

**Levelizer plug-in**  
**for**  
**Pyramix Virtual Studio**

**User's Manual**

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## **Levelizer**

Levelizer can adjust a mono or stereo file to have a given audible level (LEQ) based on a psycho acoustical measurement.

The main applications for the Levelizer are to:

- Change the audible level in commercials prior to broadcast, so that the level conforms to the stations internal standards

and

- Render dialogue in post production, so that the audible level is uniform across the whole project.

## **Calibration**

Levelizer is calibrated so that a -20dBfs sine wave at 1KHz has a LEQ value of 88.

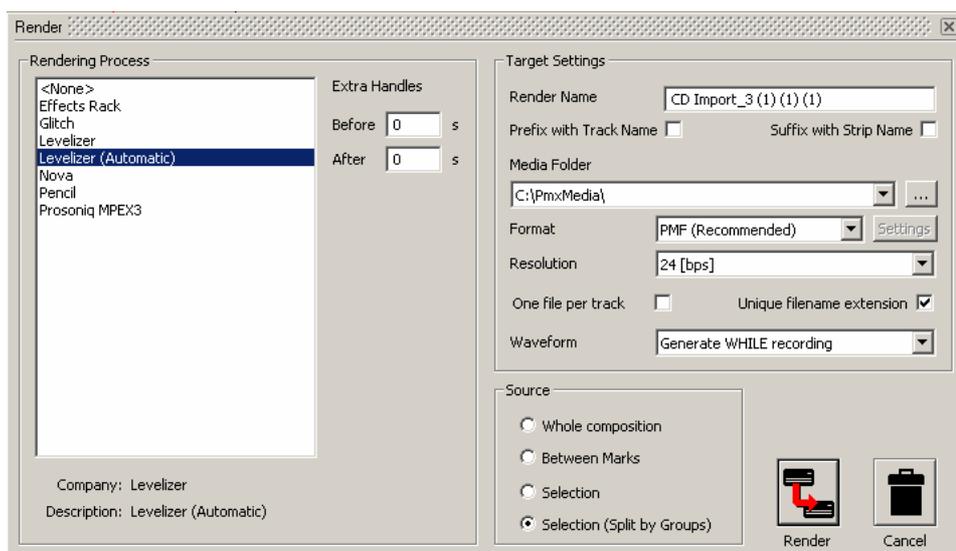
Weighting is taken into consideration during calibration, which means that the signal will have a LEQ value of 88 no matter what weighting function is used.

## Render Menu

In Project/Render two versions of the Levelizer plug-in exist, one named "Levelizer" and one named "Levelizer (automatic)".

The difference is that "Levelizer (automatic)" uses your most recent settings in "Levelizer" and processes automatically.

While this means you're unable to cancel, there's naturally always the possibility of selecting "Undo" in the Pyramix menu.

