

To Whom It May Concern,

Two Rivers Church is committed to providing a safe environment for employees, volunteers, and members to worship. As the Tech Director here at Two Rivers Church, I work together with our Worship Pastor, Tae Cho. Collectively we oversee the audio volunteers and sound levels on our campus. The technical staff, production staff, and volunteers have 30+ years of experience in the audio field in many different arenas. We are very blessed at Two Rivers Church with a staff and volunteers who have the skills and talents to interpret what we hear into a mix. We as a staff are very conscious about both volume levels and about preserving our hearing; our “tools” to better serve our church and ministry. The technical and worship staff at Two Rivers Church is very committed to keeping our church a safe place concerning noise exposure. In each venue, measurements are taken and logged in all rooms running levels of 85 dB or more. This includes: Worship Center, River Room, Student Center, Roane County, and the River Splash Theatre; as well as our services in Dive In, MSM, The Well, & Fuel.

It is important to understand sound levels and how it is measured, which ultimately determines the long term effects of one’s hearing. Volume is expressed in SPL (Sound Pressure Level) in a log20 scale of Pascals (Unit of pressure). The logarithmic scale is used to best express the range and resolution of measurable audible pressure levels, and more resembles how the ear perceives sound. On the logarithmic scale, a 3dB increase is a doubling in pressure (the least amount of change the average person can detect) and a 10 dB increase is about triple (what is actual perceived as double). For comparison, normal speech can have a 20 dB range, which is a difference in pressure of a factor of 10. Very high differences are normal in sound when looking at the pressure numbers.

The Occupational Safety and Health Administration standards set 85 dB as the average exposure for an 8-hour day, 5 days a week. Louder limits are safe for shorter periods of time. For example, a 1-hour service could be at 105 dBA-slow of uninterrupted music (noise) and still be in compliance with OSHA guidelines. Even though OSHA states that this is considered ‘safe’, we would never run at these allowed levels because it doesn’t serve our church to be as loud as we possibly could. Our aim is not to be as loud as we are “allowed” to be, rather we believe that in order to ensure the best worship experience for everyone involved, the volume needs to at least be at a level that will help as many people as possible engage.

Sound Pressure Level (SPL) dBA-slow and Level ‘exposure’ equivalents (Leq) are logged in our Worship Center, River Room, and Student Center during the weekend services to reflect the real dosage that our members are subject to during a service. For our guidelines and logs, please see the 2RC Audio Policy. Currently all venues are averaging exposure levels (Leq) between 75 and 89 dBA-slow. These levels do not even register on OSHA’s exposure chart and do not count against anyone’s daily noise exposure dose limit. For example, our congregation worships (with no music) at levels reaching almost 83 dBA and applause approaches 93 dBA.

Two Rivers Church currently has four different venues with very different feels. The goal of our staff is to find the BEST volume in each venue. The purpose of this is to help create the most engaging worship experience possible. There may be times where each venue is running at the same volume level. There may be times where the venues are very different on their volume levels as well. However, our goal in each venue is to find the BEST sound for the style of music and also what is going on in the room. There are many parameters that factor into the ‘best’ volume and they change depending on the day and also depending on the service. We are engineering the sound of the room to appropriately and effectively support and express what is happening on stage and what we believe the Holy Spirit is doing in the room. Making sure that we are culturally relevant drives us to not be timid in our sound but confident. This level that we have determined also changes depending on the engagement of the congregation. We know where our sound levels should be and it has been validated by exhaustive checks, cross checks, and input from multiple consultants and engineers.

I hope this has helped communicate our spirit in this, and that we have met your expectations and concerns of safety and protection with real measurements and intentional professional attention.

Sincerely,
Chad DeShazo
Tech Director, Two Rivers Church

Two Rivers Church Audio Policy

Two Rivers Church Audio Volume Level FAQ's:

Q: "Are we too loud?"

A: No, as stated above, the current measured levels are averaging between 75-89 dBA. We are operating well below noise exposure regulations. This allows us to find the BEST volume to support each service instead of finding the loudest volume possible.

Q: "Are we monitoring the volume?"

A: Yes, we believe that we have the responsibility to not just comply with regulations and understand measurements but we want to be an example of safety in this area.

Q: "How about the technical staff, worship team, and volunteer's exposure levels?"

A: Sound levels are also monitored for the technical staff and volunteers, who are exposed up to 500% longer duration than an attendee, with weeks that may include mid-week events, Quiet Waters conference, and all associated sound checks, line checks, and rehearsals. Currently the technical staff, worship team, and volunteers' exposure levels are lower than the standard.

C: "But it's still too loud for me!"

A: If the volume is too loud for you, or this letter does not satisfy your concerns, or if you simply disagree, please know that we have considered YOUR safety for anywhere in the room. If you prefer, we do have different venues that you may want to explore. These venues, while not specifically focused on different volumes, do offer a different experience and style that may make you feel more comfortable in your worship experience. Often times the volume is different in these venues. At any point if you are concerned about it, please see the ushers in your venue and receive a complementary pair of earplugs.

C: "But it's still too quiet for me!"

A: Once again, we are searching for the 'Best' volume for each venue to most meet the needs of the majority of our congregation. As stated before, we have multiple venues that offer different worship experiences so you may want to explore the venues that we have to offer.

AUDIO VOLUME POLICY

Two Rivers Church is committed to providing a safe environment for employees, volunteers, and members to worship. This is accomplished by operating sound levels lower than OSHA allowable exposure levels. We monitor these rigorously by metering, logging, and taking action to ensure a safe environment.

ACRONYMS

SPL Sound Pressure Level
dBA Decibel (A-Weighting)
Leq Level "Exposure" Equivalents
OSHA Occupational Safety and Health Administration FOH Front of House

MONITORING METHODS

Campus wide, SPL meters will be used in any room with levels reaching 85 dBA-slow, and the maximum level will be logged for every service.

The Worship Center, River Room, Student Center, Roane County, (and any other room with a program of 30 min or more of music) will, in addition to SPL-A-slow peak, measure and log Leq(A) for the entire service/exposure/dosage period.

SOUND LEVEL METERING

Maximum levels will be limited to 100 dBA-slow and 120 dBC-fast*

Minimum levels will be limited to 84 dBA-slow.

For any typical service, Leq (1 hour) will be below a safe 94 dBA-slow**

Though there may be some special events where the levels may be somewhat higher, we will ensure that they do not exceed Leq (2-hours) dBA-slow of 95***

For reference (as measured at FOH):

- Live services -- Avg. Leq (1 hr.) -- 84 dBA
- Blend services -- Avg. Leq (1 hr.) -- 80 dBA
- Amped services -- Avg. Leq (1 hr.) -- 89 dBA
- Congregation alone can reach upwards to 82 dBA

* 11 dB lower than OSHA allowable noise exposure levels.

** 15 dB lower than OSHA allowable noise exposure for 1 hour and meets stricter EE ISO Action-Level-2 standard for workplace noise exposure. OSHA doesn't regulate below an SPL of 90 Dba

*** 95 dBA is allowed at 4 hours to reach maximum dosage. OSHA allows up to 100 dBA for a 2 hour maximum.

