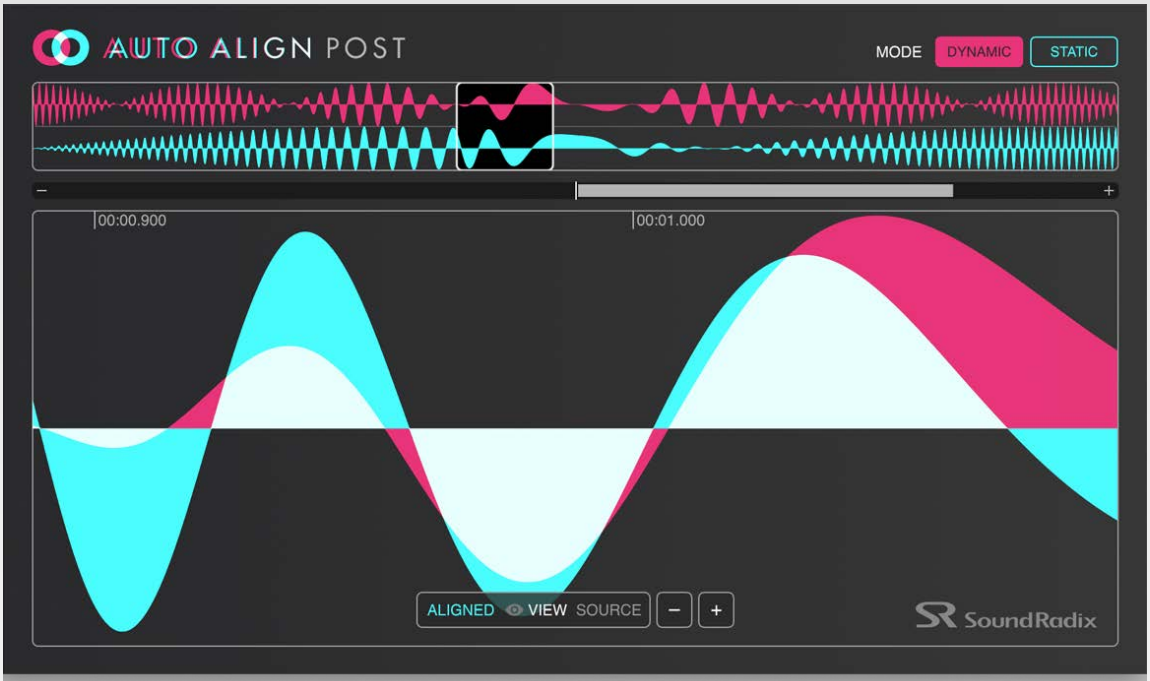
SoundRadix

AUTO ALIGN POST



User Manual

SoundRadix

CONTENTS

- Getting Started 2
  - System Requirements 2
  - Authorization 2
  - Installation 3
- Plug-In Overview 4
  - Dynamic vs. Static Modes 5
- AudioSuite GUI Map 6
  - Main Controls 6
  - Viewers 7
  - AudioSuite Functions 9
  - Order of Operations 11
- Auto-Align Post & ARA2 13
- VST3 (ARA2) GUI Map 14
  - Main Controls 14
  - Viewers 16
  - Updating DAW Edits 18
- Known Issues 19
- Acknowledgements 20

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

SYSTEM REQUIREMENTS

MAC:

- Intel Core 2 Duo CPU or greater
- 4 GB RAM or higher
- OS X 10.8 or higher

WINDOWS:

- Intel Core 2 Duo CPU or greater
- 4 GB RAM or higher
- Windows 7 or higher

PLUG-IN FORMATS (64 BIT ONLY):

- AudioSuite AAX
- VST3-ARA

SUPPORTED HOSTS:

- Pro Tools 11
- Cubase 10.0.0.40
- Nuendo 10.2
- REAPER 5.984 (64 Bit)
- Studio One 4.5
- Bandlab Cakewalk 2019.09

These or later versions are supported

AUTHORIZATION:

To use **Auto-Align Post**, you'll need a free iLok account and the iLok License Manager application. To create an iLok account and download the iLok License Manager, please visit https://www.ilok.com/.
An iLok USB Device is not required to use **Auto-Align Post**.

