

DNM SOLID CORE AUDIO CABLE

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If you are about to purchase a new speaker or interconnect cable this is one of the most relevant pieces of information you are likely to find.

Audio cables have divided into two main groups. (1) Stranded Cables which consist of tens or even thousands of small single cores twisted together, varying in cross-section from fairly small to extremely large. (2) Single solid core cables with cross sections just large enough for the application: speaker or interconnect.

In the stranded cable design approach there seems to be no rules governing the designs. There is no satisfactory explanation of how they work and in particular why they should be stranded. Stranded cables encompass the most incredible extremes of design. Conductor cross-section can be as large as 10mm² or more. To put this into perspective 2.5mm² pure copper will carry about 1,000 amps! Pure copper is sometimes considered to be inadequate, so the core may be silver plated or even solid silver. Exotic materials are also used for insulation and secret formulas of stranding are claimed to affect arrival times of high and low frequencies.

You — the Hi-Fi buyer may be asked to pay up to £1,000 for a set of interconnect cables and sometimes more for speaker cables using these techniques. If they worked the value for money aspect of such cables would be questionable. Unfortunately they do not work and they will make your system sound different but worse. Also beware of so called Solid Core cables with twisted or bunched insulated cores. One of the most important aspects of the Solid Core design approach is the **single** Solid Core and these imitations behave similarly to stranded cables.

Consider what really happens to an audio cable while it is carrying the audio signal. Remember that the magnetic and electric fields are rapidly changing — alternating from positive to negative thousands of times per second in complicated combinations of frequencies following the music signal. These complex fields cut through the conductors inducing currents in them. The larger the cross-section of the conductor the longer it will take for an individual section of field to cut it and the conductor will experience current stress patterns over its cross-section. The stress patterns will then produce random current circulation made worse because of the large quantity of material available to conduct. The result is a severe smearing or blurring of fine signal detail. Stranding, which tends to be used with large cross-section, further complicates the situation and makes the sound even worse.

This very simplified description of operation can be applied in more detail using all the current theories of power transfer. The answer is always the same. To transfer complex A.C. information accurately we need a good conductor just large enough in cross-section to carry the current peaks with acceptably low power loss. The cross-section shape should be the same as the natural field shape i.e. round. The interference between positive and negative field lines defines the design shape of the cable which can be either coaxial, infinite spacing or finite spacing. Coaxial is essential where shielding is required such as moving coil pick-up to pre-amp or high impedance circuits. The centre core should still be small and single. Infinite spacing is obviously inconvenient so a finite spacing on a flat ribbon is the alternative. This spacing must be accurately maintained per unit length also to avoid induced current stress patterns. The relatively lossy characteristic of an unshielded conductor at frequencies of about 1MHz (one million Hertz) and above can be considered an advantage for audio frequency work. The ideal audio cable emerges as a flat ribbon, parallel spaced single core with a small diameter high purity annealed copper conductor:- **DNM SOLID CORE RIBBON.**

The advantage of all this to you is a great improvement in sheer clarity and resolution. The extent to which the improvement is realised may depend upon how good your amplifiers are but the characteristics are the same in all systems. The loudspeaker cable is optimised to give best resolution in the midband and high frequencies and at low to middle dynamic levels which is best for most systems most of the time. It is intended for medium power systems and it will handle large current peaks of the type found in music signal whilst allowing very fine detail to be preserved.

We have produced Solid Core Cables for two areas of application. DNM interconnect is a flat ribbon suitable for connecting compact disc, radio, tape or Pre-Amp to Power Amp maximum recommended length is about two metres. DNM Speaker Cable is designed to be used between Power Amplifier and loudspeakers. The third core in the centre is intended for use with Power Amplifiers that can sense feedback from the loudspeaker terminals and this core should be disregarded for normal use. The minimum recommended length for speaker cable is three metres.

These cables are clearly identified as DNM-Audio System Solid Core cables and they are available from most good Dealers. If you have difficulty in obtaining DNM cable please contact:

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