

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.

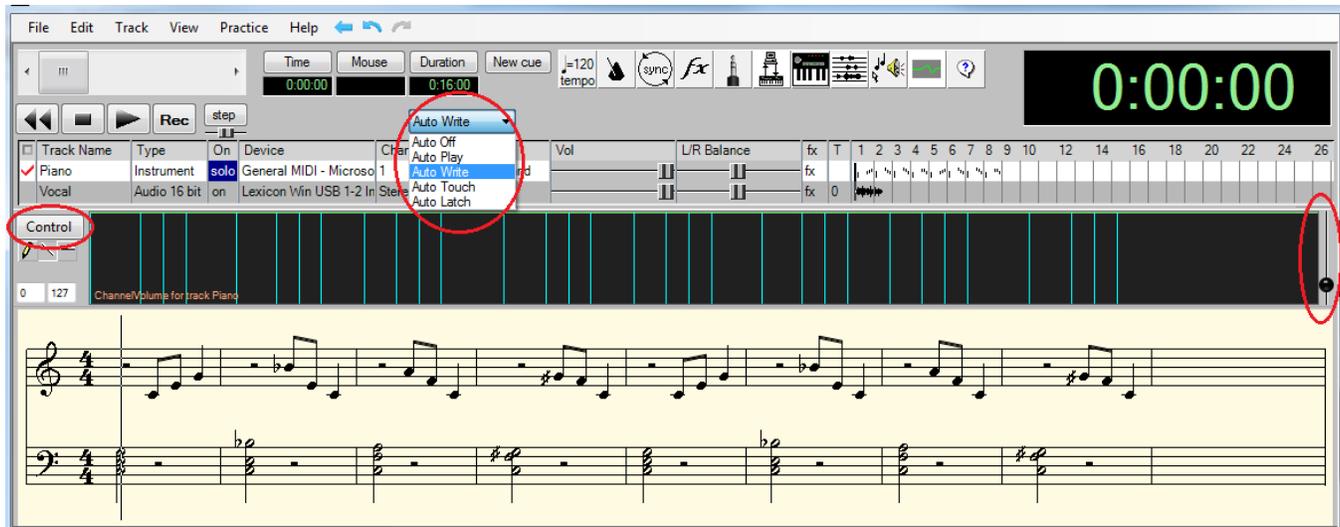
All changes made with mixer automation are *non-destructive*, that is, they do not modify the original sound. This means you can experiment, and then get back to the original sound if you don't like the change.

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.

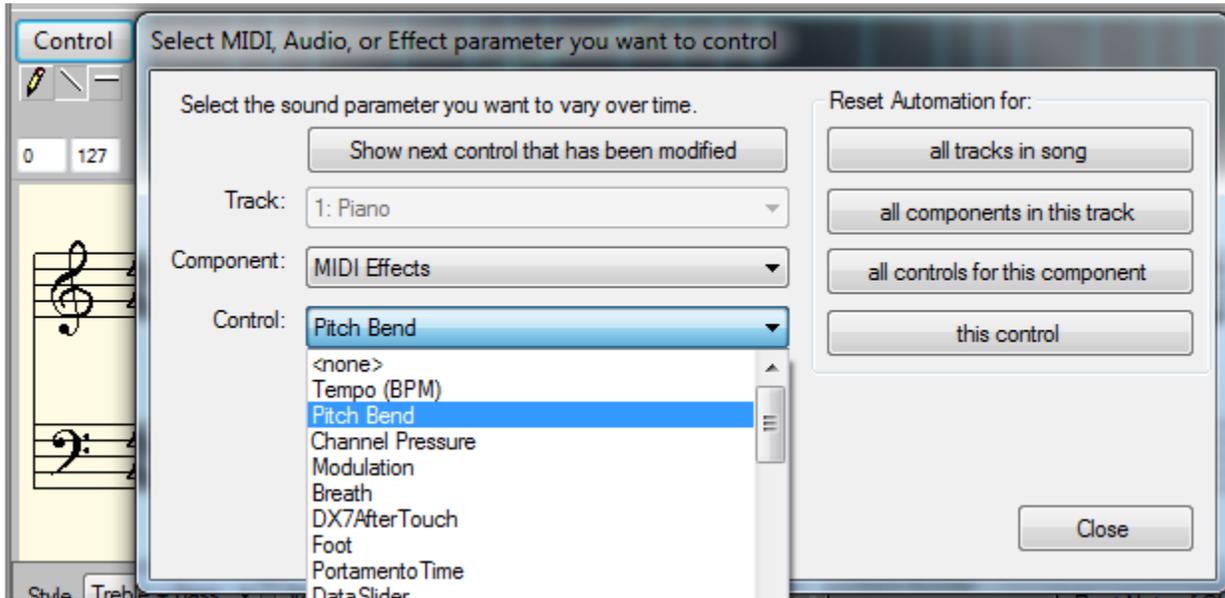
**Auto Play** - plays the song using saved automation values, but does not record new changes.

