More details about DNM Stereo Solid Core cables

DNM Cable Design
By controlling the high frequency characteristics of DNM cables we aim to optimise the amplifier-to-cable interface to ensure amplifier stability which improves sound quality. When this design approach is combined with DNM single solid core conductors it results in an ultra-high fidelity cable with unrivalled clarity.

Three DNM stereo cables designs are available.
More details about the conductors and the ribbon are shown in this document.

Solid Core conductors
DNM stereo cables use 4 high purity copper conductors. The round conductor cross-section ensures that magnetically generated back-emf is truly proportional to the signal. Transient magnetic fields generated by audio cable are radiated and collected by the conductors and because the magnetic field shape matches the shape of DNM conductors, eddy current formation is minimised.
NB. DNM round-section single core cable conductors are unlike the often used oversize multi-stranded or flat-section conductors that generate untidy eddy currents and scramble the delicate audio signal. Heavy conductors are used to reduce claimed resistance problems, but cause serious transient errors. At domestic power levels, amplifiers are most accurate when they see a controlled, small amount of resistance.

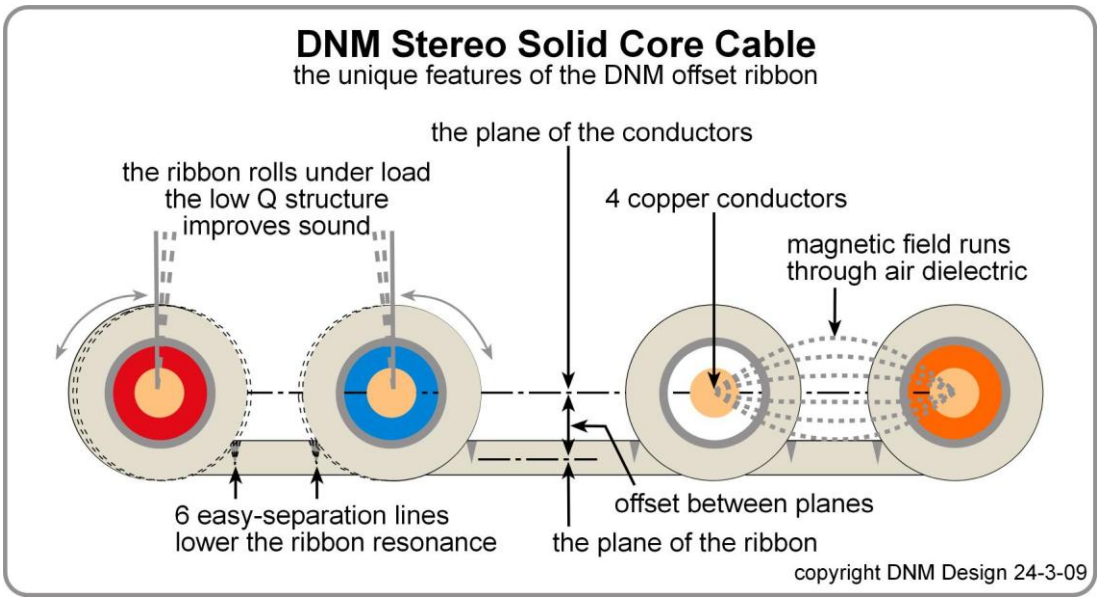
Three DNM Stereo cables designs, use different conductor diameters to suit the application:-
1.3mm diameter is used in DNM Stereo Solid Core Resolution speaker cable for low to medium sensitivity speaker applications
0.82mm diameter is used in DNM Stereo Solid Core Precision 2 cable for high sensitivity speaker applications
0.4mm diameter is used for unshielded interconnect applications

The unique DNM stereo ribbon
DNM use LDPE (low density Polyethylene) insulation in a unique ribbon form that is designed to improve audio performance and facilitate cable assembly. The 4 conductor main ribbon is easily separated into 2 conductor ribbons by tearing and the insulation can be stripped off the conductors using heat. DNM Stereo cables are among the easiest to prepare to a high standard - confirmed by our low £12 labour charge to fit plugs onto any stereo length of DNM cable.

The DNM stereo ribbon is made in 3 versions, dimensioned for the application. The ribbon contains four conductors to carrying two channels, ideal for stereo or one bi-wire channel. The ribbon controls the all-important spacing between the conductors and places the conductors above the plane of the ribbon.

Within each channel the spacing defines the RCL balance (resistance, capacitance and inductance) which determines ultra-high frequency loading which in turn strongly influences the sound quality of the driving amplifier. Close-spaced, twisted or co-axial cables have higher capacitance, which can change amplifier sound or even cause amplifier instability.
Between the channels the DNM ribbon holds the channel spacing constant over the distance that both channels are routed together. Keeping the spacing constant improves the audio resolution compared with random cable placement.
In the case of the interconnect, the DNM stereo ribbon halves the number of separate cables needed behind the equipment, reducing magnetic interference.
In the case of the speaker cable a single ribbon is ideal for use as a bi-wire cable.

The advanced features of the DNM Stereo ribbon



Four solid core conductors are encased in a semi-transparent outer ribbon. The two new speaker cables (Precision 2 and Resolution) have a grey layer covering the coloured insulation to make the cable less visible in the room, the colours are still visible at each end.
The DNM ribbon is designed with an offset between the plane of the ribbon and the plane of the conductors, as shown in the illustration above. The offset is a significant development giving several advantages.

1) The conductors radiate their magnetic field into air rather than through the cable insulation, reducing the capacitance between conductors and increasing linearity.
2) Easy-separation lines in the ribbon simplify cable preparation
3) They also reduce the tendency for the ribbon to resonate when speaker current causes the conductors to be magnetically attracted, the mechanical Q is low, further improving sound quality.

Carefully selected spacing between the conductors helps to dissipate the high frequency reflections that are known to reduce the performance of amplifiers. The conductor spacing keeps the capacitance low and the inductance reasonably high, so that the amplifier does not see a short circuit at high frequencies. This important design point ensures that DNM stereo cable provides a friendly load for the amplifier to drive.

All the advanced features in the three DNM Stereo Solid Core cables combine to offer a new level of sound clarity at a reasonable price.