

RePAN v2.0 User Manual

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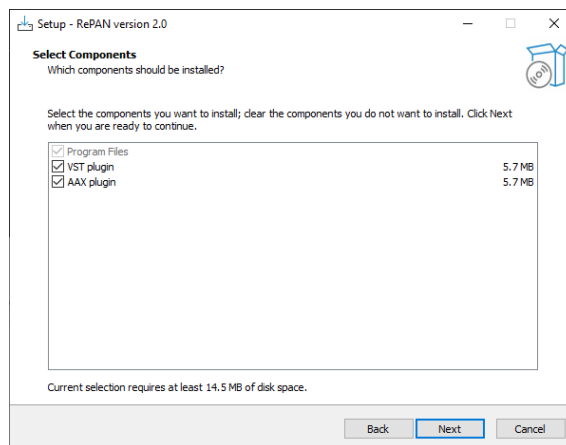
1 Installation

1.1 Installing RePAN

As part of the installation of the plugin, you will be asked to select which plugin formats to install. RePAN is available in AAX, and VST3 for Windows as well as AAX, VST3 and Audio Unit formats for Mac.

1.1.1 Windows

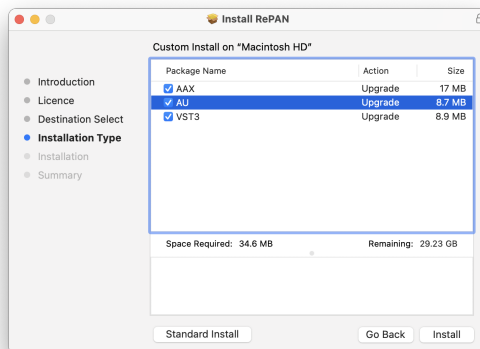
The installation of the plugin will require both VST3 and the AAX locations to be specified. On *Windows*, the VST3 location is commonly set to **/Program Files/CommonFiles/VST3** and the AAX location is commonly set to **/Program Files/CommonFiles/Avid/Audio/Plug-Ins**.



Installing RePAN on Windows

1.1.2 Mac

On *Mac*, the AAX location is commonly set to **/Library/Application Support/Avid/Audio/Plug-Ins**, the Audio Unit location is commonly set to **/Library/Audio/Plug-Ins/Components** and the VST3 location is commonly set to **/Library/Audio/Plug-Ins/VST3**.



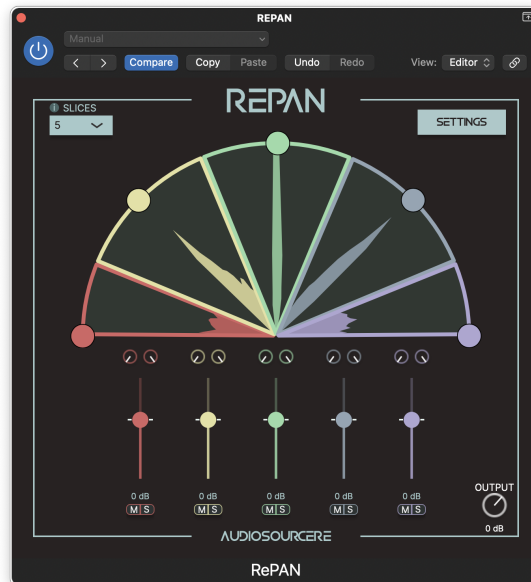
Installing RePAN on Mac

1.1.3 DAW

DAWs (Digital Audio Workstations) have their own specific locations for finding plugins. Some DAWs will use the common locations listed above and some will use their own custom locations. Depending on your DAW, RePAN can be found under the following categories: *Effect, Spatial, Sound Field, Other.*

If RePAN does not show in the list of plugins in your DAW after scanning for new plugins, please check the documentation of your specific DAW to make sure that the plugin files are installed in the right location. If they are not in the correct location, you can safely copy the plugin files from the default folders (listed above) to the desired folder, once the plugin has been installed. DAWs will be able to locate the plugin as long as they are scanning in the right location. Please also note that RePAN must be loaded on a track with exactly 2 input channels and at least 2 output channels.

2 Interface



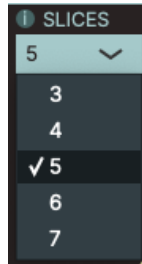
RePAN Interface

RePAN is an audio plugin that separates audio sources depending on their spatial position in a mix. It is important to note that this plugin is designed to work on stereo mixes and that *it does not work on mono mixes*. RePAN takes the input stereo mix and divides its stereo field into several bands (or slices), each of which can be individually mixed within the plugin, or sent to an output bus if used in a DAW that has multi-output capability (see Section 4 *Multiple Outputs*).

