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.