



Audiovisual Informational Meeting

Upgrading St Mark's AV System

July 12, 2026

A/V Committee

stmarksolathe.org



Audiovisual Informational Meeting

July 12, 2026

Background – Why do we need to upgrade our Audiovisual System?

The performance of the audio system in the sanctuary at St Mark's has deteriorated over the last several years to the point that it is a distraction during the Worship Service and does not allow for a good onsite listening experience in our sanctuary or online. Scratchy audio or not being able to hear the audio, audio crackling or cutting out, sound reverberation and feedback in the sanctuary due to ceiling speaker placement leads to muffled sound, sound board distortion, and complexity of the sound board makes it difficult for volunteers to operate, etc.

The brightness of the video projectors has dimmed over the years, making it difficult for some in the congregation to see the text, images and videos. For online viewing, the video camera shows the washed-out projected image on the wall, resulting in a sub-optimal viewing experience.

Bottom line is that our equipment is old, discontinued, and not working properly. New equipment is needed to enhance our worship experience.

The A/V Committee is recommending upgrades to our Audiovisual equipment to enhance our Worship Service for both onsite and online participation.

KCAV – Kansas City Audio Visual

The A/V Committee met with multiple contractors over a 6 month period to discuss solutions for our needs. All contractors agreed that we needed between 8,000 and 10,000 lumen projectors in our sanctuary given the lighting conditions, projected image size, distance, etc. Price quotes were pretty close for the different contractors that had solutions that met our needs. One contractor stood out by an order of magnitude for their knowledge, experience, and recommendations. KCAV met with us multiple times and sent out engineers onsite to analyze our needs and explain their recommendations and why they were needed. The committee was very impressed with their professionalism and ability to walk us through the technical details of the project in a way that was easy for us to understand. **The committee unanimously chose KCAV as the best company for St Mark's to work with. They use Epson equipment, which provides a discount for Houses of Worship.**

One of KCAV's recommendations was to mount the projectors in the back of the church with a wall mount to eliminate the need for a lift to reach them for maintenance if needed. Their service rates are cheaper than other companies and their knowledge base is much better. They proposed equipment in the booth to make it easier for volunteers to operate. A second video camera is desired to eliminate the distraction for online viewers from seeing camera pan from one location to another during the service.

Scope of Work –

Audio – \$53,159

Summary: The following outlines equipment, functionality, and pricing for the installation of a new sound system in the sanctuary of St. Mark's Lutheran Church in Olathe, Kansas. Our solution provides improved audio reinforcement and distribution throughout the seating area for a consistent listening experience, while also improving audio reinforcement to the platform, inputs to the system, and enhanced control of audio mixing.

System Description: Sanctuary Sound System Updates

- **Functionality Description:** Two 50-Inch Micro-Condenser Boom Microphones will be provided for capturing sound from the choir for reinforcement in the sound system. An 18-Inch Gooseneck Microphone will be installed at the podium in order to capture speaking voices from this location. These new audio inputs to the system, as well as existing wired connections and wireless microphone systems, will connect to a 32-Channel Digital Mixing Console, which allows for simplified control of parameters such as gain, equalization of frequencies, compression, and digital effects, as well as the ability to save settings for easy recall. The main audio output of the mixer will provide signal to a pair of 8-Driver Compact Digitally-Steerable Column Array Loudspeakers installed to the left and right of the platform in the Sanctuary. These loudspeakers allow for audio to be digitally aimed at the seating area in two lobes in order to provide more volume to the back of the room, and less volume to the front of the room, ensuring a similar listening experience throughout the space while also preventing sound from traveling up into the open ceiling area of the room and creating excessive reverberation. A pair of 12-Inch Full-Range Stage Monitors will reinforce audio to the platform, and will each receive a dedicated audio mix from the mixing console to allow for different audio levels of inputs versus the main

mix. Two 4-Inch Full-Range Surface-Mount Loudspeakers will be installed in the entryway in order to reinforce sound prior to service. The stage monitors, entryway loudspeakers, and existing library/cry room loudspeaker will be powered by a Four-Channel DSP Power Amplifier that provides advanced loudspeaker tuning, as well as compensation for frequencies that are prone to feedback and excessive reverberation, and limiting to protect the drivers from damage due to spikes in audio levels. Finally, a Micro-Condenser Microphone will be installed at the location of the existing PTZ video camera in order to capture ambient sound from the room for use in the audio mix of the video livestream.

