



# USER MANUAL

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# 1. PREFACE

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## WHAT IS STEREOLAB AND WHAT MAKES IT SPECIAL?

Thanks for choosing STEREOLAB!

Effortlessly sculpt and shape the stereo image of your audio signals with precision and ease. STEREOLAB includes an array of essential tools, including pan, balance, width adjustment, mid-side processing, and more. Tailor your sound to perfection by precisely positioning elements within the stereo field, achieving stunning clarity and depth.

Whether you're a professional audio engineer, a music producer, or a sound enthusiast, STEREOLAB empowers you to elevate your audio productions to new heights. With its unrivaled combination of convenience, versatility, and transparency, this plugin is a must-have tool in your audio arsenal.

## 1.1 Minimum System Requirements

**WINDOWS:** 10 (64-bit), 4 GB RAM, Intel® Core™ i5 (relatively recent)

**MAC:** 10.15 (64-bit), 4 GB RAM, Apple Silicon or Intel® Core™ i5 (relatively recent)

## 1.2 Installation

After downloading and opening the installer of STEREOLAB please follow the on-screen instructions to install the application.

### THE MANUAL WILL BE COPIED HERE:

**Windows:** C:\Program Files\BOOM Interactive\StereoLab

**Mac:** /Applications/BOOM Interactive/StereoLab



### Key Features:

- Comprehensive stereo imaging toolkit:  
Stereo balance, per-channel pan and phase, dual-band width adjustment, mid-side processing, and more.
- Innovative widening algorithm:  
Enhance the stereo image without sacrificing mono compatibility.
- Real-time visualization:  
Intuitive graphical representation of your stereo field for precise adjustments.
- Seamless integration:  
Compatible with all major digital audio workstations (DAWs) and operating systems.

## 1.3 Registration

### 1.3.1 Muse Hub Registration

If you obtained the plug-in from Muse Hub, and experience issues with activation, please use the Contact Support button found on the Muse Hub project page, or visit <https://support.musehub.com/>.

### 1.3.2 iLok Registration

During the first start of STEREO LAB after installation, the iLok registration window pops up. STEREO LAB is licensed using the PACE Licensing Platform. You need to have an iLok account to use it, however setting up an iLok account is free. You will find all necessary information on how to setup your account on [www.ilok.com](http://www.ilok.com). You can either directly authorize your computer (machine authorization) or use a 2nd or higher generation iLok hardware dongle. A second or third generation iLok (iLok2 or iLok3) is a product of PACE that can be purchased at [www.ilok.com](http://www.ilok.com) or from any participating music retailer.

Next: please download the iLok License Manager at [www.ilok.com](http://www.ilok.com).

After your purchase, you automatically receive an order confirmation from us containing the download link for the installer plus a 30 digits long iLok activation code (e.g. 1234-1234-1234-1234-1234-1234-12).

#### HOW TO ACTIVATE THE LICENSE

- Open the iLok License Manager application.
- Either select the menu: License -> Redeem Activation Code or click on the small Redeem Activation Code Icon on the upper right of the application.
- You should then copy paste the entire code you received from us into the entry form. Select your iLok as the activation location to immediately activate the license on this iLok and confirm the location.

Now you are ready to go!



#### TIP:

Upon the first launch of the application, you will be asked to register STEREO LAB with your iLok account.

A free iLok account can be created under [www.ilok.com](http://www.ilok.com)



Watch a step-by-step video tutorial about how to activate your iLok license:

[WATCH TUTORIAL](#)



#### The product doesn't show up in your DAW?

Not activating the software when first launching the DAW can lead to DAWs putting the plug-in into a "failed to scan" blacklist or blacklist.

In such cases it is usually sufficient to:

- check the DAW's blacklist/blocklist
- remove the plugin from that list
- activate it in the iLok License Manager
- cause a plug-in rescan or restart your DAW

## 2. QUICK START

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Once STEREO LAB has been instantiated, it will pass through audio unaltered while in its default state. The input signal runs from the left to the right through the four available processing modules WIDEN, M/S, STEREO and WIDTH. These modules can be enabled independently, and their order can freely be changed via drag and drop.

To the right you'll find the Output section, containing monitoring toggles, analyzers, and output gain adjustment.

# 3. UI OVERVIEW

The GUI of STEREO LAB is divided into the following sections: **Header**, **Modules**, **Analyzer** and **Output**. You can rearrange the **Modules** to change their order in the processing chain.



