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The Cantilever Tales

Who's that man behind the curtain?

I don't know anyone who has spent any time in or around this hobby, especially if his or her interests lean toward analog, who has not heard the name A. J. van den Hul. He's been doing the analog thing since the early '70s, and has been doing it very well. Over the years he has brought us quite a fine array of both moving-magnet and moving-coil cartridges, among other products. If you've never had the privilege of hearing a quality analog front-end set up with a stunning -- albeit pricey -- van den Hul cartridge like the Black Beauty, Frog or Grasshopper, then you just haven't lived.

But what about those of us who must live with more of a real-world budget? I'm happy to tell you that there exists a more affordable way to get a large dose of that exotic sound. Enter Stanalog Audio Imports of New York*. Run by George Stanwick, Stanalog* handles the importation of the van den Hul product line and the mechanical rebuilds of just about any cartridge. We're talking about more than just a plain old vanilla re-tip here, even though you can just have that done. Do you find yourself in possession of an old, well-used but vital moving-coil classic? Did you happen to notice an aged but known killer MC cartridge available for peanuts on e-Bay or rec.audio.marketplace? Things may never have been better, vinyl lovers!

*: Concerns a former USA distributor. —**A.J. van den Hul B.V.**

A tale of two cartridges

Thanks to fellow Southern Maryland Irregular Hal, I have been spending an inordinate amount of time with a graceful little pair of Denon DL-103D moving-coil cartridges. One is stock and one has made an all-expense-paid, five-star accommodation trip to the Netherlands to be favored by the labors of the master himself. The unassuming stock Denon DL-103D cartridge bears the asking price of \$300 and sports a specification sheet that is modest at best. Just looking at the sheet, one might be fooled into not expecting very much. That would be very wrong! Even in this very competitive price range, one that includes several very popular, heavily reviewed and highly praised entrants from the likes of Sumiko and Grado, the stock DL-103D deserves your consideration.

What earns this unpretentious stock Denon such high praise? First, it is a well-thought-out and successfully executed design, and is fairly consistent from unit to unit. More importantly, it offers superb sound at its price point. I had one of those other oft- and highly praised cartridges in my stable available for direct comparison. Synergizers, in areas like trackability and midrange timbre, the stock DL-103D leaves one highly praised contender "Blue," "nude" and licking its wounds.

The stock DL-103D has a very detailed top end that errs slightly to the white side of natural. There is an occasional loss of focus in the upper two octaves under pressure, as when presented with fortissimo string arrangements or very hot cymbals on popular recordings. Midrange presentation is its strongest suit. Pianos, violins, woodwinds, acoustic and electric guitars, and especially the human voice are rendered quite naturally and with surprising body. The lowest two octaves are this cartridge's biggest caveat, offering up this region in a slightly ill-defined and loose manner. This general looseness lends to a rhythmic blurring of the lowest frequencies in recordings that really dig deep, like the *Saint-Saëns Symphony No. 3* [RCA LSC-2341]. But to be fair, all the other entrants I've auditioned at this price point suffer pretty much the same weakness.

Generally speaking, dynamics are quite good, but not so good as to give you the impression that you just might be listening to digital, which a really world-class cartridge *can* do. The stage is quite wide, but not as deep or tall as to convey an orchestra in its full space, as does my reference Monster Cable Sigma Genesis 2000 or even the similarly voiced but slightly more constricted Alpha Genesis 500. Though its overall tonal balance is very natural, it slopes a bit to the cool side. This may sound like only faint praise, but it is in fact evidence that this stock cartridge is a very strong entrant. But, you ask, how does it stack up against the more highly traveled unit?

The frequent flyer sports a new boron cantilever and a van den Hul Type 1 stylus. More on these details later. But talk about a transformation! Where the stock unit is slightly ill-defined and loose in the lower octaves, the modded version digs a bit deeper and is ridiculously deft and immediate. Listen to the previously mentioned *Saint-Saëns Symphony No. 3, Trick of the Tail* by Genesis [Mobile Fidelity MFSL 1-062] or *I, Robot* by Alan Parsons [Mobile Fidelity MFQR 1-084]. The performance increase here is several orders of improvement.

