

# Today + Yesterday

**A hybrid transistor and valve phono stage for all cartridges, MM and MC. Noel Keywood listens to EAT's E-Glo Petit.**

**A** high technology phono stage with valves is the best way to summarise the E-Glo Petit from EAT (European Audio Team) of Austria. Inside lie circuit boards built by robots, able to lay down micro-miniature components humans can't cope with, yet at the same time they've managed to get a pair of valves in too. You get modern precision from today, with atmospheric sound from yesterday. And for all cartridges, moving magnet

(MM) to moving coil (MC), including the most exotic low output MCs. Price £1250.

To do all this in a small case is the Petit's forte and requires quite a lot of modern electronic trickery. Whenever valves are involved big power supplies are needed – but not here. EAT have got a pair of valves working from a small external wall-wart supply that delivers in just 18V d.c (1A). Petit offers valve sound from a small and compact unit measuring just 226mm wide, 262mm

deep and 78mm high. OK, it isn't as small as possible, but it is small for a hybrid valve phono stage.

'Hybrid' because this is not an all-valve phono stage, it is a transistor stage with valve output line drivers, known as cathode followers. The idea isn't uncommon, and it gives a fine result when done well, with good sound allied to small size and low noise. If you want an all-valve phono stage like our Icon Audio PS3 MkII that I inevitably used as a comparison, it is larger and double the price, to





**Neat circuit boards carrying soldered-on switches, rotary and lever style – hence top panel controls. The valves with finned heatsinks are at top.**

get the Petit into context.

The Petit has one pair of phono socket inputs, and one pair of phono socket outputs. It can't switch between permanently connected MM and MC turntables, but it can be quickly set to match any cartridge – MM or MC – from a single turntable, accommodating a change of cartridge in headshell as a most-likely example. There are no balanced outputs, nor rarer balanced inputs; this is a straightforward unbalanced design with phono sockets only, no XLRs. There is no output volume control so it cannot drive a power amplifier directly – a preamp is needed or it feeds a conventional integrated amplifier. And no digital either, nor remote control.

The long row of vertical lever switches are unusual and a bit technical in the way they present all the many options needed to match in a cartridge. To immediate right of the power switch at left is an impedance selector marked  $\Omega/k\Omega$  (Ohms/kOhms) – MC and MM in effect.

Set to  $\Omega$  for MC cartridges the rotary switch at left can select load values of 10, 18, 43, 75, 150, 300, 600, 1200 Ohms. The standard quoted load for MC is 100 Ohms, so lack of this value may cause some confusion: 75 or 150 will suit. MC load is, as

a rule of thumb, ten times that of generator impedance – it isn't critical – so the 10 Ohm value will suit a 1 Ohm (very low output) cartridge. Most MC cartridges are 10 Ohms or thereabouts, which is why 75 or 150 Ohms will suit. Some cartridges such as Clearaudios have a 50 Ohm

cartridges (but not MCs) can also be set to 50, 150, 270, 370, 520, 620pF. Best to start out at 50pF and experiment, higher values raising the upper midband to give brighter sound, whilst rolling off high treble.

Another (biased) lever switch clicks through a wide range of gain values from 40dB for high output MM cartridges all the way up to 70dB for low output MC cartridges. This is a broad enough gain range to cover all cartridges on the market, making the Petit able to match anything available, old or new.

The chassis is very well finished in matt silver grey with gloss wooden side cheeks. Two circular covers sit atop the 12AX7 valves and each has a clip-on finned heatsink to improve heat dissipation. Low power triodes like the 12AX7 have long life of 10,000 hours and don't run hot, just slightly warm. They're common and inexpensive too, costing around £12 each.

The small external wall-wart power supply has an unusually short lead just 120cms (3ft 11in) long, barely able to reach a nearby wall socket from a shelf, demanding a mains extension lead or close supply. It has no identifying/connecting name either, so will get lost amongst all the others we all have. A unique label like 'EAT Petit' is needed.

The top mounted switches and control knobs demand positioning in the open, beside a turntable – making for a combo wider than most racks.



**A simple rear panel carrying solid gold plated phono socket inputs and outputs. The unit is 'Handcrafted in EU, Czech Republic'.**

generator, so the 600 or 1200 Ohm values suit.

Lots of MC options then but really only low (10 $\Omega$ ), normal (100 $\Omega$ ) and high (1000 $\Omega$ ) are necessary.

Set to k $\Omega$  for MM cartridges there is a similarly wide range of load values: 30, 36, 42, 47, 53, 59, 65, 75kOhms. Of these 47k is standard and best used; the others are for experiment. Load capacitance, which affects frequency response of MM

## SOUND QUALITY

I used the E-Glo Petit with our Timestep Evo modified Technics SL-1200Mk2 fitted with SME309 arm and Ortofon Cadenza Bronze MC cartridge, a headshell change giving an Audio Technica VM750SH MM. The Petit's output went to a Creek Evolution 100A amplifier feeding Martin Logan ESL-X hybrid electrostatic loudspeakers through Chord Company Signature Reference cables.

Mains regeneration to eliminate local distortions came from an Isotek Evo 3 Mosaic Genesis supply. There's no ground lift on the Petit; it is not connected to earth through its power lead but it does connect input earth to output earth – likely to introduce hum if other components are earthed.

In sound the Petit exceeded my expectations. It has all the sonic insight of a very good solid-state design, but enough of the atmosphere and low end weight that valves enjoy. Making Alison Goldfrap sound wonderfully breathy centre stage, every little intonation obvious, whilst the powerful synth lines had both weight and speed. Yes, speed: this little unit is not laconic or laid back,



**Clip on heatsinks help cool the valves, but they only run warm in any case.**

instead it races along supported by strong low end power – and a vivid, vivacious midband squeakily clear of smear or overhang. I called it “manicured” in my notes.

