

Music Decibel Levels

DDCA competitions are experiencing some problems with sound/music quality. Problems include **equipment, recording, monitoring, and volume levels**. The following is a reminder to everyone that we need to maintain an emphasis on **QUALITY** in the audio component of events and programs.

RESPONSIBILITIES OF THE COACH

- A. DO use a music resource to ensure soundtrack recording is balanced and of quality sound.
 - B. DO use floor time as a 'sound check' to communicate dynamic moments in the music with the Sound Technician.
 - C. DO provide only newer CDs at events, not those used in rehearsals. Always have back-up copies on hand.
 - D. DO have stereo and mono-ponic CDs available to use at every event.
 - E. DO ensure there is a responsible music person that is attentive, informed, prepared, and ready to give direction in time of mishap.
 - F. DON'T use volume to motivate your performers.
 - G. DON'T think louder will have a positive influence on the judges.
 - H. DON'T think because you and your students like the music, that the audience does, too.
- A. Home computer recording is awesome and inexpensive but often lacks sufficient acoustic controls.*
 - B. Sound is a major influence in your show. Work with the technician to present your audio in the best manner.*
 - C. Used CDs can cause problems. Always bring your best and don't allow for problems.*
 - D. Some school equipment may not play stereo. Be prepared.*
 - E. A student that is watching you dance, not informed on procedures, or not prepared with a back-up CD is NOT in your best interest. Be prepared.*
 - F. Coaches should be motivating with words and teaching. Loud music is like yelling in one's face.*
 - G. You don't want your show to be difficult to experience. Intensity and tension from music doesn't equal better projection or OE.*
 - H. Long wailing notes, repetitive rhythms, and heavy base beats are not always appreciated by the general audience.*

RESPONSIBILITIES OF THE EVENT DIRECTOR

- A. Provide quality sound equipment that is balanced and controllable.
- B. Provide quality sound for both floor and audience levels that can be separately controlled.
 - 1. If using school sound system, ensure it is in working order, know how to use it.
- C. Hire a responsible Sound Technician that will take notes about each team's soundtrack and monitor sound levels.

RESPONSIBILITIES OF THE SOUND TECHNICIAN

- D. Make notes on each team about moments in the soundtrack of very high and low dynamics and areas of needed adjustment.
- E. Maintain sound levels that provide for a pleasurable experience for audiences as well as for team performances.
 - 1. Don't over-compensate volume for an audience filled gymnasium.
- F. Have decibel reading equipment that can be monitored and adjusted. Expected decibel levels are between **85dB – 95dB**.

RESPONSIBILITIES OF THE JUDGE DIRECTOR

- G. Monitor sound levels and communicate with Sound Technician when changes in volume are needed.

Hearing Loss Is Overlooked Health Issue

by Lt. Col. Carolyn Bennett
Health & Wellness Center

Parents are often concerned about possible hearing loss from the music our children habitually enjoy. Sometimes we feel isolated in this concern.

The effects of noise on hearing loss in children are a frequently overlooked health issue but the Select Committee on Children and Youth isn't overlooking it. The committee conducted a series of hearings on noise-induced hearing loss in children and brought leading medical and audiological researchers in the field of noise-induced hearing loss to Washington, D.C. The conclusions of this committee are of vital interest to parents anxious about the hazards of noise for our children.

A decibel is a measure of sound. Sound is measured on a logarithmic scale, which means that a small change in the number on the scale represents a large change in the actual intensity of the sound. Any noise above 84 decibels is considered hazardous in the workplace and hearing protection is required.

There is no agency to provide similar rules to protect against equally loud leisure noise. Listening to boom-boxes, stereo headphones, playing in the school band, rock concerts, lawnmowers, firearms and some toys can over time result in permanent hearing loss. Fireworks are so dangerously loud they can cause a permanent hearing loss with just one exposure.

Rock concerts average 98 decibels with peaks well above 115 decibels. Workers are allowed less than 30 minutes exposure without hearing protection at 98 decibels and there is no same time limit for exposure at 115 decibels. Recreational headsets are reportedly used at 85-100 decibels. Lawnmowers are around 100 decibels, the level of the semi-truck whose driver needs hearing protection if exposed more than 15 minutes.

A survey of 1,500 Ohio high school students found 72 percent regularly used personal stereos with headphones, 96 percent used stereos, 43 percent went to rock concerts and 30 percent used firearms. These teenagers were asked to rate a comfortable listening level for their stereos. A comfortable listening level ranged from 73 to 111 decibels. It is of little wonder that national studies of high school students show increasing incidences of noise-induced hearing loss.

Even more alarming than the levels teenagers turn their stereos is the noise level of some pre-school toys. A worried teacher sent two examples of pre-school toys to the National Institute for Occupational Safety and Health in Cincinnati, Ohio during the year I was there. We measured a baby rattle at 103 decibels. Occupational exposure limit for 103 decibels is seven minutes.

Another toy, "The Horn," was measured with a maximum output of 115 decibels. This is as loud as airplane engines. Without hearing protection, occupational exposure would be 30 seconds.

How do you know when a sound is hazardous? A good rule of thumb is if you have to raise your voice to be understood within three feet, you are in hazardous noise.

On Campus, Warning Heard On High-Decibel Music

By John Craig, Editor - 06.29.2007

HAYS, Kans. - The head of the wellness center at Fort Hays State University is sounding an alarm over loud music at campus fitness facilities, saying students may be putting their hearing at risk.

Jeff Burnett, an assistant professor of health and human performance, said he conducted a study early this year at the Fort Hays gym and found noise levels frequently topped 85 decibels, the point at which, according to the American Speech-Language Hearing Association, prolonged exposure sharply increases the risk of hearing loss.

"The students were always asking me to turn up the volume, and the faculty were always asking me to turn it down," Burnett said. "That got me to thinking that there might be a problem."

The study found that at 50 percent of maximum volume, the fitness-center sound system was safe. At 75 percent, it posed a risk.

Burnett said young people are better able than older adults to tolerate high-decibel music, and as a result are unaware of the damage they could be doing.

The fitness-center study did not account for the use of portable MP3 players, which some doctors say are leading younger and younger people to show signs of hearing loss.

The Wall Street Journal reported in January that hearing specialists say the effect they're seeing now may be only the beginning, because accumulated noise damage can take years before it causes noticeable problems. Researchers at Children's Hospital Boston recommend that the exposure limit for safe headphone listening is one hour a day with the volume no greater than 60 percent of the maximum.

In fitness centers, group-exercise classes are a particular concern because of participants' long exposure to very loud music.

Since the study, Burnett said, he's kept the music volume at 50 percent at the Fort Hays fitness center, sometimes drawing complaints from students.

"When it's possible, I try to explain to them that we did a study and that we're keeping the loudness at a safe level," he said. "Usually, they're pretty understanding."