The New Origin Live Ultra Turntable Power Supply
Neville Roberts

The latest offering to emerge from the vinyl gurus at Origin Live (http://www.originlive.com) is a top-of-the-range power supply to power their improved DC turntable motor that I have reviewed previously. Modestly titled the Ultra Turntable Power Supply, this builds on the success of their Advanced Power Supply as a 'no expense spared' design using the latest and best components currently available.

Figure 1. The Ultra Kit and the Upgraded Transformer

As with Origin's Advanced model, the Ultra is supplied as a kit that includes the DC motor and standard mains transformer, but with an enhanced price tag of £570 that reflects the design principles of this unit.

Obviously, the Ultra can cope with changes in input voltage from the mains, as well as the back EMF from the motor itself, which is used to control speed accurately. This minimises wow and flutter - a problem not just confined to tape transport mechanisms. As with the Advanced model, the Ultra incorporates a load compensating design that can compensate for the increased load on the motor caused by stylus drag. However, the Ultra design incorporates features that compensate for the momentary slowing of the motor under sudden changes in load during, say, load bursts of music. Although this effect is very small, the cartridge can amplify this effect 100,000 times resulting in, according to Origin's literature, a loss of dynamic impact, particularly in the bass region. The circuit makes use of low impedance, low leakage capacitors, high power diodes and paralleled and closely matched transistors. All this technology is encased in a sleek, black case and finished off with a blue LED power indicator.

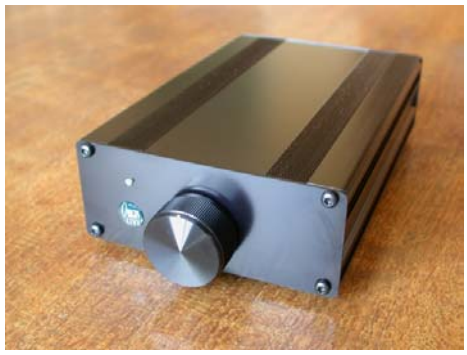

Figure 2. The Ultra PSU

Figure 3. Rear view of the Ultra showing AC Input and DC Output Connections

An upgraded transformer is also available for an additional £160 and this is also reviewed here to compare it with the standard offering that comes with the kit. The question is: can a power supply costing in excess of £700 for a turntable really be worth the expense, or would the money be better spent elsewhere in the audio chain?

The kit is supplied with detailed instructions on how to upgrade virtually any turntable, with a separate section on upgrading the Linn LP12. It also includes some washers and screws, a

2mm Allen key for use with Linn turntables, and a 'cut out and keep' strobe disc, with the centre hole pre-punched, for setting the motor speed.

I had already built an Advanced power supply into my turntable plinth (the subject of a previous article). The Ultra PSU and the associated mains transformers are housed in totally separate enclosures with the only connection to the deck itself being the output DC feed to the motor. This afforded me the opportunity to rapidly switch between supplies by rigging up a temporary switch on my turntable to connect the motor to either the existing internal supply or the new Ultra external unit.

As I had both the standard and the upgraded transformers available, I was also able to quickly switch between these units by plugging the appropriate transformer into the socket on the rear of the Ultra unit.

The Ultra has a 3-position switch on the front to select Off, 33 and 45 rpm speeds. The unit is designed to be powered continuously from the transformer and therefore the attractive blue LED remains lit, even when the motor is switched off. The actual speeds are set via 2 potentiometers accessed via a small hole drilled into the underside of the unit. The 45 rpm position can be set to provide 78 rpm by appropriate adjustment of the potentiometer if desired, although I would not be tempted to let your prize Hi-Fi cartridge anywhere near a 78!

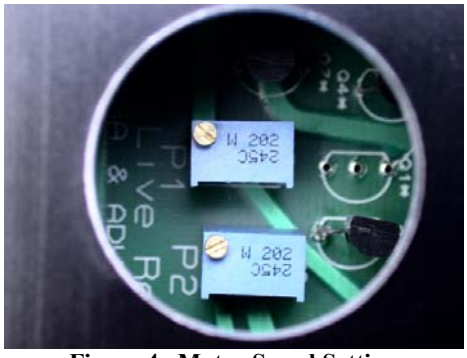

Figure 4. Motor Speed Setting Potentiometers

Incidentally, while I had the unit upside down ready to set the motor speeds, I couldn't resist peering inside to see what components had been used. I was very pleased to see a large Rubycon electrolytic nestling at the far end of the circuit board. As a convert to the delights of Rubycon Black Gates in my amplifiers, I was fully aware of the range of capacitors they manufacture specifically for use in high performance power supplies. When I discussed this with Origin Live, they told me that they had based their choice of the Rubycon on the fact that they simply sounded the best from their trials, rather than other factors. What better reason could there be for their selection?

