

Lyra Kleos SL

Coinciding with the 40th anniversary of the company's founding, Lyra introduces a refinement to the popular Kleos moving-coil cartridge – the SL with, yes, lower output
 Review: **Ken Kessler** Lab: **Paul Miller**

Has it really been 40 years since Jonathan Carr and Stig Bjørge founded what would become Lyra? Did I really play with a (Scan Tech) Tsurugi, launched in 1986 and which I still have, when Maggie was PM? As I have enjoyed Lyra cartridges for over half my life, including many happy hours with the mono Kleos, the £3095 Kleos SL arrived with positive anticipation.

Having recently achieved the refurbishment of the aforementioned Tsurugi, I was struck by the clarity of purpose which Lyra has maintained over the decades, not least the removal of the cartridge body. On the Tsurugi, two screws released it. For its Lyra MCs, they've done away with it altogether. I've heard conflicting arguments for and against what Lyra calls a cartridge played 'in the nude', some types needing the shielding, others not so much, but I do recall preferring the Tsurugi sans bodyshell and, likewise, all the current Lyras remain shell-free.

RIGHTEOUS PATH

Carr's core philosophy concerns 'a direct energy path from diamond, cantilever, coils through the solid metal body and into the tonearm'. Part of this includes avoiding the typical practice 'of most other cartridges' that have plastic elements inbetween, thus breaking this 'energy path'.

The Kleos MC was launched in 2010, one up from the bottom of a catalogue which includes the less costly Delos models, and below the dearer Etna and Atlas lines. It followed the launch of the Delos [*HFN* May '13] in 2008, which was the first 'New Angle' cartridge for which Carr re-thought how the coil needed to be positioned during playback. This led Carr to revise the angles of the entire body structure to achieve a more ideal playback situation.

RIGHT: The Kleos's first-class tracking comes courtesy of its low mass, line contact diamond, wire suspension and moderate compliance. Additional 'decoupling' from external vibrations is offered by the plastic mechanism bolt

In practice the suspension is arranged so that the coils are optimally positioned within the (fixed) magnetic field once the correct tracking force is applied. This might seem an obvious requirement, but not all cartridge designs are so well thought out...

Historians among you will note, then, that the Kleos follows the lineage of Tsurugi/Clavis/Clavis DC/Helikon, thus maintaining the middle ground status of the range. The Kleos replaced the Delos' more cost-effective Namiki boron cantilever and microridge stylus with the more advanced Ogura solid boron cantilever and diamond found in the dearer Lyra models. The stylus is a custom 3x70µm line-contact type [see inset pic, p51], which Lyra developed in collaboration with Ogura some 20 years ago, and which it continues to use in all its upper range models.

'The Fender Strat's slithery twang had a perfect fluidity'

The Kleos is also the manufacturer's least costly model with press-fit rods within the cartridge body for better control of resonances. It also features a stronger chassis machined from aircraft-grade alloy, the hardest grade 7075 aluminium. The cartridge's front piece is a non-metal, non-conductive material just as the mounting bolt is a rigid polymer.

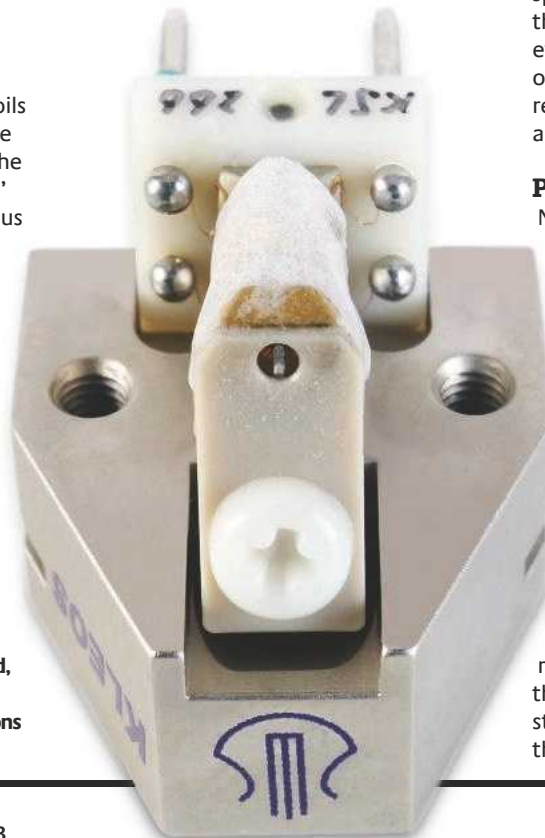
Made to order and with a 10% uplift in price over the standard Kleos, the Kleos SL (Single Layer) has a lower internal impedance, less output, and, says the company, 'possibly more purity, if the user has the right phono stage that is able to bring out its qualities'. Another physical detail is colour-coded, platinum-plated contact pins for easy, secure connection.

