

This tutorial describes using Anvil Studio to record and edit automation.

## What is Automation

After you are happy with the raw recordings of all of the tracks in your song, you can begin the post-production phase of adjusting various song parameters over time similar to adjusting faders and dials on a 48-track mixing console. The process of *mixer automation* allows these fader and other control adjustments to be remembered with the song.

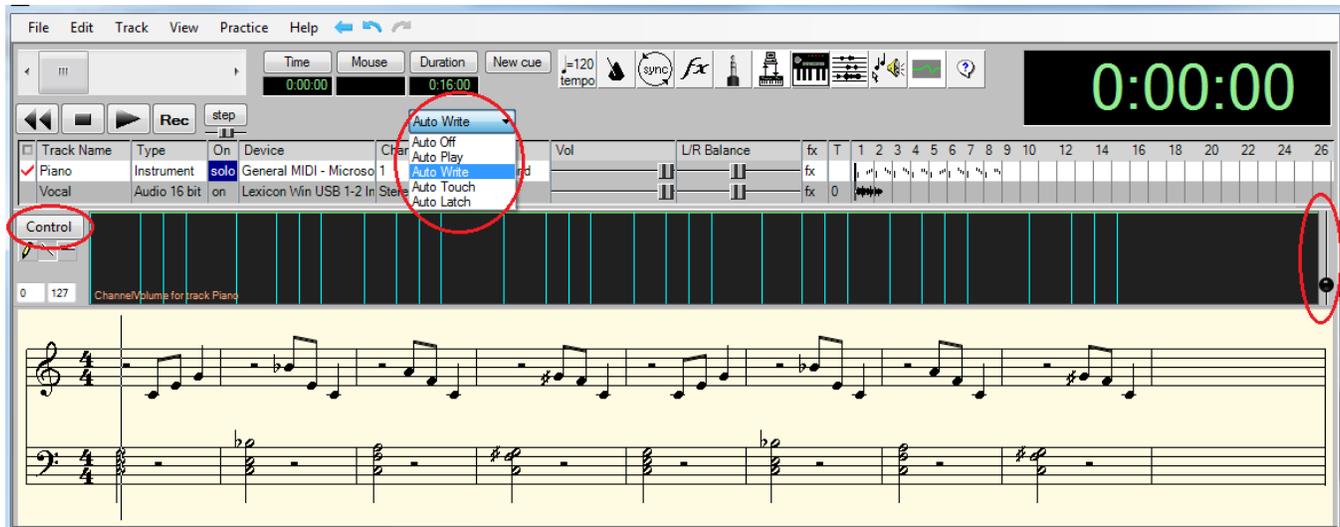
All changes made with mixer automation are *non-destructive*, that is, they do not modify the original sound. This means you can experiment, and then get back to the original sound if you don't like the change.

Examples of parameters that can be adjusted with mixer automation include the entire song's tempo, each track's Volume and Pan, a track's Reverb intensity, EQ bass, any one of hundreds of Virtual Instrument or third-party VST-Effect parameters.

When recording mixer-automation, you aren't recording audio and midi tracks as you did during the raw-recording process. Instead, you play the song and while the song is playing, you manually adjust any of these parameters. All of these manual changes can be recorded, so that every time the song is played, it is as if a hundred fingers are altering the effects dials every time the song is played. Once the song is *mastered*, or mixed down into a single .WAV file, these automation settings are "cast in concrete".

## Getting ready to record automation

When you select Anvil Studio's **View / Mixer Automation** menu while a MIDI track is active, the gray automation editing panel is displayed and the screen looks like this:



You can press the **Control** button to alter which automation parameter is being edited and recorded. When you select the automation dropdown menu and select **Auto Write**, as shown in the above picture, a fader appears on the right of the display. Any changes to this fader while the song is playing will alter and record the selected parameter at that point in time.

Other values you can select from this menu include:

**Auto Off** - plays the song without using any automation control values, so you can hear how the song sounds in its raw form.

