



POLYSPECTRAL

# POLYSPECTRAL MBC USER'S MANUAL

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# Introduction

Thank you for using Polyspectral MBC!

This product is a VST3/AU format multiband compressor plugin with up to 4 frequency bands. It has been carefully designed and built with the following design goals in mind:

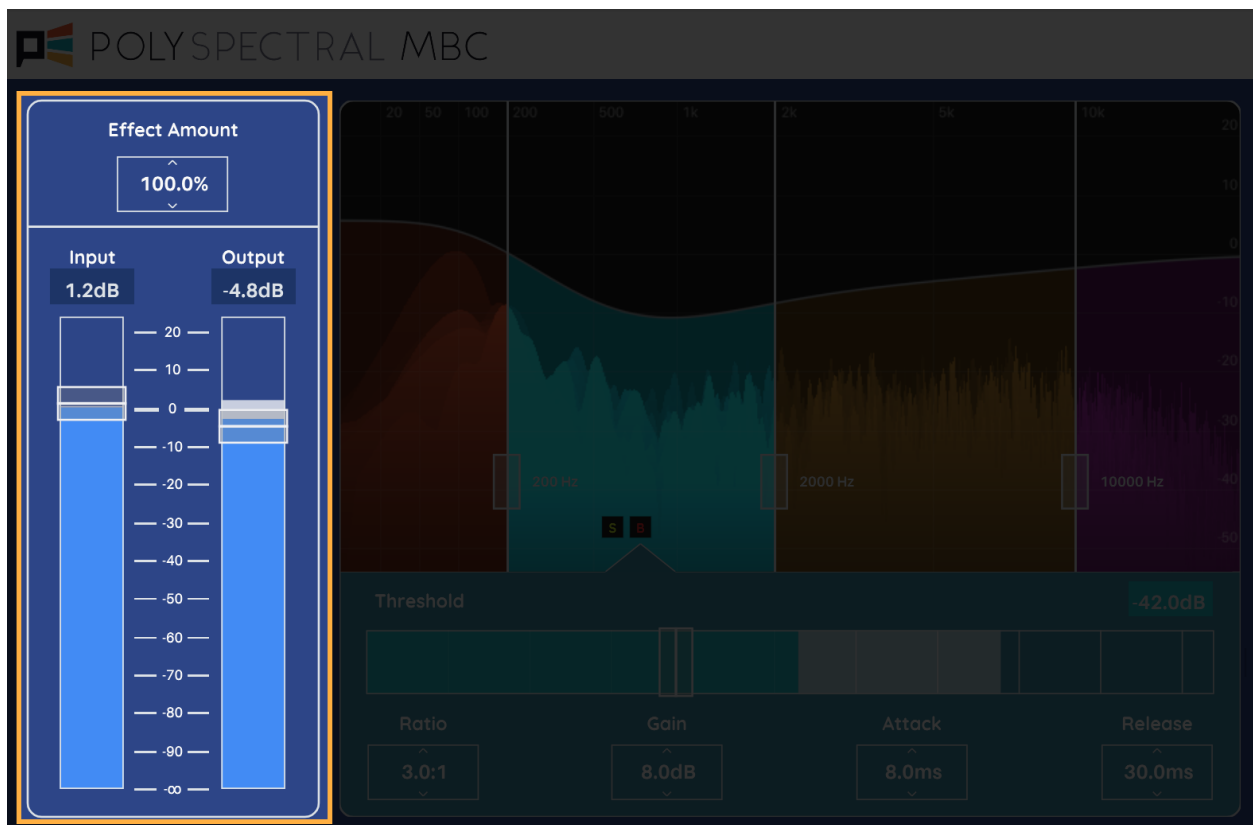
- **Transparency.** The plugin won't give any unnatural color to your sound when it is not applying compressing.
- **Low latency.** The plugin introduces no noticeable latency – it can be comfortably used in scenarios like live performance mixing or tracking where latency is unacceptable.
- **Clear, simple UI.** The interface is designed to be intuitive, easy to read and interpret, and attractive.

This guide gives a quick overview of all of the plugin's features. If you have any questions, feedback, suggestions, or encounter any problems with the plugin, please contact us any time at [support@polyspectral.com](mailto:support@polyspectral.com).

Thanks again and enjoy!

# Global Settings

The overall behavior of the plugin can be tuned using the settings on the left side of the settings panel.