Although the Kleos SL is a doddle to set up because of the exposed cantilever and spot-on tracking at 1.75g, its output will be the cause of some head-scratching. As with every trade-off in audio, the move to lower output for a 'more pure and pristine sound' requires a phono stage with sufficient gain and low noise [see PM's boxout, p51].

PICK-UP PICK 'N' MIX

Now I'm not suggesting that this cartridge will mate perfectly with a fixed-gain, budget-priced phono stage that expects to be paired with high-output moving-coils. I tried it with three such models, and in every case, I had to turn up the Audio Research REF 6SE [*HFN* Jan '21] preamp's gain higher than I would for, as examples, Koetsu, Denon, Ortofon, or TechDAS MCs. The surprise came when the Kleos SL gave fine results with a £625 Pro-Ject Tube Box DS2 [*HFN* Jul '20] at its maximum gain setting of 65dB, and an EAT E-Glo Petit [*HFN* Feb '19] with 70dB gain.

Two things about the Kleos SL reminded me of the Kleos Mono, though the incongruity of comparing mono and stereo was self-evident. Rather, it was thanks to a pair of family traits which



RIGHT: The thick cartridge body is machined from 7075 alloy billet and threaded for secure mounting. The exposed boron cantilever has a single wire suspension and, with due caution in use, makes precise cueing very easy



they shared, regardless of output levels and one- vs two-channel playback. These characteristics transcend such matters and attest to the consistency of Lyra cartridges.

BASS AND GRACE

It was the rare 12in 45rpm promo single of Roy Orbison's 'Pretty Woman' [Classic Records] which delivered impressively deep, solid and cavernous bass, with airy percussion to match, to exemplify the Kleos' ability to recreate a massive foundation for the sound. Even fiddling with the phono stages' gain settings, the fullness and scale of the lower registers were such that my resurrected Quad 57s [HFN Nov '57] sounded like a subwoofer must have been sneaked into the room. Via MartinLogan Summits [HFN Nov '09], the sound was wall-shakingly robust.

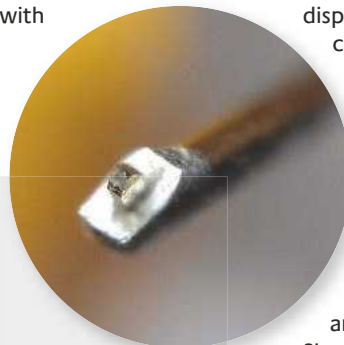
Also independent of output levels was the sweetness of the top-end. Although the notion of such a gargantuan bass output might suggest an aggressive, if not overwhelming sound, the midband and beyond proved gentle and refined, all the better to cosset Orbison's voice, surely one of the clearest, cleanest, sweetest sounds ever to feed a microphone. But the driving force on the track was the percussion, which had a presence that was palpable. It was like experiencing 'Pretty Woman'

for the first time, despite hearing many hundreds of plays via myriad systems across no fewer than six decades.

It was the same with the 12in single of Bonnie Raitt's 'Thing Called Love' [Capitol 12CL 576]. As with Roy Orbison, here was a crystal-clear voice and prominent percussion, but the guitar was the focus. Her Fender Strat's slithery twang was delivered with perfect fluidity and sharp accents, rich and wailing through the solo. As for


detail, as with 'Pretty Woman', focusing on each element was achieved with ease.

But that contradicts listening for pleasure; forensic attention is for work purposes only, as it kills the joy of music. In both cases, when sitting back and savouring each track as a whole, the Kleos SL proved staggeringly consistent from top to bottom, whatever my descriptions of disparate elements might suggest. This cartridge is voiced to reproduce the performance with authenticity rather than artifice, and it applies to both the individual instruments and the shape and uniformity of the soundstage.



CHANNEL HOPPING

As I had the Kleos Mono to hand, curiosity got the better of me and I couldn't resist trying the Kleos SL vs the Kleos Mono to solve two mysteries. Output aside, I wanted to learn if they sounded alike save for the number of channels, and to hear if mono cartridges really improve the playback of mono LPs over simply using an amp's mono button.

I can't speak of other mono cartridges, but the 'True Mono' design employed by Lyra categorically added focus and solidity to the whole of the 45rpm mono edition of Jefferson Airplane's *Surrealistic Pillow* [Mobile Fidelity MFSL 2-456]. There was no mistaking that I was listening, in effect, to two examples of the same cartridge, and though they differed in output there was also no mistaking the more vivid portrayal offered by the Kleos Mono. This is not a critical reflection on the Kleos SL but evidence (to my ears, that is) that a mono 

HOW LOW CAN YOU GO?

