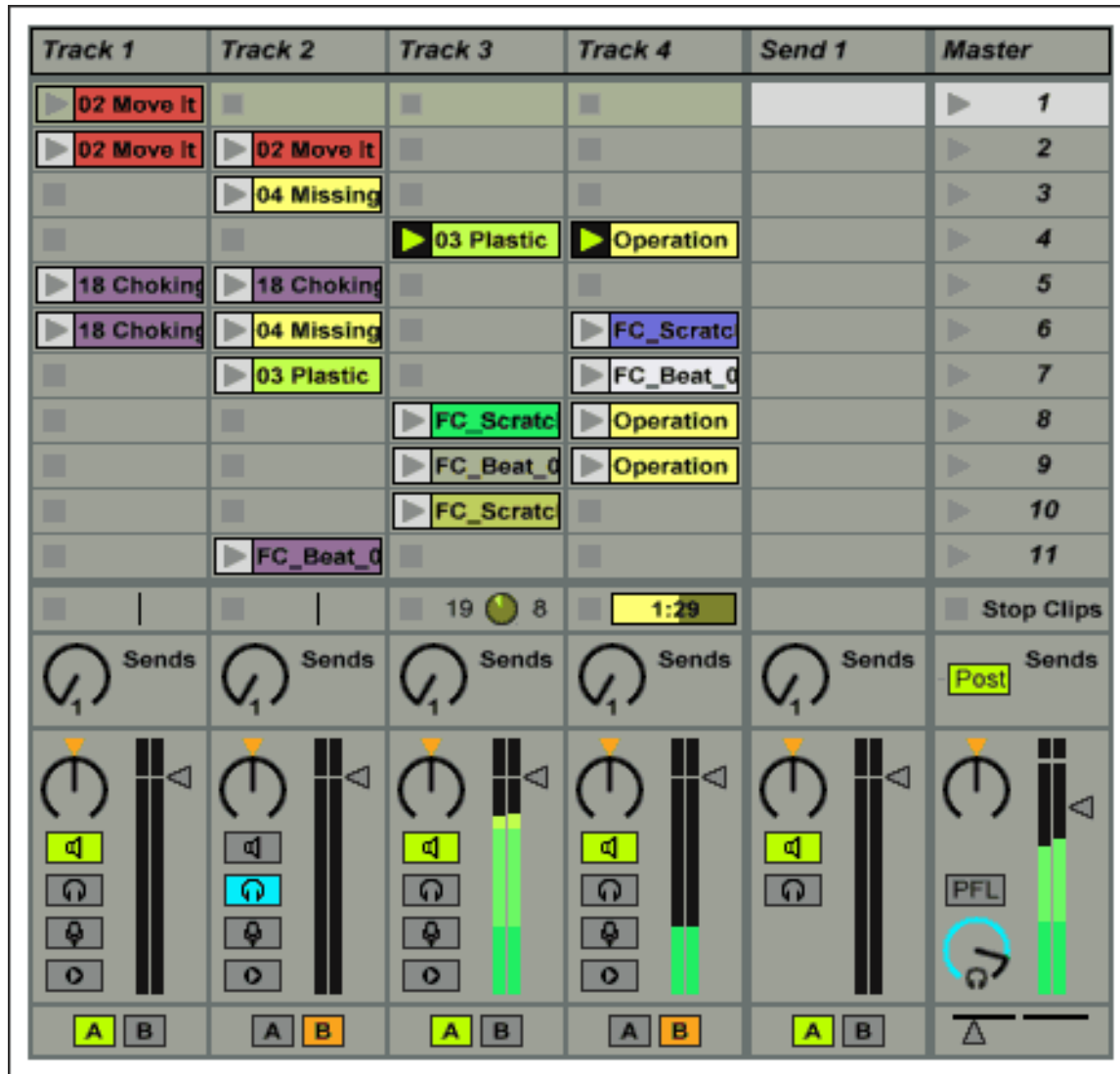


DJing with Live 3: Fifty Turntables and a Microphone

Live has won a special place in the hearts of many DJs by offering an array of creative mixing and beat-matching possibilities. By simply filling your laptop's hard drive with music and exploring Live's Session View, you'll soon discover that Live offers unparalleled possibilities for both professional DJs and beginners alike.



