

INTEGRATED AMPLIFIER

Integrated amplifier. Rated at 100W/8ohm
Made by: Constellation Audio, Newbury Park, CA, USA
Supplied by: Absolute Sounds Ltd
Telephone: 0208 971 3909
Web: www.constellationaudio.com; www.absolutesounds.com
Price: £15,000

AUDIO FILE

hi-finews
OUTSTANDING
PRODUCT

Constellation Audio Inspiration Integrated 1.0

Distilling the heart and soul of the company's entry-level pre/power combo into a single box, this compact integrated promises a performance that belies its size
Review: **Nick Tate** Lab: **Paul Miller**

When Murali Murugasu and David Payes started Constellation Audio, few expected them to succeed quite in the way that they have. Their secret was to assemble a stellar team with a wide range of competencies – while keeping their eyes fixed firmly on the prize. This Californian company makes high-end solid-state amplification the old-fashioned way, without undue concern for what is currently the fashionable thing. The engineers, including the highly respected Peter Madnick, haven't strayed from the company's core technology – its NPN-only MOSFET power amplification modules.

HIGH-END PURISM

This Class AB solid-state platform is designed to deliver serious amounts of juice into even the most demanding loudspeaker loads, with no concessions to modernity – ie, low power consumption, low heat generation, small size, etc. In short, it's purist, unreconstructed high-end hi-fi. That is not to say that Constellation equipment is ungainly however, as gifted industrial designer Alex Rasmussen has graced it with distinctive yet unassuming aesthetics, alongside superlative build quality and finish.

The end result is a tastefully styled product range that packs generous power with excellent connectivity and with a svelte user interface that – unlike some high-end US hi-fi – does not look as if it once belonged inside an Apollo spacecraft.

Since the debut of its Reference Series, Constellation products have been getting steadily smaller. If you've seen the huge Hercules monoblock power amp, for example, you may think this a good thing –

RIGHT: FETs throughout – a J-FET voltage stage and four pairs of N-channel MOSFET power devices per channel on each of the Inspiration Integrated's heatsink-equipped amp modules

at least for modestly-sized British listening rooms. The marque has been repackaging its technology into ever more compact boxes, right down to the Inspiration Integrated 1.0 here, which retails for £15k. By Constellation standards it's small yet it still seems like the audio equivalent of a monster truck. But Murugasu has said that this is as far as the company will 'downsize'.

The Inspiration is the company's entry-level range, and the Integrated is ostensibly a one-box version of the 1.0 Preamplifier and Stereo power amp [HFN Jul '15], featuring the same volume control and input provision but with fewer

power amplifier modules and a smaller transformer. Those feeling short-changed by this can console themselves with the prospect of being £5000 better off than if they'd ordered the pre/power combination!

The first thing that greets you is the aluminium casework's silky surfacing. Then you regard the cleanliness of the fascia, and the economy of its two rotary knobs and row of five underslung buttons immediately beneath the subtly protruding control section. The centrally mounted, backlit paper-white LC display is an ergonomic treat, with an attractive, fine-pitch font. The resistor ladder volume



control's action is lovely to use, as is every other aspect of the amplifier.

SHIELDING AND ISOLATION

The smaller buttons offer 'display home-screen' and 'back-step' standby, and there's a multifunction button (depending on what menu you're in) plus muting. Input selection gives a choice of the amplifier's four line inputs (two XLR, and two RCA). Limited programmability is also offered, so, for example, you can set your desired minimum or maximum input levels, as well as display brightness, etc. Some of this functionality is offered on a supplied remote control, machined from a block of alloy [see p41].

The manufacturer conservatively claims 100W per channel [see PM's Lab Report, p41] from its power amplifier stage which uses the same 'Balanced Bridged' circuit concept seen in all its amplifiers. This combines single-ended modules using only NPN output transistors, rather than a push-pull between imperfectly matched

NPN and PNP transistors, as per most other amplifiers. There's also a headphone amplifier section although, annoyingly, the socket for it is around the back.

Inside, the large toroidal transformer, dual-mono rectifiers and banks of large storage capacitors, are visible. Much of the chassis is made from machined 8.2mm aluminium slabs, with steel buttresses and machined grooves that lock the panels

together. Careful attention has been paid to the layout of the audio circuits, so they're well shielded from one another and from the power supply, and special decoupling isolators ensure the circuitry is less affected by airborne vibration. Knock the casework with your knuckles, and you're greeted with a pleasingly dull 'thunk'.