- **Audio:**

- (2) 50-Inch Micro-Condenser Boom Microphones
- (1) 18-Inch Gooseneck Microphone
- (6) OFE (Owner Furnished Equipment) Wireless Microphone Systems
- (1) Micro-Condenser Microphone (Ambient Sound)
- (2) 8-Driver Compact Digitally-Steerable Column Array Loudspeaker
- 4-Channel DSP Power Amplifier
- (2) 12-Inch Full-Range Stage Monitors
- (2) 4-Inch Full-Range Surface-Mount Loudspeakers

- **Controls:**

- 32-Channel Digital Mixing Console

- **Equipment Location:**

- OFE (Owner Furnished Equipment) Equipment Racks

Visual (1 of 2) – \$47,970

Summary: St Mark's Lutheran Church in Olathe, Kansas has assembled a technology planning team to explore the best audiovisual solution for upgrading the projection system within their sanctuary. The existing projectors have been deemed insufficiently bright for the room's size and ambient lighting, resulting in reduced visibility during services and events.

The primary objective is to replace the two existing front projectors with brighter, higher-quality projection solutions, with longthrow projection from the rear walls; as well as implementing a simple control solution for power and input management.

KCAV will design a system that increases brightness and image quality, improves overall usability, and provides flexible input and control options that can grow with the church's needs.

System Description: Projection System

Projection System

- (2) Front Projectors (Replacement):

Replace existing projectors with **high-brightness laser projectors** suitable for sanctuary lighting conditions.

- Brightness: **10,000 lumens** (confirmed acceptable by customer during site evaluation).
- Native resolution: **WUXGA** for sharp, vibrant image quality.
- Mounted using **arm-mount assemblies** designed for secure, adjustable placement.
- **Long-throw lenses** specified to reach the front wall projection surfaces with optimal focus and brightness.
- Use existing **HDMI extension** via HDBaseT to these locations.

Camera and Streaming/Recording

- Use existing 10x Marshall camera with existing extender.
- Use existing Extron streaming/recording appliance
 - *Note that this device can stream to either Facebook Live or YouTube, but not both at the same time. To stream to both simultaneously, we would recommend using a 3rd-party RTMP streaming service such as [Restream](#).*
- Reconfigure existing Crestron switcher to allow for either the camera or the main content that is being shown on the projectors to be sent to the streaming/recording appliance.

Control System

- Provide a **7" Crestron control panel** for simplified operation, allowing users to:
 - Power **all projectors on/off**.

- Switch between available input sources via an **existing Crestron switcher** (same source to all displays).
- Route video to an **existing Extron streaming/recording appliance** (switch between camera feed and direct content feed).
- Start/Stop/Pause streaming/recording on **existing Extron streaming/recording appliance**.
- Provide a network switch to be used as an isolated AV control network.
- Use existing Marshall camera controller for existing camera.

System Integration

- Integrate with existing sanctuary AV infrastructure.
- Programming to include intuitive presets for typical worship or presentation use.
- Testing and commissioning to confirm full system functionality and signal reliability.

Visual (2 of 2) – \$2,770

Summary: St Mark's would like to add a second PTZ camera to match their existing one.

System Description

Cameras and Streaming/Recording

- Provide a **12x Marshall camera** (closest equivalent to the existing camera which is discontinued).
 - Provide an HDBaseT extender to bring the video signal to the control booth.
- Use existing 10x Marshall camera with existing extender.
- Use existing Extron streaming/recording appliance.

Control System

- Use existing camera controller for both cameras.
- Add programming revision for video routing for 2nd camera to touch panel controls.

System Integration

- Integrate with existing sanctuary AV infrastructure.
- Testing and commissioning to confirm full system functionality and signal reliability.