

## USER REPORT

# Studio Acoustics 101: 'It's the Room'

*Acoustics First Helps Tarsia Design a Quality Room in an Existing Space in a Row Home*

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**PHILADELPHIA** Recently, Sigma Sound, our family-owned and -operated recording studio (home to the "Sound Of Philadelphia"), had issues. The client base for large, multi-room facilities in Philadelphia had been in decline for years. Essential equipment was becoming outmoded, overhead was exponentially higher and a glut of studios vied for the same business.

Add a dash of technological advances that make relatively high-quality/low-cost recording equipment available to the masses and the answer for Sigma was painful but simple: sell.

The answer for me was less easy. Stay in the business I knew intimately for more than 30 years or change careers. My love of music made me choose staying in the music business. But I was spoiled by the A+ quality of the recording experience that was Sigma Sound. Part of what made Sigma extraordinary was that the studio space was built to demanding specifications.

We had a trolley line running right outside of the recording studios that operated in the heart of this bustling city. In spite of this, we could open a microphone up on a whispering vocalist and not have rumble from

heavy vehicles, jet airplane noise, air conditioning hum, forced air whoosh or bleed from control room monitors leaking into the recording area.

I had taken this too lightly when I started my independent career working in local studios, and the ramifications were immediately apparent. I found myself saying, "I'd like to do that again, I can hear a truck in the background";

"I didn't hear the hum because the air conditioner in the control room masked the noise"; or "I had the monitor low to make sure they didn't bleed into your mic ..."

Then there was the issue of dealing with rooms that had you constantly guessing if your ears were messed up. Move my head here it sounds like this, turn a little or move an inch and it sounds totally different. Maybe if I put my head in a vise ...

I wasn't used to making excuses for poor room design. So I decided to build a facility in my home. I knew that before a computer went in or a speaker was placed in my small project studio, I

had to have a listening and recording structure that rivaled the high-quality facility I took so much for granted during my 30-year tenure at Sigma.

Our family has known Nick Colleran of



Tarsia's home studio features Geometrix broadband absorbers (in front of console), and Sonora panels.

**Acoustics First** for many years. The fact that he had owned a successful studio operation that by its nature demanded the highest level of acoustic design, and was now owner of a company that dealt with acoustic solutions, made me feel certain I could build a room that acoustically surpassed the rooms left in my city.

## Isolation challenge

There were a lot of challenges I faced building a room in an existing space in a row home. First was sound isolation. I didn't need neighbors banging on my door at 3 a.m. Nick suggested I use green rock, a high-density acoustic vinyl called Block Aid and sheet rock as a three-layer barrier to control sounds.

The Block Aid is heavy. Expect to get some help in carrying it into your space unless you are less than 40 years old and hit the gym often. It adheres very well when using the recommended adhesive, and is easy to work with once cut into the proper lengths. A few flat-head nails set at the top holds it in place until the adhesive sets.

Next up was the issue of controlling high-frequency slap off the drywall surface. In the old days people put shag carpet up on their walls. Today a product called Sound Channels acoustic fabric is available. It is Class A fire-rated, easily installed and looks great. I ordered some up, installed it and then did an "acoustic snapshot" of my room using balloon pops that were recorded and e-mailed out to Nick for further refinement of the room's acoustics.

I'd like to note that the best way to hang this product is not the normal paper-hanger overlap and cut. Instead, use a straight bar to cut down the flat "valley" in the channels.

My control room is relatively small so we knew right off that low-frequency response was going to be an issue. Right next to the control room was another space so we put up French doors that could be swung open, and put heavy the-

atre-type curtains in front of them. With the doors ajar the neighboring room acts like a giant bass trap, effectively doubling the size of the real control room's bass handling volume.

Then we hung four 1/2 round Geometrix broadband absorbers in front of the console, three on the wall and one on hooks across the ceiling. Between the three absorbers were placed two Sonora panels. A 1/4 round Geometrix trap also was hung on the rear wall up at the ceiling corner. The absorbers are well made and have good reinforcement, and the mounting mechanism lets them seamlessly integrate with the wall they hang on.

Over the control desk a Sonora ceiling panel was hung on hook and chain. The mounting hardware that Acoustics First supplied for the applications was easy to use and did the job well while maintaining a professional look. Both the Sonora and the Geometrix absorbers are available in a range of neutral colors that would work well in any environment.

Finally, we used QuadraPryamid diffusers along the back wall to spread out the reflections and make the room have a natu-

ral sound quality. These were actually designed to be drop-ceiling mounted but work surprisingly well on vertical surfaces. I thought painting them might be difficult due to their "waxy" feel, but paint application was no problem and the paint job has stood up well over the past 18 months



QuadraPryamid Diffusers

with people and equipment rubbing up against it. Standard water-based paint was used to color them.

The isolation booth was much more of an issue than the control room, as it had a very small footprint. We made a room inside a room using Vib-X pads to decouple the inner walls, footers and headers. Nick suggested that one of the five walls be slightly convex. He told me to buy some masonite, make a slight bend from the real wall and then stuff fiberglass in the cavity so the masonite didn't resonate.

It was hard to get any sort of pop test out of this room as it was so small, but Acoustic First's staff has "heard it all." Two 1/4 round Geometrix broadband absorbers were put in two corners with a CuttingWedge foam panel in between, and a 2 x 2 Sonora panel accents another wall.

People are amazed at the sound of my speakers in the control room, especially the low-end clarity. When they ask, "I have the same speakers; why don't mine sound like that?," I smile and say "It's the room!" The iso booth has seen duty it was never meant for. Not only do I cut vocals and the occasional saxophone overdub, but people have done acoustic guitar parts in its modest 4 x 5 area. The room has a neutral sound, with a microphone a foot away from a soft acoustic part. Not dead and unnatural, but also not boxy and constricted like anything recorded in what amounts to a closet.

The room is the thing that separates studios today. Electronic technology is available at the store down the street. But great room designs and proper acoustic materials are something much harder to come by.

For more information, contact Acoustics First at (888) 765-2900 or visit [www.acousticsfirst.com](http://www.acousticsfirst.com).