Assess the Environment

The very first thing on your list when you decide to build a studio, mix or recording room is to evaluate the environment where the studio will be. What we need is the noise spectrum and the SPL (sound pressure level), unweighted or C-Weighted. We must use a standard measuring technique to be confident that the existing environmental noise levels will not interfere with the studio operation. Your studio sound-proofing will need to be adjusted according to what is found during the measuring process.

Failure to do this part first will often result in the failure of the studio as a business or a hobby.

An SPL meter or phone app is not good enough and will only allow you to get a rough idea of the existing environmental noise levels.

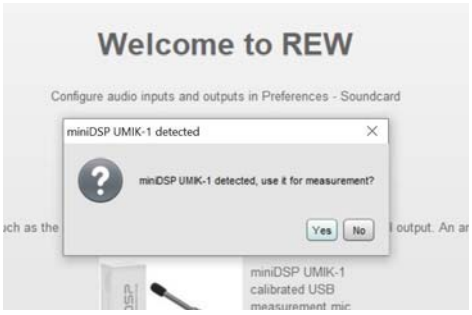
Prepare the equipment needed

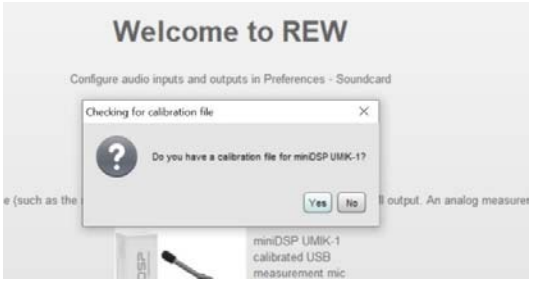
You will need a calibrated testing mic and your computer or laptop for these tests.

a. Purchase the miniDSP UMIK-1 calibrated USB measurement microphone (Google it. You can find it on Amazon)
b. Download the free software Room EQ Wizard - https://www.roomeqwizard.com/

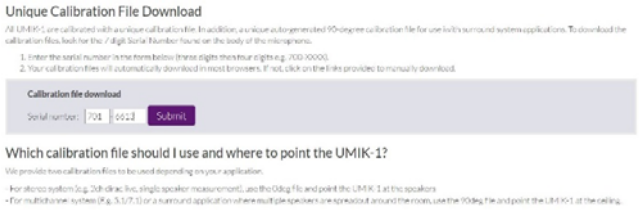
Setup

1. Install the REW software on your computer. Follow the directions written in the help files.
2. Plug in the USB cable for the UMIK-1 and turn the computer back on.
3. Open REW (it doesn't matter what OS you are running. This works the same for Mac of PC). You will see the following:



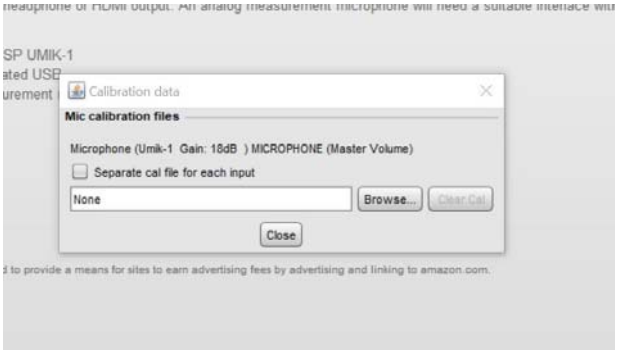


Go to the website https://www.minidsp.com/products/acoustic-measurement/umik-1 and scroll down until you see this:

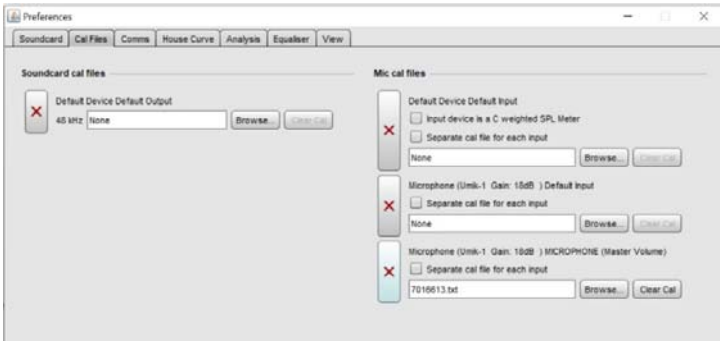


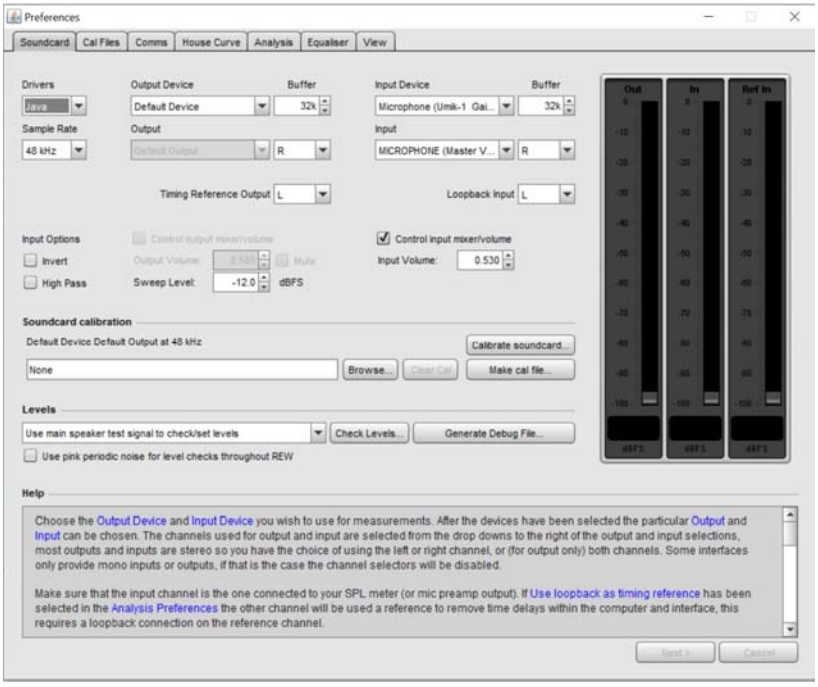
Enter the serial number that is on the bar-code label ON the microphone. (please don't enter the number that is shown in the screen-shot. That's MY microphone's serial number.

SAVE the text file in a place where you can access it later.

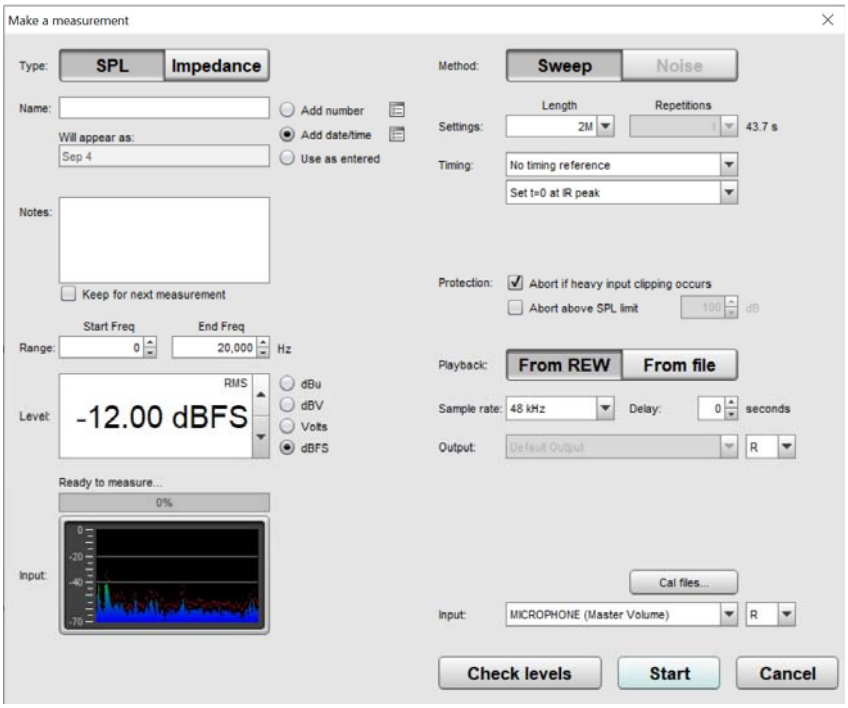


In REW, when asked for the Mic calibration files, click Browse. Navigate to the folder where you saved your cal file (text) and select it as show in the next screen-shot.