⚠ Click and drag the icon  located in the top left corner of a Module to rearrange its position.

## 3.1 Header



The **Header** occupies 3 general functions.

### 3.1.1 Logo



Click on the Logo in the top left of the GUI to display the currently installed version of STEREO LAB as well as support contact information and credits.

### 3.1.2 Input

STEREO IN ▾

Click to switch between Stereo and Mid/Side input depending on your input signal type. When switched to Mid/Side, STEREO LAB will decode the input signal to Stereo.

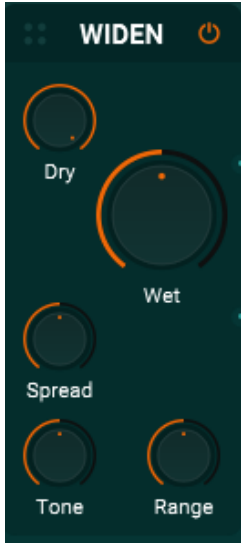
### 3.1.3 Load Preset

LOAD PRESET ▾

STEREOLAB comes with a variety of presets to serve as starting points for various common use cases. Click "Load Preset" to quickly recall any of the included configurations, or to restore the init state. Shift-click or right-click to save/load presets to/from files.




## 3.2 WIDEN Module



**Widen** produces an artificial side signal from any source. It allows you to drastically widen any signal in a controllable frequency range. It can even turn mono signals into stereo signals. Since **Widen** only affects the side component of the signal while leaving the mid portion unaffected, the signal will maintain mono compatibility.



In its initial state **Widen** is disabled. You can activate it by clicking on the button  in the top right corner of the module.

### 3.2.1 Dry



The **Dry** amount determines how much of the original signal is passed through.

### 3.2.2 Wet



The **Wet** amount lets you dial in the amount of the artificially created widening effect.

### 3.2.3 Spread



**Spread** affects the character and image of the generated signal. Adjust it to fit your input material.

### 3.2.4 Tone & Range



**Tone** and **Range** allow you to tweak the frequency range that is affected by **Widen**. **Tone** controls the center frequency, **Range** controls the band width.

## 3.3 M/S Module



Mid/Side processing is a technique used in audio production to manipulate the stereo image by splitting the stereo signal into two components: The mid (center) and side (stereo).

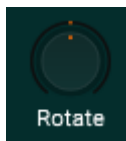
The mid component contains audio common to both channels, while the side component contains the audio information that is unique to each channel. By splitting the stereo signal into mid and side components, you gain precise control over the individual elements of the stereo field.

### 3.3.1 M/S



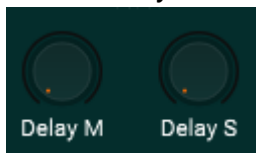
Use the **M/S** knob to adjust the mix of mid and side signal. When set to full left, only the mid component will remain, effectively soloing the mono portion of the input. On full right position, only the side component is kept.

### 3.3.2 Rotate



STEREOLAB lets you rotate the signal by an arbitrary angle to the left and to the right. You can imagine this like turning a double-eight M/S microphone in hindsight. This provides an interesting alternative to adjusting the left/right balance, since rotation of the signal doesn't affect the total energy of the audio.

### 3.3.3 Delay M & Delay S



The **Delay M** and **Delay S** controls allow you to apply delay to the mid and side components of the signal independently.



Observe the effect of rotation in the Vectorscope and compare it to the effect of adjusting the stereo balance instead.



Delaying either the mid or the side signal serves for a great way to create depth by slightly separating the mid and side transients. This is one of many ways to enhance the perceived stereo width of your audio.

### 3.4 STEREO Module



The **Stereo** module contains straightforward parameter access for general stereo control.


#### 3.4.1 L/R



The **L/R** Knob alters the left/right balance of the input signal and behaves just like a balance knob you would find on a stereo channel of a regular mixer.

#### 3.4.2 Pan L & Pan R



The **Pan L** and **Pan R** controls allow independent panning of the left and right input channels. The toggle buttons  above the knobs can be used to invert the phase of either channel.

### 3.4.3 Delay L & Delay R



The **Delay L** & **Delay R** controls allow you to apply delay to the left and right components of the signal independently.

## 3.5 WIDTH Module



The **Width** module provides a convenient way to quickly reduce the width of the signal. It contains an optional band splitter, allowing for independent control of high and low band.

This is your go-to tool for removing unwanted stereo information from bass sounds.

