# bx_stereomaker – Lossless Mono-to-Stereo Upmixing.

bx_stereomaker is a new upmixing tool that allows to add pseudo-spatiality and width to tracks that have been recorded as a mono-source (e.g. guitars, vocals, room-mics).

We achieve this by slicing the source signal's spectral energy in a complementary manner ensuring that mono-compatibility is retained as long as the Tilt/Pan knob remains untouched (=centered).

This means that you will obtain the original signal back when mixing the plugin's output down to mono. The effect can be band-limited in order to provide a clean image in the bass-range and in order to make results sound more natural and less tinny.

## Manual in 2 sentences:

Insert bx_stereomaker on a mono track & adjust the stereo width to your liking. Choose a tone setting that sounds right and balance the center using the Pan/Tilt control.

## Open up and say AH... Wide & tight!

bx_stereomaker should be in a 1-in/2-out configuration in ProTools or as a 2-in/2-out plugin in most AU/VST-hosts. Use it on MONO audio signals, this is not a spreader for stereo mixes etc. (we offer bx_control and bx_digital if you want to spread stereo signals and mixes though).

Keep in mind that any incoming signal (if it is stereo) will be mixed down to mono by bx_stereomaker before being fed into the plugin's processing, so make sure not to insert bx_stereomaker on tracks or groups that output actual stereo-content when running in 2-in/2-out mode.

PLUGIN ALLIANCE

## bx_stereomaker – Parameters

All parameters except for **Tone** can be switched on/off by clicking on the panel above their respective knob.

### Tone (20Hz..2.5kHz):

Select the slicing frequency interval in 11 steps in order to adapt to different sound sources.
Use your ear to find the a setting that makes your signal sit fine in the mix.

### High Damp (0%..100%):

Turning up the Hi Damp knob rolls-off the spatial effect in the higher frequency range above 5kHz. This allows you to create a warmer and less tinny sounding stereo expansion, while the effect may become less audible at the same time.

### Mono-Frequency (20Hz..250Hz):

The output signal will remain mono below the chosen frequency. Use this parameter to receive a tighter phase image in the bass-range. Frequencies below 80Hz can usually stay mono without less audible stereo image.

### Stereo-Expansion (0%..+300%):

Adjust the stereo-width added to the mono source signal. Very wide settings may create an out-of-phase image so make sure to monitor the correlation meter. A setting of 0% will bypass the stereo widening effect without bypassing the Tilt/Pan section.

The default setting for this parameter is +100%, which means that a stereo signal is being created as soon as you insert the plugin.

## Tilt/Pan (100L..100R):

Depending on the frequency range of the mono source material bx_stereomaker may create a stereo-image that is perceived as leaning slightly towards the left or right channel. Tilting or Panning allows you to adjust the stereo image to your liking.

Keep in mind that adjusting this parameter out of the center-position may affect mono-compatibility. Use your ears as well as the Balance meter in order to identify when the output sounds out-of-center.

## Tilt- and Pan-Modes:

Determine the way your stereo-image is balanced (technically) when adjusting the Tilt/Pan knob.

In Pan Mode the mono source's center point is panned towards the left/right end of the panorama, just like a standard Pan knob on your console or in your DAW channel.

In Tilt-Mode though the signal is kept more in the center, but **the spatial part** of the signal is being panned around the center point now. Tilt-Mode helps to keep parts of the source in the center that are typically panned to the middle (e.g. a bass drum in a mono drum recording).

Tilt mode is a super natural way of panning but gives you a less pronounced range of operation as opposed to Pan-Mode.

## Output Gain (-12dB..+12dB):

Lets you trim your signal level at the output stage in order to avoid overloads.

## bx_stereomaker – Switches

### L<>R:

Exchange the left and right channels BEFORE they are fed into the Tilt/Pan section.

### Solo M:

Solo the mid-signal (aka the output signal's non-spatial content).
Solo M bypasses the Output Gain.

### Solo S:

Solo the virtual side-signal created by bx_stereomaker. This is the pseudo-spatial content of the plugin.
Solo S bypasses the Output Gain.

## bx_stereomaker – Meters

### L/R Peak:
The peak program level in the -60dB..0dB range. Displays fast transients and peaks.
Adding stereo width may increase the overall output level. Avoid clipping and use the Output Gain to lower the output level if needed.

### L/R RMS:
Displays the RMS (Root Mean Square) level in the -60dB..0dB range, the "average level" of your signal.

### Balance:

Displays the perceived position of your signal in the stereo panorama. Adjust the Tilt/Pan knob in order to keep this meter's value roughly in the center position, unless you actually want to pan your source towards the left or right channels. Panning various signals to various position in a stereo mix may result in a more realistic and natural overall sound.
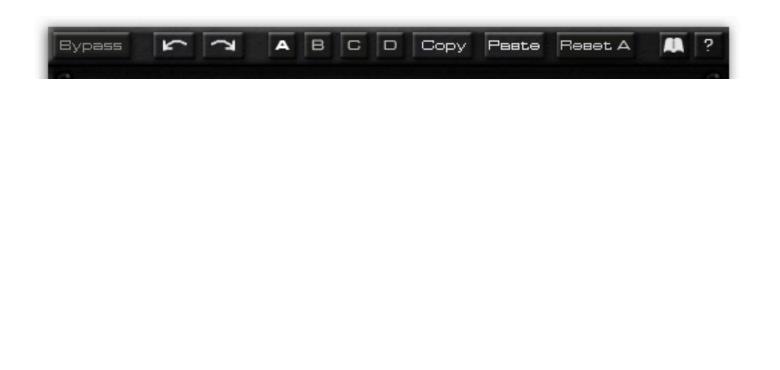
### Correlation:

The current correlation between the left and right channels. Make sure to keep this meter's value in the positive range (=green!). Out-of-phase images will be indicated by negative values. Short peaks into the red are acceptable, but a constant negative Correlation value marks an out-of-phase signal which should be avoided.

### L/R Clip LED:
Overloads / Clipping (i.e. samples above 0dBFS) in the left/right output channel will result in a red light. The Clip LEDs can be reset by clicking on them. Avoid clipping and use the Output Gain to lower the output level if needed.

## bx_stereomaker – General features

### Bypass, Undo / Redo, A/B/C/D Settings, Copy / Paste

The top toolbar will enable you to bypass the whole plugin (can be automated).

32 steps of Undo / Redo give you the freedom to experiment without losing your initial ideas.

4 different settings per Preset (A B C D) can be used to set and recall momentary snapshots which can be automated as well. A setting for your chorus, another one for verses, etc.

### Plugin Alliance Toolbar

You can access the Alliance website, the new USB activation tools and the PDF manual via this toolbar.
More info: http://plugin-alliance.com/tl_files/news/activation_manual.pdf