

# How To...

## COMPLY WITH SOUND LIMIT REGULATIONS



This document provides a practical guide on how to use NTi Audio instruments to comply with sound limit regulations in a Live Sound environment.

### What you need: **XL2 Kit with**

- XL2 Sound Level Meter
- M4261 Measurement Microphone
- Minirator MR-PRO Signal Generator
- ASD Cable
- Mains Power Adapters
- Exel System Case

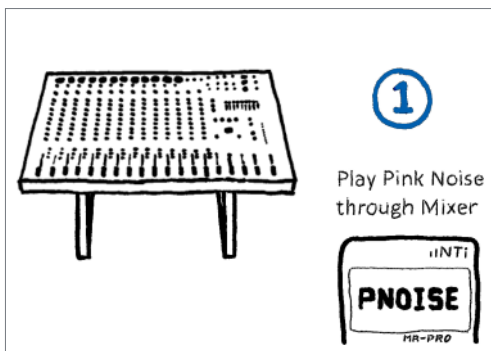


XL2 Kit for Live Sound Monitoring

## How to comply with sound limit regulations

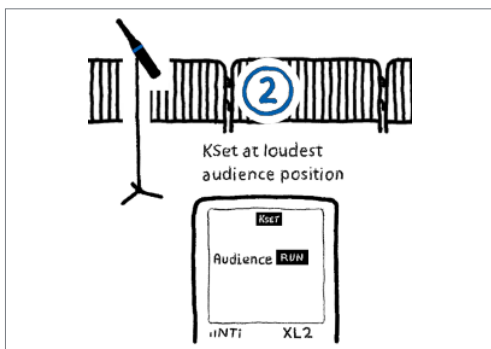
Local authorities or governments may specify limits that you should not exceed during the event, e.g. DIN15905 in Germany or V-NISSG in Switzerland.

This 10-Step procedure introduces the tools required to remain within the specified limits and to generate a comprehensive report. In order to control the sound level in a show, you have to know the level at the loudest position in the audience (e.g. near the barrier, closest position to the PA). However, as it may not be practical to place a microphone there, you normally choose another measurement position. The XL2 can automatically correct the level difference between these two positions (i.e. loudest point – actual measurement position) by setting the k-factors (KSet).



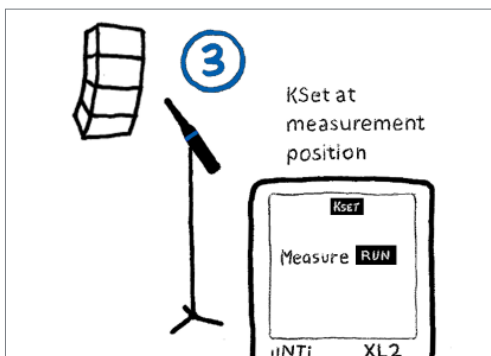
### Step 1

Play Pink Noise from the MR-PRO via the mixing console at a constant level (around 80 dB), and continue doing so during Steps 2 and 3.



### Step 2

Go to the loudest position in the audience, e.g. close to the PA or in a direct line of the loudest speaker in a Line Array (HINT: This could be at the back of the venue!), choose SL-Meter → Kset Correction on the XL2 and press RUN.

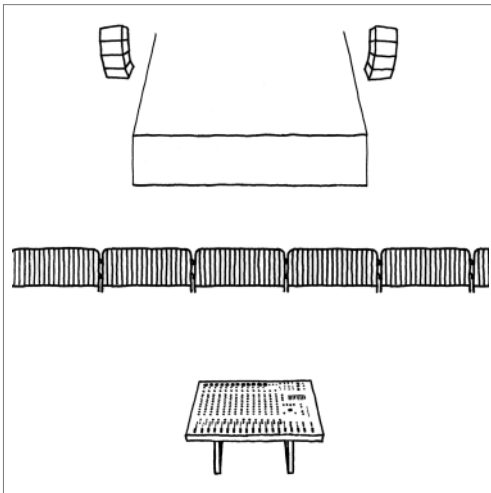


### Step 3

Place the microphone at the measurement position (e.g. 1 meter in front of the PA) and press RUN on the XL2.

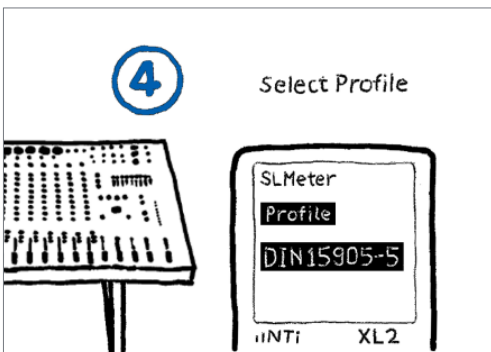
HINT: Connect the microphone to the XL2 via the ASD cable to ensure that the XL2 correctly reads the sensitivity of the microphone.