1. Log-in to your User Area at https://www.soundradix.com/users/
2. Enter your license redeem code in the "New License Activation" box, then click "Redeem."
3. Enter your iLok Account User ID and email address, then click "Redeem."
4. **Auto-Align Post** will now appear in your product downloads and the license will become available in your iLok account.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

Once your **Auto-Align Post** license has been added to your iLok account, it can be used to authorize the plug-in one of two ways:

iLok USB Device:
Can be purchased on-line or at retailers where professional audio equipment is sold.

Pros:
- If you work on multiple machines, it allows you to easily migrate licenses from one machine to another.
- For freelancers who travel to different studios, you can have an assistant engineer install the plug-in before you arrive, but you don't have to provide them with your log-in credentials to authorize the software. You just bring the key with you.
- When upgrading machines, there is no need to deactivate licenses.

Cons:
- Requires the "dongle" to be connected in order to use the software, which requires an available USB port.
- An iLok USB Device can be lost or stolen.

Host Drive Authorization:

Pros:
- Free (Doesn't require the purchase of an iLok USB Device).
- Opens up a USB slot, or in the case of many modern laptops which don't have USB slots, prevents the need for USB adapters or hubs.
- Perfect solution for those using a single computer.

Cons
- Migrating a license to an alternate machine requires returning the license to your account's "license cloud" through the iLok License Manager.
- When traveling to different studios, an additional step is required upon your arrival.

*It is important to note that regardless of which method is used, a single license can only be used on one machine at a time. If you wish to use **Auto-Align Post** on multiple workstations simultaneously, additional licenses must be purchased. Also worth noting, if a **Auto-Align Post** license is activated on a Host Drive, it can later be transferred to an iLok USB Device associated with the same iLok account, at no charge.*

INSTALLATION:

Download and install the **Auto-Align Post** installer. Run the application and follow its on-screen instructions. Please note that you may need administrator permissions and password in order to install **Auto-Align Post**. When installation is complete, quit the installer.

Prior to the first DAW launch after installation, your **Auto-Align Post** license can be activated to your Host Drive or iLok USB Device through the iLok License Manager. If this has not been done, you will be prompted to activate the plug-in during your DAW's startup sequence. You will need to enter your iLok Account credentials, so please have them handy when using this authorization method.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

PLUG-IN OVERVIEW

Auto-Align Post automatically and dynamically aligns the phase of dialogue recordings captured with multiple microphones.

In modern film and video shoots, it is common to mic dialogue with a combination of shotgun mics mounted on boom poles, wireless lavalier mics attached to the talent's wardrobe, and planted microphones hidden in objects on the set. Throughout a take, the boom mic will frequently move to grab lines from different characters. Actors, at times, will move about the set, or turn their heads to address other characters. As all of this movement is happening, the relative distance of each sound source to each microphone is constantly changing.

As a result, comb-filtering, or phase-related cancellations at harmonic intervals throughout the frequency spectrum are introduced when combining these sources.

The problem becomes more complicated in production sound (sync sound) recordings, because of the continued variations which result from movement on the set. Aligning the phase of two sources at one point in time in these recordings will not guarantee that they will remain in phase over time.

Enter **Auto-Align Post.**

Built on the trusted **Auto-Align™** algorithm, but with operation tailored to serve the audio post production industry, Auto-Align Post is a next-generation algorithm that makes phase/time correction of a moving multi-microphone recording of an entire film a matter of a few clicks and a short coffee break.

FEATURES

- Corrects for distances of up to ~112 feet / ~34 meters or a delay of ±100ms
- Dynamic mode enables continuous phase/time correction for moving actors, mics or cameras
- Static mode enables fixed phase/time correction for stationary microphones
- Transparent, filter-free design
- Multi-channel support
- Highly optimized for CPU efficiency and operation speed
- Easy to operate - no manual adjustments required

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

DYNAMIC VS. STATIC OPERATION

DYNAMIC MODE

Because it is difficult to predict and adapt to ever-changing phase relationship of lavalier and boom mics on set, in the past, we have typically been forced to choose one mic or another for each dialogue line. However, there are plenty of situations where playing two mics simultaneously can be beneficial. One scenario would be a project with a limited foley budget, to be released in a single language. On those types of projects, we tend to favor the boom because it has a more realistic clothing, footstep and prop sounds. If one character turns away from the boom for a handful of lines, though, it's nice to slip in a little of their lavalier mic to enhance the boom recording.

