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& Record Review

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# Koetsu Red K Signature (£3300)

Crisp and fast yet with a midrange able to wring every last drop of passion from a recording, the Koetsu legend lives on in the addictive sound of this 'Signature' MC  
**Review:** Steve Harris **Lab:** Paul Miller

Very few western audiophiles speak or read the language, but there are a couple of Japanese pictograms familiar to all. They have appeared on every Koetsu cartridge since the 1970s, and they always tell you that you're looking at one of the hi-fi world's most enduring objects of desire.

When the original Koetsu MC1 reached the UK market in 1980, it was already a cult product in the USA and Japan. Here it cost about three times as much as any other top-of-the-range moving-coil available, but it quickly gained fervent devotees.

## CARTRIDGE KINGS

The MC1 was followed by the Rosewood, and then the slightly cheaper Black. Even at a time when new and tempting MC cartridges were popping up every week, the Koetsus remained effortlessly at the top of the heap.

And so they do today. In essence, the product has never changed, though new materials have been introduced. There have been no claims of great technology breakthroughs, no miraculous specifications. In fact, Koetsu has never provided more than a bare minimum of information to consumers. Click on the Absolute Sounds website's Koetsu

## KOETSU HERITAGE

Yoshiako Sugano, creator of Koetsu, passed away in 2002, but his son Fumihiko was ready to take on his mantle. Meanwhile, the Rosewood Signature had become an aspiration, an inspiration, and a reviewers' reference too. Ken Kessler's June 2009 issue 'Audio Milestones' feature told the Koetsu story. Yet looking back, we realised that it was literally decades ago that we'd last reviewed a Rosewood model, when KK covered the Red Signature in April 1986. It was time to listen to a current Red K Signature.

pages (begin at [www.absolutesounds.com](http://www.absolutesounds.com)) and you will find pictures and descriptions of each cartridge, but under the heading 'Tech specifications' you will read 'There are no technical specifications for this product'. From a quick glance, you might even start to think that all the models are the same beneath their beautiful casework of lacquered wood or gemstone.

This isn't quite the case, of course. But although you can find some specifications for Koetsu models, they don't tell you much. For example, Koetsu claims the same frequency range of 20Hz-100kHz and channel separation of 25dB for every model. Based on what is essentially the same generator structure, all have the same internal impedance of 5ohms and recommended load of 30ohms.

All models come with a boron cantilever, unless you take up the rather expensive special-order option of having a diamond one, and the styli are all Koetsu's proprietary special fine line-contact shape. What



**ABOVE:** The classic Koetsu body, clad in a clear lacquered rosewood with an inscribed, gold-coloured baseplate, silver-plated cartridge pins and reinforced alloy lugs for firm mounting

really makes the difference between models is the exact choice of materials, selection of parts and final tuning.

With its anodised aluminium body, the Black is still the base model, but even this gains a jewellery-like appearance thanks to its gold edge trim. Next come the Red or Rosewood models (the names seem interchangeable), the wood bodies making them slightly lighter at 9 grams.

## SIGNATURE TUNE

The Rosewood Signature version is described as having 'a more closely matched core and coil set' than the Rosewood Standard. Outwardly, the base or underside of the Standard slopes slightly at the front, ahead of the stylus, like the Black. The Signature version, though, like all models further up the range, is the classic rectangular shape with a flat base. The Signature body is also described as aged rosewood, making it slightly darker in colour.

Next come what without too much disrespect can be called variations on the Rosewood theme, with the opulent



## KOETSU RED K SIGNATURE (£3300)

lacquer finishes of the Urushi series. Inside, silver-plated copper wire is used for the moving coils, instead of just high-purity copper.

Above these come the fascinating gemstone-bodied cartridges, the newest addition being the Coralstone. These models use magnets of a special platinum-iron alloy, and so form the Koetsu Platinum Series. In fact this series also includes a Rosewood with the platinum alloy magnets, which at £5200 is a lot less expensive than the gemstone models, but still almost £2000 more than the normal Rosewood Signature reviewed here.

### LETTING FLY

For this review I was able to make use of the surprisingly capable Kuzma Stabi S-12/Stogi Reference 313 and other turntables but for

*'There was anticipation, then release as Clapton soared'*

the sake of continuity I mainly deployed the trusty SME Model 10. My personal starting point was to find out how big a step up this current Rosewood Signature would be from the Koetsu Black, which I'd been using for some time. It didn't take me very long to find out the answer. The difference was huge.

I put on that classic direct-cut *The King James Version* [Sheffield Lab LAB-3]. Compared with the Black, there was just more of a true brassy snarl to the leader's trumpet, and all the instruments in the brass had this realistic edge too. On the drum feature, 'Cherokee', there was a great sense of freedom, Les DeMerle just letting fly with tremendous swing, while the saxes and brass sounded crisp, fast and urgent, and the track was over before you knew it.

