



## What Is A Sound Limiter?

Sound limiters use a special microphone fitted inside a performance venue or function room to measure the loudness of music. The individual unit of measurement for 'loudness' is called a decibel or dB.

If the music exceeds a pre-defined 'loudness' (or dB level) for more than a pre-defined time (usually around 5-10 seconds), the limiter circuitry cuts the electricity supply to the musical equipment. It then takes a minute or so for the electricity to come back on again. Often, if the limiter is activated more than 2-3 times in any 1 hour period, the electricity supply will be cut off for 15-60 minutes or more!!

## Why Are Sound Limiters A Potential Problem?

The problem commonly faced by musicians is the huge difference between how limiters are set up venue to venue. It's possible to perform in one part of a room and not set the limiter off, but regularly trip the limiter if playing in a different location in the same room. Depending on where the microphone is located, it's also possible to set the limiter off by clapping too!!

This means that from venue to venue, depending on where in the room the microphone is located, where the band are positioned relative to the microphone, and how the acoustics of the room reflect the sound into the microphone, the same band playing at the same level through the same equipment might not be able to play with a limiter set at the same level as the previous venue.

For this reason, many bands now insist that the client takes responsibility for damage to equipment and disruption to the performance caused by sound limiters fitted in a venue as it can be impossible to guarantee that the band will be able to play within the limiters threshold for the reasons stated above.

## What Level Will Cause A Problem If My Venue Has A dB Limiter Fitted?

Any venue with a sound limiter set lower than approx 90dB is definitely going to cause a problem for all but the quietest forms of music such as harp or classical guitar.

90dB - 95dB is problematic but in most instances would be ok for string quartets & jazz trios.

95dB is a very common setting and is likely to cause a problem for a lively rock and pop band. You'll see from the comparison chart above that 95dB is equivalent to listening to music on a walkman at 50% volume level, or listening up close to an unamplified Oboe or Flute. As you can imagine, that's not very loud! Many bands have performed within this limit, but have reported detrimental effects on their performance, with occasional or frequent tripping of the limiter.

95dB – 100dB will usually be workable with little detriment to the sound of the performance, although the band might need to use brushes rather than drum sticks, and you might find that the music seems a little 'tame' and unenergetic.

Anything over 100dB should be fine as in our experience; most limiters are set between 92dB – 98dB. We believe the average volume level of most rock and pop function bands playing in a room with 150 capacity, with normal energy & enthusiasm is approx 110dB, with occasional volume peaks around 120dB.

Most styles of jazz or classical music will NOT suffer from the same problems as a rock and pop band because of the way the music is played and the equipment/instruments used.

We recommend that if live music is an important part of your evening, you book a venue without a sound limiter, or else check in advance what the venues policy is in case of interruption to the performance.

### **Why Can The Band Not Just Turn The Volume Down?**

The unamplified sound of the drum kit is what the rest of the band will set their equipment to. The unamplified drum kit can't be turned down, and tapping the drums softly to get a quieter sound wouldn't suit rock and pop music. It would sound rubbish and completely compromise the bands performance.

As such, the band are totally at the mercy of how 'loud' the unamplified sound of the drummer sounds in any given room. If the room has stone walls, the sound will reflect strongly and make the perceived loudness even louder. If the room is very 'dead' sounding with lots of curtains and thick carpet, the same drummer will sound much quieter as much of the sound will be absorbed.

It's important to understand that the ability of the band to 'turn down' or play subjectively quietly is very much determined by the room acoustics and how the sound bounces off or is absorbed by the various surfaces.

If a sound limiter is fitted, it can sometimes be the case that the drum kit trips it out before the rest of the band even plugs in and in such cases there is very little that can be done to remedy the problem other than increase the threshold of the sound limiter or switch it off.

Once the drummer has set up and starts to play, the band will set the volume of all other instruments to be heard over the top of the drums. **NO FUNCTION BAND WANTS TO PLAY TOO LOUD FOR THEIR AUDIENCE OR ANNOY THE VENUE STAFF.** They will always endeavour to play to your requirements but there are limits to how quiet any rock and pop band can play.

### **What Can I Do If There Are Problems On The Night?**

Although it's probably not legal to do so, if there are problems on the night many venues, once they have seen that the band have done all they can to play as quietly as possible, will increase the limiters threshold level so it doesn't trip the power if it starts to cause a problem, or else they'll switch the limiter off altogether.

The best bet is to speak with your venue before hand and get the phone numbers of previous clients who've booked live entertainment at the venue before (particularly rock and pop bands), and get feedback from them. Some unscrupulous venues will tell you they've not had problems before knowing full well that the limiter is a major hindrance to a great party.