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# MoFi UltraPhono

With input from the designer behind MoFi's cutting lathes, the UltraPhono (and StudioPhono) were conceived as high value partners for its affordable turntables

Review: **Ken Kessler** Lab: **Paul Miller**

**A**re we in the midst of a Golden Age of Analogue? If you're returning to, or just discovering the vinyl LP, then yes, we are. Mobile Fidelity's UltraPhono is an example of what the industry can deliver when inspired, and clearly this is a response to the need for affordable phono stages to render suitable 30 years' worth of post-CD integrated amplifiers without phono stages. At £499, it's not for the impoverished analogue neophyte, but neither is it horrendously expensive by any measure.

It is more than just a quick-fix, down 'n' dirty phono stage for dealing with line-level-only systems. But it has to be: a search of *amazon.co.uk* revealed phono amps for as little as £15. I've played with a number of these, and while all offer the novice an RIAA stage at little cost, none has delivered what you or I would expect from companies including Pro-Ject, NAD, Rega, Cambridge and now, MoFi.

## GAIN, SET 'N' MATCH

What you get with the UltraPhono is all you could want for adding phono to a system lacking it. On the top of the nicely-made, 100x30x170mm (whd), all-metal box are a volume control, a power-on LED and buttons for mono and subsonic filter. The front has a ¼in socket to access its headphone amp, while the rear contains RCA phonos for in-and-out

**RIGHT:** Three faces of the UltraPhono – [left] top surface carries volume, mono and subsonic controls; [centre] active RIAA eq is based on Analog Devices AD627 op-amps; [right] 12 DIP switches define MM/MC gain and loading

signals, an earthing post and a multi-pin socket for power from the AC adapter.

Flip it over, and here's where the seriousness becomes evident. A 5x30mm recess holds a dozen tiny DIP switches to allow you to match it to MM or MC cartridges, with nine impedance and four gain settings. The settings are printed on a label affixed to the underside [see picture, below], so you don't have to go looking for an owner's manual – a thoughtful touch and a way to avoid gnashing teeth.

This level of adjustability is more than is found on certain phono stages costing five times as much. I'm not suggesting for a moment that any device without these is compromised – I can name a number of superb phono stages which don't offer many adjustments – but this goes a long way to reassuring the music-lover-on-a-budget that he or she isn't cutting corners.

What I needed to find out, though, was whether or not this was worth £200 more

than the equally delightful StudioPhono, beyond the fact that it comes with a headphone section [see PM's boxout, p73].

## PREMIUM PARTS

According to MoFi, the UltraPhono typically outperforms the StudioPhono because the former's upgraded parts promise a boost to

MC performance. MoFi also posits that the UltraPhono is quieter thanks to these superior components, and the resultant sound should be more neutral than the warmer StudioPhono, with a deeper soundstage and better imaging. What that

tells you – and which confirms what I've heard with the two side-by-side – is that the UltraPhono should prove to be the more analytical of the two.

In practical terms this means the UltraPhono will be suitable for use with a wider range of amps and speakers more revealing of the front-end's abilities. And while £299-vs-£499 seems paltry to some,

'This premium little black box is full of surprises'





**LEFT:** The UltraPhono and StudioPhono share the same alloy casework, but only the former includes a 'Class A' headphone preamp and 31-step volume control [see boxout] for very personal listening

it is a fortune to others, so the existence of both MoFi models is something of a public service for newcomers to LPs.

### SECRET AFFAIR

Ah, now the penny drops! I had been wondering why this unit sounded so good, and why it kept reminding me of Tim de Paravicini's EAR-Yoshino Phonobox [HFN Dec '19] before, by sheer chance, Mobile Fidelity's Josh Bizar let it be known that, 'Tim gave us the circuit design'. If ever you doubted that audio designers' creations possess unique sonic signatures, just play this side-by-side with Tim's all-tube Phonobox. While the UltraPhono hasn't

quite the dynamic contrast, bass extension or sweetness of the dearer valve phono preamplifier, it suggests the same basic nature in its overall portrayal, certainly in terms of content if not scale.

In other words, it's as deliciously three-dimensional if not as large in absolute soundstage recreation. It's transparent, if not quite as nakedly revealing, and it is 'musical' in every sense of that word. The opening salvos of Tina Turner's 'The Best' from *Simply The Best* [Parlophone 0190295378134] were what gave away

Tim's 'secret identity' and his role in this affair. He demands bass prowess that explains the sheer force and control of EAR power amplifiers, and he endowed the UltraPhono with this ability.

'The Best' opens with rich, commanding lower registers that often defeat (or show the limits of) much budget gear, but note that I deliberately was *not* using this with a £5000+ MC. The UltraPhono seems happiest with the speed and leanness of MMs rather than the bloom of MCs – one suspects it is voiced to match perfectly MoFi's own MM cartridges as fitted to its sibling turntables [HFN Jul '19 and Jan '20]. But I was still delighted with the sound of EAT's Jo N°5 [HFN Dec '18] and the Denon DL-103, two sub-£1000 MCs likely to be paired with affordable phono amps.

