

EAT E-Glo i

The extension of EAT's E-Glo range of valve phono stages into something bigger was inevitable, but not hurried – enter EAT's first integrated all-tube amplifier, the E-Glo i
 Review: **Ken Kessler Lab: Paul Miller**

Regular readers will already know that I use two of EAT's cartridges [HFN Dec '18 and '19], two of its phono stages [HFN Mar '17 and Feb '19] and a B-Sharp turntable [HFN Jul '20]. The E-Glo i is thus among family members and there's every chance I was going to be predisposed...

At £9498, it's not cheap for an all-valve integrated rated at only 35W in ultralinear mode or 18W in triode, but the perceived value is self-evident, ameliorating the issue of watts-vs-worth. Recalling £100k 20W single-ended triode amps puts it into perspective. For £1000 more, you can fit a quartet of EAT-made KT88s in place of the already very fine Electro-Harmonix tubes in our review sample.

EXUDES LUXURY

Care needs to be taken with the very sharp edges of the valve cover, particularly when lifting its 26kg bulk out of the packaging, but this is otherwise a beautifully made product. Owners of EAT phono stages will recognise the matte silver finish and contrasting glossy piano-black or Makassar wooden end-cheeks. This amplifier looks expensive rather than industrial – a good thing if hi-fi brands are to attract sane people to high-end audio.

Note that EAT started out not with turntables but with tube manufacturing [see PM's interview with founder Jozefina Lichtenegger on p37]. 'The E-Glo i is a recognition of the company's roots,' she says, 'everything that we do is about a love for tubes and for analogue, so the E-Glo i is a natural progression.'

And what a debut amp it is! A true heavyweight occupying 435x170x485mm (whd), the E-Glo i is substantial as well as handsome, which will please tyre kickers. With or without the (arguably perilous) valve cover, the unit exudes luxury, which

RIGHT: Overhead picture shows the seats for the pairs of 12AX7 and 12AT7 triodes and larger 'Kinkless Tetrode' KT88 pentodes. The latter may be configured for triode or ultralinear output modes, on-the-fly, via a toggle [lower right]

will please aesthetes, while the tactile elements please another of one's senses: EAT always fits positive, click-y toggle switches and smooth rotary controls.

But back to that cage. Unlike valve covers which snap into place, the E-Glo i's is held in position by four Torx screws and the necessary screwdriver is supplied. I am torn between the look of the amp with or *sans* cover, because EAT has housed the transformers in luxurious chrome boxes. Hiding them seems a pity.

Even the remote handset is jewel-like [see p39], with ten flush buttons for power-on, level up/down, mute and access to five line inputs. That only accounts for nine; the tenth, unlabelled button might cover a future function. I'd like to see this mystery button select ultralinear and triode modes, handy for A/B'ing the two if the unit is some distance from the listener. Attention to

detail involves the small valves being fitted with EAT 'Cool Dampers' – heatsinks and vibration control in one solution.

HAND-NUMBERED

These dampers are worth around £20 apiece and were finished in red, which

provide eye-catching accents if you opt for the *al fresco*, no-cage look. They are also offered in natural metal or dark metallic grey should you find red just too garish.

Hand-numbered on their bases, the valves sit in cut-outs in the packaging's foam top layer, with the remote and a spare battery. Two manuals are included for set-up and operation, along with the Torx driver, gloves and a mains cable. The amp is protected by a velvet pouch, a touch common to £1500-a-bottle cognac. Set-up is intuitive for seasoned audiophiles, and

“The E-Glo i is a recognition of our company's roots”



only the valve positions need checking. Remove the cover, fit the four KT88s and the 12AX7 and 12AT7 triodes according to the set-up guide, replace the lid and make your connections. EAT even supplies spare Torx screws should you lose any.

At the back are five pairs of RCA phono connectors, two sets of multi-way speaker binding posts with both 4ohm and 8ohm values, a mains socket and the on/off rocker working in conjunction with a standby toggle on the front of the amp and the power button on the remote. At the front, blue LEDs show the selected source. To their right, next to the remote sensor, an LED shows power-on, flickering during the 40-second muted warm-up period.

On top are the operating controls, power-on at the left, then the motorised rotary volume control and the triode/ultralinear selector. The E-Glo i mutes when you change this setting to avoid pops or

level changes and, lastly, there's the source selection toggle, scrolling up or down.

ALL IN THE FAMILY

Unusually, and as described in my opening paragraph, the E-Glo i afforded a chance to listen to what is nearly a one-make system, bar cables and speakers. I also used other-make sources, including two open-reel decks and two CD/SACD players, but much time was spent with EAT's B-Sharp turntable and tonearm, Jo N°5 cartridge and E-Glo Petit phono stage.

