

APRIL 2004

SOUNDSTRING CABLE TECHNOLOGIES & MOON AUDIO

A COMPARISON BETWEEN TWO CABLE SYSTEMS

Reviewer: Phil Gold

Source: Meridian G08 CD player, Denon DVD-5900 universal player

Integrated amplifier: Perreux Radiance R200i

Speakers: Wilson Benesch ACT1 Reference

Cables: Cardas Golden Cross

Power Conditioning: Chang Lightspeed powerline filter

Headphones: AKG K1000

Room size: 24' w x 12' d x 8' h [sloping ceiling] in long-wall orientation.

Review Component Retail: under \$400 for any given Moon Audio cable; \$430 - \$819 for Soundstring equivalents

These two complete sets of cables have been in my system for close to six months now - plenty of time to audition them with a variety of music. As you might expect, I prefer the more expensive set. But I also found that a set from either manufacturer sounds better than any mix of the two. To my surprise, the single-ended Moon Audio Silver Dragon interconnect outperforms the balanced Silver Dragons while the reverse is true of the Soundstring cables. Go figure.

The Silver Dragon interconnects are very flexible and fitted with the excellent new Eichmann Silver Bullet connectors. They are covered in a protective red Techflex braiding, firm to the touch and sport quite a thin diameter. There are no directional markings. An 8-wire braided geometry is used, each wire being solid 99.99% pure 26-gauge silver with Teflon insulation. A 3-foot pair will set you back \$270. Longer lengths are available at \$60 for each additional 1.5 feet. You can save money by buying the single-ended cables with Cardas GRMO connectors (\$220/3'), or you can purchase the Neutrik X-HD terminated balanced version for \$240.

Moon Audio supplied me with two types of power cables: Blue Dragon and Green Dragon. The Blue Dragon retails for \$100/4', \$20 for each additional foot and is optimized for amplifiers and receivers. Three 12-gauge 19/25 stranded silver-plated copper conductors make up positive, negative and ground runs each. These are shielded with a silver-plated copper braid while all conductor casings are made of Teflon. The male outlet is a Marincio 8215 15A/125V hospital-grade black plug, the female connector a Wattgate WG-320-Blk. The designer aims for dead-quiet and complete rejection of all EMI and RFI interference. The Green Dragon is the same price and has similar specifications but is optimized for front-end components and uses six 18-gauge 19/30 stranded silver-plated copper conductors, two for each of the positive, negative and ground legs. Each grouping of two is individually shielded with a silver-plated copper braid. Though relatively thin, these power cables are stiff particularly in rotation about their axis. This can make it difficult to plug them into your equipment without a struggle. By contrast, my Cardas power cables are a lot more supple and the Soundstring power cables are more flexible still though considerably thicker.

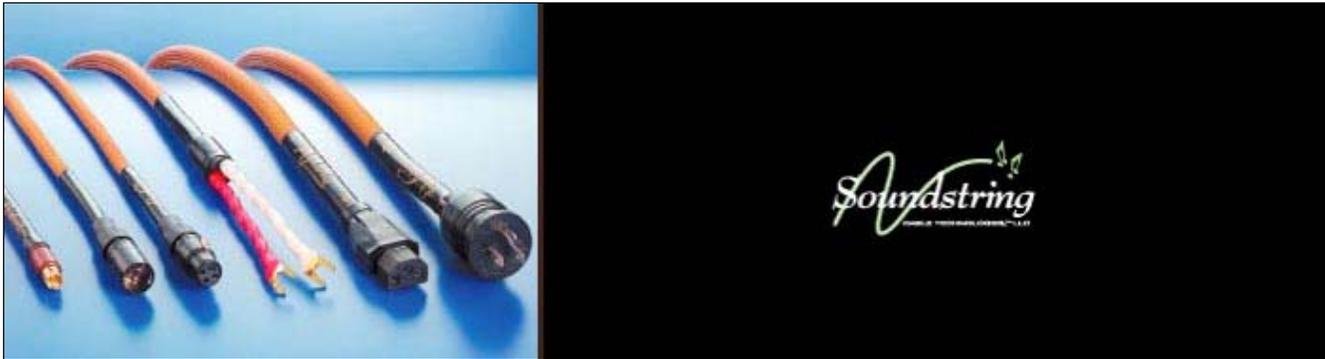
Drew Baird of Moon Audio sent me up an 8' pair of bi-wire Silver Dragons (\$380 for 4', with \$160 extra for each additional 2 feet). Single-wire versions are \$200 for 4 feet, with an extra \$80 per each additional 2'. My shotgun set

was terminated with Cardas CCMS 9R milled spades using billet copper and rhodium-over-silver plate, with two separate cables per speaker connecting to a single set of spades at the amplifier end.