Lining up the audio from the two sources so that they combine additively can require a lot of trial and error, involving nudging, polarity flips, and phase rotation. The end result is often a compromise to achieve the best average solution. **Auto-Align Post's** Dynamic Mode removes the time-consuming guesswork, *and* produces results with a degree of accuracy that would not be humanly possible. Not only will it alter the phase and timing from clip to clip, it will align the phase *within* the clip, adaptively. If the character is walking towards the boom throughout the line, for example, the **Auto-Align Post's** Dynamic Mode will track the evolving timing change, and persistently update its corrections. It can track and correct timing problems due to time arrival delays of up to 100 ms, which is equivalent to about 112 feet or 34 meters.

STATIC MODE

Auto-Align Post's Static Mode was designed to allow for fixed alignment for stationary microphones setups or simply in cases where fixed time alignment is preferred.

Another time-consuming problem that dialog editors often face can be introduced at different points in a workflow but stem from a singular problem. Whether the recordist's cart features multi-track recording software printing isolated tracks, *and* a separate field recorder for printing reference mixes from their mixer, or the recordist is using a multi-track mixer/recorder, *and* a reference mix is being sent to the camera, there are numerous scenarios which see multiple recorders being synchronized with timecode on set. The files captured by these devices will often be introduced at different points in the workflow.

Remember that we capture audio in thousands of samples per second, while timecode is merely tens of frames per second. There is a known issue in many recorders which causes them to round the audio recording's timecode to the nearest frame, rather than starting the recording exactly at the start of a timecode frame. When employing the handy Pro Tools "Field Recorder Workflow," despite the edges of clips aligning perfectly with picture edits, the underlying audio in the multi-track clips may be out of sync from the reference mix from the camera or separate field recorder. A similar problem sometimes occurs when exporting OMF or AAF files from NLE's where the OMF/AAF file's clips align with picture edits, but their underlying audio slips out of sync from the editor's reference mix.

Because the sync offset often varies from clip to clip, aligning the audio manually can be quite tedious. **Auto-Align Post's** Static Mode is designed to automatically analyze and "nudge" the audio within each clip as well as its handles so that it can be accurately synchronized to the reference mix.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

AUDIOSUITE GUI MAP

This AudioSuite GUI Map is broken into three separate diagrams focusing on the Main Controls, the plug-in's Viewers, and specific AudioSuite functions which are relevant to the operation of Auto-Align Post. For more comprehensive information on AudioSuite plug-ins, please consult your Pro Tools reference manual.

Figure 1A: Main Controls

FIGURE 1A:

1. **Reference Track:** Chooses the primary audio source to which the phase and timing of the other microphones will be aligned.
2. **Dynamic Mode:** Makes continually varied phase and timing adjustments throughout the selected clip(s).
3. **Static Mode:** Applies a timing shift of a singular value to each selected clip (if Clip by Clip processing is selected).
4. **Preview:** Loads visual feedback into the plug-in's different Viewers.

*Note: **Preview** is merely a visual reference, and will not audition the audio. Also worth noting is that applying the Render button prior to pressing **Preview** will load the same before/after visual feedback into the Viewers. For this reason, it is not necessary to press **Preview** before rendering. When processing multiple clips in Clip by Clip mode, only the first clip of the selection is displayed. For performance considerations, **Preview** size is capped at 40,000,000 samples per channel.*

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

Figure 1B: Viewers

FIGURE 1B:

A. Navigation Bar: Displays an overview of the entire selection of audio to be processed and allows certain areas to be investigated further.

B. Main Viewer: Shows the waveforms of the selected audio and Reference Track overlaid on top of one another.

- **Pink:** Represents the waveform of the Reference Track.
- **Teal:** Represents the waveform of the selected audio to be processed.
- **White:** Represents areas where both waveforms overlap.

1. Focus Area Bubble: Selects which portion of the selected audio will be shown in the Main Viewer. When clicking in the middle of the **Focus Area Bubble**, a grabber allows the bubble to be dragged along the track, retargeting the focus of the Main Viewer. Rolling your mouse or trackball's scroll-wheel inside of the Main Viewer will have the same effect.

When clicking and dragging on the ends of the bubble, its width can be stretched or narrowed, thus zooming in or out in the Main Viewer. Zooming in and out can also be done by holding Shift, either while dragging the Focus Area Bubble or while scrolling the Main Viewer.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

2. **Zoom Controls:** Increase or decrease the zoom level of the Main Viewer. Changing this value also effects the width of the Focus Area Bubble.

3. **View Mode:** Toggles the Main Viewer between viewing the relationship of the selected audio to the Reference Track before or after the effects of the processor.

    - **Source:** Displays the phase and timing relationship of the unprocessed selection, relative to the Reference Track.

