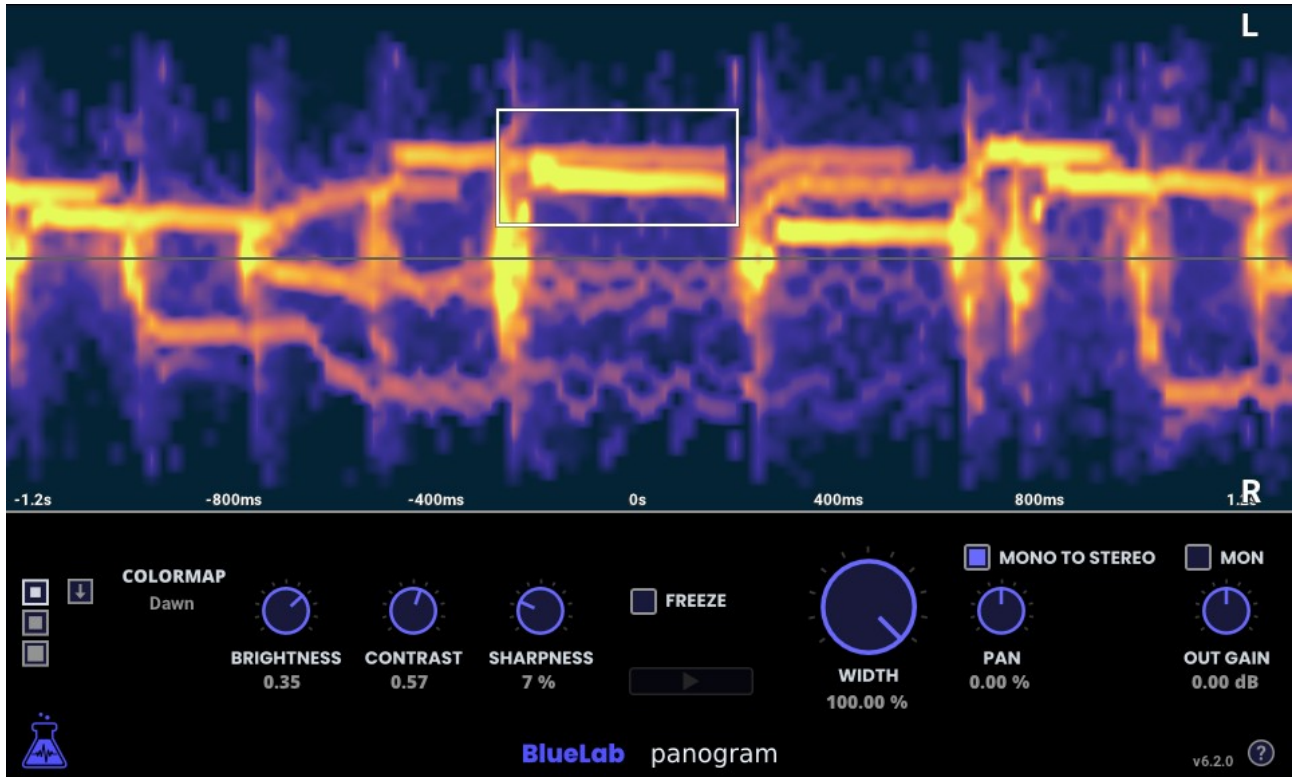# BlueLab panogram

DESCRIPTION

Panogram is a panogram visualization plugin, which lets you explore and understand the stereo field. It displays the sound energy distributed over the stereo field. It shows the stereo width of a sound and the stereo position of the different frequencies contained in the sound. The **Panogram** plugin is also a stereo widening tool.

FEATURES

- Panogram visualization with colormap, brightness, contrast and sharpness
- Play only a selection of a part of the panogram
- Freeze mode
- Stereo widen
- Pan knob
- Mono to stereo (state of the art technique with no delay and no sound coloration)
- Output gain
- Resizable GUI
- Choose display orientation

EXAMPLES OF USE

Understand the stereo field while mixing
The **Panogram** plugin can be used to understand the stereo field while mixing.
It can be inserted on the master track, to visualize the stereo field made from
all the tracks simultaneously. It can also be inserted on a single stereo track, to
visualize only the sound of this track.

