

Sound Operators Guide

(Guide? I'm a sound operator, who needs a stinking guide?)

A guide for sound operators and sound system users.

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Operational Goals vs. Problems

Goal 1) The voice / music should be heard by all.

- i) Listener hearing problems
- ii) Sound cancellation

Goal 2) The voice / music should be understood clearly by all

- i) Limitation of existing system
- ii) Room problems
- iii) Existing equalizer not set correctly /System requires professional set equalization
- iv) Listener hearing problems
- v) Excessive monitor sound on the platform
- vi) Operator weakness

Goal 3) The sound should be enjoyable to all (levels are set consistent and correctly)

- i) Excessive monitor sound on the platform
- ii) Sound Cancellation
- iii) Limitation of existing system
- iv) Room problems
- v) Operator weakness

Goal 4) The system should run distraction free

- a) When a user puts the microphone to their mouth, the microphone should be on.
 - i) Sound operator not paying attention.
 - ii) (Lack of communication) User acting too fast or out of sight of sound operator.
- b) Feedback-Free (see fighting feedback,)
 - i) Limitation of existing system
 - ii) Room problems
 - iii) Excessive monitor volume on the platform
 - iv) Excessive house volume on the platform
 - v) Microphone too close to loudspeaker
 - vi) Too many microphones on at one time
- c) Equipment problem-free
 - i) Limitation of existing system
 - ii) Unlimited access to system controls
 - iii) Lack of maintenance
 - iv) Equipment improperly installed
 - v) Equipment being used improperly
- d) Operator error-free
 - i) Lack of training
 - ii) Lack of operator maturity
 - iii) Too much to do
 - iv) Too many distractions
 - v) Lack of coordination/communication between user and operator

When to Stop Trying

It is important for all operators to know when to stop trying to increase the level of the system. Often the most significant problems occur when lay readers or other people unused to public speaking are required to speak through the sound system. When they hear the sound of their voice being reinforced into the room, it is common to think that the sound system is too loud. At this point, the talker either may move back away from the microphone or may simply talk more quietly. It is critically important for the system operator not to attempt to turn the talker up as the talkers are trying to hear less of themselves. It is simply a matter of time until the talker wins the battle of wills, leaving the soundperson struggling with a feedback or near-feedback situation. It is better to accept the limitations of the sound system than to try to work beyond the limitations and create feedback in the process.

It is not the operator's fault!

A correctly designed sound system will create a very even volume and tone throughout the seating area. Thus if the operator can hear well, you can feel confident that others with the same quality of hearing will be well served by the sound system and your mix. If people do not notice the job that you do, you are doing it right. (Our goal is not to prove that the church has a sound system.)

Sound Operator Checklist

- Make sure all equipment is on (mixer, then amp).
- Make sure wireless batteries checked.
- Make sure pastor / speaker have wireless microphone(s).
- Check for mixer changes.
- Review bulletin and service notes and make notes of your own.
- Review bulletin and service notes with leaders to confirm no changes. Check for last minute changes and/or unannounced events.
- Do a sound check. (Before people arrive).
 - Plan ahead so that users are not waiting on you and expect users to arrive on time.
 - Demand quiet from all users not directly involved at their turn in the soundcheck.
 - Expect users to realize the importance of the activity to the result.
 - If possible, hardwire a talkback microphone from the mix location to the stage monitors to allow the users to hear well.
- Make sure there are enough microphones out and in their proper locations.
- Make sure excess mics are removed from the chancel. (Leave one or two for backups.)
- Make sure vocalist knows which microphone(s) to use.
- Make sure microphone cables are out of the way and clean looking.
- Make sure tapes and CD's are properly cued.

