

Pass Labs INT-250

Inspired by the brand's Point 8 series of FET power amps and benefiting from Nelson Pass's lifetime of audio engineering experience, this big integrated packs a punch
 Review: **Ken Kessler** Lab: **Paul Miller**

Integrated amp? Huh? I thought the box contained a nuke-proof safe, or a complete set of weights. At 105lbs, the Pass Labs INT-250 is as far removed from a NAD 3020 or Naim Audio NAIT as an integrated amp can be. Its 250W/ch rating, dimensions of 483x230x540mm (whd) and a price tag of £11,495 reinforce the observation. It's an integrated amplifier without compromise. Then again, this isn't the first extreme high-end integrated and won't be the last because some people – regardless of budget – want everything in just one box.

But not just *any* box for, two serious flaws notwithstanding, the INT-250 screams luxury and quality. It is handsome, built to the highest standards and requires a lot of mined ore to provide the impressive metalwork. That said, it is DAC-, phono-stage- and headphone-output-free, making it curiously minimalist, but for some, that's the only way to go – source selection, volume control and little else. Not that the amp is frill-free because it comes with a metal-cased remote control handling input selection, level, power on/off and mute, plus a few redundant buttons applicable to other models.

A CHALLENGING LIFT

Let's dispense with the inexcusable flaws and one lesser concern. The unit's ungainly mass is not a complaint, as Editor PM – once an habitu  of the gymnasium and able to lift this by himself – explained, 'That's a product of the parts' combined weight'. However, given that this is a two-person lift for those less familiar with the multi-gym, fitting handles only to the back of the unit is downright sadistic. Manhandling it is difficult enough, aggravated by Inexcusable Flaw No 2 – the lethal heatsinks.

An open letter to Pass Labs: this is 2017. There is no excuse for heatsinks that

can lacerate passers-by, owners, users or lifters. If one chooses to fit what looks like a stock extrusion, it doesn't take a master of lateral thinking to devise aesthetically-pleasing protective strips covering the dangerous corners on each section of heatsink. Equally, if the front had handles, it would partially ameliorate the threat of the heatsinks by making it easy to lift without risking contact with the sides.

As for the lesser concern, it's the blue-lit meter in the middle, the size of a CD, yet our sample, at least, did nothing. I wasted an unrecoverable hour of my life online, trying to find out what it's supposed to do, and found a half-dozen conflicting and/or glib explanations before deciding that it's about as vital as the hood ornament on a 1934 Pontiac. (Rant over.)

At the back, it's all good news because everything is top-grade and clearly marked. The only caution is that you must not have two sources connected at the same time to the inputs that offer both balanced XLR and single-ended RCA sockets – it's either/or. Also present on the rear panel are the primary power on/off switch (the front activates the unit from standby), an IEC mains input, earth post and the nicest speaker binding posts I've seen in years. They're massive, easy to tighten and well-spaced – nigh on perfect.

MOSFET POWER

Pass Labs based this and the smaller INT-60 on, respectively, the X-250.8 and XA-60.8 amplifiers. The business end utilises substantial MOSFET power transistors richly



RIGHT: No fewer than ten pairs of power MOSFETs are deployed on massive heatsinks per channel and with sufficient standing current to support a claimed 16W in Class A mode



biased into Class A, though our sample did not get especially hot. The company suggests that the noise levels are slightly higher than for the standalone power amplifiers, but Pass wryly points out that, 'After you figure in the noise of a separate partnering preamp, it comes out about the same, so I don't think you lose out on the noise performance'.

Once you've removed your weightlifting belt and recovered your breath, the INT-250 is up and running in minutes. I hooked up the Marantz CD-12 with coax into a Mytek Brooklyn DAC [HFN Aug '17], with Yter cables in balanced mode to the Pass amp, and drove Sonus faber Amati Heritage speakers [HFN Oct '17] with Yter speaker cable. For single-ended inputs, I used the Marantz DV8300 universal player and the SME 30/12 with Air Tight PC-1 Supreme moving-coil cartridge into an E-Glo phono stage, connected with Crystal Cable. Operation throughout was

'The INT-250 is a bruiser that knows no load it can't demolish'

faultless, though I gave the unit a wide berth because of those frickin' heatsinks.

DETAIL GALORE

Currently on a Small Faces jag I was working my way through the box set *Here Come The Nice* [Immediate/Charly BX 170]. 'Lazy Sunday' – a mindbender in stereo – was here in mono, yet it was rich with detail and atmosphere despite the lack of any spatial sense. I ended up digging out the stereo version, [Castle CMTCD234], just so I could isolate the constituent parts.

