

CHURCH AV DESIGN SEES INTO THE FUTURE

CHALLENGE: Design an AV system capable of accommodating the present and future AV needs of a church congregation growing at an uncontainable pace for a single structure.

SOLUTION: Create expandable AV systems that serve existing spaces with the future capability to eventually broadcast services to remote sites.

The sprawling AV system installed in an Arizona house of worship meets its current needs, while paving the way for future expansion.



The sheer size of Christ Church of the Valley's main sanctuary — with room for 1,500 worshippers on its main floor, plus 1,500 more stadium-style seats — was one of the most challenging aspects of the design process.

THESE DAYS, houses of worship with constantly expanding congregations are increasingly finding themselves in a position where bigger is never enough. With some ministries literally bursting at the seams, many build bigger churches to solve their growing pains, only to find that the new structure is already too small halfway through the construction process.

Some 20 years ago, Christ Church of the Valley (CCV), only wished it had such problems. Founded by Senior Pastor Dr. Don Wilson, the church's first home was a rented movie theatre in the northwest corner of Arizona's Phoenix Valley. Since then, CCV experienced a substantial growth spurt — graduating from an elementary school and strip mall before taking up permanent residence in its new home in Peoria, AZ, where more than 9,000 people now attend weekly services. The new facility features a 113,850-square-foot worship center, a 3,000-seat sanctuary, a conference center, and meeting rooms. Hired to develop the sprawling AV specifications for CCV's new worship center, El Cajon, CA-based Sound Technology Consultants recognized its daunting task in creating a future-ready AV system capable of meeting the church's changing needs.

"When you look at a large, growing church like CCV, you're really looking at a ministry no building will ever wholly contain," says Jeff Miller, a senior associate with Sound Technology Consultants. "Given CCV's rate of expansion, this truly is a place where we may have reached the point where just building bigger buildings to meet growth needs may not be practical anymore. While designing the AV and

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audio systems for this new facility, we had to look several years down the road at what might be required in terms of remote venues, whether on this campus or across town, and ensure that the technical systems would be able to handle this type of expansion."

To help bring his design vision to life, Miller worked with systems integrator Scott Oosthuizen and his team at Sound Image, a contracting firm with offices in Escondido, CA, and Phoenix. The sheer size of the worship center's main sanctuary was one of the most challenging aspects of the design process. With room for 1,500 worshippers on its main floor, plus 1,500 more stadium-style seats, the large room faced several acoustical problems, including a lack of reflective surfaces that negatively impacted congregational singing, and concave walls at the rear of the stage and main seating areas that produced problematic reflections.

The project team solved both issues with acoustical treatments — creating a ceiling "cloud" made of absorptive material to boost the congregation's collective singing voice, and used absorptive materials applied directly to each wall's surface to eliminate reflections in the stage and main seating areas.

To provide the space with the necessary audio intelligibility and musical reproduction qualities it required, the team flew three clusters in a left-center-right, cross-matrixed configuration above the main platform. Four three-way Renkus-Heinz STX-9/64 loudspeakers and a pair of Renkus TRX-81/9 two-way cabinets serve as down-fills within each cluster. Working back through the room, Renkus TRX-121/9 enclosures are used as delays, while a second group of TRX-81/9s mounted in the face of the stage manages front-fill on the ground. Renkus-Heinz BPS12-2 subwoofers housed in three concrete bunkers along the front of the stage produce extended low-frequency response for the space. Built to enhance low-end performance, the bunkers isolate the low-frequency cabinets on three sides to force their acoustical energy into the listening environment and keep it from spilling into unwanted areas.

Several QSC amplifiers, which provide power for the facility, are housed along with the facility's other audio processing elements in four Lowell L278-77 gangable racks in a second-floor equipment room (see sidebar "The Gang of Four").

by Gregory A. DeTogne

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