- **Effect Amount:** Use this setting to quickly fine-tune the overall amount of compression applied.
- **Input Gain:** Adjust this to apply a gain to the signal before it reaches the per-band compressors. Increasing this will mean the compressors will be engaged at lower signal levels, so there will be more compression. Conversely, decreasing it will mean less compression and only at higher signal levels.

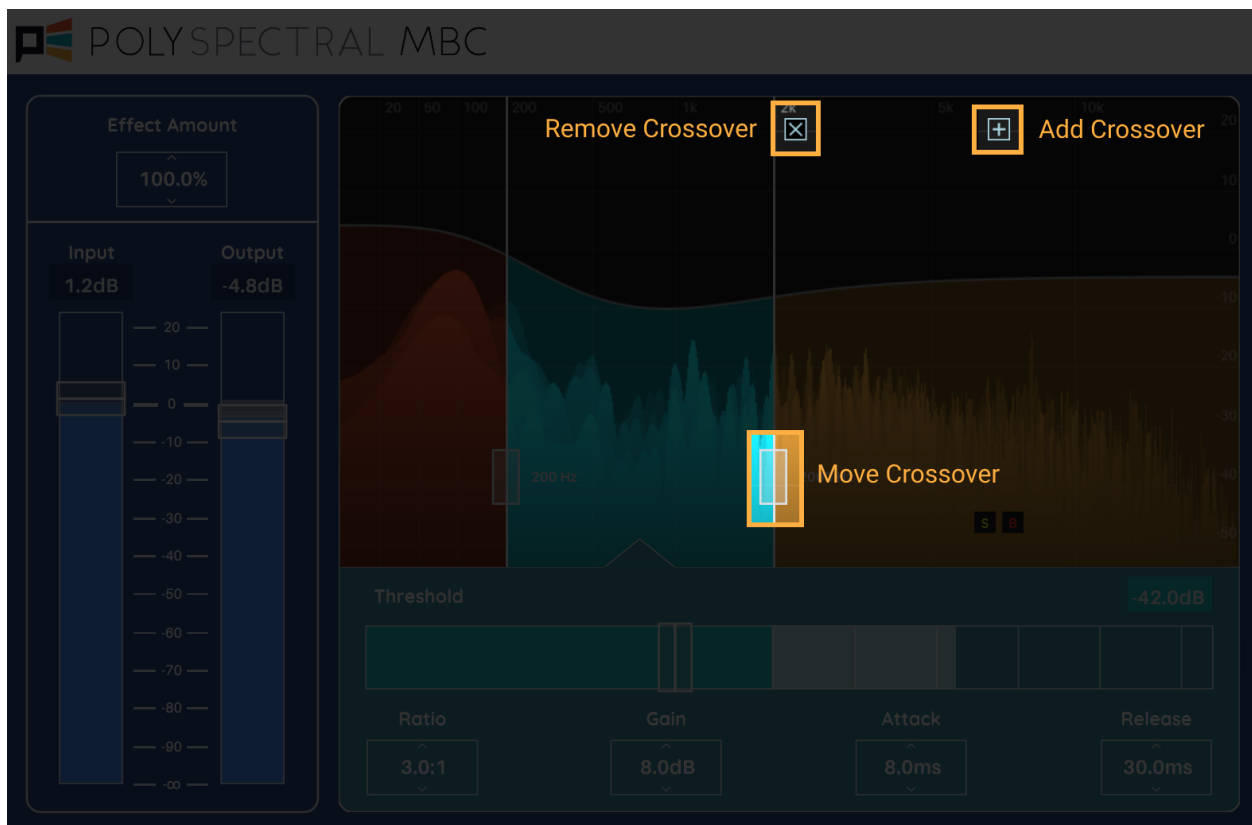
- **Output Gain:** Use this control to adjust the final output level.

When an audio signal is going through Polyspectral MBC, you can use the meters displayed on the Input Gain and Output Gain sliders to compare the peak levels of the input and output signals.

# Crossovers

For many uses, starting with a preset and tuning the global settings will be enough to dial in the sound you're looking for. For more fine-grained control, the compression settings for each frequency band can be adjusted independently.

