Doug Schroeder finds out how much technology

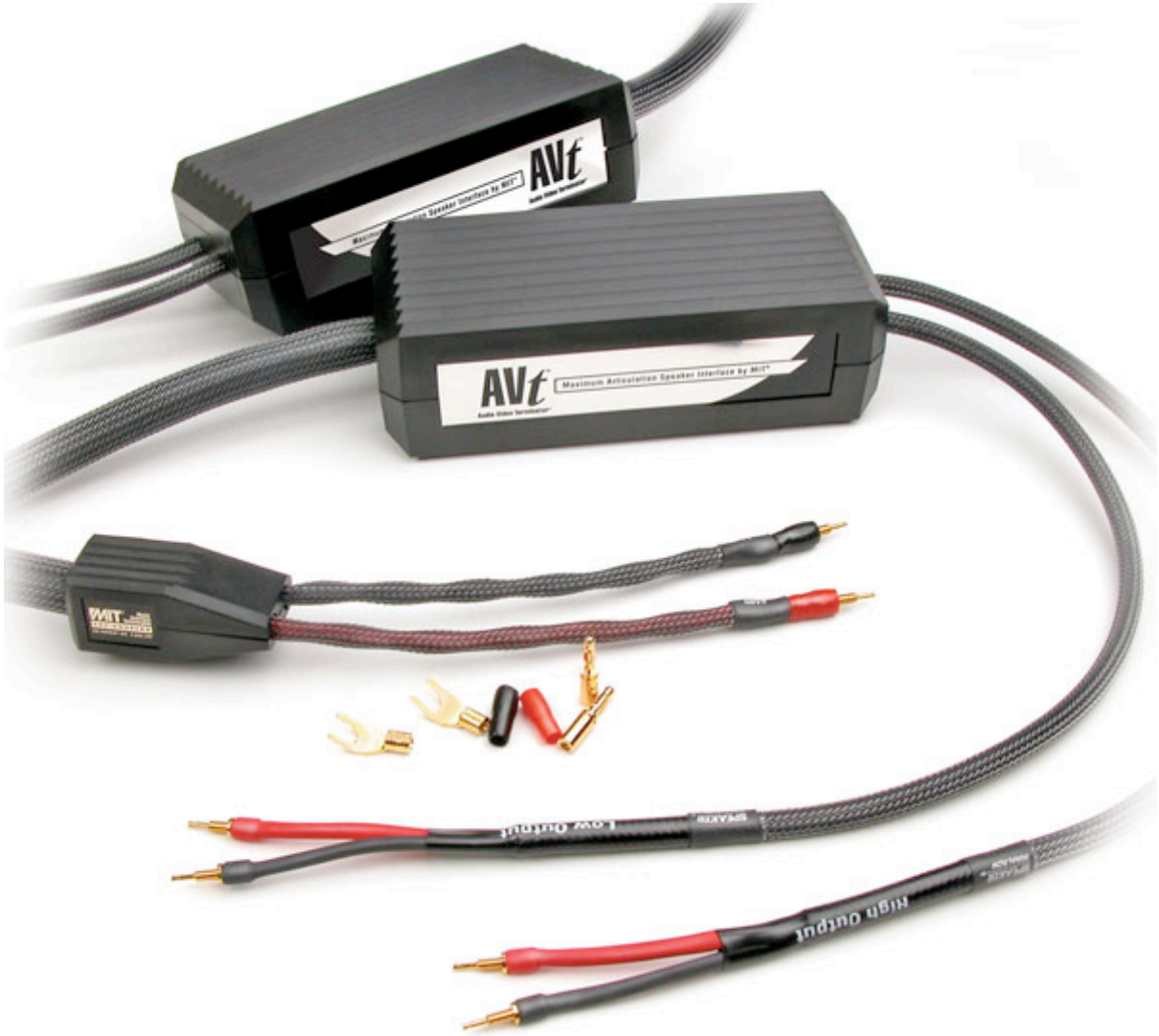
Music Interface Technologies has put in their

$1,999 AVt MA Speaker Cables,

$799 AVt MA Interconnects

and the $499 Z-Stabilizer

May, 2007



MSRP:

AVt MA Interconnects 1m $799

AVt MA Speaker Cable 2.5m/8ft $1999

Z-Stabilizer III $499 and up

Manufacturer:

MIT Cables, Inc.
4130 Citrus Ave. Suite 9
Rocklin, CA 95677

Tel. 916-625-0129

URL: http://www.mitcables.com
Email: customerservice@mitcables.com

Cables have to be the most underappreciated component. I chose the word “component” carefully, since I fully intend to convey that cables *are* a component in today’s high-end audio. Proof of this is found in the exquisite lengths (pun indented) cable manufacturers are going to producing conduits which will convey all the proper information. A case in point is Music Interface Technologies, or MIT, and their series of cables utilizing arrays of built-in passive electronics.