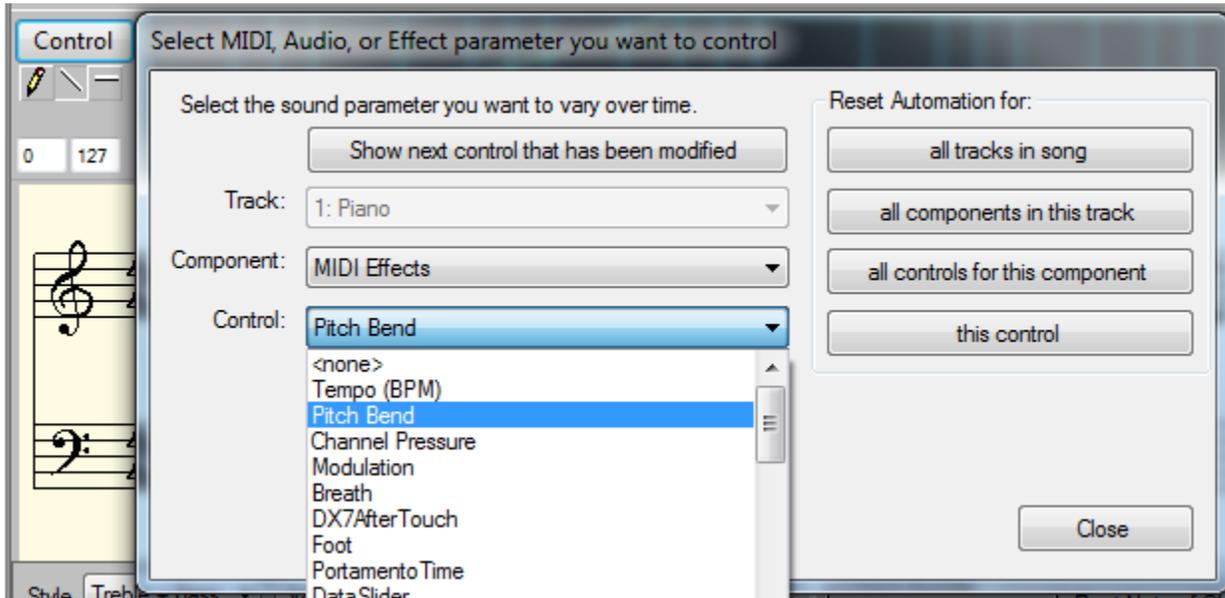
**Auto Play** - plays the song using saved automation values, but does not record new changes.

**Auto Write** - records all changes to controller sliders and dials while playing the song. When the song stops in this mode, it automatically changes to Auto Touch mode so you will not accidentally overwrite existing saved data.

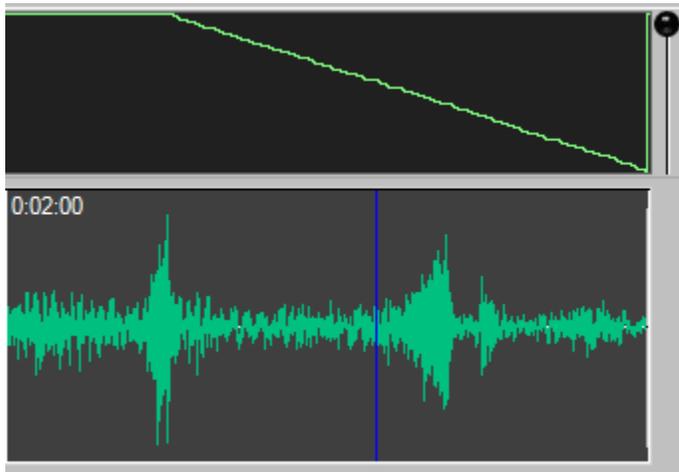
**Auto Touch** - is the same as Auto Write mode, but it starts recording changes to parameters as soon as the mouse button goes down on a control, and stops recording the values as soon as the mouse button is released.

**Auto Latch** - is the same as Auto Touch mode, but once it starts recording controller changes, it continues to until the song is stopped.

When you press the **Control** button, this window appears, prompting you to select an automation parameter to be edited and recorded.

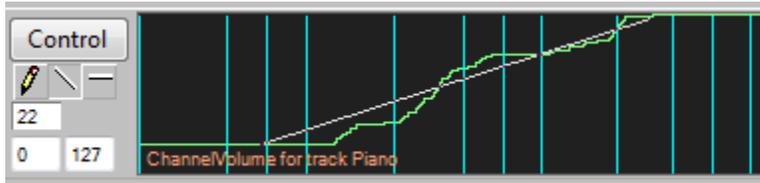


If an Audio track was active instead of a MIDI track, the screen would look like this. This shows a *fade-out*, where the track's volume is gradually reduced at the end of the song.