All Soundstring cables are finished in a soft harvest-gold cloth jacket and, as the name indicates, remarkably flexible - even the 8' bi-wires. In my tight setup, this was an enormous advantage and must have also improved the mechanical isolation of the components. These cables are all thicker than their Moon Audio equivalents but not thick by the standards of a number of high-end cables.

Soundstring Cable Technologies is the collaborative effort between Jed Hacker's ideas and the design and manufacturing experience of two industry veterans, *Superior Insulated Wire Corporation* and the "Lion Cords division" of *Astrophonic Corporation of America*. The patented Tricormaxial power cords and speaker cables, patent-pending Starfire Octaphase and Starfire Quadraphase interconnects and their patented ultra low-mass RCA plug show that this is no me-too company. The conductors in the speaker cables and power cords are made of 99.99% pure oxygen-free copper (not 99.9999% as quoted in some reviews) in a finely stranded rope-lay pattern of a composite 10.5 gauge per leg. The interconnect cables use 99.99% pure oxygen-free finely stranded copper conductors in a 7-strand configuration of composite 22 gauge. All products carry a full lifetime guarantee against manufacturing defects and are "made in the USA".



The Soundstring power cords use one-piece molded terminations. The *tricormaxial progressive geometric multi-gauge* design of the power cords and speaker cables is claimed to allow voltage, signals and frequencies to find the path of least resistance. The technical details of the **patent** make interesting reading but what matters to me is how it sounds so I will move right along. The power cords are available in standard lengths of 3', 6' and 9', with respective pricing of \$530, \$546 and \$562 as of the first of this year.

I received 3-foot lengths of the balanced Octaphase 95%-shielded interconnects terminated with Neutrik XLR connectors (\$488/pair) and 3-foot lengths of the single-ended Octaphase interconnects with Soundstring's patented gold-plated beryllium/copper low-mass RCA that sports a finely cured wood housing to reduce outside interference (\$430/pair). The Soundstring speaker wires were supplied in prototype bi-wire form, with two entirely separate cables for each speaker wrapped in a common black woven jacket. While cosmetically different from current production, they were identical in internal construction and performance. Like the power cables, their progressive geometric multi-gauge tricormaxial design is engineered for crisp clean signal transfer. A 6-foot single wire pair currently sells for \$678, its bi-wire version for \$819.





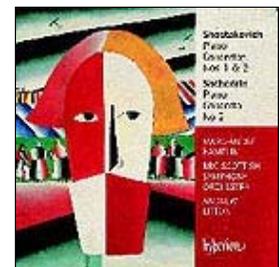
The Soundstring cables did not need much running in while the Moon Audio cables were happier after approximately 100 hours of passing signal. The Soundstring power cables sounded *louder* than my reference Cardas or the Moon Audio power cables. Louder isn't necessarily better but it does complicate comparisons. It could also be an important factor if you're "running out of watts". I tried many different combinations of cables in my system but could not get a really good sound out of *any* mixing of Soundstring and Moon Audio wires. I'm not sure why this would be but have heard advice to this effect before. It may simply be that the designers have developed their various cables as a *system* and tested them with each other. I doubt that Moon Audio's designer Drew Baird spent much time voicing and optimizing his power cords to work well with the Soundstring interconnects and speaker cables - or vice versa.

In this report, I'll concentrate on the sounds from a homogenous set of cables while letting you know upfront that in order of importance and observed differences, I would place the respective power cables first, the speaker cables second, the interconnects last.



The Moon Audio set is remarkably inexpensive for its specification. Silver doesn't come cheap. Neither do the high-quality connectors used. Selling direct to the public enables Drew to keep the prices down. I heard a straightforward sound just a little light in overall balance but with great clarity and a wide dynamic range. I detected a slight emphasis in the treble evidenced by sibilance in the voice of Jennifer Warnes on "First We Take Manhattan" from *Famous Blue Raincoat* [Attic Records ACDM 1227]. My notes here record a considerably better sound from the single-ended interconnects especially in terms of transients and strength in the bass. This disc was exciting and immediate but I did not hear a great deal of front-to-back depth and the level of background noise was higher than from the Soundstrings.

