

# POWER TOOLS

## for Studio One 2

Master PreSonus' Complete Creation and Production Software  
Volume 2

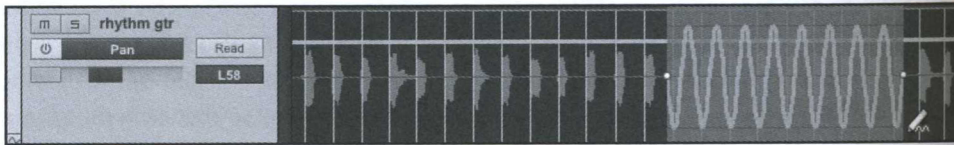
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**Fig. 4-6:** Autopanning effects are easily created by automating panning with the function settings of the Paint tool.

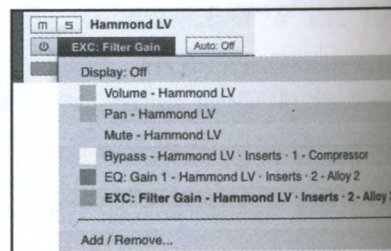
## VIEWING TRACK AUTOMATION

Automation can be viewed in the following places:

- On a track in the Arrange view that has been set to show automation, the display shows a single parameter at a time. On Audio tracks, the parameter automation envelope is superimposed over the Events on the track so that you can see how the envelope and the audio correspond. On Instrument tracks, the Part is not visible when automation is shown.
- An automation lane can be shown below the track for each automated parameter, making this the way to view multiple automation parameters for a track.
- Watch the GUI (graphical user interface) controls in the mixer and/or plug-in editor window. Automated controls and values move in real time to reflect their current values as automation is played.

## Showing Automation on a Track or in Lanes

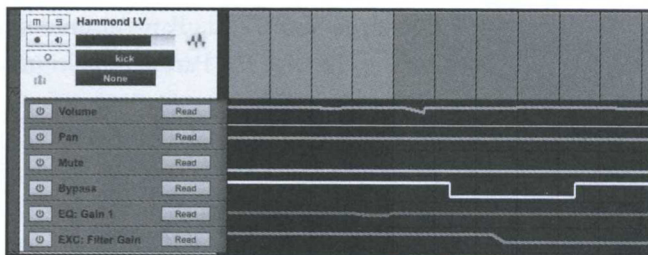
- To show automation on a track in the Arrange view, select the track and press A on the keyboard, click the Show Automation button in the toolbar just above the track headers, or choose Track > Show Automation from the main menu bar. All tracks switch from displaying audio or instrument data to displaying automation data (Show/Hide Automation is global). Click in the Automation Parameter field in the appropriate track header and choose the parameter you wish to see from the drop-down menu that appears. Press A again to toggle the track back to the audio/instrument data display.
- To show automation lanes below a track, right-click (Ctrl-click in Mac) on the track header in the Arrange view and choose Expand Envelopes from the contextual menu that drops down, or click the disclosure triangle on the track's line in the Track List.



**Fig. 4-7:** The Automation Parameter field drop-down menu shows the track parameters for which automation envelopes already exist. The Add/Remove command at the bottom controls the contents of the list.

Put automation lanes away using any of these methods:

- Right-click (Ctrl-click in Mac) on the track header and choose Expand Envelopes in the drop-down menu that appears to uncheck the item.
- Click the disclosure triangle on the track's line in the Track List to collapse the list.
- Right-click (Ctrl-click in Mac) on any track header and choose Collapse All Tracks. This is global, so all automation lanes for all tracks are collapsed. This is the quick way to jump out of editing automation and back to other work.

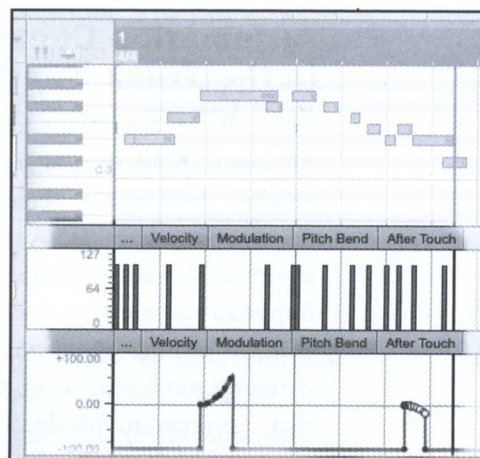


**Fig. 4-8:** Automation lanes (envelopes) can be displayed expanded below the track, just as layers can.

## Part Automation Lanes

Instrument parameter automation can be created and viewed in the Part Automation lanes shown at the bottom of the Music Editor. Automation created in this way is superimposed over the Parts in the track in the Arrange view.