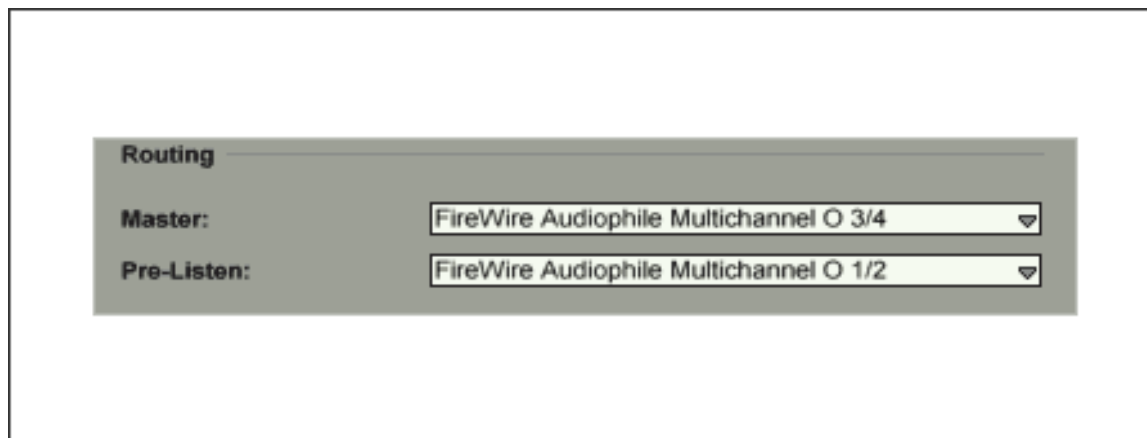
In this month's Tips & Tricks, we will explore how to set up DJ-essential features such as pre-listening, EQ Three and the crossfader, then look at how Live works in the context of a DJ set.

Bring up the Mix: Pre-Listening

Pre-listening allows you to privately cue your music through headphones as you would when using a DJ mixer. In order to accomplish this, you need a multi-channel audio interface with at least four dedicated outputs (or two dedicated stereo outputs).



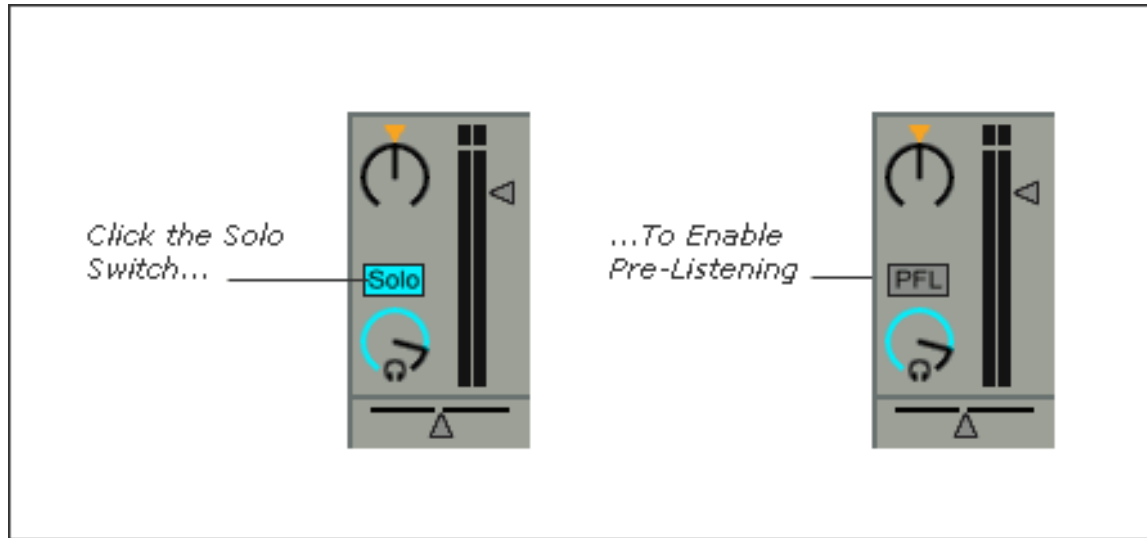
The new M-Audio FireWire Audiophile audio interface was used for this tutorial, however any audio interface with enough outputs will work. The Pre-Listening output is set in Live's Preferences Audio tab, in the Routing section, as shown in the figure below.