This is the kind of thing that sparks wars between audiophiles; electronic devices in cables? Heresy! Sacrilege! *Interesting!* Indeed, these are very interesting devices since on many levels they are superior to many traditional cables sans electronics. How can that be? Let's find out!

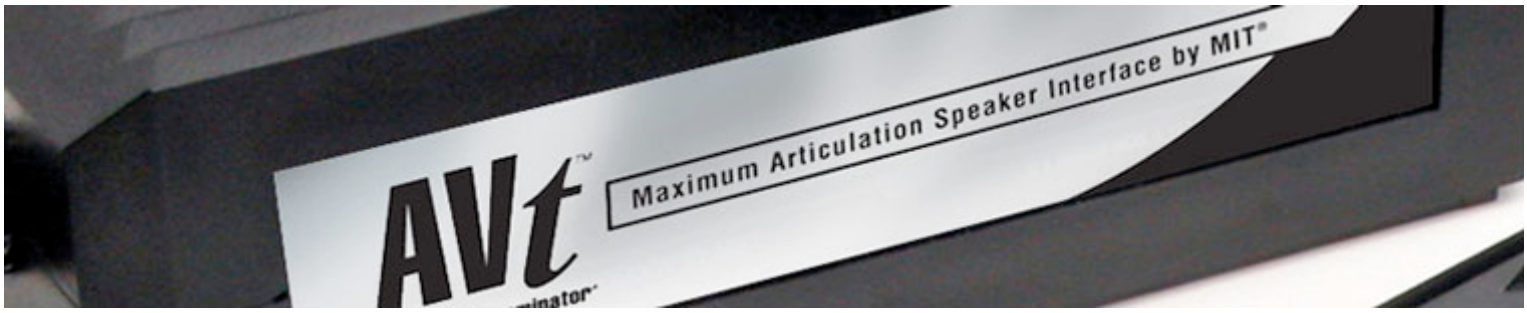
Bruce Brisson, the founder of MIT, started out designing cables in the 1970's and after licensing several of his designs to Monster Cable, he went on to found MIT in 1984. The low-pass filter network employed in MIT cables was created in 1989, and the *Terminator* was born. The purpose of the *Terminator* was to "control the efficiency of the network throughout the entire audio range, allowing the entire music signal to pass throughout the system with minimal distortion." Bruce certainly knows something about cable design, since he's worked with some notable names including Spectral, Jeff Roland, Wilson and Marin Logan.

The build quality of the cables is first rate, with the main run of cable ensconced in a silvery-grey mesh outer jacket over the thick dialectic. The positive and negative leads are colored red and blue for easy identification, the amplifier leads being approximately 9" long, and 18" on the speaker end. One of my favorite amplification setups is a pair of bridged Pathos Classic One MkII stereo tube hybrid integrated's, which utilize only the outermost-positioned posts in that mode. The MIT cables reached adequately but were stiff and must be worked with to position. To install them in a system where the amp or receiver is in a cabinet, or where access is limited could be challenging. However, my intuition is that most persons involved with MIT's would likely be utilizing dedicated, two-channel rigs and power amps which would require open access.

Regarding burn-in, MIT warns the owner to avoid any kind of active burn-in device, since it may harm the passive component array in the boxes. Their adage regarding burn-in time is the "2/2 Rule", meaning that one can expect 75% of performance in two days of burn-in and 100% in two weeks. The owner is advised not to utilize any active burn-in device on the patented "Multipole" cables as it may harm the electronics.

The MIT's certainly look much more like components than traditional cabling. They have unmistakable rectangular boxes on the speaker end with bold print declaring their name. These are not little, flexible cables, but hefty and quite stiff. Possibly the greatest issue I had with the cables was that they were challenging to move and connect to components. Intentional or not, there was a solution to the dilemma, and it came from an unlikely source: the "iCon" connectors included with the cables.

