

Step Change

In September 2007, we took a Technics SL-1200 turntable and tried to make it better. The article elicited an enormous response, as the strengths of this evergreen turntable had not escaped the attention of many audiophiles on a budget. Now, in his follow up feature, David Price tries pushing the venerable vinyl spinner several steps further again...



Having spent many years in love with the Rega Planar 3 I found myself borrowing a Technics SL-1200 Direct Drive turntable, fitted with a decent Goldring G1042 cartridge. I was expecting a deeply unpleasant listening experience compared to my reference Rega, let alone my 'main' Michell Orbe (sitting in bits in its storage box by then). I duly cued up my copy of Inner City's 'Good Life', sat back and was amazed.

Well, actually I was half amazed. It was obviously doing some things wrong, but the weird thing is it was doing other things very right. So well in fact that it in some respects it seemed inexplicably not just better than my Rega, but better than my Michell too! I put it down to serendipity. We all know how brilliant kit can sound quite middling in some

good in some respects, keeping those Technics virtues of rock-solid bass, heart-stopping dynamics and masses of detail, and adding a good deal of finesse and atmosphere too – precisely what the original lacked.

And now I'm listening to this – the Timestep SL-1210 MkII (the black plinth version of the generic SL-1200). It's another take on the modified Technics theme, but this time comes with the Timestep external power supply, designed to get a cleaner, purer feed of power into the SL-1200's excellent little motor. The fitted arm is SME's superlative Series V – yes really! This is a true cat amongst the pigeons moment; if the deck is no good, this tonearm, more than any, will tell you. For good measure, I've specified one of my favourite partners for the top SME – a Koetsu Red Signature moving coil cartridge. And here's more because

IN DEPTH

Although anyone who's used an SL-1200 will not immediately identify the motor control system as one of the deck's weaknesses, my experience with my first tweaked Technics told me it was a little edgy sounding in the upper midband, possibly in part due to motor noise breakthrough. Timestep's new £299 outboard power supply is an attempt to assuage this, as Dave Cawley explains...

"In essence, we measured the performance of the turntable very carefully and found the internal regulator really wasn't regulating! It was weak and floppy instead of strong and stiff. The waveforms we found were not very good and our replacement power supply overcame the shortcomings. On some cartridges the heavy steel content of the transformer was changing the sound as the cartridge got closer to the inner grooves and hence closer to the transformer. Much like a decayed tooth, total extraction is really the only option", he told me.

The trouble with the internal transformer is that it mechanically hums, which is ever so slightly audible through the cartridge. It also has an electromagnetic field, also partially audible, and the existing power supply isn't quite beefy enough for

"The fundamentals of the Technics SL-1200 are excellent, and the more it's modded, the more they shine..."

rooms, whereas the reverse holds true in others.

A couple of years later I found myself writing a feature in which I'd fitted a beautifully rebuilt (by Audio Origami) Rega RB250 to an SL-1200, plus a SoundDeadSteel Isoplatmat platter mat and Isonoe isolation feet. The result was music to my ears – it was unfathomably

– as I'd previously identified in my September 2007 article – one of the main offenders in the standard SL-1200 package is the limp rubber mat. It's not that bad, but it could be much better, which is why a Herbie's Audio Lab mat is fitted – a dead, squidgey rubber affair that takes the zing out of the platter. All together, this should be quite some combination...



some motor demands, which can give variable sonics. To be frank, this is all marginal, and not easily audible via the stock S-shaped Technics arm, but slot a high performance arm in and you're in a new world where all this begins to intrude.

The Timestep PSU mod involves the stock internal regulator being physically cut out, and a new National Semiconductor LM317L low noise regulator fitted. Expensive Vishay rectifiers are used, plus a premium Nuvothem 'Audio Grade' toroidal transformer and Panasonic FC and HA series low ESR capacitors with

two ounce double thickness copper on the PCB. All units are hand soldered using silver loaded solder, and all components are sourced from IS9000 companies, Dave says.

Fitting is a case of removing the platter and the plastic plate underneath and soldering one wire on, which TimeStep can do for you if you prefer. Then there's a 1.8m (6 foot) cable that simply plugs into the back of the PSU. With the SL-1210 (the black plinth SL-1200) the deck looks superb – so much so that it would be nice to get the option of a

matching PSU case. The silver of the stock case matches the SL-1200 well, so here's hoping those going the SL-1210 route have the option of a matching PSU one day?