HEFT AND SUBTLETY

Anyone who has ever heard a big Constellation pre/power combo will find the Integrated 1.0's powerful yet finessed sound instantly familiar, albeit on a slightly

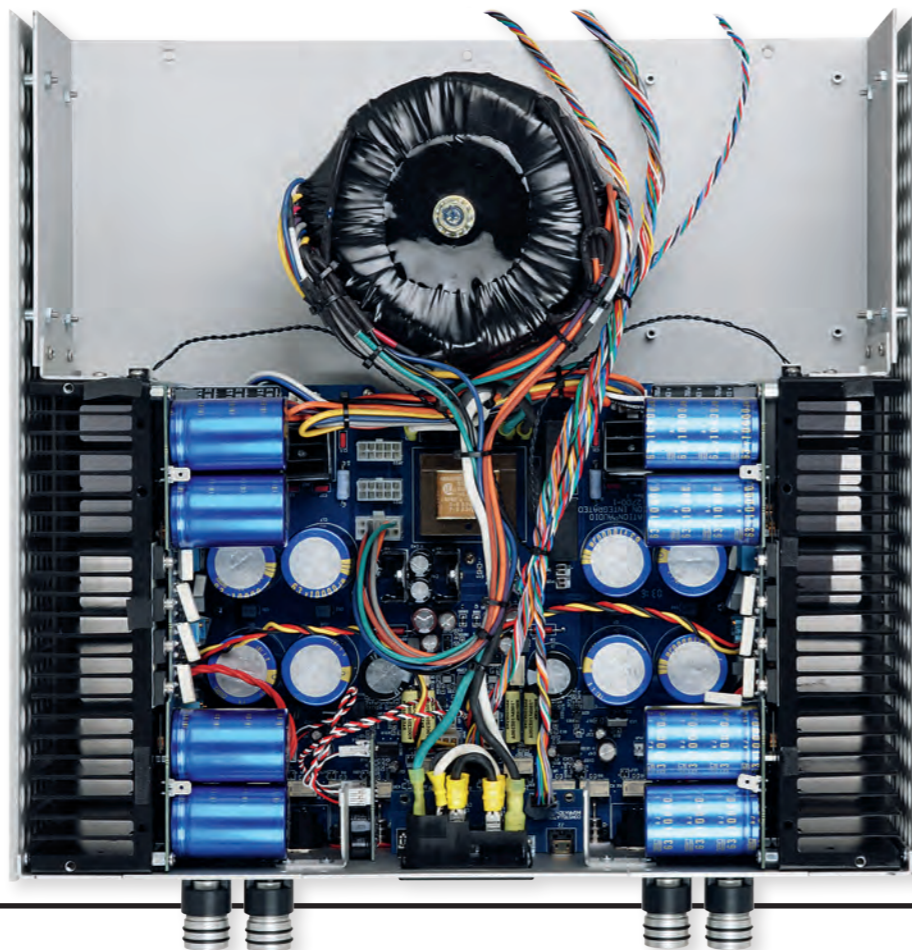
ABOVE: A 432x230-pixel screen on the Inspiration Integrated's elegantly minimalist fascia is flanked by rotaries for balance and volume. Full remote control is offered [p41]

smaller scale. It serves up a generous portion of highly transparent solid-state power with grace to spare. Those seeking the gentle, mellifluous nature of a single-ended triode tube amplifier may find the Integrated 1.0 too aggressive, while headbangers wanting an ear-piercing, weapons-grade wall of sound will necessarily think it too soft and nuanced.

In fact, this amplifier treads deftly between the two extremes, offering physical heft alongside the subtlety, depth and dimensionality of the finest transistorised amplification. It delivers superb sonics yet is never bothered by the nature of the loudspeakers it is asked to drive – in the case of this review, awkward Yamaha NS1000Ms, electrostatic Quad ESL-989s and power-sapping Spendor D1s.

Anyone who has come from lesser and/or cheaper amplification will find its sound sublime. The sheer breadth and depth of the soundstage, and the precision of the imaging, make for a compelling performance. That said, the Integrated 1.0 has its own way of doing things and so the question becomes whether its particular talents will suit your own requirements.

