

# TECHNOLOGIES FOR WORSHIP®

## TECHNOLOGY SPOTLIGHT

### FIRST LUTHERAN CHURCH



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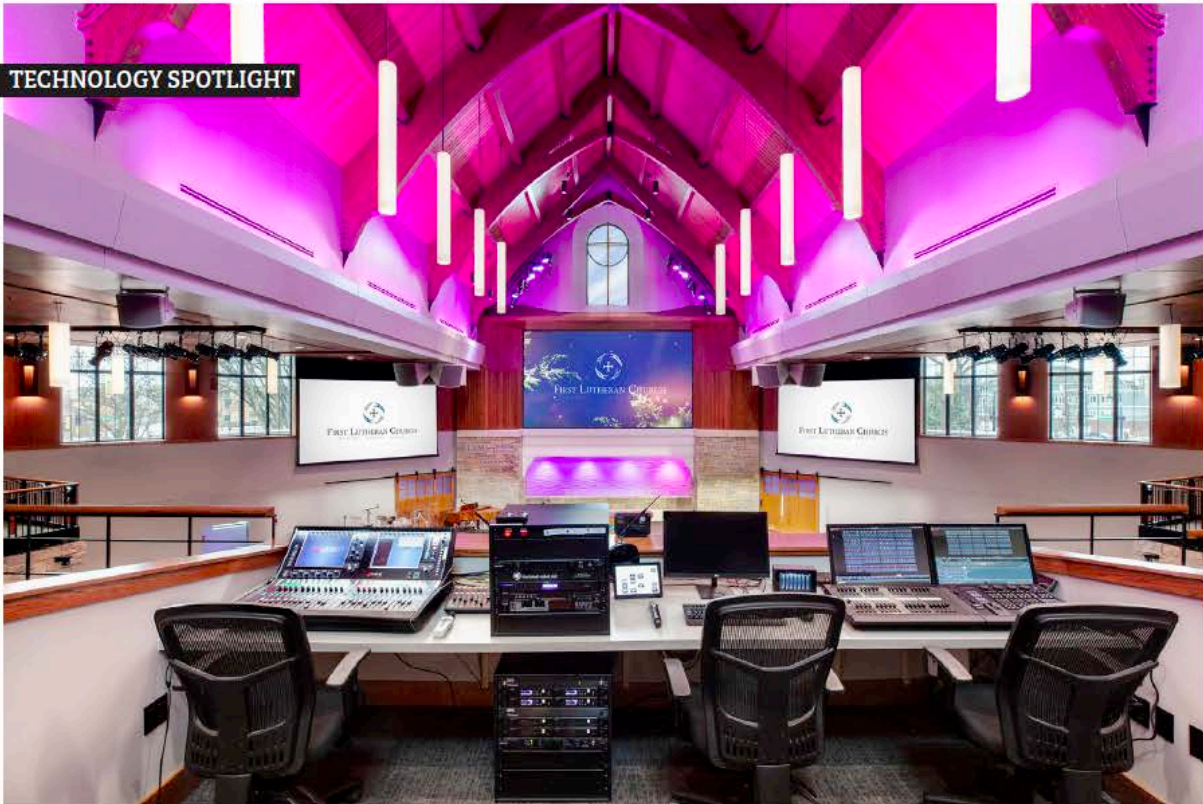
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TECHNOLOGY SPOTLIGHT



PHOTOS BY JILL OCKHARDT BLAUFUSS

## First Lutheran Church Fargo, ND

For the past 104 years, the First Lutheran Church of Fargo, North Dakota, has been ministering to their community. Their 100th year anniversary in 2017 served as an impetus to modernize the church's original facility. As Senior Pastor Corey Bjertness and his team saw the need to expand to better serve their members and provide inspiration to their community and beyond.

The First Lutheran team reached out to Mike Wild, from Fargo-based architecture and construction firm Wild|CRG, and Dallas Anderson, the lead audio designer of Fargo's Tricorne Audio, Inc., for A/V systems planning and integration, respectively. Walters-Storyk Design Group (WSDG), an acoustic design firm, was highly recommended by a parishioner who had engaged them to design his local professional recording studio, and brought on board to design the acoustics for the expansion to ensure that First Lutheran would have optimal audio clarity in both spoken and live worship.



