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High-end divas turn on the style

Mighty media
T+A's MP 3100 HV
SACD/DAC - the
ultimate front-end?

Swiss style
Piega Coax 311
'ribbon' loudspeakers



THE STOOGES





High art meets hi-fi
Metaxas Ikarus integrated

Metaxas Ikarus integrated amp - the stuff of legend?

Black Forest vinyl
Perpetuum LP spinner returns

INVESTIGATION

Tape, tubes & tech

HFN goes behind the scenes
at Grove Studios, p24

Rock solid

Audio Research's

Foundation DAC9



THE hi-fi SHOW Live 21-22 October See p17

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• OPINION 12 pages of comment • VINTAGE Sony's PS-X4 direct-drive turntable

• SHOW BLOG Hong Kong AV Expo • READERS' CLASSIFIEDS Hi-Fi bargains galore

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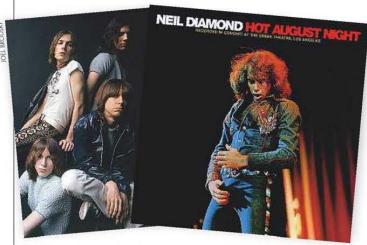


# SEP/17

**RIGHT:** A new name in headphones, Even's unassuming-looking H1 packs a very big idea... see p64 for the story



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**VINYL**: The Stooges' sonic savagery is celebrated with Fun House as this month's Vinyl Icon (p78) alongside Neil Diamond's Hot August Night which is re-released on 180g LP (p76)

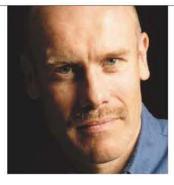
RIGHT: Hi-Fi News & RR is the UK's representative of EISA's Hi-Fi Expert Group. Editor Paul Miller took over as EISA's President in June 2016



here's not quite so much art as science involved in the design of today's top-flight hi-fi, but neither are the fresh flagships of fidelity conceived solely 'by the numbers'. The three exclusive cover stars featured this month explore every aspect of modern industrial and electronic design - from the supremely hi-tech marriage of digital media embraced within T+A's MP 3100 HV [p32] to the minimalist 'high art' craftsmanship embodied in the outrageous Metaxas Ikarus amplifier [p40].

These two products may occupy two very different regions of high-end hi-fi's Venn diagram, but when the circuit emulation and CAD/ CAM programs are exhausted and the computers switched off, both these company's designers fall back on an intuition honed from years decades - of experience. In audio engineering circles, what separates the merely very good from the supremely talented is an innate awareness of how small changes to circuit design, layout and component choice will positively influence sound quality. And this is where the art takes over from the science!

Our task on Hi-Fi News is much the same - pulling every technological lever to ensure we offer the fullest and most



independent advice possible on the performance of the world's greatest hi-fi while also celebrating the art, not just the art of design, of form and function, but also the living breathing art of the music itself.

Once a year we offer the chance for all enthusiasts to enjoy this synergy between

# 'When technology is exhausted, designers fall back on intuition'

technology and glorious sounds at our Hi-Fi Show Live, now in its 5th year and hosted at the exclusive Beaumont Estate in Old Windsor on 21-22 October. You can discover more about the world of premium hi-fi on demo, our guest presenters, workshops and ticket options on p17 and via our website.

So if you want to experience the high art of Metaxas and the high technology of T+A for yourself, make a date to join us at the UK's only high-end Show!

PAUL MILLER EDITOR

#### HI-FI NEWS' EXPERT LINE UP: THE FINEST MINDS IN AUDIO JOURNALISM BRING THEIR EXPERIENCE TO BEAR ON ALL AREAS OF HI-FI & MUSIC



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JOHN BAMFORD JB brings huge industry experience, a penchant for massive speakers and a love of hi-res audio in all its diverse quises



KEN KESSLER is a long-serving contributor, luxury goods writer and champion for the renaissance in valves and 'vintage hi-fi'



KEITH HOWARD has written about hi-fi for 40 years, and edited Hi-Fi Answers for nine, KH performs our speaker and headphone lab tests



STEVE HARRIS Former Editor of this very title from 1986 through to 2005. A lifetime in audio and a love of jazz makes Steve a goldmine



ANDREW EVERARD has reviewed hi-fi for over 30 years and is still effortlessly enthusiastic about new technology, kit and discovering new music



STEVE SUTHERLAND worked on Melody Maker and then edited NME from 1992-2000. the Britpop years. Steve brings a unique slant to our Vinyl Release pages

