SMc Audio – answers to Frequently Asked Questions

Q: What cables do you recommend with your equipment? Which cables do you use?

A: This is the question I am asked more than any other. This is also the one I try hardest to avoid ;-) The best cable for your system is a matter of personal taste and system synergy – no one but you can make the right choice. The problem, as we all know, is that there are a LOT of cables to choose from – no one can evaluate them all. Happily, you don't have to try them all, but there is no substitute for experience. You should make an effort to listen to several different types in your own system. Most dealers will work with you to setup home evaluations, and you may have audiophile friends that will be willing to loan their cables. My experience suggests that you will quickly "home-in" on the cable that sounds right to you.

My equipment is designed to work with the widest-possible range of associated gear, so you can try anything with confidence. The only exception relates to passive preamps (like the Line Drive and TLC-1). A pure passive output (rather than an active or buffered output) is sensitive to cable capacitance, with low capacitance values being preferred. Cable capacitance is expressed in "picofarads (pF) per foot" (or meter) with values of 100pF – 300pF per meter being fairly common. You will have to check with the cable supplier to find the exact values for a specific cable, but it is clear that shorter cables are, in general, better for connecting passive preamps to their amps. For McCormack passive preamps, I suggest that you use cables that do not exceed a total of 1000pF per channel (less is better). With most cables you can run 1 – 2 meters safely, and some low-capacitance cables allow the use of longer runs. Certain cable designs, however, use tuning "networks" (usually in a small box at one or both ends of the cable) to achieve their desired performance. These cables may exceed 1000pF per meter, so they may not be the best choice for passive preamp connections. On the other hand, you should feel free to try ANY cable, regardless of how it's made, and if it puts a smile on your face and beautiful music in your room, it's the right choice.

So, you would like to know which cables I use? Okay – I'll tell you, but I want to make it clear that the cables I use may not be the right choice for your system. The following cables see regular use in my reference system:

- Magnan Cables (www.Magnan.com)

    Signature interconnects
    Silver-Bronze interconnect
    Type Vi interconnects (both balanced and unbalanced)
    Digital interconnect
    Signature power cable (AC cord)
    *The only reason I am not currently using Magnan speaker cables as well has to do with this cable's size and the related placement issues.

- Acoustic Zen (www.AcousticZen.com)

    Silver Reference II interconnects (both balanced and unbalanced)
    Matrix Reference II interconnects (both balanced and unbalanced)
    Krakatoa AC cords

Tsunami AC cords
Hologram Bi-wire speaker cable

- Kimber Kable (www.Kimber.com)

Bi-Focal XL speaker cable

- Shunyata Research (www.Shunyata.com)

Sidewinder II AC cord
Black Mamba AC cord
Hydra AC power conditioner

Q: I find it hard to believe that an AC cord could have an impact on the sound of my equipment. Do you recommend accessory AC cords? Which ones do you like?

A: This is one of the many counter-intuitive notions in audio. It just doesn't seem reasonable that a 6' piece of special wire attached to the end of 20' or 30' of regular in-the-wall wire should make any difference at all, let alone make a significant performance improvement. I suppose it is useful to remember that it wasn't so long ago that we had similar reservations about speaker and interconnect cable (and TipToes, etc., etc.). I am not about to pretend that I understand all the technical reasons why, but it is clear to me that aftermarket AC cords are worthwhile accessories, and have the potential to really improve your system's performance.

Specialty AC cords were relatively rare until fairly recently. Now there are many to choose from, and I have evaluated quite a few. My experience is limited, though – no one can keep-up with the constant deluge of new cables! Of the AC cords I have evaluated, there are a few that I can suggest with confidence. They cover a lot of territory cost-wise, but all offer excellent performance. As usual, you will have to do some listening to decide which are right for your system (and budget).

- Shunyata Research (www.Shunyata.com)
A wide variety to choose from

- Magnan Cables (www.Magnan.com)
Signature power cable

- AudioPrism (www.AudioPrism.com)
Super Natural S2
Super Natural 9.5

- Acoustic Zen (www.AcousticZen.com)
Gargantua
Krakatoa
Tsunami

- Audience (www.Audience-AV.com)
The Power Chord

- PS Audio (www.PSAudio.com)
  Lab II AC cord

One final point: all of these AC cords come with a standard 15Amp IEC connector. Both the DNA-2 and the new DNA-500 use the larger 20Amp IEC connector, so be sure to specify the larger 20Amp connection if you are buying a cord for either of these amps.