**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.

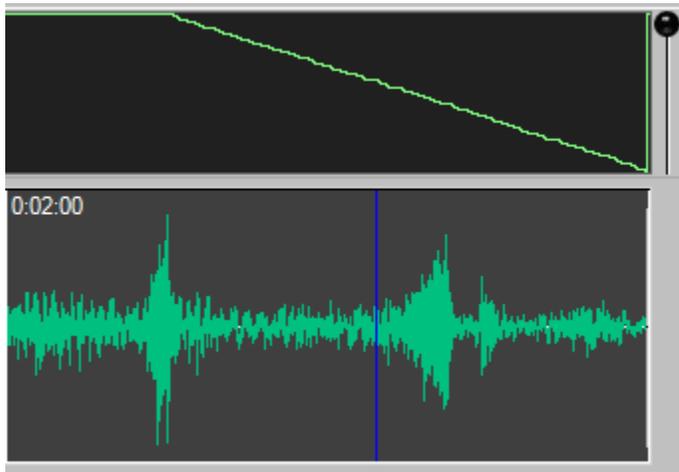
**Auto Touch** - is the same as Auto Write mode, but it starts recording changes to parameters as soon as the mouse button goes down on a control, and stops recording the values as soon as the mouse button is released.

**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.

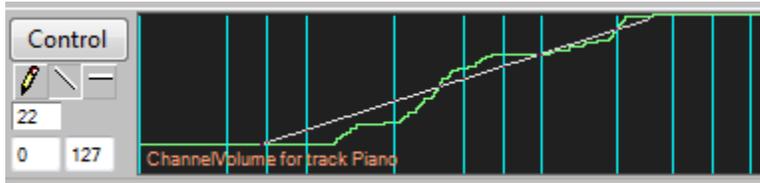


If an Audio track was active instead of a MIDI track, the screen would look like this. This shows a *fade-out*, where the track's volume is gradually reduced at the end of the song.

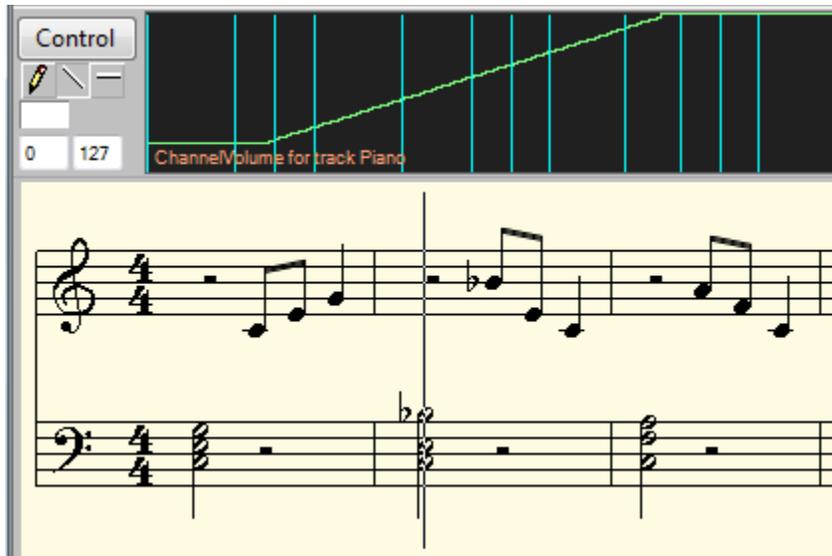


## Manually editing automation

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.



