

Carbon links

An appraisal of van den Hul's latest pure-carbon interconnect, The First Ultimate, plus the new Royal Jade Hybrid, CS - 122 Hybrid and D - 352 Hybrid speaker cables

by MARTIN COLLOMS



Some years after the launch of its original carbon interconnect, van den Hul's introduction of carbon and carbon hybrid technology is gradually progressing down through an extensive range of audio cables.

In its class, I have found vdH The First, the first all-carbon interconnect cable, to be an enduring reference, when used in systems where it does not give rise to audible or even sub-audible background hum. The latter idiosyncrasy arises from the relatively high resistance of the cable, particularly the critical ground return or signal negative. There is a limit to the amount of carbon which can be built into an interconnect cable, and carbon (even the linear crystal kind: pure graphite fibre) has a much higher resistivity than any metal.

In its class, I have found vdH The First, the first all-carbon interconnect cable, to be an enduring reference

Audio equipment may generally have harmless residual voltages or power leakage on its chassis or ground connections, and these may be linked when a normal (single-ended) cable is used, the leakage carrying across via the signal negative. The lower the resistance of the negative line, the lower the possible voltage read across the residual resistance over the connection. The First had a significant (greater than 15 ohm) value for the ground return and thus the leakage can develop a voltage, which interference is thus added to the signal path.

Ordinary cable has a return resistance of typically under 0.5 ohm so that such possible interference is well suppressed. Even sub-audible levels of interference can subtly affect sound quality. It has been shown that a just inaudible level of a given tone can still affect the perception of pitch of local tones: 'tune playing' if you like.

Thus audio systems with low chassis leakage work best with The First; indeed, the cable proved to be a sensitive indicator of the presence of hum currents. If they could be solved, for example by the right combination of system-grounding (*), then the sound quality was usually improved, and The First could then deliver as claimed. A.J. van den Hul himself expressed surprise at the quality and neutrality of The First once it had been successfully manufactured. That is not so easy, since those thousands of individually insulated conductive fibre need to be properly joined, and the usual soldering just will not work — you can't braze metal terminals to carbon.

(* Remark: Hum problems with The FIRST® indeed often sufficiently can be dealt with by choosing the right combination of system-grounding; In our product program we have a small device available that has been specially designed for such purposes: The POLARITY CHECKER. —A.J. van den Hul B.V.

THE FIRST ULTIMATE

Clearly one of the major steps which could be taken to improve The First, *ie*, to improve what is intrinsically a very special quality of tonal balance and clarity, would be the further reduction of resistance. After extensive development this has now been achieved in the new, apple-green coloured, First Ultimate.

Together with some constructional improvements and flashy all-gold-plate phono plugs, comes a reduction of ground return resistance by a factor of three. It remains a higher resistance type than average, but is obviously rather better than before. A given noise level via the ground will be improved by 10 dB.

Available in 0.6m, 0.8m and 1m and over lengths, The First Ultimate will, of course, offer still less resistance in the shorter lengths, provided that these will reach between the chosen components! Naturally the cost is less with a short cable, however, this cable costs about as much as a medium-price CD player and needs careful consideration. But such





CS - 122 HYBRID

was its quality, I found that the new cable could do justice to some of the finest equipment made.

In the listening tests two situations were tried: one where some hum was just evident at high volume settings and one where no significant problem was present. It must be admitted that the degree of improvement heard was similar in both cases even though that audible noise was now reduced to inaudibility.

After extensive listening I still regard the original First as a good reference and can go back to it without any sense of loss: a grand result considering when it was introduced. I also use vdH The Second (*) in balanced mode, when it becomes a direct equivalent of The First. vdH The Second does not then need the lower resistance since, balanced, the chassis currents are looked after by the uncritical third wire. Both are exceptionally neutral and natural, unforced, well timed, and of fine transparency. Compared with some references they can sound a little relaxed and distant, but this may well be a matter of preference rather than fact.