**TIP:** Instrument automation changes parameters on the instrument, not on its audio channels in the mixer. Even though the parameter may be volume or pan, it refers to those controls on the instrument itself. However, if the right pane of a Track Automation dialog has an Audio folder, the parameters in that folder do refer to mixer parameters, not instrument parameters. Because Instrument channels in the mixer do not always correspond directly to tracks in the Arrange view, there may not be an Audio folder, in which case you will need to use an automation track to automate Instrument channels.



**Fig. 4-9:** Two Part Automation lanes are available below the Music Editor.

To open/close Part Automation lanes:

- Open an Instrument track into the Music Editor using any of the methods described in the section “Opening Events and Parts for Editing” of chapter 5, “On the Cutting Room Floor: Basic Editing” in *Power Tools for Studio One 2*, volume 1. A Part Automation lane will be below the note display.
- To show the second Part Automation lane, click the right Show/Hide Part Automation Lane button just below the lower left corner of the note display.

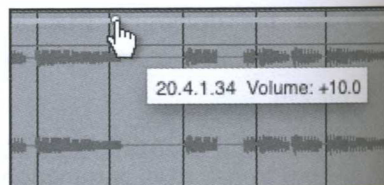


- Click the Show/Hide Part Automation Lane buttons to toggle between showing and hiding either of the Part Automation lanes.

For more information on Part Automation lanes, including how to edit in them, see the section “Instrument Tracks and Channels” later in this chapter.

## Viewing the Value of an Automation Point

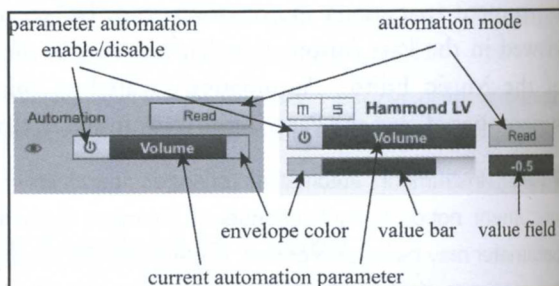
- To view the value of an automation point, just hover the cursor over it and a pop-up tool tip will appear showing the location (in the units selected in the Arrange view Timebase field in the toolbar), parameter name, and value for the point.



**Fig. 4-10:** A pop-up tool tip shows the value and location of an automation point when the cursor is hovered over it.

## Automation Controls in the Track Header and Inspector

All track headers and inspectors (Audio, Instrument, Folder, and Automation) have an Automation section with a small number of very important automation controls. All of these settings apply only to the currently active parameter, meaning that Automation Mode, Envelope Color, and Automation Enable/Disable are all set on a per-parameter basis. The settings in the track inspector are the same ones that appear in the track header.



**Fig. 4-11:** Track headers and inspectors have a small but important Automation section.

- **Parameter Automation Enable/Disable:** Click this button to the right of the eye icon to enable and disable automation for the current parameter. When the eye icon is colored blue, automation is enabled for the parameter. Note that an automation envelope gives no visual indication of being disabled.
- **Current Parameter:** This field displays the parameter currently active for display, recording, and editing. To change to a different parameter, click in the field and choose the desired parameter from the drop-down menu that appears, or choose the Add/Remove command to add a new parameter for automation or delete automation for a parameter.



- **Automation Mode field:** To set the automation mode for a track, click in this field and choose the desired mode from the drop-down menu that appears. Choices are: Auto Off, Read, Touch, Latch, and Write modes. Note that nothing shows in this field when the Current Parameter field shows "Display Off." At least one parameter must be selected or added. For more on automation modes, see the section "Real-Time Automation with Control Surfaces and MIDI" later in this chapter.
- **Parameter Envelope Color:** To set the color for a parameter envelope, click in the color square to the right of the current parameter name and choose a color from the palette that drops down. Each automated parameter can use a different color for its automation envelope. A color code can really help keep things straight. For instance, you might set all volume envelopes green, all pan envelopes blue, and mute envelopes red. This helps avoid confusion when a lot of parameter automation is happening across a number of tracks.
- **Value bar:** The value bar displays the current value of the currently active parameter and moves in real time as the automation plays. When automation is playing between points on the envelope, the value bar overrides the automation, so dragging or clicking in the value bar will set the parameter to that value until the next point on the envelope is encountered, at which time it will jump back to playing automation.
- **Value field:** The value field is a text version of the value bar. Like the value bar, it is editable, but of limited use.