FLC



Wild | CRG



Tricorne



WSDG



The new Celebration Center seats 706, which includes 172 seats in the balcony. With a raked floor, acoustically treated ceiling, stunning glass windows to let in the light, and a large stage, the Celebration Center could have been an acoustical nightmare. Instead, meticulous detail was paid to the design during the planning stage to ensure First Lutheran would get the pristine audio they wanted, regardless of who was on stage. “Our design for the Celebration Center was carefully planned and included components of modernization to help meld the new construction with the classic original buildings,” said Wild. “Elements like the glass-enclosed stair shafts provided cohesive components that served a judicious unifying purpose. WSDG was proactive in pointing out potential acoustic problems, and I’m sure their recommendations saved time and money on unanticipated ‘fixes’ down the road.”



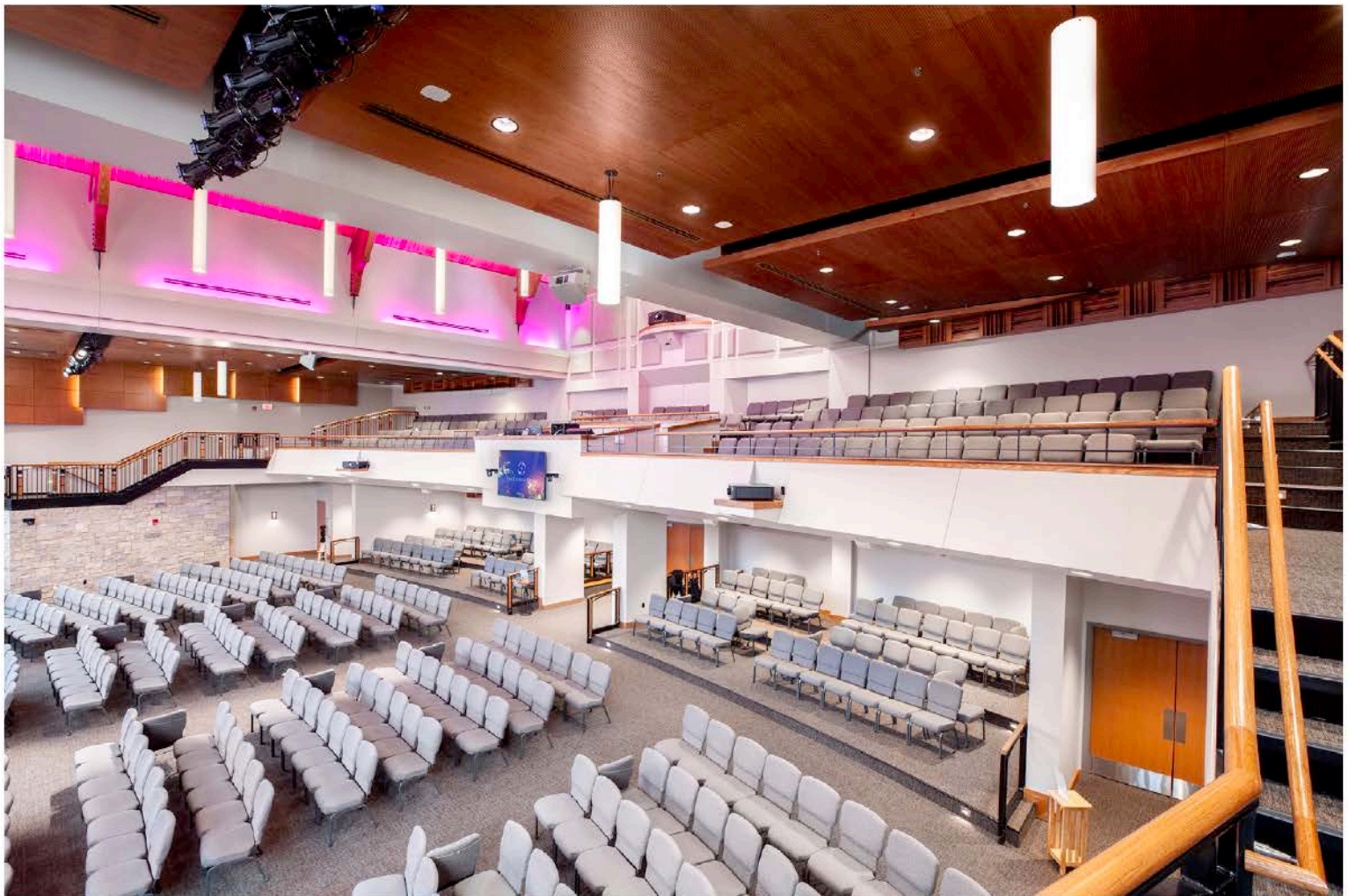
“Working closely with Mike Wild on the acoustic design was an ideal collaboration,” said Joshua Morris, WSDG COO/ Project Manager. “He was knowledgeable about the importance of carefully plotting out the placement of necessary wall and ceiling treatments prior to construction. We also consulted closely with



