

# MMultiAnalyzer



MMultiAnalyzer is an advanced multitrack analyzer, designed to be extremely easy-to-use yet versatile. It is an indispensable tool for mixing.

MMultiAnalyzer doesn't require any kind of special routing, either in your DAW host or within the plug-in. All you need to do is place the plugin on each track that you want to analyze in your project and the instances will "find each other". Each instance of the plug-in can then be used to show any kind of analysis (Frequency spectrum, Sonogram, Stereo field etc.) , it doesn't matter which is which, you can monitor drum tracks in the plug-in instance placed on the guitar track for example.

The main window is divided into 3 parts - on the top you can see analysis parameters. Most of them are specific to current instance (e.g. you can analyze the same set of tracks using different parameters), a few are global and when you change them, they will be changed in other instances as well.

On the left side of the plugin window you can see settings for the particular instance, **This instance**. You can specify the name and visual parameters here. Often you will need only to use presets, which contain all of these settings and will speed up your workflow. You can add, load, save and manage your presets too. Below this panel is the list of tracks being analyzed (that is, those tracks on which the plugin has been placed). You can enable/disable whether each track is displayed in this instance and control visual parameters - these are shared, so when you change color of a track for example, it will take effect in all other instances as well.

The rest of the window contains the actual analysis. You can choose from several views:

**Spectrum** view displays the spectrum analysis graphs.

**Sonogram** view provides the spectrum sonogram view - an analysis where the depth of color indicates level of each frequency and the vertical axis represents time. Having too many tracks displayed in this mode may make the view hard to read, so it is often recommended to keep at most 4 tracks a time.

**Collisions** view displays a 1-dimensional sonogram (essentially the sonogram without time axis) for each track and also the collision sonogram, which highlights frequencies overlapping in any 2 tracks. This is often used during mixing to reveal, which parts of the spectrum are over-occupied. You may then use an equalizer to remove the collision frequencies from one of the problematic tracks. Each track is shown in the collision view starting from top. At the bottom there is an additional red graph showing the collisions. Anything present in the collision graph is present in at least 2 tracks. The fact that something is colliding doesn't always mean you should fix it, but it can help you understand, why a mix is cluttered and muddy and in which frequencies.

**Loudness & waveform** view contains EBU R128 and ITU-R BS 1770-3 compliant loudness meters and waveform display for each track. Here you can see the actual waveforms of the tracks along with their approximate Momentary, Short-term and Integrated loudness graphs.

**Stereo** view displays the stereo analysis of each track. Unlike XY goniometers, which could be hard to read, this graph shows the percentual distribution stereo placement - in other words, how much of the signal is located in the center, on the left & right and anywhere in between. It is usually very easy to judge the width and stereo placement this way.

**Oscilloscope** view runs a pitch detector on each track and displays a single period image of each track. It can be useful when analysing wavershapers, dynamic processors, synthesizers etc.

Presets

## Presets

Presets button shows a window with all available presets. A preset can be loaded from the preset window by double-clicking on it, using the arrow buttons or by using a combination of the arrow keys and Enter on your keyboard. You can also manage the directory structure, store new presets, replace existing ones etc. Presets are global, so a preset saved from one project, can easily be used in another.

Holding **Ctrl** while pressing the button loads an existing preset, selected at random.

Presets can be backed up by using either the Export button, or by saving the actual preset files, which are found in the following directories:  
Windows: C:\Users\{username}\AppData\Roaming\MeldaProduction  
Mac OS X: ~/Library/Application support/MeldaProduction

Exported preset files can be loaded into the plug-in's preset store using the Import button. Or the preset files themselves can be copied into the directories named above.

Files are named based on the name of the plugin in this format: "{pluginname}presets.xml", for example: MAutopanpresets.xml or MDynamicspresets.xml. If the directory cannot be found on your computer for some reason, you can just search for the particular file.



### Left arrow

Left arrow button loads the previous preset.



### Right arrow

Right arrow button loads the next preset.



### Randomize

Randomize button loads a random preset.



### Panic

Panic button resets the plugin state. You can use it to force the plugin to report latency to the host again and to avoid any audio problems. For example, some plugins, having a look-ahead feature, report the size of the look-ahead delay as latency, but it is inconvenient to do that every time the look-ahead changes as it usually causes the playback to stop. After you tweak the latency to the correct value, just click this button to sync the track in time with the others, minimizing phasing artifacts caused by the look-ahead delay mixing with undelayed audio signals in your host. It may also be necessary to restart playback in your host.

