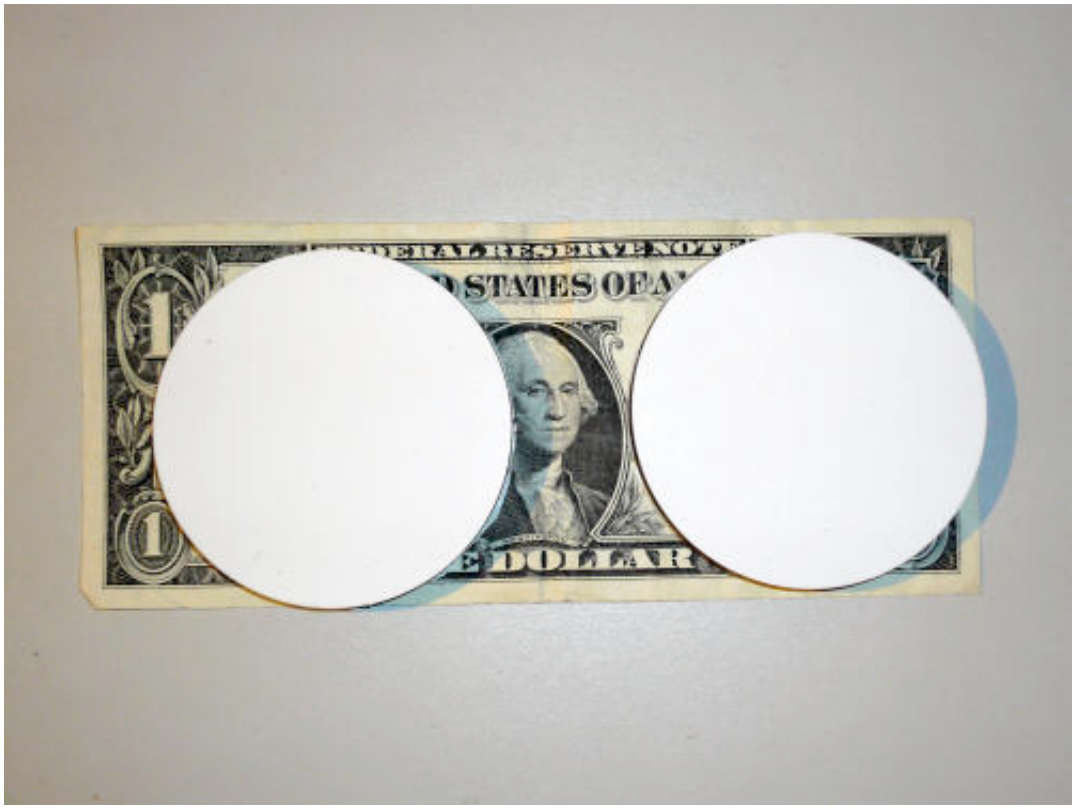
audio DISCOURSE

Unfinished Business: Marigo VTS Dots; CORE Designs Amp Stands; Mass Loading and Room Acoustics

by Marshall Nack



I - Update on the Marigo Room Tuning Dots

When it comes to the BIG issues, I'm game to try anything, even those with a remote chance of success. I was thinking about the improvements garnered from a set of Marigo VTS Dots on my large glass furniture—maybe they might do the trick elsewhere? So I went fishing.

"Hey Ron, got anything to help a bright room?" I asked, ever hopeful.

"Why don't you try some of the large VTS Room Tuning Dots," Ron Hedrich, the aerospace physicist designer behind Marigo Audio Labs, replied.

Thus, after an ensuing half-hour explanatory discussion, I acquired eight 60 mm VTS Room Tuning Dots and a hand-drawn map with personalized instructions for my room.

These 60 mm dots are gigantus—substantially bigger than the 40 and 30 mm ones already doing a good job decorating my glass breakfront. One or two of these smaller dots per surface are most effective in taming the high-pitched resonances of glass. (For the life of me, I can't understand why guys use glass to support their components. It has to be the worst possible material. Given the opportunity to do it again, you would not find glass furniture anywhere in my soundroom.) The Marigo guideline is the larger the surface, the bigger the dot and the more of them to apply. On a 2' x 4' piece of glass I'm using two 30 mm's in the corners. On a 4' x 6', I have two 40 mm. Regardless, there is always at least one Harmonix RFA-78i Room Tuning Disc in another corner. (This is nowhere near Marigo's recommended dosage; Ron would have you put at least one dot in each of the four corners of every surface, but I found this was overkill.)