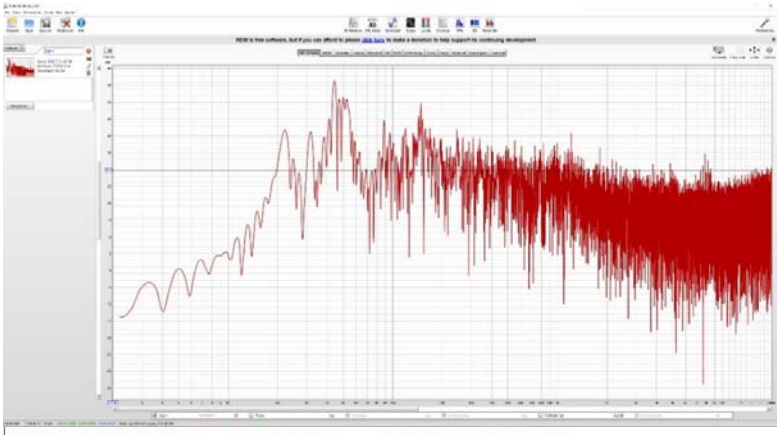




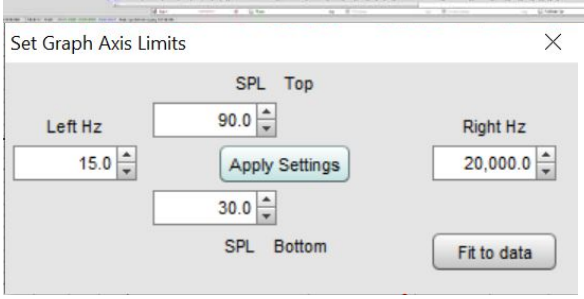
Set up your sound card as shown above.
Click the tab, Cal Files, to check if the cal file is in the correct slot – as shown. Close Preferences.



Next, click Make a measurement. Adjust your settings so that they are as shown here. **Wait for the noisiest moment to test.** Click Start and be very quiet. – We want the 'worst-case' noise when testing.

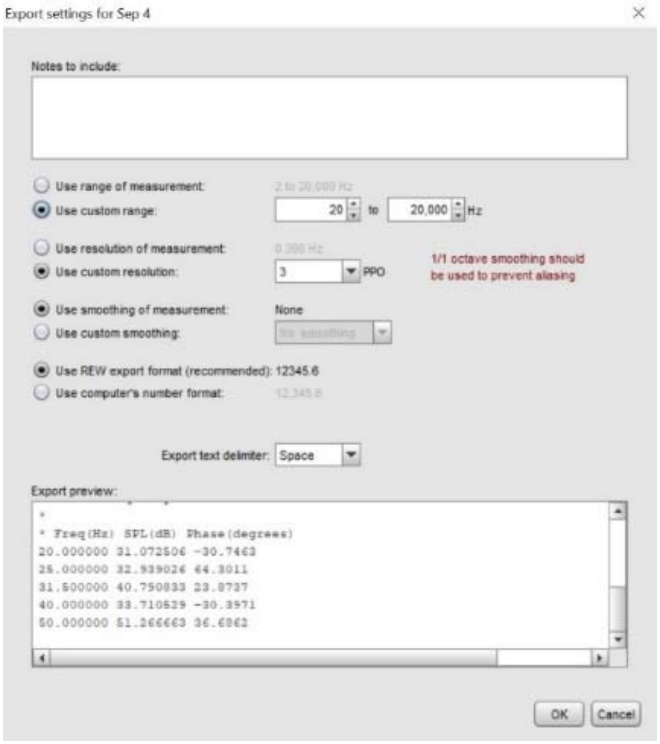


Once the measure appear in the display, you can fit the data to the screen by going to the upper RH corner and clicking Limits. You will see ‘Set Graph Axis Limits’. Click ‘Fit to data’. Save measurement(s).