## Manually editing automation

The picture below shows a track where fader movements were recorded in **Auto Write** mode. It shows a *fade-in*, where the track's volume is gradually increased at the start of the song. If you decide you want to smooth them out, you can use the mouse to draw a straight line over the graph as show below.

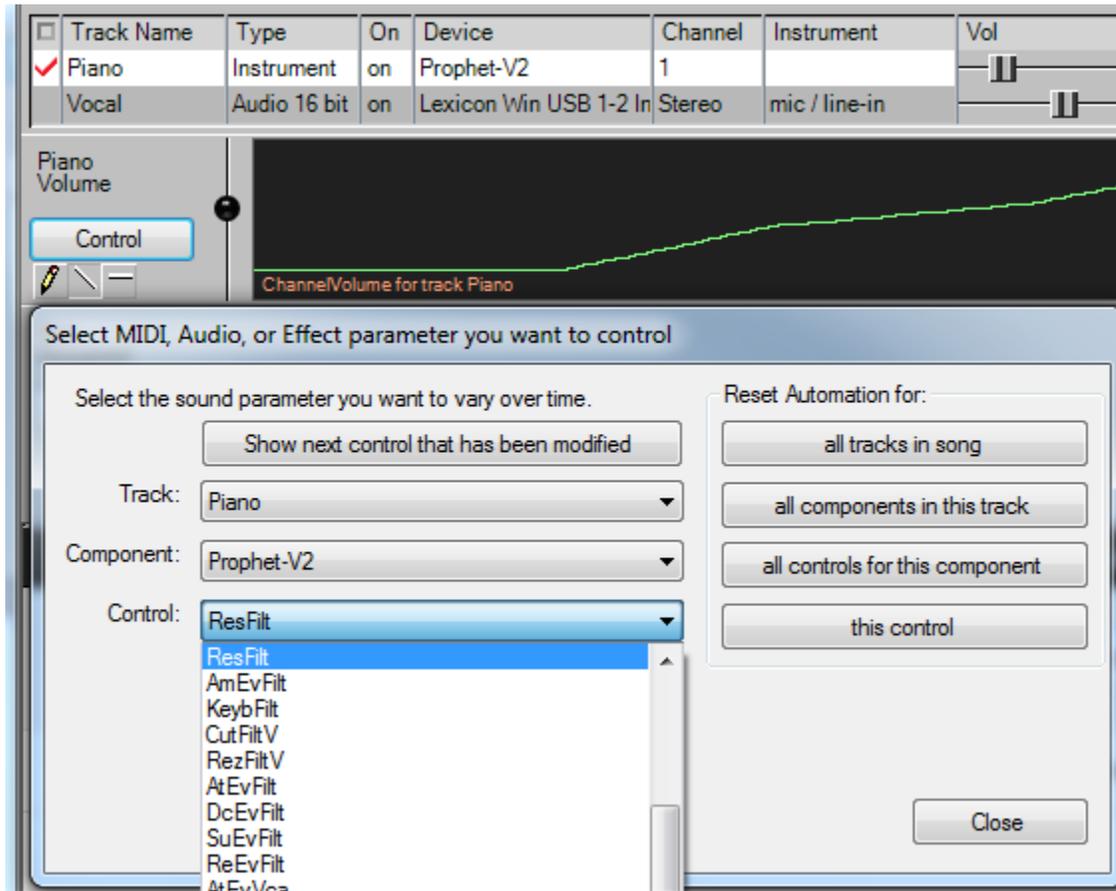


This picture above shows the screen while the mouse is still pressed after drawing the line. The picture below shows the same screen when the mouse is released.