Understand a particular section of the sound
The **Panogram** plugin provides a **freeze mode**, to stop the scrolling of the
panogram, and target to a particular section of the track. Once the panogram is
frozen, a particular section of the panogram can be selected and the plugin
plays the sound of the selection only.

Modify the sound field
The **Panogram** plugin provides stereo widening features. The width of the
stereo field can be increased or decreased. The position in the stereo field can
be modified using a pan knob. Finally, a mono sound can be converted to
stereo. When these parameters are modified, the panogram visualization is
updated in real-time.

USAGE
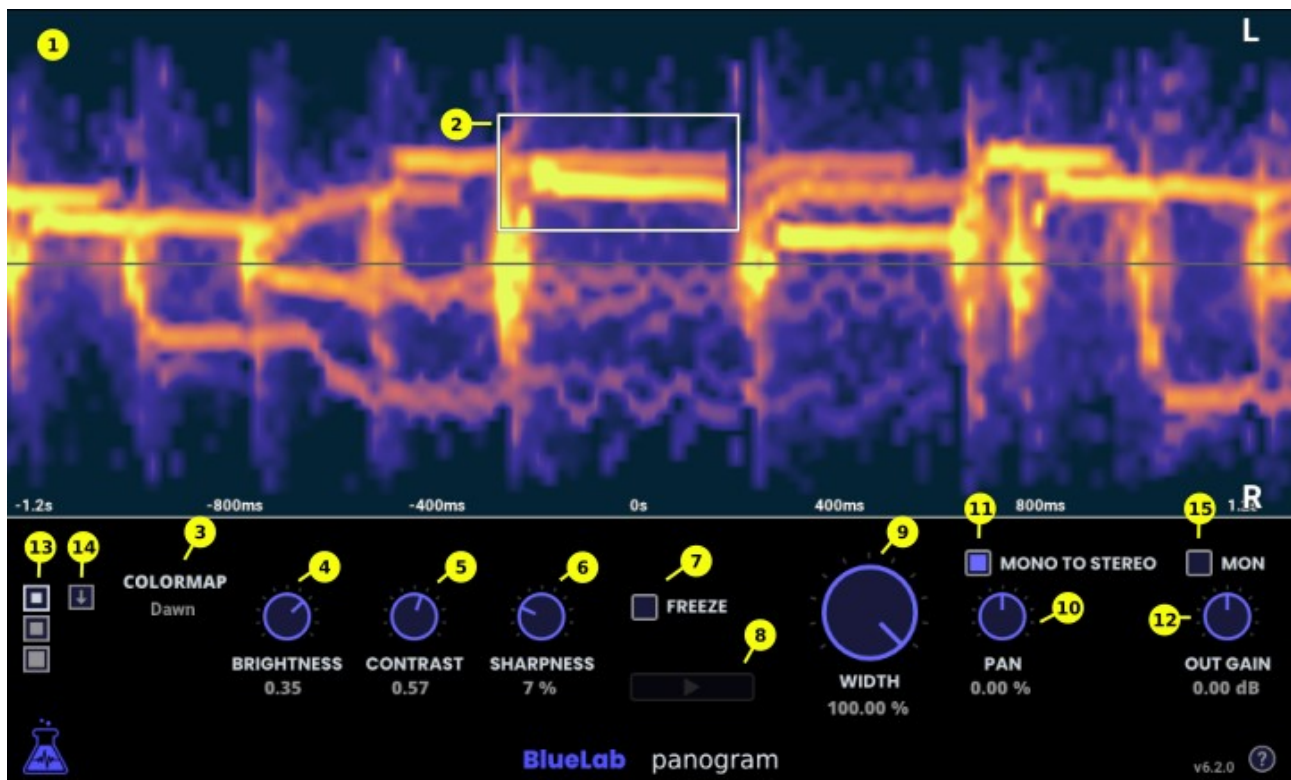
NOTE: the **Panogram** plugin works on stereo tracks. With many hosts, if the
plugin is inserted on a mono track, the track will be automatically converted to
stereo. But on some other hosts (e.g Cubase), it is necessary to be sure to have
a stereo track before inserting the plugin on it.

