

Mesa Lite

v1.0.0



Mesa Lite is a free soft-clipper for controlling peaks and increasing loudness without pumping.

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Installing Mesa Lite

To install Mesa Lite on **Mac** or **Windows**, simply run the installer and follow the instructions. Once installed, Mesa Lite will be ready to use the next time you open your DAW.

To install the plugin on **Linux**, simply extract the files and run the install.sh script. In your Terminal app, run the following commands:

```
cd ~/Downloads Change to your Downloads folder
mkdir tempinstaller Create a temporary folder to extract to
tar -C tempinstaller -zxvf PLUGIN.tar.gz Extract the bundle
bash tempinstaller/install.sh Run the installer script
rm -R tempinstaller/ Clean up the temp folder
```

Mesa Lite requires the following system specifications:

Windows

- Windows 10+
- 64-bit VST/VST3/AAX
- Compatible DAW

Mac OSX

- MacOS 10.13+
- 64-bit VST/VST3/AAX/AU
- Compatible DAW
- Intel or M1 Processor

Ubuntu

- Ubuntu 22.04+
- 64-bit VST/VST3
- Compatible DAW

Using Mesa Lite



1. Soft Clipper

Clipping Explained

Although clipping is usually avoided in audio production, it's actually a powerful tool for transparently increasing loudness while adding subtle warmth and density.

Clipping stops any signal from exceeding a set level, but unlike a limiter which does this in a smooth and controlled manner by reducing the level over time, clipping simply cuts off the signal at the threshold.

For example, if your snare drum peaks at 0dB and you set your clipper to -3dB, any signal above -3db will be clipped. You now have peaks that are 3dB lower, giving you more headroom for the other mix elements. Alternatively, you could raise the output by 3dB, with the result being the peak level still being 0dB, but with a 3dB louder signal overall.

Clipping is also useful before limiting - shaving off the highest peaks means the limiter doesn't have to work as hard, often reducing audible pumping.

As clipping is a type of distortion, additional harmonics and aliasing are introduced into the signal. Hard clipping adds more overtones to the signal, producing the familiar *clipped* sound when a signal is driven too hard. Soft clipping however, smooths the distortion curve, resulting in a subtler and often warmer tone.

Full-spectrum sounds such as snare drums or full mixes can mask clipping artefacts, as the generated harmonics blend with existing high-frequency content. Used subtly, clipping can reduce dynamic range and tame peaks in a transparent way.

Clipper Controls

The **Pre Gain** slider adjusts the input level, increasing or decreasing the signal before any processing.

The **Post Gain** slider adjusts the output level, increasing or decreasing the signal after clipping.

The **Threshold** knob sets the maximum level the clipper will output. For example, at -3dB, the signal will never exceed -3dB.

The **Softness** knob adjusts the roll-off at the threshold.

The **Enable** button at the top right enables the clipper. When active the graph and controls become active.

The **Link** button ties the *Threshold* and *Post Gain* together, making it simple to increase loudness by simply adjusting the threshold. For example, a threshold of -2dB automatically applies a makeup gain of 2dB.

To the left of the controls is a graph displaying the clipper curve and the current input level. The horizontal axis shows the input level in decibels, and the vertical axis shows the output level in decibels. The coloured line shows the relation between input and output. The filled grey section displays the live input level during playback.

Oversampling

Non-linear processes such as clipping, especially when pushed hard, can introduce *aliasing* - unwanted distortion caused when new harmonic content exceeds half the sample rate.

Harder clipping increases aliasing, so oversampling is often used to minimize these artefacts. Oversampling runs the internal processing at a higher sample rate, allowing high-frequency content to be filtered out before returning to the original rate.

Mesa Lite features 4x oversampling, which provides a good balance between reduced aliasing and CPU efficiency.

2. Output

The output section displays the input and output levels of the plugin.

The level meters show input and output peak and RMS levels, along with their maximum values displayed above the meters.

3. Waveform Graph

The waveform graph displays real-time input and output levels.

The blue waveform shows the signal entering the plugin, and the white line shows the output after all clipping and gain stages.

4. Top Bar

The top bar is where you can manage the plugin. The middle section shows the currently selected preset, and if you open this list you can choose from all the factory and user presets. Clicking on the left and right arrow icons manually cycles to the previous or next preset. The save icon will open a window where you can save the current state of the plugin as a custom preset. Enter your preset name in this window and click save.

You can view this manual at any time by clicking the question mark button.

The cog icon will open a settings window where you can alter the GPU acceleration settings, GUI scale and theme. The update icon is two arrows in a circle. This button will activate when a new version is available for download.

The top right icon with a power button symbol will enable or disable the plugin.

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