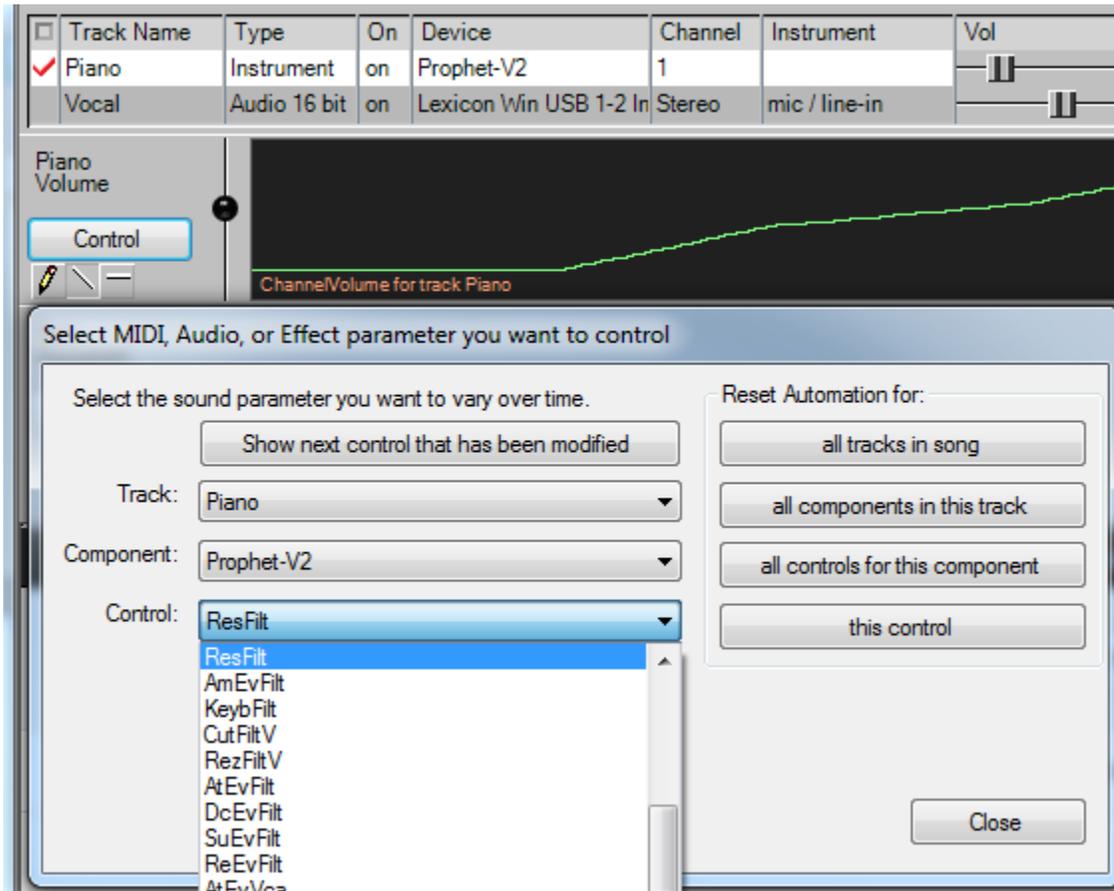
This picture above shows the screen while the mouse is still pressed after drawing the line. The picture below shows the same screen when the mouse is released.



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.

The screenshot displays a digital audio workstation interface. At the top, a track list table shows two tracks: 'Piano' (Instrument, Prophet-V2) and 'Vocal' (Audio 16 bit, Lexicon Win USB 1-2 In). Below the table, the Piano track's control panel is visible, showing a 'Control' button and a parameter 'Prophet-V2/ResFilt'. The Vocal track's control panel shows a 'Control' button and a parameter 'Volume for track Vocal'. A dialog box titled 'Select MIDI, Audio, or Effect parameter you want to control' is open in the foreground. It prompts the user to 'Select the sound parameter you want to vary over time.' and provides a 'Show next control that has been modified' button. The 'Track:' dropdown is set to 'Vocal', and the 'Component:' dropdown is set to 'Anvil EQ'. The 'Control:' dropdown is open, showing options: 'Bass (0 to 220Hz)', 'Low (220 to 880Hz)', 'Mid (880 to 3520Hz)', and 'Treble (14080 to 22050 Hz)'. The 'Treble' option is selected. To the right, the 'Reset Automation for:' section has four buttons: 'all tracks in song', 'all components in this track', 'all controls for this component', and 'this control'. A 'Close' button is located at the bottom right of the dialog box.

<input type="checkbox"/>	Track Name	Type	On	Device	Channel	Instrument	Vol
<input checked="" type="checkbox"/>	Piano	Instrument	on	Prophet-V2	1		
<input type="checkbox"/>	Vocal	Audio 16 bit	on	Lexicon Win USB 1-2 In	Stereo	mic / line-in	

Piano  
phet-V2/ResFilt  
Control  
Prophet-V2/ResFilt for track Piano

Vocal  
Volume  
Control  
Volume for track Vocal

Select MIDI, Audio, or Effect parameter you want to control

Select the sound parameter you want to vary over time.