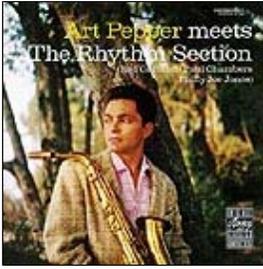
On Shostakovich's *Piano Concerto No 1* played by Marc-Andre Hamelin and the BBC Scottish Symphony Orchestra under Andrew Litton [Hyperion CDA67425], the sound was quite forward and robust but exhibited little warmth. The trumpet solos came through brilliantly spotlighted but at times a touch strident. "Ansa Djallo" on Lilison Di Kinara's *Bambatulu* [MUS2-1119] sounded clean and intimate with considerable power to the voice in particular, but I wasn't drawn into the music.



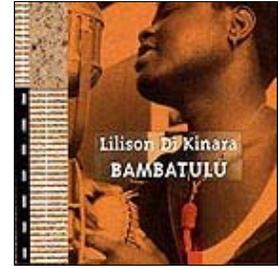
Haydn's *The Seven Last Words of Our Savior on the Cross* played by the Borodin Quartet [Teldec 4509-92373-2] can easily sound too forward and aggressive but here the Moon Audio cords performed well. The recording was still a bit too brightly lit but the retrieval of detail was strong and the climaxes were accommodated without strain.



"You'd be so nice to come home to" from *Art Pepper meets The Rhythm Section* [Contemporary OJCCD-338] told a similar story - a good clear portrayal of high energy material especially from the percussion. At these prices, I was surprised by how well these cables performed. They were not put to shame by my reference Cardas Golden Cross setup. I still prefer the Golden Cross which



are a little warmer and stronger in the bass if a little closed in at the upper frequencies. The Cardas portray a deeper soundstage and instruments have a fuller more rounded tonality. The Cardas wires are also flexible and slim, with high quality connectors and an attractive color. And their finish exudes quality. No music fazes them and they are untiring for lengthy listening sessions. And yet - they could be more detailed, more dynamic and most of all, more open in the treble.



The Golden Cross cables have been around for a long time now and George Cardas has since introduced the range-topping Golden Reference lineup that I have not yet auditioned. That said and in my system, these Soundstring cables held a definite edge over the Golden Cross. While no less detailed compared to the Moon Audio or the Cardas, there was an irresistible sense of ease and flow to the music as well as lightening reflexes and a blackness between the notes that raised the dynamic range. This was particularly evident in the Shostakovich where the tremendous piano playing came through full, clear, resonant and with a thunderous attack. The burnished sound of the trumpet floated pure and sweet.

On "Ansa Djallo", I felt I was right in the room with Lilison, the deep plucked bass notes sounding considerably clearer than with either of the competitors. Jennifer Warnes lost that nasal edge and seemed almost to speak her words rather than sing them. The extra detail, depth and ambiance of the Sound strings brought me closer to the performance. The Haydn Quartet was much more spacious but no less exciting than with the other cables. I found this rendering altogether more involving and the climaxes more thrilling. Art Pepper was more focused this time and I had a greater sense of the space of the recording. The music had an extra swing to it because of the greater extension in the bass, and the percussion was more realistic and less fatiguing.



The more music I played, the firmer my convictions became: The Moon Audio cables represent very good value for the money, coming close to the performance of the highly regarded Golden Cross for less than half the cost. If your budget won't run any higher, I'd give them a strong recommendation. You have 30 days to return them if they don't meet your expectations.

The Soundstrings are fine performers *regardless* of cost yet they are priced very reasonably by high-end standards. We have all heard the arguments about whether there are any real differences between cables. Some will question my sanity just for recommending cables in the price range of the Moon Audio product. Now I am recommending you to start saving for the much more expensive Soundstrings. Just wait until you can afford the full set, then try them out in your own home. I'll be surprised if you're not impressed.

Interview with Len Miller of Soundstring Cables



Your cables show remarkable strengths for the money, Len. Tell me about the philosophy which your team brings to the table.

When you are manufacturing high-end audio, power and interconnect cables, the design of the cables is the number 1 factor for achieving the high levels of cable performance we all strive for. Our



research and experience has shown that simple uncomplicated designs utilizing sound principles of geometry and Physics work best. The idea is *not* to create a complicated, expensive and hard-to-manufacture cable. It is to create and manufacture cables that maximize their physical properties and designs better than any of the other products on the market.