## AUTOMATION TRACKS

Okay, let's make sure everything is clear. Automation in Studio One 2 is recorded onto and edited on tracks of any type. This is what is meant by "track automation." However, one type of track is devoted specifically to automation. These are called, naturally, Automation tracks, and they can contain automation for:

- Instruments, both virtual and external.
- Instrument return channels.
- Bus channels.
- FX channels.
- Output channels.
- Insert effects on any channel.

In other words, Automation tracks do not automate parameters for Audio channels (other than for insert effects) because they can already be automated on the corresponding tracks. Instrument parameter automation can be performed either on the Instrument's track

or on an Automation track, as can automation of the mixer channels where the instrument is returned.



**Fig. 4-12:** Instrument parameter automation on an automation track.

## A Few Uses for Automation Tracks

- Automating Bus channels, particularly those being used as submix masters.
- Automating FX channels.
- Automating Output channels.
- Organization: All submix masters could be controlled from one Automation track, for instance. If the submix envelopes are each a different color matching the color used for all of the channels feeding it (for example, the drum sub is the same green color as the individual drum tracks), automating can be very intuitive.

## Creating or Deleting an Automation Track

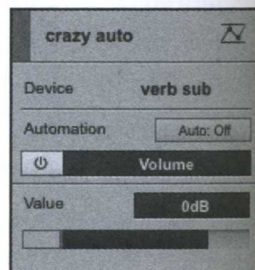
To create an Automation track, use any of these methods:

- Press T to bring up the Add Track dialog, click in the Format field, and choose Automation from the drop-down menu that appears.
- Choose Track > Add Automation Track from the main menu bar.
- Click in the Current Parameter field and choose Add/Delete from the drop-down menu that appears. The Track Automation dialog opens. Click the Make New Automation Track button (+ [plus sign]) at the top of the window.

## Automation Track Inspector

The inspector for an Automation track contains the following controls:

- Track color and name.
- Device name display. An Automation track might hold automation for several different devices, so this read-only field identifies the device associated with the currently active parameter.
- Duplication of the track header automation controls: Parameter Automation on/off, Current Parameter, Automation Mode, Automation Envelope color, Parameter Value bar, Parameter Value field.



**Fig. 4-13:** The Automation Track inspector.



## CREATING AUTOMATION

There are five ways to create automation:

- Record automation in real time using a control surface. For more on connecting and using control surfaces, see the section “Mixing with Control Surfaces and MIDI Controllers” in chapter 3, *Mixing*.
- Non-real-time breakpoint editing of an automation envelope using the Arrow tool. For more on editing automation envelopes, see the section “Editing Automation” later in this chapter.
- Non-real-time breakpoint editing of an Instrument automation envelope in Part Automation using the Arrow tool.
- Draw automation using the Paint tool (including its functions, such as sine, saw, etc.).
- Copying automation from elsewhere and pasting it in. For more information on copying and pasting, see the section “Editing Automation” later in this chapter.

Automation for Audio and Instrument channels resides on the corresponding tracks in the Arrange view (although VIs can be automated as either Part or track automation). Bus, FX, and Output channels have no corresponding tracks, so their automation must be created on Automation or Folder tracks.

### Adding an Automation Envelope

A parameter can be automated by adding an envelope for it to a track, which can be done in any of the following ways:

#### DRAG USING CONTROL LINK

The fastest way of making an automation envelope in Studio One 2 is, naturally, drag-and-drop, and Control Link provides the mechanism for doing it. For more about Control Link, see the section “Using Hardware Controllers with Studio One 2: Control Link” of chapter 4, “Virtual Instruments and MIDI” in *Power Tools for Studio One 2*, volume 1.

This technique only works reliably for mixer automation; with instruments, it depends on how the instrument was programmed. PreSonus instruments, of course, work just fine, as do many, but not all, third-party VIs. I have yet to find any third-party plug-ins that do not work using this technique.

If the parameter being dragged applies to an existing track, dragging the parameter to that track adds an automation envelope for it. Dragging the feedback parameter from a vocal delay to the vocal track creates an automation envelope for the delay on that track.

It is possible to drag Instrument channel audio parameters to Instrument tracks to create new envelopes, if the instrument in question is a VI. If it is an external device, the track and channel are not associated. If the parameter is not associated with a track, then a new Automation track is created, along with the indicated automation envelope.

