

# AUDIO ESOTERICA

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REVIEWED

### SPINNING ON AIR

Holbo's air-bearing turntable



REVIEWED

### THE POWER OF THREE

McIntosh's three-box amp





# McINTOSH

## C12000C CONTROLLER C12000ST PREAMP MC3500 MKII MONO POWER AMPLIFIERS

**M** McIntosh built its first valve amplifier back in 1949, making it one of the longest-running audio brands in the world. It started building transistor (solid-state) amplifiers in 1967 and now also builds not only valve and solid-state amplifiers, but also 'hybrid' amplifiers that employ both valves and solid-state devices.

So it shouldn't come as a surprise that the McIntosh C12000ST Preamplifier can operate either as a valve amplifier or a solid-state amplifier. Choosing which amplifier type you'd like to listen to is as simple as flicking a switch.

The MC3500 MkII mono power amplifier's design is an homage to one of the most famous amplifiers of all time, the original McIntosh MC3500, dozens of which were used to power the sound system at the most famous music festival of them all, 1969's Woodstock.

### C12000ST PREAMPLIFIER/ C12000C CONTROLLER

As you've no doubt gathered from the photographs of it on these pages, the C12000 Preamplifier/Controller is not one single integrated unit, but two completely physically separate components. The C12000 Controller (C12000C) does exactly what you'd imagine given its name — it manages the signal path routing, input and output signal switching, volume control, format implementation, and so on. It's essentially the 'brains' of the duo.

The C12000 Preamplifier (C12000ST) is the device that does the actual amplification of the audio signal — at least up to the point where it's able to send it on to (in the configuration supplied for this review) the two MC3500 MkII power amplifiers.

Up to twelve analog sources can be connected to the rear of the C12000, six of them via balanced inputs, and the other six via unbalanced inputs. Of the six unbalanced inputs, two are reserved as phono inputs, each of which can be configured either as a moving-coil or a moving-magnet input, and both of which can have different settings for capacitance, resistance and gain. (Resistance loads

are selectable between 25Ω and 47kΩ; capacitance loads between 50 and 400pF.)

The McIntosh C12000 certainly has more analogue inputs than you will likely ever need, but what it does not have are any digital inputs, nor any ability to connect to the internet via Ethernet. It's an all-analogue component. This means that you'll need to do digital-to-analogue conversion externally, whether it's from CD, SACD or DVD, or a streaming device.

### MCINTOSH MC3500 MKII

We were fascinated to learn that the blue colour of the meters is adjustable, so that newer LED illuminated displays can be matched with the displays on older models, which used incandescent illumination. But the only control the end user has over the meters is the ability to turn the blue light off completely, and to switch the ballistics of the meter from 'watts' to 'hold'. In the 'watts' mode, the needle dances around showing output power from 3.5 milliwatts (-50dB) to 350 watts (0dB) whilst in the 'hold' mode the needle shows the most recent highest power output.

The output valves — all eight of them! —



▽ THE MCINTOSH C12000ST PREAMPLIFIER CAN OPERATE EITHER AS A VALVE AMPLIFIER OR A SOLID-STATE AMPLIFIER. CHOOSING WHICH AMPLIFIER TYPE YOU'D LIKE TO LISTEN TO IS AS SIMPLE AS FLICKING A SWITCH.







△ THE VALVES IN MCINTOSH AMPLIFIERS OFTEN GLOW 'MCINTOSH GREEN' DESPITE MOST VALVES GLOWING RED. IT'S A TRICK: GREEN-LED ILLUMINATION IS USED TO OVERPOWER THE RED GLOW.



Comprehensive circuit protection comes via two of McIntosh's most renowned circuits: Power Guard and Sentry Monitor

that McIntosh uses in the MC3500 are EL509S beam pentodes, a valve that is a modified version of the original EL509 that has no top plate-cap and an 8-pin octal base. In this design they not only deliver an audio output of 350-watts into any load.

