

Worship in a high tech age

Designing audio and video systems for worship centers



The sanctuary at St. Mary's Catholic in DePere is large and acoustically demanding, but the congregation is very pleased with their new sound system.

The ceilings are high, the light uneven, and the acoustics leave much to be desired. Traditional church buildings and worship centers were not built with audio/visual technology in mind, but more and more of them are in the market for just that. Many older churches already equipped with sound systems are upgrading to newer, more efficient equipment. Larger, newer churches are also bringing in video technology as a way to wake up the Sunday morning sleep-ins. These congregations have come to realize that today's technology can be a valuable tool in spreading the Word of God to those who might not otherwise be listening.

Doing away with dead spots

There's nothing more annoying to a church member who slips into the back pew than to realize he can't hear a word of the service. The audio systems installed years ago are a far cry from what today's technology can offer. "With an aging congregation you need a sound system that the aging can hear and understand," says Susan Lewis, CEO of Lewis Sound & Video in Waukesha, Wisconsin. "Every church audio system has to be custom designed because each church is so different. You can't haul a system out of a box because the acoustics of each room are different."

Everything in a given room will affect the audio—the walls, the floor treatment, the pews and their location. Quite often, in older worship centers, the loudspeakers were installed where they could be conveniently mounted, though that might be the wrong place. Even newer churches can find themselves with problems. At St. Mary's Catholic Church in DePere, Wisconsin, an expensive new audio system had brought nothing but com-

plaints. "We had a dead space in the back where the sound just seemed to come down and disappear," says Lois Schumacher, St. Mary's business manager. Eventually members went to the Weidner Center at the University of Wisconsin and asked who had done their sound. They recommended Lewis Sound & Video. "There aren't too many other rooms in this area that seat 1,000 and have 75 foot ceilings," Schumacher says. Lewis staff added digital signal processing and replaced the amplifiers and speaker system, filling the room with even, robust sound. "Lewis Sound wasn't intimidated by that space at all," says Schumacher. "It was a mess before they came in here, but not long ago I actually heard someone say, 'I come here because I can hear!'"

Lewis uses EASE, an acoustic design software package, to help pinpoint the best positioning of speakers for the fullest, most efficient audio. The software also allows them to simulate loudspeakers' performance before any work is done, so pastors and their property boards can see just what the speakers will do in their worship center. That pre-construction promise made quite an impression at St. Bernard Parish in Green Bay, when they discovered

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their old sound system couldn't handle the volume of their newer, more contemporary music. Typical Sunday services at St. Bernard include anything from a 30-40 voice



Trinity Lutheran Church in Waukesha combines a modern sound system and video projection with a traditional pipe organ

choir to a rock-and-roll style praise band.

"When we brought in the synthesizer the speakers above kept cutting out," says Joe LeBeau, director of liturgy and music for the parish. "People couldn't hear the bottom end of the piano. It was there, but not like it should be. Now you can actually feel it."

LeBeau was impressed by what EASE revealed. "That software is fantastic. It showed us why we couldn't hear before and what a new system would do for us."

In many congregations it's the pastor or choir director who runs the a/v. "The last thing the choir director wants to do is run a mixing console, turn on mics and adjust volume while they are performing," says Lewis. "So the first thing we ask is, 'Do they have someone who can run a console at every service or do they need it to be automated?'"

Creating presets is key to automating a church system. "On an average Sunday you're running all of the sanctuary speakers, the narthex and maybe the fellowship hall, so that volunteers in charge of the coffee know when the service is letting out," says Lewis. "We'll give the pastor or choir director a button that says 'Sunday Service' and all the adjustments we set up for a typical Sunday will load from memory. A 'Wedding' button may bring up the sanctuary and the cry room and a 'Funeral' preset even less. "The pastor can put on his lavalier microphone, pick the scenario he feels is appropriate, and the sound system delivers the necessary audio." There's no necessity to touch the sound board or even an equipment rack. A control screen can be located where it's easy to access, say in a vestment area.

The big picture

Susan Lewis says good sound systems have long been considered a necessity for most churches, but video is becoming every bit as important. "With a younger congregation you need a system that gives them the flexibility to do all of the varying programs they run in that sanctuary." That might be a Friday night at the movies with the church youth, a more elaborate Christmas pageant, photos and images from a visiting missionary, or a recorded performance by the choir. "Many churches started adding video because the cost of replacing hymnals was so high," says Lewis. "But after ten years of working with projection, they've discovered all sorts of additional uses."

Fox River Christian Church in Waukesha has added an elaborate production system to its three-screen audio/video system, which Pastor Guy Conn calls a

"wow point when you walk in the room." They generally build their entire service around their audio/video capabilities. A staff of 25 to 30 volunteers creates a variety of new programming every week, from videos of summer Bible school to a 360° walk around a living manger scene at Christmas. It is definitely a "multi-sensory worship experience."

Lewis says PowerPoint in churches might be a little surprising to some. "There is a reluctance, especially among the over-70 set, to bring video into a sanctuary. They don't initially find the fit in keeping with a house of worship, but they are often the first to embrace it once it's in the door. They realize, 'Hey! This really works.'"

Seeing the light

For churches that opt for video, finding the right projector is important. Stained glass windows and a lot of ambient light can often require a projector with 5,000 ANSI lumens brightness or higher, and these have been extremely expensive. In recent years, however, costs have come down dramatically, making video much more affordable. Congregations are also concerned that a/v equipment not ruin the look of the church, especially in older sanctuaries. "We work within the existing structure," says Lewis. "We can often tuck a screen where nobody sees it unless it's in use."

Lewis says church leaders often derive an idea of what a system will cost from asking counterparts at other churches. "Still, if we design a system that exceeds their current budget, we often rework it to a basic backbone," says Lewis. "We take out some of the bells and whistles and make them add-on options for future work." Clearly, the right system is worth waiting for.

A lot of churches are realizing that spending thousands of dollars on hymnals that will become outdated is far more expensive than a video projector and screen. "Hymnals can only do one thing," Lewis says, "but a projector can post announcements or the church calendar as the congregation enters, then follow up with lyrics and a video of a mission project. It's a digital sign that can post an earthly or spiritual message."

Most congregations are excited about the end result. Lewis says they often don't realize how good a sound or video system can be after putting up with a bad one for so many years. "It's fun when you turn the new system on for the first time, and they're just thrilled with it."



Mixing console at Faith Lutheran in Appleton offers flexibility plus the convenience of multiple presets.