

Volume Levels and Hearing Safety at South Church

Introduction

Thanks for your questions and comments about South Church's choices on sound volume levels during our church services. We frequently receive messages from individuals who have similar questions and thoughts. 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 South 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 for employees.

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&p_text_version=FALSE

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, 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

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 three hours.

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.

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Applying These Standards To South Church

In order to adhere to these standards at South, 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 the Balanced Service, we target a sound level of 80dBC to 85dBC. Only occasionally will we go beyond that level, though sometimes the levels may reach as high as 93dBC.

In the Creative Service, we target a sound level of 95dBC to 100dBC. Occasionally we will hit 105dBC, but this is rare.

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

First, our meter measures in dBC, which is slightly different than dBA. dBC responds more like the human ear, and as a result will score higher than a meter measuring in dBA. For instance, 90 dBC will register around 86 dBA. Because dBC always measures higher than dBA, if we are able to meet the OSHA safety levels using our dBC meter, we actually are below the safety levels they indicate.

Second, the volume level in either venue is not perfectly even throughout the room. The area near the stage is louder than where we measure at the sound booth. Also, the corners of the room are softer than where we measure at the sound booth. Nevertheless, the difference is on the order of 4 dB more or less.

Examples for Consideration

Let's take a few examples in order to work this out in real life.

In the Balanced Service A congregation member will normally experience about 35 minutes of music on Sunday morning. Let's round up to one hour to be safe. That person can listen to music at 105 dBC without concern for hearing damage. The normal level of 85 dBC is well below that threshold.

In the Creative Service Again we have about 35 minutes of music on Sunday morning. Let's round up to one hour to be safe. That person can listen to music at 105 dBC without concern for hearing damage. The normal level of 100 dB is again below that threshold. There may be concern that we hit 105 dBC on occasion, but keep in mind that these are only momentary sounds, (loud snare hits and the like) not continuous levels and do not pose a risk to the listeners.

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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.

The sound crew and the technical director are responsible to ensure that the sound levels do not exceed safety standards. However, within those guidelines, the pastors responsible for services are the ones who choose the sound levels for their service. If you have concerns about a specific service you have attended or will attend, please contact the pastor who is responsible for that service.

We are aware that some people have hearing problems 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. The discomfort does not necessarily mean that your hearing is being damaged. You may want to have your hearing checked by a professional audiologist to learn if there is anything you can do to reduce the discomfort.

This document was taken from <http://www.worshipmatters.com/wp-content/uploads/2009/02/volume-levels-and-hearing-safety-at-covenant-life-church.pdf> and modified to meet the policy and practices of South Church.