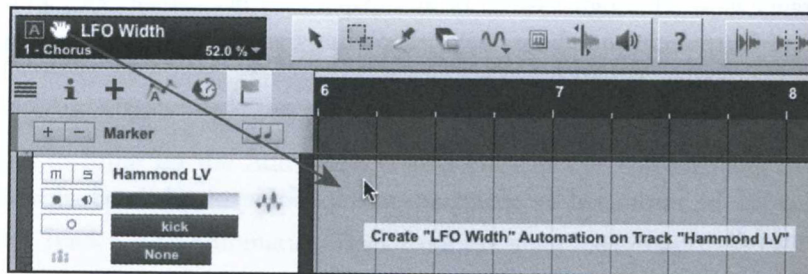


Let's say I have recorded a drum kit, packed all of the individual tracks into a drum submix folder, and submixed it to a Bus channel by selecting that bus as the Folder track's output.

If I wiggle the channel fader on the submix Bus channel, and then drag the hand from the Control Link area to, say, the kick track, which has nothing to do with that fader, Studio One 2 will, instead, create a new Automation track and make an envelope on it. If I drag, instead, to the Folder track, Studio One 2 will create an envelope on that track because it is associated with Bus channel.

To add a new automation envelope using Control Link:

1. Move the control for a channel, instrument, or plug-in parameter so it appears in the Control Link display in the upper left of the Song page.
2. Drag the hand icon next to the parameter name in the Control Link display to the associated track in the Arrange view. A new automation envelope for the displayed parameter is created in the track. Audio parameters dragged to Audio tracks, as well as instrument parameters dragged to Instrument tracks, create new envelopes.



**Fig. 4-14:** Dragging a parameter from the Control Link area to a target track creates a new automation envelope for the parameter.

3. If there is no track corresponding to the selected parameter, a new automation track with an envelope for the displayed parameter is created.

#### MAKE AN ENVELOPE FROM A MIXER OR PLUG-IN CONTROL

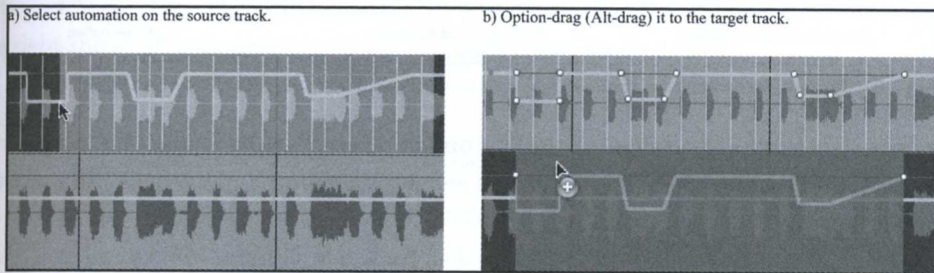
- Right-click (Ctrl-click in Mac) on a control in the mixer or a PreSonus plug-in and choose "Edit <<parameter name>> Automation." A new Automation track will be created with an envelope for the selected control.

#### DRAG AN ENVELOPE FROM ANOTHER TRACK

Automation can be added to a track by dragging an automation envelope to it from another track:

1. Press the A key to switch the Arrange view to displaying automation data.

2. Prepare the target track by selecting or adding an automation envelope for the parameter you wish to control. Dragging automation copies the automation data, but does not create a new envelope where none exists, so if no automation parameter is showing on the target track, the drag-and-drop operation will not work.
3. Select the automation on the source track that you want to copy.
3. Press the 1 (number one) key to select the Arrow tool.
4. Move the cursor over an automation point on the source automation you want to copy. The icon will turn to a hand with a finger.
5. Hold down the Option key (Alt key in Windows) and the cursor will change to an open hand.
6. Drag the automation from the source envelope to the target envelope. As you drag, the cursor will be an arrow with + (plus sign) above it. You can drag to any location on the target envelope you wish.



**Fig. 4-15:** A selection on an automation envelope for a parameter can be Option-dragged (Alt-dragged in Windows) from one track to another, as long as the destination track already has an envelope for that parameter.

## ADD AN ENVELOPE FROM THE PARAMETER FIELD

1. Press A to show automation on tracks in the Arrange view or press F4 to open the Inspector pane.
2. Click in the Automation Envelope Select field in the track header or Track inspector and choose Add/Remove from the drop-down menu that appears.
3. The Track Automation dialog appears. Add the parameter using the Track Automation dialog as described in the next section, "Add an Envelope Using the Track Automation Dialog."