



Millennial Players Imperative: High Performance Audio

by Dan Digre

The millennial generation has discovered casinos. The generation that grew up on high-impact computer games with 3D animation and surround sound is now sitting down at your slot machines – and expecting an equally impressive gaming experience to grab their attention and keep them playing. The question is: are game manufacturers and casinos rising to the challenge?

Millennials are the generation born between the early 1980s and early 2000s. There are about 80 million of them in the U.S. population, and they are quickly becoming a force in the gaming industry.

Leading edge casino game manufacturers are responding to younger players with more engaging, high definition video on bigger screens. But few offer a complete experience that includes high-performance audio to match the impact of their HD video. This is a critical omission. Many new games are based on popular media. They beg for great sound to complete the experience – the same impact customers enjoy at movies, concerts, or from a quality home system. Yet most casino game sound systems can't deliver everything the player expects or the game designer created.

The Wow Factor

Sound is primal. It captures our attention, builds excitement, and shakes emotions. If the sound cuts out during a movie, or the PA goes silent at a concert, the experience immediately goes flat. High-performance audio, designed to professional standards, delivers the wow factor millennial players expect. It's foundational to the experience and, without it, younger players may look for another way to be entertained.

A professionally designed and engineered audio system opens an impactful sensory channel for game designers to leverage. Using high-performance sound, the designer can significantly heighten the excitement of play. Signature musical themes, short music cues, even fun sound effects synched to the on-screen game action engages the player and deepens their involvement in the game.

Whether you're a game manufacturer or a casino operator, it's clearly time to recognize that professionally designed audio systems are a requirement – if you want millennials to find your games worth playing. A well-designed audio system can drive competitive advantages, improved slot performance, popularity and increased playing time.

The Next Evolutionary Step

Over the past three decades, other segments of the entertainment industry have benefited from investing in expertly

developed, high-performance audio systems – especially in movies, TV, and music. This improved audio was driven by an ever-increasing audience demand for bigger experiences. For example:

Movies: Casinos today are in a position similar to the one movie theaters were in more than 30 years ago. At that time, Dolby® Laboratories introduced a stereo sound system that blew audiences away and revolutionized cinema sound - spawning numerous competitors. Within a decade, more than 6,000 cinemas worldwide had upgraded to Dolby Stereo. The genie was out of the bottle. Today, 5.1 and 7.1 digital surround systems (from Dolby and others) are common in theaters everywhere. High-performance audio is an expected part of the movie-watching experience.

TV and home theater: Among the reasons movie theaters amped up their audio systems was to compete with the introduction of big screens and big sound at home. Home theaters offer more than blockbuster movie thrills. Networks even broadcast golf tournaments in surround sound – the wind in the trees, the thwack of the ball off the tee, and the whispers and polite clapping from the gallery places the viewer in the middle of the action.

Music and personal audio: Transistor radios, boom boxes, Sony Walkman, Apple iPods – a 60-year trend of increasingly sophisticated consumer audio devices which all improved our awareness of high-quality sound. Every advance was driven by consumer desire for a better sound experience. Today, music lovers of all ages think nothing of spending \$300 and up for headphones. As little as ten years ago even dedicated audiophiles wouldn't have paid that.

The race for ever better sound is on. There are two key take-aways from these examples: One, people have an ever-growing appreciation for great sound. Two, investing time and space to support high-performance, professionally designed and engineered audio systems has paid off again and again in other entertainment sectors. The time has come for high-performance professional audio to be the standard in casino gaming.

The Systems Approach

A fundamental factor in the success of a high-performance audio system is to design and build it as a system, not just an assembly of components. A high-performance audio system requires each part to be expertly selected for 1) what it

contributes to the overall sound, and 2) how well it performs when connected to the other parts.

You cannot achieve great sound with parts pulled from a catalog. Focusing on audio performance requirements, rather than simply specifying a speaker that fits the space, will bring a greater ROI. The realism and impact of quality multi-channel audio is accomplished only by using an approach that considers high performance audio as essential from the start – when the project is an empty CAD file.

The critical first step to achieve high-performance audio in a gaming system is to establish the audio performance specification. What sound content must the system deliver? Full-fidelity music in the game sound track? Game enhancing sound effects? Is delivering impactful bass important? How loud does it need to be? Will the audio be mixed in stereo or multi-channel surround? Does the game designer have a signature sound in mind?

The next step – one that's often overlooked – is to identify how much space will be required inside the cabinet to meet the audio specifications, and where the best locations are for the various components of the audio system. Speakers can be designed in many shapes and sizes to accommodate different spaces, but a commitment to making room for audio is critical. If allocating space and locations are an afterthought in the cabinet design, the audio system will sound like an afterthought.

Many design parameters translate into system specifications for the engineers. A few key ones are:

- Ambient noise level in the casino, which determines how much acoustic power is needed to overcome the noise and provide the player a comfortable listening level.
- Size, quantity, location, and type (tweeter, midrange, subwoofer) of speakers.
- Amplifier power needed to drive the speakers to desired level.



- Use of digital signal processing, equalization, and crossovers.
- Speaker enclosure and grille design – critical but often overlooked.

Complete the Experience

Millennials are discovering casinos. They're nearly 25% of the population and just entering their peak earning and spending years. The key question is, "What can we do to make slots more attractive to this generation of players and keep them playing?"

The influence of millennial expectations are making professionally engineered, high-performance audio systems a requirement for success on the casino floor. By designing and engineering high-performance audio into your gaming equipment from the beginning, you will generate real payback for both casinos, and game manufacturers, every time a millennial plays your game. ♣

Dan Digre is President of MISCO, a leader in innovative loudspeaker solutions. He can be reached by calling (612) 825-1010 or email ddigre@miscospeakers.com.