Another little flourish is the £49.95 option of a strobe disable; spinning the stock Technics on-off switch atop the strobe light turret normally acts as a power on-off for the whole deck, but this mod simply turns the switch into a strobe on-off switch, keeping the motor power on. The Timestep PSU has no power switch on it either, but goes into standby when the motor's been off for a while anyway. Some SL-1200 aficionados claim disabling the strobe light improves the sound – Dave Cawley isn't so sure (and nor am I), but he offers the option anyway...

The SME Series V is a tight fit in an SL-1200, but with the Sound Hi-Fi SME armboard it looks as neat as any stock Technics installation. The quality of the board is superb, and there's

no sense that's it's a crude bodge job. The SME armplate is £89.95, with combined fitting costs of the armplate (and arm itself) and power supply an additional £95. Fitting either of the above is not beyond a modestly competent DIY-er – or even me – getting to the armplate is simply a case of undoing a fair number of screws (and not losing them), then pulling the deck's feet and base off, pulling the mid-section out and then taking out the stock arm – about thirty minutes. The PSU wire takes minutes when everything's off, so to speak.

The mat is specially made by Steve Herbelin of Herbie's Audio Lab. It's an extremely 'tacky' rubber that lightly but effectively sucks the record on to the platter, and at the same time damps the platter acoustically, so when you tap it you no longer get that dreadful 'ping' sound. Instead, it just goes 'doomp', suggesting itself as an extremely effective device for the job in hand. The downside is that it's not the world's most sexy looking mat, and of course unlike the similarly priced SoundDeadSteel Isoplatmat adds no extra flywheel effect. I've found – through lots of experimentation – that the SL-1200 does like a little extra mass, although not that much. Via the standard inboard PSU it rather struggles with the likes of Puresound's £249.95 Copper Mat, which is just too heavy, although Sound Hi-Fi are offering this with the Timestep PSU, which reportedly works better with cleaner power going in to its motor.

SOUND QUALITY

Having spent a lot of time with my original modified Technics, which used the stock SL-1200 power supply plus a superbly modified Rega RB250 tonearm and Lyra Dorian cartridge, the first thing I did after I'd run the new deck in was to transplant the Lyra cartridge to the SME of the new deck. The Dorian is a beautiful sounding design in my view, but has a noticeable upper treble peak, so I thought it best to eliminate it – initially at least – in my listening.

The Timestep SL-1200 seemed to take a while to warm through; I left the unit powered up and running for a few days. As before, I also put it on a Base Isolation platform, although the Timestep '1200 didn't have the benefit of the Iso-noe isolation feet as well, unlike the first modded deck I tried in September 2007. Once it had all settled, run in and warmed

through, it was crunch time...

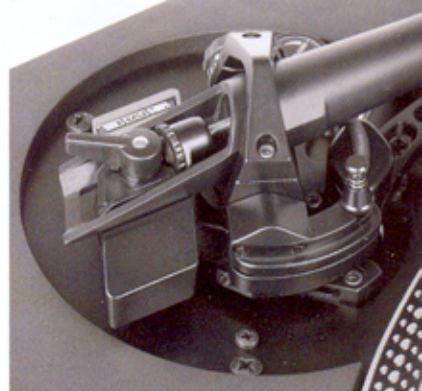
I first cued up a DCS pressing of the Doors' 'L.A. Woman', their brilliant mid-period album featuring the epic 'Riders on the Storm'. As many will know, this features an opening section with gentle hi-hat work and a walking bass line. I was initially struck by the warmth of the sound, the SL-1200 really capturing the fact that this is an analogue recording – and from 1971 at that. Bass guitar was both fulsome and tuneful – the notes were very tight and strongly articulated, yet the deck also captured the subtle accenting in the playing. Midband was spacious, with oodles of detail, and fell back behind the speakers far better than my previous modded Technics by comparison. Fascinatingly, that slight upper midrange 'glint', which always plagued the stock SL-1200, was gone. In its place was an inky blackness so



Timestep SL-1200 power supply - connects easily and brings a major improvement to the sound, especially across the midband...

evidence of 'metal plating' going on. Up top, the cymbals were sublime, and the whole track had an airiness that was breathtaking.