How can one cartridge give you a better feeling of swing and rhythmic drive than another, especially another one that's already pretty good? I don't know, but this one did.

Listening to some Julian Bream from 1962 [*Popular Classics for Spanish Guitar*, RCA SB6887, the you could almost see the sunlit bookshelves in the library at

Kenwood House in Hampstead, where these tracks were recorded. With the Rosewood, you felt that the artist was revelling in the contribution of an explicit and characterful room acoustic as he extracted an unbelievable range of colour and scale from his six strings. The Rosewood's warm and mellifluous midrange suited this recording so well I just couldn't take it off. Eventually I did though, and came back to rock 'n' roll.

Clapton's fabulous slide guitar workout 'Motherless Children' from *461 Ocean Boulevard* [RSO 2479 116] really sizzled with the Rosewood. Right from the start, and the repeated riff, it conveyed excitement and anticipation, then release as Clapton soared. Carl Radle's great bass line thumped along, although I think the bass itself could have been tidier.

You could perhaps fault the cartridge for being more passionate than analytical at times,

but with a track like this that was no bar to enjoyment.

Listening to a lot of music on several different systems only confirmed a thought I've often had about Koetsus, which is this. They are a bit like the great soloists of classic jazz. They'd be stunningly brilliant when they had the best accompaniment and favourable conditions, but even when surrounded by mediocrity, they'd know how to rise above it and do themselves justice. Quality always shines through. ☺

### HI-FI NEWS VERDICT

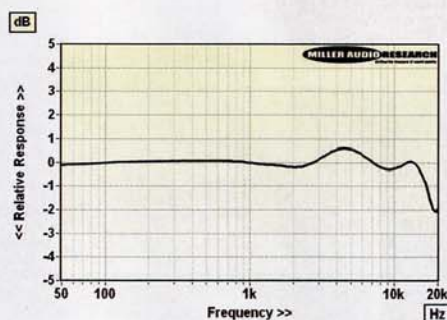
There's no doubt that this current Red K Signature maintains the great Koetsu Rosewood tradition. Other cartridges may offer more analytical detail, may sound more neutral or more spacious (or airy), perhaps even appear more dynamic, or track better. But the Koetsu still offers an ear-catchingly solid and coherent sound with the right combination of warmth and sheer guts, simply leading you to play disc after disc. Sheer enjoyment.

Sound Quality: 89%

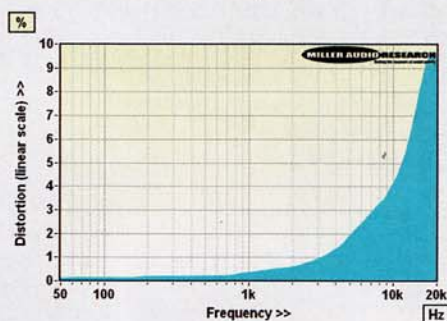


Distinguishable from the 'Standard' Red K by its rectangular body (the Standard has a chamfered nose), this particular Koetsu can trace a direct descendency back to the original Rosewoods of 20-30 years ago. Like the Black [HFN, Sept '06], the Red K Signature offers a 0.42mV output (re. 5cm/sec) from a 5ohm coil impedance. Similarly, pre-equalised distortion also hovers around 2.5%/1kHz comprising a dominant 2nd harmonic. With RIAA equalisation this falls to ~0.3%/300Hz at +6dB all the way up to ~0.6% at +12dB. There's some obvious mistracking at higher groove modulations as distortion jumps over 1% at +15dB and hits 100% at +18dB. Increasing the downforce beyond 2.0mN helps but also exaggerates the slight treble loss of -4.7dB/left and -1.8dB/right [see graph 1, below]. At moderate groove modulations, however, both bass and midrange distortion is impressively low before increasing through the treble to ~9% at 20kHz [see graph 2, below].