Previously having heard what both of these MCs could do with Tina Turner's voice via £1200 and £6k phono stages, as well as EAR's Phonobox, I was mightily relieved to hear that the UltraPhono lost little of the impact. Tina's vocal textures remained untainted, while the textural consistency was of a whole, from deepest bass to the uppermost registers. Blessedly, the UltraPhono always exhibits an even, balanced sound, rather than acting like the proverbial curate's egg.

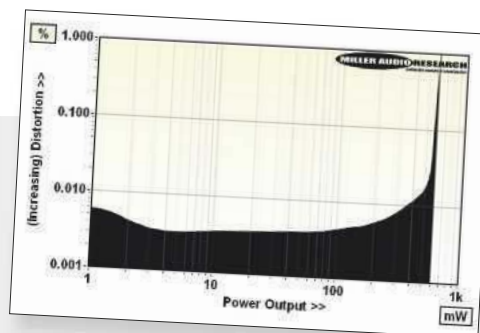
### HEAD OVER HEELS

MoFi's premium little black box is full of surprises, and I don't mean only the goodies like the fabulously user-friendly cartridge-matching DIP switches underneath, the mono button or the subsonic filter, all ready to hand. What added to the user experience, since I was also in the middle of a headphone-fest, was the notion that this is also a terrific headphone amp, albeit a single-source device accepting only a phono signal.

Playing the same track via Audeze LCD-1 headphones [see p68] demonstrated not only the proficiency of the phono stage but also of the headphone section. It drove these cans with ease, retaining a sense of openness and a realistic impression of space. I know, I know: headphones put the music in one's skull, not in front of the listener, but the UltraPhono did not ☞

### HEADPHONE HERO?

The rotary that distinguishes the UltraPhono from the StudioPhono is not a volume pot but, instead, governs a Maxim MAX5440 attenuator chip which offers 31 log-spaced (2dB) steps and is designed to 'replace a mechanical potentiometer'. This drives a TPA6120A2 headphone amp IC from Texas Instruments, described by TI as 'a Class AB current-feedback amplifier with differential inputs and single-ended outputs'. In this application the IC delivers almost exactly 600mW/25ohm at <1% THD [see inset Graph] from a moderate 8ohm source impedance. The latter represents a power loss of 2.8dB into our 'average' 25ohm headphone load, and will influence the frequency response of low impedance 'phones, but has less impact into higher 600ohm headphone loads where 5050mW (43mW) is available. These are not huge figures by the standards of the Mytek Brooklyn Bridge [2.7W/25ohm – HFN Dec '19] but certainly represent an uplift over most USB hub-powered DAC/headphone amps, including the AudioQuest Cobalt [53mW/25ohm – HFN Oct '19]. Distortion is low at ~0.001-0.008% (500Hz-10kHz) over the first 100mW of its range, increasing mainly at low frequencies under load (0.04% vs. 0.015% at 20Hz/10mW/25ohm). Again, the UltraPhono is not as quiet as many dedicated headphone amps, the 72dB A-wtd S/N ratio (re. 0dBV out) implying that lower sensitivity 'phones may prove the better partners. PM



## MOFI ULTRAPHONO



**LEFT: A three-pin socket accepts a 24V DC feed from a supplied wall-wart while RCAs look after your tonearm cables and offer a fixed line output to your partnering amplifier**

compromise the LCD-1's slightly-out-of-head stage width one iota.

With the novelty elements of The Kinks' underappreciated masterpiece, *Arthur (Or The Decline And Fall Of The British Empire)* [BMG BMGCAT407DLP], the UltraPhono revealed a facility for conveying attack, detail and – I must revert to this overused term – authenticity which belies its price tag.

Both 'She Bought A Hat Like Princess Marina' and 'Drivin'' are light-hearted examples of purely English whimsy, with unusual instruments that create a different set of demands than do the usual orchestras or guitar-driven rock. Here the UltraPhono's ability to address everything from kazoo to keyboards, with full respect to their individual tonal requirements, transient demands and dynamics, suggested provenance from a high-end gene pool.

### BACK TO MONO

With a mono button present, how could I not press it and fire up a mono Decca cartridge? For this, I dug out the US version of Gerry And The Pacemakers' *Greatest Hits* [Laurie Records; LLP 2031], just to savour that chiming sound on 'I Like It', particularly the nasality of Gerry's vocals and the snap of the percussion. I was looking for one thing, which is why a certain jail-bird in LA promoted a 'Back To Mono' campaign: a 'fullness' – the only way I can describe it – that belies the single-channel nature of the format.

We've been here before: some of us believe mono was not rendered comprehensively obsolete by stereo, not least because of the vast catalogue of recordings that only exist in mono. But mono does have unique virtues, and I don't mean the

savings one enjoys if one only listens to mono and can get away with using one loudspeaker.