Moving to Led Zeppelin's 'Stairway to Heaven' from 'Houses of the Holy', and the pattern continued. This time I was struck by the immediacy of Robert Plant's vocals, and the accuracy of image placement within the soundstage. I found the definition across the midband superb – guitar notes were unexpectedly crisp on what is, after all, a thirty five year old analogue recording. Still, the Timestep SL-1200 brilliantly caught the way the song built up to a crescendo, and the soaring guitar and drum breaks at the end. Needless to say, those epic John Bonham drums were pure joy. I found the fundamental signature of the basic SL-1200 to be there in its entirety, which is to say that wonderfully propulsive,



'up for it' sound, and a bass that seems just a little larger than life. But all the nasties – the lack of depth perspective, the 'shiny' midband and a general monochrome tonality – had gone completely.

Cue up a track with a strong groove, such as Scritti Politti's 'The Word Girl', and you can hear the difference that new PSU makes. It's almost counterintuitive to say this, but it feels looser. Given that the strength of the stock deck is its tautness and tightness, you'd think you wouldn't want to depart from this. Well, with that brilliant vice-like grip comes a slight sense of frigidity, kind of like a robot dancing. The Timestep deck retains the metronomic timing of the original, yet it's no longer so intrusive. The deck doesn't shout out at you that it's trying hard to keep perfect time anymore – it just does, and goes with the musical flow. This is an interesting point, because it's one of the greatest objections that 'the belt drive lobby' have to direct drive. Direct Drive is (rightly in my view) accused of being superbly tight but just a tad mechanical – and the Timestep SL-1200 shows this needn't be so. The deck let me enjoy singer Green Gartside's vocal inflections in all their subtle glory, the new PSU making his words seem as sweet as honey.

Enamoured as I was with this sound, I still wanted more. I've always adored SME Series V tonearms, but not uncritically. I feel they're just a little 'over damped' sounding, sometimes sucking a little of the emotion out of a performance in their brilliant and relentless search for detail. In my experience, it's possible to circumvent this tendency with an astute choice of cartridge such as the brilliant Koetsu Red Signature. Now, the Koetsu is a



flawed gem – it is not on the pace in terms of its fine detail retrieval and treble air, nor its rather soft bass. However, if there's a more musical and mellifluous sounding pickup, then I have yet to hear it. On it went, into the SME V...

Fully loaded with Timestep PSU, SME V and Koetsu RS, the Technics SL-1200 is a revelation. It's simply not the same turntable as that version you see in use every Friday and Saturday night – although the brilliance of the Timestep Technics shows just how great those jobbing DJ decks could all be. The Koetsu-SME combination is surely one of nature's best – each flattering the other to give their most, whilst almost completely circumventing their respective downsides. More impressive still then, that the newly powered SL-1200 platform was willing and able to show all this. The Crusaders' 'Street Life' showed a breathtaking rendition of Randy Crawford's vocal – tonally deep, dark, smokey and velvety (just as she is in real life), the opening bars of this 1979 jazz funk classic were captivating. Then the backing kicked in, pushing out a beautifully tangible sound in to my room, all playing brilliantly together with a sense of electricity sparking around the room.

Kraftwerk's 'Computerwelt' kicked off with fissile energy – the Technics showed all its grip to best effect, and it was now allied with a delightful rhythmic flow that made the song's precise combination of beats and notes suddenly sing lyrically in front of my very ears. Whereas the Lyra would have told me all about the back of the soundstage, the Koetsu reminded what was really going on at the front. Vast amounts of detail were proffered forth, but not pushed into my face or rubbed into my nose. Instead, I sat back and enjoyed a captivating five minutes of classic electronica, completely oblivious to what it was being played on.