Another example is if some malfunctioning plugin generates extremely high values for the input of this plugin. A potential filter may start generating very high values as well and as a result the playback will stop. You can just click this button to reset the plugin and the playback will start again.



### Settings

Settings button shows a menu with additional settings of the plugin. Here is a brief description of the separate items.

**Licence manager** lets you activate/deactivate the plugins and manage subscriptions. While you can simply drag & drop a licence file onto the plugin, in some cases there may be a faster way. For instance, you can enter your user account name and password and the plugin will do all the activating for you.

There are 4 groups of settings, each section has its own detailed help information: **GUI & Style** enables you to pick the GUI style for the plug-in and the main colours used for the background, the title bars of the windows and panels, the text and graphs area and the highlighting (used for enabled buttons, sliders, knobs etc).

**Advanced settings** configures several processing options for the plug-in.

**Global system settings** contains some settings for all MeldaProduction plugins. Once you change any of them, restart your DAW if needed, and it will affect all MeldaProduction plugins.

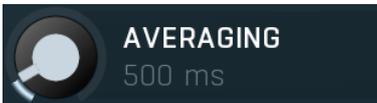
**Dry/wet affects** determines, for Multiband plug-ins, which multiband parameters are affected by the Global dry/wet control.

**Smart interpolation** adjusts the interpolation algorithm used when changing parameter values; the higher the setting the higher the audio quality and the lower the chance of zipping noise, but more CPU will be used.



### WWW

WWW button shows a menu with additional information about the plugin. You can check for updates, get easy access to support, MeldaProduction web page, video tutorials, Facebook/Twitter/YouTube channels and more.



### Averaging

Averaging makes the analyser show the mean values over a specified period of time, which makes the values "jump" less and display a more user-friendly value, which is however not so accurate in the time-domain. Please note that this parameter is shared between all instances of the plugin, so when you change this value in one of them, the others will be changed as well.

Range: 0 ms to 5000 ms, default 100 ms

 **SMOOTHNESS**  
4.0%

### Smoothness

Smoothness makes the analyzer smooth out the curve, so it contains less bumping up and down. It approximates the energy in each frequency and the resulting graph should be easier to understand.

Range: 0.00% to 20.0%, default 4.0%

 **RESOLUTION**  
-44.04 dB

### Resolution

Resolution defines the vertical range on the display.

Range: -200.00 dB to -10.00 dB, default -60.00 dB

 **GAIN**  
0.00 dB

### Gain

Gain makes all frequencies change magnitude by the specified amount. This has no meaning when normalization is enabled.

Range: -48.00 dB to +48.00 dB, default 0.00 dB

 **SLOPE**  
+3.00 dB

### Slope

Slope makes the analyser increase the magnitude of higher frequencies, since they are typically lower in energy. 3dB per octave is a typical value, which makes pink noise horizontal as pink noise contains equal energy in each octave. Therefore if you set slope to 3dB, the response would be the same for the FFT and 1/3 octave graphs.

Range: -6.00 dB to +6.00 dB, default +3.00 dB

 **DECAY**  
0.00%

### Decay

Decay controls the speed that the magnitudes return to the minimum value (silence). It is an alternative to averaging, which affects the speeds that the frequencies both gain and lose their magnitudes. For 0% the magnitude goes to minimum immediately. For 100% it stays the same forever, so it makes it basically compute the maximum.

Range: 0.00% to 100.0%, default 0.00%

 **DEHARMONIZE**  
0.00%

### Deharmonize

Deharmonize tries to remove harmonics in the content and leave only fundamentals. This may help you find the dominant frequencies in the signal.

Range: 0.00% to 100.0%, default 0.00%

 Follow host playback

### Follow host playback

Follow host playback switch makes the plugin stop analysis whenever the host playback is disabled.

 Follow host name and color

### Follow host name and color

Follow host name and color switch makes the plugin follow every change of the color and name from your DAW, the the DAW and interface supports it. In that case the plugin should always be in sync with the DAW, however if you change name or color in the plugin manually, it will most likely be rewritten by information from your DAW.

## This instance panel



Global disable

### Global disable

Global disable button enables or disables all instances. You can use this to save CPU when rendering for example.

Show group

### Show group

Show group button lets you select a group of track to display. That includes showing or hiding all of the tracks.



### Collapse

Collapse button minimizes or enlarges the panel to release space for other editors.

