



Krossbow

Dynamics Enhancer

Plugin Type: VST3 / AU for **Windows** and **MacOS**



Introduction

Krossbow is not your typical compressor. It features a unique dynamic gain control mechanism designed to limit unwanted gain reduction beyond the desired point. Unlike traditional compressors that utilize Threshold and Ratio settings, Krossbow dynamically reduces the gain based on a parallel processing technique. This gives you precise control over dynamics without destroying the natural sounding micro-dynamics or introducing distortion. The plugin is ideal for sculpting attack, punch, and impact, and allows you to perfectly level out audio while keeping its natural dynamics intact.

*In this manual you'll learn everything you need to know about Krossbow before using it. We will explain its features and even its **secrets**!*



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Figure 1: Krossbow's main Interface

Main Features

- **Attack Control:** Adjusts the speed at which gain reduction begins after detecting a signal.
- **Release Control:** Determines how quickly the signal returns to its normal level after gain reduction.
- **Reduction Needle (Yellow):** Displays the real-time amount of gain reduction being applied.
- **Max Reduction Needle (Orange):** Sets the maximum gain reduction value. Once the yellow needle reaches this point, no further reduction is applied.
- **Output Gain:** Allows you to adjust the final output level after processing.
- **On/Off Switch:** Toggles the plugin between active and bypass mode.
- **Settings Button:** Opens the settings panel where advanced controls are located.





Figure 2: Krossbow's Settings Panel

Settings Panel

Access the settings by clicking the small gear icon at the bottom of the plugin interface. Here, you'll find several key customization options:

- **Lookahead:** (Range: 0ms - 50ms)
Allows Krossbow to "see" peaks or transients in advance, allowing it to react in even quicker. It benefits immensely from this!
- **Oversampling:** (Options: up to 32x)
Improves audio fidelity by reducing aliasing artifacts at the cost of CPU resources. Higher oversampling produces cleaner sound but requires more processing power.
- **Oversampling Filter Types:**
Choose between 8 different filter types to fine-tune the sound quality during oversampling.
- **Needle Response:**
Switch between fast and smooth visual responses for the VU meter needle. This setting only affects visuals, not the actual processing.
- **Sidechain Mode:**
Choose between **Internal** or **External** sidechain modes.
 - **Internal:** Uses the main input signal for gain reduction.
 - **External:** Allows you to use an external audio source for dynamic control.



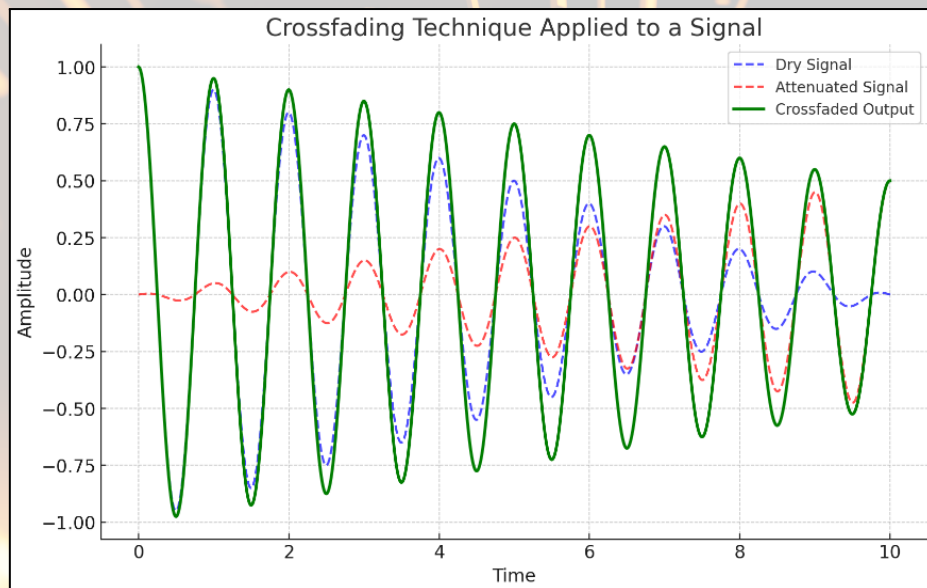


Figure 3: Crossfading-Technique Visualization

How It Works

Dynamic Gain Reduction with Precision Control

Krossbow uses a unique crossfading mechanism instead of traditional ducking techniques - *Figure 3*. When you set the maximum reduction with the orange needle, Krossbow creates a parallel copy of the signal with its gain reduced by that amount. It then automatically crossfades between the original and attenuated copy using the sidechain input and a peak follower.

So, Once the reduction needle (yellow) reaches the maximum reduction needle (orange), it indicates that the plugin is fully crossfaded to the attenuated copy, so no further gain reduction can be applied. This ensures that your audio remains dynamic without unwanted compression artifacts.

Benefits of This Approach:

- **Retain Dynamics:** Only reduces gain to the point of maximum reduction, leaving natural dynamics intact.
- **Attack Enhancement:** Highlight the punch of a sound without distorting or over-compressing.
- **Perfect for Vocals:** Level out vocals while avoiding flattened dynamics and preserving clarity.
- **No Unwanted Compression Artifacts:** Because gain reduction = switching to a pre-attenuated copy, there are no residual compression effects once the target reduction is met.



Why Use Krossbow Over Traditional Compressors?

Unlike traditional compressors that continue to compress after reaching the desired impact, Krossbow focuses on precise dynamics control with a 'Maximum Reduction' feature.

Compressors often introduce artifacts or flatten dynamics when they persist beyond a set threshold, which can be detrimental to the natural quality of your audio. With Krossbow, you can sculpt and shape your audio like a compressor with attack/release but without worrying about artifacts and distortion.

- **Fun and Intuitive Workflow:** Krossbow is designed to be quick and enjoyable to use, with straightforward controls that allow you to focus on enhancing your sound rather than tweaking endless parameters.

Need Further Assistance?

If you have any questions or require additional support, please visit our official website or contact our support team at info@carpaudio.com

Thank you for choosing Krossbow!