Integrated amplifier. Rated at 50W/8ohm Made by: Metaxas & Sins, Netherlands Supplied by: The Audiophiles Clinic, UK Telephone: 07795 845403

Web: www.metaxas.com; www.audiophilesclinic.co.uk Price: £25,000



# Metaxas Ikarus

A few decades away from the audio scene, Kostas Metaxas is back with a range of radically-styled electronics, including the Ikarus integrated amp – a welcome return? Review: **Ken Kessler** Lab: **Paul Miller** 

n more than a few occasions, in these pages and elsewhere, I have berated high-end audio manufacturers for not presenting their inexcusably expensive wares in the manner of 'luxury items,' as they deserve. For all but a few enlightened brands, the attitude is as ludicrous as a cigar vendor suggesting that a £45 Cohiba is not a luxury item, or a shoemaker saying the same of a £3500 pair of brogues. Kostas Metaxas, blessedly, knows that a £25,000 integrated amplifier positively bellows 'Luxury!'.

#### SPACECRAFT STYLING

If its price alone didn't do so, then the styling of Metaxas and Sins' (Sons') Ikarus certainly does. Along with D'Agostino, darTZeel, Chord and a handful of others whose products don't look like prosaic boxes with knobs on them or have styling, feel and/or finish that reeks of quality, the Ikarus does all that and more. Indeed, it doesn't even look like hi-fi per se. And that's a good thing, because there are now two or three generations who don't even know what 'hi-fi systems' are. Seriously.

That's not to say the Ikarus is a whizzbang 21st century toy targeted at a market that is rapidly abandoning physical sources. Even the new-wave of vinyl users don't quite 'get' hi-fi and many are just as likely to buy LPs as *objets d'art* to hang on their walls. With its traditional innards clothed with outré attire, the Ikarus just might catch the eye of the newly-moneyed who care about sound, but also want style.

Conversely, the Ikarus' lack of a phono input, no internal DAC and the absence of a remote control begs for an owner who knows what to do with an integrated amplifier – which narrows the appeal to the dwindling world of audiophiles. (Make that 'moneyed' audiophiles.)

RIGHT: The underbelly of the Ikarus reveals two (stacked) toroidal mains transformers and no fewer than four rectified/regulated PSUs per channel. Each single transistor pair output stage is protected by two 250mA fuses [centre] Metaxas & Sins – Kostas's little joke about keeping it all in the family – is the extension to his design business. Those of you who have an eye for flair will appreciate that these new electronics owe their look to nothing else, save for hightech science fiction film props.

And it's worth mentioning, in establishing the brand's presence in the mainstream luxury sector, that Kostas Metaxas is designing outrageous pens for Dupont, a wild clock for L'Epée 1839 and porcelain, furniture and writing instruments under his own banner.

Only an image can do justice to the Ikarus' shape, which resembles the alien spacecraft Chris Foss painted for the covers of 1970s paperbacks. Nothing about it is conventional, from the high gloss paintwork options (our sample was finished in a matt silver) to the toast-rack cooling slots. The only area of familiarity is the back panel, necessarily flat and

orderly: a strip containing three pairs of RCA line inputs, one pair of balanced XLR inputs and sublime WBT NextGen multi-way speaker terminals. The IEC mains input is underneath [see picture, below] and a 90° adapter is provided to allow a cable with a straight plug to be used.

Despite the 'front panel' containing rotaries for source select and level, an on/ off button and a pair of meters, it looks more like the 'face' of some android than an amp. I expect this, then, to be a 'Marmite' component – love it or hate it – but the worst response elicited by visitors was bemusement. For *my* sins, I absolutely adore it and would buy one tomorrow if funds allowed, even with its comical price. I also found myself poring over a second metallic blue review sample just as I would a new wristwatch. I found the other





colours - red, silver, black, purple - equally fetching. For a fee to be negotiated, you can have it painted any colour you like.

#### TRIED AND TESTED

If the classic, line-level-only internals suggest that this is just a re-clothing of his amps from 30 years ago, Kostas explains

that, 'The Ikarus uses a very fast, tried and tested circuit which I developed in the early 1980s, but continued to refine as faster devices and special parts have been discovered on the marketplace. I've shied away from using the

latest "retro" thinking on single-ended or Class D or even 1920's rehashes or updates on classic valve configurations such as single-ended triodes, because I am still, surprisingly, able to retrieve more from this circuit as I continue to work on it.'