The 60 mms are *muy fuerté* (and more costly: $279/set of eight). Ron's map advised me to position them slightly offset from the middle of the sidewalls. Nah… I didn't care for them over there. Next, I put them in the usual spot, the corners where the sidewalls meet the ceiling. Nah… still not what I wanted. With three of them in the ceiling corner, you do get a big boost in resolution, that's for sure. But as with other brands of dots, the results veered toward a thinner, lighter, tighter sound—nothing to write home about in that.

But mix up one 60 mm Marigo and two Harmonix RFA-78i Room Tuning Discs, and put that in the ceiling corner. This two-brand cocktail is very potent. Now you'll get almost the same resolution and clarity as the all-Marigo group, without the anorexia—it actually becomes fuller and weightier. (If it happens you don't need to add more weight or flesh, then opt for an all-Marigo set.)

Some tips: Marigo dots are difficult to remove once affixed. Do this: after peeling off the backing to expose the sticky side, apply a layer of Scotch Poster Tape. The double-sided Scotch Poster Tape is designed to be removable, yet is strong enough to hold the dots on the wall. Now you can move them around to your heart's delight. Second, try one on the door of your electric circuit breaker box. One dot in the center of the hinged, metal cover is surprisingly potent, even more than a mixed trio up in the ceiling corner. In fact, placing them anywhere near the power line or the outlet box will magnify the effect.

Revised Room Tuning Scheme

To arrive at these observations, I nearly went back to ground zero. I took out everything, or at least the stuff that was easy to remove—the dots and the Acoustic Systems Resonators. The large Sonex and Echo Buster panels and the Argent Room Lenses stayed put. In the resulting room, two things were noticeable: first, most of the bloom had disappeared; second, the soundstage had suffered a devastating blow. It lay like a corpse on a viewing platform, inert and lifeless.

Our brains receive a staggering amount of environmental stimuli. They are working below the level of awareness, constantly checking out and re-constituting a model of the milieu we happen to find ourselves in. To suggest this model, the sound room has to provide just enough ambient stimuli to assist the brain's attempt. You need your room to participate in a small way as a passive source. Otherwise, with all the sound trapped up front, it will seem artificial and dead. I'm not saying you need an active transducer behind or alongside you—this is what surround sound attempts and rarely succeeds at. This is another piece of the illusion you're trying to conjure.

Under normal circumstances it's not a problem—the room is live enough—but let's not forget we're talking about audiophiles who buy Sonex; normal isn't the operative mode. Back went the Resonators and, lo, the corpse revived. The Resonators are designed to do just this. (I do this experiment periodically, reviewing room-tuning tweaks, reassessing their effectiveness. Much as I'd like to get rid of the Resonators, because they're obviously an additive effect and, hence, false, they always prove their worth.)

With the Resonators in place and the ceiling corners still naked of dots, the sound bloomed, rich, full and complex. Dynamic range was explosive. However, the stage was a *schmear*, like cream cheese on a bagel. Imaging was non-existent. Now it was time to gradually put the dots back.

My revised room-tuning scheme is a careful balance between no government (lively, rich and chaotic) and dictatorship (overly controlled and repressive, or damped). Tweaks in general, including AC conditioners, hopefully clean up the sound by purging perceived artifacts and noise. We judge the sound to be better with them. (They also can inject add-ons, but let's save that for another time.) Just don't overdo it. The aim of the cleansing activity is to taking us back to a more pure signal. Now, please define "pure signal." Do you think the tweaks can really distinguish between extraneous stuff and the "real signal?" This is the first problem.

If you think about it, this cleaning operation has to involve some degree of simplification—after all, you're purging stuff, right? This is the second problem: the danger is, as the tweaks pile on, there is a commensurate loss of complexity and tonal richness. The sound becomes homogenized. All too often, we mistake simpler for more pure.