Dallas Anderson on technology recommendations. Everyone was very open to our recommendations and the entire three-year design and build process was a textbook example of supportive input.”

Andy Swerdlow, Partner/Acoustic Engineer, WSDG, agrees. “Everyone has their own ideas about what’s going to sound and look best, but working with both Mark and Dallas was easy. There is sometimes a potential for friction between the acoustic engineer and the systems integrator specifically because we may not see eye-to-eye on certain components of the design, but it was always a pleasure working with Dallas because he understands the link between AV, acoustics, and architecture. We made a good team.”

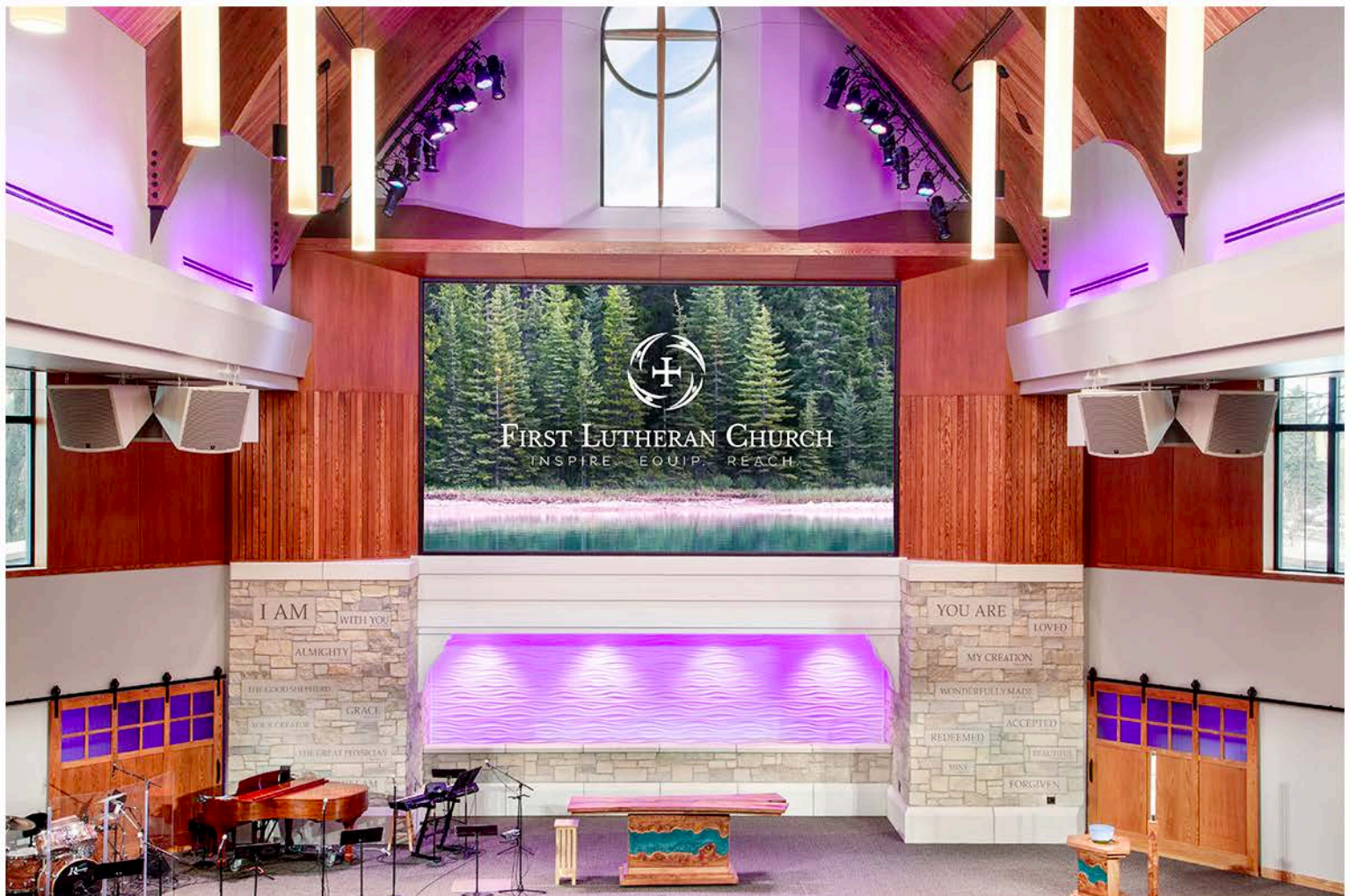
Utilizing EASE (Enhanced Acoustic Simulator for Engineers) software helped determine which type of sound system would work best to disperse sound throughout the facility, eliminating delays, reflections, and “muddy” audio. The EASE Model that Tricorne Audio and WSDG created mapped the space acoustically, allowing both to conclude that a point-source sound system would be preferred to a line-array, not only for audio quality, but also to eliminate line-of-site issues with the projectors and screens.