On opening, RePAN divides the stereo field into 5 slices, positioned at left, mid-left, center, mid-right and right respectively. The number of slices and the position of each slice can be adjusted to accurately match the content to separate. For example, if a mix contains kick drum and bass in the center but a vocal has been mixed slightly to the left, the position of the mid-left slice can be adjusted to that of the vocal while keeping the center slice in the exact center to cover kick and bass.

All of RePAN's interactions can also be triggered in the DAW with automation parameters.

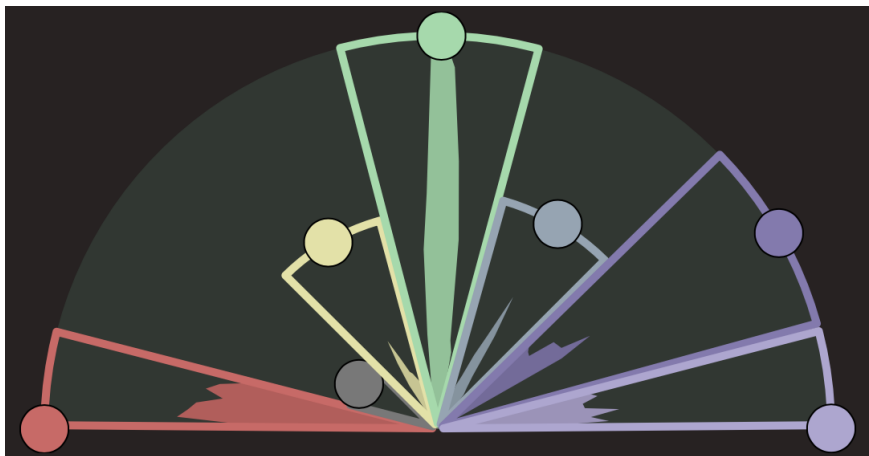
2.1 Slices



Slices Menu

RePAN works by dividing the stereo field into up to 7 different *slices*. By default, these slices are spaced evenly across the stereo field but the position of each slice can be adjusted by clicking inside the slice and dragging it around the Spatial Energy Display. The number of slices needed and where to position them will strongly depend on the audio that is going through the plugin (see Section 5 *Use Cases* for some examples).

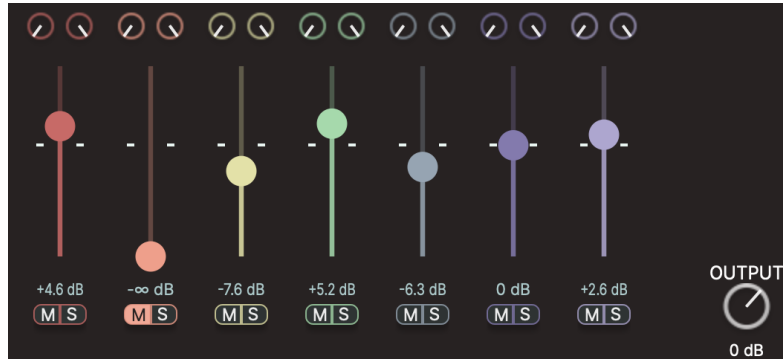
2.2 Spatial Energy Display



Spatial Energy Display

The *Spatial Energy Display* shows a time-varying display of the amount of energy coming from different points in the stereo field. This can help determine where each slice needs to be located for optimal separation, typically slices should be positioned to cover the strongest peaks. Whenever a slice is not playing audio (due to being muted or having its volume cut) it will be greyed out in the display.

2.3 Mixer



Slice Mixer Channel Strip

Each separated slice in RePAN has its own stereo channel strip which controls its audio output. These channel strips contain 2 pan sliders, a volume slider and a Mute and Solo button. Please note that the output of a slice is always stereo. Double-clicking on a pan or volume slider will restore the slider to its default position.

The *Output* volume slider controls the volume of the mixed output of RePAN.

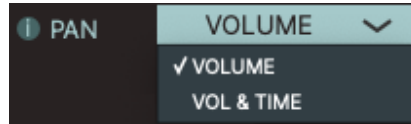
3 Settings



Settings Menu

To make RePAN effective at slicing a range of different mixes some advanced settings are provided. Those can be accessed using the *Settings* button in the top left of the interface.