### 3.5.1 Width High



#### Interaural time delay for sound localization:

The precision delays used in STEREO LAB allow for very short delay times at sub-sample accuracy, enabling you to imitate the effect of interaural time delay.

Interaural time delay refers to the time difference between when a sound reaches each ear, aiding in our perception of sound localization and spatial cues. The brain uses these timing differences to determine the distance and direction of sound sources.

Dial back the overall width via the **Width High** control. If the **Low Split** toggle is deactivated, this will affect the entire frequency spectrum. This is the initial state when loading a new instance of STEREO LAB.

### 3.5.2 Low Split



Enable dual-band processing using the toggle button on the right of the Low Split knob. Once enabled, the **Low Split** knob lets you set the crossover frequency between high and low width adjustment.

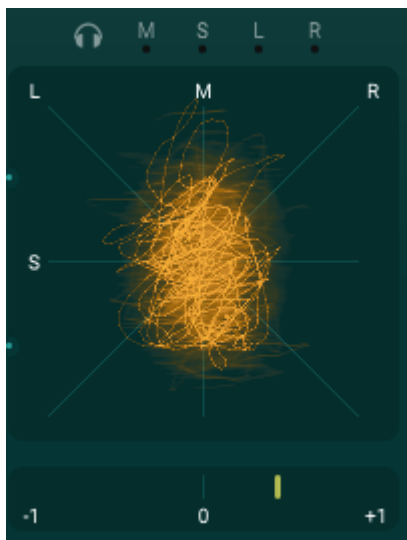
### 3.5.3 Width Low & Delay Low



If dual band processing is enabled, **Width Low** controls the width of the low frequency portion of the signal independently.

For interesting effects, you can delay the low portion of the signal, resulting in strong phase alterations around the crossover frequency.

## 3.6 Output section and analysers



### 3.6.1 Quick Monitoring

The **M**, **S**, **L** and **R** toggles above the Vectorscope allow you to temporarily solo mid, side, left or right component of the output signal. Click the toggle again, or the headphone icon, to disable monitoring and listen to the combined output again.

### 3.6.2 Vectorscope

The **Vectorscope** displays the phase and amplitude relationship between the left and right channels of the output signal, providing a responsive visual representation of the stereo image.

STEREOLAB uses the diamond-shaped variant: The diagonal lines correspond to the left and right channels, while the x and y axis represent the phase relationship between the two channels. A pure mono signal will show as a vertical line.

The **Vectorscope** is helpful when evaluating the stereo field because it provides a unique perspective on the stereo image, emphasizing the phase coherence and stereo width. It allows audio professionals to visually assess the balance of the stereo mix, detect any phase issues or imbalances, and make informed adjustments to achieve a more coherent and immersive stereo experience.

### 3.6.3 Stereo Correlation Meter

The **Stereo Correlation Meter** below the **Vectorscope** measures the correlation between the left and right channels of the output signal. It helps assess mono compatibility and phase cancellation issues. Simply spoken, it shows the "mono-ness" of the signal when right of the center position. If the meter moves to the left of the center position, left and right channels will cancel each other out when summed together.

### 3.6.4 Level Meter



To the right, above the output gain knob, you will find a simple **Level Meter** that indicates clipping, should it occur, and helps to keep the signal within safe range. The displayed range is -48dB, with -24dB at the centre, and 0dB at the top. The bright area displays RMS level.

### 3.6.5 Output Gain

Below the **Level Meter**, you can adjust **Output Gain** to compensate for changes in the signals level due to processing.



## 4. USE CASES

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STEREOLAB is a comprehensive toolkit for altering the stereo image: It can serve as a handy tool for simple tasks like reducing bass width, inverting the phase, or swapping left and right channels.

It can just as well serve as a precision tool for signal restoration, artificial widening, or precise spatialization.

Designing a virtual sound stage with STEREOLAB allows for wider and cleaner mixes that couldn't be achieved with regular stereo balance panners alone.

By combining the various imaging tools in one package, STEREOLAB improves the mixing workflow in the box and helps focusing on the sound without the hassle of navigating between different plugins and the mixer of the DAW.

There are many opportunities for creative sound design when employing the flexibility of the customizable processing chain and the delay units.

Experiment!

PS: Of course, you could also just watch "music for oscilloscopes" on the Vectorscope and produce interesting geometric shapes by adjusting the various controls.

# 5 End-User License Agreement

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