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QSC Enters Wisconsin State Assembly

by Clive Young, On June 30, 2011 00:00 EDT

Madison, WI (June 30, 2011)--QSC's Q-Sys was installed during the recent renovation of the Wisconsin State Assembly's audio system.

"This system at the Assembly is the most complex we've ever designed or installed," reports Scott Leonard, vice-president of Wauwatosa, WI-based AV specialists Professional Audio Designs, Inc. "Q-Sys was the only system platform that I could find with enough horsepower to do what I wanted to do."

The task facing Professional Audio Designs was to renovate the fifteen-year-old custom audio system in the Wisconsin State Assembly—the lower house of the Wisconsin Legislature located in the State Capitol in Madison—within a limited budget. With the previous installer no longer in business and replacement parts hard to find, relates Leonard, "We needed to make the system more mission critical and try to reduce any single point of failure."



Professional Audio Designs installed two QSC Q-Sys Core 3000 processors for redundancy together with 10 Q-Sys I/O Frames to control and optimize the existing microphones and loudspeakers—which were retained—that are used by the 99 Assembly members. Each member's desk houses a 3-inch speaker mounted behind a custom brass plate, supplemented by a number of low frequency drivers located throughout the chamber. Professional Audio Designs replaced the associated 20W amplifiers, installing them, along with the I/O Frames, within the desks. A total of 53 microphones are shared between the 99 members.

Using the DSP power of Q-Sys, Leonard created a mix-minus of each microphone feed and implemented more than 3,000 delays in the 64x64 cross-point matrix in order to localize the sound to each respective speaking member. The Q-Sys system is also programmed to apply multi-band compression to each mic and EQ to the loudspeakers.

"It was really a perfect fit, and the support from QSC has been really great. When I asked them to modify certain things, like how the delay matrix worked, they were very responsive," says Leonard. "It's a fairly reverberant space, and by time aligning it so that the sound delays to every other speaker across the room, the sound now seems to emanate perfectly from each person when they speak. One of the things Q-Sys really helped us do was tighten up the sound in the room, because you're not exciting the room with all these individual drivers that are not time aligned."

Leonard also installed QSC CX Series 4-channel amplifiers to power speakers in three galleries and a loge public seating area, as well as in the lobby. Audio from the chamber is additionally distributed to offices in the Capitol building, with additional feeds going to the internet and to broadcasters. Q-Sys allows third party control--in this case, a Crestron control system with custom software that Professional Audio Designs wrote with touch screens at the desks of the Speaker, the Clerk, and the Sergeant-at-Arms' office.

"I can watch from my office and if I don't like how something sounds, I can go in and make an adjustment," reveals Leonard, who configured the system with a virtual private network. "The new system is a definite improvement, not only in the sound quality, but having a reliable modern system with redundancy and the ability to monitor the system."

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