The driver section of the MC3500 MkII is more like that of the original MC3500, being fully balanced, using one 12AT7A and three 12AX7A valves. The special output transformers are also inherited from the original MC3500 and use a unique Unity Coupled design, or what inventors Frank McIntosh and Gordon Gow referred to as a "unity coupled balanced differential feed". McIntosh managed to extend the patents on this transformer design for so long that when they finally extinguished, the transformer was too expensive for anyone who didn't already have the winding machinery to build.

Comprehensive circuit protection for the MC 3500 MkII comes via two of McIntosh's most renowned circuits, its 'Power Guard Screen Grid Sensor' (which monitors the screen grid current in the EL509S valves and, if it becomes excessive, attenuates the input signal to a safe level to keep the vacuum tubes operating at safe levels) and Sentry Monitor which monitors output current and shuts the amplifier off if it senses that a set limit has been exceeded.

### IN USE AND LISTENING SESSIONS

User interface is an important part of customer satisfaction, and you'll certainly be totally satisfied by the McIntosh experience. Your primary interaction will be via the volume control and the one fitted to its C12000 is a beauty! It's not an ordinary potentiometer, but an optical encoder or, to be more precise, a "Precision Balanced Digitally Controlled Attenuator System" that delivers 214 individual 0.5dB volume level steps with 0.1dB tracking accuracy between channels at every one of these 214 different levels.

To make your user interface even more satisfying, the rate of volume change is linked to the speed of the control's rotation, further enhancing that experience.

It's not only the volume control that's unusually implemented — the balance control is rather unconventional as well. Instead of numerals (or percentages!), channel balance is displayed as vertical rows of dots. Balance is centred when you see two vertical rows side by side. If you then rotate the balance control one click to the right, only the rightmost of the two rows will be visible. Click to the right again and two rows will appear, then three, then four and so on. To stop this being completely unfathomable, McIntosh throws in a space after you get to five rows, so you can more easily identify the next grouping. Ultimately, you can have ten blocks of five vertical rows. It's certainly an interesting approach to a balance display. We would have preferred a percentage indication!

Switching from one input to any other is done via digitally controlled relays (or, as McIntosh prefers to call them, 'electromagnetic switches') so switching is totally noiseless. It's not only noiseless, you can also trim each input to ensure the volume from your speakers (or headphones) stays the same no matter what the output level of the source component you have connected.

The mute control works exactly as it should, which we mention because it's so rare to find one that does! By this we mean that if the C12000 is in its 'muted' mode, it will automatically come out of this mode if you attempt to adjust the volume control either from the front panel or by using the remote control, and no matter whether you try to adjust it up or down. Although the Mute button appears to be a rocker switch, it's actually a spring-loaded push-button (as also are the others on the front panel).

The meters on the C12000 are European sky-blue, which rather contrasts with the back-lighting of the McIntosh logo, which is green and calibrated in dB (not percent!) from -60dB to +3dB. We found it very interesting that the lettering for the +3dB calibration is in much smaller type than the letters used for the other calibrations. We're not sure of the reason for this, but we thought it looked rather odd.



△ YOUR PRIMARY INTERACTION WILL BE VIA THE VOLUME CONTROL AND THE ONE FITTED TO ITS C12000 IS A BEAUTY! IT'S NOT AN ORDINARY POTENTIOMETER, BUT AN OPTICAL ENCODER WITH 0.1DB TRACKING ACCURACY.

That said, you don't have to look at the meters at all, since you can switch them off if you prefer.

You cannot, however, switch any other display items on the front panel off — only adjust between four different levels. Of these, we found the brightest a little too bright and the dimmest a little too dim, but presumably these are able to be adjusted by a technician, just like the colour of the meters.

The intro to Livingston Taylor's version of Stevie Wonder's classic song *Isn't She Lovely* (written to celebrate the arrival of his daughter Aisha) always brings a smile to our eyes, not just because the subject matter is close to our hearts, but because of that beautifully delicate and understated acoustic guitar that is the background to Taylor's tasteful whistling of the melody.