The new PSU needs to be left to run in for a minimum period of 3 hours, according to the instructions, and about 8 hours of running to sound its best. However, I would recommend leaving it running for at least 24 hours – all of us who have installed Black Gates in our amplifiers will be familiar with them suddenly 'popping' into sounding good after a few hours of sounding rather flat and I didn't want to take any chances with the Ultra. Setting the speed is simply a matter of illuminating the strobe disc from a mains powered light source, preferably flourescent, and turning the appropriate potentiometer until the correct ring of lines on the strobe disc appears stationary. This should be carried out while playing a record


Figure 5. Setting the Motor Speed

at about half way in to allow for stylus drag. To put all this in perspective, speed variations on most decks is around plus or minus 2% and the Advanced supply provides 0.3%, but the Ultra offers accuracy of about 0.1%.

With the new unit properly calibrated, it was time to conduct the all-important listening trials. Would there be any discernible difference between the supplies and, more importantly, would the Ultra actually sound better?

I started off by installing a copy of "Lincoln Mayorga & Distinguished Colleagues – Volume III", Sheffield Labs SL5/SL6, on the turntable. This is a 'direct to disc' recording and is the closest one can get to a live recording as the disc was cut directly during the recording session in November 1973. When switching between my original Advanced power supply and the Ultra, it was immediately apparent that the imaging and accuracy of placement of the istruments was significantly better with the Ultra. Staying with the Ultra and plugging in the upgraded transformer resulted in a further tighting of the bass. What was particularly surprising was that the percussion was also clearer with the upgraded transformer. The first track on side 2, "You are the Sunshine of my Life", positively sparkled and reverting to the standard transformer was like throwing a cloth over the performers! Going back to my original power supply caused the various instruments to somehow lose their precisely allocated spot on my living room floor!

Switching to a half-cut master recording of "Money" from "The Dark Side of the Moon" (the term 'half-cut' refers to the master disc being cut at half speed, not the alcoholic state of the recording engineer!) confirmed the effects of the Ultra. The bass guitar was more tuneful and the cash registers glittered with clarity! The vocals were altogether cleaner and their slight raspiness was much better reproduced.

Moving into the classical arena, my recording of Stravinsky's The Firebird Suite (The Atlanta Symphony Orchestra - Telarc digital recording DG-10039) demonstrated the improved clarity with the Ultra with the bowing of the strings more discernible in the opening section. Again, the bass was tighter, especially with the upgraded transformer, and the sound seemed richer, more mellow and open as compared to my original Advanced power supply. The harmonics of the solo harpsichord of J. S. Bach's Partita No. 2 (Trevor Pinnock on Archiv 415 493-1) were somehow more separate and you were more conscious of the strings actually being plucked with the Ultra with its standard transformer. Replacing the standard transformer with the upgraded unit added detail and somehow made the performance more effortless.

I was very convinced of the improvements with the Ultra, but I felt the need to consult with an independent and unbiased listener who has not been bitten with the Hi-Fi bug like me – my wife! I am pleased to report that she too immediately noticed the improvements I had found with the Ultra in a 'blind' test, even when I switched between the supplies and not saying which was which.

Although the Ultra clearly sounded better, this left me with the question of why on earth a power supply for a turntable motor should have such an effect on sound quality. The Ultra is able to respond rapidly to sudden changes in load caused by increased stylus drag on loud passages and thereby keeping the record speed constant. This, in theory, will result in more accurate timing of the various components of the signal from the cartridge, with a consequential reduction of errors, leading to more accurate reproduction. The importance of longer-term speed stability (although I am still referring to fractions of a second) should not

be overlooked as this minimises wow and flutter, which will clearly have a beneficial effect on bass response. Given all the amplification of these errors from stylus tip to loudspeaker cone, it is therefore very understandable that minimising these could result in the improvements that were heard.

Having finished the listening tests, it was time to remove the original power supply from my deck and complete the conversion to the Ultra external power supply. One of the holes on the plinth that accommodated the original speed control switch was put to good use and I fitted a spindle adaptor for large centre 45s that had been lying around in my Hi-Fi drawer for many years. The remaining holes were blanked off with squares of black plastic that I rebated into the wood beneath the metal cover.

Figure 6. Before and After – Spot the Differences?

To summarise, this power supply offers a performance that easily rivals top-flight power supplies from other manufacturers costing twice as much. To put this into context, you may spend considerably more on a cartridge, but risk 'cramping its style' by ignoring the record transport. If you want to get the best from your vinyl collection, you should not overlook the importance of the turntable motor and power supply. Incredible as it may seem, it really does make a very noticeable difference. Go for it!

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