

FUMC Audio Setup

Last Rev. 1/25/25

Contact Wynn Yang at First Wave Recording Studios at 757-327-2960 with questions

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This guide serves as a starter manual for the audio system currently set up in First United Methodist Church in Hampton, VA as of January 2025. It is not an all-inclusive guide on running sound but intends to be a good resource for training eager volunteers on the basics of live sound. It is up to the individual to dig deeper for additional knowledge on this sound system and the world of live sound reinforcement.

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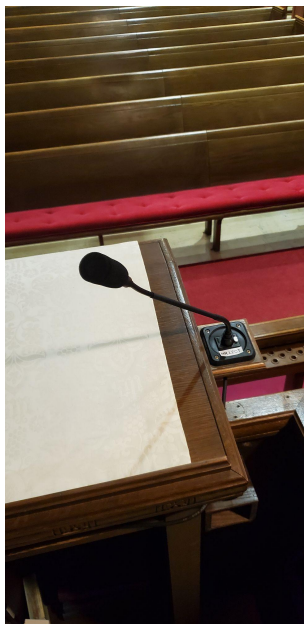
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Input List

no.	Name	Picture	Description	Category
1	House Right Lectern		Lectern used by the liturgist. This is powered by phantom power on the board (+48v).	Speech
2	House Left Pulpit		The pulpit where the pastor preaches from. This is powered by phantom power on the board (+48v).	Speech

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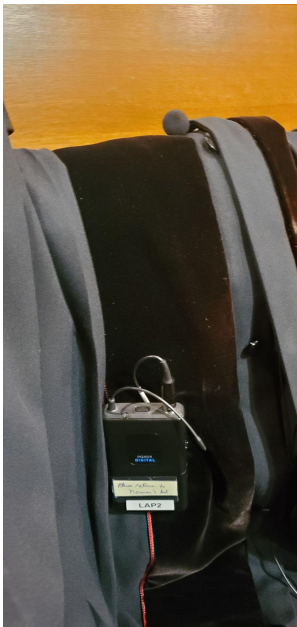
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3	Handheld 1		Used by choir.	Music
4	HH2		Used by choir.	Music
5	HH3		Used by choir.	Music
6	HH4		Used by choir.	Music
7	Lapel 1		Additional lapel mic.	Speech

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8	Lapel 2		Pastor's mic attached to his robe. For use when he is away from the lectern.	Speech
9	Empty		Additional channels for mics, instruments, etc.	
10	Empty			
11	Empty			
12	Empty			
13	Empty			
14	Empty			
15	Empty			
16	Empty			
17 18	Empty		Additional auxiliary inputs for laptops, phones, etc.	
19 20	Empty			

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Output List

no.	Name	Picture	Description	Category
Left	Back		Speakers at the back of the sanctuary to fill in audio for the congregation sitting in the back.	Output

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Right	Front	 	Main speakers. Ceiling speakers are also tied into this system.	Output
Mon 1	Empty		Used for additional mixes for different	

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			speakers.	
Mon 2	Empty			
Ctrl 1	Empty			
Ctrl 2	Empty			

Quick Start Guide

1. Powering on the System

a. House Left Pulpit

- Power on the system by switching on the **switches on the house left pulpit**. In doing so, you are allowing power to flow to the sockets in the streaming loft.



b. Audio Rack

- Houses the wireless mic receivers, and power amps. The mixer is immediately to the right and is on the same power strip.
- This power amp powers the speakers in the front of the sanctuary as well as the fill speakers at the back of the sanctuary. Ensure this is on.



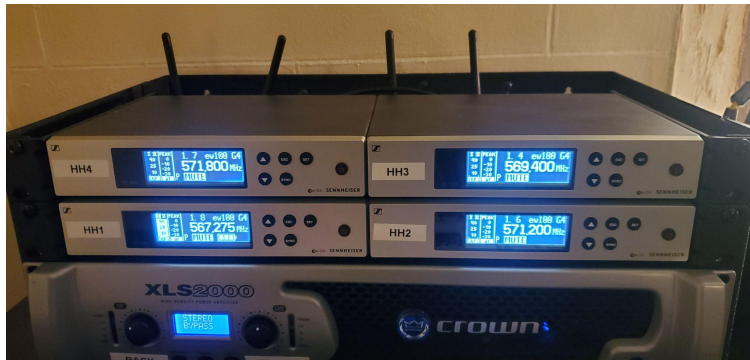
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c. Microphones

- i. Take fresh batteries and install them into the wireless microphones. This includes the **lapel microphones and handheld ones.**
- ii. Ensure these rack units are on and receiving signal from the microphone. These are the **wireless mic receivers from the handheld microphones.**



- iii. Ensure these wireless mic receivers are on and receiving signal from the **lapel microphones.** These are located on the left side of the first set of pews in the loft.