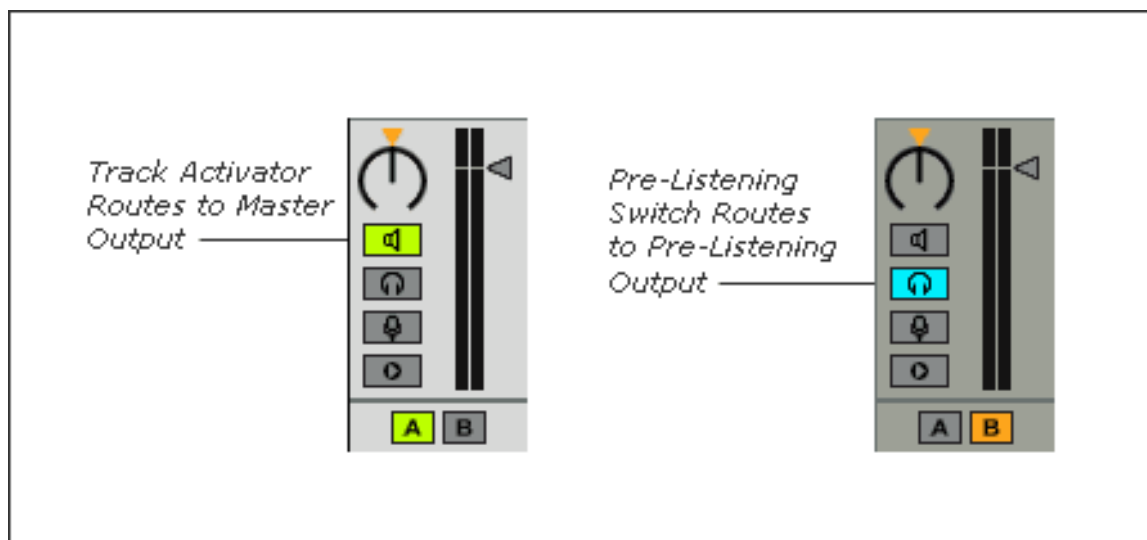
The Master output routing is the output you hear at the Master track (outputs 3/4 in this case). The Pre-Listen output is reflected on an additional pair of outputs from your audio interface. In the figure above, we are pre-listening on channels 1/2.

Note: If the headphone jack on your audio interface is hardwired to a particular pair of outputs, such as 1 and 2, it is a good idea to use this as the Pre-Listening output. Otherwise you will need an adapter to merge the left and right outputs to a stereo headphone connector.

Once pre-listening is set up in the preferences, look at the Master track above the Pre-Listening Volume knob, and set the Solo/PFL switch to PFL.

