



Wired for sound

AUDIO NOTE WENT BACK TO THE DRAWING BOARD FOR ITS NEW PALLAS II DIGITAL INTERCONNECTS. CHRIS FRANKLAND FINDS OUT THE STORY BEHIND THEM AND ASSESSES WHETHER THEY JUSTIFY THE ASKING PRICE

My early experiences with fancy, expensive cables were usually far from inspiring and led me to give them a wide berth for many years. Well, times have changed, the quality of cables has improved, but there is still far more to designing a good cable than meets the eye. It's still a bit of a black art...

But for Audio Note, it's not a black art in the time-honoured tradition of smoke and mirrors that has plagued the hi-fi industry for as long as I have been involved in it, nor insofar as there is no scientific theory involved. In addition to what Audio Note's Darko Greguras knew was required theoretically, the design work carried out on the Pallas II digital cables called for a rethink of the very structure of the cable and a willingness to experiment, listen to the end results, and learn what would deliver the sound he and Audio Note were looking for. Therein lies the art.

Of course, metallurgy has always been at the heart of everything Audio Note does, from its choice and configuration of components to the fact that it winds its own transformers in-house and has done extensive research into the properties of their component parts.

Greguras spoke to me at length about his work, but there's much in the final configuration of each of the four cables Audio Note won't reveal for fear that someone would attempt to copy the final recipe and avoid all the hard work and listening to 30 prototypes he put into each of these four cables.

The cables here are brand new and I was lucky enough to have the first samples off the production line – well, actually each is individually handmade on a special jig designed by Audio Note. There are four cables in the range: the White (copper) at £1,184 (all

prices are for 1m unbalanced with phono plugs); the Brown (copper) at £2,113; the Purple (silver) at £2,929, and finally the Black (silver) at £3,746.

The old Pallas range consisted of three cables, as there was no Purple: the new Pallas II range uses conductors that are round, not flat, there are three of them, each a different thickness, with different insulation materials, inside a foil wrap, then there is tape around that and finally the outer braid.

This super-low capacitance cable is designed for use either between a moving coil step-up transformer and a preamp/phono stage, or between a CD transport and a DAC, both uses sensitive to high capacitances that could curtail high-frequency response and dynamics. But that belies the complexity of thinking and attention to detail that went into Pallas II.

When Greguras went back to the drawing board for digital Pallas II, he was keen that the cables should have a balanced sound and that the sound should flow better, with more musical meaning. As he said: "It's not about leading edge, it's about balance. Without balance, the rest doesn't matter." He looked at every aspect of the construction and materials used and made some startling discoveries, notably that the thickness of the conductors used was critical and "affected the sound massively", as did the number of twists, and how

tightly. The choice of solder was also critical (the Black uses Audio Note's own special silver solder, which I am told is better than the solder they sell or use in the majority of their products), as was the temperature used for soldering. On top of that, the length and type of heatshrink used was also found by Greguras to be "hyper-critical" for the final sound, as was the material used for the tubes inside.

In addition to that, the phono plugs used are custom-made for Audio Note, their sintered brass pins having a 50-60 micron coating of silver. This was found to be superior to having solid silver pins, which were also prone to breaking. No wonder Greguras ended up listening to 30 prototypes!

Method In My Madness

This was quite a complicated review, but great fun and quite a revelation. I set out by asking whether the Pallas II White was worth the extra over a £100 cable, and then considering how much of an improvement you get as you go up the range, and and finally, how they compared with competitors,

There's no point spending £3,700 on the Pallas II Black if your CD transport only costs £2k – chances are you'd be better off upgrading the CD transport and going for one of the cheaper Pallas II cables – so I used the cables with an Audio Note CD-T3 transport (c £10k) and a DAC 3.1x (c £7,500). These were played through an Audio Note Meishu Tonmeister integrated amplifier and AN-J LX Hemp speakers, a system allowing the differences between the cables to shine through.

So, how *does* the White at £1,100 compare with a good £100 cable from a well-respected brand? I played 'Never Too Far to Fall' from George Benson's *In Your Eyes* to find out, and I must say that from the outset the £100 cable did not impress, and switching to the Pallas II White brought about an improvement so colossal as to almost defy belief.

