



# Auto-Align



# User Manual

## Overview

When recording an instrument with more than one mic, sound tends to reach each microphone at a slightly different time and thus cause some frequencies to cancel each other while other frequencies can build up unnaturally. This phenomena is known as the comb filter effect.

Until now, compensating for the delay between the microphones had to be done manually - an extremely time consuming and inaccurate process.

Enter Auto-Align.

Auto-Align will "listen" to your multi-mic recording and automatically measure and compensate for the delay between the microphones, or between a DI box and a microphone - sample accurately, significantly reducing the comb filter effect and dramatically improving the resulting sound.

When distant microphones are used and a delay is desired to enhance the sense of space, Auto-Align can time-place the microphones to better match the close-mic'ed source and therefore minimize the comb filter effect. Auto-Align can also automatically detect a reversed polarity mic and compensate for it.

## Features

- Automatic, Sample Accurate Time & Phase Alignment
- Phase Polarity Detection
- Alternate Matching Points for Improving Phase Correlation while Reserving Delay
- Displays Distance in Samples, Milliseconds, Inches and Centimeters

Auto-Align is Compatible with Mac & PC and available in RTAS, VST and Audio Units formats.

Minimum Requirements:

Mac Pro or Power Mac, OS X 10.5 (Leopard) or higher, 2GB RAM, RTAS, VST or AU compatible DAW

PC Windows XP or higher, 2GB RAM, RTAS or VST compatible DAW.



## 1. SR's Spectral Level Meters (Input and Side-Chain)

We wanted to do something more insightful with the traditional level meters, so instead of just displaying levels, we thought it would be cool to show the frequency content as well. Frequencies correspond to the color bar scheme. Lower frequencies are represented by wider bars, higher frequencies by thinner ones. Maximum meter width is automatically scaled by the sound content.

## 2. Noise Floor Faders

When Auto-Alining drums, filtering out the bleed from other drum pieces will greatly enhance the accuracy of the detection. For best results, set the threshold safely above the bleed level.

## 3. SR's Spectral Phase Correlation and Delays Match Points Displays

This is where you can experience the "magic" visually. The Spectral Phase Correlation meter shows the phase difference between the input and side-chain. The best case is when most frequencies are centered upward. Centered downward is where we're trying to get you out of...

The Delays Match Points display shows all the spots Auto-Align found to have better frequency matching between the input and the side-chain. Higher bars means better overall match. You can switch between the displays by pressing on the Display button. Auto-Align will automatically switch to the Delays display when detecting and will switch back to the Spectral Phase Correlation display when detection is complete.

## 4. Next / Previous

Makes it possible to "jump" from the best matching point to other matching positions using the Next / Previous buttons. This is useful when you want to keep a delay but achieve a better phase match between the close and distant microphones.

## 5. Send & Receive Bus

Sends to, and receives audio from other instances of Auto-Align. A click on the Bus number will advance it to the next available Bus. When two instances of Auto-Align are connected, their Bus numbers will turn green. Bus 1-9 are available. Bus 0 is Off. Each instance of Auto-Align can send and receive audio simultaneously.

## 6. Delay Display

Displays the delay between the microphones. Using the Unit button you can switch between Samples, Milliseconds and a close approximation of the distance between the microphones in Centimeters and Inches. We also had an option for tomorrow's weather but we ran out of space.

## 7. Detect

This is the "magic" button. Press Play on your DAW, hit the Detect button and watch Auto-Align do the hard work for you. You can use a straight delay detection or you can have Auto-Align detect the correct polarity as well. Please note - Auto-Align can only tell if the input channel is reversed in polarity in relation to the side-chain channel.

## 8. Polarity Reverse Switch

## 9. On / Off

The On/Off button lets you switch between corrected and original time smoothly. The displays still works when delay alignment is Off so you can hear and see the differences in phase and sound.

## Using Auto-Align

- Insert Auto-Align into the first Insert-fx slot of the tracks you'd like to align. Auto-Align serves as a router as well, therefore it is necessary to insert it on the reference track and the secondary track. (for example a close miked dynamic and a distant condenser)
- On the reference track, click on the Send number to select Bus 1-9. Bus 0 is Off. The selected Send number will turn Red.
- On the Receiving track, click on the Recv number to select the corresponding Bus number. When a connection is made, the Send and Recv numbers will turn green.
- For drums, set the Noise Floor fader safely above the bleed range.
- While your DAW is playing back, click on the Detect button. Once Auto-Align has collected enough data, it'll automatically stop the detection process and align the receiving track to best match the sender track.
- Auto-Align has an innovative stereo management algorithm, which enables true stereo alignment and intelligent stereo-to-mono and mono-to-stereo alignment.

## Notes

- Automatic Delay Compensation has to be turned on in your host.
- It is recommended to run Auto-Align ahead of other insert fx such as EQ or Reverb as they may introduce phase shift into the sound.



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