    - **Aligned:** Displays the phase and timing relationship of the selected audio to the Reference Track after it has been subjected to the processor-imparted phase and timing shifts

4. **Phase Correlation Meter:** Shows the positive, negative, or neutral phase relationship between the selected audio and the Reference Track.

    - A positive value indicates that the signals would add if combined.

    - A negative value indicates that cancellation would occur if the signals were combined.

    - A null (centered) value indicates that the two signals would not have significant interaction if combined.

5. **Time Display:** Shows the current position of the Focus Area Bubble in "Minutes : Seconds . Milliseconds" relative to the start of the selected audio.

    Note: This time value does correlate directly to the Pro Tools Main Counter, but instead to the relative time within the selection.

6. **Show/Hide Main Viewer:** Collapses the plug-in GUI to show only the Navigation Bar, or expands it to reveal the Main Viewer.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

Figure 1C: AudioSuite Settings

FIGURE 1C:

1. **Entire Selection / Clip by Clip:** The primary function of this control is to determine what will happen if multiple clips are selected and processed at once. There are a number of byproducts of each mode that are of great significance:
   - **Entire Selection:** All selected clips will be consolidated together and processed as one, resulting in a single audio file being written, and a single clip appearing on the track. Any Clip Effects, Clip Gain and/or fades which pertain to the selected clips will be permanently rendered to create the new audio file.
   - **Clip by Clip:** Each selected clip will be processed individually, potentially resulting in a number of new audio files being created, and the original clip definitions being maintained. Any Clip Effects, Clip Gain, and/or fades will remain editable on the selected clips, and will not be permanently rendered.
2. **Create Continuous Files/Create Individual Files:** When using some AudioSuite plug-ins, **Create Individual Files** with Entire Selection processing renders the the result of the plug-in with all of the byproducts of Entire Selection processing (permanently applying real-time effects), but still processes the clips separately. With **Auto-Align Post**, that mode is unavailable, as these two choices are directly connected to the Entire Selection / Clip by Clip settings:
   - **Create Continuous Files:** Automatically switches to Entire Selection processing.
   - **Create Individual Files:** Automatically switches to Clip by Clip processing.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

3. **Mono Mode/Multi-Input Mode:** Determines how multi-channel clips will be processed:
   - **Mono Mode:** Each channel of a clip will be individually analyzed and adjusted to align with the Reference Track.
   - **Multi-Input Mode:** All of the channels within a clip are cumulatively analyzed and all channels are adjusted equally to align with the Reference Track.

   Obviously, we recommend using **Multi-Input Mode** for stereo and surround clips, because **Mono Mode** can throw the channels within a clip out of sync from each other. **Multi-Input Mode** supports clips up to 48 channels, while **Mono Mode** can process an unlimited number of channels.

   *Note: Choosing **Multi-Input Mode** will automatically set the plug-in to Entire Selection / Create Continuous Files processing mode.*

4. **Handle Length:** When using Clip by Clip / Create Individual Files processing, the plug-in can process underlying audio beyond the selected clips' boundaries. The amount of additional audio processed can be truncated to "handles" of a desired length, set here in a value of seconds.
5. **Whole File:** Rather than truncating the underlying audio to handles, the whole parent audio file is processed while the original clip definitions and realtime effects remain intact on the selected track.
6. **Render:** Applies the AudioSuite processor with its current settings.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

ORDER OF OPERATIONS (AUDIOSUITE)

Now that we've learned the controls, let's take a look at how to use Auto-Align Post:

1. **Launch Auto-Align Post:** Click on the AudioSuite drop-down menu at the top of the Edit Window and scroll to the "Other" category, or the "SoundRadix" bank from the manufacturers list. Choose the **Auto-Align Post** plug-in.

   *Note: **Auto-Align Post** currently only operates as an AudioSuite plug-in, and cannot be used as a realtime insert.*

2. **Choose Reference Track:** Click on the Reference Track drop-down menu and select which track from your session to which you would like **Auto-Align Post** to align the other tracks' audio.

3. **Select Audio to be Processed:** Select a single clip or multiple clips from one or more tracks that you would like to align to the Reference Track. Make sure that you are not selecting clips from the Reference Track, as aligning them to themselves would serve no purpose.

4. **Choose Processing Mode:**

   - Dynamic Mode - If you are aligning microphones that moved throughout takes, such as multiple boom mics, or a combination of boom mics and wireless lavaliers, use this mode for continually-adapted results.