The midrange, so well done by the stock unit, has been kicked into overdrive. The smoothness and newly revealed ease

in this region, especially that of the lower mids, uncovers a wholeness to the articulation of piano, violins, cellos and voices. Listen to the engaging acoustic-guitar work on The Eagles' *Desperado* [Asylum SD5068] or the piano on Sarah McLachlin's *Surfacing* [Classic RTH 18970]. This more natural and full-bodied midrange actually exposes the stock unit to have a slight cupped-hands coloration to the lower mids that was unnoticed before auditioning the modified version.

Where the treble on the stock unit may lean slightly toward the white side of accurate and occasionally become disassociated, the shimmer and sheen of bronze as well as the harmonic overtones in the upper reaches and its ability to unravel the inner detail of things like complex massed strings are now superb. All but gone are any vestiges of the stock unit's slightly blurred rise and delayed decay in the top two octaves. This new clarity contributes significantly to resolving the high-frequency blur and "tishy" splash to the trailing edges of cymbal strikes and string crescendos heard with the stock DL-103D. Listen to Steely Dan's *Gauche* [MCA 6102] for a taste of the revelation this little wanderer can pull off in this department. While it is not the last word in detail or ease, it is so obviously improved as to question the familial relationship.

There is a newfound localization and stability to instrumental placement within the soundstage, which is now rendered with a good bit more height and a depth bordering on as good as I've heard. Dynamics are blistering in comparison to those of the stock unit, though again not quite world class. The re-created cartridge played all comers with much lower surface noise, allowing for a much lower noise floor and a more immediate presentation. The balance of this reworked cartridge is much more natural, and if it errs at all, it is also to the cool side. Quite honestly, that is about the only similarity it bears to the stock model.

Race preparations

When I asked George Stanwick what cartridges Mr. van den Hul would not rework, he indicated that it was a conditional thing, with only a handful of units that were typically unsuitable for rebuild. Cartridges like the old Deccas, whose pole pieces tend to rust and break with normal aging, are not appropriate. George also pointed to units like the Sumiko SHO, which cannot be restored in a cost-effective manner because of its unique construction methods that incorporate hot glue in assembly, ostensibly for rigidity.

Citing problems with channel imbalance and coil condition as arbiters of the rebuild service, he felt that most first-generation moving-coil designs, given their age and the original quality control of their execution, just don't make good candidates. Many newer cartridges that are very affordable would be better choices. However, if you have a great design that is just aging, say like an old Koetsu Black, submitting it to the caring hands of master A. J. would net you one damn fine cartridge; one that would run rings around anything in its price range today.

Other than exclusionary circumstances such as those mentioned above, he also pointed to factors like the way a cartridge has been treated and the kinds of cleaning or preservative fluids to which a cartridge may have been subjected. Just for the record, the van den Hul position on the use of fluid stylus cleaners or treatments is that you don't *need* to use most of them. Their logical belief is that a clean, *dry* record is, in and of itself, the best possible way to maintain your stylus.

Cartridges that have been subjected to repeated degaussing also fall into the non-suitable category. The van den Hul stance on degaussing is well known, but perhaps misunderstood. While A. J. won't debate that a cartridge may sound better immediately after demagnetizing, he insists that overall performance degrades with every application. The main concern with frequent use of a cartridge demagnetizer like the Sumiko Flux Buster or the AudioQuest DM-1000 is the gradual breakdown of the magnetic complexes of the armature, which weaken the magnet. Repeated degaussing eventually robs the magnet of its strength, resulting in gradual and consistent loss of resolving power. But if the cartridge you have is working, is balanced channel to channel, is not gummed up with the repeated application of questionable fluids, and hasn't been flux *busted*, it is likely a good candidate for rebuild.

There are several options available for a rebuild, ranging from a simple re-tip to the full replacement, including choice of material, of the cantilever. Cantilevers on most of today's affordable cartridges are fabricated from aluminum, chosen for its low price and reasonable performance.