All ceiling corners now have a mixed trio resident. There are actually eight of these corners, given my room's irregularity. Five RFA-78i run down a centerline on the ceiling from the front to rear wall, and dots are on my glass breakfront, of course. Dots are also on the windows up front, even though a thick curtain covers them when I'm listening. (They still make a difference through the thick curtain.) That's it for dots.

Sidewalls have 2' x 4' x 3" thick Sonex panels at the first reflection points. More absorption panels are placed along the left side to balance or offset a pair of LP bookcases on the right. You should make every attempt at symmetry.

A silver Resonator is above each speaker, a gold on the front wall and a copper on the rear. Finally, a trio of Argent Room Lens sentries stands at attention beside the speakers, and never leaves their post.

II - Amp Stands from Core Designs

A Populist Approach to Good Tone

Imagine a quality audio furniture company whose prime concern is tone and second priority is affordability. How's that for an iconoclastic marketing position?

CORE Designs is a two-year-old venture based in California. I discovered them while browsing Audiogon. Compared with the plethora of internet stores whose products often appear to be the handiwork of audio-amateurs, CORE Designs offerings stand apart: their CLD amp stands looked well-thought-out, well-made, and solidly engineered. And, refreshingly, the company insists on maintaining popular pricing ($349/ea). This means their designs are built using affordable materials and manufacturing—don't expect cost-no-object assaults on Mt. Everest.

The stands come in huge boxes. One glance had me worried—I thought they shipped the wrong product. It's a meticulously packed box within a box surrounding four Styrofoam corners—to insure damage-free arrival. The actual dimensions are 24" x 20" x 5-3/4" high, including the standard spikes. The soundboard itself measures 20" x 16" 1-3/4".

This is not a kit; they come fully assembled—all you have to do is screw in the spike footers.

The CLD design is a copycat of the defunct, and widely lamented, Zoethecus amp stand. How close is it to the Zoethecus? The frame is a knockoff. The basic Zoethecus soundboard was MDF, but an upgraded version was available called the Z Slab made from resin particleboard laced with metal granules. The top of the Z Slab had an aluminum sheet covering to protect against RF. The Zoethecus amp stand with Z Slab last retailed around $800.

The CLD soundboard is three constrained layers: black walnut on the top and bottom and high-density MDF in the center. Five large holes are cut into the MDF layer. These are filled with a mix of black granite powder and iron shavings. Everything else is constructed of solid black walnut.