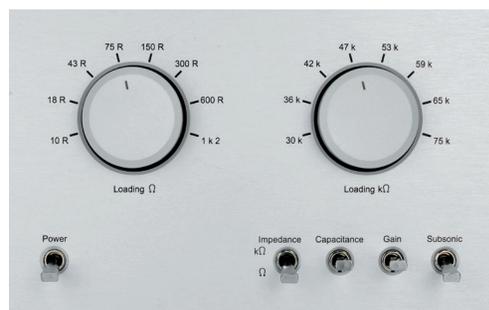
All these qualities were obvious with Hugh Masekela's Hope (Analogue Productions, 180gm), the track Lady had Masekela's trumpet and vocals blare out, whilst kick drum was firm and discrete – standing well apart – as did his support vocalists. It was a great sound – both lively and enormously detailed. Even the fine clicking of sticks was obvious and discrete.

At this point and after many LPs I was marvelling at the sense of intense insight the Petit offers and its impressive resolution and symbiotic presentation of our Ortofon Cadenza Bronze MC cartridge. It captured the sweet but clear treble of the Bronze better than most: when Mark Knopfler's guitar strings chimed out in True Love Will Never Fade, from his LP Kill to Get Crimson, I was entranced! Lucidly clear and fresh, like morning sun.

By the time I got to Neil Young's Tell me Why, from After the Goldrush (no, not After the Goldfish you silly spell checker) – an 180gm, all analogue re-master – traits were coming into focus. Young's acoustic guitar was vivid and had solid sense of body, but there was some solid-state hardness compared to our all-valve Icon Audio PS3 MkII. You get more insight and resolution, but less relaxation and stage depth.

However, at an absolute level the Petit not only had pristine clarity and strong yet supple bass, it was also svelte in delivery. Even with old recordings like Janis Joplin's Me and Bobby McGee (Mobile Fidelity re-master, 180gm 45rpm) it lifted Joplin out to make her gravelly vocals obvious yet palatable.

With the very latest and greatest new recordings like Big Band Spectacular, with The Syd Lawrence Orchestra, I had a vividly lit orchestra before me, with fast drumming and blaring saxophones put up in full scale. Knockout spectacular!



**Top panel controls. At left is a rotary MC ( $\Omega$ ) load switch and at right an MM ( $k\Omega$ ) load switch. Lever switches below select MM capacitance, gain and Subsonic filter.**

## CONCLUSION

There's no doubt that sonically this is a great phono stage. It has enormous insight and fantastic resolution: you get to hear everything. It also has fine tonal balance, with strong yet supple bass and obvious yet sweet treble. I've never heard our lovely Ortofon Cadenza Bronze MC sound so good! At the price it is in effect a bargain, even if at a practical level it could be easier and better.

## MEASURED PERFORMANCE

Gain values measured as stated, except the maximum gain of 70dB (x3162) wasn't achieved, a value of x2513 amounting to 68dB – still enough for very low output moving coil (MC) cartridges.

The Petit overloads at 9V out, like most solid-state phono stages, the valves making no difference (no gain). This results in acceptable input overload values of 90mV with gain set to 40 for

MM, down to 4mV with gain set to 70 for low output MC.

Frequency response measured flat from 16Hz to 20kHz with the highest gain of 70dB our analysis shows and was identical at lower gain values.

Steep reduction in gain below 20Hz gives -14dB attenuation at 5Hz, providing effective warp filtering to prevent loudspeaker cone flap. The Subsonic filter improves on this by increasing attenuation at 5Hz to a very high -40dB. With slight lift above 25Hz with subsonic filter in or out bass will be subjectively strong.

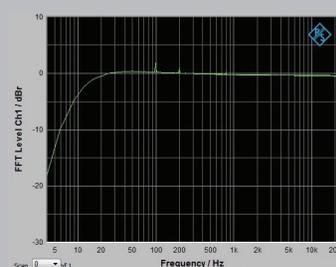
Noise measured a low 0.16 $\mu$ V (input noise) for both MC and MM. With MC 0.08 $\mu$ V is possible making the Petit 6dB noisier, but the difference is between no noise or a faint background hiss at the loudspeakers. So low noise, but not the best possible, the valves likely being responsible.

A fine set of results from a well tailored valve-output phono stage able to work with all cartridges. **NK**

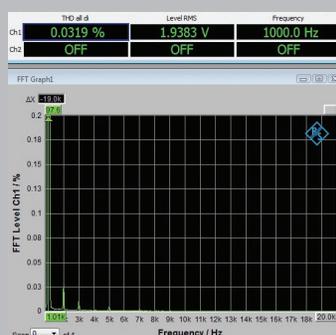
### PHONO (MM/MC)

Frequency response 25Hz-20kHz  
Distortion (1kHz, 5mV in) 0.03%  
Separation (1kHz) 67dB  
Noise (IEC A) -93dB / -82dB  
Gain (MM, MC) x100 (40dB) / x2513 (68dB)  
Overload 4-90mV in / 9V out

### FREQUENCY RESPONSE



### DISTORTION



**EAT E-GLO PETIT**  
£1249



**OUTSTANDING - amongst the best.**

**VALUE - keenly priced**

### VERDICT

Wonderful sound quality from both MC and MM cartridges at decent price, but technically geeky.

### FOR

- clear, revealing sound
- matches all cartridges
- quiet

### AGAINST

- awkward to place and use
- poor instructions
- no ground lift switch

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