- iv. Setup microphones and stands on stage as necessary.
 1. Be mindful to loosen the adjuster mechanism before adjusting the mic stands.

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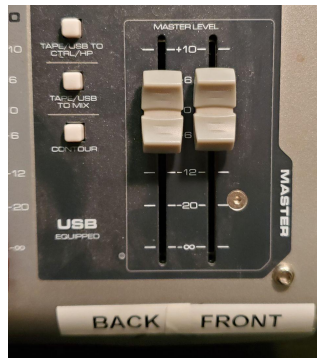
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2. Setting up appropriate levels on the mixing board

a. Main output

- i. Set the faders for the **main left and right channels to unity gain (0 dB)**. This ensures what is being mixed on the board will go out to the main front speakers and back fill speakers.



- ii. Be mindful that the main output faders control the volume of the entire board to all of the speakers, so these faders are crucial to set correctly.

b. Gain

- i. This knob controls the amount of signal going into the board. In its current configuration, I have the gains structured so that each input is sending about the same amount of signal to the board. **If the clip light (red LED next to the mute button) starts to FLASH WHEN UNMUTED, please turn down the gain.**



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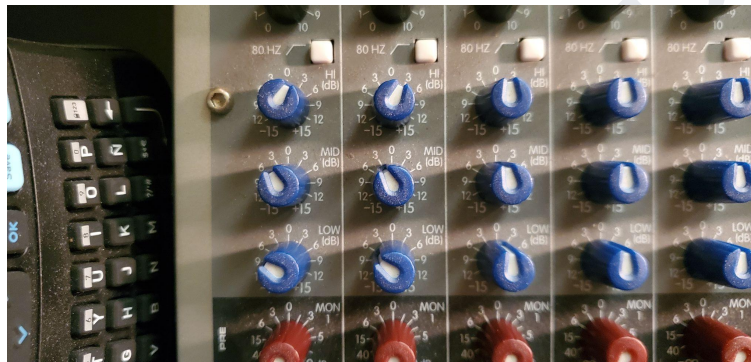
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- ii. Different people talk and sing at different volumes, so some may cause the input to clip at its current configuration.

Remember to adjust as necessary.

c. Equalization

- i. This section of the board controls the timbre of individual audio channels. **'Hi' being the most shrill, bright part of the sound, 'Mid' being the nasal, honky part of the sound, and 'Low' being the deep, guttural part of the sound.**



- ii. Adjust these knobs as necessary to create a balanced, natural sound.

d. Monitor mixing

- i. This section of the board will not be utilized in its current configuration since there are no additional mixes to be made.



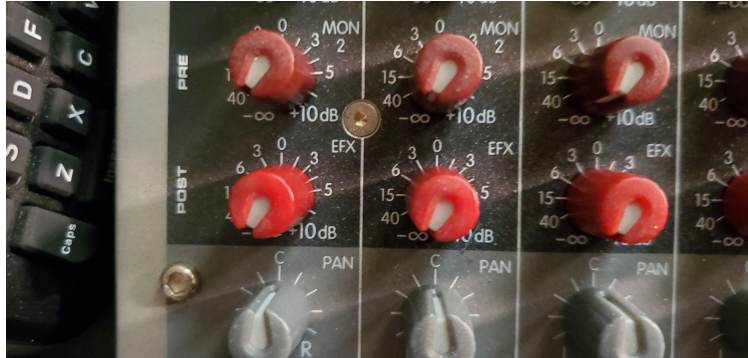
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e. Effects

- i. This section of the board will not be utilized in its current configuration.



f. Muting

- i. These buttons allow signal to pass through to the board.
Mute unnecessary channels and noise as needed.