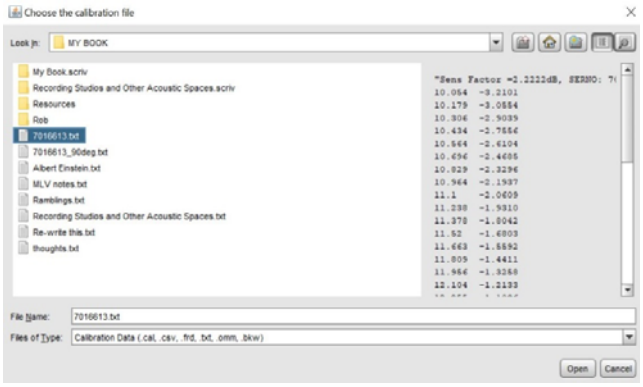


You can skip the next steps if you plan to send the data to me. You can use wetransfer.com to send me the REW *.mdat file. (john@jhbrandt.net)

I’ll do these next steps…

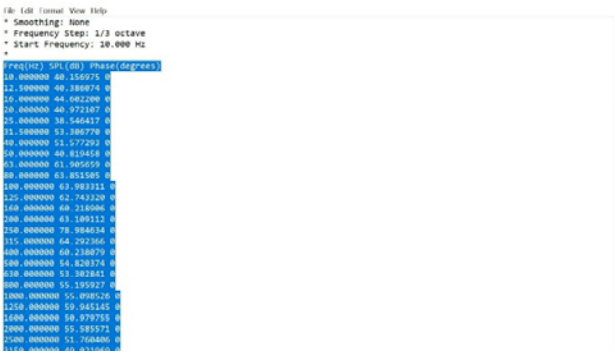


Next we’re going to export the data so that we can pull it into a spreadsheet and ‘work on it’.



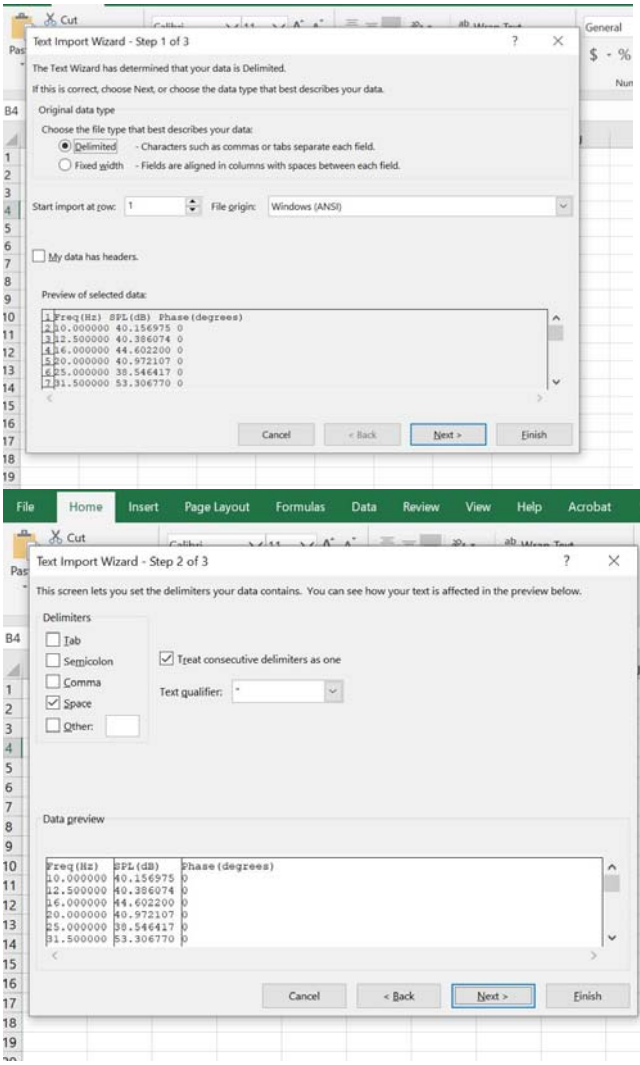
We don’t need the high-resolution data that REW is capable of because it would be pages long and we would need to average it anyway. It’s best to get no more than 1/3rd octave information.