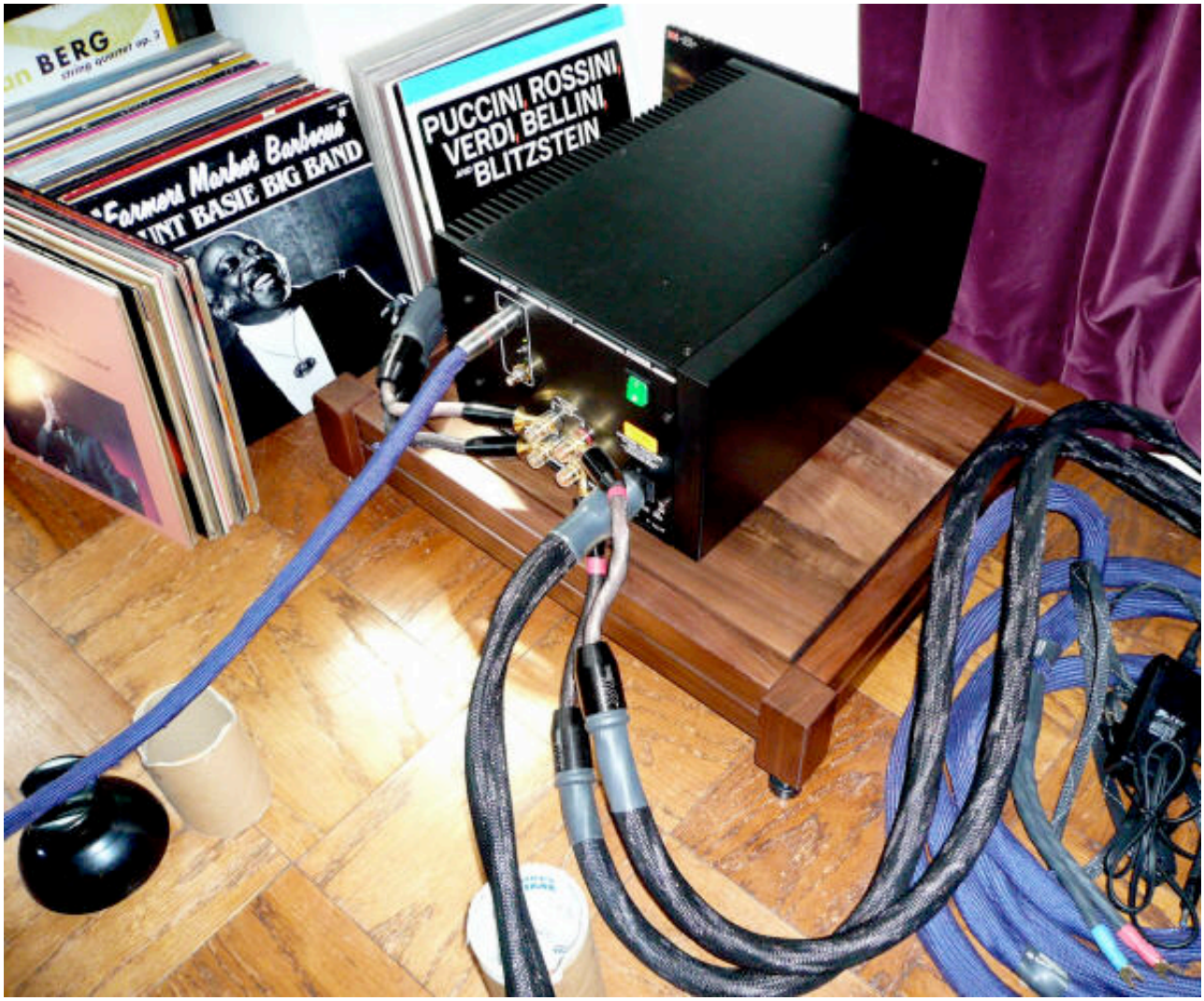
the Sound of Black Walnut

We all know the beneficial properties of maple wood, it being quite popular at the moment. Audiophiles have discovered that maple imparts a clear, sweet, sophisticated sound, especially affecting the treble frequencies, which it augments. It is also an aid to resonance control and definition. Alas, the flip side of its refinement is some thinning—maple is an astringent. Using a lot of maple can severely impact (reduce) low-end response. And some people consider its acoustic tuning a coloration.

In marked contrast to the herd stampeding after resolution, CORE Designs travels the road less taken, opting for tonality. Black walnut is their wood of choice. It has the definition and smooth frequency response of maple, but none of its demure refinement. It differs in that it augments the lower-midrange and actually adds flesh. You can expect darker and more saturated tone, along with big, full-bodied, solid images. It could get a little too thick, but more often than not, our systems need this. Just as with maple, the sound seems simpler and more pure, less riddled with mechanical artifacts and noise. And the acoustic tuning is there. It shows up as added sweetness. (By the way, there is a break-in period. After 24 hours, the CLD will sound darker and more damped, as the granite and iron particles have a chance to settle.)

the Effect of Wood

The fullness and body remind me of old-fashioned tubes, but without the tubey aura around images. The solidity and power remind me of the TAOC racks and footers I'm using. And why shouldn't they? The constrained layers of the TAOC shelf have a center comprised of cast iron particles—different fill, but similar idea. Sonically, the CLD and the TAOC have many qualities in common. CORE Designs says the walnut is responsible for the tonal saturation; the metal fill for the dynamics and power. This made me wonder: What would black walnut sound like on its own? Can it be deployed like maple to tune the system?



The Sonic Spice Rack

So off I went to a nearby Lumber Liquidators store to find out. When the salesman inquired of my needs, I was brave enough to tell the truth. Surprisingly, he didn't crack up and get sarcastic. Instead he came up with a hypothesis: is it possible each wood's sound is related to its hardness? Then he looked up the relative hardness of the wood samples in stock. The upshot is I walked out with a couple of samples of American walnut, hickory and maple (gratis, no less!). Walnut is soft, maple is hard, and hickory is harder still.