The **GRAPH (1)** displays the panogram of the sound that is currently played by the DAW.

A rectangular **SELECTION (2)** can be defined to play only a particular section of the panogram.
The **COLORMAP (3)** parameter changes the color scheme of the panogram. Some colormaps are more suitable for displaying the panogram smoothly, some other can be used to highlight more the zones with high sound energy.

The **BRIGHTNESS (4)** and **CONTRAST (5)** and **SHARPNESS (6)** parameters adjust the brightness, contrast and sharpness of the panogram.

The **FREEZE (7)** parameter freezes the scrolling of the panogram when the DAW is playing, in order to inspect a particular zone of the panogram. The **PLAY BUTTON (8)** plays the frozen panogram, or a rectangular selection of the panogram only.

NOTE: with some DAWS (e.g Logic Pro X), the transport bar of the DAW must still be playing in order to be able play a frozen panogram or a selection of a frozen panogram. The output sound will be the sound of the frozen panogram as expected, whatever the position of the DAW transport bar. But the transport bar must not be stopped.

DISCLAIMER: Playing a selection of a panogram is designed to have an idea of the sound energy contained in a zone of the panogram, but it is not designed to extract the sound for future use. When playing a rectangular selection of a panogram, the output sound can contain musical noise. Particularly if the selection is over a zone containing few sound energy.

The **WIDTH (9)** parameter increases or decreases the stereo width of the sound. It narrows or spread the sound energy over the stereo field.

The **PAN (10)** parameter adjust the balance of the sound. It moves the sound energy left or right.

The **MONO->ST (11)** parameter converts a mono input signal to stereo. It is not recommended to apply this parameter on an already stereo sound. If it is applied to a sound that is already stereo, the sound is converted to mono first, then converted back to stereo.

NOTE: The **MONO->ST (11)** parameter is optimal when using power of two buffer sizes in the DAW (buffer size of values 64, 128, 256, 512, 1024, 2048...). If the buffer size is not a power of two, the plugin will add a latency (which will be obviously compensated by the DAW latency compensation system). But if you want a process with zero latency, it is necessary to use a power of two buffer size.

The **OUT GAIN (12)** parameter adjusts the output gain.

The **GUI SIZE (13)** buttons change the plugin window size (small, medium or big).

The **DISPLAY ORIENTATION (14)** chooses if we want horizontal display and scrolling, or vertical ones.
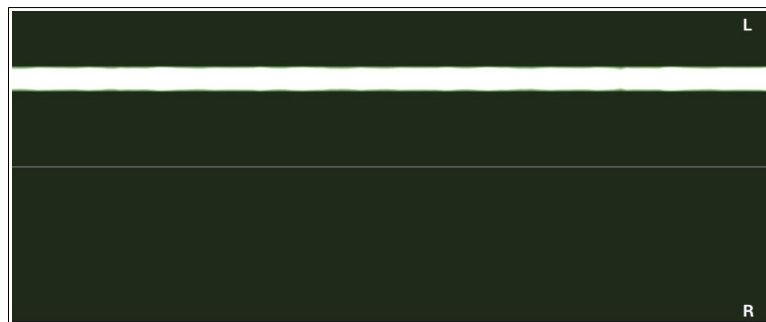
The **MON (15)** button makes possible to process even when the DAW's transport is not playing. This makes possible to use it when the DAW is in monitor mode without playing.

APPENDIX 1 – PANOGRAM EXAMPLES
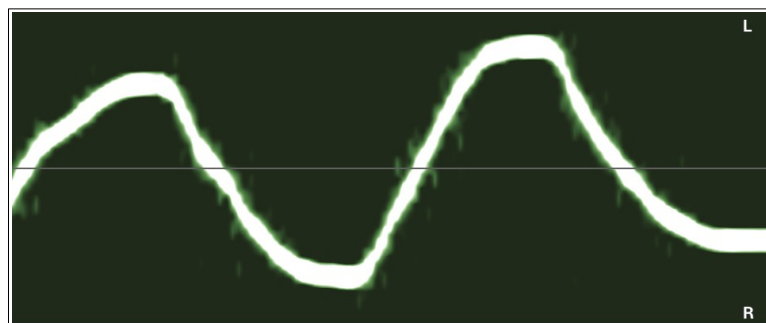
Example of different pan configurations.