   - Static Mode - If you are aligning microphones which remained in fixed positions throughout takes, such as a lavalier on a seated actor and a stand-mounted boom, Static Mode will simplify the results by producing a consistent shift throughout the entirety of each selected clip.

     When compensating for timecode slippage when aligning isolated microphones' (ISO's) recordings to a reference mix, it is recommended that Static Mode be employed, as the timecode offset will generally remain consistent throughout each clip.

5. **Choose AudioSuite Settings:** Because a number of AudioSuite functions are tied together when using **Auto-Align Post**, there are really only a handful of options to consider:

   - If you are synchronizing multiple-mono ISO's to a reference mix, or one or more mono lavalier mics to a boom, it is highly recommended that you use Mono Mode, so that you can process Clip by Clip, Create Individual Files, thus preserving your clips' handles, Clip Gain and fades. Basically, if the clips to be aligned are mono, use those settings to preserve all realtime clip effects.

   - If the clips to be aligned contain information that is wider than mono, then Multi-Input Mode is the only way to ensure phase lock between the channels within the clip. Because this will force you into Entire Selection, Create Continuous Files processing, wherever possible, we recommend extending each clip to create "handles" before processing, and then trimming them back down to their original length.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

6. **Preview or Render:** It is not necessary to press Preview at any time, because Render will load the same visual feedback into the Viewers. However, if you are still deliberating between Static and Dynamic Modes for a selection, and processing large quantities of audio, Preview can be faster than rendering and undoing.

7. **Analyze the Effects:** Once the Viewers are loaded with data, zoom the Focus Area Bubble to a few key sections of the clip and assess what the plug-in is doing to the audio. When switching between Dynamic and Static Modes, and reloading the Viewers by pressing Preview, the Focus Area Bubble will maintain the same selection, allowing you to easily compare the results. If you see a dramatic phase shift in one mode, that isn't present in the other, you'll know which sections of the waveform to which you'll need to focus your attention when comparing the auditory results.

8. **Render if Necessary:** If you have merely been using Preview up until this point, don't forget to hit Render to apply the results.

9. **AudioSuite Tip:** Because AudioSuite permanently renders its results, it is not easy to undo those results at a later date. For that reason, it is always recommended that you duplicate your playlists to create unprocessed "master" versions immediately before AudioSuite processing. That way, you can easily pull the original versions of clips back the the main playlist, in their original timecode positions, if that becomes necessary later.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

AUTO-ALIGN POST & ARA2

ARA2 or Audio Random Access (2nd Generation) is a protocol that allows an unprecedented level of realtime communication between a host DAW and a third-party plug-in. In the case of Auto-Align Post, ARA2 allows the DAW to send audio from numerous clips across multiple tracks to the plug-in. There, Auto-Align Post can apply it's processing while ARA2 is then used to apply the plug-in based changes to the audio in the original clips. This method provides the benefits of clip-by-clip, rendered processing while still maintaining the flexibility of an online insert and its ability to be continually adjusted.

Unlike the AAX AudioSuite version, which renders new audio files when processing ("destructive" processing), ARA doesn't create new audio files nor does it alter the original files. Instead, applied changes are stored in an "audio modification" file while the plug-in is running. This method saves a significant amount of drive space.

TO USE ARA2 VST PLUG-INS WITH...

NUENDO/CUBASE:

Select the clips which you wish to align, as well as the clips that you wish to use as a reference track. On the Info Line, under "Extension" there should be a drop-down menu of ARA-enabled plug-ins. Select Auto-Align Post from that list. A nested instance of the plug-in should open in the Editor pane.

STUDIO ONE:

Select the clips which you wish to align, as well as the clips that you wish to use as a reference track. From the "Effects" tab in the Browser, find the Sound Radix folder and locate Auto-Align Post. To run the plug-in in ARA2 mode, Option+Drag the plug-in onto one of the selected clips. The nested Auto-Align Post window should open up within the Editor pane.

REAPER:

Insert Auto-Align Post plug-in on the reference track, as well as the tracks that you wish to align. When you open any instance of the plug-in, all tracks that have Auto-Align Post inserted on them will appear in a single plug-in instance.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

VST3 (ARA2) GUI MAP

The VST3 GUI Map is broken into two diagrams, with one focusing on the Main Controls, the other focusing on different Display Functions.