3.1 Panning Method



Panning Method Menu

By default, RePAN assumes that panning in the stereo field has been achieved by *Volume* or amplitude-based panning, such as is done by a standard pan slider. However, depending on how the material was recorded, or due to the presence of certain effects, there may be a time-delay associated with the apparent pan position of some of the sources. In such cases, better results can sometimes be achieved by switching the panning method to "Vol & Time" based panning. Please see Section 5 *Use Cases* for examples.

3.2 Quality



Quality Menu

This setting controls the audio *quality* of the separations performed by RePAN. The default setting is high, which gives the best possible audio quality. Most modern computers should be capable of running RePAN with ease at high quality. However, in cases where CPU power is limited, setting quality to low will reduce the amount of computation power required, while still giving reasonable separation results.

3.3 UI Scaling



UI Scaling Slider

Sets the resolution of the Spatial Energy Display. This can be adjusted to avoid cutting off peaks when separating audio that is particularly loud, or to show more detail when separating audio that is quiet. This will only affect the visual representation of the energy and won't have any effect on the audio output or separation quality.

3.4 More Options

In certain cases RePAN works best in conjunction with other stem separation tools (see Section 5 *Use Cases*). You can learn about and try some of *AudioSourceRE*'s other plugins and standalone products using this menu.

4 Multiple Outputs

Multiple outputs are available from RePAN. However, only a certain number of DAWs allow routing auxiliary output buses from effect plugins. Please refer to the documentation of the DAW that you are using for more information.

The output buses that are supported by RePAN are listed below:

main-output: the output of the RePAN mixer (post fader).

band 1-7: each separated slice on a different stereo bus (pre-fader). If the number of slices is lower than 7 the last buses will be silent.

All output buses are always stereo.

5 Use Cases

Regardless of the target use case, the first step in using RePAN is always to carefully listen to the mixed music and analyse how the mixing process positioned each source in space. A good rule of thumb is to always apply RePAN on the simplest mix available. For example it will be easier to extract a lead guitar from a guitar stem than from the full mix, or, if a good quality guitar stem is not available, it will help to remove some other sources from the mix prior to using RePAN (with stem separation tools such as *AudioSourceRE*'s other plugins *VOXLESS* and *DRUMLESS*).

Below are some common examples of mixed sources and tips on how to extract them.

5.1 Mono Source Panned

The simplest source to extract with RePAN is an instrument or vocal that was recorded with a single microphone and that was panned to a specific position during mixing. Examples of this could be an electric guitar panned full left, or a backing vocalist slightly to the right. In such cases, RePAN should be configured to have a slice over the source to extract, and enough other slices to cover the other instruments in the mix. Please note however that if other instruments were panned to the same position or cover a wide stereo space then they will also be, at least in part, in the extracted slice.

When extracting a mono source that was panned this way the advanced PAN setting "Volume" should be preferred over "Vol & Time".

5.2 Stereo Source

When a mix contains a wide source (such as a stereo synth pad or a multi-tracked vocal), that source will be audible in several RePAN slices. If the aim is to extract that wide source the focus should be on positioning slices on the other (mono) sources from the mix, in order to cut those off.

Some sources such as drums can be recorded with multiple microphones. On top of being panned during mixing those microphones also create time differences between the left and right channels of the mix. In order to get better separation from RePAN the advanced PAN setting "Vol & Time" should be used in those cases. This could for example help extract a high hat from a drum stem, or a violin from a string quartet.

5.3 Full Mix

When separating from a full mix it is important to know the strengths and limitations of RePAN in order to use it most effectively. In most cases, wide sources such as drums should be taken out prior to using RePAN for best results.

Certain mixes, especially early stereo mixes, have different mono sources clearly panned in distinct positions (for example drums hard-left, double bass mid-left, piano hard-right and vocals in the middle), making them particularly easy to split with RePAN. In other mixes a prominent instrument (such as a lead guitar) could be positioned slightly off center, while kick drum and bass guitar are typically in the center of the mix, allowing the solo to be isolated or removed cleanly.

RePAN can be a good tool to rebalance the stereo image of mixes, or as part of the mastering process. In such cases a higher number of slices will be preferred, using the plugin mixer to slightly adjust the volume and output pan position of each slice. When working in a DAW that supports plugins with multiple output buses, the output of each slice can be routed to its own track in the DAW, which allows for additional processing (such as independent EQ or dynamic range adjustments for each slice).