

February 11, 2020

Letter of Scope

**Faith Lutheran Church
Audio System Refresh
Job Number: TRI-0487**

The following proposal depicts the costs associated with the installation of an **Audio System Refresh** for the **Faith Lutheran Church Main Sanctuary**, meeting the needs discovered during our initial walkthrough, and noted in our program report from **9/25/19**. System components have been chosen for their reliability, functionality, and **increased intelligibility and control through use of beam steering technology and digital mixer upgrade**.

System Summary:

The audio system refresh will increase overall functionality and intelligibility of the system with the application of a more nuanced speaker system, more focused on covering only the primary listener areas, while also granting much finer tuneability of the system to the various instruments, vocalists and talkers (speech) alike by way of an upgrade to a modern, digital mixing system.

Additionally, the upgrade of wireless microphones will grant much better vocal intelligibility, modern feature set, rechargeable batteries and a wireless gooseneck microphone for use on the movable podium.

System Features:

The speaker system, once installed and tuned, will be custom aligned digitally to the specific and precise measurements of the room, reducing sound energy into the room that is not aimed at listener areas.

The digital mixer upgrade will allow saving and recall of global presets, meaning the mixer can always be brought back to a known functional configuration with only a few button presses. This is extremely useful for easily configuring the mixer to switch between multiple use cases.

Sanctuary front wall mounted audio input/output plates will be brought up to modern standard, using digital audio transport. This will result in better reliability, lower noise operation and more flexible signal routing capabilities.

Wireless microphones are digital systems, as opposed to the current analog systems in use. The result is increased vocal intelligibility and the incorporation of modern interchangeable rechargeable battery systems with user-friendly charging dock.

Labor Inclusions:

- New cabling for all new equipment
 - o Included is removal of old obsolete cabling and connectors
- Installation of new speakers, mixer and rack equipment
- Commissioning of new equipment including
 - o Custom tuning of speakers to precise audience area
 - o Selection of appropriate wireless frequencies
 - o Mixer configuration and setup of recallable presets with end-user input
- Training of end-users
- Removal of equipment made obsolete by the upgrade
 - o Obsolete removed equipment will be handed over to Client

Equipment Inclusions:

- (1) Allen & Heath Digital Mixing Console
- (2) Allen & Heath Digital Input-Output In-Wall Modules
- (2) Renkus-Heinz Digitally Steerable Column Array Speakers
- (4) Shure Digital Wireless Microphones w/Rechargeable Batteries and Charging Docks
- Power Management at Equipment Rack, Speaker Locations and Mixing Desk

Labor Exclusions Requiring Third Party:

- Installation of new powered speaker column arrays will require 110v power at the speaker locations, which Tri Path is not licensed to provide. Tri Path will specify the required locations and work with the client to assist in hiring a licensed electrical contractor to perform this work.

PLEASE NOTE:

- Each line item depicting job materials includes the labor cost associated with that item. Clients may view the separated totals of materials and labor on the Summary page or the final pricing page.
- If an item is listed as Owner Furnished (OFE), there may be a charge in the proposal line relating to that item for labor related to integration of owner furnished pieces into the system.
- Our warranty terms are detailed in the contract section of this document.

Exclusions - The following labor and / or materials are not included in our Scope of Work unless otherwise included in the itemized items list within the proposal document:

- All conduit, high voltage, wiring panels, breakers, relays, boxes, receptacles, etc.
- Concrete saw cutting and / or core drilling.
- All millwork (moldings, trim, etc.)
- Fire wall, ceiling, roof and floor penetration, painting and patching of walls, ceiling, floor etc. Construction constraints may require us to cut into drywall, firewalls etc. - work that cannot be foreseen in a preliminary job walk. This may result in additional labor and materials expenditures and will be presented in a change order as an additional cost.

NOTICE - This Scope of Work is delivered with the following assumptions:

- Any additional visits, service, or commissioning required outside of the above inclusions will be billed at \$132.50/Hour with a 2-hour minimum, plus travel expense.
- Client communication of readiness will be considered accurate and executable by Tri Path, Inc. project manager.
- In the event of any arrival to site that Tri Path, Inc. is not able to execute work and definable progress, the client will be charged a \$450.00 Mobilization Fee to offset the lost time due to the lack of readiness. The Mobilization Fee will be presented as a Contract Change Order and will halt work until acceptance by the client and rescheduling of the installation is agreed upon.
- Rescheduling and redeployment of Tri Path, Inc. technicians due to unacceptable site preparation may cause scheduling delays of up to 10 business days.
- Contractor will have ready access to the building / facility.
- A secure storage location is available for equipment during a multiple day integration.
- Regarding owner furnished equipment (OFE) and existing cabling: Tri Path, Inc. assumes these items are in good working condition at this time. Any repair or replacement of OFE that may be necessary will be made at an additional cost.
- The Client will have an assigned person with the authority to communicate / approve project change requests / field change orders.

