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Constellation's pure Inspiration amps



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Constellation Audio Inspiration 1.0 Preamp & Stereo

Eagerly anticipated, this new and more affordable Inspiration Series faces internal competition from the Performance Series. Does a fair price preclude a fair match?
 Review: **José Victor Henriques** Lab: **Paul Miller**

Launching a new high-end amplifier brand from scratch and then establishing it as arguably *the* high-end amplifier brand in just a few short years might seem an impossible dream. But audiophile entrepreneurs Murali Murugasu and David Payes, have done just that with Constellation Audio. Seasoned audio engineer, Peter Madnick, was commissioned to drive the project and given *carte blanche* to create the world's ultimate audio amplification system.

Madnick put together a task force of the best specialists in each area of audio expertise: John Curl, Bascom King, Demian Martin, Keith Allsop, James Bongiorno – who sadly passed away in 2013 – and many others. Alex Rasmussen, the industrial designer co-responsible for all the amazing metalwork at the Neal Feay Company, was also part of this outstanding think tank.

Its debut Reference Series products – the Altair, Hercules (and Pegasus), Sirius and Orion – were certainly the stuff of audiophile dreams and were closely followed by the slightly more affordable Virgo and Centaur Performance Series pre/power amps [*HFN* Jul '13]. But if the Reference Series was a leap of faith and the Performance Series an example of prudence then the new Inspiration amps are positively pragmatic – £10k a pop is 'entry-level' by Constellation standards!

TAKING INSPIRATION

If the Reference and Performance ranges are inspired by demi-gods and mythological beasts, then the Inspiration 1.0 preamp and Stereo power amp are mundanely-named. But don't be dismayed, for the Inspiration amps not only uphold the brand's state-of-the-art sound, they

RIGHT: FETs throughout – a J-FET voltage stage and six pairs of N-channel MOSFET power devices per channel on each of the Inspiration Stereo's internal heatsinks

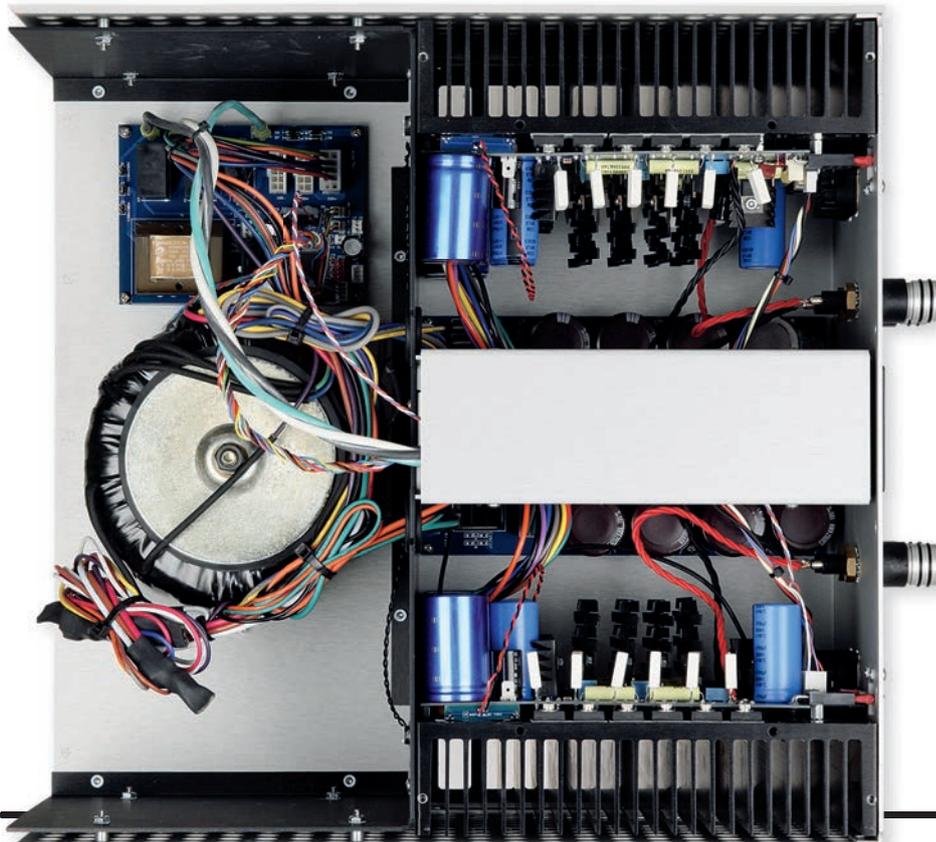
also threaten to set new standards of performance at this price point.