MIT has cleverly devised their own system of interchangeable terminations, called "iCons", threaded posts which are fitted with any combination of bananas, spades or pins. This assures accommodation for virtually any component. The transition from spade to banana etc. is quick and effective. All iCons are gold plated. Though the iCons are removable, the cables are considered pre-terminated. The beauty of the iCon system came into play since the speaker and amp leads were so stiff that they had to be worked into position.



When connecting cable, one may have to snake it through certain AV furniture, or around a corner, and the optimum position for the terminator box may not be possible. In such circumstances, it may be quite difficult to twist the lead of the positive or negative cable to accommodate the terminal of the amp or speaker. In such cases, one can do the unthinkable and simply loosen the spade slightly to rotate it to fit. Yes, I know that doesn't make for the ultimate connection (and that a soldered connection is superior, i.e. spades with physically fixed connections), but in the real world most people aren't going to rearrange their furniture to accommodate a speaker cable, especially when among that particular furniture there happens to be their *components* which need to be located precisely! The ability to turn a spade just a hair is tremendously helpful when trying to accommodate the inflexibility of the cable.

One should not be put off by the minor issues due to cable stiffness, since these MIT's are quite the exceptional performers. Once a cable is in place, stiffness or flexibility means nothing – sound means everything. Indeed, it seems MIT has designed their cables physically to convey sound properly, and they excel at this. The modules look very authoritative, like the system is declaring the message, "We're not screwing around with audio here - even the cables have electronics!"

People that are out to impress others would love these just because they look big and bad. But, of course, no audiophile worth his salt should be in it simply to impress others; *it's all about the music.* I feel it's best to acknowledge the reality of ego in audio purchases, not that it drives purchases but certainly contributes to them. I admit it, I love the imposingly big look of these cables.

Skeptics of MIT's designs may conclude that customers are being sold a wire with an empty box, or a "psychoacoustic" advantage. MIT strives to put that thinking to rest with their literature printed and posted for all to see; MIT is working to perfect the science behind cable structure. They claim not to be just slapping terminations on raw wire, but are testing, charting, working with the electronics to improve their designs.

The most notable instance of this is the “Multipole Network Technology” (the box), which, according to MIT, contains multiple passive components, “…wired in parallel,” passively correcting the shortcomings of traditional cable designs. The idea is that a cable without the “Multipole” technology can articulate ideally only in a limited range of audible frequencies. The “Multipole” technology adds additional poles, or regions of maximum articulation, to extend the maximum articulation of the cables, hence the “MA” designation.

Whatever those electronics inside the boxes are doing, the MIT cabling faithfully transmitted the detail, depth, and three-dimensionality of the sound. Prior to becoming a Dagogo reviewer, I conducted A/B comparisons with several well-known cables and settled on the MIT’s, specifically the Shotgun S3’s. Part of my motives for reviewing the AVt MA’s was to see how much of a difference in sound the higher end Multipole cables made. In a nutshell, they made a respectable difference, so much so that after having the Shotgun S3’s in my system for the better part of a year, I could not return to them after switching to the AVt MA’s. The level of finesse and clarity was distinct to the degree that I could easily hear the improvement.

And why wouldn’t I hear the difference, since there are more of those passive electronic devices in the MA cables? MIT has a clever thing going by displaying the number of the Multipole technology for each cable. Want good results? Look for a cable with “8X Multipole” technology. Better yet, find one with “16x” and you’re improving. The MA interconnects I received have 16X Multipole power and the speaker cables have 26X – now we’re rockin’! The top of the line MA Oracle speaker cables have 71X and the Oracle IC’s have 68X.

Speaking of the IC’s, *these* are the real attraction in the system with their additional “selectable impedance” switch. Beyond having the Multipole technology, these incorporate a function to allow switching the impedance going into the destination component. There are often vastly differing input impedances between preamps, amps and integrated’s and the source. “Switchability” in the interconnect allows for optimizing impedance of the signal entering the destination component. The thinking is that much of the mixing and matching of components between brands and impedances is a hindrance to achieving the best sound. Selectable impedance minimizes these differences.