I am curious why you are using PVC insulation rather than the Teflon that other high-end manufacturers prefer.



We chose to use PVC as our insulators because it is cost effective, has very good electrical values, is flexible, easy to work and available in various temperature ratings to suit various applications.



I see. I am also wondering why you use 4-nines copper and not 6-nines or higher.



In my 38 years of experience manufacturing all types of wires and cables, I have found that the performance of cables using 99.9999% pure O.F. copper compared to 99.99% pure O.F. copper is extremely marginal at best. In addition, the cost differential between them is quite substantial and really cannot be justified. The geometry of the wire is far more important than the choice of materials. We are able to bring these cables to market at very reasonable prices by using PVC and 4-nines copper without compromising audio quality.



My Cardas Golden Cross cables also use a multiple gauge design. How do your cables differ from the Golden Cross?



There have been a few companies that have designed and utilized a "multi-gauged" construction such as the Cardas Golden Cross you have, Phil. However, the design of these other multi-gauged constructions fails to achieve the results we do with our patented "Progressive Geometric Gauge" design. With the pure copper litz wire construction used on your house cable, each of the 752 individually insulated multi-gauged conductors is still bundled together into a composite 5.5 gauge overall. With this design, high frequencies are severely attenuated, the resistance is higher and the skin effect not reduced nearly as much as with our own design. The capacitance of our cables is about one-third that of the Golden Cross and therefore achieves lower resistance. Thus, the components in your audio systems do not have to work as hard. Our cables become user-friendly from the wall plugs to the amplifiers, and from the amplifiers to the speakers.

The design of our progressive geometric multi-gauge cables forms a triangulation that accomplishes a unique inherent power correction factor. A total of 336 strands of O.F. copper comprise the finished 10.5 gauge at the points of termination. Unlike your house cable design, we have three individual gauges that comprise the total of 336 strands. Each gauge is individually insulated from the others thus allowing the frequencies, signals and voltage flow to seek the path of least resistance (as in the 2-lane/6-lane highway example in our White Paper). There is much less resistance and significantly lower capacitance, resulting in all components running cooler. Their performance becomes more accurate as the cables become a perfectly neutral arbiter between amplifier and speakers. The results are the same regardless of whether you have a solid-state or tube amplifier. Your listening experience becomes more cohesive from top to bottom. There is no time smear, no filtration, no colorization. Everything is *neutral*.



Unlike many other companies, you have just one range of wires - no premium or budget lines. Do you have any other products in the pipeline?



We are in a unique position, Phil. Soundstring is a fully integrated operation that controls its own destiny. We do all our own research, design and development of new products. We manufacture, package and market our cables in-house. We cover them with our trademark harvest-gold multi-filament woven outer jacket, cut them to standard or special order lengths, terminate, mold (power cords), coil and package in-house. This gives us a distinct advantage over controlling production,

quality, service, reliability and pricing. Less than four years ago, we had a vision of bringing a new generation of high performance audio cables to market. Today, we have multiple patents and patents pending as we bring those ideas from concept to reality. We have been favorably reviewed by many well-known web sites and audiophile magazines, now including 6moons. We were recently voted as one of the most wanted components of 2004. Our cables and power cords are becoming recognized and in demand both nationally and internationally.

Naturally, this is all very pleasing and emotionally rewarding for our team at Soundstring. However, it is only the beginning. We are constantly looking for ways to expand our existing product line as well as creating and developing ideas for new high performance products. To this end and in answer to your question, our current plans for 2004-2005 include the following:

- Introduction of a new patent-pending low amperage power cord expressly designed for digital devices, preamps and phono stages. This will narrow the performance differential between analog and digital playback equipment. It is very effective when used with CD and DVD players and also improves the quality of a TV picture. Prototypes of this cord were recently tested and the initial results are beyond our highest expectations.
- Introduction of our *Starfire Series Octaphase Pro95* cables terminated with 14-carat gold-plated guitar plugs finished in our finely cured wood housings for reduced interference. This cable is designed for use with electrified guitars and other types of electrified musical instruments. It has already been tested and endorsed by Duane Eddy, the "Twangy Guitar" Rock'n Roll and Country Music legend of the 1950s and 60s.
- Introduction of our *Starfire Series Tricormaxial Speaker Cable* on bulk reels, with a UL CL-2 or CL-2R type jacket suitable for all in-wall wiring applications.
- Introduction of our *Starfire Series Tricormaxial Speaker Cable* with a special jacket covering suitable for in-ground or direct burial applications, recommended for the outdoor wiring of speaker systems located around pool areas, patios, back yards, country clubs, tennis clubs, hotels, motels etc.
- Introduction of our *Starfire Series Tricormaxial Power Supply Cable* (the same cable as used for our power cords) on bulk reels, with UL approvals for electrical as well as CL-2 and CL-2R in-wall applications. In its bulk reel form, this cable can be used for creating dedicated circuits wired directly from your circuit breaker box, through walls and ceilings, and into room(s) where audio systems and home entertainment systems are installed. The cable would be connected directly into individual wall outlet boxes into which you plug your components. This establishes "dedicated circuits" isolated from all other household or commercial building wiring. These circuits will not be adversely affected by the use of electrical appliances, power tools, computers or other electrical devices that can create interference and potentially compromise the performance of your systems.
- Introduction of the *Soundstring Cable Starfire Pro Power Strip*. Internally wired exclusively with our Starfire Series Tricormaxial Power Supply Cable and connected to our Tricormaxial 6' power cord, rated for 120 Volts and 20 Amps. This will provide peak performance and the finest possible current surge protection for your valued components.

That's an ambitious plan. Good speaking with you, Len.



Interview with Drew Baird of Moon Audio



How did you get your start in this business, Drew?

I have been into DIY for 15 years or so. I started out in college in Electrical Engineering and wanted to be an acoustical engineer. After falling asleep in several of the classes due to extreme boredom, I



switched to Structural Engineering. I have been kicking myself ever since for not sticking it out. My passion for anything audio or electronic has grown stronger and stronger over the years. While in college, I started building speakers - funds were low at the time and the need for good sounding speakers was very important to me. I knew I could do it for less. I thought at one time of getting into the retail speaker business but as any DIY speaker builder knows, designing a set of speakers can be a life-long tweaking process. I decided to leave it to the big boys. I then got into tweaking audio equipment. Replacing a cap here, changing a wire material there and so on. I'm always looking to improve the equipment.

It was only natural that the next place to start tweaking was with the cables in my system. I tried all the retail versions at the time and *man* can some of those cables cost you a pretty dime. Once again I knew I could do it cheaper. Just for kicks, I decided one day to throw some of the cables I built onto eBay, just to see what would happen. They sold in a day! And so it began.



I'm interested in your choice of conductor materials.



I am a huge fan of silver and the sound it produces. All the positives outweigh the negatives in my opinion. To my ears, the detail, speed and resolution that silver can produce are first-rate. In some systems, I prefer copper over silver but the majority of the time I like silver better. So I chose to produce an almost all-silver line of cables. I'm sure that down the line there will be more copper products but for now, my focus is on silver. Yes, silver can be expensive - that is why I have decided to just sell direct. This knocks off the huge markups that retailers need to put on cables in order to survive as a business.



You offer two alternative terminations on your unbalanced interconnect.



Yes, I've tried just about every interconnect connector possible and have settled on the Cardas and the Eichmann as my favorite all-around performers. Once again, silver plating or solid silver had a play in these choices. I could go into all kinds of technical reasons as to what makes a good connector but with so many opinions on the subject, all I would drum up is another debate. I also really like the new Nextgen connectors by WBT, especially the silver ones, but they are a bit pricey. I'm working on a reference cable that may incorporate this new connector.



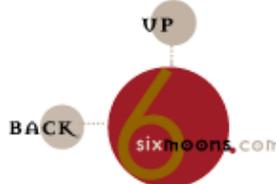
What about the all-important speaker connection?



Phil, as far as speakers go, I am a spade guy. Nothing offers a better contact area than a spade. And a copper core is a must - stay away from brass here. I just got a set of the Eichmann bananas. I have not tried them yet but I don't see them giving a good contact. We shall see. Cardas has just informed me of a solid silver spade they will now be making. This will most likely become my favorite. The WBT silver and copper spades are also very good but a bit fragile. Too much torque on your binding post and the fork will get compressed out of shape. I swap out cables too many times for this connector to work for me. The CCMS spades by Cardas are built like a tank. Your binding post will break before they will.



Interesting. Thank you for speaking to us, Drew.



Phil Gold

Moon Audio [website](#)
SoundString [website](#)

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