Listening to a pair of Sonus Faber II Cremonese Extreme powered by this McIntosh duo made our smile grow all the wider, because the tonality of the acoustic was absolutely spot-on, while the sound of Taylor's whistling was as if he were right in the room with us. Then, when the bongos chime-in in the second verse, the sense of realism just became even greater. The McIntosh duo made the sense of the room's acoustic totally palpable... we could hear not only the air but also the warmth of the bongo echo which was admirably soft, rather than hard. The 'quietness' in the close-out to this track was complete, instantly revealing to us that the McIntosh electronics had no background noise whatsoever.

From male vocal to female vocal, we switched to the ravishingly gorgeous voice of Sara K singing *Gypsy Eyes*, as recorded on her album 'Made in the Shade'. Her very slightly breathy vocals are the highlight of this track, but the sound of the backing singers is as good as it gets, and the McIntoshes balanced the lead against the backing perfectly. The scat lines 'oh, woe...' integrated better than we've heard before, so when Sara K echoes the backing singers — and vice versa — it all made perfect musical sense.

Sticking with female vocal, but rewinding up the pace, we next auditioned Ana Caram, as heard on her classic album *Maracanã* (which we confess we often



▷ THE PHOTOGRAPH HERE SHOWS THE MC3500MK II WITHOUT ITS VALVE CAGE, WHICH IS HOW WE'D RECOMMEND USING IT, AS THE HEAT GIVEN OFF BY THE VALVES IS ENORMOUS.



## SPECIFICATIONS

**MC3500 MkII**

**Power Output:** 350-watts (into 2Ω, 4Ω or 8Ω)  
**Rated Power Band:** 20Hz to 20kHz  
**Dynamic Headroom:** 2.4dB  
**Damping Factor:** >25  
**Frequency Response (20Hz to 20kHz):** +0, -0.5dB  
**Frequency Response (10Hz to 70kHz):** +0, -3dB  
**Total Harmonic Distortion:** 0.3% maximum at any power level from 250 milliwatts to rated power, 20Hz to 20kHz  
**Signal to Noise Ratio:** 120dB below rated output  
**Input Sensitivity (Balanced):** 3.8 Volts  
**Input Sensitivity (Unbalanced):** 1.9 Volts  
**Voltage Gain at 2Ω:** 23dB  
**Voltage Gain at 2Ω:** 26dB  
**Voltage Gain at 2Ω:** 29dB  
**Input Impedance:** 22kΩ  
**Dimensions (whd):** 457×300×575mm  
**Weight:** 55kg  
**Price:** \$59,990 (per pair)

**C12000**

**Frequency Response (20Hz to 20kHz):** +0, -0.5dB  
**Frequency Response (15Hz to 100kHz):** +0, -3dB  
**Total Harmonic Distortion (Line):** 0.005%  
**Total Harmonic Distortion (Phono):** 0.05%  
**Maximum Output Voltage (Balanced):** 20VRMS  
**Maximum Output Voltage (Unbalanced):** 10VRMS  
**Signal to Noise Ratio (Line):** 107dB  
**Signal to Noise Ratio (Phono MC):** 79dB  
**Signal to Noise Ratio (Phono MM):** 83dB  
**Dimensions (whd):** 445×153×457mm [Each]  
**Weight (C12000C):** 12.3kg  
**Weight (C12000ST):** 11.3kg  
**Price:** \$29,990 (C12000C + C12000ST, also avail. separately)  
**Contact:** Synergy Audio Visual on (03) 9459 7474 or visit [www.synergyaudio.com](http://www.synergyaudio.com)

refer to as Macarena when recommending it to friends, which we do not only for the joyous, playful music contained on it, but also the sound quality). Listen to *Maybe*, for example, and you can appreciate the professionalism of her singing. Perfect diction, perfect pitching, and all done so effortlessly she makes it seem easy, which we can assure you it isn't. Rather annoyingly, Caram is also a superb guitarist, flautist, conductor and composer, so it's little surprise that she was mentored by none other than Antonio Carlos Jobim or that her own unique style blends Jobim's bossa nova style with jazz.

