

Bringing concert sound to Sunday worship



The auditorium at Fox River Christian features three projection screens and two Electro-Voice compact line arrays installed by Lewis Sound of Waukesha, Wisconsin

Fox River Church speaks and sings with array system

by Wendy Ellis, for Systems Contractor News

A rousing round of the Hallelujah Chorus can stir the blood and inspire the soul. The soft voice of a small child about to deliver her only line in the annual Christmas pageant before a sea of unfamiliar faces can do the same. Members of the Fox River Christian Church in Waukesha, WI, know the value of both and have taken measures to make sure neither is lost in translation.

"Normally you would have to choose," said Pastor Guy Conn of Fox River. "Do you sacrifice the clarity of music for the spoken word? Or do you sacrifice the spoken word for the music?" That is not a choice they have to make anymore because their sanctuary, or auditorium as they refer to it, is now home to the kind of sophisticated line array speaker system you might expect to see in a large concert venue rather than a house of worship.

The speakers are part of an elaborate audio/visual network that runs throughout the church, from classrooms to narthex to meeting rooms to auditorium. The dual set of eight Electro-Voice speakers and four bass cabinets hang from the ceiling above the stage where a weekly ensemble of electric guitars, grand piano, percussionists, keyboards and often brass take the place of a traditional church choir.

"Our auditorium is designed for a multi-sensory worship experience," said Pastor Guy. "There are two key components to that. One would be the music and the other the spoken word. Wherever you are, with this sound system you will have clarity. Even people that are under the balcony, which is a traditional dead spot, are amazed."

It is the way in which a line array controls the placement of the sound that fills this auditorium with a joyful noise, eliminating feedback as well as those

traditional drop outs and dead spots. Depending on the height of the array, even low tones down to 200 - 250 Hz can be controlled. That means the sound energy of the human voice can be kept out of the space between the speakers and the stage below, allowing the church to raise the level of on-stage microphones as high as they wish.

"The line array gives control in the direction of its height," said Henry Lewis, of Lewis Sound and Video in Waukesha, who designed and installed the system. "You can stand right underneath and it's not lobing. The mic can't hear the speaker." Now, even the softest voice can be heard in the farthest pew without a problem.

"A conventional speaker is a point source," said Henry Lewis. "It's like a light bulb hanging in the middle of a barn. The farther away you get the dimmer the light. A line source can be visualized as a train or a highway. You don't hear the individual cars, you hear the whole train. It doesn't reduce in level over distance the way conventional speakers do. The point source gets softer quicker. Sit on a porch in the summer and you can still hear the train in the distance."

Audio is highly affected by its environment. "One has to be careful in design and implementation of the

"...Wherever you are, with this sound system you will have clarity. Even people that are under the balcony, which is a traditional dead spot, are amazed."

system. It isn't just hang it up, get a pat on the back and walk away," said Lewis, who uses a CAD program called EASE to anticipate how a line array will disperse sound.

"The proper criteria have to be in place to make a line array work. First and foremost is the ceiling height." At Fox River Christian Church the ceiling is nearly 30 feet high and the speaker column approximately 9 feet, which places the bottom of the array about 17 feet above the stage. "We've got to get the array up and away from people to allow it to develop its sound," Lewis noted.

The sound system is definitely eye catching. "People say it's larger than they expect when they first

"We're very happy with what we've got. It speaks value to both the music and the spoken word."

see it," said Pastor Guy. "But the sound they would consider to be professional concert sound. After a while they don't see it anymore." The speakers were installed last fall in a large remodeling project—the back wall of the auditorium was knocked out and an additional 40 feet was added. The floor was sloped and a balcony was built to

accommodate an ever growing congregation.

Behind the stage is a large projection screen, with a small projection room feeding a center screen that is complemented by two smaller screens on either side. "It's definitely a "wow" point when you walk in the room," Pastor Guy said.

There are no hymnals at Fox River Christian: the church projects lyrics on screen as needed. "This frees up your hands and your head so you can be 100 percent focused on what's going on in the room," said Pastor Guy. And there is a lot going on. Lyrics are probably the least interesting item put before the congregation on those screens. A staff of 25 to 30 volunteers comes up with new and different audio and visual programming every week. That includes everything from animation to live video to clips of TV and movie scenes, whatever might enhance the already high level of sensory stimulation going on during this hour long service.

Recently the congregation was treated to a three minute video recap of the children's ministries summer bible school. During the Christmas season there was a 360 degree walk around an animated manger scene. Quite often when the children are on stage their images are put on screen so everyone can have a good view of the performance, which can be a little too fascinating for the younger ones.

"If they see themselves on stage they won't take their eyes off the screen," said Pastor Guy. "We try to keep them turned around to the audience."

The church is always looking for new ideas on how

to use their cutting edge technology. Some they get from congregants, some from other churches. Other congregations have come to see the technology at Fox River first hand and are often overwhelmed.

"We literally came from a slide projector and a couple of extra speakers on the side," said Pastor Guy. "We've been blessed to come to this point in technology, and we just tell them to take it one step at a time." The church's new digital sound board presents another range of possibilities. "There's a huge learning curve with that," said Pastor Guy. "Think of it as going to 31 Flavors. Instead of having 31 choices you have 150. There are so many things you can do, but you have to get your basic stuff working

first."

All of the A/V in the auditorium can be piped to other monitors and audio connections in the building. An additional chapel offers space for 250 more people to watch services if there isn't enough room in the auditorium. At the same time, classrooms and meeting rooms can use their a/v systems independent of what's going on elsewhere in the church.

Pastor Guy estimates his congregation at around 1600 people every weekend and believes the technology is an advantage not a deterrent to growth. "We take the power of the message that Jesus delivered and put it out through the technology available to us. Our musicians feel valued by what we've done for them. We really do feel that excellence honors God and that people matter to God. We're willing to spend the money to achieve that."

Pastor Guy says parishioners are quite proud when they bring people in to see the church and its technology. He believes their type of contemporary Christian, multi-sensory service would never be as effective without the visual and audio stimulation they have now.

"We're very happy with what we've got. It speaks value to both the music and the spoken word. By the grace of God we will continue to grow," said Pastor Guy. "You may be moved by the technology the first few weeks, but it's the message that keeps you coming back."

Reprinted from Systems Contractor News, September, 2004. Copyright 2004, CMP Information, Inc.



A wide range of presets on this digital sound board greatly speeds setup of special events at the church.

Close up of one of the line arrays