HINT: You are only responsible for the sound that is coming from the PA, and not from the audience. Thus, always choose a measurement position where the PA is louder than the audience (e.g. 1 meter in front of the PA). Otherwise, the noise of an enthusiastic crowd, cheering close to the measurement microphone, will be amplified by the k-factor, and may exceed your limits.



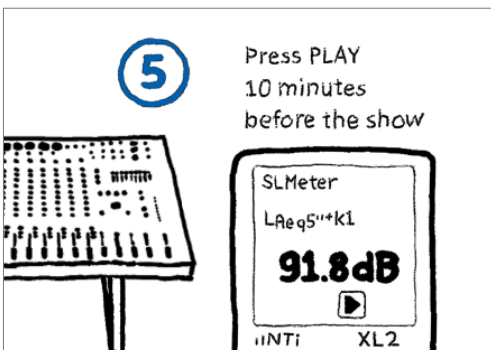
HINT: The XL2 provides Profiles that configure the instrument according to the standard. This ensures that you acquire the measurement data correctly, and that the XL2 records in parallel an audio file, with which you can later demonstrate that not the PA sound, but rather the audience sound exceeded the limits.

- “DIN15905-5 & Audio” Profile measures according to the German standard
- “V-NISSG” Profile measures according to the Swiss standard
- Other national regulation Profiles are available on request



#### Step 4

Select the appropriate Profile on the XL2.



#### Step 5

Start the measurement and the audio recording 10 minutes before the show begins, by pressing the PLAY button on the XL2.

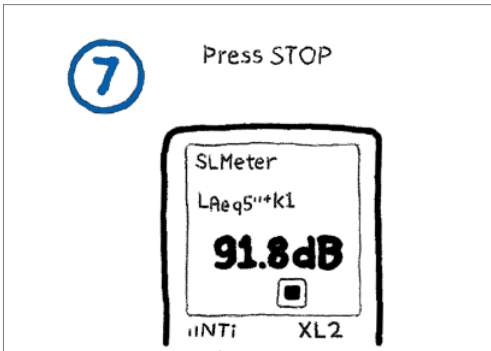


#### Step 6

During the show, the Limit LED on the XL2 indicates whether you are within the prescribed limits or not.

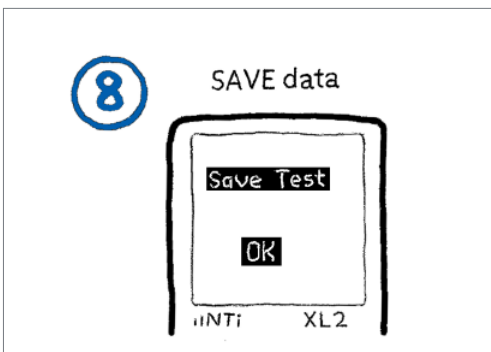
- Green light: You are within the limits
- Amber light: You are not yet over, but close to the limits
- Red light: You should reduce the sound level

The levels may also be monitored on a Mac or PC with the XL2 Projector PRO Software.



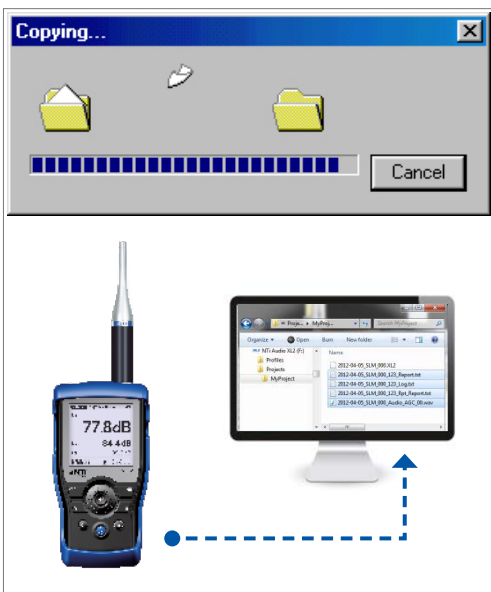
### Step 7

At the end of the show, after switching off the PA, press the XL2 STOP button to stop logging the data.



### Step 8

Save the files on the XL2 when prompted to do so. (HINT: If Autosave is enabled, the files are saved automatically)



### Step 9

Connect the XL2 to your PC via USB and copy the data and audio files to the computer.



### Step 10

Load any one of the copied files into the Excel SLM Reporting Tool. Complete the report with the details of the event and save the report as a PDF document for later reference.

Download the Reporting Tool here:

<https://my.nti-audio.com/support/xl2>