Immediately obvious was how it handled Ronnie Lane's bass, with the kind of authority needed to deal with the abundant woofrage of the Amatis. Control, extension, texture – I was itching to listen to the remastered *Sgt Pepper*, anything on Stax, The Detroit Emeralds, Kodo Drums or any other discs with virtuoso playing down below.

ABOVE: Minimalism means a lack of clutter: buttons for power on/off, source selection, mute and a large rotary volume control. The digital display offers an indication of volume but the large meter is inexplicable

But more 'musical' and arresting was Ian McLagan's piano. His ivories open the piece, tinkling away stage left, supplying the melody behind Steve Marriott at his Cockney best. 'They're doin' me crust in' 'Ow's your bird's lumbago?' – too bad Dick Van Dyke didn't have this CD as a primer before starring in *Mary Poppins*. And the party noises! The INT-250, for all of its mien as a bruiser that knows no load it can't demolish, yielded detail galore, with supreme clarity and transparency. This is the sort of amp that invites concentrated listening, and I can see it finding favour with those of an analytical bent.

THE PIANO MAN

I felt the need to explore some schmaltz after all that rocking insanity, cracking open Mobile Fidelity's new box sets of *Billy Joel's Greatest Hits Volume I & Volume II*, [MFSL 3-418 (LP) and UDSACD 2-2121 (SACD)]. Not that Billy Joel is schmaltzy *per se*, but 'Piano Man' is, if anything, the rock generation's 'Melancholy Baby' and sure to start a flood of weeping in bars.

Yes, the harmonica grabs your ear throughout, but equally you want to absorb the ragtime piano stage right. Joel carries you along, the build-up irresistible. The Pass Labs INT-250 tinkles appropriately, rising and falling back, chiming, calming down around four minutes in, you relax... then all hell breaks loose. Love him or hate him, Joel makes great-sounding records and this amp deals with every nuance ☺

PASS PERFORMANCE

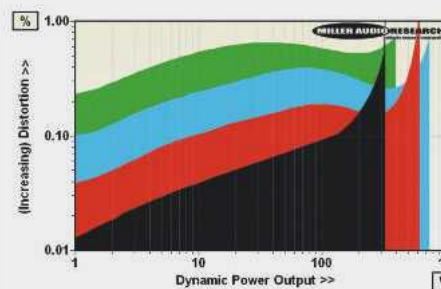
Without knowing it, I once owned a product possibly designed by Nelson Pass, from his time at ESS loudspeakers as a twenty-something. He's barely a year older than I am: when he was at ESS, I was a wastrel at university, so his precocity humbles me. Earning a BSc in Physics from the University of California, Davis, he graduated in 1974. After his spell at ESS, Nelson founded Threshold which placed him with the 'first generation' of high-end designers at the cusp of the 1960s and 1970s. It was the sea-change when the conservative old guard of the golden age was supplanted by young lions who ignored self-imposed limitations on the power, size and cost of their amplifier designs. An early proponent of marrying subjective listening with objective measurements, Pass poured his ideas into the Threshold Stasis amplifiers. He sold the company in 1997, having established the eponymous Pass Labs in 1991, as well as First Watt [HFN May '12].

PASS LABS INT-250

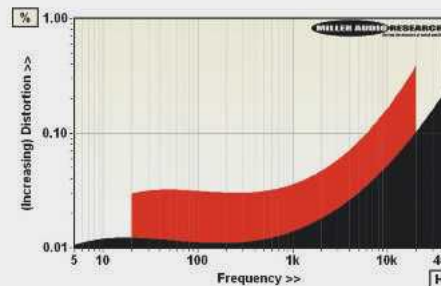
One generation on, the INT-250 is very much the bigger brother to Pass's INT-30A amplifier [HFN Dec '10] although this is a Class AB design that, strictly, bears closer comparison to the X250.8 power amplifier in design. While the INT-30A vastly exceeded its rated output power, the INT-250's 250W specification is met at 2x255W/8ohm and 2x397W/4ohm with sufficient headroom to accommodate 325W, 605W and 755W into 8, 4 and 2ohm loads up to 1% THD under dynamic conditions. The 20A current limit is reflected in its maximum 400W/1ohm delivery [see Graph 1, below].

Other features are entirely consistent with earlier Pass amps, notably the bass/midrange distortion trend that increases proportionally with power output from 0.01%/1W to 0.05%/10W and 0.1%/100W. Versus frequency, distortion also betrays the same trend – 0.012%/200Hz, 0.02%/2kHz and 0.12%/20kHz (all at 1W/8ohm in Class A mode). The trend is maintained, albeit at proportionally higher distortion, at higher outputs: 0.03%/200Hz, 0.05%/2kHz and 0.5%/20kHz/10W. This is an 'engineered' quality [see Graph 2, below] and a hallmark of Nelson Pass's innovative 'SuperSymmetric' amplifier designs.