Once again, the McIntosh duo (and the II Cremonese Extreme) delivered exemplary sound quality, for which you should listen particularly to the sound of the oboe, as impeccably styled by Al Hunt, who's more usually found playing with the The New York Saxophone Quartet. He also plays flutes, clarinet and English horn on various tracks of this album, but it's his oboe sound we found most impressive. And if you're good at word puzzles, you have probably already realised (unlike us!) that this album's title is actually an anagram of Ana Caram. (For the record, it's also the name of biggest football stadium in Caram's birth country of Brazil.)

We checked out the McIntosh's bass delivery with the fantastic walking bass sound on Queen's *Crazy Little Thing Called Love* and found it to be precise, depth, completely free from distortion, and with no overhang at all, plus there was a realism to the delivery that still continues to elude solid-state amplifiers, despite the leaps and bounds made in technology. No doubt this is one of the reasons McIntosh continues to build valve amplifiers. But don't listen only to the perfect sound of the bass: also admire the crispness and snap of the percussion, and the authenticity of the hand-claps, which the McIntoshes revealed more clearly than we have ever heard previously. Notice too, that the high frequencies are balanced beautifully against the lows, particularly the shimmer of the cymbals.

Our bass evaluation continued when we listened to Hector Berlioz's *Symphony Fantastique*, which American conductor Leonard Bernstein once famously described as "the first musical expedition into psychedelia because of its hallucinatory and dream-like nature." We suspect Bernstein's comment might have been influenced by the rumour that Berlioz composed at least a portion of it under the influence of opium, an idea that was possibly influenced by the success of Samuel Taylor Coleridge's poem 'Kubla Khan', the idea behind which the poet claimed was the result of a dream influenced by opiates.

As you'd expect, *Symphony Fantastique* uses the full force of the orchestra to grand effect, particularly the tympani, but also adds in instruments you might not expect, such as a ship's bell in the final

movement. As the occasion seemed to demand it, we wound up the volume as high as we dared at those points in the score where the orchestra is in full flight to see if we could approach the power reserves of the McIntosh MC3500 MkII pair.

After numerous attempts at approaching maximum output levels, it quickly became obvious that we'd never even get close to approaching them, evidenced both by our ears and the movements of the needles on the front panel output meters. The result of our fruitless attempts is that we can confidently state that in a home hi-fi situation, even when using inefficient and/or difficult-to-drive loudspeakers, you will never need to avail yourself of the full power output of which these amplifiers are capable.

Given the duality of the nature of the pre-amplifier stage (it being switchable between valve and solid-state paths, and the fact that in a modern world of solid-state amplifiers with either linear or Class-D output stages of one type or another, that of the McIntosh MC3500 Mk II is unashamedly old-school) we knew that many readers, not content with our rather lengthy and detailed descriptions of this system's performance with a variety of different types of music, would instead want some kind of short version of our opinion, and ask the inevitable audiophile question: "Yes, but how does it sound?"

However, just as the designers of the super-computer Deep Thought (see Douglas Adams' novel 'The Hitchhiker's Guide to the Galaxy') were dissatisfied with its answer to their 'Ultimate' question (that being the meaning of life, the universe and everything) those readers wanting such a short version might be dissatisfied with our answer, which would be 'Natural'. This McIntosh amplification simply sounds natural. Listen to it and you'll discover that you are listening to music — pure, simple, unadulterated music. It's not 'bright' or 'hard' or 'soft' or 'warm' or 'euphonic'... or any other type of descriptor you might imagine. Instead it's just as you'd expect music to sound: natural.

**CONCLUSION**

We thoroughly enjoyed our all-too-brief sojourn with these latest additions to McIntosh's burgeoning stable of audio offerings and can unhesitatingly recommend them to anyone who is desirous of owning an analogue audio amplification system that will bring not only to them, but also to their children and, we have absolutely no doubt at all, to their grandchildren, a sense of pride in the privilege of being able to own such products not only every time they look admiringly at them, and when they marvel at the control they have over the sound, but most especially every single time they listen to the sound... no matter what type of music they choose, and whether it's now or in the far distant future. ■