

Using Audio to Add Emotion at Performing Arts Venues



BY GRAHAM HENDRY

THE EQUATION REQUIRED for crafting an impressive performance space might be considered quantitative. The unique architectural elements, innovative sound and lighting, perfect sightlines, the comfort of the seats — they all meld together to make for an excellent experience. However, the outcome of this equation — at least, for the visitor to the space — is qualitative. And that's an exciting element of our shared experience: that a physical space can connect so directly with emotion.

One key element of crafting this emotional response and connection is the soundscape within the venue. It is also one of the easiest elements to upgrade when you work with the right team. But what should your starting point be?

An important first step is to not fall into the trap of seeking out the same manufacturers you might find in the home. With performance venues, one must consider every single seat in the house — and that requires a level of system design expertise not normally associated with hi-fi and custom install trades.

Whether traditional or modern, there are many fantastic architectural features found within these venues. Where the main fabric of the room is made up of hard, non-sound absorbing materials — such

as glass, marble, and hardwoods — special consideration should be given when designing a sound system.

When specifying the correct sound solution for the environment, there are different methodologies for choosing loudspeaker technologies as each offers varying specifications. First, what's the shape of the space? Are there reflections, overhangs, difficult reverberations, or background noise to deal with? How large will the audience be?

With these considerations in mind, perhaps the engineer should consider a point-source or a line array solution. Is the space looking to deliver an immersive experience? Perhaps a beam-steering array or even an immersive multichannel system should be considered.

The purpose of beam steering technology is to focus and direct a beam of sound such that it can be given a required vertical direction and intensity. This is software controlled and achieves optimal venue coverage and a direct/reverberant ratio for improved clarity and speech intelligibility. The sound can be directed with precision and away from reflective surfaces or

away from areas not in use.

These tall/slim columns are scalable and may even eliminate the need for additional loudspeakers located farther out in the space (along the side walls or ceiling, perhaps). Or they can work in tandem with a more traditional, distributed system, to ensure appropriate coverage.

Beam steering technologies also deploy a smooth dispersion of sound, with an even distribution of sound pressure level across the space, from the front of the room to the back.

These solutions add another tool for placing sound where you want it most: on the audience. Do you have certain areas of a venue where sound seems to be less impressive? The addition of digital beam steering to the toolkit means you may no longer need to settle for these dead zones. Every seat in the house can — and should — receive high quality and impressive sound.

Adding digital beam steering to a venue can quickly and easily craft an immersive soundscape that considers everyone in the audience — and in turn, ensures you help the audience connect

more with the performance. This is key to the emotional element discussed earlier.

But to fully achieve this, you should work with professionals in this space that offer a few key competencies to ensure the desired outcome. These elements include:

- Sound designers and audio consultants who provide solutions for your specific needs.
- Integrators and installers who understand your business and want to partner in the long term through support and ongoing maintenance.

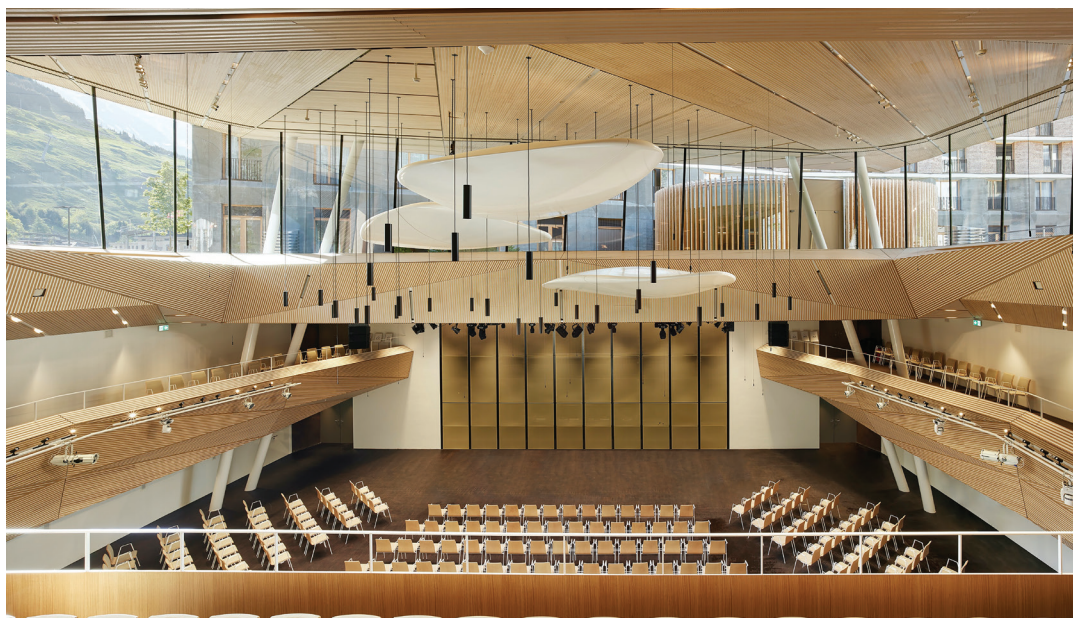
- Manufacturers who have a history of success in the industry and offer application support and on-site demos of their systems. This way you can truly hear the outcome before you buy.

Ensure all three partners are considering the aesthetics of your space. The true professionals will look to work with the amazing architectural elements of your location and will offer custom painting and creative workflows to ensure you hear the loudspeakers more than you see them!

The true equation for success here isn't so much data sheets as it is partnerships. By combining these elements — and seeing how the partners work together — you plan not just for an upgrade to your venue but for long term confidence in your venue's performance. ▣

Graham Hendry is vice president of strategic development for Renkus-Heinz Inc.

SOUND STRATEGY: Distinctive spaces such as Andermatt Concert Hall in Andermatt, Switzerland, deserve a sound system that fits their architecture.



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