Now, for a fraction of the price you can have the same core circuit topology and features that set the Reference/Performance apart from the pack, albeit in an aesthetically simpler package. So cost savings have been made by building the cases from aluminum slabs rather than solid billets, and the front panel is flat, not sculpted – gone are the sensuous curves and fancy ripples. But the bee-hive side panels were kept. Hence the sweetness of the Constellation sound? I wonder...

'The 1.0 combo has guts, wallop, punch, impact, kick, whack...'

Meanwhile, the Inspiration Preamp 1.0 has its power supply built into the front of the unit, rather than outboard – though this is still shielded to protect the audio circuits – and the Stereo 1.0's input and gain stages are on one PCB instead of separated as in its larger amplifiers.

Nothing else has altered, not even the unexpectedly messy innards with its bundles of wires (contrast, say, such industry exemplars as Demian Martin's own Spectral Audio). In short, the ethos is essentially unchanged, only the ingredients are more cost-effective. All the other genes





LEFT: A 432x230-pixel screen on the Inspiration preamp's fascia is flanked by rotaries for balance and volume. Pressing and holding the bar on the front of the Stereo 1.0 initiates a series of self-diagnosis checks. Once ready, the LED switches from red to blue

that inform the Constellation DNA are there: the 'Line Stage Gain Module', the 'Direct' interface, the fully balanced audio circuitry, the mechanically isolated circuit boards [see PM's boxout, below].

The Inspiration preamp 1.0 design is simple. The fascia has one rotary button for balance, another for volume, either side of a generous touch screen. Five buttons control all the menus – power on/standby, input selection and levels (with a Min and Max setup), mute, phase, bypass (for home cinema integration), screen setup (brightness, contrast and timeout).

Nevertheless, its operation is sometimes embarrassingly slow, so keep your cool while you wait for power-on from standby mode (ten seconds). And, as we reported

with the Virgo preamp, the volume control is also slow as a turtle. It's a rotary encoder type with no built-in hysteresis so use the remote if in a hurry.

The Stereo 1.0, too, is simplicity itself. Yet like a triode tube amplifier the circuitry takes its time – one minute – to warm up (LED flashing green) and cool down (LED flashing red). Hold the left side of the bar across the front for three seconds until the LED turns red, wait till it turns blue and you are ready to go. Just touch it again and it goes into Mute mode (flashing blue).

MUSIC OF THE GODS

In Lisbon in March, I attended a presentation of Magico's M-Project loudspeakers, driven by Constellation's

Reference Altair/Hercules II combination [see PM's Opinion, *HFN* Jun '15]. I started my evaluation here with that memory indelibly imprinted on my mind. It was an absolute reference by which to judge Constellation's younger brethren.

Alas, the Inspiration Preamp/Stereo 1.0 didn't come close to recreating the former's overwhelming sense of musical plenitude. I know it's not a fair comparison: the Altair plus Hercules costs ten times the price and the M-Project is simply in a league of its own. So I settled instead for an A/B comparison of the Preamp/Stereo 1.0 and Virgo II/Centaur combos driving a pair of Wilson Audio Sabrinas [full *HFN* review next month] in the same room, using the same Transparent Ultra V cables and Metronome sources.

Additional sources included the proven Audio Research CD9 [*HFN* May '13] and my desk iFi Micro for DSD (for DXD my preference goes to the excellent Chord Hugo), using JRiver software on my portable as media server.

For both Performance and Inspiration combos the proprietary Direct mode connection (bypassing one internal 'Gain Module') offered increased refinement and transparency over the ostensibly gutsier but more opaque Balanced mode.

And that's when things got really weird because the Inspiration Series comes dangerously close to the Performance Series. There are differences, of course. The Performance's soundstage is ever so 

DIRECT INSPIRATION

Instead of using one power amp stage comprising multiple complementary transistor pairs, the Inspiration Stereo employs matched N-type MOSFET modules in a balanced bridged configuration. The concept, according to Constellation, is to achieve the delicate sound and musicality of a small single-ended triode amp, albeit one with the capacity to 'play much louder'.