Metaxas tested 'some of the newest technologies' such as surface mounting of resistors and capacitors, but found

them 'limited in the same way some valve manufacturers prefer not to use printed circuit boards'. As Kostas has recorded over 300 live concerts in his series of Stellavox Analogue Tape Recordings - he's one of the world's most seasoned Stellavox tape deck users - he has a reference library that is used to evaluate and voice the designs,

by comparison with the original. [Note: You can download many of these free at www.metaxas. com/recordings.html]

'Every part of the Ikarus amplifier,' he continues, 'is tested, selected and in many

cases matched entirely by hand. What makes the circuit unique is a mixture of a few simple ideas properly executed. This includes very basic capacitance-

multiplier (power supply) filtering, minimal (audio path) capacitors and the operating point of the entire circuit

ABOVE: The beetle-esque carapace is an alloy casting and incorporates VU meters with input selection and volume controls on the rear panel [see inside shot, opposite] connected by long rods to the knobs seen here on the front

regulated by a DC servo, so each stage is not "fighting" the next stage to establish its operating point.'

Even the chassis is not simply a fashion statement. Metaxas says that the intervening years has taught him 'the incredible importance of the "case". In fact, the exact same electronics in a traditional box sound incredibly inferior.'

Quite unlike the open architecture of his earlier amps, some of which featured a freestanding, purely decorative fascia, the new models employ CNC-machined cases, said to be 'overwhelmingly inert' and

> virtually immune to RFI. He also posits that the organic shape of the case allows for easier removal and dissipation of microphonic vibration.

# JOYFUL PAIRINGS

It couldn't be simpler: the Ikarus is compact and easy to handle. Once out of its flight case, I flipped it over, fitted the 90° IEC adapter, connected the mains cable and flipped it back over. My Marantz CD12/ DAC12 was fed into the balanced inputs, and the EAT E-Glo phono stage, SME 30/12 with

Clearaudio Goldfinger [HFN Jan '15] fed another line input, and I also used the Marantz DV8300 universal player.

Then I remembered editor PM's warning that this was not a beast of an amp [see →

## THE ICARUS FACTOR

In Greek mythology Icarus (or Ikarus), son of the craftsman Daedalus who built the Labyrinth in Crete, was the fellow who flew too close to the sun, the wax holding the feathers in his fabricated wings melting and sending him plunging into the sea. Fortunately the substantial alloy casework of this particular Ikarus ensures the small Darlington power amp stage never gets too hot! The single pair of NEC 2SA985/2SC2275 epitaxial power transistors, per channel, are 25W/200MHz devices of some decades vintage, and just visible at the back of the amplifier [see picture, p40] either side of the main, brightly coloured polystyrene PCB. The input stage and VU PCB [see inset picture] employ full-sized components (no SMDs here) on modules that plug on top and beneath the main PCB. Metaxas emphasises widebandwidth circuit design but with massive physical shielding, and input filtering, to reduce the impact of RFI [see Lab Report, p45]. PM

'I expect this to

be a "Marmite"

component -

love it or hate it'



'How do I put

this? Sheer

glory struck me

upside the head'

Lab Report, p45], like its power-amp-only siblings. Not wishing to court disaster, I didn't even bother trying to drive the Wilson Alexias [HFN Mar '13]. Instead, I connected the Ikarus to a speaker I grow more and more fond of daily: the KEF LS50s [HFN Jul '12]. It was a blissful, if unexpected match, saying as much about the KEFs as it does of the Ikarus: that this is one amazing compact loudspeaker.

Of course, no sane individual would feed a £799-per-pair loudspeaker with a £25,000 amplifier:

that sort of ludicrous mismatching went the way of the 'Linn LP12 through NAD3020' nonsense of 30 years ago. To balance things out, I also drove my legacy MartinLogan Summits [HFN Nov '09]

with the Ikarus (since Kostas Metaxas loves electrostatics). Again, a joyful pairing.

#### MOMENTS OF EPIPHANY

Because I will never tire of it, especially as the new edition sounds even better than it has any right to, I started out with the 2017 mix of The Beatles' Sqt Pepper's Lonely Hearts Club Band [Apple] EMI 0602557455366]. Curiously, two unanticipated moments of - how do I put this? - sheer glory struck me upside the head, setting the tone for the rest of the listening sessions.

