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Sound IS the Experience !™

IMMERSIVE SOUND CONSIDERATIONS

BY

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Immersive sound systems have become an increasingly hot topic in the past few years. Hoping to avoid a format war, exhibitors ask which system they should consider. The most basic answer is probably all of them. However, one might be more likely to choose the system that is used with the films that they play. But again this may still lead one to choose all of them.

But before one selects any sound system or format, an exhibitor should consider what a motion picture sound system is supposed to do in the first place. There are three answers: One, tell the story. Two, tell the story. Three, tell the story. When one thinks back to the early days of cinema we remember that there never was such a thing as a silent movie. Silent films were presented with a live orchestra playing, or perhaps a theatre organ. Audiences would never sit still for a truly silent film with no sound at all. So sound needs to do something else: connect the audience to the story. To put it another way, sound is the experience.

Here is where it gets interesting. We have known for over 80 years what stereo sound is and the kind of experience it can create. However, we must never forget that stereophonic sound whether it be in a home, a car or a movie theatre, can, at its best, only create an illusion of something. Therefore, the more beautiful and lifelike the sound, the cleaner it is, the better the illusion and the more satisfying the overall experience.

Walt Disney's 1940 film *FANTASIA* was the first motion picture to employ what we now think of as surround speakers. These speakers increase envelopment, an essential quality of the best concert halls. Whether the surrounds be divided into one surround channel, or two, or three or four, movie soundtracks have successfully been using the surrounds to create the illusion of envelopment -- from the of the sound of wind to objects flying through the room from one location to another. As the number of surround channels used to create these effects is increased, the easier it is for the mixers to create them. But it turns out that as the number of surround channels is increased, the actual listener experience changes less.

In his September, 2014 article in *MIX MAGAZINE*, sound mixer Larry Blake stated that "We must always remember that the drama of the movie is on the screen, within the proscenium."

Furthermore, writing in the *JOURNAL OF THE AUDIO ENGINEERING SOCIETY* in May, 2015, author Francis Rumsey noted in his article on immersive sound systems that "the increase in envelopment, though, seems relatively marginal compared with the best horizontal surround systems, at least from experiments done so far."

Stereo is supposed to provide the illusion of localization. In motion pictures localization

is very important for things one can see on the screen, but relatively unimportant for those things no one can see, such as those in the surrounds.

Today's immersive sound system's greatest advantage turns out not to be so many more surround speakers, but in the increased number of speakers behind the screens.

The gap between the sound quality of the films themselves and that heard in the theatres is very large and generally unrecognized. This causes the typical audience complaints we have been hearing for decades that movies are "too loud." In actual fact, it's almost never the movies that are too loud but rather the movie theatre's sound systems. Unhappy customers don't return as often, sometimes not at all. Ignoring this sound quality gap has cost exhibitors millions of dollars and continues to do so.

So with all this in mind, selecting which immersive sound system to install becomes less a technical question and more one of marketing. An exhibitor facing investing in what are rather expensive sound systems in a large number of auditoriums, might also consider the benefits of installing the best of the 7.1 systems and eliminating the performance gap once and for all.

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John F. Allen is the founder and president of High Performance Stereo (hps4000.com) in Newton, Mass. In addition, he has served as the sound director of the Boston Ballet and has mixed live concerts of the Boston Symphony, the Boston Pops orchestras, military bands, jazz ensembles as well as other orchestras. He is also the inventor of the HPS-4000® motion picture sound system and in 1984 was the first to bring digital sound to the cinema. John Allen can be reached by E-mail at johnfallen@hps4000.com.