With the van den Hul rebuild, you *can* specify a new aluminum cantilever, but why the heck would you do that when you can upgrade to one of boron fabrication? Boron is much more inert and rigid than aluminum which, aside from costing more, gives the rebuilt cartridge higher transient response, greater rise times, and a more neutral response. It has come to be commonly accepted that boron is an outstanding material for this application. In fact, so much evidence to that effect has been developed that Linn, a longtime aluminum holdout, has chosen to switch to boron in the latest iteration of the Arkiv.

The choice of styli shapes is simple -- you can pick a Type 1 or a Type 2 profile. The difference between the two is the aspect, or shape, of the gem used. The Type 1 measures 3 x 85 microns, whereas the Type 2 is 7 x 45 microns. Now, if you were going to go to the trouble of doing it, why would you settle on a tip that is guaranteed to ride higher and

provide less linear contact with the groove? Unless the original construction dictates otherwise, the simple decision is the Type 1. With its taller, sleeker profile, it is able to ride more deeply and achieve greater linear contact with the groove wall. For the completists among you (you know who you are!), there is also a Type 1s tip, with a 2 x 85 micron profile. This radically narrow contour is accomplished through a more highly refined polishing process and is only found on the likes of the Frog, Grasshopper and Black Beauty.

Why all the concern over the cantilever material and stylus-tip shape? Simple. A phono cartridge, at least its stylus and cantilever, may be viewed as analogous to the tires (stylus) and shocks (cantilever) of an automobile suspension. If you were to drive a family sedan, with its average tires (spherical tip) and standard-duty shocks (aluminum cantilever), rapidly around a dirt racetrack (our record groove), the tires could not stay evenly on the surface of the roadway. Our standard-duty shocks would be bottoming out repeatedly and not reacting fast enough when over-compressed to maintain maximum tire contact to the road surface. Steering the car accurately around the course would be remarkably difficult as we constantly tried to compensate for the overly bouncy ride from our poorly tuned (for this purpose anyway) suspension. We would constantly be battling the tremendous amounts of under- and over-steer while cornering, making it next to impossible to keep the family sedan in the best race line, or what is known, ironically enough, as the "groove." Because of all the excess lateral and vertical movement while sliding around on the track, the tires would wear rapidly and unevenly, and the overloaded shocks would give out prematurely. And on each lap, as we slide and fight to stay "in the groove," we would be tracing new ruts in the surface of the roadway.

Now let's take a new Porsche Turbo, with its V-rated rubber and finely adjusted, gas-filled struts around the same track. Get the picture?

Let's go racing...

So what does it cost to convert the family sedan for its day at the races? The full refurbish, as I had done to the Denon, was \$500. This includes the new boron cantilever, the new Type 1 tip, a good hard look under the hood to determine if anything else may need to be done, and a first-class round-trip ticket. Should something be found to be amiss, you get notified and advised as to what it is likely to take to effect repair. The work is guaranteed against defect for two years, based solely on the determination of van den Hul. Normal conversion time is between three and six weeks, depending on when the candidate cartridge reaches its departure point and how you want it returned to you. If you have any questions as to suitability for rebuild or turnaround time, give your Van den Hul distributor a call.

Is it all worth it? The answer is a resounding yes. If you love analog, you can breath never-before-available life into a good old (or new) classic cartridge. The difference wrought by the change in my test comparison of the two Denon DL-103Ds was more than I could have anticipated. It can be summed up nicely with four Ds: delicacy, detail, dynamics and dimensionality.

The rebuilt unit offers so much more refinement, detail, clarity, speed, extension and resolution as to render it virtually unrecognizable to the original unit. While the performance gains are all very significant, the remanufacture does not create a giant killer. I want to make it clear that there is still room for a bit more unraveling of inner detail, more control in the lower bass, slightly more body to the upper mids and greater resolution when compared to the best moving coils money can buy. However, though the van den Hul-treated cartridge may not quite stand eye to eye with the best of show, it certainly rises to what approximates shoulder height and gives you a run at the money. That makes it a steal in my book. Thanks George and A.J. Keep up the good work!

...Greg Weaver

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