Martin Audio WPLs for St. Peter’s Lutheran Church



The Columbus district of Indiana is known as the architectural capital of America’s Midwest, housing a clutch of unique and iconic modernist buildings. A good example of this high art is St. Peter’s Lutheran Church, constructed in 1988, and described as “an architectural masterpiece”. But for all its aesthetic beauty, delivering an evenly-distributed sound through the sanctuary to the 750 congregants - sat in a series of rising levels of concentric, but irregular circles - had proved historically difficult before the adoption of a Martin Audio line array.

Tasked with masterminding a sustainable PA upgrade, Alex Moon, Director of Engineering at the locally-based Force Tech, undertook a site survey. He immediately noted the asymmetric and non-aligned interior, with the sanctuary set around a central section flanked by two raked seating wings. He recognised that finding the centre of the room with the PA would be difficult. ”It was a very interesting but difficult space, which required a complete rethink,” he rationalised.

The upgrade contract had originated from an acoustics consultant with whom Force Tech had worked previously. Sensing that the acoustic treatment required to preserve the integrity of the sound would be too cost-prohibitive, Moon drew on all

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his experience of specifying Martin Audio systems over a number of years, and his deep knowledge of the manufacturer's proprietary DISPLAY3 acoustic prediction software.

Historically, the church had been through several PA iterations, starting with a point source system. "This was then replaced by a column array when they were doing mostly speech and voice lift, and then a planar system," he stated. But the PA never provided adequate coverage - particularly when the church's needs developed from traditional choir-based service to a more contemporary Sunday worship, incorporating a full orchestra and band; at the same time it needed to meet the midweek needs of the private school to which it is attached.

The sound designer's solution was to specify Martin Audio's scalable Wavefront Precision Mini (WPM) line array - which proved to be hugely cost-effective and obviated the need for acoustic cladding. He knew instinctively that WPM would represent his best option, and the DISPLAY data confirmed that his decision for two optimised hangs of 10 elements each side of the stage - with a pair of SXCF115 subwoofers at the top of each hang in end-fire - would meet all requirements.

But prior to adoption, he first insisted on delivering full proof of concept to the client after their rocky SR journey to date. "We knew we could get them to a better place without all the acoustic treatment," he said. Martin Audio's North-eastern Regional Sales Manager, Martha Callaghan, organised a demo rig, and support engineer Will Harris set up and tuned the system on site. That was all that was required. "They loved it," exclaimed Moon. "The difference was night and day."

To complete the deployment, a further pair of SX218 subs have been ground-stacked either side of the stage and the entire rig is powered by an iK42 and three iKON iK81 DSP multi-channel amplifiers, assigned in 2-box resolution. Mindful that the church is a thing of architectural beauty, Alex Moon ensured the speakers were finished in white to blend into the décor. "We had warned the client from the beginning that [the PA] would be a lot more visible than previously, and they were fine with that."

It then came down to the tuning and the precise steering of the system. The designer used his programming skills to apply 'Hard Avoid' to relevant areas, while the cardioid subs ensured the necessary rear rejection - thus enabling consistent coverage without unwanted reflections. Having designed, and commissioned the system, the Force Tech Engineering Director - along with colleagues, account manager Brian Eicher and project manager, Darren Strom are confident in knowing that this solution will meet St. Peter's needs for the foreseeable future.

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