(*) Note: The SECOND[®] is our balanced version of The FIRST[®]. —A.J. van den Hul B.V.

Notwithstanding the above, the new design sounded fresh, unfathomably better, better all-round, with no single aspect out of kilter. Spelling it out: the new First Ultimate is livelier, more immediate, more sparkling, more transparent. The treble is even more finely resolved yet transients have a more convincing attack. Stage width, depth and focus are all better while the bass has more slam and speed.

A measure of its achievement is its ability to make an original The First cable sound slightly veiled — a comment which would have been almost impossible to make without the new version. Rare in audiophile circles, The First Ultimate retains that involving upbeat character, very well timed, well-balanced tonally, dynamically resolved and strongly rhythmic in approach.

This represents an outstanding performance, which in my book warrants a Best Buy status. Assuming that you can achieve compatibility in your system, a top quality performance is assured.

THREE SPEAKER CABLES

In 5m lengths I assessed The Royal Jade Hybrid (green jacket) at £11 per single channel metre, £110 per stereo set; the latest Hybrid CS - 122 (beige) at £13.5/m £135 per set; and D - 352 Hybrid (bronze) at £21/m or £210 per set. The company's reference cable is still The Revelation Hybrid, which I myself use as a reference, together with Transparent XL. The First Ultimate is fully compatible with The Revelation.

All three of the vdH cables tried here are of the multi-stranded low resistance flat twin type. Inductance is moderate, for example at 5 metres the impedance contribution amounts to 0.6 ohm at 20kHz.

All use halogen-free Hulliflex synthetic rubber jackets with strong mechanical damping, and all are hybrid, whereby a conductive carbon jacket sheathes the conductor bundles. Capacitance is too low to be significant [see test results below]. The conductor bunches are flexible, woven of silver-clad, matched-crystal, oxygen-free copper.

The significant difference between these models is in the quantity of copper that you get, determining the loop resistance. The latter can subtly affect tonal balance and bass dynamics, especially with bigger, wide bandwidth speakers. If of essentially good quality, thicker cables are superior for longer runs, *eg*, over 5m. Cheaper cable can perform very well over short lengths.

From the test summary one can see that for these three designs the resistance drops by 33% for each stage, remembering that there is a fixed base cost for the jacket and makeup.

