



St. John the Evangelist Church: A Sound Restoration



## Bose® dealer solves long-standing reverberation problem

### the venue:

A historic cathedral built in 1880 that underwent a complete restoration, including a highly reverberant fiberglass coating on the walls.

### the challenge:

Create a sound system that improves speech intelligibility and easily can be used by all members of the community.

### the solution:

Bose® Panaray® MA12 modular line array loudspeakers help control reverberations to deliver clear, intelligible speech. The Bose ControlSpace® ESP-88 system is easily set up and controlled for a variety of sound system applications.

### the result:

"I've been here when they installed four systems, and the Bose system is the best job I've ever seen," said Mary Beth Will, music director, St. John the Evangelist Church.

A major restoration at St. John the Evangelist Catholic Church in Delphos, Ohio, created an unexpected reverberation problem that lasted for more than seven years.

The beautiful 150-foot-long (46m) Romanesque-style cathedral, built in 1880, features 100 arches, 14 stained-glass windows, terrazzo floors and vaulted ceilings 65 to 75 feet high (20-23m). In a church of this size, priests, cantors – anyone speaking or singing – needed a microphone to be heard.

In 1998, the church underwent a complete restoration that covered all the plaster in the church with a fiberglass coating that would prevent further cracking and restore a beautiful finish. However, the super-hard and smooth finish created reverberation problems that made amplified speech unintelligible in some areas.

To help solve the reverberation problem, the church replaced its existing sound system with four large speakers installed very high on the pillars. When the new system still was not intelligible, another 20 loudspeakers were hung from the pillars. While they masked or seemed to lessen some of the problems, they could not sufficiently reduce unintelligible sound in the important transept area at the front of the church. In addition, the many hanging loudspeakers detracted from the beauty of the church's architecture.

A parishioner, who had worked with a local Bose dealer to successfully install a Bose sound system in a civic center – another typically challenging acoustic environment – suggested the church contact the authorized Bose dealer about its ongoing problem.

## The right loudspeakers

The Bose® dealer designed a solution that was simple, elegant and effective. The 24 existing loudspeakers were replaced with just 10 Panaray® MA12 modular line array speakers. They were mounted on opposite walls in the transept area and hung on the front two pillars of the nave. MA12 loudspeakers are engineered to deliver high speech intelligibility and natural-sounding music in acoustically demanding spaces such St. John's.

The Panaray MA12 modular line array loudspeaker provides very tight vertical pattern control, which helps eliminate undesirable reflections off of the ceiling and other surfaces. As a result, parishioners now hear speech with intelligibility and clarity. In addition, the innovative design of the MA12 loudspeakers helps provide consistent sound pressure levels throughout the church. Someone sitting in back, for example, can hear the spoken word as well as someone sitting in front.

The ultra-slim, 4.2"-wide (107mm) speakers nearly disappeared into the background for a far more aesthetic solution. One MB4 modular bass loudspeaker was added to complete the system and provide additional bass response for rich, fuller-sounding music applications.

"We decided on the Bose solution because it covered the area we were having the most trouble with," explains Mary Beth Will, liturgy coordinator, music director and principal organist at the church. "When the dealer put the two speaker stacks in the transept area, you could hear it was covering the entire area right away. They were able to install them much lower, only about 14 feet [4m] off the floor, with no feedback."

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*St. John the Evangelist Church's implementation of the ControlSpace® ESP-88 engineered sound processor was voted 2006 Grand Prize Award winner for "Best Use of ControlSpace Features" by Bose Professional Systems' Americas Division.*

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## The right digital processor

In addition to the speakers, the system includes a Bose ControlSpace ESP-88 engineered sound processor for additional functionality, installation flexibility, ease of use and future expansion.

While the church still uses a traditional mixing console for large music productions, two CC-64 control centers, located in the sacristy and choir loft, streamline the operation of the

system for events that are primarily speech or music with small choirs or a few instruments. The ControlSpace system replaced three digital feedback exterminators with EQ modules and two automatic gain control units used on microphones. In addition, the ESP-88 engineered sound processor also allows for multiple "one-button" preset configurations, including one for each parish priest.

Simple on/off/volume control makes it easy for the music director to adjust the volume to the size of the congregation during services. "Teachers from St. John's parochial school also use that feature when they bring students for choir rehearsals, which is usually at least once a day," Will notes. "Everyone now has easy access to turn on the sound system and adjust the volume, which is really important."

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— Mary Beth Will,  
liturgy coordinator, music director and principal organist

The flexible, expandable architecture of the unit allows the system to easily handle a dozen wired and wireless mics, providing additional capabilities for choir members in the loft and small music groups at the front of the church. "We have a number of groups, folk music, small children, high school students, adults and cantors that perform at the front of the church," Will adds. "We don't get any feedback now. It involved a lot of extra work with all the installation and wiring, but everything is bundled and labeled just right now. I've been here when they installed four systems, and the Bose system is the best job I've ever seen."

## A win-win situation

Parishioners immediately appreciated the new sound system and their ability to hear and enjoy their services much better than ever before. More people soon began sitting in the transept area in the front of the church. Will recalls two comments made by parishioners. "One older person said it was the first time he ever heard anything. Another woman made it a point to sit in every space of the church and now says the sound is good wherever she is sitting," she says.

And they were far from alone. A few announcements were placed in the weekly bulletin asking for donations to help pay for the installation. Within four months, almost the entire cost had been covered by parishioner contributions.

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