Each Stereo 1.0 has three inputs, including traditional RCAs and balanced XLRs. The latter may be switched to Constellation's 'Direct' mode which omits one of its proprietary J-FET line stage modules, making use of the higher (voltage) output capacity of the Inspiration preamp [see Lab Report, p39] thereby demanding less voltage gain in the Stereo 1.0. The overall pre/power voltage gain remains the same just as there's no change in the maximum power output of the Stereo 1.0. It's likely that the relative sensitivity of the loudspeakers and analogue output level of the source will play a big role in determining which mode is preferred. PM

PRE/POWER AMPLIFIER

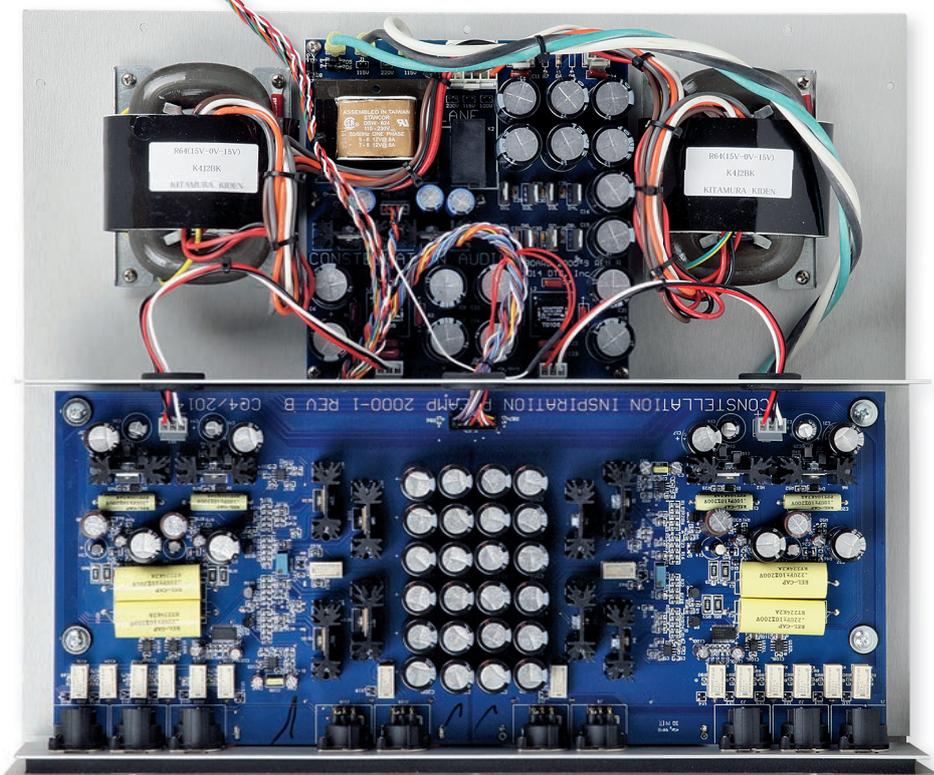
MURALI MURUGASU

We asked Murali Murugasu, Constellation's CEO and co-creator of the Continuum turntable brand, about the prospect of more Inspiration separates. 'The Inspiration Integrated 1.0 amp is nearly ready to ship and we'll also be adding a phono stage and a DAC/media player to the range.'

However, this looks about as far as Constellation will 'downsize', as Murali explains, 'We have no plans of introducing anything lower-priced or smaller than the Inspiration line. When David Payes and I started Constellation Audio, we conceived it from the start as a no-compromise brand, constantly pushing to exceed the state of the art. We originally planned on having lines in three price ranges. Now we've got that.'

Constellation unveiled its Virgo III and Centaur II amplifiers at Munich High End but hinted at more to come. 'Constellation Audio was founded and based on the concept of a "dream team". We got the best engineers and designers in the world, and encouraged them to work together without constraints so they could pursue their wildest ideas. Now that we've proven the concept works, we're going to take it to the next level.'