Panogram of a mono signal, centered.
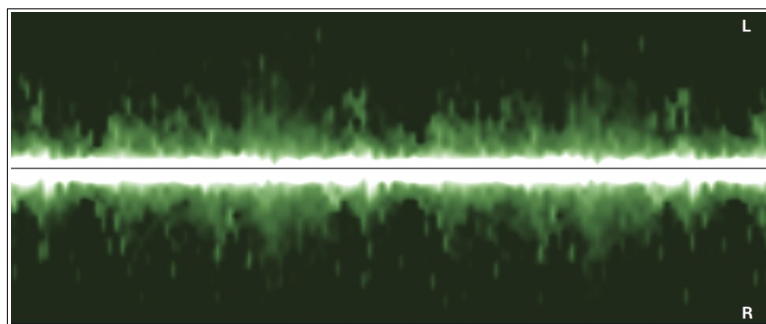

Panogram of a mono signal, panned left.

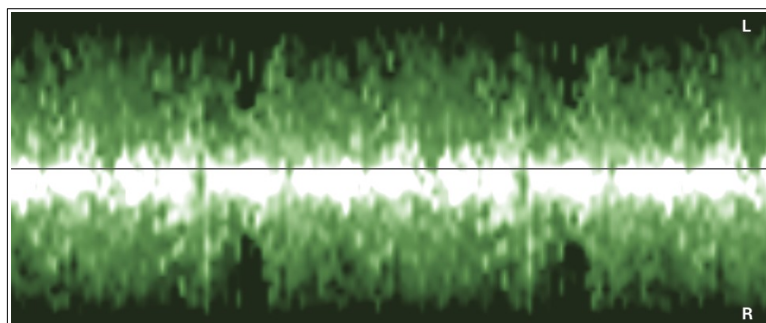**Panogram of a mono signal, panned right at the maximum.**

Panogram of a mono signal, pan varying over the time.
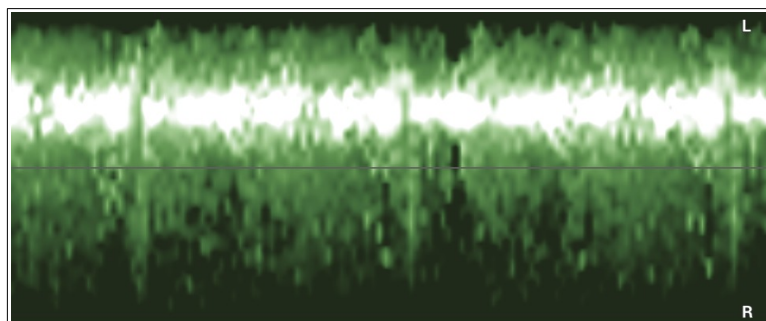
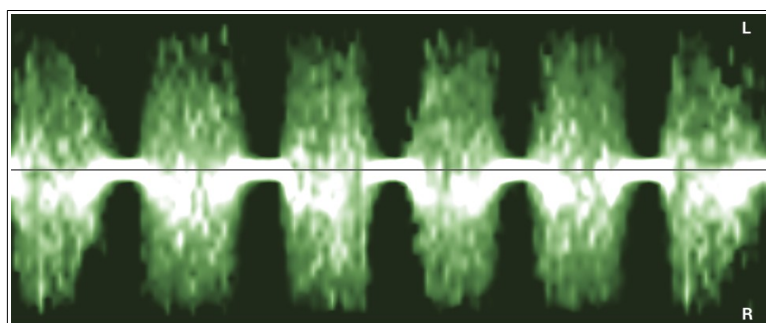Examples of different stereo width configurations.

Panogram of a stereo signal with narrow stereo width.

Panogram of a stereo signal with large stereo width.

Panogram of a stereo signal with large stereo width, panned left.

Panogram of a stereo signal with stereo with varying over the time.