



THE *SECRET* TO CHURCH AUDIO

Fix the real issues behind muddy mixes,
inconsistent Sundays, and **frustrated**
volunteers.

||||| NicholsonAudio



At NicholsonAudio, our mission is to empower volunteer teams all-throughout the United States to lead Gospel-focused worship services with the latest and greatest technology.

Check out our website. It's here you can schedule an in-person or online consultation with our team and receive customized solutions tailored to your teams needs.



What This Guide Will Teach You

Inside this guide, you'll learn the essential foundations of church audio—explained simply, with step-by-step direction your team can actually follow. Whether your volunteers are brand new or your system feels overly complex, this guide will help you build clarity, confidence, and consistency every week.

Here's what we'll walk through together:

01 — The Mindset of a Great Church Audio Team

02 — Understanding Signal Flow

03 — Gain Structure: THE FOUNDATION

04 — EQ Made Easy

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The Mindset of a Great Church Audio Team

Most audio problems don't start with equipment. They start with mindset.

A great church audio team understands that their primary role is ministry through clarity. When the mix is clean, people engage. When it's chaotic, people disconnect.

Your job is to:

- Remove distractions
- Support the worship team
- Create an environment where people can focus on Jesus
- Keep communication open between musicians, pastors, and tech

This mindset reduces stress, builds confidence, and sets the tone for everything else you do.

Understanding Signal Flow

Before anyone touches EQ, compressors, or effects, they need one skill:

Know where the sound comes from, and where it goes next.

Signal flow acts like a map for your entire system:
**Source → Microphone → Stage Box → Console →
Processing → Outputs → Amplifier → Speaker**

When something breaks, hums, pops, or disappears, signal flow tells you exactly where to look. Volunteers who learn this can troubleshoot almost anything in seconds.

Practical tip:

If one channel isn't working, compare it to a channel that is.

Where the paths differ is where the problem lives.

Gain Structure: THE FOUNDATION

Nothing affects your mix more than proper gain. Gain is the “input strength” of your signal.

Set it too low? Everything gets muddy, noisy, and weak.

Set it too high? Distortion, clipping, harshness.

A proper gain workflow:

1. Bring faders to unity
2. Have the vocalist/instrument play loudly
3. Raise gain until the input meter is strong but never clips
4. Leave headroom—don’t max it out
5. Adjust monitor sends only after gain is correct

Once gain is right, mixing becomes dramatically easier—especially for volunteers.

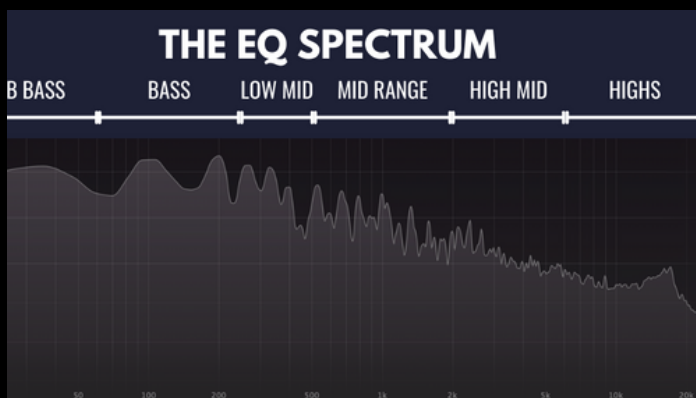
EQ MADE EASY

EQ is simply a way to shape frequencies so each sound fits better in the mix.

A few guiding principles:

- High-pass filter everything that doesn't need low end
- Cut before you boost
- Small adjustments make big differences
- Vocals: reduce muddiness around 200–350 Hz, add clarity around 3–6 kHz
- Acoustic guitar: reduce boominess around 120–200 Hz
- Keys/tracks: carve space for vocals

EQ isn't magic—it's subtle, intentional shaping.



EQ Spectrum | www.hyperbits.com/eq-cheat-sheet/

Compression for Smooth, Controlled Sound

Compression evens out the loud and soft parts of a signal.

It keeps vocals steady, instruments balanced, and your entire mix more consistent.

What each control means:

- Threshold: How loud the signal must get before compression starts
- Ratio: How strongly the compressor reduces it
- Attack: How quickly compression kicks in
- Release: How quickly it stops

When used well, compression makes the mix sound expensive—even with volunteer operators.



Compressor | www.hyperbits.com/vocal-compression/

Building a Consistent Sunday Mix

A great mix follows a predictable sequence—not guesswork.

A solid Sunday workflow:

1. Start with vocals — the most important element
2. Add foundational instruments — keys, acoustic, bass
3. Layer supporting instruments — electric guitars, pads
4. Add drums and percussion
5. Blend effects sparingly
6. Check clarity at multiple volume levels

This creates a balanced mix that works week after week, regardless of who is mixing.

Troubleshooting: Fixing Problems Fast

When something fails, panic is the enemy.
Process is your friend.

A simple troubleshooting checklist:

- Is the source working?
- Is the cable good?
- Is the channel routed correctly?
- Is the gain set?
- Are mute groups involved?
- Is the signal hitting the output?
- Is the amplifier or speaker receiving it?

Most “mystery problems” come from one overlooked step.

BONUS TIP - MIC TECHNIQUE:

If an input isn't working properly, check it with a wired microphone. If you get signal from the mic, it is a source issue. No signal = a bad cable/routing.