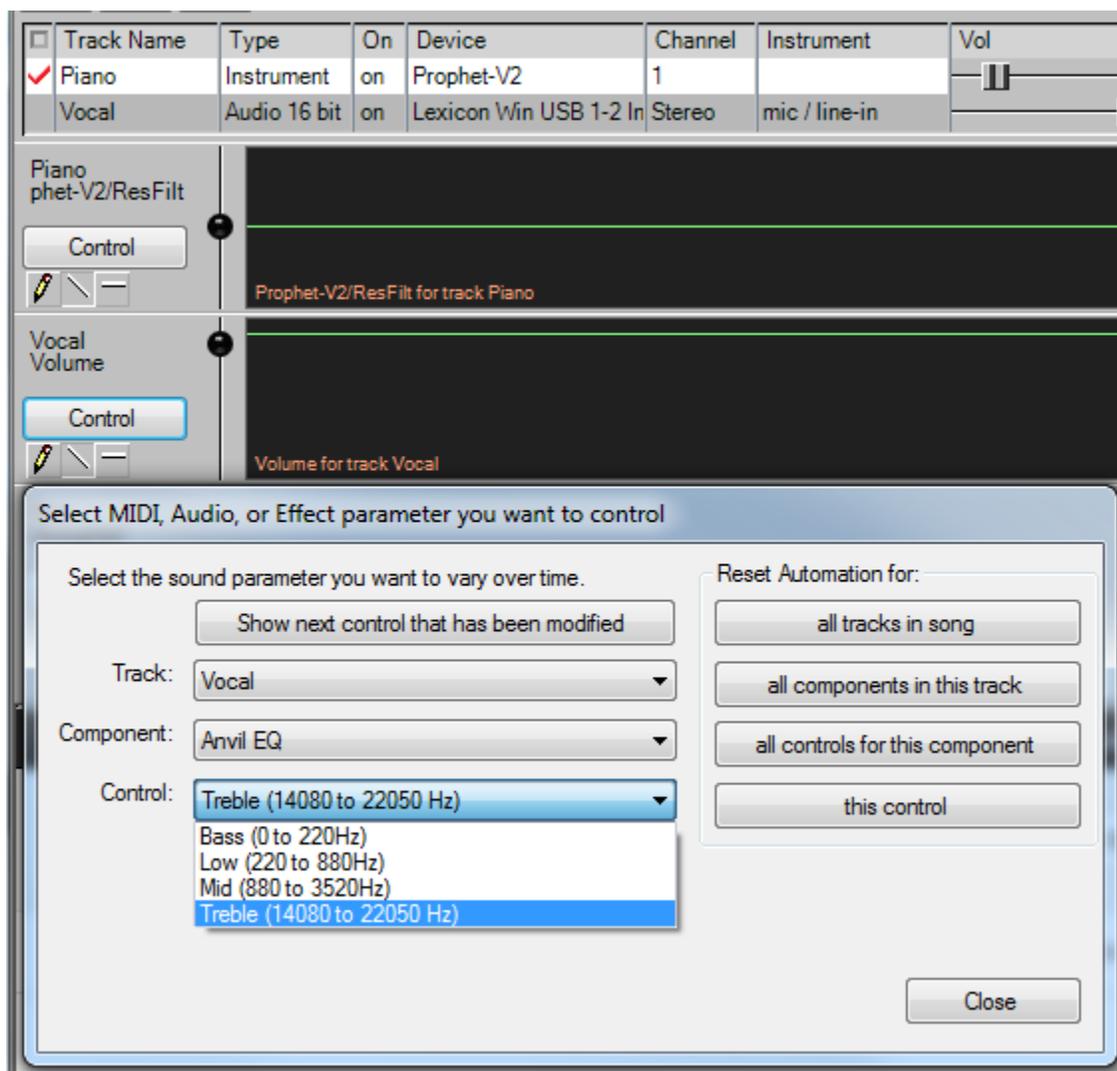
If you press the Shift key while dragging the mouse, the line will be kept horizontal. If you press the Pencil button below the Control button, you can draw free form. If you press the horizontal-line button below the Control button, it will prompt you to reset this parameter to a constant value.