Stereo separation holds to a best case of 35dB through the midrange while channel balance is a superb 0.1dB through bass and midrange. The Red K Signature seems to use a very similar boron rod cantilever, samarium-cobalt magnet and diamond stylus as the Black, also mounted with an effective VTA of 25 degrees. The compliance of the Red K Signature is symmetrical but slightly lower at 15cu, however, making it slightly more compatible with medium/high mass tonearms. Readers are invited to view a QC Suite test report for the Koetsu Red K Signature by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'Download' button. PM



ABOVE: Frequency response, lateral groove modulation at -8dB re. 5cm/sec



ABOVE: Tracing and generator distortion (2nd-4th harmonics) versus frequency from 50Hz-20kHz (1kHz, -8dB re. 5cm/sec)

### HI-FI NEWS SPECIFICATIONS

Generator type/weight	Moving-coil/9.0g
Recommended tracking force	1.8-2.2mN
Sensitivity/balance (re. 5cm/sec)	420µV / 0.10dB
Compliance (vertical/lateral)	15cu / 15cu
Vertical tracking angle	26 degrees
L/R Tracking ability	76µm / 70µm
L/R Distortion (-8dB, 20Hz-20kHz)	0.5-12.9% / 0.2-9.3%
Frequency resp. (20Hz-20kHz)	-0.7dB to -1.8dB
Stereo separation (1kHz / 20kHz)	35dB / 19dB

# Lehmann BC Linear (£650)

Specialising in diminutive high-end hi-fi, Lehmann makes preamps, small power amplifiers, phono stages and a rather special 'Black Cube' headphone amp  
**Review:** Keith Howard **Lab:** Paul Miller

**M**y very first hi-fi system featured headphones rather than loudspeakers, since when I've had a love-hate relationship with cans of more varieties than Heinz. If you believe the propaganda that the last great barrier to wonderful sound is the listening room – which I don't – then the headphone ought to have a lot going for it. And yes, indeed, you can hear things via headphones that aren't readily apparent via even the best loudspeakers.

But it's as if having the transducer that close to your ear makes all the infidelities of reproduced music, and the system you're using to deliver it, the more obvious. So for optimum results with the best headphones you must use

## LOCAL & GLOBAL

**Negative feedback is a very useful circuit technique for flattening frequency response, lowering distortion, suppressing hum and noise, and reducing output impedance. But for many decades some designers have claimed that applying too much of it harms sound quality. So-called 'zero feedback' designs are a result but, as Lehmann Audio carefully states for the Black Cube, this usually means zero global or loop feedback. Local feedback, within the circuit, is still present.**

a first-class sound source, and a first-class headphone amplifier. On the face of it, the latter shouldn't be too difficult to realise. After all, the headphone amp's life is easy-peasy compared to that of the loudspeaker amplifier's. Headphones – even the lower impedance types – present a much easier load than the vast majority of loudspeakers, and a mere volt or three of signal is usually sufficient to have them generate deafening sound pressure levels. But that transducer proximity effect comes into play again, so that headphone amplifiers are just as influential on sound quality as their larger brethren.

## ALL YOU NEED

Lehmann Audio's Black Cube Linear headphone amplifier has been on sale for over five years and in that time has garnered numerous enthusiastic reviews. Despite its name it is slim, narrow and deep but incorporates all you really need in a headphone amp: a pair of input phonos, of course; a pair of output phonos, so that it can be inserted in a preamp processor loop or between pre and power amps; two paralleled quarter-inch output sockets, one of which cuts the output feed when

a headphone jack is inserted; and a volume control. Finish of the fascia plate and volume knob is optionally either black or silver.

Unusually, the Black Cube also has three switchable gain settings with 10dB increments, selected via DIP switches on the underside of the unit. These are provided to accommodate headphones of different sensitivity; I used the highest-gain 0dB setting for my listening. (Confusingly, the 10 and 20dB settings have progressively lower gain.)

*'A time-capsule vision of a bucolic English idyll ploughed under by WWI'*

Other technical features include a Class A output stage, as you'd hope, and zero global negative feedback (see box-out).

## HARD WIRED

As soon as I started playing music through the Black Cube it was obvious that it sounded very different to the resident Musical Fidelity X-Can v8 when driving either of the headphones used for the listening – Sennheiser's fine

**hi-fineWS  
OUTSTANDING  
PRODUCT**



**LEFT:** A high quality volume control and two 0.25in headphone sockets grace the diminutive fascia. The preamp gain may be changed from 0dB to +10dB and +20dB via switches on the base of the chassis

## LEHMANN AUDIO BLACK CUBE LINEAR (£650)



**ABOVE:** Not two inputs but a combination of L/R stereo input and variable preamp output, controlled off the same volume control as the two front headphone sockets

new HD 800 (reviewed on page 76) and my established budget favourite, the Audio Technica ATH-AD700. Despite negligible differences in their frequency responses, the Black Cube consistently sounded warmer and fuller-bodied.

Hilary Hahn's violin tone on her recording of Vaughan Williams' lyrical *The Lark Ascending* [DG 00289 474 8732, CD layer] was sumptuous and the orchestral accompaniment rich and haunting, a time-capsule vision of a bucolic English idyll ploughed under by WW1. It was a sound that drew you in and sustained its emotional grasp.