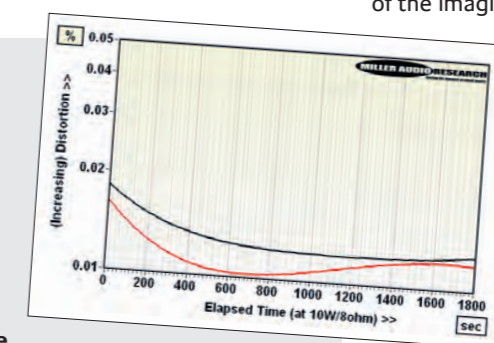
Fire up the Inspiration Integrated 1.0 with some powerful rock music, such as The Who's 'Won't Get Fooled Again', from *Who's Next* [Polydor 533 545-3], and it's at its best, with seemingly effortless reserves of motive power and the ability to deploy it faster than the blink of an eye. Yet it's not all about physicality, because the Integrated 1.0 also has a



It offers the depth of the finest solid-state amplification'

AM I WARM YET?

Every amplifier tested in HFN undergoes a 'burn-in' sequence before lab and listening tests commence. During this period the amp is cycled through all frequencies and power levels, including an initial 30 minute sequence where various performance parameters, particularly distortion, are tracked over time. Some amplifiers deliver a consistent performance right out of the gate while others, and particularly those with modest levels of compensation (feedback), may take a while to come 'on song'. Constellation's amps, with their matched N-type MOSFET power modules arranged in a balanced bridged configuration, take a short while to warm up. From cold, our Integrated's left channel incurred 0.018% THD [black trace on Graph], the right 0.016% [red trace], dipping to 0.012% and 0.010%, respectively, before coalescing at 0.012% after 25 minutes (all 1kHz/10W). PM

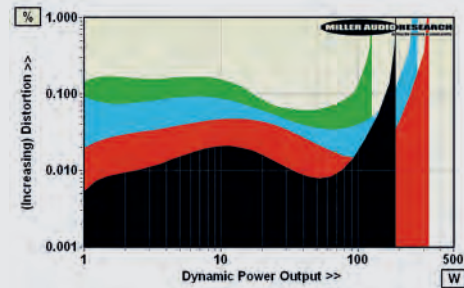


LAB REPORT

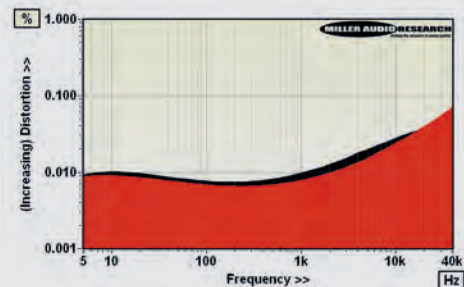
CONSTELLATION INTEGRATED

As the core, fully balanced audio circuits of the Inspiration Integrated are derived from the Inspiration Pre/Stereo [HFN Jul '15], themselves 'distilled' from the Virgo/Centaur [HFN Jul '13], there are strong parallels to their performance. The Inspiration Integrated still uses a rotary-encoded volume control (addressing a polysilicon resistor array) although the overall gain is lower at +30.9dB (vs. +26.4dB for the Preamp and +25.2dB for the Stereo) and the A-wtd S/N ratio, therefore, some 5-6dB shy at 86dB (re. 0dBW). Then again, the Integrated is rated at exactly half the Stereo's 200W/8ohm even if, in practice, it delivers a full 2x165W/8ohm and 2x205W/4ohm. This is how Constellation can justify claiming the Integrated 'doubles its power into 4ohm'. Under dynamic conditions, this increases still further to 188W and 315W into 8/4ohm before current-limiting knocks this back to 275W and 125W into 2/1ohm [Graph 1].