Q: Do you recommend using AC line conditioners? Which one should I use?

A: This is a tough question for me. I have found some AC line conditioners that I like, but they are expensive. I have heard quite a few that, to my ear, sound no better than a good AC cord, so I don't find them cost-effective. And I have heard many of the "surge-suppressor power-strip" variety that I felt were damaging the performance of good audio gear. Still, clean AC power is essential in getting the best possible performance from your system, and AC line conditioners are potentially useful.

Here are the AC conditioners that I have enough experience with to feel comfortable about suggesting:

- The Hydra from Shunyata Research (www.Shunyata.com). Note: This is one of the only AC conditioners that is appropriate for use with high-power amplifiers.

- The P-300 from PS Audio (www.PSAudio.com) (for low-current gear only)

- The "Haley" from Running Springs Audio (www.RunningSpringsAudio.com). Very impressive performance from a moderately-priced line conditioner.

- For the advanced do-it-yourself hobbyist, excellent information on the subject of clean AC power is available at www.magnan.com/column.shtml.

Q: Is balanced operation really better than unbalanced? Should I add balanced inputs to my amp?

A: This is a complex issue without a clear "Yes" or "No" answer. Balanced operation does offer a number of ***potential*** advantages, so I believe it is worth consideration. In my view, the real answer depends on the nature of your system and the specific equipment you have. Some high-performance equipment is designed with balanced operation in mind, and will deliver its full potential only when run balanced. In these cases – and especially when both the source and preamp offer balanced operation - I do recommend adding balanced inputs to your amp in order to enjoy the maximum possible performance. You may even be able to keep your existing interconnects. In many cases it is possible to re-terminate your existing unbalanced interconnect cables with balanced XLR connections – check with your cable company to be sure.

Beyond the above considerations, the technique I use for balanced input conversion enhances sonic performance in a variety of ways…even with unbalanced signals! The high-quality input transformers I use block any DC or RFI from entering the amp, and

allow me to simplify the input stage for maximum signal purity. They also offer the highest-possible CMRR (Common Mode Rejection Ratio), meaning that noise picked-up by the cable and any distortion that is common to both signal lines will be cancelled-out at the amp's input. While this is normally true only for balanced signals, the technique I use offers substantial noise rejection for unbalanced signals, as well. This is one instance where adding balanced inputs always results in improved performance in both balanced and unbalanced operating modes.

Q: I have heard that having "true balanced" equipment is the only way to get the full benefit of balanced operation. Does adding the balanced input mean that my DNA amp will be a "true balanced" system?

The DNA amplifiers (like most amps) are unbalanced designs, and adding balanced inputs does not change this. The description "true balanced" usually refers to equipment designed to be fully differential from input to output. This requires two fully independent signal paths ***per channel***, and is necessarily much more expensive than a similar unbalanced design. While it is possible to argue that this is the best approach to balanced operation, it is ***not*** the only viable option. When done properly, the addition of balanced inputs can provide real benefits, as detailed above. On the other hand, when you are ready for the ultimate in amplifier performance, a matched DNA monoblock pair will give you "true balanced," fully-differential operation that is out-of-this-world!

Q: Which of your preamps is the best? Should I choose the RLD-1, the ALD-1, or the TLC-1?

I'm sorry, but this is another question without an absolute answer. The right preamp is the one that best suits your system and listening habits, and that might be any one of my designs. The only way to know for certain is to evaluate the candidate units in your own system. The following capsule descriptions may be useful, but please call me if you would like to discuss these designs in greater detail.

Q: What is the actual power rating of the DNA-1 amplifier? I have seen references to 150W per channel, 185W, and even 200W – were there different versions with different power ratings?

