Subject: Number one mistake?
Posted by Strum Drum on Wed, 11 Oct 2023 22:10:22 GMT
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Do you think people realize that the building materials, furnishings, and decorations within their home also affect its acoustics? I ask because I watched the Raiders game at a buddy's house earlier, and it was not good. Well, the gameplay was good, but the audio wasn't. He created a den in the basement and simply plopped the speakers right onto the cement floor. When it comes to acoustics, what is the number one mistake that people make when designing their homes and its layout? I think placing the speakers directly on the floor ranks up there.

Subject: Re: Number one mistake?
Posted by Wayne Parham on Thu, 12 Oct 2023 14:13:31 GMT
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You know, architects aren't usually focused on acoustics. They have a lot of goals and acoustics is a property that is generally way down the list, if it is even considered. And it usually isn't.

Sadly, even venues designed for entertainment often have poor acoustics. It appears they often optimize seating, visibility and ingress/egress. I think they may believe they can correct acoustic problems with electronics.

When I see large venues built before 100 years ago, this wasn't the case. A priority was placed on acoustics. That was probably the main limiting feature of a large venue back then. Without amplification, the audience just couldn't hear. So theaters back then often had excellent acoustics, even those built up to around the 1950s. Even though they had electronic amplification in the mid-1900s, it wasn't powerful and attempts to gain coverage with speaker placement were limited because of quality and intelligibility concerns, largely due to the problems of multiple sound sources causing response anomalies and even artificial echo.

But I digress. Back to home acoustics.

I think the "number one mistake" is kind of regional.

For example, I grew up in Tulsa and most homes there had framed drywall construction on concrete slab foundations. So they were generally pretty good, with the usual room-mode problems that are specific to the room. The drywall tended to be somewhat lossy, so that mitigated room modes slightly. Occasionally you found a room with flutter echo. But other than those kinds of issues, home acoustics weren't too bad.

Some homes, however, had hardwood floors over a crawlspace. Those homes tended to resonate like a drum. Bass was horribly boomy in homes like that. So in Tulsa, that was the number one biggest acoustic problem I saw.

Other places I've encountered used stucco, rock, brick or even concrete walls. That's what made your buddy's room sound so bad - basements are worst-case, with concrete on all sides. In a

room with all surfaces being stiff like that, the room-modes are horrible. And higher frequency reflections usually are too. So it's reverberant, boomy and shrill. Problems across the whole audio range.

Where I live now - in Northwestern Arkansas - the biggest problem I see are homes made with awkward layouts. They have framed hardwood construction, so the lossy walls damp the room modes a little bit and they're not too lively. But they tend to have few really good places to setup a good stereo, and even worse for home theater. It's more a physical layout problem than one of acoustics.

Subject: Re: Number one mistake?
Posted by Strum Drum on Thu, 19 Oct 2023 00:06:45 GMT
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Wayne Parham wrote on Thu, 12 October 2023 09:13
Sadly, even venues designed for entertainment often have poor acoustics. It appears they often optimize seating, visibility and ingress/egress. I think they may believe they can correct acoustic problems with electronics.
I did not know that. It's oddly disappointing to know that it's all about money. I mean, I guessed that maximizing the seating and standing room mattered, but I also figured that the acoustics were specifically considered as well. Since venues have to compete for top artists and ticket sales, and it seems like good acoustics would factor into the equation. Maybe that's why some concerts have seemed louder than usual to me. They're making up for the poor acoustics. It's either that or I'm just getting old.

I like your take on flawed designs and acoustical differences based on region. That's why I love your replies. I always come away with a new perspective that gives me something to ponder.

Subject: Re: Number one mistake?
Posted by gofar99 on Sat, 21 Oct 2023 01:48:56 GMT
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Hi A bit of tongue in cheek...but thinking that you can make your chosen room free from anomalies is what I consider number one. If you didn't have it designed on purpose for audio it will have flaws (it might still have some). Some can be mitigated a bit, others not. Still the overall enjoyment can reach past the issues.

Subject: Re: Number one mistake?
Posted by Madison on Sat, 28 Oct 2023 22:30:41 GMT

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The worst mistake that we made was opting for something modern and trendy, without taking into account what the speakers would sound like in a metal, industrial room. Nothing really helped!

Subject: Re: Number one mistake?
Posted by Echo on Mon, 08 Apr 2024 10:11:06 GMT
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I agree, putting the speakers on the floor can definitely cause problems with sound quality. It's very important to consider the placement for optimal audio experience.

Another mistake is overlooking the room size and shape, as both these factors can impact the resonance of frequencies in the room, as well as the distribution of sound waves.

Subject: Re: Number one mistake?
Posted by gofar99 on Tue, 09 Apr 2024 02:04:22 GMT
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Hi, One thing that can help is that there are a number of PC programs that can identify peaks and nulls in a room and allow you to move the speakers and listening arrangements to minimize some of them. I use a vintage EXCEL spread sheet based one that seems to provide results that jive with my ears. Using any such program can be a daunting task as just a few inches in one direction of another can make a huge difference. It is also easy to fix one problem and create another. The process involves entering data and them seeing what the results are. Then change the placements and try again. In any case it is impossible to get everything perfect. As long as the peaks and nulls are relatively small the sound is generally fine. Another thing that can sometimes help is a digital signal processor that allows small frequency dependent changes in signal levels. That is ...for those of you who will permit some digits in your system. Most can measure your system with a calibrated mic and display the odd things for each channel. The you enter changes to the DSP to reduce of enhance the individual peaks or nulls. It can drive you nuts. It can cause strange things. I tried one a while back on my main system (two ESLs and 2 huge subs with 4 amps). The DSP said it fixed some things that were annoying....but the sound was funky. Imaging was off. Clearly the fix was worse than the original problem.