



We are busy!

As you can see, we're upgrading our newsletters with a nicer layout. And starting with this one, we'll include Tips and Tricks to help you better understand the mysteries of acoustics. Let us know what you think!

We've also been working on several projects recently, which have been both fun and challenging. Every design we create is customized to the specific needs of the project, so there's always a sense of exploration and discovery with each room we have the pleasure to work on. Every room is a new adventure.

And there's a new website in the works. It will have a better layout and much more information. We'll send out an announcement when it launches.

We're also working on new articles to engage and enlighten anyone who wishes to learn more about acoustics.

In the meantime, we hope you have a fun and safe June!



Recent Projects

Rocket Sound of North Hollywood, CA, specialists in game audio, asked us to perform an acoustical analysis of their facility. Once completed, we used this data to design some unique acoustical devices that will provide them with the sonic signature that they need.

BeARcade Music of Port Republic, VA, performs, promotes, and records acoustic music. They've asked us to create an acoustical design for their control room, which we've just started. Their facility was built with beautiful post and beam construction that reflects their rural setting and focuses on the organic nature of their music. Like the mix room we designed for Vox Mundi in Sao Paulo, Brazil, we'll do this project entirely by "remote control", using the internet to send and receive pictures, plans, and everything else needed.

Victorio's Restaurant in North Hollywood, CA, is the monthly meeting place for the Hollywood Sapphire Group. They were experiencing a problem that is common to restaurants, the high noise level caused by large groups of people talking. And at Sapphire, there are *a lot* of people talking. MediaRooms was asked to find a solution, so we designed custom, application-specific panels to solve the problem. This project demonstrated that no restaurant ever needs to be stuck with a noise problem. The group members are happy that they can now talk without shouting and going hoarse, and Victorio's is happy that Sapphire won't be looking for another meeting place.



June Tips and Tricks

In acoustics there are four basic elements used to shape and control the sonic environment - Absorption, Diffusion, Barrier, and Vibration Isolation. This month we'll discuss Absorption, which removes acoustical energy from the air.

Absorption is primarily used to bring the reverberant decay of a room (RT-60) into a range where it isn't smearing or masking sonic clarity, and in the case of music, tailoring the decay time to enhance the musical performance.

There are a number of different ways to absorb sound, including resistive (e.g. foam, rockwool, Owens-Corning 703) and resonant (e.g. Helmholtz resonator, resonant panel, perforated panel absorber). If you're a Tech Geek, resistive absorbers work best on particle velocity, and resonant absorbers work best on air pressure. So their placement in the room is very important.

Absorption is the most widely used (and abused) acoustical treatment, so when most people think of acoustical treatment, absorption is what they think of. But if misapplied, or if the "more is better" thinking takes hold, you end up with a dull, lifeless sonic environment. And even though an over-damped room like this may *seem* to sound "better", in fact one problem has just been replaced with another.

It's also important to realize that no absorber does its job equally across the frequency spectrum, meaning it can also color the sound in your room. Resistive absorbers work like *low pass filters*, where sound above a certain frequency is absorbed, and resonant absorbers work on the frequency band they are tuned to, like *band pass filters*. Again, misapplication can color your room's sound for the worse.

But the neat thing about this frequency-dependent performance is it provides an opportunity to tune a room acoustically rather than electronically. And when you tune acoustically, you get a smoother sonic performance everywhere in the room. With electronic tuning (using an equalizer or speaker processor), the tuning is really only valid where your measurement mics are located. You risk replacing one problem with another. Again.

Clever acoustical tuning can also fix the acoustical problems that cause coloration and anomalies in the first place. Electronic tuning is not capable of fixing these problems, but instead is only a "Band-Aid" that attempts to smooth over them.

So in the end it's best to think of absorption as a tool that fixes certain problems, but not as a cure-all for every acoustical issue. But the problems it doesn't fix can be addressed with the other basic elements. Watch for those to be covered in future tips.