Wiring throughout was Yter. Given the low power, loudspeakers included the Tannoy Autograph Mini and JBL 4312M II [HFN Sep '12], but ultimately the Falcon Acoustics LS3/5As [HFN Jan '19] were the final arbiter – a match made in heaven as

ABOVE: Protective cage removed from the massive chassis [see pic p37] exposes the tubes and custom PSU/output transformers. Input/line triodes feature custom tube coolers

LS3/5As only handle so much power before they die. A head-bangin' beast it is not, but, the higher the speaker sensitivity, the more fun you'll have with the E-Glo i.

One matter to dispense with as quickly as possible is triode vs ultralinear, so as not to obscure hearing what the E-Glo i does regardless. While obviously a desirable feature, it needn't be a source of agitation for audiophiles susceptible to the torment of choices. All it requires are a few favourite tracks and no distractions.

As it's just a matter of flicking a switch, triode vs ultralinear is not an either/or situation [see PM's boxout, adjacent].

Both are available here at all times, so it's not like choosing solid-state or valve. You use either according to taste or whatever strikes your fancy, so note: I'll not offer a definitive choice.

WALKING TALL

The reason for this is that I typically prefer the warmth of triode mode (though I am not convinced by single-ended triodes), even though I also worship a few vintage ultralinear classics. Instead, I will cite either where appropriate. If there's an overall problem with the triode vs ultralinear dilemma, it's that differences can be either too subtle to matter (in the case of the E-Glo i, the level change is minimal), or so drastic that one's preference is immediately determined.

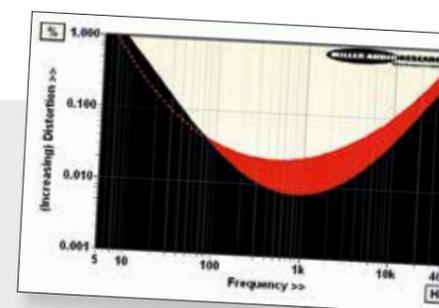
What muddles this is that it's both a hardware issue, eg, the Tannoy speakers sounded smoother with the amp in ultralinear mode while the JBLs benefited from triode, and it varies from source-to-source and recording-to-recording. ↪

TRIODE OR ULTRALINEAR?

Tube amps are not only becoming more sophisticated, but also more user-friendly. Auto biasing keeps the output bottles in optimum fettle – also opening the door to tube rolling – while switching between ultralinear (UL) and triode modes is now often made available

'on the fly'. That's certainly the case with PrimaLuna's EVO 400 tube amp [HFN Apr '20] and also the physically much larger EAT E-Glo i featured on these pages.

Triode operation certainly has a cult fan base. Technically, distortion can be reduced by switching from an UL to triode configuration, but gain is almost halved so, in practice, negative feedback is typically reduced to boost gain at the expense of distortion. That's the case here where distortion is actually slightly higher, not lower, in triode mode [red, with UL in black, inset Graph]. So EAT has 'squared the circle' – there's only 1dB less gain in triode mode (so UL will also sound that bit louder if the volume knob is left untouched), and a 1dB improvement in S/N ratio, but power output drops from 35W to 19W. Levelling the field still further, neither is there a significant difference in output impedance or frequency response between modes. PM



INTEGRATED TUBE AMP



ABOVE: EAT's all-alloy tube cage provides a stylish and secure 'bonnet' for the hot bottles within, but take care as, with our sample at least, the edges are very sharp indeed

How to deal with this variable aspect of the two modes? I played the open-reel tape of The Beatles' *Sgt Pepper* [Capitol L2653], the corresponding US vinyl version [SMAS 2653] and the new mixes on LP [Parlophone PCS7027] and CD [Parlophone 0255745532 8], ensuring level matching and comparing UK mix with US mix, and 2017 remastered LP with the same on CD.

First, let's portray the overall nature of the E-Glo i. Regardless of the position of the toggle, the immediate, stand-out qualities are inherent, undeniable warmth and truly vast soundstage properties. And these were constant regardless of source, material – or mode. This amplifier sounds both intimate *and* huge. How's that for seemingly incompatible virtues?

Repeatedly cited and patently impressive, too, was a rarely-noted element which never attains the importance of image specificity, bass control, transient attack or other qualities, and that was image height. Admittedly, this was enabled in no small part by playback through the

champions of that trait, the LS3/5As. The music always hovered above the speakers, topping a soundstage of cavernous depth and wall-to-wall boundaries.