So make your Export settings as shown above. Save them where you can access them.



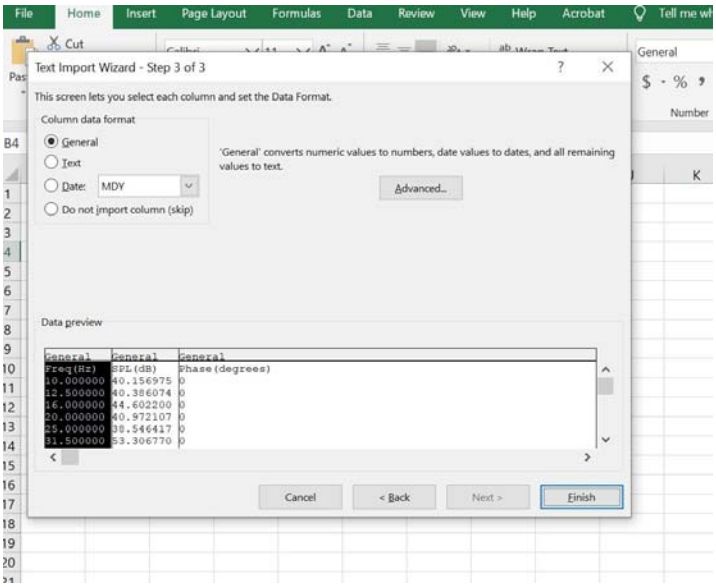
The next step is to import them into an Excel spreadsheet.

Select the text as shown. You don't need the top part of the text file, only the data.



Open Excel. Select cell B2 and then click the arrow under the Paste icon. Select "Use Text Import Wizard" as shown here.

Check the fields as shown… continue.

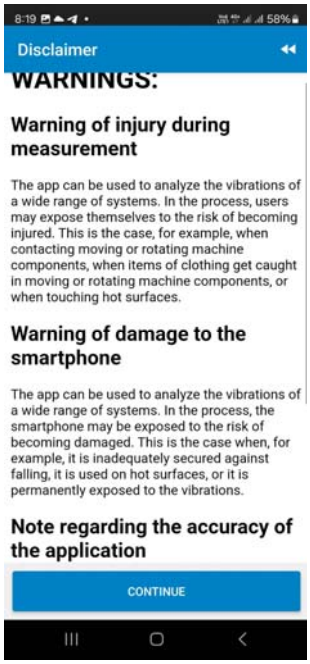


Press Finish and you have your data displayed.

Next step, **<u>if you need it</u>**:

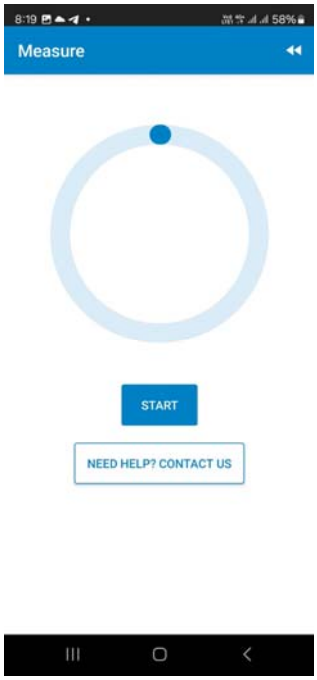
On your phone, go to the play store or Apple store and download:

Get the app above.



Start and continue.

Select Internal Sensor



Select the top image (phone on back)

Press Start.
You can either stand still to get a reading of the exterior noise or JUMP on the floor constantly to measure the floor resonance.

Send me clear screen shots of your results. – john@jhbrandt.net

This is the data we need to provide you the best service.