'We're immensely strong in analogue design and in standard approaches to digital audio. But we know if we want to expand into new technologies, we have to bring new members to the team. We're excited to see what will happen when we add more great minds to the mix.'



ABOVE: Inspiration preamp employs separate R-core transformers for left and right channels, and a third transformer to power the control circuits. The FET-based audio line stage is fully balanced

slightly wider and deeper, if a little more laid-back, and the resolution level is a notch higher, while the Inspiration's bass has better foundation and articulation.

If the Altair/Hercules II combo had managed to get the best out of the M-Project's outstanding tweeter, then the Inspiration Series did the same to the Sabrina's XLF-based tweeter – the whitish, etched character of the old design had now gone, and the treble became an inextricable extension of the midrange, as it should.

SUPERCHARGED TRIODES

Constellation has a 'house' sound, a character reminiscent of a fine single-ended triode amplifier but without the hindrance of harmonic distortion and other colorations, not least lousy control of the associated loudspeakers and failure to reach realistic sound pressure levels (unless, that is, you have glaring horns to shout at you convincingly).

All Constellation Audio amplifiers allow you to enjoy a degree of transparency which has until now, with a few honourable exceptions, eluded solid-state technology. And yet, paradoxically, the sound is on the dark side of neutral. Not 'dark' in the sense

of absence of light or lack of clarity, more like dark chocolate. It's a sound you can almost taste.

With a clear recording you can hear all the way into the back of the stage without any impediment or obstruction.

'We just sat there flabbergasted, as if beamed up to the MUPA Hall'

This see-through magic also applies with small-scale recordings that otherwise might sound claustrophobic. Take António Zambujo's 'Nem às paredes confesso' [*Outro Sendido*, Universal

Music Portugal, 0602537713400] by way of example. It's a simple studio recording (voice and guitar) but also slightly claustrophobic. So the engineer placed him inside an 'electronic bubble' that seems to expand with each heartbreaking utterance, hence his bigger-than-life image. The Inspiration allows one to distinguish between the fake hazy air inside the 'bubble' and what little air there is in a small dead studio.

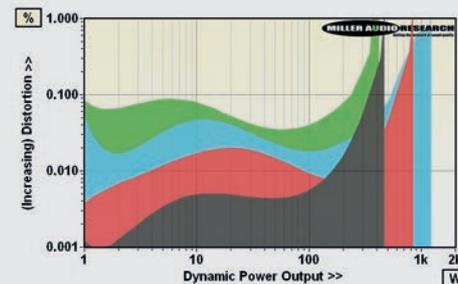
The Inspiration stereo 1.0 also reproduces the airiness of concert hall acoustics with uncanny realism. A good example is Mitsuko Uchida playing Mozart's Piano Concerto No 23, live with the Cleveland Orchestra [Decca 478 1524]. The power of resolution is so high you ↪

LAB REPORT

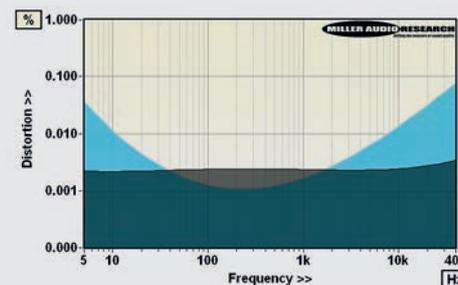
CONSTELLATION INSPIRATION

As the core, fully balanced audio circuits of the Inspiration pre/power are 'distilled' from the Virgo/Centaur there are strong parallels to their performance [see *HFN* Jul '13]. The Inspiration preamp still uses a rotary-encoded volume control (addressing a polysilicon resistor array), offers the same +26.5dB gain (balanced) and remarkably flat and extended response (± 0.01 dB from 1Hz-100kHz). Noise and distortion are higher than with the Virgo but the 91dB A-wtd S/N ratio and 0.0015-0.0019% distortion (both re. 0dBV) are still impressive – the latter for its consistency with frequency [see black trace, Graph 2]. Distortion increases with preamp output above 1V to 25V (0.002% to 1%) which may explain any differences heard between Normal and 'Direct' power amp inputs as the preamp augments the former's reduced +14dB gain in this mode.

