Improving the sound of interviews with acoustic treatment

By Peter Janis

The use of hand-held recorders, desktop microphones, ceiling mounted microphones, video cameras and even multiple microphone setups is common in today's interview settings. The type of recording equipment can vary depending on budget and of course the room itself.

Smaller rooms tend to employ a basic recording system while larger rooms tend to be equipped with more complex systems. No matter what setup is in use, the resulting recordings can often range from being difficult to understand to utterly inaudible. What few realise is that in most cases, the problem is not the fault of the recording equipment or the practitioner — but the room itself.

Our brain and auditory system is very sophisticated in that it is able to discern what is important while leaving out what is not. This same attribute enables us to communicate in a loud restaurant, somehow ignoring the noise from tables that surround us. When we are conducting an interview, the combination of hearing and seeing what is being said all works together to deliver the complete message to our brain.

Microphones

A microphone is very different because it has no way of discerning what is important and what is not. If there is noise in the room from the ventilation system, traffic outside, conversations in the office or hallway next door, the 'bad stuff' gets recorded right along with the good stuff and there is no simple way to break them apart. The microphone flattens out the information and our ears are no longer able to perform their magic.

Room ambiance

Even more problematic is the room ambiance. Clap your hands in an empty garage and you will hear a bunch of trailing echoes as sound ricochets off the hard surfaces. This dense flutter echo is known as reverberation or room ambiance. When the sound from the voice is mixed with room echo, two things happen: the direct voice will be mixed in with the surrounding echoes making it difficult to separate, and it will sound distant or muffled due to an effect called comb-filtering. When recording in this environment, the sound coming directly from the voice to the microphone will arrive before the sound being reflected off the walls, floor or ceiling. When the direct and reflected sounds collide, certain frequencies will combine while others will cancel each other out, which disturbs the natural sound of the voice and reshapes the frequencies that are being captured by the microphone.

Solutions

The simple solution is to mount absorptive acoustic panels in the room. Broadcasters have known about acoustic problems for years and have been treating recording and broadcast studios with acoustic panels for a long time. Whether you are conducting an interview for TV or for a court case, the physical nature of sound is the same. Treating a room is easy to do, it is affordable and is a very effective fix. As a rule of thumb, covering between 15% and 25% of the wall surface with acoustic panels will do the trick and placement is not critical.

Acoustic panels come in a variety of sizes, shapes and formulations. The most effective are made from glass wool such as the Primacoustic brand Broadway panels. These employ 6lb per cubic foot high density glass wool for even absorption across the voice range. Each panel is covered with micromesh and edges are resin hardened to eliminate dusting, and finished with a rugged polyester tweed that protects them and keeps them looking good for years. These are typically mounted to the walls using Impalers and are as easy to put up as a picture. Adding construction adhesive to the back of the panels can be done in order to ensure they are not easily dislodged. For rooms that may encounter 'difficult participants' other mounting solutions are available, including a metal cage that enables the panels to be securely affixed to the wall. Acoustic panels can also be ceiling mounted in a number of ways if necessary.

Controlling outside noise from interfering with recordings can be addressed using various schemes. Noise from HVAC systems can often be lowered by increasing the size of the vent and the last 3 feet of duct, which lowers the velocity of the air movement and reduces turbulence.

A more common problem is noise that is traveling from one room to the other through the plenum (HVAC duct) above the T-Bar ceiling. This can be controlled by adding mass to the T-Bar ceiling. Specially constructed Thundertiles, which feature a sandwich of heavy gypsum board and high-density glass wool provide mass and density to stop and absorb sound. These come in standard sizes for easy retrofitting and once in place, reduce sound from entering and exiting the space. These can also be added to improve privacy in management offices.

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