Choosing Fulcrum Acoustic for the main house speakers, Tricorne selected two Fulcrum speaker arrays comprised of their FH1566 speakers positioned in the ceiling above stage left & right, and two pairs of CS121 subs flown behind them, to carry the bulk of the audio. Fulcrum Acoustic's CX1226 speakers were used for balcony delay fills, with two additional Sub215L subwoofers on the floor, with all main house speakers driven by four Lab.gruppen amplifiers. QSC also plays a role in this, providing the under-balcony fills and back of house audio, with digital signal processing through Symetrix's Prism 12 x 12 with Dante networking.

An Allen-Heath dLive 64-channel digital mixing board and Allen-Heath IP8 lecture sound control system facilitates both basic and more complex presentations, with a Shire wireless system to further enhance the audio. Extron's DTP CrossPoint 4K matrix switcher provides control for multiple inputs to the projection system. A large stage and giant (non-motorized) Da-Lite Cinema Contour HD Progressive 282" x 162" screen and motorized left & right side 192" X 108" Da-Lite screens provide clear viewing to services and performances for all audience members.





Lastly, an audio/video production central control area is stationed at the front of the balcony with three mid-ceiling mounted projectors, a 29,000-lumen Digital Projection Titan projector for the center screen and two 10,000-lumens E-Vision video projectors mounted in front of the balcony for left and right. The acoustics and technology have been fine-tuned with cutting edge wall and ceiling treatments to enhance listening appreciation, with the large center screen also serving as a membrane resonator.

Commenting on the acoustic footprint, Tricorne Audio's Dallas Anderson remarked, "The sound quality of the Celebration Center performance hall is phenomenal," said Dallas. "The Fulcrum Acoustic speakers we selected for the main house are compact and provide an excellent pattern control. The entire system projects a terrific balance of contemporary and traditional sensibilities, and it has been performing flawlessly."

Parish Administrator, Daniel Damico agrees. "It all just works. When we first started this undertaking, it was daunting at first because we knew what we wanted but we didn't know how to get there. Luckily, we were able to work with some excellent partners in Wild|CRG, WSDG and Tricorne Audio, and they were able to take our vision and run with it. We couldn't be happier with the end result."

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Technologies for Worship was able to speak with Daniel Damico Parish Administrator, First Lutheran Church, and Andy Swerdlow Partner/Acoustic Engineer, WSDG, for their thoughts on this project.