I put the walnut under the TARA PM2 passive conditioner I run for each mono-block, which had been resting on the carpet. I also tried it under the Ensemble Power Strip. Sure enough, the tone lowered; it sounded like the amp stand and did a similar bit with acoustic tuning and resolution. Then I swapped in the hickory, which was much like maple, but with more tuning and less definition.

Here's what I suggest you do. Go to your local wood flooring source and scarf up samples. Minimally, get a representative of the extremes—maple and walnut. You now have the beginnings of a very effective and cost efficient (or no-cost) sonic tuning system. When the sound is light, throw in some walnut. If too dark or midrangy, replace with maple. It's almost too easy, and sure beats buying that $1000 interconnect or a $300 set of footers just because you need more warmth and body. (Hint: it would be great if some manufacturer picked up on this and brought a Sonic Spice Rack to market. The kit could contain samples of woods in different sizes, pre-auditioned and labeled with their properties. Manufacturers are already retailing single woods, i.e., maple and myrtle. Why not add some walnut and package them together in a kit? And keep the price minimal.)

the Harmonix TU-888

The CLD replaced the Harmonix TU-888 "System Tuning Board" (MSRP $2400/each), an item I considered mandatory after the briefest audition. I didn't have to make a huge mental adjustment. Tonality is right there alongside the Harmonix TU-888, flesh is even more abundant, and it's certainly more neutral—there is clearly none of the signature Harmonix space and soul, resonance and bloom. You know what? I'm not missing them that much. Amazing—at 1/7 the cost!

Soundstaging

I didn't notice a fall-off in soundstaging, but I can see where some people might. While located in roughly the same place,

hovering around the plane of the speakers, the entire front of the room is now occupied without a break. There are no gaps between images. The information is there, but no longer in discrete packets.

Depth was layered in a very natural and unforced way. The image is surrounded by a different kind of envelope; like maple, it has something of a sheen and polish (the Turtle Wax effect). Furthermore, the sound was projecting into the room more, creating a mild sense of immersion. These improvements were effected with more apparent ease and effortlessness.

Fundamentals

The key thing is this: there are many, many products available that do wonders in the resolution department. Chances are you're already well into the high-res thing. I make this assumption based on the overwhelming predominance of audio marketing and review copy concerned with Clarity - Definition - Detail (the three demons of *audiophilia nervosa*). Audiophiles usually do battle with the three demons in the early stages of the syndrome, and most never leave that playing field.

But, please remember this: when the lights go dim and you're alone with the music, it's not primarily about resolution and detail. Music in the most fundamental sense is about tone, color and dynamics. Do yourself a favor: Try a change of approach and make your next moves along the path of tone. I can't think of a better, more affordable way to go about it than the CORE Design CLD amp stand; that is its *raison d'être*. Recommended for anyone who wants to take the plunge. You might find yourself enjoying music, rather than gaping slack-jawed at "information."

III - Mass Loading your Rack

I just re-read Jonathan Valin's article, "The Title Bout In Analog Playback," in the December 2006 TAS, comparing the Walker Proscenium Black Diamond and the Kuzma Stabi XL. Great review! Among other things, I was awed by the uncommon mass of these contenders. The Walker is 304 lbs with its 75 lb lead platter, and sits on a 450 lb dedicated stand. The Kuzma is 176 lbs, including its 48 lb platter.

Then there was Mike Fremer's recent capsule review of the TW Acustic Raven (December 2006 Stereophile). This table is 170 lbs, not including its 22 lb platter. (Mike gave it his highest rating but, curiously, the only thing he talked about was the table's low-end authority.) Staked up against these pacesetters, my Linn LP12 comes in at flyweight 28 lbs.

Soon after, I happened to notice this related info on the spec sheet for mbl digital products, as posted on their website. The mid-price Noble Line 1521 A transport sports nearly identical electrical specs to the top-rung Reference Line 1621 A offering. The only difference is the upgraded mechanism that spins the disc. But again, there's a big discrepancy in the physical object, both its dimensions and weight (44 vs. 66 lbs). The same holds true for the mbl 1511 E DAC and the Reference Line 1611 E (33 vs. 64 lbs). The common thread among this otherwise unrelated data is all of the premier products are bigger and much heavier. Beefier power supplies account for some of this weight, but it got me to thinking. Hmm… What would happen if I added weight, if I mass loaded, my Noble products? Hmm… would it move their already good sound closer to the realm of the top-line gear?