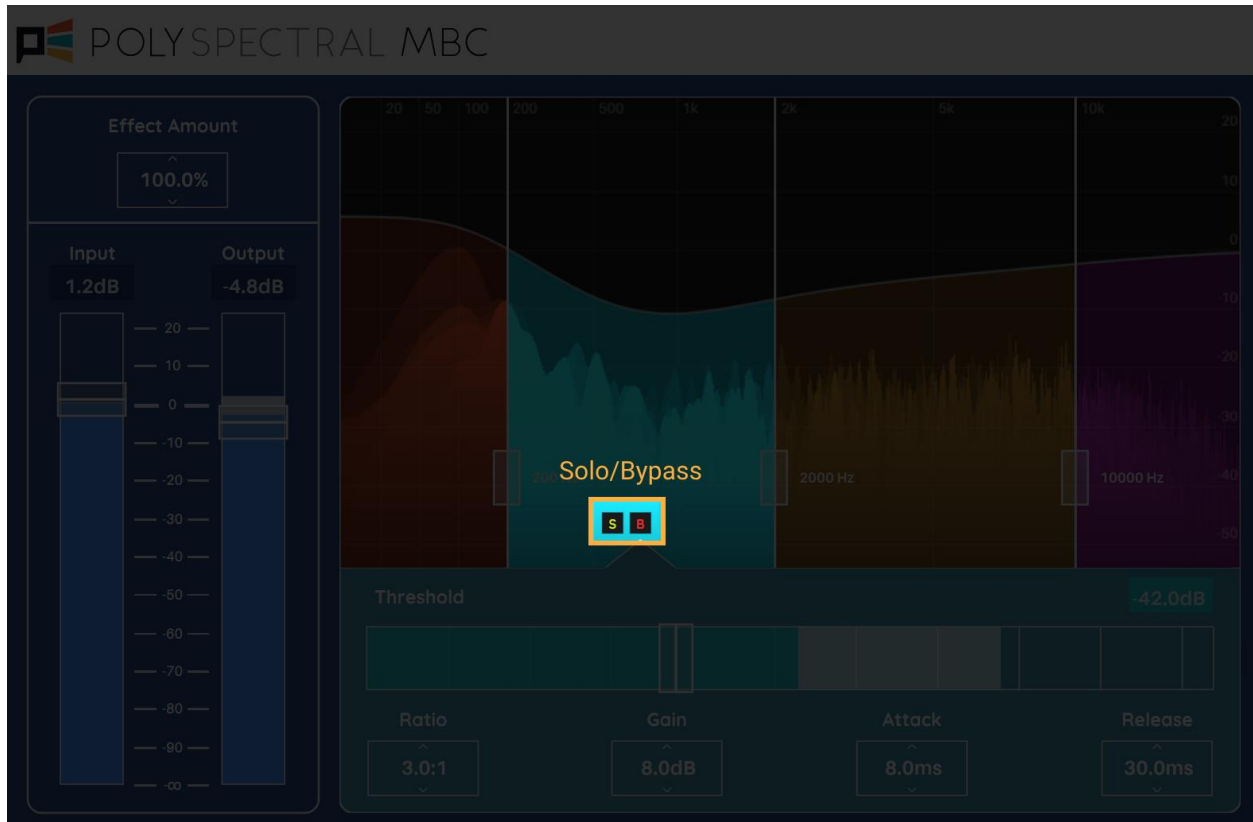
The frequency range is divided into up to four bands, separated by vertical lines at the crossover frequencies. To add a frequency band (if there are fewer than four), hover the mouse cursor in the highest frequency band and press the “+” button as shown in the following screenshot. To remove a frequency band (if there are at least two), hover the mouse cursor near the highest crossover indicator and press the “X” button.