**TFWM: We love the way everything looks! The lines are so clean and bright, but I have to say I really love the window above the stage with the Cross and the circle. Not very technical or gear-oriented, but just beautiful to look at.**

**Daniel:** That same window is also in our fellowship area and our original sanctuary, which is about 100 years old. The fellowship area was built in 1996, and the new space which we're talking about here all have the same type of A-Frame rough with wood and a window, so when you are walking through these spaces, they all feel very similar as far as height goes. Keep in

mind, there are a lot of differences because of the different eras in which these rooms were all built, but they all have that same cross window in the two newer spaces to tie everything together.

**TFWM: It seems like there would be a lot of room for audio reflection and echoes in this type of space, but obviously there isn't.**

**Daniel:** Not at all, but that's because of the steps the design team went through, and the modeling they did to ensure the acoustics would have the clarity and crispness we wanted.

**Andy:** One of the things we haven't been able to do due to COVID is to be in the space and experience the sound and take measurements. Daniel, how are people experiencing the sound in there from the speakers in the room, to the musicians, to even just walking in the room. What's that experience been like?

**Daniel:** We've done a lot of things in there, from Ted Talk style conversations to full out concerts. One of the last things we did in there before we shut down because of COVID was having our local symphony on the stage (February 29, 2020), and the only miking we had was for the vocalists and conductor, and the whole thing just sounded so natural to the space, it was incredible. Even just the speaking from day to day, the clarity is just phenomenal. We've never had an issue with speaking. And the music! We do decibel readings every Sunday, and we know what our range is. We don't get very much higher than 90dba, and what we've found is that we really sit in this nice range – we still have highs and lows, and we can feel them, but for the most part everything is clear, audible, and comfortable. We have pushed the system a few times and the sound is still quite even. I think for the average person, this is what we've received the most feedback on.

We were in the sanctuary two Christmases ago, before the new ceiling had been put in, and even the acoustics we had already added then, was a noticeable improvement. But then, to get the ceiling in and the acoustics fully tuned and running has been amazing. People didn't fully understand what it would do, but know that the process is complete, everyone is just really happy with the sound.

**Andy:** What is a rock band like in there? You said you are keeping it pretty quiet. What's the stage sound like?

**Daniel:** When I say quiet, I don't mean intentionally quiet. We aren't looking at a certain decibel level and saying we can't go above it. Instead, we are looking at what is appropriate for the space. Our average worship has a full band – bass, drums, guitars, vocalists, etc., and other times we add our orchestra or choirs, so



for us when we push it, it doesn't feel like it's load. You don't see people recoiling, or feeling the music is so loud that it hurts their ears, and that's a combination of the acoustics spreading sound like it's supposed to, good EQing, and the sound system. We've never had an issue where anyone said it's sounded bad.

**Andy:** And that sounds like a testament to your people too; if your guys know what they are doing and can do what they want in the room, that's good news.

**Daniel:** But it's also a testament to Dallas and Tricorne Audio. They were there early on, for the Christmas Eve services and right after, and they provided ongoing training until we got to a point of 'comfortable' and even after, I can call Dallas with any questions I have and he's very responsive. If he's in town, he swings by, and that – for me – was very important. Him being on this has been so important because he's the full designer; he took our thoughts and your plans and meshed them together in a way that works well and gives us even more than what we knew we wanted or needed.

### **TFWM: Tell us a bit about your other upgrades. What has their impact been like?**

**Daniel:** We were lucky because part of the package included upgrades to cameras in the old space and the new space, so we've been streaming and recording in 4K since the beginning of the pandemic, which is something that was rolled up into this project that just ended up being incredibly beneficial. We hadn't been planning on having to fully rely on it, of course, but having the equipment in place to fully record and edit in Adobe allowed us to flip from being a live production to a production house, with pre-recording and editing. Those first couple of weeks [of the pandemic] was chaotic, but we were able to pivot and get stuff out to keep our community together. Honestly, what used to take us hours and hours to edit before now only takes us two to three, so we've gotten pretty good at it. And this is a conversation every church is having right now – what's 'normal' going to look like now, and what can we do to meet the spiritual needs of our growing community? It's a workload question, more than anything else, because we have to figure out how we're going to reach out and connect with people, and at the end of the day there are a lot of options, and we will all just have to figure out what's going to be the best option for us.