Constellation rates its Inspiration Stereo at 200W/8ohm – a specification smashed by the 2x395W/8ohm and 2x660W/4ohm measured here, increasing to 470W, 845W and 1.20kW into 8, 4 and 2ohm under dynamic conditions. Output into 1ohm loads is limited [see Graph 1] but it'll still drive any likely partnering speaker with ease. Output impedance is a uniform 0.033-0.045ohm (20Hz-20kHz), increasing thereafter, while the response into 8ohm is flat to -0.3dB/100kHz but (unlike the Centaur) rolled away to -2.1dB/20Hz and -10dB/10Hz in the deep/subsonic bass. The 91.6dB A-wtd S/N (re. 0dBW) actually bests the Centaur while THD is not dissimilar – 0.0013-0.033% (20Hz-20kHz, 10W). Readers may view comprehensive QC Suite test reports for the Constellation Audio Inspiration preamp and Stereo 1.0 power amp by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Maximum current 24.5A



ABOVE: THD vs. extended freq. Stereo Pre (1V out, black trace) vs. Stereo Power (10W/8ohm, blue trace)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	395W / 660W
Dynamic power (<1% THD, 8/4/2/1ohm)	470W / 845W / 1.20kW / 420W
Output imp. (20Hz-20kHz, pre/power)	119ohm / 0.033-0.045ohm
Freq. resp. (20Hz-100kHz, pre/power)	-0.0 to +0.0dB / -2.1 to -0.4dB
Input sensitivity (for 0dBV/0dBW)	47mV (pre) / 157mV (power)
A-wtd S/N ratio (re. 0dBV/0dBW)	91.0dB (pre) / 91.6dB (power)
Distortion (20Hz-20kHz, 1V/10W)	0.0015-0.0019%/0.0013-0.033%
Power consump. (pre/idle/rated o/p)	27W / 127W/856W
Dimensions (WHD Pre/Power)	432x133x381/432x216x483mm



ABOVE: Constellation's Inspiration preamp [top] has three balanced (XLR) and single-ended (RCA) ins with pairs of XLR/RCA outs. The USB port is for control/updates. The Stereo 1.0 [bottom] has 4mm speaker outlets, RCA and low/normal gain XLR ins

can hear the air set in motion by the audience swarming into the hall even before the concert begins. Stage noises, the squeaking of a distant door, and the occasional coughing off-axis in both channels sound so clearly located they help to map the concert hall precisely. You can almost feel the audience slowly shifting from the restlessness that anticipates the first piano notes to being moved by the masterful playing as the music develops and penetrates their souls.

AIR AND POWER

You need lots of power to achieve the goal of reproducing a big band or a symphony orchestra at full throttle, the vastness of a huge choral work at fortissimo or a rock band at live concert levels. The 1.0 combo has guts, wallop, punch, impact, kick, whack... you name it. The same Inspiration Stereo 1.0 that reproduces the eerie lightness of air with physical palpability can also deliver clean, awe-inspiring power well beyond the specified 200W [see PM's Lab Report, opposite].

The final test was the most revealing of the Inspiration's high level of resolution. Native DSD [www.nativedsd.com and see p111] is a small Dutch company that makes pure DSD recordings – the closest thing to direct-cut vinyl available today, according to some

commentators. Until now I couldn't detect any significant improvement when listening to DSD64 versus DSD256 other than in dynamics. But it only took a few bars with Iván Fischer conducting his Budapest Festival Orchestra in *Mendelssohn Session* [JLBFO Mendelssohn session], to discover the beauty of its holographic image, the texture of its harmonic fabric, the purity of timbre and the awesome dynamic swings, without congestion, or hardness as conveyed by the DSD265 master.

And the magnificent soundstage didn't change significantly whether I sat (or stood) in the sweet spot or moved off-axis. Indeed, I had to call two witnesses for fear I was hearing things, and we just sat there flabbergasted, listening repeatedly as if we were beamed up to the MUPA Concert Hall. ☺

HI-FI NEWS VERDICT

Constellation's Inspiration Series is aptly named for the Preamp and Stereo 1.0 power amp combination reproduces music with a freedom, neutrality and conviction that belies even this substantive price tag. Its sheer honesty is something of a revolution in the world of audio. The stars just got a little closer, for no longer will you need a king's ransom to buy a Constellation system.

Sound Quality: 90%