Livestream Audio Essentials

Livestream mixes often sound dull or thin because the in-room mix doesn't translate well online.

To improve broadcast audio:

- Use a dedicated mix bus or matrix
- Use a POST-FADER mix bus and use your already solid FOH mix as a start for your online mix
- Apply separate EQ and compression
- Balance instruments differently than the room
- Always listen through headphones or small speakers
- Add room ambience for natural sound

Livestreams carry your message beyond the room—quality matters.

Training & Developing Volunteers

You don't need experts.

You need confidence, clarity, and consistency.

A strong volunteer system includes:

- Simple checklists
- Defined roles
- Rehearsal structure
- Easy-to-follow mix steps
- Positive, patient leadership

Short, recurring training beats long, rare training every time.

NicholsonAudio offers full volunteer training workshops and ongoing support.

When to Bring in Outside Help

Sometimes the best next step is having someone evaluate the system with fresh eyes.

Consider calling in help if:

- The mix changes dramatically each week
- Volunteers feel overwhelmed or confused
- Your system is routing in strange ways
- Your livestream sounds poor
- You can't get clarity no matter what you adjust
- You're guessing instead of diagnosing

A small consulting session often solves problems that churches have battled for years.

NicholsonAudio specializes in church audio consulting, system tuning, and volunteer development.



Bonus Resources

A few things that helped me transform my sound team from zero to hero:

Soundboard Checklist

Pre-Soundcheck/Rehearsal (7:50am)

- ☐ **Turn on Soundboard** - Turn on the soundboard and mute the main LR fader in case any audio is already coming through the system.
- ☐ **Turn on PA System** - Activate main speakers, subwoofers, and any filler speakers (sidefills & centerfills).
- ☐ **AV Racks** - Use the power switches on the 2 AV racks (1 behind the Jumbotron and 1 in the breaker room) to turn on all the passive speaker equipment, stageboxes, and Jumbotron.
- ☐ **Ensure Microphones and IEM Packs are ready** - Pre-label the microphones and IEM packs on the soundboard before soundcheck. Name each mic and pack based on the singers who will be performing that Sunday and give them their designated mic and pack.
- ☐ **Turn on the TV's and Restart Computers** - Use the remotes in the soundbooth to turn on the tv's and restart the 2 computers.

Soundcheck/Rehearsal (8:00am)

- ☐ **Load Snippets** - Load snippets for any relevant channels such as microphones. If a singer does not have a snippet, you may have to manually adjust certain parameters.
- ☐ **Talkback Mic** - Using the wired talkback mic, ensure the band can hear you for ease of communication.
- ☐ **Master Fader** - The master fader should be set around -10 to 0 dB to ensure a consistent dB level from service to service.
- ☐ **Set Microphone and Instrument gain** - Gain should be set to an average of -18 to -12 dB peaking at around -6 dB. This level ensures that the signal will not distort and will be sufficient for in person audio, online audio, in ear monitors, and any recording that may take place that Sunday. ****If gain is below this level, it CAN cause the signal to be inaudible in places such as church online, in ear monitors, or unusable for sermon videos.****
- ☐ **Channel EQ and Compression** - Set EQ and Compression correctly for each input. Refer to the "rest Church Sound Team" YouTube Playlist for detailed tutorial on these effects. Use the QR code below to find that playlist.
- ☐ **Set rough mix** - Balance volumes for lead vocals on top and adjust other channels accordingly. In-person audio should run at about 90-95 dB in the room.
- ☐ **Set singer IEM's** - Make any necessary changes that a singer might need. For major changes, singers should use the "MX-Q" app to control their own mix.
- ☐ **Set a rough online mix** - Adjust the online mix as needed during soundcheck/rehearsal.
- ☐ **Room walk** - Walk around the room while the band is playing to ensure proper audio levels and quality. Use the board or iPad to make any necessary changes.

Soundboard Checklist

A checklist for your audio volunteers is a great start to a strong team. A well thought out checklist makes it easy for volunteers to hop in and start serving. This is especially important when a volunteer may not serve for a few week period. The checklist ensures they go through the proper steps even before rehearsal starts. Check out “www.nicholsonaudio.com/church/checklist” for a useful template to build your checklist.



YouTube Channels:

Drew Brashler:

“<https://www.youtube.com/@DrewBrashler>”

Attaway Audio:

“<https://www.youtube.com/@AttawayAudio>”

Churchfront:

“<https://www.youtube.com/@Churchfront>”

And, the last resource is us...

NicholsonAudio exists to make your life in worship audio as easy we believe it should be. From setting up brand new audio systems to tweaking already installed systems to simply hopping on calls and walking clients through their setup, we are here to be the only partner your church will ever need in the audio space.

Our mindset is simply.

Make it simple enough for anyone from anywhere with minimal training to serve on a great team.

We take a VOLUNTEER-CENTERED approach to any and all systems we work with. Because, at the heart of a great church is the great people who serve.

If you're interested in partnering with NicholsonAudio, feel free to reach out to our team

through our website: “www.nicholsonaudio.net”.
We can’t wait to hear from you and help you lead
your congregation in gospel-centered services
with great technology.

Hear from you soon!
All the best.

P.s. feel free to scan the QR code below instead of typing
in our website’s address. Figured I’d make it *extra easy* ;)

