivery into 8-, 4- and 2-ohms.

The amp is 'Quad Balanced', a circuit design that McIntosh has been perfecting for the last 20 years or so. It's basically a true balanced design that operates from input to output. Put simply, a true balanced circuit provides significant noise rejection and distortion minimisation. So to make up the 'Quad Balanced' configuration, two matched push-pull amplifiers combine into the Autoformer for a claimed elimination of just about all potential sources of distortion.

So the MC452 is a powerhouse in terms of output, safety and technologies. McIntosh quotes 450 watts into eight, four or two ohms, thanks to the Autoformers, with a THD of 0.005 percent at all power levels from 20Hz to 20kHz. Frequency response is stated as being from 10Hz to 100kHz (+0, -3dB) while the damping factor is greater than 40 (wide band), input impedance 22kohms both balanced and unbalanced and the voltage gain is 29dB, 26dB and 23dB for the eight-, four- and two-ohm taps respectively.

#### PERFORMANCE

Using such a full-featured preamplifier is a delight. After source and power amp hook-up and the initial set-up — gain matching between the different inputs, etc — you can sit back and operate just about everything via the fully-featured remote control.

The review samples were spanking new, so I fed them signal and clocked about 100 hours before starting the formal auditioning. The combo displayed a solidity to the sound picture that was a treat straight off. The soundstage presentation was actually enormous in all perspectives, even in its remarkable image height. With this came a sense of scale and dynamism that, in

terms of these two aspects, places this pre/power combo amongst the best we've had in-house.

And as polarising as Autoformers can be in the context of solid-state amplification, I did not notice any deleterious effect — none of the so-called plodding bass and soft top-end. Bollocks to that I say!

The C2500 and MC452 team displayed enormous dynamic expressiveness while tightly gripping our Wilson Audio Alexias' bass drivers in a solid stranglehold. There were detailed, tight and powerful low frequencies fortifying the foundation to the musical experience.

At the other extreme, the highs were as extended as on any other excellent amplification technology or implementation. Cymbals and bells decayed beautifully in an 'airy' ambience and there was no lack of presence and immediacy. A great illustration to savour the high frequency delights would be an engaging recording such as Argentina's modern tango stunner *Sera Una Noche*, where the triangle and small bell-sounds hang in the large ambience only to seep delicately away with natural decay.

There's a glory to the combo's midrange presentation that brings a strong sense of presence to vocals. From Musica Nuda's Petra Magoni's delicately subtle vocal passages through to her soaring-high lashings the McIntosh team kept composure, never straining or brash, yet scaling the crescendos in seamless unison.

A component's handling of tonal complexities is one of the most important aspects of accurate music reproduction, at least as far as this writer is concerned. The MC452 seems a more skilled communicator of subtleties and transparency even than the C2500's already thorough capabilities; the respect paid to tonal qualities of musical content was outstanding. And if ultimately the MC452's handling of fine detail and micro-dynamic transient information was superior to the C2500's, nevertheless, as a combo I never felt I was missing out on any music.

The sonics from all the sources auditioned, no matter the format (I used CDs, a very good quality FM tuner and AIFF files from Macbook via Bit Perfect straight into the C2500's rather superb in-built DAC) — all replayed in a most balanced and natural way. This allowed the musicians' intent, and the music in its entirety, to connect and to be felt both emotionally and physically.

#### CONCLUSION

The McIntosh C2500 and MC452 excel at spectacular dynamic expression, beautiful and accurate tonality, satisfying detail retrieval, and the recreation of a generous soundfield. All these qualities will satisfy the most demanding audio hobbyist.

Further, if a single expression could be used to absolutely encapsulate what this combo's sonics is about, it would be the word 'natural'. Actually, add another one — 'honesty'. And it's both of these characteristics that capture the music lover.

Bruce Cockburn once wrote "everything is bullshit but the open hand..." Yes, the attributes of openness and sincerity to the music summarise what the McIntosh C2500 preamplifier and MC452 power amplifier are all about. And I say that... very honestly. ■



## SPECIFICATIONS

### McINTOSH C2500

**TUBE:** 6 × 12AX7a

**FREQUENCY RESPONSE:** 10Hz to 100,000Hz (+0, -3dB)

**INPUT IMPEDANCE:** 44kohm, 22kohm (balanced/unbalanced)

**PHONO VOLTAGE GAIN:** 60dB

**HIGH LEVEL VOLTAGE GAIN:** 15dB

**HEADPHONE OUTPUT:** 6.5mm High Drive

**INPUTS:** 6 × stereo, 2 × phono unbalanced (moving coil/moving magnet), 2 × stereo balanced, 1 × USB digital (2.0, 32-bit/192kHz asynchronous), 1 × digital coaxial, 2 × digital optical, 2 × digital DIN, RS232 control

**OUTPUTS:** 3 × stereo unbalanced, 3 × stereo balanced, record processor loop, home theatre pass-through

**tone Controls:** Yes, with bypass

**POWER CONTROL OUTPUT:** 1 × main, 2 × switched, 2 × trigger, rear panel IR sensor input

**DIMENSIONS (WHD):** 445 × 194 × 457mm

**WEIGHT:** 13.8kg

**PRICE:** \$11,995

### McINTOSH MC452

**POWER OUTPUT PER CHANNEL:**

450 watts at 2-, 4- or 8-ohms, Quad Balanced, Autoformer circuit design

**TOTAL HARMONIC DISTORTION:** 0.005%

**S/N BELOW RATED OUTPUT:** 124dB

**DYNAMIC HEADROOM:** 1.8dB

**DAMPING FACTOR:** >40 Wideband

**FREQUENCY RESPONSE:** 20Hz to 20,000Hz (+0, -0.25dB), 10Hz to 100,000Hz (+0, -3dB)

**INPUTS:** 1 × balanced, 1 × unbalanced

**OUTPUTS:** 1 × balanced, 1 × unbalanced, 12V trigger in/out

**DIMENSIONS (WHD):** 445 × 240 × 559mm

**WEIGHT:** 49.9kg

**PRICE:** \$15,495

**DISTRIBUTOR:** Synergy AudioVisual on 03 9459 7474  
www.synergyaudio.com

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McIntosh offers a suite of proprietary technologies unique to its amplifiers' circuitry...