Although still 'dual mono', like the Stereo, the condensed real estate of the Integrated confers a slightly weaker stereo separation of 96-70dB (20Hz-20kHz). Yet the balanced NPN-only architecture of the power amp section still dominates its 'character'. The 'shape' of distortion versus level (0.006%/1W, rising to 0.015%/10W before dipping again to 0.005% at 40-70W, all re. 1kHz) and the rise in distortion at high frequencies to ~0.04%/20kHz [Graph 2, below] are instantly reminiscent of the Inspiration Stereo. As is the uniform output impedance, albeit fractionally higher here at ~0.058ohm, together with the flat response that extends out to -0.9dB/100kHz. The Integrated's subsonic roll-off is not as severe as the Stereo's, however, as its -0.1dB/20Hz and -0.5dB/10Hz versus -2.1dB/20Hz and -10dB/10Hz (Stereo) illustrates. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) loads. Maximum current is 11.2A



ABOVE: Distortion versus extended frequency from 5Hz-40kHz at 10W/8ohm (left, black; right, red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	165W / 205W
Dynamic power (<1% THD, 8/4/2/1ohm)	188W / 315W / 275W / 125W
Output impedance (20Hz-20kHz)	0.054-0.063ohm
Freq. resp. (20Hz-20kHz/100kHz)	-0.10dB to -0.03dB/-0.90dB
Input sensitivity (for 0dBW/100W)	80mV / 820mV (balanced)
A-wtd S/N ratio (re. 0dBW/100W)	86.2dB / 106.3dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.0075-0.036%
Power consumption (Idle/Rated o/p)	75W / 410W
Dimensions (WHD) / Weight	432x140x483mm / 19.5kg



ABOVE: Constellation's Inspiration Integrated has two balanced (XLR) and single-ended (RCA) ins with pairs of XLR/RCA outs and sets of massive 'Argento Clamp' speaker cable terminals. The RS232 and USB ports are for control and updates

delicacy completely unexpected from something so big sounding. The power chords from Townshend's guitar strikes seem so real that they almost calcify before your very ears, while Daltrey's vocals ooze both anger and tenderness. Keith Moon's drum kit histrionics simultaneously put you right on the edge of your seat – all leading to an enrapturing rendition of this rock classic.

COMPELLINGLY NUANCED

This is the Integrated at its finest. Its ability to summon up sizeable reserves of power and track dynamics with precision, yet remain nuanced enough to capture the emotion of the occasion, is compelling. Tonally the amplifier is fairly neutral as it clearly conveys a recording's essential nature. For example, cue up a gentle soul standard such as Randy Crawford's 'Secret Combination' from her eponymous album [Warner Bros 7599-23541-2] and it's as if you've been transported in space and time to a far more opulent world than that of *Who's Next*.

The Integrated 1.0 conveys the sumptuous texture of Crawford's voice, and the warmth of the backing band's guitars, keyboards and strings. Strictly speaking, there is a subtly 'tinselly' effect to the upper midband, as if the cymbals and other percussive instruments are just a wee bit shinier than they otherwise might be. It's a sign that you're listening to a good solid-state amplifier, because bad ones light things up too brightly, or make them sound opaque and hazy.

In practice, the Integrated 1.0 is highly adept at carrying the natural rhythmic flow of the music, without ever overstating it. It doesn't sound melodramatic, but nor does it make things drag along in a leaden way. For example, The

Strawbs' 'Autumn', from *Hero And Heroine* [A&M Records UICY-9216], pivots us back to rock, but this time of the slower-paced progressive variety. It's a pretty sparse recording relying on gentle piano and lead guitar to push things along, but this amplifier conveys it lovingly, delivering a performance that's crisp and smooth, allied to a punchy and propulsive bassline with finely etched snare drum and cymbal work. This amp lets the listener peer deep into the mix. Although well able to expose the limitations of this relatively rudimentary recording, it chooses not to and instead gets right into the swing of things.

Everything is pieced together organically, which gives it real appeal across a wide variety of programme material. Whether you're listening to the brooding opening movement of Vaughan Williams's stirring 'London' Symphony [LPO/Haitink; EMI CDC 749394 2] or grooving to Jolley And Swain's early '80s club classic 'Walk On' from *Backtrackin'* [Unidisc AGEK-2514], the baby Constellation amp will excavate forensic levels of detail, yet this never detracts or distracts from the musical big picture. Powerful yet poised, it has every attribute one could ask of a compact, solid-state super-amp. ⚡

HI-FI NEWS VERDICT

There's no mystery to this product – it's a slimmed down high-end Constellation amplifier that looks, feels, works and sounds the part. Happily though, it doesn't cost quite as much as the company's pre/power offerings and so is 'reachable' for more audiophiles. There are a few minor quirks, but the Integrated 1.0 is mostly flawless and serves up all the joy of great solid-state sound in a pristine package.

Sound Quality: 88%

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