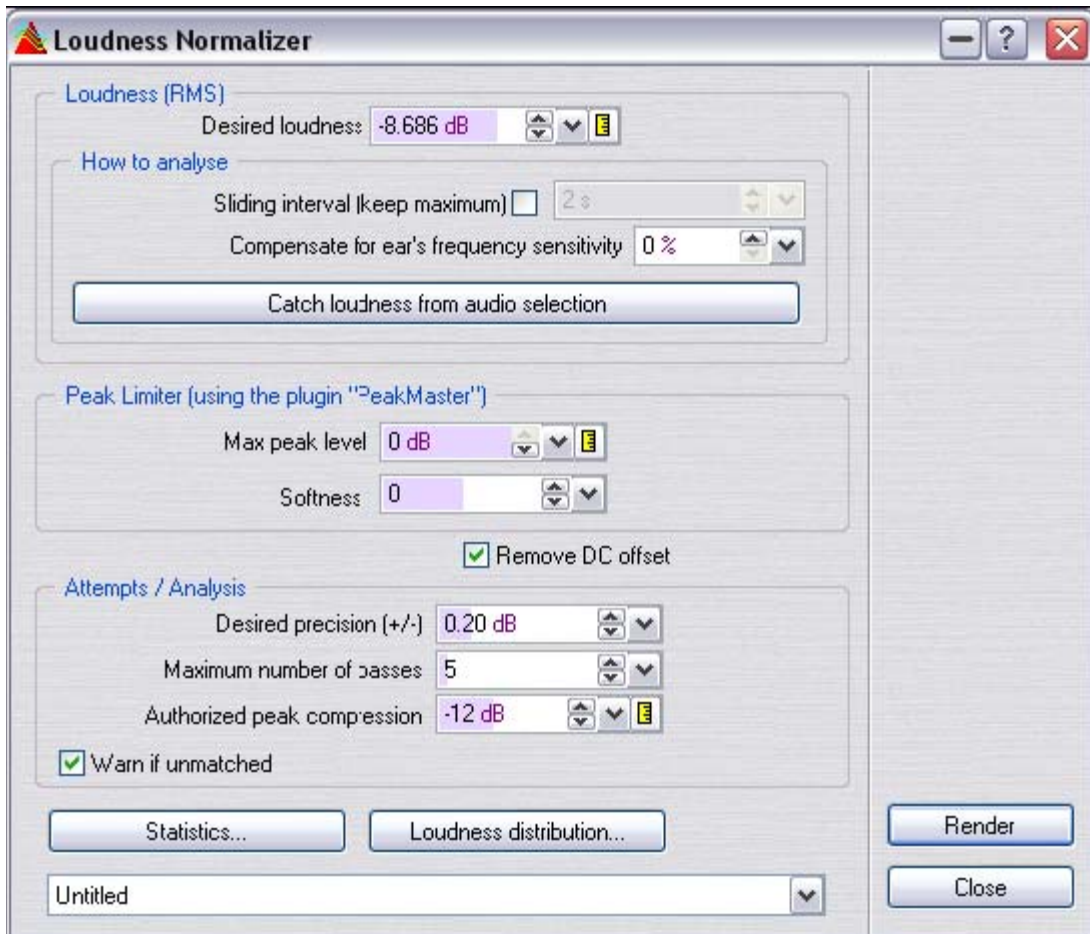


Wavelab 6 - Loudness Normalizer

This processing tool allows you to specify the loudness of a file. Because it relates to loudness as opposed to maximum peak level, this tool works quite differently than the Level Normalizer. A typical application is to specify a level, e.g. -12dB, and the Loudness Normalizer will process the loudness to match this level.

In case of stereo files, both channels are processed independently.

- This process happens over two stages; first an analysis and then the final rendering. The results of this analysis can be seen in the Statistics. If all seems well, you can apply the processing using the Render button.
- The Loudness Normalizer is also available in the Batch processor, which is logical as one of the primary applications is to process different files to equal loudness.



Desired Loudness:

The loudness you desire to achieve. Positive and negative values can be set. Be aware that specifying high positive values might not be good practice, as this could require a gain which is beyond what the limiter can properly handle so distortion could occur. A good tip is to use “Statistics” (see below) after specifying a loudness, which will tell you how much the gain needs to be raised and if peak limiting needs to be applied. Light peak limiting is acceptable, but if heavy limiting is necessary this will probably render a result that will not accurately match the desired loudness and precision and might degrade the audio quality. In such cases a warning will be shown after applying the process, allowing you to undo it.

Sliding interval (keep maximum)

If this option is not checked, the global average loudness of the selection (or the whole file) is used as a loudness reference (RMS). If checked, a “sliding interval” is used, meaning that the maximum loudness value found in the audio selection is retained, and used as a reference. If you have a file where the overall loudness is more or less even, leave this option unchecked. If you have a file with a high dynamic range, sliding interval is preferable.

Compensate for ear’s frequency sensitivity

The human ear is less sensitive to low and high frequencies than to midrange frequencies (as shown in the famous “Fletcher-Munson” curve). Moreover, the degree of this phenomenon depends on the overall loudness (the lower the loudness, the more sensitive the ear is to the frequency difference). WaveLab takes into account the frequency contents of the file. E.g. if it contains much bass, you’ll get a lower RMS value if you use the compensation option (since low frequencies contribute less to the perceived loudness), and a higher value if mid-range frequencies are prominent. If you want to normalize two files so that they sound equally loud, you should specify both equal “Desired loudness” values and equal “Compensation” values.

Catch loudness from audio selection	This will set the “Desired loudness” value to the average loudness found in the current audio file (or selection).
Peak Limiter –Max peak level	This specifies the maximum peak level of the resulting audio. The lower this is set, the less loudness you can achieve.
Peak Limiter –Softness	This parameter affects the way the Peak Master operates. A high setting will maximize the perceived loudness effect but can in some cases result in a slight harshness of the sound. Adjust this parameter to optimize the balance between sound quality and the desired effect.
Remove DC offset	If any DC offset exists in the file, this will affect the loudness computation. Therefore it is recommended that you keep this option activated.
Attempts/Analysis – Desired precision	If the Desired loudness requires peak limiting; this will also reduce the loudness to some degree. This can’t be computed in advance and be automatically applied to the gain change, because the limiting is a complex process. Instead, several simulation passes are performed to find the best possible gain. This option lets you define the desired precision of the result.
Attempts/Analysis – Maximum number of passes	WaveLab will perform as many analysis passes as are needed to match the desired precision. Use this option to specify the maximum number of passes to be performed.
Attempts/Analysis – Authorized peak compression	As too much compression will degrade the audio quality, you can here specify a limit to the applied compression. The value can be set between -1 and -20 dB. If you actually need maximum allowed compression (-20 dB) to achieve the desired loudness, it might be better to reconsider, and instead lower the Desired loudness value, as this will almost certainly render better results.

Warn if unmatched

If checked, this will warn you if the normalizing process does not meet the desired loudness/precision. This option is not available in the Batch processor.

Statistics

This opens a window which shows you information about the file to be processed. It will show any DC offset, the current loudness, the current peak level, the required gain to achieve the desired loudness and an indication about whether or not limiting is required.

Loudness distribution

This opens the Loudness distribution dialog where you can see how frequently a given loudness occurs in an audio file. For instance if the peak in the display is at -12 dB, this would be the most frequent loudness found in the file (this is different from average loudness). Use the “?” button in the dialog for more information.