

WHY IS SOUND IMPORTANT AT MY EVENT?



The primacy and importance of sound in everyday life is obvious to us all; to understand another person talking and to hear and respond to our environment. Yet what is needed to create an aural presence at an event and truly deliver excellence in sound is not widely understood outside of technical circles. Sound by its very nature, is ephemeral and invisible and the event industry goes to great lengths to make its provision as visibly unobtrusive as possible. This leads to a common perception that sound and sound equipment is not a major part of the technical component of an event. After all, it's not as obvious as a huge projection screen or a complicated lighting show. But there's a lot going on that can't be seen but is definitely heard.

THE INTELLIGIBILITY OF YOUR MESSAGE

For everyone at your event to hear and comfortably understand a spoken message being relayed to them, a number of things have to fall into place. The correct microphone needs to be positioned and then used correctly by the presenter. The appropriate adjustments then need to be applied to that signal to compensate for any issues inherent in the presenter's voice or style and any complications of room acoustics. This signal then needs to be amplified and sent to the correct number, size and type of loudspeakers to push the exact volume of air past your audience's ears needed to replicate the presenter's voice. That's all loudspeakers are in the end – devices that physically push air in waves at specific frequencies.

Of all of those challenges, it's the amount, type and positioning of the loudspeakers that presents the greatest challenge. In almost every room and at almost every event, the process to determine the ideal balance between acoustic performance, intelligibility and a visually acceptable solution is a delicate compromise. Vast amounts of research and development has been poured into loudspeaker design over many decades in order to make them more powerful and less obtrusive. But the physical reality is that a loudspeaker should be pointed at your ears, which are very close to your eyes. Negotiating the ideal blend of practicality and performance takes a skilled and experienced designer.

THE POWER OF MUSIC

Almost everyone soundtracks their lives; the love song that represents a relationship, the album that captured a summer or the music that helps you through a hard time. The correct music choice at an event sets a mood, creates excitement and can be used to create associations between your product or service and a cultural value. Different styles of music can require different types of loudspeakers and amplification.



For example, a high-energy sales conference will mostly use up-tempo inspirational music and use volume as a means to animate the crowd. This will require more power and more coverage, quite simply because you need to move more air at a higher energy level.

WHY DO I NEED SUBWOOFERS?

No matter how expensive they are, all loudspeakers are imperfect replicators of the original sounds they are trying to distribute. One of the big physical limitations in any loudspeaker is its ability to reproduce the entirety of the frequency range audible to humans at the same time. Loudspeaker boxes usually contain at least two components called drivers – the diaphragms that move backwards and forward in order to push soundwaves into the air. One driver handles high frequencies, which take less energy to replicate, and the other driver the lower frequencies. The narrower the frequency range a given driver has to reproduce, the more accurate its performance. The lower the frequencies get, the more energy is needed for the driver to push air at that periodicity.

When we get down to what is known as the extended low end frequencies created by bass instruments, bass drums and most synthesiser driven music (think of the ‘doof doof’ of techno), they’re physically impossible for a normal low end driver to recreate. The solution is to have specialised loudspeakers called subwoofers completely dedicated to reproducing frequencies from around 120Hz down to 20Hz, which is the bottom of the human hearing range.

Which is all very well technically, but what human need does this fulfil? Extended low end is the fullness and excitement in dance music. It’s the drama and gut reaction in an adventure film when seen in a cinema. We quite literally have a visceral reaction to low end. We feel more than hear very low frequencies. If it’s your goal to excite your audience with a musical cue, then bass delivers the adrenaline. If you want to know what you’re missing without subwoofers, ask the sound technician to turn them off during rehearsal of your music cue. It’s like going from the colour black to white.

WHY DO WE NEED ALL OF THESE MICROPHONES?

Microphones perform the opposite job to loudspeakers. They take movements in the air and convert them into an electrical signal. Like loudspeakers, they are imperfect devices and so many different designs and types exist in order to perform different functions well. There are microphones designed to be optimal for speech, low frequency instruments, guitar amplifiers, wind instruments and any other sound source you could name. Most will do a poor job when used on a source they are not designed for. If you list of all the microphones needed for a five piece jazz ensemble, for example, many people are surprised by how many are dedicated to the drum kit. It’s a great example of why different tools are needed for different sounds.

A drum kit is commonly thought of as one instrument, but drummers and percussionists think of it as what it actually is; an ensemble of different instruments that can be altered as required by the music. A typically jazz or rock drum kit consists of a kick drum, snare drum, two or three tom toms, a floor tom, a high-hat cymbal, and a ride cymbal, crash and splash cymbal. Each of these is an individual musical instrument, with its own frequency range, volume properties and tonal characteristics. Each therefore needs its own microphone in order to have its true nature best conveyed in a mix. This means a typical drum kit needs at least eight and often up to 12 separate microphones for best results.



GETTING THE MOST FROM YOUR PERFORMERS

Choosing the right equipment for the job, setting it up and operating it correctly are the benchmarks of performance for any sound operator. But the responsibility for the audible result does not lie completely with the technicians or the equipment. Contrary to popular belief, it's not actually possible to make a bad band sound good. The same goes for presenters at events. Happily, it's a lot easier to ensure that you get the best possible sound from a presenter than a group of musicians.



The biggest problem people speaking at amplified events have is a lack of understanding, or even a fear of, the microphone they are speaking into. The best sound technician in the world won't be able to create enough volume for a presentation if the person is too far away from the microphone. Similarly, there's not much that can be done if a very active presenter is constantly moving or turning away from a static microphone. This is all remedied by a quick conversation between each presenter and the sound technician about the type of microphone in use and how to get the best from it. Techniques vary from microphone to microphone, and it's in everyone's interest to get it right.

SOUND ON STAGE

It's not just your audience that needs to hear every presenter and musician, it's also vital for the presenters and musicians to hear each other. The sound mix created for the performers is called foldback, and can be as simple as a

loudspeaker discretely placed on the floor for a presenter to hear themselves, or as complicated as dozens of separate mixes sent to individual pairs of wireless ear buds.

For the majority of conferences, presentations and corporate events, the foldback requirements can usually be handled by the same technician and mixing desk that is running the sound to the audience. A couple of individual mixes to a small band with dedicated foldback loudspeakers and a mix for a lectern or table of presenters is well within the capabilities of one operator. However, for very large musical and vocal ensembles and events with multiple acts, the best option is to have a separate mixing desk and operator just for the stage sound. This ensures that all performers get exactly what they need in order to do their job properly, and each sound technician can concentrate on producing the best possible result for their audience.

NOW HEAR THIS

Everyone has a story about bad sound. It could have been an event that was too loud, plagued by feedback or too hard to understand what was being said. But how many people then talk about excellent sound after they experience it? Sound technicians often speak of the perfect job as being one where they were not noticed at all. Encore understand this contradiction, and their technical experts are happy to talk about how to stand out and blend in at the same time.

MORE INFO

Speak to your local Encore representative or get in touch by emailing info@encore-anzpac.com or call **1800 209 099 (AU)** or **+64 9 259 0025 (NZ)**.