During Service

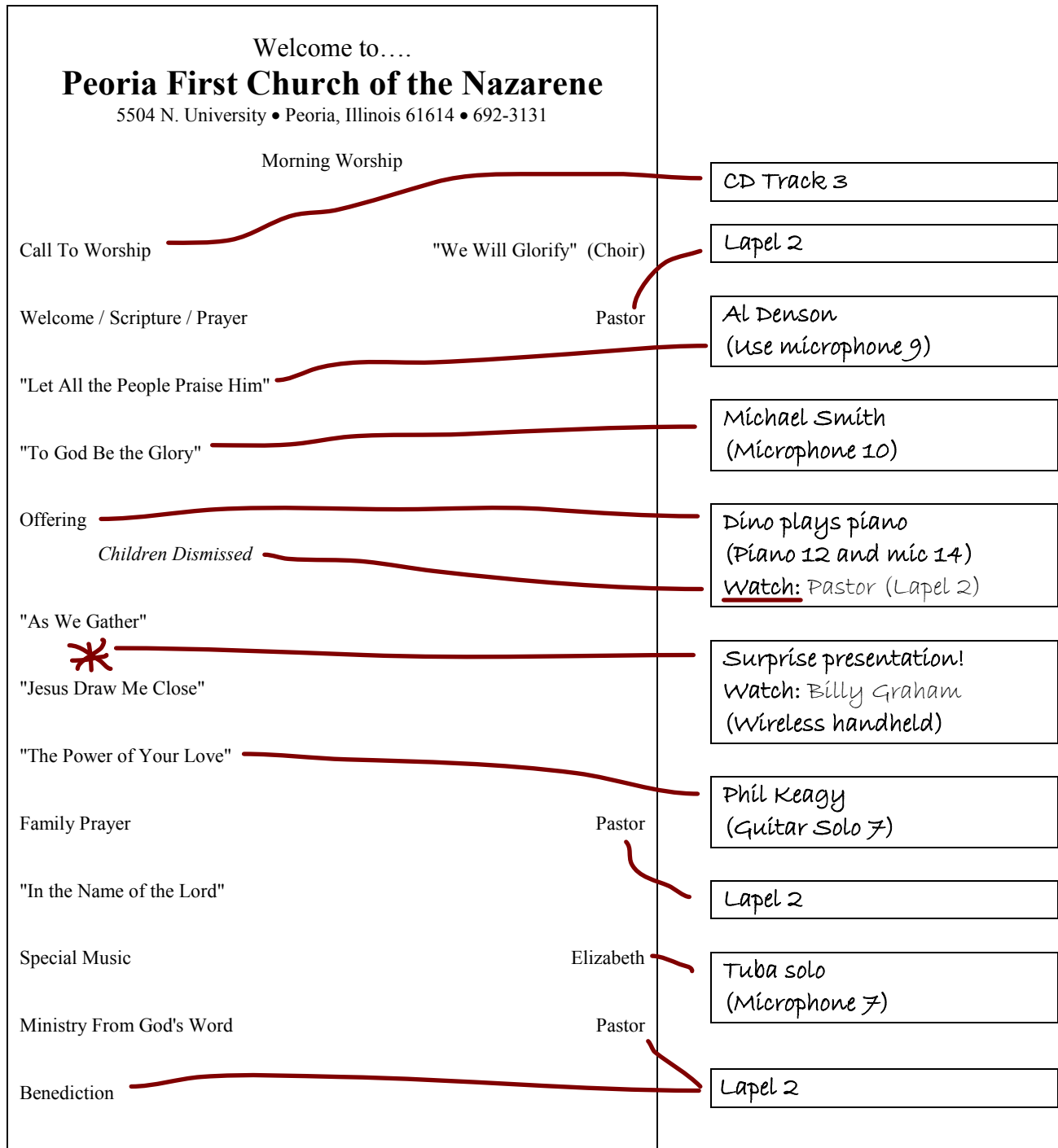
1. **Avoid feedback.**
2. **Recognize the limits of reinforcement and your system.**
3. **Make the house mix priority one over monitors and other mixes.**
4. **Mix for the average person.**
5. **Pay attention.**
6. **Help educate system users.**
7. **Do not get involved in the service/event on a personal level.**

- Turn the system off (amp then mixer).
- Return the mixer to the proper settings when done.



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Take good Notes! Make Less Mistakes!



Sound System User Responsibilities

1. Pay attention.
2. Be prepared (coordinate which microphone to use with the sound person).
3. Be aware of what causes feedback.
4. Be consistent in microphone use.
5. *Let the sound person control microphone volume.
6. Realize that the house mix is priority one over monitors (use minimal monitors).
7. Project your voice towards the microphone.
8. Remember that a sound system operator cannot read your mind.
9. Thank the sound person every once in a while.

*During times of extreme volume changes, it can be beneficial for a vocalist to back off of the microphone. The sound person may not be able to adjust the system quick enough. This will also help prevent the microphone from being overdriven. The technique of backing off of a microphone takes some practice to make it sound consistent and should not be used for average peeks.

Remember the inverse square law: an increase in distance from the microphone is equal to a decrease in volume. Every time that you increase your distance from the microphone by roughly 2.5 times, you cut your volume in half. So, when you are singing 1 inch from a microphone and move to 2.5 inches away from the microphone, your perceived volume is cut in half. This is why it is important to keep your distance between your mouth and microphone consistent.

When a sound person is present, do not change singing volume because you feel that your voice level through the system is not correct. The sound person is at a better location to decide. Make sure you have had a sound check with the sound person who is mixing during your performance. This will help the both of you to preset volume levels before the performance and should help you feel more comfortable with the levels. People absorb sound, this means that between your sound check and performance the sound you hear from the room (sound reflected from the main speakers) will be decreased. Monitor levels should stay the same.