This hard-wiring to the human core of the music was also very apparent on vocals, male and female. Eric Bibb's heartfelt 'I Want Jesus To Walk With Me' (from the Opus 3 *Showcase* sampler SACD 2100, CD layer), for example, conveyed such supplicant intensity – which Opus 3's unadulterated recording does everything to preserve – that I happily set aside my staunch atheism to share in the spiritual experience.

Elton John's 'Sixty Years On' – from the eponymous *Elton John* album – I've mentioned in these pages before as a real surprise package for those who hear the name and think of populist pap like 'Rocket Man' or 'Candle In The Wind'. My mum probably likes both those songs but she'd clap

her hands over her ears at Paul Buckmaster's searing, discordant strings which open and punctuate this track. It was always one of the better sounding items on the album and is even better on the SACD release [Island B0003607-36, CD layer].

### FOOD FOR THOUGHT

That angry hornets' nest of an opening should unsettle you with its anharmonic intensity before the bitter lyric provides reassurance that this really is Elton John and not Second Viennese School. Lehmann's Black Cube Linear handled the changing moods superbly, dishing up the sweet and sour of this remarkable piece of early-'70s progressive pop as if its experimentalism were freshly minted. ☺

### HI-FI NEWS VERDICT

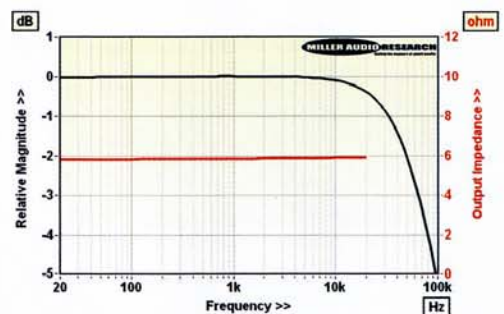
The Black Cube may look unprepossessing but it's a very fine headphone amplifier indeed. It measures well and delivers unusually clear insight into the 'how?' and 'why?' aspects of music making, not just the 'what?'. All the hi-fi virtues are there but it's the manner in which the Black Cube draws you into a musical performance that marks it out from the crowd. A fine sound at a great price.

Sound Quality: 88%

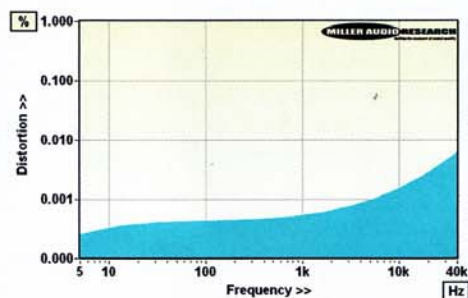


You might think that any good line preamp would be equally adept at driving a pair of headphones, but this is not always the case. While a preamp can typically be assured of driving a power amp with an input impedance of 20kohm or more, many headphones present an impedance that's far lower – often down to 20ohm. So a headphone preamp needs a very low *output* impedance if you're not to experience a seriously modified response with low impedance cans. At 5.9ohm (flat from 20Hz-20kHz) the Black Cube Linear is low enough for all but the most taxing of in-ear 'phones (which have been known to drop to 7ohm). The amp's native response [see graph 1, below] is not as ruler flat as, say, PS Audio's GCHA [*HFN*, July '07] which held true to within one-hundredth of a dB from 20kHz-100kHz, but figures of -0.4dB/20kHz and -5.3dB/100kHz are perfectly sensible.

Lehmann's Black Cube Linear also scores with its fabulously low distortion, just 0.0003% through bass and midrange and rising to an insignificant 0.0025% at 20kHz [see graph 2, below]. Noise is vanishingly low too, sufficient to raise an A-wtd S/N ratio of 99dB in its +10dB gain mode. This is 20dB ahead of the PS Audio amp tested two years ago! These figures, together with its maximum output of 9V and input overload of 6.1V, suggest the Black Cube Linear is as near a bomb-proof solution as you'll find. Readers are invited to view a comprehensive QC Suite test report for the Lehmann Black Cube Linear headphone amp by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** Extended frequency response (black, 20Hz-100kHz) vs. output impedance (red, 20Hz-20kHz)



**ABOVE:** Distortion versus extended frequency at 1V out from the headphone socket (+10dB gain setting)

### HI-FI NEWS SPECIFICATIONS

Maximum output level	9Vrms
Output impedance	5.9ohm
Input sensitivity (re. 0dBV)	329mV (+10dB gain setting)
Input overload	6100mV
A-wtd S/N ratio (re. 0dBV)	99.0dB
Frequency response (20Hz-100kHz)	+0.0dB to -5.25dB
Distortion (20Hz-20kHz, re. 0dBV)	0.00025-0.0025%
Power consumption	5W
Dimensions (WHD)	118 x 52 x 315mm