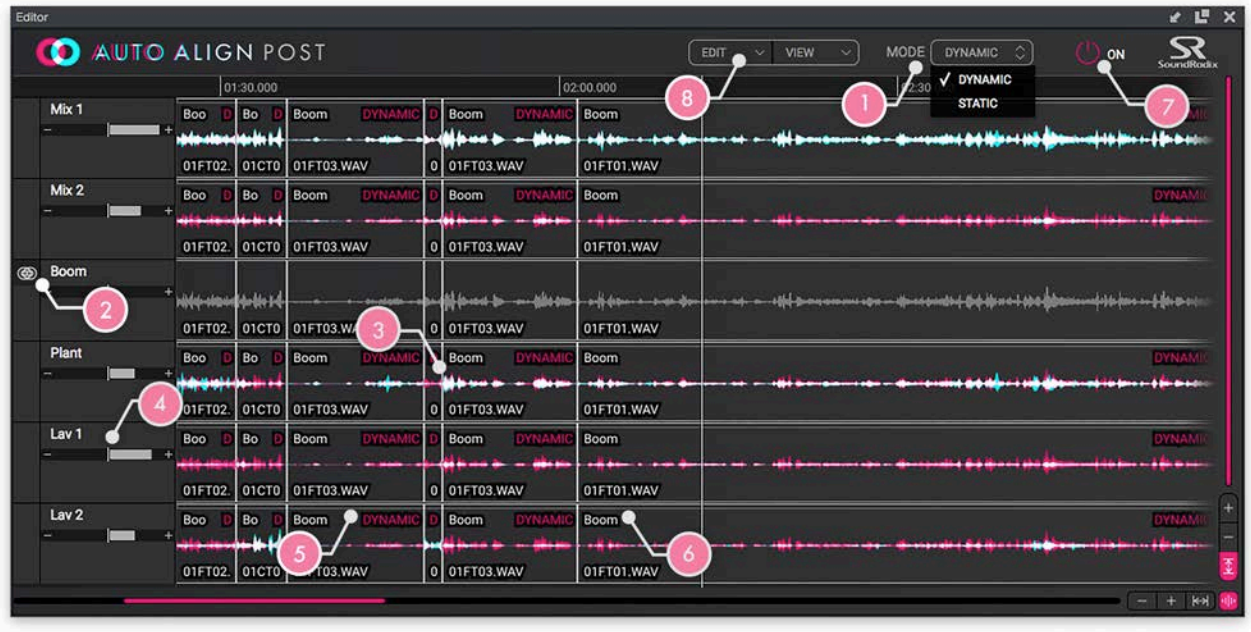


Figure 2A - Main Controls

FIGURE 2A:

1. **Operating Mode:** Chooses the method by which selected clips will by aligned to the Reference Track:
   - Dynamic Mode**:** Makes continually varied phase and timing adjustments throughout the selected clip(s).
   - Static Mode**:** Applies a timing shift of a singular value to each selected clip.

   For more information about these two options, please refer back to "Dynamic Vs. Static Operation" on page 5 of this manual.

2. **Reference Track:** Chooses this track as the Reference Track, or the source to which the phase and timing of any currently-selected clip will be aligned. When any clip or clips are selected, the set Reference Track buttons on the other tracks will blink until a Reference Track is chosen.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

3. **Waveform Comparison:** Shows the waveforms of the selected audio and Reference Track overlaid on top of one another.
    - **Pink:** Represents the waveform of the Reference Track.
    - **Teal:** Represents the waveform of the audio that is being processed.
    - **White:** Represents areas where both waveforms overlap.
4. **Phase Correlation Meter:** Shows the positive, negative, or neutral phase relationship between the selected audio and the Reference Track.
    - A positive value indicates that the signals would add if combined.
    - A negative value indicates that cancellation would occur if the signals were combined.
    - A null (centered) value indicates that the two signals would not have significant interaction if combined.
5. **Mode Indicator:** As different clips within the same plug-in instance can be aligned with different Operating Modes, this indicator displays which mode each clip is using for alignment.
6. **Reference Track Indicator:** As different clips within the same plug-in instance can be aligned to different Reference Tracks, this indicator displays which track each clip is referencing for alignment.
7. **Power Button:** Bypasses or un-bypasses all Auto-Align Post processing.
8. **Edit Menu:** Accesses functions to make quick global selections and adjustments.
    - **Clear Alignment:** Removes processing form the “audio modification file” and reverts alignment.
    - **Select All:** Selects all clips within the Auto-Align Post plug-in GUI.
    - **Deselect All:** Deselects all currently selected clips.
    - **Select DAW Selection:** Any clips selected in the host DAW arrangement are selected within the Auto-Align Post plug-in GUI.
    - **Invert Selection:** Selects the opposite of the currently selected clips.
    - **Select Regions Currently Analysing:** Selects any region that is currently being analyzed for processing.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

