

## PROJECT PROFILE

# Oak Valley Church

Designed and Installed by BESA-Bowls Engineering Sound & Acoustics



Oak Valley Church is a mid-sized family run community church nestled in the foothills of Southern California. After twenty years of growth they recently purchased and renovated an old warehouse for their offices, classrooms, ministries, and main sanctuary. The sanctuary was built from the ground up with a focus on tech-forward features including integrated stage and house lighting, a 32'x21' LEF video wall on stage, broadcast facilities, and a new sound system. Audio-visual integrator and acoustician, Darren Bowls from Bowls Engineering Sound & Acoustics (BESA) chose Fulcrum Acoustic for the loudspeakers.

### Challenges

- The wide sanctuary presented a challenge in obtaining smooth, even coverage.
- The concave back wall could focus amplified sound onto the LED video wall onstage, creating echoes and focusing at the pulpit position.
- The reflective parallel side walls and back corners of the sanctuary cause echoes throughout, leading to intelligibility issues for speech and clarity of amplified music.

### Solution

The precise coverage patterns provided by the FH1596 Full Range Coaxial Horn loudspeakers were an ideal choice for minimizing sound hitting the reflective and focusing surfaces. The extended low-frequency pattern control of the FH Series further helps achieve clarity, despite the various reflections. Additionally, the low frequency extension of the FH series speakers allows them to seamlessly integrate with the Sub218L subwoofers. The speaker system was installed in an LCR configuration to adequately cover the wide seating area and with enough output to easily accommodate modern rock worship music. Sub218L Direct-Radiating Subwoofers were installed in pockets beneath the stage, providing a more spectrally balanced single-source sound.

Darren Bowls chose Fulcrum's DX896 Dual Coaxial Loudspeakers as front fills to maintain the spectral balance and supplement coverage for the first few rows beneath and between the FH1596 mains. FW15 Coaxial Cardioid Stage Monitors, utilizing Fulcrum's Passive Cardioid Technology, were deployed for frontline musicians on stage to minimize low frequency leakage from spilling into the front rows.

"I first installed Fulcrum's FH loudspeakers at a high school gymnasium last year. Between the speakers and the acoustical treatments, this is one of the best listening environments we have created to date," says Bowls. "Knowing Oak Valley's sanctuary was near the same size as the gym, I knew FH15s would be a perfect fit for that room. The speakers sound brilliant. The system as designed distributes sound exactly how and where we want it."

Zack Tuttle, the driving force behind Oak Valley Church's technology vision adds, "There is a unique smoothness and clarity that you get from Fulcrum speakers. It is such an enjoyable sound. Even when you push the system hard, you just get more out of that same great sound."

### Project Details

#### Location

Yucaipa, California

#### Product Category

House of Worship

#### Project Type

600-seat worship center

#### Fulcrum Products

- (3) FH1596 Full Range Coaxial Horn 90° x 60°
- (2) FW15 Coaxial Cardioid Stage Monitor
- (4) DX896 Dual 8" Coaxial Loudspeaker 90° x 60°
- (4) Sub218L Dual 18" Direct-Radiating Subwoofer

#### Supporting Products

Linea 44M Series Amplifiers/DSP