No, I hadn't programmed the deck to go straight to 'Lucy In The Sky With Diamonds', but I must have hit the number rather than 'play' in my haste. Its delicate opening enjoyed a wall-to-wall spread of

ABOVE: Metaxas favours classic 9-pin D-sub connectors [PC serial port sockets] to mount its line/voltage stage module and VU meter module [see p41] to the amplifier's main PCB

such seamlessness that I had to remind myself not only was I not hearing the 1967 mix, but that the KEF LS50s were doing a damned fine job of mimicking the stage width of the Wilsons.

And the second epiphany? The percussion, especially the bass drum. It

followed through to Paul McCartney's bass, lower octaves of such richness and texture that I would have sworn up-and-down, 24/7, that I was listening to big, fat KT88s.

Stop right there: you're thinking KK has

gone soft, and that he's succumbed to the lure of the romantic. Nope - not a bit of it. The attack of the opening twin-guitar salvo on 'It's Getting Better', the cymbals, McCartney's astounding 'lead bass' - all enjoyed crisp form, a surfeit of detail and transients that stopped with arch precision. And yet... the decay of each note was so deliriously valve-like that an identity crisis loomed. Nothing about the Ikarus sounded particularly 'transistory'.

One of my favourites of all time is The Beach Boys' Surf's Up and Analogue Productions' heavy vinyl pressing [APP070] blows away the original. Now I am not about to suggest that 'Take Good Care Of Your Feet' is one of the best tracks, but the sound effects - car horn, cow bell, woodblock - all enjoyed a vividness 👄

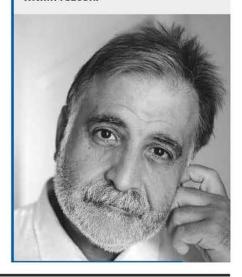
## KOSTAS METAXAS

Renaissance man Kostas Metaxas has - in addition to earlier stints as a hi-fi manufacturer - produced print magazines, an online 'luxury world' video portal, owned restaurants in his native Australia, and is a recording engineer and industrial designer for prestige clients. Of late, design dominates, reflected in new hi-fi components - the Marquis 'skull' headphone amp and a full range of loudspeakers - all part of a Metaxas & Sins repertoire that now includes pens, porcelain and furniture.

Says Metaxas, 'My art/design background started in my teens when an uncle, not that much older than me, showed me some art magazines with images from old master painters. Then he introduced me to a friend who was a crazy hi-fi fan - Luxman valve amplifiers, horn speakers. That was it. I was lost in the art and more importantly, the music. Music is my core. I see art and design as "visual music".

'My design career background started very early, when I left university and set up my first company to produce very serious hi-fi equipment. As a teenager, I couldn't afford to buy expensive hi-fi, so I taught myself electrical engineering. You could do that in those days by just attending lectures at universities in the different campuses.

'So my hobby turned to my business. But even then, I felt that it was important not to be a superficial designer, and to really know what goes on under the hood. I do believe in form following function, but within reason.'





ABOVE: Four line ins, including one stereo pair on balanced XLRs, are offered alongside a single set of WBT NextGen 4mm speaker terminals. The IEC mains inlet is close-coupled to the PSU transformers under the chassis [see inside shot, p40]

that tells of transparency and neutrality, both required for absolute authenticity. But that didn't prepare me for the 'liquidity' of 'Disney Girls'.

As gentle as a song can be, this track is blessed with some of the finest harmonies this band has produced in a half-centuryplus of harmony-without-peer. The instrumentation is sparse, the textures and the wall of sound created by voices, but punctuated with visceral snare drum - the Ikarus balanced it beautifully, culminating in a brief spot of whistling toward the end. It was 'in the room'.

#### 'IS IT REAL?'

As if to wake one from reverie, the next track is the fierce 'Student Demonstration Time', all fuzz guitar, barrelhouse piano and vocals sung through a bullhorn. This may not be the ballsiest amp on the planet, but it delivered sufficient weight, just about necessary to convey a sonic onslaught. The Beach Boys as ZZ Top? Insane, perhaps, but listen to the track and then tell me I'm crazy!

It is only the power that might cause concern, if one presumes that any amplifier costing as much as a loaded Mazda MX-5 should be able to drive nails into the wall. While this will not blow the drivers out of your Magicos, it somehow manages to convey mass if not challenging your speakers' ultimate playback levels. For that, you probably want to consider the Solitaire stereo power amp or the Soliloguy monoblocks.

Although an unplugged track, Led Zeppelin's 'Bron-Y-Aur Stomp' from the box set of III [Atlantic R2-536183] - clapping, bass, acoustic guitar - has a heft to it that reminds the complacent that it's not all about decibels. As unamplified as the instruments may be, the acoustic power is palpable, and that drum moves a lot of air. The KEF LS50s took it all in and translated it

into a full-range experience, both it and the Ikarus defying logic.