FLOAT ON

Revelations started with the crowd noises which open *Sgt Pepper*, carrying on through 'With A Little Help From My Friends', the latter's width bordering on the astounding, the former audibly floating in the room. Each instrument was so perfectly located that – especially with eyes closed – the experience defies you to identify the speaker as a box or a panel. Percussion was as crisp as a Frito, the E-Glo i being atypically precise for any valve design, and even in triode mode. The snap was as fast and clear-cut as I've heard from solid-state amps of ten times the power and five times the price.

Further trashed preconceptions came as the E-Glo i did not attempt to assuage the virulently spitty top-end of *Belafonte Returns To Carnegie Hall* [RCA FTO 6002] ↗

'This tube amp sounds both intimate and huge'

RIGHT: No KT120s or KT150s here as EAT reverts to the legacy KT88 'kinkless tetrode' for its first tube amplifier. Tubes are either sourced from Electro Harmonix or from EAT's own brand produced in the old Tesla tube factory in the Czech Republic



JOZEFINA LICHTENEGGER

It is perhaps fitting, and not coincidental, that the classic KT88 tube that kicked-off Jozefina Lichtenegger's career in hi-fi some 20 years ago should be chosen as the heart of EAT's first integrated amplifier. Jozefina took over production of the KT88 in the iconic Prague factory, remaining faithful to the original 'recipe' of the legendary Golden Lion tube.

Now the owner & CEO of EAT (European Audio Team), Jozefina told *HFN* about this choice of tube. 'The output power of an amplifier does not necessarily indicate its musical quality. So there are amplifiers using the new style of KT88 with higher dissipation – the KT120 and KT150 – but for me, the KT88 offers the most "magical" tube sound, closely followed by the 300B triode.'

Jozefina has a disarmingly romantic view of tube engineering. 'The glow that radiates from the cathode's gold-plated tungsten-molybdenum wires', she begins, 'brings the light and resurrection to any thoughtfully-composed and well-recorded music.' But she also has an eye for quality, 'vinyl, tubes and the "analogue sound" are very fashionable now, so there have been many products on the market with cheap components. By contrast our amplifier is finely produced in Europe using the very best components, including milled PCBs'.

And the future? 'We have plans to make a tube pre/power amp and also a tube-loaded CD player/DAC combination. But we will also stay focused on our high-end turntable/phono preamp range.' PM



INTEGRATED TUBE AMP



ABOVE: EAT already offers several separate phono preamps so the five single-ended line inputs on RCAs (no balanced XLRs, MM/MC phono or USB digital options here) are joined by separate 8ohm/4ohm speaker taps on gold-plated 4mm binding posts

as would a mushy valve amp of yore. An open-reel tape in RCA's Living Stereo range, it is the sequel to one of the most admired audiophile recordings of all time. I wondered if during the year between the first album and this follow-up, someone had fallen in love with the worst-sounding vocal mic then available. Despite this, the soundstage remained breathtaking, so all was not lost. But back to the Beatles.

FINESSE AND FLUIDITY

What the contrasting formats offered was an opportunity which you, too, can replicate if, like me, you're a schmuck who buys both LP and CD... and tape as well. The ultralinear mode tightened up all-analogue recordings, while the triode mode increased the warmth of the digital versions. Digital material thus grew less likely to induce fatigue in this mode.

'She's Leaving Home' places Paul's vocals in front of massed strings, with John Lennon prominent among the group harmonies, making it easy to assess this using LP and CD. Textures – not levels – changed from mode to mode. They

are trade-offs, *not* mutual exclusion, simply differing in the way sound can vary subtly with moving-coil cartridge loading.

It was, however, the loopy 'Being For The Benefit Of Mr Kite' which

LEFT: Slim, elegant remote control governs (motorised) volume, mute, input selection and main power on/off



further exploited the dichotomy, a crowded recording which everyone knows is a masterclass in studio-created artifice. Calliope swirls, crisp cymbals, thumpingly hollow bass – rare are the occasions when I've heard such a glorious soundscape recreated from so compact a system. Remember: this amp only delivers between 18 and 35W per side [see PM's Lab Report, opposite], while the speakers are the same height as an LP sleeve. Yet it was monumental.

The E-Glo i was responsible for my indulging in four-hour sessions, night after night. Lou Rawls' and Dianne Reeves' vocals on 'At Last', loads of Keb' Mo' bottleneck – the E-Glo i demonstrates finesse and fluidity, refinement and detail. The bass defied logic, especially through small monitors, as revealed by the box set of The Band's second, eponymous album [Capitol 00602577842832].