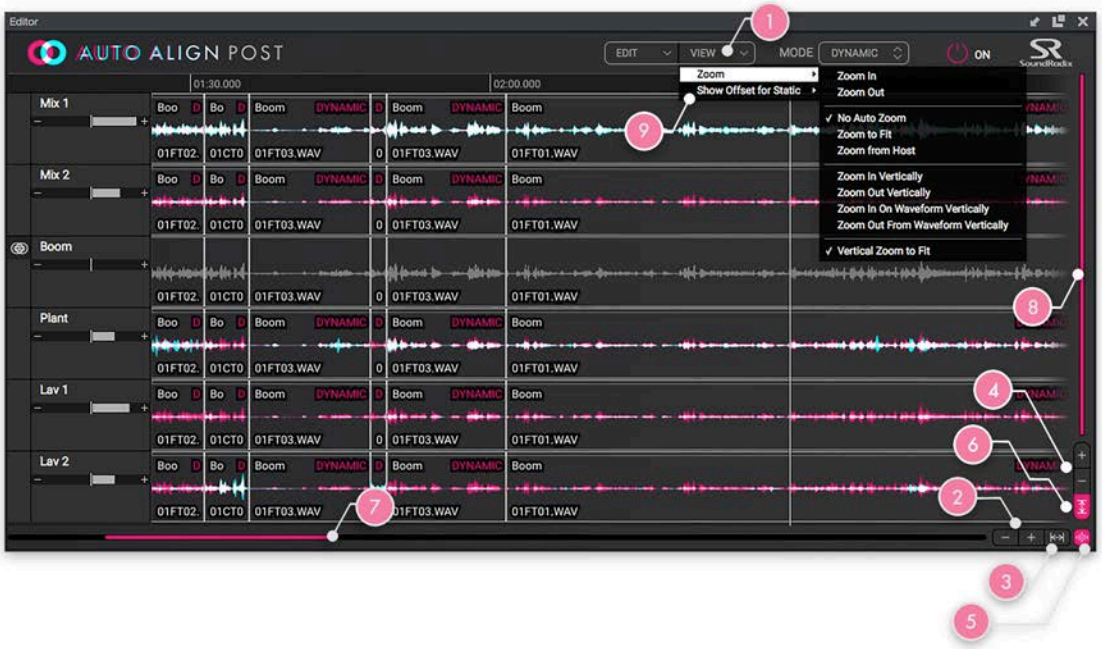


Figure 2B - View Options

FIGURE 2B:

1. **View Menu:** Accesses different zoom functions and settings which determine how the plug-in will behave when navigating through the plug-in GUI or DAW arrange window. Most of the functions within the **Zoom Submenu** can also be addressed with buttons in the bottom-right corner of the plug-in GUI

2. **Zoom In / Zoom Out:** Zooms horizontally within the plug-in window.

3. **Auto-Zoom:** When "Zoom To Fit" is enabled, all clips are automatically scaled horizontally to fit and/or fill the plug-in GUI. If the plug-in window is scaled, or additional clips are imported into the plug-in instance, the plug-in will automatically rescale the clips to fit the window.

   When "Zoom From Host" is selected, the clips within the Auto-Align Post plug-in window which correspond to the clips selected in the DAW's arrange window are scaled horizontally to fill the plug-in GUI. When this option is selected, the Auto-Zoom button's background turns grey, but the icon lights up pink, indicating that "Zoom From Host" is selected.

4. **Zoom In /Zoom Out Vertically:** Grows and shrinks the track heights within the plug-in window.

5. **Waveform Height:** Clicking this button enables "Zoom to Peak" which automatically adjusts waveform heights so that the loudest peak on each track reaches the top of the track display. Keep in mind that this is calculated per track, not per clip. Also remember that this is just a visual adjustment, and has no effect on actual gain.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

If you click and hold on the Waveform Height button, it will turn into a waveform height slider, allowing continuously variable adjustments. To incrementally increase or decrease waveform height, use the "Zoom In/Out On Waveform Vertically" option from the Zoom Submenu.