Again, there was a wall-to-wall spread and exceptional front-to-back depth adding to the experience, for this was quality rather than quantity, so to speak. Plant's vocals (doubletracked?) had the necessary in-theroom quality, but the periods of unaccompanied guitar delivered the best of those 'Is it real?' moments. This amplifier 'gets' subtlety and refinement, as well as forcefulness.

Unfortunately, there's a 600lb – no, make that 16kg – gorilla in the room. It's the unit itself. Even switched off, it has a presence that seduced my most cynical audiophile friends, while (and this is even more remarkable) not offending disbelievers. As good as it sounds, the Ikarus will win friends, too, for the qualities it shares with a piece of Baccarat crystal. It's an object that the editors of Wallpaper would acknowledge, one that could reside in a smart flat with an eight-figure price tag and décor to inspire a colour supplement, without anyone having to apologise for it.

It is, in other words, a piece of sculpture. One that just happens to play music. (b)

## HI-FI NEWS VERDICT

It's easy to be overwhelmed by the industrial design and forget about this amplifier's primary function. Fortunately, limited power aside, the Ikarus does not disappoint, for it possesses a silkiness that's instantly appealing and which, for many listeners, will be preferable to the analytical or the bone-dry. It's open, warm and friendly, not unlike its designer. Meanwhile, the breathtaking shape is simply a bonus.

Sound Quality: 85%

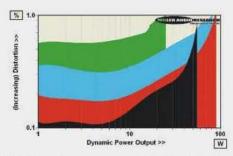


# REPORT

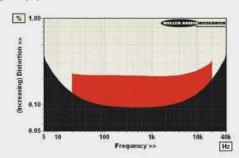
#### METAXAS IKARUS

While this amplifier's machined carapace is certainly substantial, its purpose is to physically isolate and screen the power supply section from the input and power amp rather than support a host of output transistors. So the Ikarus is not as powerful a beast as its 'presence' might suggest. Indeed, Metaxas rates the Ikarus at a modest 50W/8ohm which was met in practice, along with an equally modest increase under dynamic conditions to 55W, 90W and 82W into 8, 4 and 20hm [see Graph 1, below]. The, by modern standards, delicate A985/C2275 output stage is necessarily current-limited so its output into low 1ohm loads reaches 1% THD at just 25W. Metaxas also rates distortion at <0.05% (20Hz-20kHz) but in practice this rather depends on output as I measured closer to 0.09-0.19% at 1W and 0.21-0.32% at 10W over this same 20Hz-20kHz bandwidth [see Graph 2, below]. These figures are not especially low but they are reasonably uniform with frequency, which, from a subjective standpoint, is no bad thing. The amplifier's white noise floor is slightly raised too, yielding an A-wtd S/N of 77dB re. OdBW.

Metaxas also specifies the Ikarus's frequency response at a mildly alarming DC-5.0MHz (-3dB). While the open-loop bandwidth of one stage might approach 5MHz (Megahertz), the closed-loop response, including low-pass filtering, is actually mildly rolled-off to -0.7dB/20kHz and -7.7dB/100kHz. This is perfectly sensible in my view, and the DC-coupled output remains flat to within ±0.1dB down to 1Hz. By the same token, Metaxas's '500 damping factor' rating is very conservative, for the output impedance of the Ikarus falls as low as 1mohm through bass and midrange (a DF of 8000 into 8ohm) before increasing to 0.083ohm/20kHz (100 into 8ohm). PM



ABOVE: Dynamic power versus distortion into 8ohm (black trace), 40hm (red), 20hm (blue) and 10hm (green) speaker loads. Maximum current is 6.4A



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

#### **HI-FI NEWS SPECIFICATIONS**

Power output (<1% THD, 8/40hm)	51W / 56W
Dynamic power (<1%THD, 8/4/2/10hm)	55W / 90W / 82W / 25W
Output impedance (20Hz-20kHz)	0.001-0.083ohm
Freq. resp. (20Hz-20kHz/100kHz)	+0.00dB to -0.70dB / -7.7dB
Input sensitivity (for OdBW/50W)	156mV / 1130mV (balanced)
A-wtd S/N ratio (re. OdBW/50W)	77.2dB / 94.2dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.21-0.32%
Power consumption (Idle/Rated o/p)	11W / 160W
Dimensions (WHD) / Weight	360x200x380mm / 16kg