The first attempt at mass loading often confuses it with mass damping: that is, putting weights on top of the component chassis. Let me share some hard-earned advice with you—this never works to complete satisfaction. You'll get bennies, principally an increase in resolution and soundstaging, but after a while, you'll realize the component is choking. It always sounds crimped. If the component can't breathe, how can it possibly sing? Music becomes a still life under glass to be examined from the listening location.

Hand in hand with the weight on top goes putting something heavy underneath. Again, caution is advised. A resonance-absorbing platform like one of those sand-filled boxes certainly annihilates resonances—that's great if your aim is to create a corpse. Substituting lead or other heavy material must be done with care. If you feel the sound improved by these drastic actions, you should probably move out the band-aided component and find something more simpatico to the voice in your head.

That doesn't leave us many choices. I took another route and loaded up the shelf supporting the Linn LP12 with a bunch of brass weights from Mapleshade, carefully distributing them so as to avoid making contact with the LP12 plinth. I did the same for the mbl Noble Line digital. The collection of brass weights added up to maybe ten lbs on each shelf and imparted a small degree of low-end force and authority. Judging this minor success not worth the price of having to look at the visual clutter, I removed the lot.

But here's a good one. If you have an unused shelf, try placing the weight there. I put an idle 20 lb AC conditioner on an empty TAOC shelf. This worked well and left my components' voices alone.

Now for the *crème de la crème*. I swapped out the spare AC conditioner on the unused shelf for a big slab of maple, leftover from back when I reviewed Mapleshade products. Made to support a subwoofer, it was really large, 16 x 20 x 4" high, and as heavy as the conditioner, about 20 lbs. Its effect was unlike anything previous.

Using this heavy maple slab for mass loading, the sound had the lower-midrange and bass impact I wanted, and happily, the treble remained open and extended, evidencing the wood's characteristic tuning. This was great! Initial experimenting with a pile of smaller pieces of wood did not add up to the effect of the single massive chunk.

Next episode: I started looking at my midline TAOC rack. I recalled the company had a more than twice as expensive top model. They both use the same shelf—five constrained layers, with the middle made up of cast iron granules. However,

once again, the more expensive rack weighed about twice as much. OK. What can I do to increase the mass of the entire rack?

For this, I ordered two 1 ¼" thick granite slabs cut to the dimensions of a TAOC shelf, one for each of my racks. The idea was to substitute the granite for the TAOC shelf on the four-pin supports of the frame, like an insert. The TAOC shelf went on top of the granite, with two-inch squares of natural cork shelf liner Contact Paper in the four corners between the boards to keep the top plank independent and prevent it from sliding around. On its own, granite rings badly—you don't want the component directly in contact with it.

(I got the idea to use natural cork Contact Paper from the CORE guys, who use it between the soundboard and the frame on the CLD Amp Stand. The choice was a good one: it turns out to be a very fine insulator. Yes, it gets a little darker and has a soft low-end, but its frequency response is smooth and even, and most of all, it sounds natural. While you're at it, try replacing some of those pointy metal things under your other gear with cork. You can find it at Home Depot for about $8 a roll. If you need more resolving power, you can always substitute a quartet of Golden Sound DH Squares between the granite and TAOC boards. The downside with the DH Squares is it will get a little thinner and lighter. I'm at a point where I care less about pinpoint resolution and more about the gestalt of the performance.)

A piece of granite this size weighs in the neighborhood of 45 lbs and cost $110 each—and it worked big time. In this way I was able to introduce a huge amount of mass. I tell you, there is nothing like the solidity and authority you get from this kind of mass loading. If you need weight, it can't be faked: the various substitute tweaks I've been using were mere impersonators. The sound did get a bit cooler, darker and less lively, which you will have to compensate for. The components' voice, however, was left largely intact. This was a happy day.

Mass loading works: you should try it.