SPECTRUM

SONOGRAM

COLLISIONS

LOUDNESS & WAVE

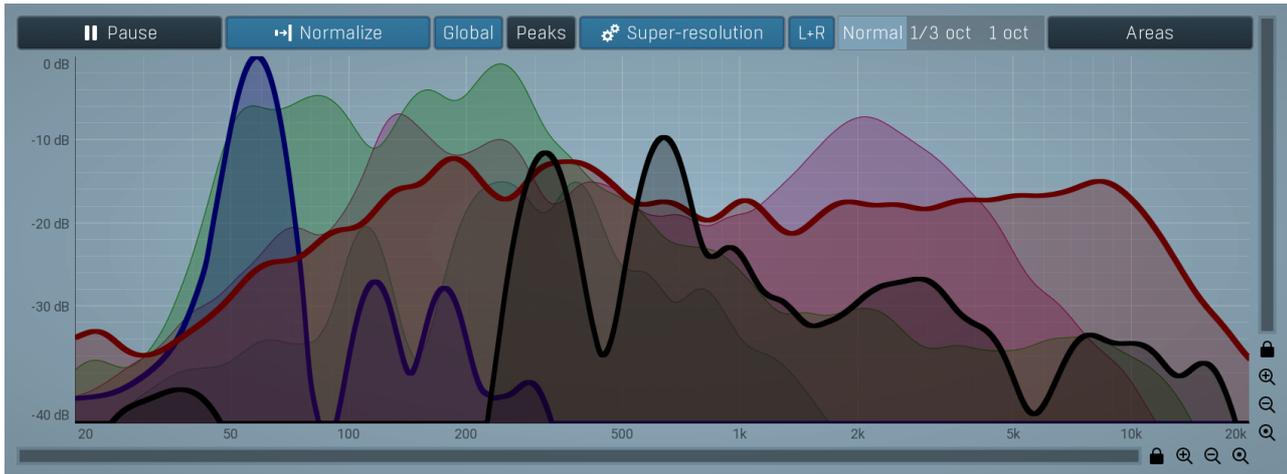
STEREO

OSCILLOSCOPE

Tab

### selector

Tab selector switches between the different views that the plugin provides.



Graph

### view

Graph view shows the actual analyses.

Pause

### Pause

Pause button stops the analyzer temporarily, allowing you to examine the analysis closely.

Normalize

### Normalize

Normalize button enables or disables the visual normalization, which makes the loudest frequency be displayed at the top of the analyzer area (0dB); it does not normalise the sound. This is very useful for comparing frequency levels, however it does hide the actual level. When comparing 2 spectrums you are usually interested mainly in the frequency level differences. In most cases both audio materials will have different overall levels, which would mean that one of the graphs would be "lower" than the other, making the comparison quite difficult. Normalize fixes this and makes the most prominent frequencies of the spectrum reach the top of the analyzer area (or have the most highlighted color in case of sonogram).

Global

### Global normalization

Global normalization makes the **normalization** work based on the maximum of all graphs visible at the time. This means that the levels between the graphs will stay the same, but the maximum level will be 0dB. This is useful for comparing relative levels. If you disable this, all graphs will be normalized separately and will touch 0dB unless they are silent; and this is useful for comparing spectra.

Peaks

### Peaks

Peaks switch lets you show the highest frequency values for each track.

Super-resolution

### Super-resolution mode

Super-resolution mode activates a special processing algorithm, which provides high resolution even in the low frequency spectrum. Using standard FFT algorithms you can increase the FFT size to get better bass resolution, but this also slows down the response. Super-resolution mode keeps the quick response in high frequencies as they are naturally quicker, but also highly enhances the bass spectrum resolution. It requires additional CPU power. Please note that this parameter is shared between all instances of the plugin, so when you change this value in one of them, the others will be changed as well.

L+R

### L+R

L+R switch activates summing of left and right channels prior to analysis. If you disable this option, only left channel will be analysed, which is usually enough considering very monophonic behaviour of most audio materials. Summing L+R displays the analysis of both channels, but note that if there are phase cancellations between the 2 channels, some frequencies may not be displayed properly (or at all) even if they in fact do exist.

Normal 1/3 oct 1 oct

### **View type**

View type controls the way in which the spectrum is displayed. By default a smooth curve is presented. This view provides the best resolution and detail, but other modes (1/3 octave, 1 octave) may be easier to read.

Areas

### **Areas**

Areas button displays settings for the visual areas, which are useful for better visual orientation in the frequency spectrum. These areas are customisable guidelines displayed in the equalizer editor and may contain different octave bands or typical drum frequencies for example. Note that these areas are always only guides, so your particular snare drum may not fit exactly in the very well with the example. In that case it is highly advantageous to use the sonogram or analyzer. Or you can edit your own areas.