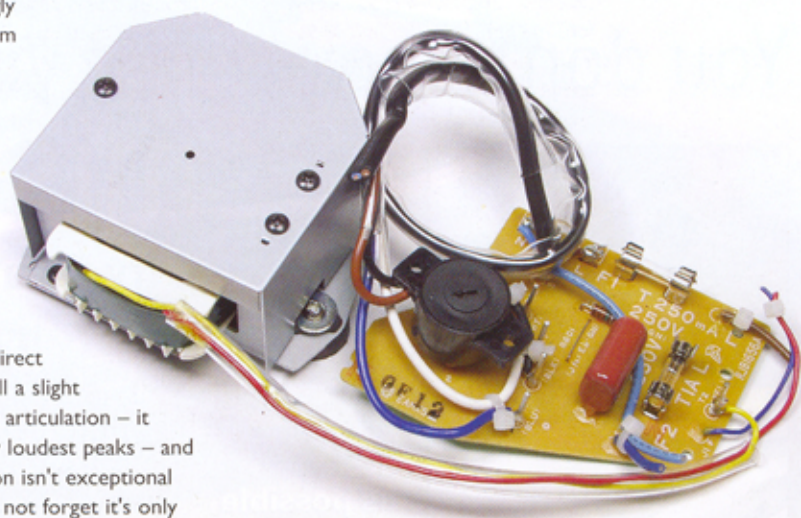
In absolute terms, the SL-1200 is still not quite perfect. It retains its slightly 'closed in' left-to-right soundstaging (a distinctive charac-

teristic seemingly regardless of arm fitted), and it struggles with really low bass (although upper bass is among the very best in the business). Also, compared to a top reference direct drive there's still a slight lack of dynamic articulation – it sits on the very loudest peaks – and imaging precision isn't exceptional either. Still, let's not forget it's only an £800 turntable (with the Timestep PSU) and despite its foibles remains one of the most musical turntables at any price.

My only personal caveat about this particular combination is that I feel the stock feet simply aren't good enough – the deck responded almost too well to being placed on two Audiophile Furniture Base Platforms, whereas my previous Technics project with its Isonoe feet, only needed one layer of isolation to give of its best. This shows the isolation feet as a weak point – something to remember.

CONCLUSION

The fundamentals of the SL-1200 are excellent, and the more it is modded, the more they shine through and all the other issues fade into the background. What characterises this package is that it lets you enjoy the music in an eerily direct and unmediated way, something all too rare in hi-fi of any origin. For me, the most useful part of this exercise was to discover that for just £300, any Technics SL-1200 can be substantially improved with the new Timestep PSU. So along with that new arm, this is what your Technics SL-1200 now deserves most!



Timestep PSU mod uses a new National Semiconductor LM317L low noise regulator, expensive Vishay rectifiers and premium Nuvotem 'Audio Grade' toroidal transformer...

MENU PRICING

Technics SL-1210	£479.00
SME armplate	£89.95
Timestep PSU	£299.00
strobe disable	£49.95
audiophile mat	£89.95
total fitting cost:	£95.00
SME Series V	£2,095.00
Koetsu Red K Signature	£2,344.05
TOTAL	£4,943.90

TIMESTEP SL-1200 £4,943.90

Sound Hi-Fi

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MEASURED PERFORMANCE

The SL1200 MkII ran at exactly the right speed, our speed stability analysis showing 3153Hz against the 3150 target value – a negligible 0.1% fast error. Unweighted wow and flutter, as much a measure of test disc eccentricity than anything else, was a low 0.094% with the DIN test disc carefully centred using a locked outside alignment groove. Weighted IEC Wow and Flutter was a very low 0.061% – it doesn't get much lower. So the Technics is measurably very speed-stable and accurate.

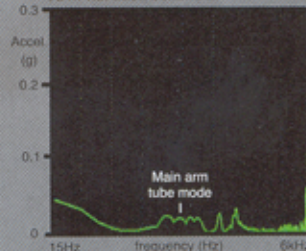
The SME V arm is meant to be one of the best and our measurements of its vibrational behaviour using a Bruel & Kjaer accelerometer show that this reputation isn't undeserved. The main tube mode is negligible at 0.02g, distributed around 400Hz. Few arms measure as well as this. High frequency modes were negligible too – unusual. This should be a super clean sounding arm, devoid of arm tube character and with great low

frequency dynamics and wide imaging.

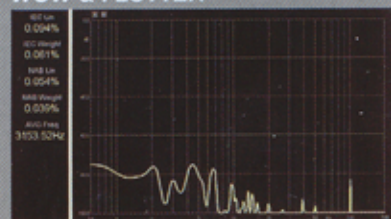
Measurement-wise this combination ranks amongst the best available for playing LP. NK

ARM VIBRATION

Arm vibration behaviour



WOW & FLUTTER



"a Technics SL1200 with SME V and Koetsu is just silly, but often silliness is needed to demonstrate a serious point..."



