

“Making the Technology Leap”

Challenge: Replace an outdated audio system and add video capabilities without compromising the interior esthetic of the main sanctuary.

Solution: Integrate cutting-edge compact loudspeaker technology and video projection to help this church take a technology leap forward without degrading its original architecture.

Dedicated in 1964, the Ascension Lutheran Church in Paradise Valley, Arizona has a long and successful history of adopting new ideas and technologies. The church’s sanctuary design is significantly influenced by the architecture of Frank Lloyd Wright and Taliesin West, Wright’s winter home and campus for his architectural apprenticeship program. Wesley Peters, Wright’s son-in-law and architect of record for the church, incorporated the pentagon into the design of the building.

“It is closely related in geometric structure to the five-pointed star -- the star of Bethlehem, or traditionally the ‘Epiphany’ star,” says Pastor Katie Adelman of Ascension Lutheran. “The shape provides wall surfaces that converge on the worship center, allowing an expansive focal point with excellent visual and acoustical characteristics.”

Ascension Lutheran features a pentagonal shaped sanctuary topped with a spire rising 140 feet in the sky. The sanctuary is flanked on three sides by balconies for the choir, pipe organ, and overflow audiences, and measures 76 feet across with a ceiling height of 54 feet. Seating on the main floor can accommodate over 800 members of the congregation.

Recently, the church underwent a \$3.5 million campus-wide renovation. Included in this wholesale update and upgrade was the sanctuary’s sound system and the desire to add video projection capabilities to worship services.

“The former sound system was over 30 years old and was a single center cluster hanging in the middle of the main platform,” says Bob Smith of Audio Video Resources, Inc (AVR) in Phoenix, whose Media Systems Group completed the audio and video installs. “The church’s absolute main concern was preserving the integrity of the main sanctuary. We improved the sightline immediately by removing the center cluster. Next we had to tackle how to design a sound system that could deliver high performance sound without being an eyesore to the congregation.”

After surveying the available space and measuring and analyzing the room, Smith and his team turned to JBL’s compact EVO line of loudspeakers for the audio solution. With JBL’s Distributed Intelligence™ technology, the EVO series self-adjusts its frequency response and sets its own delay with knowledge of where its partner speakers are located. The central hub and user interface was the EVOi.net speaker system controller.

“EVO was a good choice for them, especially since they were graduating from a very basic sound system to something more technologically-driven. Plus, the sanctuary has vertical design features that allow for vertical cabinets,” explains Smith. “JBL EVO setup was a breeze. Thanks to the size and the technology, it really was the perfect solution for the space.”

In order to make the loudspeakers virtually disappear, the cabinets were painted to match the church’s sand-colored plaster walls. The cabinets were then tucked into niches on both sides of the worship center and in the rear balcony.

“We actually installed two complete sound systems in the sanctuary using EVO product,” explains Smith. “There is one system for the main platform in the sanctuary that fires forward into the audience for the spoken word portion of the worship service. Additionally, there is another set of EVO loudspeakers in the rear balcony for the choir that fires from behind the audience. This allowed the choir to have its own sound source for the music portion of the service.”

In addition to EVO, AVR installed JBL EON10 G2 powered loudspeakers and JBL Control 24T Micro ceiling speakers. A Soundcraft 32-channel 324 Live digital mixing console handled both front and rear systems.

“This was also a big technological leap for the church. The previous mixer was an older Yamaha 8-channel analog mixer,” says Smith. “We also moved the mix position from the upper balcony onto the main floor. This required that we consider the security of the equipment as well. We used HSA roll top desks that were stained to match the pews in which to store the console.”

The rest of the main system included a Shure DP11 digital equalizer, a TOA P924 MKII amplifier, an Ashly LX-308B stereo line mixer, Marantz PMD-350 cassette/CD combo, Marantz XLR-350 balanced audio kit, Marantz MV5100P VCR, Marantz DV4200P DVD player and Marantz PMD-501 cassette recorder. The church’s new microphone system included a handheld Shure BETA87C and a wireless Shure LX14/50 with the Shure WA405 antenna distribution system.

“The church also added video capability to match the upgraded performance audio system. Again, the goal was to avoid any changes to the interior architecture of the sanctuary,” says Smith. “At first glance, this looked almost impossible. The sanctuary has over 25 small light fixtures hanging on 25 foot poles extending down from the peaked ceiling. The poles measure about ¾” in diameter.”

The light fixtures, which were original to the building, were used to mimic the heavenly night sky within the sanctuary. Smith and his team at AVR had to find the ideal spot to project video so that it wasn’t necessary to add the expense and time-intensive labor to re-hang the poles.

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They relied on two high resolution EIKI LC-X4L 5000 lumens projectors each fitted with an EIKI AH-21091 projector lens. The projector mounts ~~is~~ are a Chief VCM-49E with a custom AVR pedestal mount. The projectors are hidden in the rear balcony area and cross-fire to the opposite walls with 84 feet of throw.

“The church didn’t want screens up on the wall. Instead, images are projected onto the beige walls of the sanctuary,” says Smith. “There is a 3-foot wide soffitt around the room which will allow for ascender type screens in the future. Overall, Ascension Lutheran has done very well with the new systems. They definitely made a big technology leap forward while keeping to their structural heritage.”

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