

Volume Levels and Hearing Safety at Community Church

Introduction

Thanks for your questions and comments about Community Church's choices on sound volume levels during our church services. We do hope this document can explain our decisions and help answer your questions.

We want you to be assured that we make the safety of our church, both present and future, one of the highest priorities in our decisions. We take any questions about the safety of our volume levels extremely seriously and are continuously evaluating what will serve our congregation most effectively in the long run.

Standards of Safety

Because the pastors and staff of Community Church are not scientific experts, we are thankful that the US government has done much research in the area of hearing safety. The government's Occupational Safety and Health Administration (OSHA) has researched and published its recommended sound levels. You can find their chart of safe sound levels at this web address:

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9735

The pertinent table is a little bit down the web page and is labeled "TABLE G-16 – PERMISSIBLE NOISE EXPOSURES."

To summarize what it says, the following sound levels are permissible (no potential for hearing damage at given levels), given the lengths of time indicated:

15 minutes per day = 115 dBA

30 minutes per day = 110 dBA

1 hour per day = 105 dBA

1.5 hours per day = 102 dBA

2 hours per day = 100 dBA

3 hours per day = 97 dBA

8 hours per day = 90 dBA

¹ dBA is short for decibel measured in the "A" rating scale. It is simply a label to indicate that the number is a measurement of sound volume.

The table goes further, but we will stop there since it is very rare that the church will ever have more than one hour of music in a particular service, let alone more than eight hours.

Applying These Standards To Community Church

In order to adhere to these standards at Community Church, we use a sound pressure level meter to measure the volume levels. That meter resides at the main sound board and is consistently monitored to make sure that we are not exceeding our desired levels.

For first service, we target an average sound level of 85 with a peak no higher than 88 for our musical worship and in second service we target an average level of 89 with a peak no higher than 93.

At this point, we have to note a couple technical details in order to fully explain our measurement system.

First, the exposure levels in the above table are for sustained volume at the listed levels for the entire duration of the time allowed (eg. 100dB for 2 hours). The services at Community Church will often include a variety of types of communication modes, music, speaking, video, etc. Each of these modes will offer a different Sound Pressure Level (measured in dBA). At no point in our services will we offer sustained SPL levels that will be anywhere near the levels that may cause hearing damage.

Second, because of the size, shape and acoustical properties of our Auditorium the volume level is not perfectly even throughout the room. There are areas where the sound levels are louder and quieter. As a general rule, the sides of the room offer slightly lower levels of volume, however the rear of the room has higher levels of low frequency sound (bass) and not necessarily lower volume.

Safety, Comfort, and Preference

Finally, we must acknowledge that even within the range of safe sound volume, different people will have different preferences. Scientific findings will not necessarily make it easier for people to enjoy sound levels that are higher than they desire.

While the person at the sound board does set the volume level at any given moment, our leadership team has set the parameters for the overall volume targets, as long as they meet the safety requirements above.

For Sundays, our team have set some general goals that have helped us determine what the most appropriate volume level is:

- We want the levels to be loud enough that you can follow the worship leader, even if you are singing loudly.
- We want the levels to be moderate enough that you can hear others around you singing.
- We want what you hear to faithfully represent what the band is playing, both in the mix of instruments and voices and in the style of the music.
- We want the music to be present, meaning that it doesn't sound like it's coming from far away, so that it is engaging you and drawing you into the singing.

We are also aware that people have a variety of sensitivities to sound that may cause a level of physical discomfort due to certain sounds or the overall volume. If this is your experience, please know that we are very sorry for the discomfort. We value each and every person that chooses to worship with us and if you are experiencing discomfort we would be happy to talk personally with you about seating options that may improve the experience for you.

In Conclusion

Thanks again for your comments and questions about our sound levels. We appreciate your concern to bring your thoughts to our attention, and we hope that they have been addressed here. If you have any more questions at all, please feel free to contact the church Worship Tech Coordinator or Worship Arts Director.