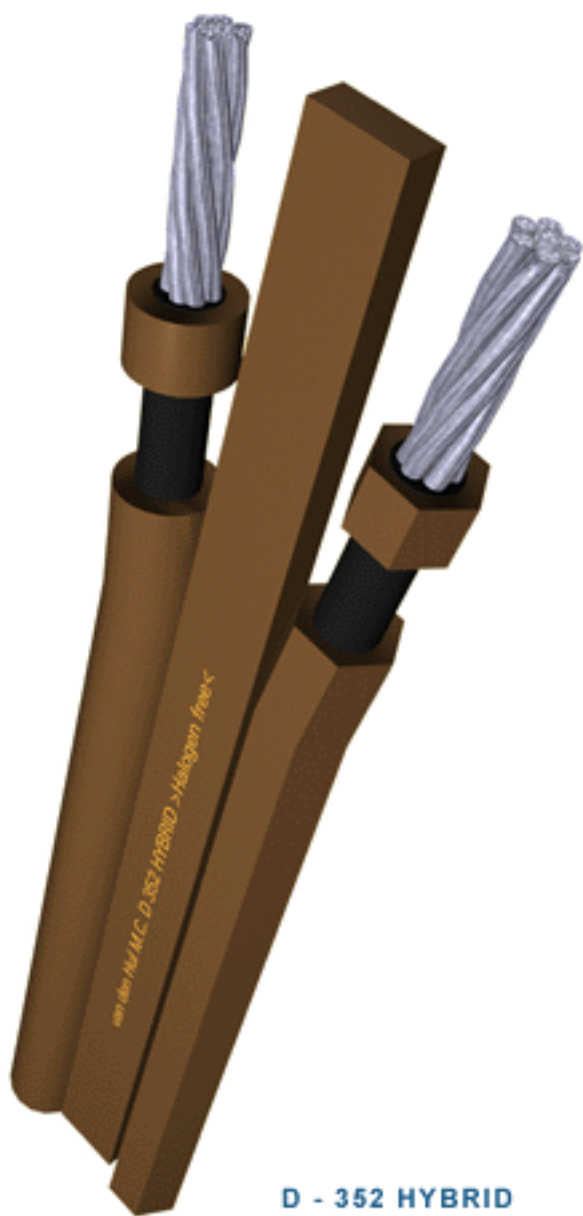
SPEAKER CABLE SOUND QUALITY

On sound quality there is a clear family resemblance: all have pleasant, well resolved treble; all have an essentially neutral mid range rather better than average. Good to very good stereo focus is evident and the hallmarks of audiophile quality are present: good transparency, fine image depth and natural perspective. Clean, satisfying bass is delivered by all three.

The CS - 122 remains the key design in the range. The new version is smoother and clearer than the old, while it packs a fine musical punch for the money.

The D - 352 digs a little deeper, has a slightly more gutsy bass, a

On sound quality there is a clear family resemblance: all have pleasant, well resolved treble; all have an essentially neutral mid range rather better than average. Good to very good stereo focus is evident and the hallmarks of audiophile quality are present: good transparency, fine image depth and natural perspective



D - 352 HYBRID

larger-scale, and is a touch richer in balance; these differences will become more important in longer runs. At 5m and below, the CS - 122 is the more sensible buy, though the D - 352 stands well in the market for price/performance.

This leaves the all-new design, the Royal Jade, which is not quite as powerful as the CS - 122, in not offering so much copper for the money, but which still has something special. It sounds beautifully balanced, well integrated, and if anything is a little livelier, more upbeat than its bigger brothers. On balance of merit it runs the bigger cables very close, and since the resistance is pretty low anyway, I wouldn't let this aspect unduly affect your decision.

So the Royal Jade is the best value; the CS - 122 Hybrid is the best all-round in terms of technical rating and sound quality for the price; while over longer runs the D - 352 Hybrid has the potential to maintain that high standard. All are equally suited to all kinds of music and are not amplifier or speaker-dependent.

LAB TEST SUMMARY

STARTING with The First Ultimate interconnect, when measured in the lab for 1m lengths, the resistance of the ground return came out at 4.68 ohms from 14.4 ohms for the original The First.

As mentioned in the main text, with resistance one-third of that of the old version, ground noise will be correspondingly reduced. The inner conductor is unchanged at 35 ohms, making the overall loop 40.5 ohms compared with the original 51.3. Capacitance is unchanged at a very moderate 58pF while inductance is essentially zero. There is no aspect which would directly affect the sound.

Turning to the three loudspeaker cables, all showed low inductance of about 1µH per metre loop. Capacitance is so low as to be inconsequential; I measured an average of 23pF per metre. At 10kHz, dielectric loss was very low at 0.002, typically, somewhat dependant on the test orientation. Resistance is certainly low; a 5m loop of the Royal Jade adds just 0.07 ohm to the speaker link, the CS - 122 0.052 ohms, and the D - 352 0.033 of an ohm.

Martin Colloms

Hi-fi news & record review, January 2000

While A.J. van den Hul B.V. provides the information contained in this document to anyone, we retain (joint) copyright and/or publication rights on all text and graphic images. This means that:

You MAY NOT: Modify or re-use the text and graphics, distribute the text and graphics to others, or "mirror" this document's information on another server without the written permission of A.J. van den Hul B.V.

You MAY: Store the document on your own computer for your own personal use, print copies of the information for your own personal use, and refer to it in your own documents or on your website.

A.J. van den Hul B.V. reserves all other rights and is not to be held liable for the contents of this document.

www.vandenhul.com