## Recording and Editing Several Automation Parameters at the Same Time

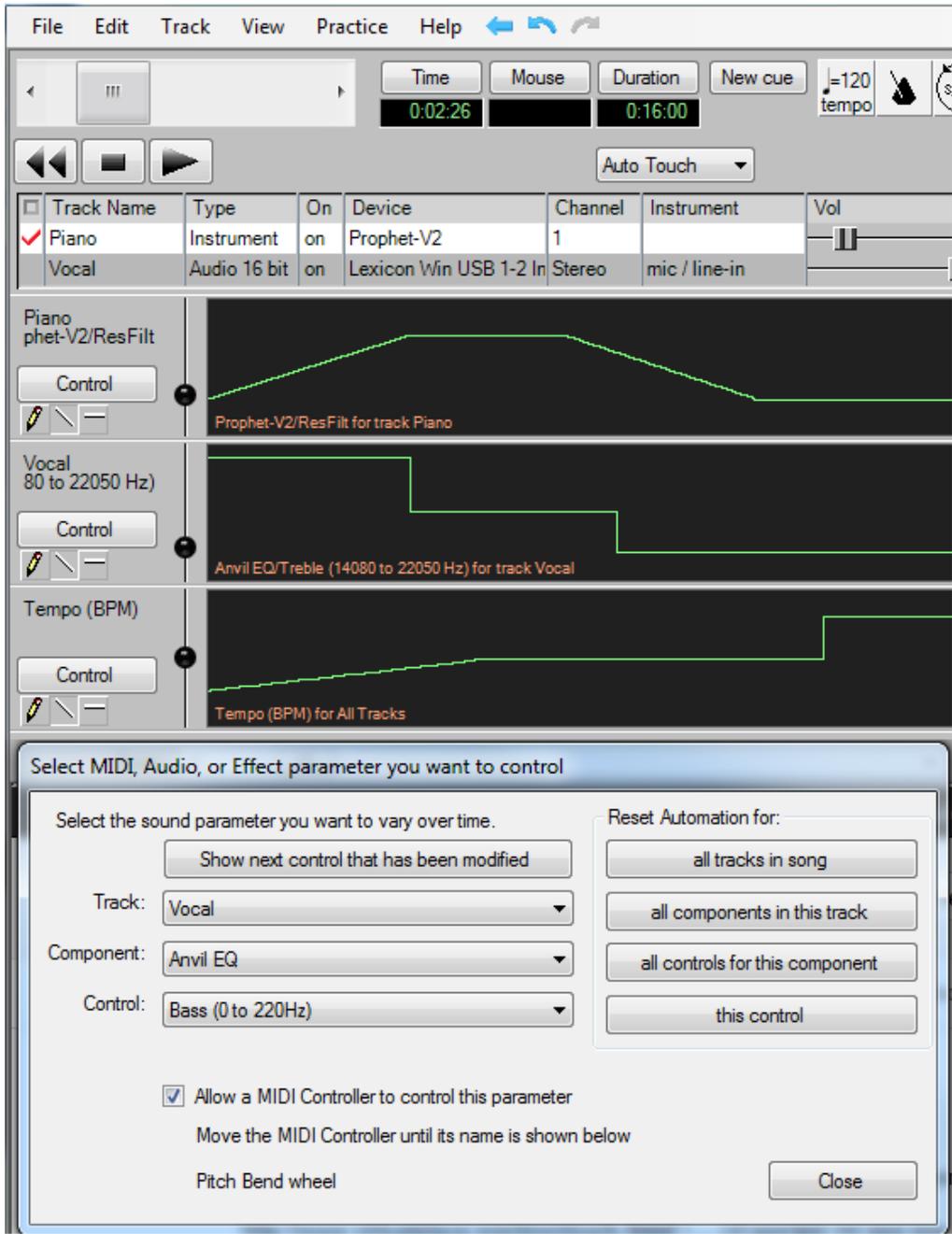
The **View / Mixer Automation** menu shows the Mixer Automation screen where you can edit & record up to 6 automation parameters at the same time. For example, you can edit the Volume for 6 different tracks, or you could edit the volume and Pan for 3 different tracks. The first screen shows adding the Prophet-V2 Virtual Synthesizer's **RezFilt** automation parameter.



This next screen shows adding the Treble EQ control for the Vocal audio track.



This next screen shows adding the Bass EQ control for the Vocal audio track, after a Tempo control was added, which affects all tracks.



Notice the checkbox at the bottom **Allow a MIDI Controller to control this parameter** is checked. That causes the prompt to appear Move the MIDI Controller... In this example, we touched the Pitch Wheel shown in the picture on the right, and its name appears on the screen. That means whenever we alter the pitch wheel, it won't change the song's pitch, but will alter the Vocal track's Bass EQ parameter while automation is being recorded.

Controlling this many automation parameters is made much easier with the addition of a USB Digital DAW Controller, such as the Tascam US-428 pictured below. Each of its 8 faders can be assigned to a different automation parameter.