With the £100 cable the dynamics and openness was lost, Benson seemed to be chewing gum, the drummer was replaced by some amateur with arthritis wearing boxing gloves (no power, no rhythm, no finesse, half the hits on the cymbals and snare missing) and someone seemed to have thrown a switch that slowed it all down and made it muffled and undynamic. Switch to the Pallas II White and the sound opened up and came to life: Benson spat out his gum, enunciated better and the competent drummer stepped back up to the kit. Was the White worth 10 times the price? Hell, yeah!

But would the law of diminishing returns apply as we moved up the range? Well, using using Van Morrison's 'Days Like This' from the album of that name, I switched up from the White to the Brown: Van's voice gained a new humanity and intelligibility (well, as intelligible as he ever gets!), backing vocals

stood out more, with more space around them, and the bass line was weightier and more syncopated. The horn section was not only smoother, but had more detail and bite – and that's a tricky balance to pull off. All in all, the Brown was a big improvement: more music, more dynamics and well worth paying an extra £1k for.

I then decided to compare the Brown with an Audioquest Wild (silver, £2,155 against the Brown, copper, £2,113). On the title track from Larry Carlton's *Sleepwalk*, the Brown performed much better than the Audioquest, with much better definition, note shape and voicing on his guitar. The bass line was firmer and more tuneful and the Fender Rhodes piano had better sparkle and dynamics. The Audioquest was good, but I preferred the Pallas II Brown by a fair margin.

Next, I listened to the Brown versus the Purple (copper vs silver, £2,113 vs £2,929). On 'Sunny Side of the Street' from Ben Sidran, the bass line was far more powerful and tuneful on the Purple, while the DX7 synth had more presence and character and Sidran's vocals were more open and articulate. The Purple really opened the soundstage up, spiced it up rhythmically and made the music make far more sense. And the difference was even greater than between the White and the Brown.

Next up, let's see what the top-of-the-range Black at £3,746 can do. Using 'Blue Railroad Train' from Jorma Kaukonen's excellent *Blue Country Heart*, the difference took my breath away. The bass line was tighter, more tuneful and more detailed. Guitars, banjo, mandolin and dobro all became clearer, better differentiated and it was easier to follow what all the guys in the band were playing. The track opened up, moved along at a better pace and vocals were cleaner, more articulate and more, well, human. The improvement, I have to tell you, was huge and more than worth the extra. Law of diminishing returns? Absolutely not.

To finish, I also had an Audioquest WEL Signature standing by (silver, £3,600) to see how the Pallas II Black compared. To find out I played the superb 'Racing In The Streets' from Bruce Springsteen's *Darkness on the Edge of Town*. Here, the Pallas delivered a more tangible, cleaner and more dynamic sound on the piano and made his vocals far more real and emotionally engaging. Drum rimshots were crisper and more dynamic and the deep, powerful bass line was tighter and punchier. For me, it was a decisive victory for the Pallas, although again the Audioquest was good.

To conclude, each one of the Pallas II digital interconnects performed superbly and there were large and worthwhile improvements as you went up through the range. They each deserve our highest recommendation.



Designer Darko Greguras on the work that went into the new range

Q: How much do the new cables owe to the old Pallas?

DG: These cables are the result of previous knowledge and new ways of thinking. As we experimented with thicknesses of conductors and how they sounded, we needed to stop and think what was happening scientifically, to see if we could learn something and decide on the next step.

One conductor to cover the full spectrum is good in many ways, but you always get a slightly limited transfer. By increasing the cross-sectional area we get far better transfer – fewer losses.

Q: Why should a cable make a difference, when it's a pure digital signal?

DG: On a purely theoretical level, if it is only 0s and 1s it would make no difference, but when you think of what happens on a practical level, you see there is a time element. You have certain delays and they affect everything. The signal is in reality analogue. On the CD transport side, we have output transformers and then input transformers in the DAC, so you have transformers both sides, properly terminated using our own parts – all wound by hand in-house. And we don't have an infinite bandwidth.

Q: Is the signal experiencing delays in the time domain?

DG: It is far, far more complex than that. It is a mechanical construction. Changing heatshrinks in this cable should [theoretically] make no difference, no measurable difference, but it makes a huge audible difference. We are introducing different damping properties. We didn't like using PTFE inside, especially after our listening tests. We can basically hear the materials used inside. There are time-based mechanisms integrated in the design of the cable controlling group delay and dispersion.