Show next control that has been modified

Track: Vocal

Component: Anvil EQ

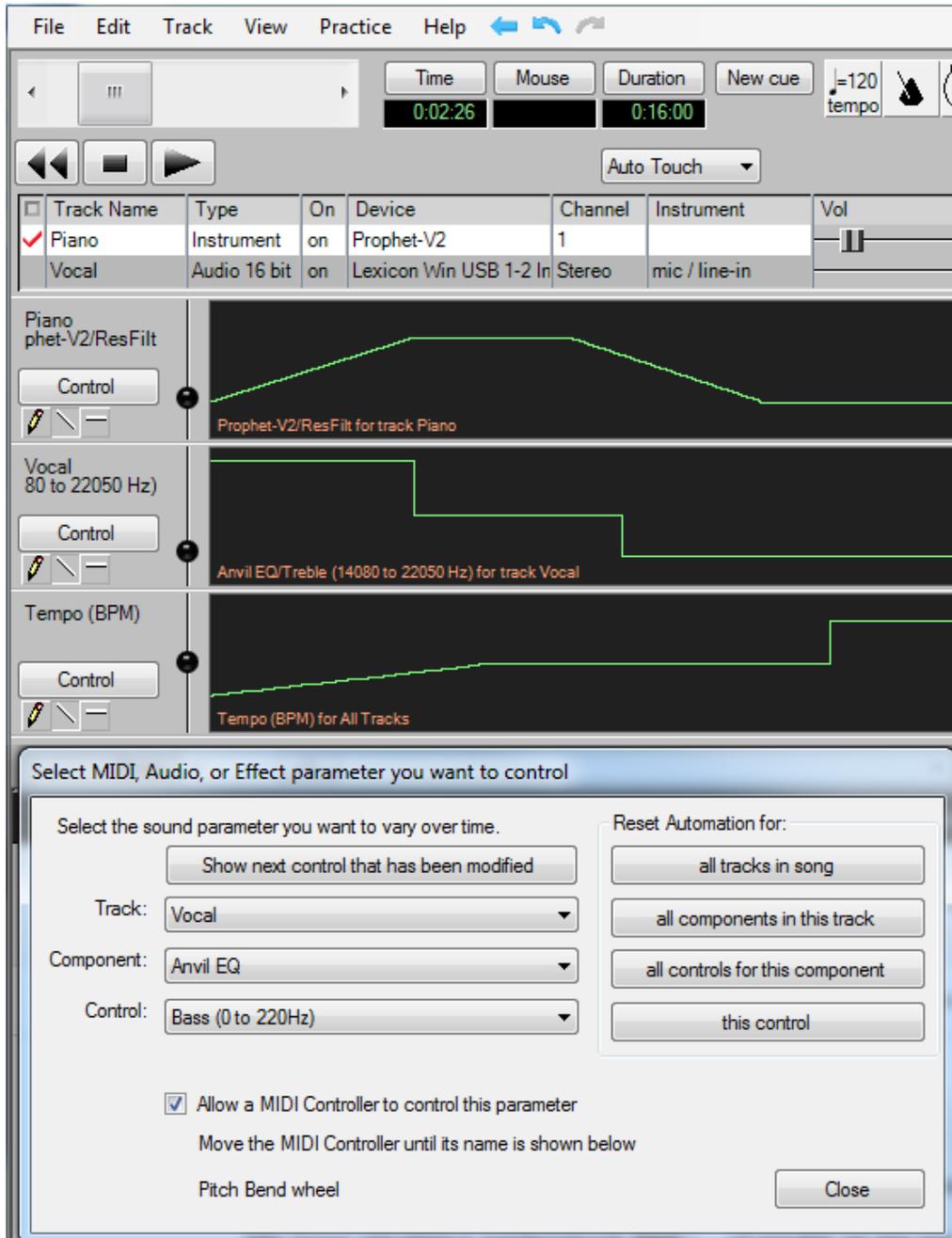
Control: Treble (14080 to 22050 Hz)  
Bass (0 to 220Hz)  
Low (220 to 880Hz)  
Mid (880 to 3520Hz)  
Treble (14080 to 22050 Hz)

Reset Automation for:

all tracks in song  
all components in this track  
all controls for this component  
this control

Close

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.