It's that refreshing freedom from the distraction of needing to assess stereo accuracy, soundstage dimensions, image placement and other concerns. With mono, you just listen to the music, not the positioning. Gerry and crew filled the space between the speakers – and inside my head via the Audeze LCD-1 headphones – with the same cohesion expected of stereo recordings, and I could also discern layers to the sound.

With another mono LP, Bobby Darin's *18 Yellow Roses* [Capitol T1942], which I've also experienced in heart-stoppingly wide stereo, 'I Will Follow Her' still maintained a clarity that allowed me to hear every nuance – details ordinarily easier to appreciate when spread out across a soundstage. It was never less than captivating, the MoFi UltraPhono managing – brilliantly – to do what any good mono playback system should. Which, of course, is to make you forget about stereo. ☺

### HI-FI NEWS VERDICT

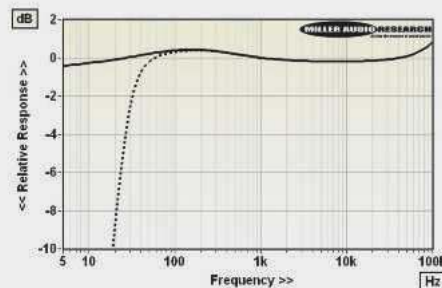
We are clearly benefiting from the Vinyl Revolution, which has encouraged a flood of superb phono stages at all prices. The MoFi UltraPhono redefines what you get for £500, even if you don't factor in what is a mighty fine headphone section. The cartridge matching facility ensures that audiophiles-on-a-budget needn't go without, while the sound quality banishes any thoughts of compromise.

Sound Quality: 87%

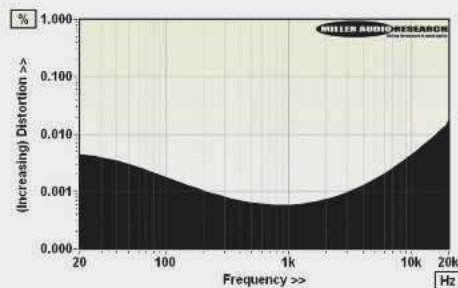


At first sight [see p72] the row of 12 DIP switches governing input loading and gain may be enough to make all but the most ardent of audiophile's hearts sink. However in practice only the two outermost switches are required to cycle through MoFi's selection of +40dB/+46dB (MM) and +60dB/+66dB (MC) gain options – figures very close to the +40.3dB/+46.3dB and +60.7dB/+66.7dB measured on the bench. These are sensibly chosen steps, the lowest MM gain offering a 9.7mV sensitivity with the highest MC gain representing 0.46mV (460µV), the latter suitable for standard rather than very low output MCs. The +40dB setting is best used for all high-output (>5mV/5cm/sec) MMs where the 82mV input overload yields a margin that's just sufficient to accommodate the 'hottest' +18dB groove modulations (re. 11.2µm/300Hz).

The active RIAA equalisation is extended out to +0.8dB/100kHz and is very flat through mid and treble even though there's a 'warming bump' of +0.43dB between 70-200Hz [solid trace, Graph 1]. The subsonic filter is very effective [dashed trace] with a -3dB point of 28Hz and a 2nd-order roll-off thereafter. It offers a useful 20-30dB suppression in the typical LP warp/arm/cartridge resonance spectrum. The RIAA-eq'd distortion [Graph 2] is very low, with a minimum of 0.0006% through the midrange and a maximum of just 0.018%/20kHz (re. 0dBV). This is about three orders of magnitude lower than the best MM/MCs, and also rather better than MoFi's own specification for the UltraPhono. The only slight fly in an otherwise very fine ointment is noise – the 81dB (5mV/0dBV) figure for both MM settings is good but 61dB for MC is slightly poor. But that's where costlier phono preamps come into their own... PM



ABOVE: RIAA-corrected frequency response over an extended 5Hz-100kHz via MM (subsonic, dashed)



ABOVE: Distortion extended frequency (5Hz-40kHz) via MM input re. 0dBV (1Vrms) output

### HI-FI NEWS SPECIFICATIONS

Input loading (MM/MC)	47kohm / 70ohm-47kohm
Input sensitivity (re. 0dBV)	9.7mV-460µV (MM to MC)
Input overload (re. 1% THD, MM/MC)	82mV / 43mV / 6.0mV / 4.0mV
Max. output (re. 1% THD) / Impedance	8.0V / 3.1-10.2ohm
A-wtd S/N ratio (re. 0dBV, MM/MC)	80.9dB / 61.1dB
Frequency resp. (20Hz-20kHz/100kHz)	-0.11dB to +0.43dB / +0.81dB
Distortion (20Hz-20kHz, re. 0dBV)	0.00058-0.018%
Power consumption	3W
Dimensions (WHD) / Weight	98x32x180mm / 1kg