It was a tonic after becoming injured to cost and size, a return to domestically-acceptable hardware and prices below that of a cottage in Wales. I was in love, and fell asleep dreaming... what could this beauty do with four KT150s? ☺

HI-FI NEWS VERDICT

Having lived with EAT's E-Glo phono stage since 2013, I was familiar with the brand's characteristic sound, which the E-Glo i exhibits in spades. This is old-school, warm 'n' cuddly valve magic, more so in triode than ultralinear mode, while in either setting it especially complements both LP and tape – unsurprising given the founder's love for live classical events. Irresistible, so I bought the review sample.

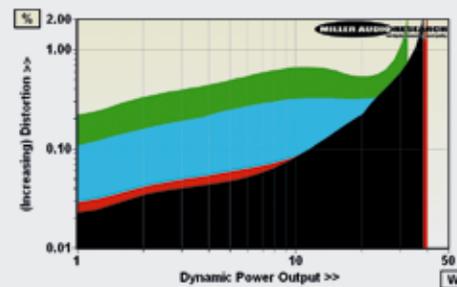
Sound Quality: 88%



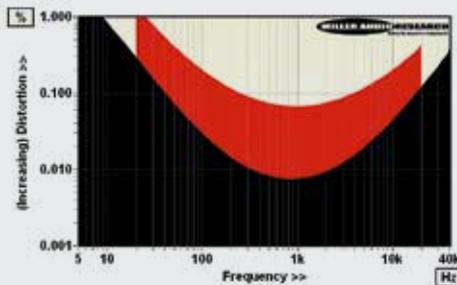
EAT E-GLO I

I discuss the practical realities of ultralinear (UL) and triode operation in our boxout [p35] but the headline figures for EAT's first, and very substantial tube amplifier, are all very positive. EAT rates the E-Glo i at 2x35W into 8/4ohm loads (via the 8 and 4ohm taps) in UL mode and 2x18W into 8/4ohm in triode mode – conservative figures for a pair of KT88s but precisely met on the lab bench. Under dynamic conditions, and relaxing the distortion limit slightly from 1% to 2%, the E-Glo i marginally extends its reach to deliver 39W/8ohm and 41W/4ohm (via 8 and 4ohm taps, respectively) while still offering 41W/2ohm and 33W/1ohm via the 4ohm tap [see Graph 1, below]. Power output almost exactly halves in triode mode while overall gain is +30dB (+31dB in UL) and the A-wtd S/N is a very respectable 93.5dB (re. 0dBW) – so this is a very quiet tube amplifier, well suited to above-average sensitivity loudspeakers.

In common with almost all tube amps, THD is lowest through critical midband frequencies – a mere 0.012%/1kHz in UL mode at 1W/8ohm – before increasing at low frequency/higher power through transformer core saturation and high frequency/higher power as the influence of NF is reduced [see Graph 2, below]. For example, at 1W/8ohm THD is 0.2%/20Hz, increasing to 1.2%/20Hz at 10W. The damping factor at low bass frequencies is also boosted over some other tube amps thanks to its ~1ohm source impedance. This also reduces the variance in system response with speakers exhibiting swings in load. Into a 'flat' 8ohm load the response reaches down to +0.1dB/10Hz with a +1dB/1Hz 'bump', and up to ±0.04dB/20kHz and -0.9dB/100kHz. Triode mode is v. slightly (but inaudibly) different at -2.2dB/100kHz. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 5.75A



ABOVE: Dist. vs. freq., Ultralinear mode (5Hz-40kHz, 1W/8ohm, black; 20Hz-20kHz, 10W/8ohm, red)

HI-FI NEWS SPECIFICATIONS

Continuous power (<1% THD, 8/4ohm)	35W / 34W (19W/19W Triode)
Dynamic power (<2% THD, 8/4/2/1ohm)	39W / 41W / 41W / 33W
Output imp. (20Hz–20kHz, UL/Triode)	1.09-1.15ohm / 1.03-1.08ohm
Frequency resp. (20Hz–20kHz/100kHz)	+0.10 to -0.04dB / -0.85dB
Input sensitivity (for 0dBW/rated o/p)	81mV / 505mV
A-wtd S/N ratio (re. 0dBW, UL/Triode)	92.7dB / 93.5dB
Distortion (20Hz-20kHz, 10W, UL/Triode)	0.11–1.24% / 0.65–1.18%
Power consumption (idle/rated o/p)	230W / 255W
Dimensions (WHD / weight)	435x170x485mm / 26kg