Does it work? Yes, and remarkably so! The three settings for impedance on the single-ended IC’s I used (there are two sets of switches on the balanced IC’s) range from LOW (5-50KΩ), MID (40-100kΩ) and HIGH (90kΩ and up). I found that the cables performed consistently as advertised. No matter which pre/amp/integrated I used them on, the ultimate performance took place when the interconnect was set to the destination component’s input impedance. I was able to change the setting “on the fly” while listening without any obstruction to the music. While changing the settings at the equipment rack, it sounded so subtle that I wondered if the change was “worth it”, but when I sat back down in my listening chair, it was obvious a worthwhile change had been effected. If the “wrong” impedance was set, the sound became muddied (that’s a harsh word to use, and does not at all suggest the speaker cables were producing poor sound. It is simply to clarify the imperative that the IC’s be set on the proper setting for premium performance). When the setting was correct, the entire event was focused sonically, similar to bringing into focus the field of vision with a camera lens. Since I was working with only one set of the MA interconnects, for the most dramatic improvement I kept them on the source, a Rega Saturn. If the utilization of a second MA interconnect would impact the system as well as this, *these ICs alone would become a formidable component.*

So far I had only referred to the manuals of the separate's and integrated's and then set the IC's impedance accordingly. My sleuth side wanted to do a "placebo" test, so I hooked up a Melody HiFi P1688 preamplifier and its attendant S88 monoblocks without reference to the input impedance listed in the manuals.

I wondered if the distinction between the settings was clear enough to pick the correct setting for the preamp *before* looking at the manual. If the IC was doing its job, I should be able to clearly determine the input impedance of the preamp. After only a few minutes listening (the differences were so clear that more listening was not necessary), I settled on the HIGH position. In my notes I suggested that similar to my Pathos tube hybrid integrated's, the Melody p1688 preamplifier must also be somewhere around 100-110k ohms of input impedance. I noted that the preamp was livelier and clean-sounding at that setting. To my shock I discovered that I was wrong! The input impedance was 220k ohms! No wonder the HIGH setting had absolutely nailed the sound! It was a very convincing experience in which the MA interconnects impressed.

I also was able to switch between the LOW and MID settings in determining the optimum impedance setting for the Dussun V8i integrated. Its input impedance is 47k ohms, which falls right between the LOW and MID settings on the MA interconnects. Listening to John Tesh's *Monterey Nights*, track 1, "The Key of Love" on the lowest setting sounded full, balanced. On the MID setting, I heard much more body and delicacy to the lead guitar, more zing to the metallic clicking sounds in the background and it had chased away a trace of stiffness in the presentation – in a word, robust. The HIGH setting yielded a twangy, looser midrange, less tight low-end – all in all, a more jumbled presentation. So, in this case, the MID setting was magic. In a way, the differing effects made the experience like electronic tube rolling.

These illustrations point out the potency of the impedance selectable IC system. Dialing-in to the proper setting was easy and yielded splendid results. As I kept using them, I was able to detect by ear when I had switched gear and forgotten to adjust the IC's!

What kind of improvement are we talking about when using MIT cabling and the Multipole technology? My initial notes upon listening included the following phrases, "Tremendous energy! Snap! A hair edgy, totally dynamic! Powerful! Grabs you!" Since the approximately 200 hours extended burn-in time, the treble had settled down nicely. I had just switched to the MA's after using the more low-key, laid-back Jena Labs Jazz speaker cables. They are superb for people who do not want a technical ultra-precise sound but a more romantic open sound, more like a Jazz club experience than a studio recording.

The MA AVt's are definitely a detail-oriented cabling. They conveyed prodigious amounts of detail, and did it in a way that was most addicting. This is their strongest point. You will miss very little of the performance if your system utilizes the MIT's.

The best way to describe what I perceived happening on *all*

frequencies with these cables is to suggest that the passive electronics were acting like a passive EQ. I remember first starting out in audio in the 1970's using equalizers to shape the sound. In a budget system, it was a most non-audiophile thing to do, however virtually everything in mid-fi solid-state had to have an EQ in a presumptuous effort to attain high-end sound.

About two months ago, I came across an old Sansui ZX-9000 receiver replete with built-in 7 band equalizer. I enjoyed grooming the sound once again, and I noticed the old effect of an increase in gain as I employed the EQ function. In a similar way, the MIT cables seemed to increase gain to the speakers. While I realize this is not electronically possible, it sounded like it. Unlike the old EQ's, however, the MA cabling did not veil or haze the sound. It did not add graininess or reduce the liquidity of the presentation. Rather, it seemed to propel the sound directly from the body of the instrument towards the listener. There was a definite strength, a force embodied in these cables that acted like gravity and irresistibly drew one toward them. (One day I was startled to find that my listening chair had actually moved 8 inches closer to the main speakers! But then I recalled that I had moved it when I vacuumed two days prior...)