Project Management Processes - Tri Path, Inc. will follow a foundational project management process which may include the following actions / deliverables (based on the size, complexity and duration of the project):

- Site Survey - Initial walkthrough or plan review
- Program Report - Submitted to client for review and input, post site survey
- Design Proposal - Submitted to client, post Program Report review
- Project Proposal - Submitted to client for review / revision or acceptance
- Submittals - Submitted to client for confirmation of control system and / or install detail
- Project Kickoff Meeting - Conducted in person or over the phone with client, involving other trades if necessary
- Site Readiness Verification - Conducted in person or over the phone with client to verify site conditions
- Project Status Reviews - Communicated to client at pre-determined intervals to update on the progress of the project
- Change Orders - On site or formal documentation submitted to client
- Punch List / Substantial Completion - Conducted in person or over the phone with client to begin job closeout and system hand off

Knowledge Transfer - This is geared specifically towards the end-user / operator. The purpose of this knowledge transfer is to arm operators with the necessary knowledge to confidently and comfortably operate all aspects of the integrated system. Areas covered include the following:

- System capabilities
- How to turn the system on and off and select settings based on the intended use
- Whom to call when help is required
- Full system documentation will be delivered, post-install

Sanctuary Front Wall

Room Total: \$35,623.88

Audio

2	Allen&Heath DT164-W	16 In & 4 Out Dante Audio Expander, XLR I/O, In-Wall, On Wall, In Box
4	Dante Data Jack - RI Only	2x Category 6 Data Cables & 1x 16-2 Power Cable for Dante Device
2	Episode PS3-12VDC-2A	12 VDC Power Supply, 2 Amp, Surface Mount, 3 Outputs
2	Renkus-Heinz IC16-RD-WT	On Wall Speaker Array, 16 Coaxial Driver Units, Integrated Amplifier & Processor, Dante Enabled
1	Shure MX415LP/C	Gooseneck Cardioid Microphone, 15" Neck
4	Shure SB900A	Rechargeable Lithium Ion Battery Module
1	Shure SBC10-USB-A	5 VDC USB Wall Charger with 6 Foot Cable
2	Shure ULXD1--G50	Wireless Microphone Body Transmitter, G50 Frequency, 470-534 MHz
1	Shure ULXD2/B87A--G50	Wireless Handheld Condenser Microphone, G50 Frequency, 470-534 MHz
1	Shure ULXD8--G50	Wireless Gooseneck Base Transmitter, G50 Frequency, 470-534 MHz

Additional Options

2	Shure WL185	Lavalier microphone, black, cardioid, TQG connector	\$216.00
System Total:			\$34,332.46

Racks & Power

2	Furman Sound CN-15MP	Power Sequencer, 15 Amp, 2 Outlet, Surface Mount	
2	Middle Atlantic PD-28-SP	Power Conditioner, Series Mode, 8 Amp, 2 Outlet, Surface Mount	
2	Strong SM-RBX-8-WH	In-Wall Accessory Box, 8" x 14", Plastic, White	
2	WattBox PWR-360-1.5FT-BLK	Power Cord, IEC, Flat Rotating Plug End, 1.5 Foot	
2	WattBox PWR-360-6FT-BLK	Power Cord, IEC, Flat Rotating Plug End, 6 Foot	
System Total:			\$1,291.42

Sanctuary Control Desk

Room Total: \$4,278.50

Audio

1	Allen&Heath SQ-5	Digital Mixer, 48 In & 12 Out Onboard, 64 Channel I/O Expandable Bus, 96kHz Processor	
1	Allen&Heath SQ-DANTE	Dante I/O Expansion Card for SQ Series Mixers	
2	Dante Data Jack - RI Only	2x Category 6 Data Cables & 1x 16-2 Power Cable for Dante Device	
System Total:			\$4,085.20

Racks & Power

1	Furman Sound RS-1	On/Off Keyswitch, 1 Gang	
1	Middle Atlantic PD-815R-PL	Power Conditioner, 15 Amp, 8 Outlets, 1 RU	
System Total:			\$193.30

Equipment Room **Room Total: \$6,473.91**

Audio

1	Shure SBC200	Dual Docking Charger for SB900A Battery Packs	
1	Shure SBC200-US	Dual Docking Charger with Power Supply for SB900A Battery Packs	
1	Shure ULXD4Q--G50	Quad Input Digital Wireless Receiver, Dante Enabled, G50 Frequency, 470-534 MHz	
1	Ubiquiti Networks US-16-150W	16 port 150W PoE UniFi switch	
			System Total: \$5,862.04

Racks & Power

1	GENERIC Equipment Rack	[OFE] - 45 Unit Floor Standing Equipment Rack	
1	Middle Atlantic PD-815R-PL	Power Conditioner, 15 Amp, 8 Outlets, 1 RU	
1	Tri Path Old Work	Remove as Much Old, Un-Needed Wire and Product as possible, Labor Only	
1	Tri Path Small Parts Allowance	Wire Management and Connectivity Accessories, Includes labor: Removal of all obsolete existing equipment & wiring, Re-Wiring Existing Rack	
			System Total: \$611.87

Project Summary

Equipment:	\$46,376.29
Labor:	\$25,807.00
Estimated, Tax, Shipping & Handling:	\$4,605.87
Estimated Total Systems Investment:	\$76,789.16