This fingerprint is also revealed in the INT-250's output impedance which is a 'flat' 0.14ohm from 20Hz-2kHz but increases thereafter to 0.2ohm/10kHz, 0.35ohm/20kHz, 1ohm/50kHz and 2.25ohm/100kHz. This informs the gently rolled-off response that becomes 'sweeter' the lower the loudspeaker's high frequency impedance: -0.15dB/20kHz (unloaded), -0.35dB/20kHz (8ohm), -0.6dB/20kHz (4ohm) and -1dB/20kHz (1ohm). The amplifier's A-wtd S/N ratio is bang-on the industry average at 84dB (re. 0dBW). PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) loads. Maximum current is 20A



ABOVE: Distortion versus frequency at 1W/8ohm (black, 5Hz-40kHz) and 10W/8ohm (red, 20Hz-20kHz)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	255W / 397W
Dynamic power (<1% THD, 8/4/2/1ohm)	325W / 605W / 755W / 400W
Output impedance (20Hz-20kHz)	0.140-0.350ohm
Freq. resp. (20Hz-20kHz/100kHz)	+0.0dB to -0.34dB/-5.0dB
Input sensitivity (for 0dBW/250W)	106mV / 1655mV (balanced)
A-wtd S/N ratio (re. 0dBW/250W)	84.1dB / 108.1dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.031-0.51%
Power consumption (Idle/Rated o/p)	235W / 1000W
Dimensions (WHD) / Weight	483x230x540mm / 47.6kg



ABOVE: Four line-level inputs are offered, two on both balanced XLR and single-ended RCAs and two on single-ended RCAs only. Balanced and single-ended preamp outs are included alongside superlative binding posts and much-needed handles

with utter poise. Moving on to 'Just The Way You Are,' that perfect example of schmaltz *in excelsis*, the liquid-y synth that plays throughout provides a unique sound to amuse you, but you need something acoustic and recognisable. Then you get the glorious sax at one minute into the tune, a 'real' instrument to use as a reference. After a couple of solos, you realise that the INT-250 is able to convey air, breathiness and, most important of all, presence.

TEXTURES AND LAYERS

Still feeling dreamy but wanting some bite, I turned to The Runaways' take on The Beatles' 'Eight Days A Week' from *And Now... The Runaways* [Anagram CDM GRAM63]. Performed as a plodding ballad, it has heavy metal mass, if slowed down. OK, so there's something questionable about a 65-year-old pensioner listening to The Runaways, but, hey, Joan Jett turns 60 next year, so gimme a break!

Via the INT-250 – and I doubt manager Kim Fowley ever expected this band to be heard through a high-end system – the music had a luscious, languid feel that filled the soundstage with thudding percussion, keyboards way to the back, fuzz guitar and those street-smart-yet-girly vocals, deadpan but still sincere. Nelson Pass ought to hear this. His amp treats The Runaways like they were Edith Piaf.

More in character is the next track, their version of Slade's 'Mama Weer All Craze Now', an ideal choice for a band so heavily influenced by early '70s UK glam. The track has a certain power, and the INT-250 renders it suitably

imposing, while enabling the piano to pop into hearing range while the percussion tries to swamp it.

Sticking with the grandiose, I found a copy of Electric Light Orchestra's *Zoom* [Epic 502 500 2], a later effort from the turn of this century with the sound intact and identifiable, though it's basically a Jeff Lynne solo. This particular set also included one of George Harrison's last performances.

Lynne has always been about scale, and he does a better facsimile of Phil Spector's 'wall of sound' than just about anyone else, an ideal counter to the intimacy of Joel's 'Piano Man'. Lynne's speciality is blending straight rock with orchestral majesty, and one suspects he'd be lost without multi-tracking. While he proved that he could do small and cosy with The Traveling Wilburys, huge is his milieu.

'State Of Mind' is a perfect example, especially the massed vocals, but the Pass Labs INT-250 wasn't even remotely challenged. ELO was always about textures and layers – this amplifier deftly reproduces both, and without a hint of sibilance or stress. ☺

HI-FI NEWS VERDICT

Aside from my issue with the lack of front handles, the useless meter and the 'deadly' heatsinks, this is a highly desirable amp with a price that's almost sensible when you consider that a competitor like the beefier and more feature-rich D'Agostino costs nearly four times as much. Handsome, robust, competent, this amp will never disappoint – once you lift it from the box and out the way of your ankles.

Sound Quality: 85%