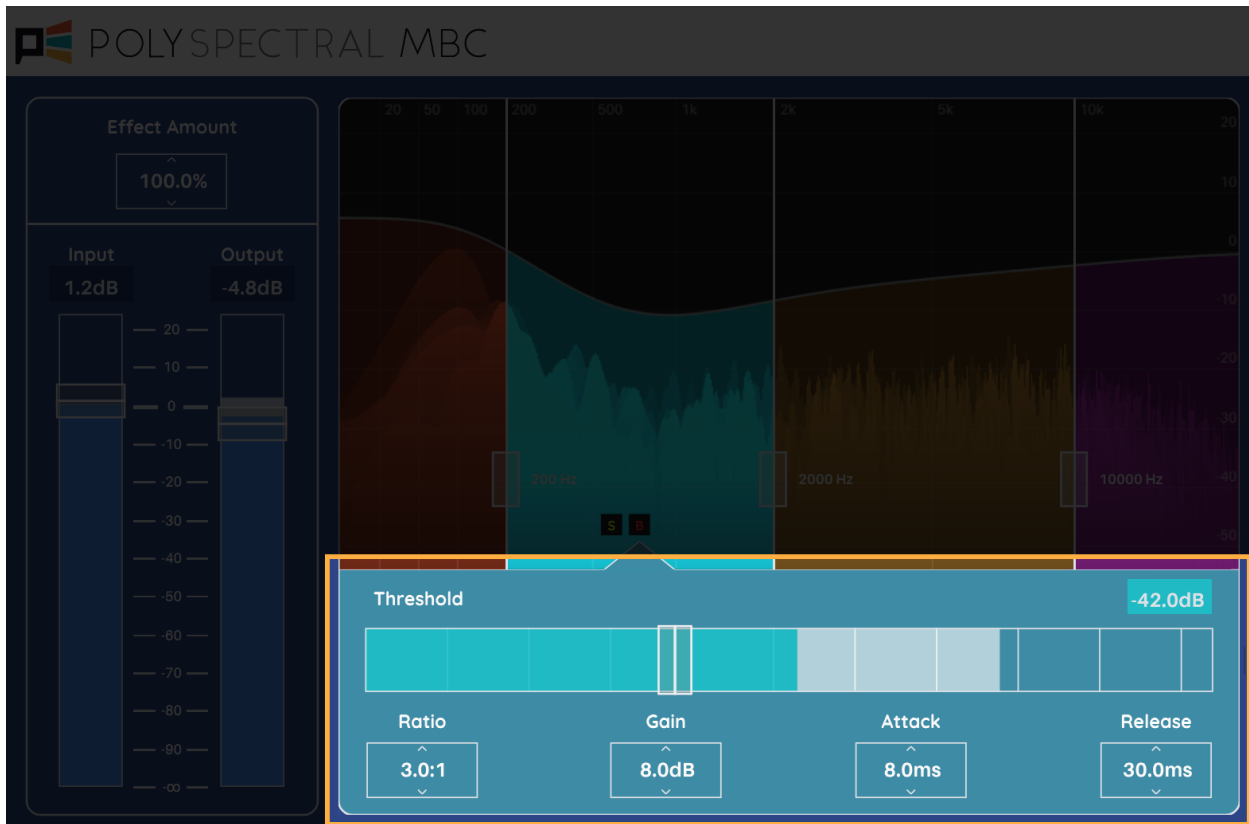
The crossover frequencies can also be adjusted by clicking and dragging the crossover indicators at the handle near the bottom.

# Per-Band Settings

To hear a single frequency band in isolation, or to temporarily turn off compression for a frequency band, use the solo and bypass toggles. These are the “S” and “B” icons that appear near the bottom when hovering the mouse cursor over the spectrum display.



The compression settings below the spectrum display apply to only one of the frequency bands, the active band. To select a frequency band as the active band, click on the band in the spectrum display. The background color of the per-band settings will change to indicate the active band.



When the desired band is selected, use the controls below the spectrum display to edit the compression settings:

- Compression will be engaged when the signal level in the band is above the **threshold**. The threshold meter also shows the level of the signal in real time. The gray area at the end of the meter shows the amount the signal is reduced by.
- The **ratio** determines how much compression is applied to the signal, relative to the threshold. For example, if the ratio is 3.0:1 and the input signal is 9dB above the threshold, the output signal will be  $9\text{dB} / 3.0 = 3\text{dB}$  above the threshold. Thus the signal will be reduced by 6dB.
- **Gain** is a make-up gain that is always applied to the band. It is applied after the signal is compressed according to the threshold and ratio.

- **Attack** and **release** determine how quickly compression will be applied when the signal is above the threshold, and how quickly it will be reduced when the signal is below the threshold, respectively.

## Surround Support

To avoid changing the apparent spatial position of sounds, Polyspectral MBC always operates in channel-linked mode. The same gain is applied equally to all channels at once. Because of this, all channel configurations are equally well supported, including surround and Ambisonic configurations.

## Acknowledgments

Some presets were created by Duncan Watt at [Fastestmanintheworld Media](#).

Polyspectral MBC contains several open-source libraries. See below for details.



This software (specifically PolyspectralMBCAuthoring.dll) contains the following open-source libraries:

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jsoncpp

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libjpeg

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zlib

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