



# Acoustical Treatment Approaches for Houses of Worship

BY JOE MILTON

**H**istorically speaking, older churches were designed and purpose-built to create and accentuate reverberation for traditional choral groups and/or organ music. The most common needs are similar to that of any other large room; taming slap back echo, controlling reverberation and maintaining speech (and/or musical) intelligibility. House-of-worship venues require an acoustical treatment plan that addresses a space that makes use of both traditional and contemporary music while maintaining a healthy balance of treatment to best satisfy both. Another distinctive characteristic of house-of-worship venues are the acoustical anomalies that

originate from unusually tall or dramatically peaked ceilings. We usually address this with acoustical panels or clouds.

In any space, no matter the size, the most important places for treatment are the direct reflection points. These are the places where sound immediately hits after leaving the sound source. If these surfaces are highly reflective this will cause slap back echo as well as other issues. Imagine a laser beam emanating straight from your speaker cones in all cardinal directions – these are the first places you should look to place treatment. In most large rooms this would generally be the rear wall of a space, the front wall (directly behind the speakers), the side walls diagonally (think

of the two signals crossing in an “x” pattern) in front and directly horizontal of the speakers, and perhaps the ceiling directly above the speakers depending on its height and angle. These areas could be the first phase of your overall treatment plan, but it’s important to remember that further treatment could be necessary to help tame the space

Now that contemporary music and instrumentation has gained more popularity in houses-of-worship, we see many more requests to help tame louder instruments such as amplified guitars and basses, keyboards and especially acoustic drum kits. Conversely, this has led to a decline in facilities that feature strictly traditional choral and/or organ music. With this change, the overall acoustic feel of the modern house-of-worship now has a need for a more controlled and tighter Reverberation Time (RT-60) to help these sound sources become more pleasing to the ear and provide better definition from these instruments.

It’s important to specify ‘Class A’ Fire-Rated products for all house-of-worship applications. Although aesthetics are important in every type of space, this is usually taken a step further for houses-of-worship. The want is ultimately that the treatment should be “heard and not seen” – in essence, the desire for the acoustical treatment to be seamlessly blended into its surroundings. **T**

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**Auralex has provided consultation and acoustical treatment solutions for hundreds of houses of worship through a worldwide network of integrators and dealers. Each space is unique and provides certain challenges including architectural and aesthetic concerns.**

**Unfortunately, acoustically treating a space can sometimes push a budget beyond the limit. Auralex offers a FREE Personalized Room Analysis to give the room a full treatment assessment. Access it here: <https://www.auralex.com/tools/roomanalysis/>**