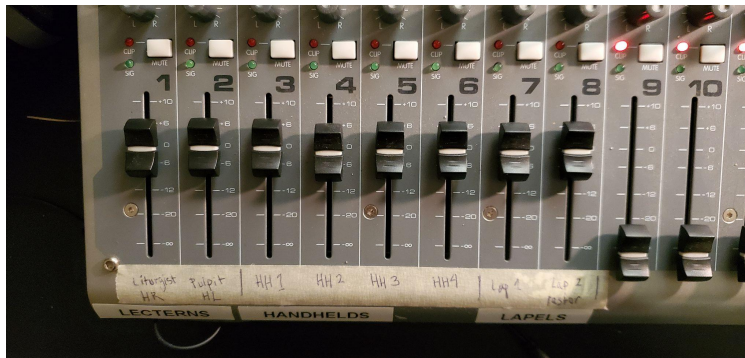
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g. Faders

- i. These faders control the output of the audio signals into the main output of the board. **These will be the controls you use the most. Keep them at unity when they are in use and fade them to -infinity when they are not.**



- ii. Use these faders to go in between different channels. Fade in the next speaker after the current speaker ends. Fade out the current speaker once the next speaker starts.
- iii. Keep careful watch of what is next up in the sermon in the bulletin. I tend to cross off sections as they end.

3. Powering off the system and striking

- a. System power off procedure
 - i. To power off the system, ensure all channels on the mixing board are muted.
 - ii. Turn off the power amp first. This ensures no audible pops are heard when the mixer is powered down.
 - iii. Flip the switches off to turn off the rest of the system.
- b. Putting away microphones
 - i. Put away mics and stands as necessary. Throw away dead batteries. Don't store microphones with batteries in them if possible.

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Common Troubleshooting

When something goes wrong, start by inspecting the signal path of the troublesome audio source. Start from where the sound is coming from and slowly check each individual element along the signal path till you reach the speakers. Along the way you will find the problem.

Example: troubleshooting a faulty handheld mic

1. Is the singer holding the microphone correctly? Is it placed on the correct stand in the right spot?
2. Is the mic transmitting signal to the wireless receiver? Does it have enough battery life?
3. Is the wireless signal connecting to the wireless receiver? Are they on the correct channel? Is that channel noisy or getting interference?
4. Is the cable coming from the wireless receiver going to the mixer working correctly? Is it the right cable?
5. Is the mixing board receiving signal from the wireless receiver? Is the gain set appropriately to have signal but not clip the input?
6. Is the channel unmuted? Is the fader set to unity?
7. Are the main Left and Right outputs set to unity?
8. Are the cables coming from the board into the power amps working?
9. Is the power amp receiving signal from the board?
10. Are the cables from the power amp to the speakers working? Can the congregation hear what is happening when I adjust things on the board?

Problem	Solution
Sound is too shrill.	Adjust equalization knobs to favor the lows and mids, and relieve the congregation of the highs.
Sound is too boomy.	Hit the 80Hz low shelf button. This allows only

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	sounds above 80 Hz to pass through. Tame the low end with equalization.
Speakers are too loud.	Find out where in the pews this person is sitting and turn down the amplifier volume knob of the speaker closest to them (either 'Front' or 'Back')
Can't hear the pastor, liturgist, etc.	Find the fader you're currently using for the quiet audio source and bump it up slightly. If still too quiet, apply more gain. Listen closely for feedback. Ensure the speaker is using proper microphone technique and that the lapel mic is not being obscured or is too far away. Encourage liturgists to step closer to the mic and speak into it.
Sound is muted.	Check mute switch, fader, batteries, etc. If all else fails, give them another mic that does work.
Power is off.	Check fuses, unplugged cables, etc.
Scratchy sounds when adjusting on the board.	Apply electronic cleaner to the culprit knob, fader, etc. and actuate it through its entire range of motion a couple of times.

Additional Resources

[The Sound Reinforcement Handbook](#): the comprehensive bible on live audio.

[r/Livesound](#): forum for live sound professionals.

[Peavey PV20 USB Manual](#): manual for the mixer.

[Sennheiser G4 Manual](#): manual for the wireless microphones.