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NEW HEARING LOOP SYSTEM AT ELLIOT HALL OF MUSIC RESULT OF 40+ YEARS OF ADVANCES IN AWARENESS, TECHNOLOGY

Product Development, Wireless Technology Finally Merge To Create High Quality Audio Enhancement at Reasonable Cost

“Blindness separates us from things, but deafness separates us from people.” – Helen Keller

ELGIN, Ill – The new hearing loop technology that recently debuted at Purdue University’s 6,000-seat Elliott Hall of Music represents the culmination of decades of advancements in audio technology. It also addresses a pent-up demand for large venues to be able to provide quality audio enhancement to those with a variety of types of hearing loss.

Steve Thunder, president and hearing loop engineer at Assistive Hearing Systems (AHS) said the perils of hearing impairment or loss can seem to be less severe than some other disabilities since its effects are not visible to the public.

“When someone is blind, or has a prosthetic leg, or is in a wheelchair, their disability is visible to everyone, and that makes it quite apparent that we need to do something to accommodate that disability. Hearing loss is different because it’s invisible and people are often reluctant to say anything for fear of revealing their disability.”

According to Betty M. Nelson, Dean of Students Emerita at Purdue, the Elliott Hall hearing loop represents a major step forward in addressing the needs of those with hearing loss or impairment.

“For approximately 40 years, many of us have been nudging and inquiring and promoting changes in sound technology throughout the campus and especially in the larger venues,” she said. “Looping was included in the classroom construction of the new Wilmett Active Learning Center which was dedicated in 2017 and in recent years, two smaller auditoriums on campus, Fowler and Loeb Halls, were looped. Make no mistake about it – looping for the Hall of Music is the BIG deal. It shows that the technology is viable on a large scale, which is what many of us have been waiting a long time for.”

The need certainly exists. According to both the Hearing Loss Association of America and the Hearing Health Foundation, approximately 20 percent (about 48 million) of Americans suffer from some form of hearing loss, including one in five teens and young adults. As we age, the problem becomes far more prevalent, with one in three people age 65 to 74 and more than half

of those over 75 suffer from hearing loss. The problem is even more acute among returning military service members, with 60 percent showing some form of hearing loss.

A widely-circulated study on customer complaints showed that 96 percent of people don't complain after a poor experience. So it's no surprise customers who can't hear a performance, speaker or business associate clearly will not complain, as they don't want to flag the fact that they have a hearing problem. And of that 96 percent, 91 percent will simply stop attending events rather than complain. It is difficult for many of those with hearing impairment or loss to describe their problem to a facility manager, which can lead to further frustration especially when it seems like other guests (those with normal hearing) appear to have no problems.

One of the primary issues in addressing hearing impairment is that hearing aids are designed to work at a maximum distance of 6-12 feet. At that distance, with good acoustic conditions, they typically work fine. However, they are not designed to mitigate the acoustic factors like reverberation, distortion and other elements that make it difficult for those with hearing loss to enjoy a performance in a large theater. By delivering the sound direct from the facility's sound board to the hearing aid, the hearing loop eliminates these factors and provides clean, clear and ideal sound to the listener. And unlike previous hearing improvement technologies, the hearing loop is user-friendly, requiring only that the user turn on the t-coil mode on their hearing aid or receiving device.

But today's technology, being spearheaded by Thunder a Purdue alumni, and his team at AHS, is offering an affordable, practical solution. Through the installation of a well-designed and installed hearing loop, listeners receive a clear, distortion-free audio signal delivered directly from the microphones in the theater's sound system to the tele-coil enabled hearing aid or receiver (between 70 and 80 percent of current hearing aids are tele-coil equipped). This technology allows the user to get the same audio signal that is delivered to the theater's speakers and amplifiers delivered directly into their ears, without distortion, reverberation or echo.

In a large theatre such as Purdue's Elliott Hall, Thunder said different "zones" must be set up to synchronize the delivery of sound to different parts of the arena and avoid any time lag between one area of the venue and another due to being farther from the speakers. While the time lag may literally be just milliseconds, the difference is very real according to Stephen Hall, Director of Elliott Hall of Music Productions.

"In any large performing arts facility, especially a traditional proscenium theatre with balconies, speakers need to be installed at different locations throughout the venue and then synchronized together so that the imaging of the sound (the perception of what is seen to what is heard) seems normal to the listeners regardless of their location within the venue," said Hall a hearing aid user. "For example, at Elliott Hall we have speakers located underneath both balconies and along the front edge of the stage that fill in the sound for the listeners in those area. The audio signal to these speakers are delayed in milliseconds to correct the disconcerting

effect of the visual image of what is happening on stage not matching up with what is being heard. In a large theatre like Elliott Hall, which has a 3,500 seat main floor and is 150 feet across, 200 feet deep, and 60 feet in height from seats to ceiling, there is a significant lag time in the arrival of the audio signal from the main speaker cluster to the back part of the seating area which impacts intelligibility. The use of fill speakers underneath the balconies corrects this delay. In addition, patrons in seats closest to the stage tend to hear the acoustic energy from the main speakers high over their heads creating an illusion that looks like bad lip-syncing in that what is being heard does not seem synchronized with what is being seen. The fill speakers along the front edge of the stage fixes that problem. All these same complexed issues that we had to consider in our house audio system had to be accommodated in the hearing loop system.”

What AHS’ hearing loop technology does is deliver that same sound quality to those with hearing impairments, rather than just pumping up the volume. And it makes a huge difference, says Hall, a hearing aid user. “Until you hear a performance using hearing loop technology, you can’t understand how much better it is,” he said. “And it’s equally important for musical, theatrical and spoken-word performances. The same principles of different sound registers and frequencies apply, and the benefits are equally impressive for either kind of performance.”

Assistive Hearing Systems is the Midwest’s leader in hearing loop design and installation with completed projects for clients including Northwestern University; Indiana University; the School of the Art Institute of Chicago; Chicago’s Steppenwolf Theater; and Rush University Medical Center. Assistive Hearing Systems is headquartered at 847 South Randall Rd. Suite #218, Elgin, IL 60123. You can reach them on the web at www.LoopIt8.com or by phone at 855-LoopIt8 (566-7488).

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