Sound Principles

The Effects of Quality Sound in a Meeting Room Environment

This month, we would like to talk about how sound quality can impact meeting outcomes. Sound far-fetched? Not really. Read on.

Video and audio conference calls are supposed to be streamlined, productive, and pleasant. When the technology goes as planned, participants can easily work towards solutions and communicate new ideas effectively and virtually...effortlessly.

However, when the sound quality in the room or the video and audio technologies are NOT working properly, meetings can run long, communication can be difficult and stress can rise. We've all been there...you know, the room where the most common remark you hear over the course of the call is “you sound so far away”, “you’re coming in and out", and “we can hardly hear you”.
When participants have difficulty hearing and understanding each other, any one of these comments can attest to the level of frustration that is unfortunately now dominating the meeting.
There are many factors that need to be considered before choosing the right equipment for a meeting room. Microphones play a significant part of a quality sound system, but the room acoustics will greatly impact the results as well.
Attenuating noise and echo through sound processing is somewhat possible, but ideally, the “room effects” should be addressed prior to installing any equipment. For example, if there is noise or too much reverberation in the room, the microphones will pick it up and reproduce it in ‘Hi-Fi’. As we all know, a "clean" signal will be easier to process, so first things first, address any noise issues up front.

Even though today’s DSP manufacturers ship their products with default settings that can accommodate most rooms, every room is different and each installation will often require some EQ tweaking in order to achieve the best sound quality. Most of the time, equipment is installed and the effects are dealt with only when they are heard through the new system.

Can you imagine from the end-user's perspective how disappointing and frustrating it is to find out after the fact that they need to invest more money into a meeting room in order to make it "sound" better AFTER it has been commissioned? And what will they think of the integration team that sold them on the project in the first place?

An ounce of prevention is worth a pound of cure. So performing an acoustic evaluation of the room is the best idea whenever possible. Identify any sound issues, recommend the best equipment for

the space and educate the end-user. Only when they are truly informed will they be able to make the most intelligent decision about product value, performance and price.

MORE ON ATTENUATING NOISE

There are many ways to attenuate noise in a room. One way is to enclose the noise sources to make them quieter. Another is to add sound absorbing materials to dissipate the bouncing sound waves and minimize echo. Both of these methods have proven to be very effective and certainly make the job of capturing speech a whole lot easier. However, larger rooms are more difficult, and sometimes even impossible to render 'quiet'.
One way to counter these room effects is by installing more microphones. Here, you can plan to use one microphone per person as opposed to one microphone per two people.

This practice increases the gain of the source on every microphone input, and decreases the noise level, making the participants sound louder than the room noise. Using gooseneck microphones microphones will further improve the sound, since the proximity of the mic to the speech source will boost the desired signal at the capsule (half the distance = +6dB).

The importance of planning what equipment to use, and how to use it, is critical to the project's ultimate success. The goal is to make sure everyone can be heard clearly and that will always make your meetings end on a "good note".

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