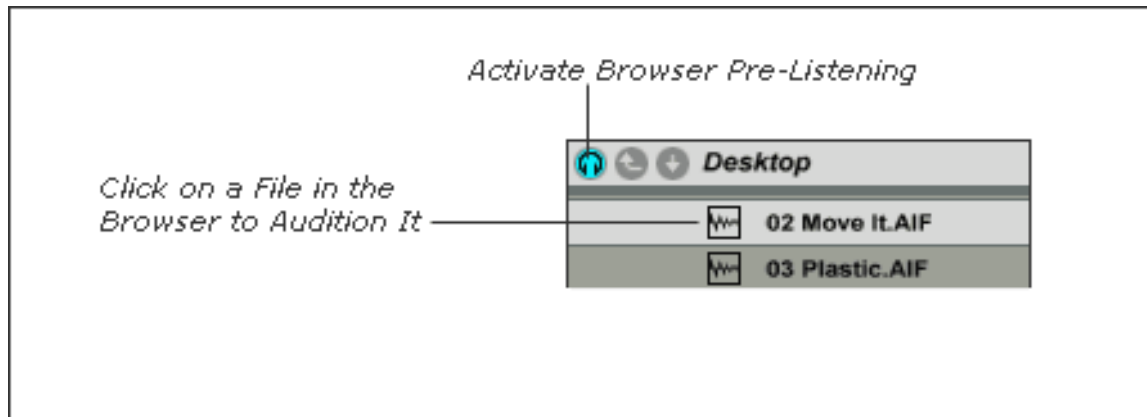


In the Session View tracks, a headphone icon will appear in place of the Solo switch (shown below right). This is the Pre-Listening switch and, when activated, routes a track to the Pre-Listening output. The switch with the speaker icon (the Track Activator switch) above the Pre-Listening switch routes the track to the Master output (shown below left).

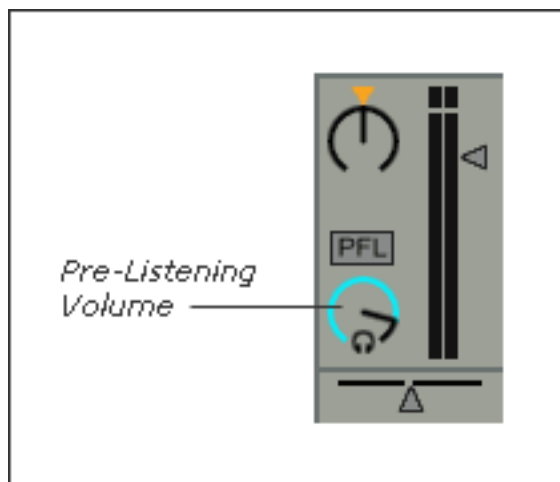


Switching off the Track Activator switch and enabling the Pre-Listening switch allows you to privately audition or cue a track without it being heard over the Master output. If both the Track Activator and the Pre-Listening switches are enabled, the track will be audible over the Master output and the Pre-Listening output.

You can also activate pre-listening of audio in Live's File Browser by clicking on the headphone icon as shown below. Pre-listening of audio in the File Browser is routed to the Pre-Listening output so you can privately browse and audition the music on your hard drive.



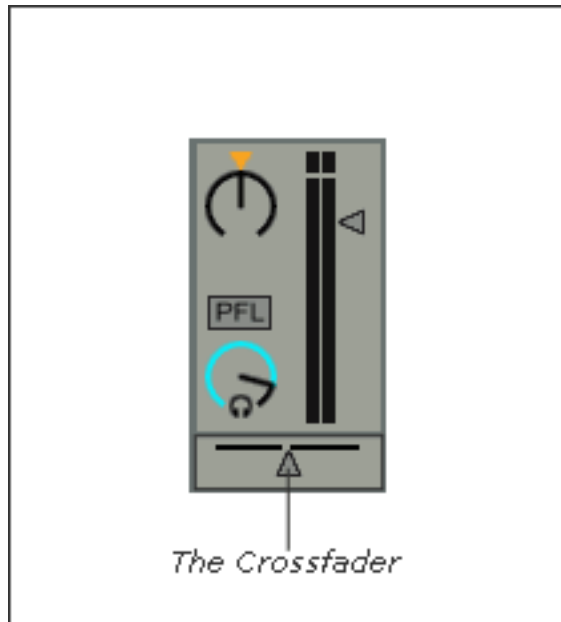
The pre-listening volume can be adjusted with the Pre-Listening Volume knob located in the Master track.