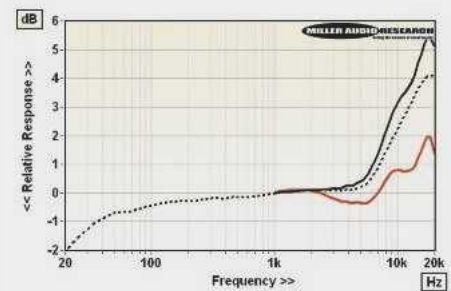
Every pick-up mechanism – whether moving-magnet, moving-iron [HFN Nov '21, HFN Jan '23], strain gauge [HFN May '21], 'optical' [HFN Jan '19, HFN Feb '21, HFN Dec '22] or moving-coil – has its 'sweet spot' among all the individual design compromises. MC pick-ups employ very powerful fixed magnets that develop a focused magnetic field within which the coils move, attached to the rear end of the cantilever. The more turns in each coil, the higher the achievable output, but this adds to the overall moving-mass, the coil impedance and self-inductance which, variously, compromise the achievable high frequency response, tracking, phase linearity and transient performance. Reduce the number of coils, and the moving mass, impedance and inductance are all reduced to good effect, unless the output is now so low that the sensitivity and noise of the accompanying phono preamp swamps all these gains...

Lyra's SL version of the Kleos features a beautiful, low-mass, slot-mounted 3x70µm diamond [see inset pic] and has half the number of coil turns for half the specified output (0.25mV versus 0.5mV) and half the internal impedance (2.7ohm vs. 5.4ohm). In practice [see Lab Report, p53] the Kleos SL will generate closer to 0.33mV (re. 1kHz/5cm/sec) and so falls within the compass of a good, low-noise phono stage offering +70dB gain and with the option of 10-100ohm input loading. Otherwise a 1:10 (+20dB) step-up transformer will bring the output of the Kleos SL into the range of a good MM phono stage. In the realm of ultra low output MCs, Lyra has found its own 'sweet spot' with the Kleos SL. PM

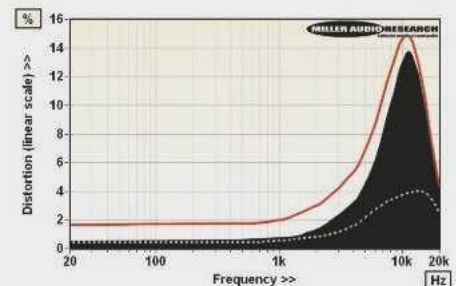
LYRA KLEOS SL

Following the Lyra tradition – after the Delos [HFN May '13] and Etna [HFN May '18] – this rigidly-constructed MC offers an almost ideal combination of extended response, low distortion, generator uniformity and secure tracking. Its 326µV output (re. 1kHz at 5cm/sec into 100ohm) is usefully higher than the rated 0.25mV [see boxout, p51] while the channel balance is a fine 0.2dB and channel separation truly exceptional at ~40dB through the midrange. The response extends up beyond 30kHz, with the Kleos SL offering a tight ±1.0dB tolerance over a full 40Hz-7kHz (stereo cut) and with a treble lift reaching +4dB (right) and +2.1dB/20kHz (left) in our sample. The symmetry between lateral and vertical responses [see Graph 1, below] is good, despite some emphasis of central/mono detail, while the matching of lateral/vertical *distortion* [see Graph 2, below] is excellent and reflects the success of Lyra's 'New Angle' generator suspension. Incidentally, the high ~14% THD at 12kHz (re. -8dB re. 5cm/sec) simply reflects the Kleos SL's wide bandwidth as the 2nd harmonic occurs at 24kHz, etc.

In common with previous Lyra MCs, the Kleos SL tracks securely at a mere 1.75g downforce – assisted, in no small part, by a far 'softer' compliance than Lyra's 12cu specification might suggest. In practice, 25cu is closer to the mark, indicating that low/medium effective mass tonearms will be the preferred partners and, because Lyra's latest mechanism is very well controlled at resonance (a low Q +6dB), no extra damping is required. On test it sailed through the maximum 80µm groove pitch and cleared the +18dB test (315Hz lateral cut, re. 11.2µm) at a mere 0.7% THD. VTA, also, is bang on target at 22°. PM