David Price

My editorship of *Hi-Fi World* has been full of surprises, but one thing I'd *never* have envisaged would be reviewing a Technics SL1200 turntable fitted with an SME Series V tonearm and Koetsu Red cartridge! The notion of yours truly, once a dyed-in-the-grain belt drive believer, celebrating direct drive turntables would have been unimaginable to me back in my Linn LP12 or Michell GyroDec days...

Actually, I haven't 'gone off' belt drives, and indeed I still love the aforementioned Linn and Michell for all the great things they (still) do, but I've widened my horizons as I've come to see that there's more than one way to skin a twelve inch disc-shaped vinyl cat, so to speak. In hi-fi as in life, there are many paths leading to the place you want to end up - and the less well trodden ones shouldn't be rejected out of hand because all your friends just happen not to have taken them.

We at *World* have always been interested in turntable drive systems. Noel of course has been celebrating the majesty of the Garrard idler driven 301s and 401s for many years. I remember hearing his Bastin 401 back in 1994 in his listening room, then going direct to the (then) top spec. LP12 that Linn had just delivered, and wondering how and why the Garrard sounded so much more vibrant (and if the truth be told a tad hard and unextended in the treble too) than one of the best turntables in the world. The difference was stark - far more pronounced than you'd get from a £1,000 CD player against a £10,000 one. As Marvin Gaye once mused, "what's going on?"

Well actually there was a lot going on - it showed me how fundamental a turntable's drive

system is. Of course, there are many other contributing factors, so to say a deck's sound is completely a function of its drive system is a reductive as saying that fast-food hamburgers are as good as steak because they've both got meat in them. Still, it set my mind wondering...

Warp forward a few years, and I was back living in Japan, in the company of a Pioneer PL600. This quartz-locked high end fully automatic direct cost me precisely 10,000 Yen (£40) from a second-hand shop in Tokyo, but I was stunned by its sound - I just couldn't fathom why it was so powerful and so detailed after my GyroDec. Then back in the UK a couple of years later again, and I found myself borrowing a Technics SL1200. Again, I got the same feeling - the bass just stopped and started in a completely different way. Still it hadn't quite sunk in, but I was getting closer to the scent...

Another brief moment reviewing the Limited Edition gold version of the SL1200 as a reviewer again had my antennae up - it was pretty rough but my goodness it was musical! Finally, it felt like I'd cracked the DaVinci code. I started to meet 'like minded' direct drive fans - it was almost how I imagine living in East Germany would have been before the Berlin Wall came down; we all had a common purpose, but we dared not speak its name.

Then in 2003, thanks to Stewart Wennen, I found myself listening to a very well set up SL1200 with a Rega arm in place. His company had been modding DJ decks in the North West of England. When those jewellery wearing, baseball cap bedecked turntablists heard their precious Technics decks with better arms fitted, they'd started throwing money at Stewart to do the surgery and just couldn't get enough. The secret was out - whisper it - the SL1200 was

actually a very decent deck.

The fact that you could - until Her Majesty's Pound Sterling went through the floorboards recently - buy a brand new Technics for around £300 continues to stagger me. Anyone who's ever taken one apart will see they're more complex than an SME 10 at ten times the price, and very well built too. A thick diecast aluminium top plate, with a middle layer of heavy moulded plastic sound deadening and another rubberised base layer frankly isn't what you get from an equivalently priced Pro-ject or Rega. If a UK company set out to make an SL1200 now, tooling and materials costs would put it closer to three grand than three hundred. It's only because the SL1200 is the world's best selling and longest lived turntable that such a selling price has been possible - amortised over a heroically long production run of thirty seven years, no less!

Okay, I realise that not everybody will want an SL1200 in 'DP spec', complete with SME V and Koetsu - that's just silly. But it's often silliness that's needed to demonstrate a serious point - which is that actually the deck is (almost) good enough to justify it. Properly kitted out with the superb new Timestep PSU it can hold its own with most things at most prices, but above all that it's just plain great *fun* to listen to. It doesn't sound so good because it's direct drive (Japan gave us many dreadful sounding DDs; so many in fact that in this country there was a belt drive backlash that lasted thirty years or more). Rather, it sounds so good because it's an engineered-to-do-the-job deck - just like Noel's beloved Garrard 401. Sadly, ironically even, it was the Technics and its ilk (SP10, TT-S8000) that ushered in the demise of Garrard's great transcription turntable, but at least now we can all understand why. ●