THE Z

I was also supplied a Z-Stabilizer power conditioner, which proved to be another pleasing improvement over a pair of older Tice Audio Solo conditioners.

The Tice units are still considered respectable, but the smaller Z-Stabilizer at about the size of a Multipole box, with its detachable plug, two outlets and power indicator was cleaner sounding, bringing the noise floor even lower than that of the Tice. The detachable cord was welcomed, since it allowed one to have much more control of power cable selection than on corded conditioners. I had been using Jena Labs Bumblebee and Xindak FP-Gold power cords, and the Z-Stabilizer allowed me to rotate them between the wall to the source, and the source to the amplification. I much preferred the Xindak's coming from the wall

to source, and the Jena Lab Bumblebees from source to amplification.

When all of the attributes of the MA cabling and the Z-Stabilizer are brought to bear, they are a formidable multi-piece component. I fired up some Stanley Clark *At the Movies*, track #4, "Lucky Again," and reveled in the palpable strength and weighting of the piano keys as they were hammered. On track #6, "Theme from Boyz in the Hood," (which sounds like it would be wretchedly overwrought with synthesized bass, but in fact is quite lilting) every bass guitar note snapped to its vibration. Track #11, "Capitol/Naty's Theme," had a most unusual and difficult passage to reproduce well – snare drum with full orchestra accompaniment! I was able to distinctly hear each snare drum stroke and estimated the rate at about six per second. With most other cables I have used, the drums were blurred, smeared as opposed to discernable individual strokes. When the orchestra fills in behind the drums they can become lost completely, but the MA's were able to keep them distinctly on stage.

The designation "Maximum Articulation" is quite appropriate for the MA AVt cabling. It is obvious that MIT has not only done their homework, but also executed it in a bold style. One particular disc I couldn't get enough of with these cables was Euge Groove's *Just Feel's Right*. The bass beat on track #2, "Get 'Em Goin'" and # 6 "Straight Up" pounded like a sonic sledgehammer. The AVt's and Z-Stabilizer seemed to open the floodgates and let the reservoir of sound in my electronics be heard in a way that very few other cables have.

The MIT MA cabling brought Major Attitude to each performance with Mega Authority. If you have not heard them yet, let the MA stand for Must Audition.

Manufacturer's Comment:

To the Editor:

I must say that I admire Mr. Schroeder's clear minded approach to reviewing the AVT MA series speaker and audio component interfaces. Through his exhaustive process of tests, and by documenting his unique results, he has successfully proven and correctly defined MIT interfaces as serious audio components.

Of no less importance, was the way he proved the importance of the MIT impedance matching networks; when properly switched into the correct position, this feature will make a large and obvious improvement to tonality, soundstage and imaging. He did this, by first positioning the switches by ear, and later confirmed their locations to be correct; by investigating the equipment manufacturers' spec. sheets! Further, he thoughtfully noted the more subtle features of our designs, like the icon™ banana and spade connectors. Usually forgotten, these adjustable terminations make installations quick, and easy for a perfect fit.

Finally, he made remarkably precise and significant comments regarding his experience with MIT Multipole Maximum Articulation Interfaces. Within his review, Mr. Schroeder made reference to the Multipole numbering system as it correlates to what we actually hear. He really hit the nail on the head as he derived the significance of each additional pole of articulation, as you go up the product line with MIT Cables.

In his review of the AVT MA series speaker interface, Mr. Schroeder uses the term 'Low Pass Filter'. And while he uses this term correctly, we at MIT feel this term could use some clarification so we asked Bruce Brisson, the founder of MIT Cables and Director of Engineering, to help clarify this term for all of your readers. His clarification of this term as related to audio cables and audio systems in general is included in

a separate letter.

Well Done Mr. Schroeder!

Kent D. Loughlin
V.P MIT Cables

Steve Holt
National Sales Manager
MIT Cables

Understanding why Audio Systems function as Low Pass Filters

Bruce A. Brisson, Founder and Director of Engineering
MIT Cables

The Frequency Response

All audio components and all audio cables function as a low pass filter. Why? Because every audio component, as well as every audio cable, does in fact, roll-off the high frequencies. Hopefully this high frequency roll-off will be at some frequency much higher then 20 kHz. In a properly designed audio system the -3dB corner frequency is usually well above 20 kHz, and generally is found somewhere between 150 kHz and 1.5 MHz, well above the frequency range we hear.