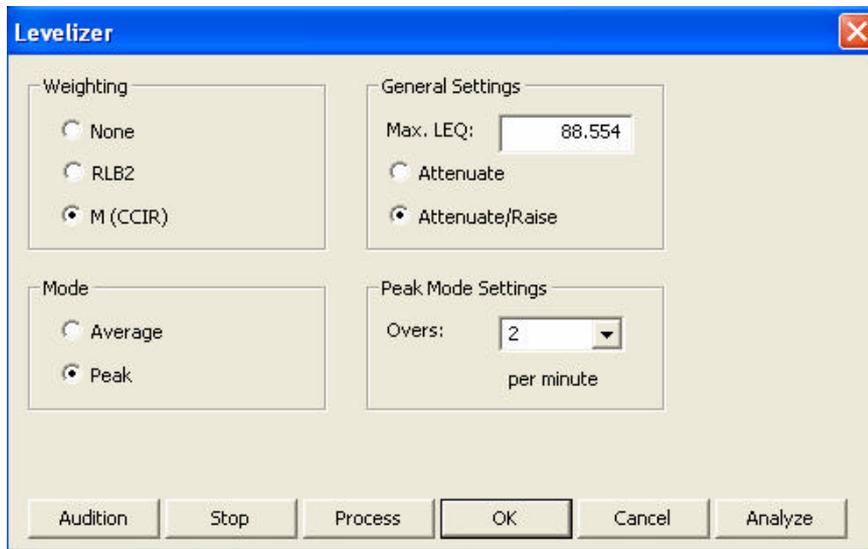


"Levelizer (automatic)" is most powerful if you need to process numerous files. The most efficient way to do that would be:

1. Select one file and go to the Render menu and choose "Levelizer". Make your settings and press Cancel (the settings are stored as most recent, even if cancel is pressed) (Step 1 can be skipped if you want to use the same settings as last time you used Levelizer).
2. Select the files you wish to render.
3. Go to the Render menu and select "Unique file name extension and "Selections (split by groups)"
4. Choose "Levelizer (automatic)".

When you no longer see an hourglass cursor the files have been rendered.

If you always use the same settings, for instance because those settings are the standard ones for a broadcaster or similar, then only steps 2 to 4 need to be taken, resulting in a considerably optimized work flow.



### Levelizer offers several weighting functions:

**"None"**: When "None" is selected, no weighting function is applied. This means that all frequency components are taken equally into account.

**"RLB2"**: RLB2 is a modification on the "RLB" weighting (which again is a modification on the "B" weighting). Compared to RLB, RLB2 has a sharper roll off, and the cut-off frequency is slightly larger. They are however reasonably similar.

Essentially RLB2 is a high pass filter, which means that when compared to the "None" setting, certain very low frequencies will have less of an impact on the measurement. This makes it very useful for broadcasting purposes.

RLB2 has been developed by TV2 Denmark as a result of a huge amount of listening tests. RLB2 has legally been approved by the TV commercials.

**"M (CCIR)"**: The M weighting, as used by Dolby in combination with the average function, is a modification on the original CCIR 468 weighting. The curve is the same, but the M weighting has a 5.6dB offset, which means that the 0dB point is at 2 KHz rather than 1 KHz.

Just like the CCIR 468 weighting, the "M" weighting is a band pass filter with uneven sides (the frequency response is not mirrored on a centre frequency). Frequencies between 1 KHz and 12.5 KHz are weighted stronger (esp. around 5-7 KHz) when compared to other frequencies. This makes it useful for post-production.

### **Levelizer can operate in 2 different modes.**

**In "Average"** mode the sound level is calculated for small window times (0.85 second), and these values are then equally weighted in an average.

**In "Peak"** mode the sound level is also calculated for small window times (0.85 second), but only the window with the max. level is detected.

Since a small number of gun shots or similar may be allowed, a certain amount of "overs" can be allowed per minute. For instance, if "Overs" is set at 2, the signal is allowed to go above the set LEQ threshold 2 times for every commenced minute. If the audio file has duration of less than a minute, 2 overs are allowed.

If the Levelizer is applied on broadcast commercials we recommend using the "Peak" mode in combination with the RLB2 weighting. With this setting it is not possible to increase the audible level of a message in a commercial by preceding it with a short period containing a low audio level.

It is possible to tap in the preferred LEQ level with decimals, and it is possible to choose between attenuate and attenuate/raise. If attenuate is chosen Levelizer will only attenuate the whole audio file if it exceeds the specified level. In attenuate/raise is chosen Levelizer will attenuate or raise the whole audio file so it fits the specified level.

### **Operation:**

- By pressing the Audition button it is possible to play back the audio before or after the Process button has been activated.
- The Stop button will stop the playback.
- The Process button will process the audio equal to the settings.
- The OK button will close Levelizer, processing the audio using the current settings.
- The Cancel button will close Levelizer, reverting to the original audio data.
- The Analyse button will analyse the audio without rendering.