# Room EQ Wizzard

REW will be used to do the following:

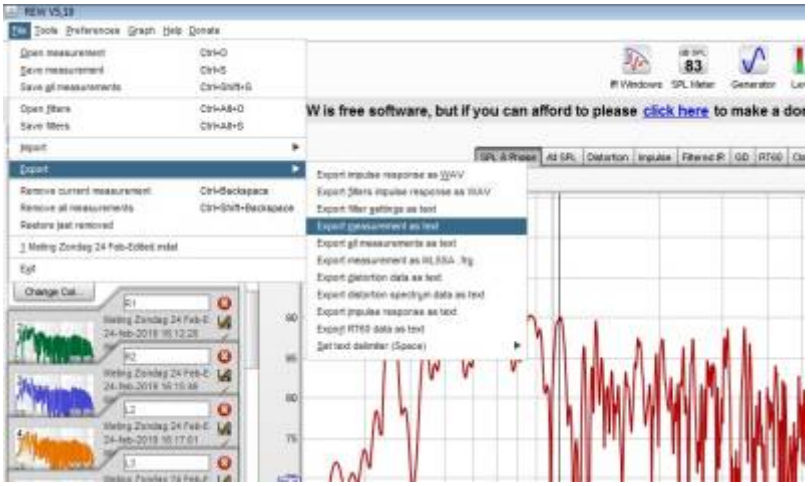
1. Measure the room frequency response;
2. Generate create the initial parametric EQ filter settings to achieve a flat frequency response.

See the following topics:

- Umik-1 Setup
- Make Measurements
- Smoothing
- Time Alignment
- Averaging
- Duplicating Measurement

## Save Measurements

Now save the measurement so that it can be used in Rephase as a baseline measurement. Select “File → Export Measurement → Export Measurement as text”.




## Generate EQ filter

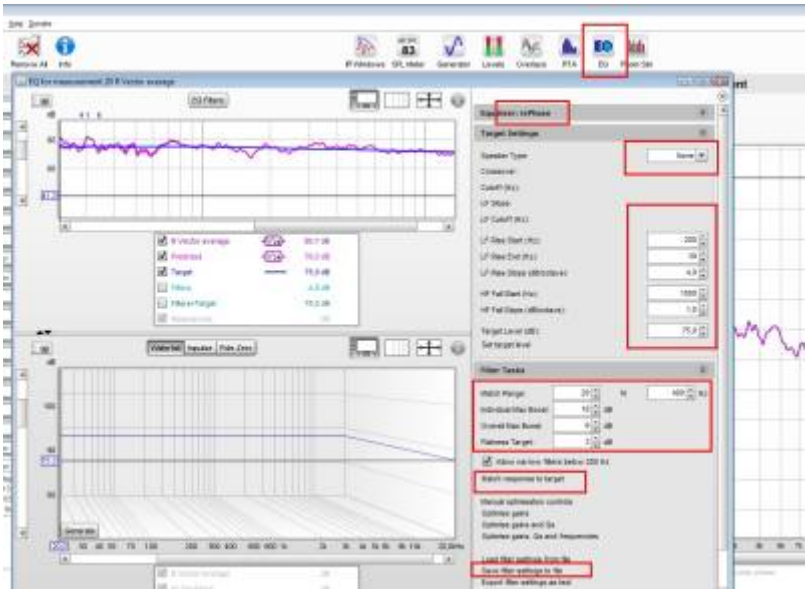
Now we will create equalization filters for each channel using REW’s own EQ filters tool.

Select the “Left Speaker Average” measurement and click the EQ button. In the popped-up EQ window, change smoothing to VAR (it should be at 1/48 smoothing by default due to FDW and you can even select “no smoothing” as vector average of various measurements is already smooth enough in most cases). VAR smoothing is good if you will EQ in the whole frequency spectrum and RePhase it later. If you will just EQ the bass frequencies just leave it as is.

In the top menu press the EQ button and apply the following settings:

- On the right side of EQ window under Equaliser choose rePhase.

- Under Target settings configure a target type as close to your speakers' true frequency response as possible. In my case "Full Range Speaker".
- House Curve: preferred settings for your room. Set target level to have REW set the target level or configure it manually.
- Target Level (dB SPL). Should be around the lowest dips of the frequency response to avoid the EQ from boosting too much. You can use the button "Calculate level from Response" which will suggest an appropriate level.
- The "Allow narrow filters below 200 Hz" option lets REW use very narrow filters (high Q) to correct peaks from room modes (standing waves) in the low bass region to tame bass peaks, while unchecking it (for device EQ) limits filters to a maximum Q of 5, preventing over-correction and distortion in the bass. It's generally selected for room correction (bass) and deselected for headphone/device EQ.
- Option "Vary max Q above 200 Hz" allows to use progressively narrower (higher Q) filters for bass issues below 200 Hz but allows for broader (lower Q) filters at higher frequencies, preventing overly sharp, unnatural-sounding corrections above the bass region, aiming for a smoother, more musical result as it moves toward treble. It's often used with "Allow narrow filters below 200 Hz" for comprehensive correction.



**Generate**

Under Filter tasks hit "Match response to target". Hit EQ filters button to get dialog for additional manual filter adjustment.

Check the deep dips for their wavelength with the simple formula: distance (in metres) = 85.75 / frequency (in Hz). You will usually find an early reflection point at that distance from the woofer to your ears. You cannot and should not equalize for these.

## Save project

Hit Save filter settings to file to save REW EQ filter (use XML format to imported into rePhase). Save your work under File/Save All Measurement