**TFWM:** That's one of the things we've been hearing a lot – there's conversations about how churches can keep their in-person and stay-at-home community invested and involved, especially with Christmas coming up. I'm hearing things like, "How are we going to do Christmas? Are we going to do an in-person question (yes!), but we also have to do some type of online Christmas. Maybe we do a hybrid of the two?" Is that something that you guys have been talking about?

**Daniel:** Yes, that's something we've been talking about. We've been back in person, off and on, for a while and Easter was our first 'attempt' at something. We did a full online for both our services (a traditional and more contemporary service), and we also, during this time, added another location. So, in the morning, we had seven services spread out through three different locations. We went back to the old contemporary worship space, and then we did the new space, and then we did the sanctuary, and the idea was that – instead of adding a whole other day, or having to cut something, we just gave people more options. We ran the services every half hour, with the idea being that if you came in person and a service was full (due to the restrictions at the time) there would be another service happening in 30 minutes in a different part of the church, and then we still have TV, and radio, and online. Honestly, I think we are on the other side of what many churches are facing, because we've been doing this for some time. The question for us isn't, "What are we going to do for the big services?" but "What are we going to do for the normal services?" You know, depending on the day, we will get emails thanking us for maintaining the live stream from those who have to or choose to stay home, and emails from people who are just excited to be back in person. We also do radio ministry every week, so really – for us – it's just deciding how we want to do it. We need to predict what we can expect for our attendance in the fall, but it's all really a guess. You know, Fargo is in lake country, and one of the nice things for our church community is they now have the option to spend a little bit more time at the lake because they can now worship online!

**Andy:** Honestly, one of the silver linings in the whole pandemic is that it's given the faith community an opportunity to sit back and try to think of solutions they've never really had to think of before that will really serve churches moving forward.



**GEAR LIST**



**Daniel:** I agree. It's allowed us to re-prioritize in general. Yes, we have a brand-new building and it's beautiful and we want people to come, but the idea of worship or fellowship or togetherness or whatever you want to call it can happen. We've had better attendance of Bible studies via Zoom. We've done multiple Bible studies this way, and they tend to fill up instantly. We try to limit the number of attendees so that it feels more like a small group, and we are going to continue offering Bible studies this way because they've been so successful. If you're a working parent, and you finish work and drop your children off for any extra-curricular activities, and then get home to make dinner, and then you go to pick up your kids, when do you also have the opportunity to go to church for a group meeting? You just don't. So, why not make it easier for people to be involved and to learn? This is literally a turning point, and I think everyone is more open to the possibility than they have ever been, based on necessity. **T**

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## **GEAR LIST**

### **Fulcrum Acoustic**

- 4 FH1566 main speakers
- 2 CX1226 balcony fill
- 4 CS121 cardioid subwoofers
- 2 Sub215L floor subwoofers

### **Lab Gruppen**

- 4 C48:4 amplifiers
- 1 C16:4 quad channel amplifier

### **QSC**

- 4 AC-S6tW under balcony speakers
- 10 AC-C6t back area speakers
- 53 AX-C4t speakers
- 4 K8.2 monitor speakers

### **Allen & Heath**

- 1 DMO dLive S class mix pack
- 1 dLive S5000 control surface for MixRack
- 1 Dante 128x128 Dante option card for dLive
- 1 DXLINK dLive Audio Networking Card
- 2 IP8 "Easy Button" 8 fader dLive Remote
- 1 ME-1 Personal Mixer



## **Shure**

- 4 ULXD4Q Quad-channel digital wireless receiver
- 4 ULXD2/SM86 Handheld wireless microphone
- 5 ULXD1 Digital wireless bodypack
- 5 WCE6t ear set mic
- 1 ULD4D dual wireless receiver
- 1 ULXD2/SM86 handheld wireless microphone

## **Furman**

- 1 PL-8C power distribution

## **Clear-Com**

- 6 RS701 bodypacks
- 1 PK7-CC power supply
- 1 HS6 handset

## **Williams Sound**

FM 457-12 Pro ALS system

- 1 Audix DP7 drum mic kit

Rapco plates and connectors