The Articulation Response

Regarding cables, there is also a second response that exists well below the -3dB down corner frequency. This response is known as the articulation response of the cable being used to interface the individual components together as a system. Since this articulation response is what we actually hear, it should then be the response that we would be most concerned with. With this in mind, it now makes sense that the articulation response should become the criteria we design audio cables against.

Even when using a cable that meets the frequency response requirements of the system we can still have a problem. Using an arbitrary cable to interface an arbitrary source to an arbitrary load might deliver adequate frequency response, but may not deliver an optimal articulation response because most cables deliver only a single discriminated pole of articulation.

In many instances the reshaping created by the discrimination of this single pole of articulation looks similar to a band pass filters response, where we find the articulation of the audio lows and highs being arbitrarily discriminated against while the audio in the band pass region may or may not be discriminated against at all. And in some instances we find the audio contained within the middle region, or the band pass region, actually over articulating and injecting into the system such undesirables as sibilance, tonal shifts and ringing.

The Systems Criteria

A high-end audio system requires a wide bandwidth of frequencies encompassing a frequency range of approximately 10-octaves (20 Hz - 20 kHz). With this requirement in mind, one can now completely define the engineering criteria for the cable that will be used in interfacing the individual components together into an audio system. The audio cable used for interfacing a high-end 2-channel audio system together must be capable of providing a flat articulating response over at 'least' those same 10-octaves. MIT accomplishes this by adding additional poles of articulation to the cable, which serve to widen the useable articulation range of the interfacing cable.

These additional articulation poles are added via passive networks, and are housed within the unique network box found on all MIT products utilizing the MIT Multipole technology. The result is a properly engineered cable, which as we outlined above will function as a low pass filter, but unlike simple 'just cable' products, will also deliver a flat articulation response over a specified range of frequencies / octaves.

This specified range of frequencies that the system must articulate over will be defined by a given systems absolute -ABS- application requirements. This in turn, will ultimately define the -ABS- system criteria. For clarification purposes I offer the following examples; cinema, 2-channel audio and hearing aids all deal with reproducing audio and / or speech, but each has a different application requirement, therefore each will require different -ABS- systems criteria.

And carrying this one step further, in most cases the -ABS- systems criteria will be ultimately defined by the big question; how many dollars will it take in providing for the systems performance criteria? So, needless to say, getting more audio / music from each dollar spent becomes a large part in solving for the –ABS- system criteria.

Interestingly enough, this dichotomy surrounding dollars versus performance does not exist exclusively with just the audiophile**,** as I have run into the same requirements when it has involved the sound of multi million dollar movies, movie theaters, as well as constructing or upgrading high**-**end recording studios.

So, in the end one usually sits down and discusses with the audiophile / producer, or studio engineer the applicable performance requirements. This will usually serve to sufficiently define the -ABS- application requirements, and ends with finally fitting those criteria into an acceptable system / performance package that can be defined by some measurable performance parameters while meeting the customers budget.

With this in mind, MIT manufactures and sells audio cable that deliver 2 to 75 poles of articulation. The end result is an audio cable that, dollar for dollar, articulates over a wider range of frequencies than does "just cable".

Whatever your budget requirements are, all MIT products using the Multipole technology will deliver 'more' music for your listening pleasure, helping you reach your ultimate performance goal.

For those interested in continuing their reading regarding this subject, please go to our website at WWW.mitcables.com and download our MIT White Paper #102 dated 1999. Information regarding products using MIT Multipole technology, including price versus number of articulation poles can also be found on our website.

And finally, for advice on interfacing your system, please feel free to call our application specialists here at MIT at (916) 625-0129.

Also read Doug Schroeder's article on:

Dussun V8i
Solid-state Integrated amplifier

Jena Labs "Dussy" jumpers
with Dussun V8i

Jena Labs "Jazz" & "Java" cables
with "Bumblebee" & "Dussy"

Melody Hi Fi P1688 & S88
tube amplification system

Rega Saturn
CD player

Von Schweikert VR-4 SR MkII
loudspeaker system

Please send us your feedback: editor@dagogo.com