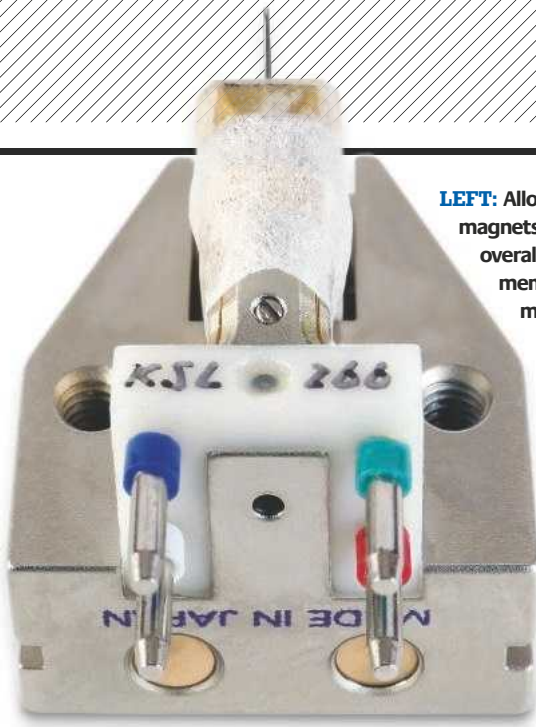
ABOVE: Freq. resp. curves (-8dB re. 5cm/sec) lateral (L+R, black) vs. vertical (L-R, red) vs. stereo (dashed)



ABOVE: Lateral (L+R, black), vertical (L-R, red), stereo (dashed) tracing and generator distortion (2nd-4th harms) vs. freq. from 20Hz-20kHz (-8dB re. 5cm/sec)

HI-FI NEWS SPECIFICATIONS

Generator type/weight	Moving-coil / 8.8g
Recommended tracking force	17-18mN (17.5mN)
Sensitivity/balance (re. 5cm/sec)	326µV / 0.2dB
Compliance (vertical/lateral)	25cu / 28cu
Vertical tracking angle	22 degrees
L/R Tracking ability	>80µm / >80µm
L/R Distortion (-8dB, 20Hz-20kHz)	0.5-11.0% / 0.4-4.1%
L/R Frequency resp. (20Hz-20kHz)	-1.8 to +2.8dB / -1.9 to +4.1dB
Stereo separation (1kHz / 20kHz)	40dB / 25dB



LEFT: Alloy shell and powerful magnets account for the 8.8g overall weight. A semi-porous membrane protects the mechanism (coils) from dust while the platinum-plated rear pins are clearly marked and well-spaced

the upper registers, in places even more falsetto than Michael Jackson's, and the contrast between the bass-prominent backing and Mayfield's vocals and guitar work emphasised another unmistakable virtue: this cartridge tracks its

course like a Maglev train.

cartridge is a worthwhile investment if you own numerous mono LPs. That said, it was reassuring to hear how consistent Lyra's designs are from variant to variant, so it was back to stereo. Curtis Mayfield's *Superfly* soundtrack [Mobile Fidelity MFSL 2-481] opens with 'Little Child Runnin' Wild', with fat-sounding congas, sultry sax and a full string-laden orchestra. With so much going on, the Kleos SL had its work cut out, balancing deep funk with the demands of a classic soundtrack.

HUGGING THE RAILS

While the album veers toward the funky former, stating its case with the second track, 'Pusher Man', subtlety remains a paramount quality as the material is rife with minuscule details. Moreover, Mayfield's voice is an instrument of

course like a Maglev train. But back to the 600lb (or should that be 8.8g?) gorilla in the room: noise vs gain. I was surprised – and I mean repeatedly – by how quiet were the backgrounds and even the between-track silences. No, this is not going to worry DS Audio's optical cartridges, which approach CD and other digital sources for their absence of tracing sounds, but it surely settled any remaining reservations I might have had about the cartridge's low-output status.

The SL's natural rival is the regular Kleos, which it betters perhaps in absolute refinement, provided due diligence is paid to the extra gain required. However, you may already own a high-end phono stage or preamp with more than enough gain to dismiss concerns about the Kleos SL's output. In which case, throw caution to the wind. Lyra's latest is an absolute joy. ☺

HI-FI NEWS VERDICT

Don't let the low output deter you from the Kleos SL because it ain't *that* low – your retailer can guide you vis-à-vis phono stages with adequate gain. What you're rewarded with is an MC that tracks like a Shure MM of yore, but with all the requisite warmth and humanity of a classic moving-coil, and silkiness to sweeten even aggressive solid-state gear. This is what you need if your listening sessions are marathons.

Sound Quality: 90%



ABOVE: No fancy wooden box for the Kleos SL, just functional, protective packaging complete with 'accessories'