A: All DNA-1 amps have the same power capability. I had originally rated the design at 150 Watts per channel (into 8 Ohms) simply to be conservative. After 2 years or so, the decision was made to change the rating to 185 Watts to more accurately reflect the real power at clipping. Given that there are small unit-to-unit variations, some DNA-1s will deliver 200 Watts per channel.

Q: Your upgrades are interesting, but I would like to do the work myself (or have a local technician do it). Do you sell kits and plans?

A: I am sorry, but no kits or plans are available. I can certainly understand why some people would prefer to attempt to do their own upgrade work, especially if they live outside the US. However, having complete control over the upgrade process is central to my being able to deliver high performance consistently and reliably. Much of the work I offer is quite complex, and demands a thorough understanding of both the electronics and mechanics involved. There is simply no way to make this available in kit form.

For those of you that would like to do your own work, there are a variety of parts that may be upgraded, depending on your skill level. The input / output connectors are fairly easy to do, and many of the resistors and capacitors may be upgraded if you feel competent to work on the circuit boards. Most parts are clearly marked for value, voltage rating, etc. ***Be advised that the circuit boards are easy to damage, and many of the parts are difficult to remove without creating damage.*** Furthermore, I cannot support you in these efforts. If you get into trouble, you will have to work with a local technician to solve the problem. I can do repair work only as part of the upgrade process.

If you need access to quality parts, go to www.PercyAudio.com. He carries a full selection of great parts - just download his catalog and you will find what you need.

Q: If I put my ear close to my speaker, I can hear a small amount of noise (hum, buzz, hiss, etc.). Is this normal?

A: Probably so. Whatever noise you might hear is influenced by a variety of factors, including (but not limited to) the nature of your preamplifier and cables, amplifier gain and inherent noise, and speaker sensitivity. My amplifier designs are slightly higher in gain than most, so any residual noise from the preamplifier may be more apparent than with other amplifiers. However, if you have to put your ear close to the speaker to hear it, I would suggest that it is not worth worrying about.

Q: I noticed that the circuit board in my amp / preamp is labeled "Revision B" (or C, etc.). Does this mean that my amp/preamp already has your upgrade?

No. The labels on the circuit boards refer to changes made over time to the circuit boards themselves, and have nothing to do with the upgrades offered by SMc Audio.

Q: I see some of your products listed as "Deluxe" and others listed as "Standard." What's the difference? Does having one or the other matter in terms of having an upgrade done?

The "Deluxe" upgrade program originated with the DNA-1 amplifier around 1993. It consisted of replacing a selected set of parts with higher-performance, more expensive parts for improved performance. In the case of the DNA-1, the RCA jacks and speaker terminals were upgraded to Cardas, and several critical resistors were upgraded to Vishay and Caddock. The regulated power supply rectifier diodes were replaced with soft-recovery units from Harris, and the output wiring was upgraded to Van den Hul.

These changes resulted in a nice performance enhancement at a very reasonable cost. The “Deluxe” program proved to be so popular that we extended it to include most of the products produced at McCormack Audio.

Many people have wondered why I didn’t simply make one model with the improved specs. The original reason is simple – I considered it imperative that we bring the DNA-1 to market at under $2000. This was very difficult to do while achieving my performance goals, and would have been impossible with the added “Deluxe” parts cost. Setting-up the “Deluxe” program separately allowed me to offer improved performance while still giving the customer the choice of a lower-cost model. This option was carried-over to many of our other products, and proved to be popular there, as well.

Q: I have seen a reference to a “DNA-1/R1” amplifier. What is this amplifier? Is it one of your upgrades?

The R1 circuit board was created by McCormack Audio to allow them to produce amplifiers from the remaining stock of DNA-1 parts, and to facilitate certain repair jobs where the original board had been damaged. This new circuit board is effectively equivalent to the circuitry in the DNA-225. McCormack Audio is now offering the “R1” board as an upgrade, including Cardas hardware and Noble emitter resistors. This makes a very nice improvement with a distinct performance advantage over the original amplifier.

Although the R1 upgrade is not connected with my work here at SMc Audio, some have asked how it compares to my upgrades. Direct comparisons are difficult, but I would say that it delivers performance roughly comparable to my Revision B.

Upgrades are available for the R1 to Revision A or beyond.