6. **Vertical Zoom To Fit:** When enabled, all tracks are automatically scaled vertically to fit and/or fill the plug-in GUI. If the plug-in window is scaled, or additional tracks are imported into the plug-in instance, the plug-in will automatically rescale the tracks to fit the window.
7. **Horizontal Slider:** Slide to navigate horizontally through the plug-in's timeline. Notice how the slider bar automatically scales relative to the horizontal zoom setting.
8. **Vertical Slider:** Slide to navigate vertically through the plug-in's tracks. Notice how the slider bar automatically scales relative to the vertical zoom setting
9. **Show Offset For Static:** When processing a clip in Static Mode this setting changes the Mode Indicator from a simple label, to instead show the amount of compensation being applied. This value can be displayed in:

    - Samples
    - **Milliseconds**
    - **Centimeters***
    - **Inches***

    *Distance values are estimated by calculating the temporal phase shift and applying the standardized speed of sound (343 m/second or 1130 ft./second). The actual speed of sound is greatly affected by temperature, so this is only an estimate.

    Naturally, "Show Offset" is not available when using Dynamic Mode, as the phase shift will vary within the clip, so no singular value applies.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

Figure 2C - Alignment Invalidated

FIGURE 2C:

Auto-Align Post uses ARA2 to reference clips on audio tracks, and then return processed audio back into those clips in realtime. Changes to the length of clips in the DAW tracks are automatically recognized and reflected in the Auto-Align Post plug-in window. Likewise, if the reference track and all aligned tracks associated with it are moved in the timeline, the plug-in will automatically react to that.

There are some instances, however, that complicate matters. For example, there may be cases where the reference track is nudged, but not the tracks that are being aligned to it, or vice versa. Alternatively, a clip might be dragged on top of a portion of the reference track. In these cases, Auto-Align Post will not automatically re-analyze and update it's processing. Instead the user is notified that a change in the DAW timeline has occurred with the above warning "Alignment invalidated by edits." You'll also notice the orange-striped background in the affected clip calling attention to the fact that action is required by the user.

When this occurs, you can simply select the affected clips and (re)select the Reference Track to which you would like to align them. You could also select the affect clips, right-click one of them and choose "Clear Alignment(s)" or choose Clear Alignment from the Edit Menu, and then start over.

Keep in mind that ARA2 processing is stored in the "audio modification" file. Because of this, if you remove or alter a clip in the DAW arrangement, the original is still saved in that "audio modification" file and will be restored automatically if the arrangement is reverted. When these currently unused processing alternates exist, you will see the "Clear Unused" button appear. To clear them, press the button.

"Clear Unused" Button

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

KNOWN ISSUES

PRO TOOLS

- In Pro Tools 18.7.0.201, **Multi-Input Mode** in AAX AudioSuite plug-ins is broken for individual mono channels. This means **Multi-Input Mode** works incorrectly and similarly to **Mono Mode**, processing one channel at a time rather than as a sample-locked group. Stereo and Surround channels are working properly and can be used as a workaround for processing mono channels in **Multi-Input Mode**. Avid is aware of the issue and is working to provide a fix.
- Due to a current Pro Tools design, AAX AudioSuite plug-ins do not receive side-chain input for audio "handles." Therefore, audio within the handles (outside of the Pro Tools edit selection) will not be processed.

REAPER

- "Release audio files in background" can disrupt the proper functionality of Auto-Align Post. This function is enabled by default, so make sure to disable it under:

  Preferences -> Set Media Events Offline when Application is not Active

NUENDO

- Due to a bug in In Steinberg's Cubase and Nuendo, a regular (non-ARA) VST plug-in must be inserted in the first slot of any channel that has an ARA plug-in inserted on it as well. A simple plug-in such as "Tuner," will do the trick, but without it, the tracks won't play back correctly.

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved

ACKNOWLEDGEMENTS

Auto-Align Post uses the following libraries:

- JUCE by ROLI Ltd. - https://juce.com
- Intel® Integrated Performance Primitives - https://software.intel.com/en-us/intel-ipp

WE WOULD LIKE TO VERY MUCH THANK:

Russ Hughes
Justin Waler
Marti Humphrey
Ian Stynes
Mike Thornton
Arbel Vaknin
Ophir Lokay
Erez Eyni
and
Brandon Hickey

For their contribution, invaluable input, and support of **Auto-Align Post's** development. Gentleman, you rock!

Sound Radix

www.soundradix.com

Technical Support: https://www.soundradix.com/support

Auto-Align Post Manual V1.2 © 2019 Sound Radix Ltd. All Rights Reserved