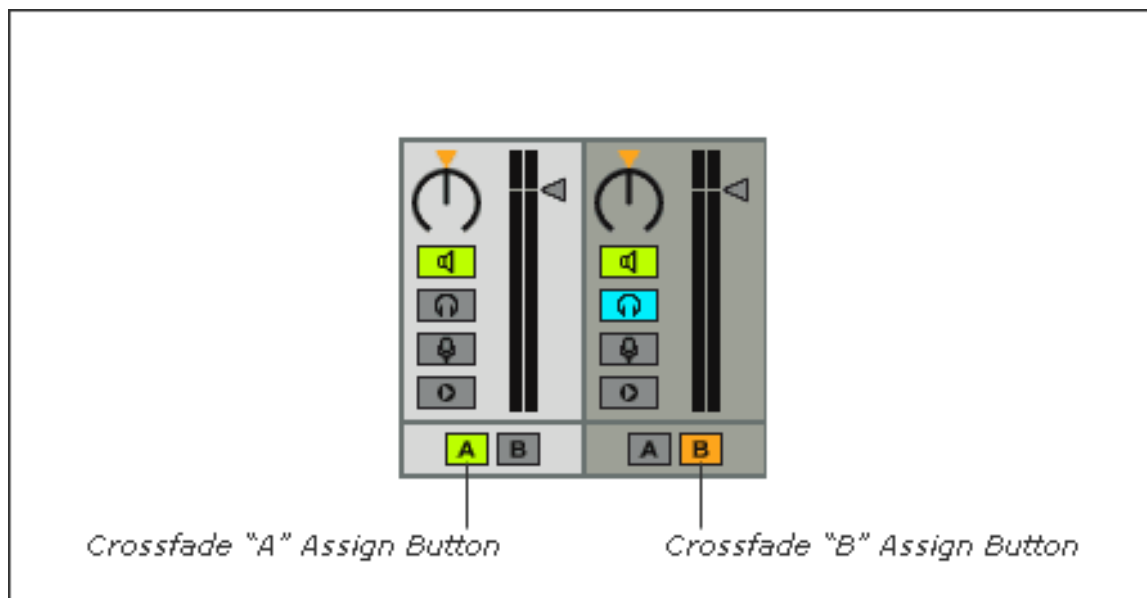
It's All About the Fader: The Crossfader

The crossfader is a very important part of the DJ mixer. Crossfading allows the DJ to smoothly (or abruptly) transition between songs with a single movement. Live's crossfader is located at the bottom of the Master track in the Session View.

Note: If you cannot see the crossfader, go to the View menu and make sure the "Crossfader" option is checked.

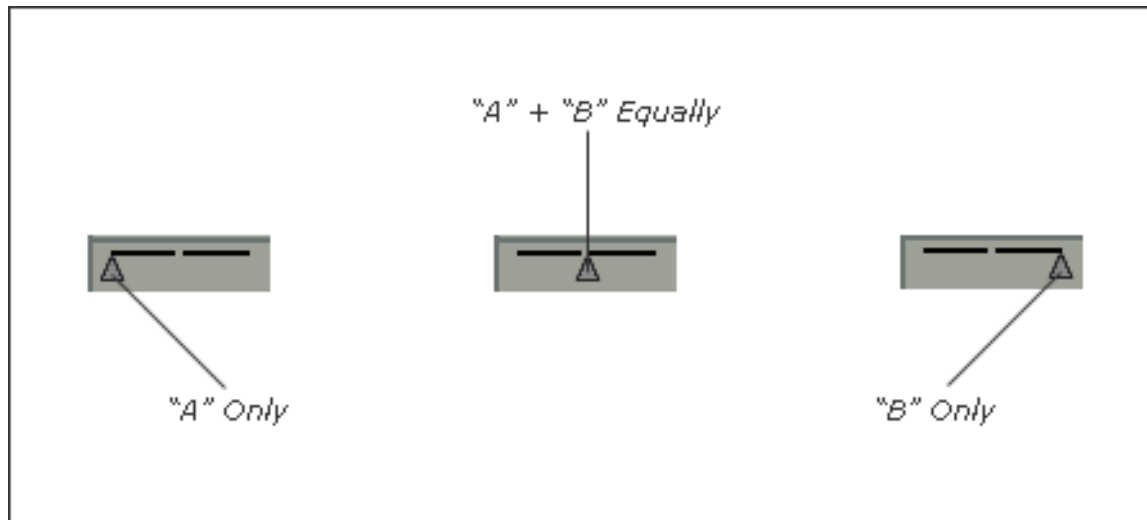


Each track in Live can be assigned to the crossfader using the A/B Crossfade Assign buttons located at the bottom of the track controls.



When the crossfader is moved all the way to the left, tracks assigned to "A" are audible through the Master output and tracks assigned to "B" are not. The opposite effect is achieved when the crossfader is moved all the way to the right.

If the crossfader is in the center position, tracks assigned to "A" and "B" will be mixed equally.

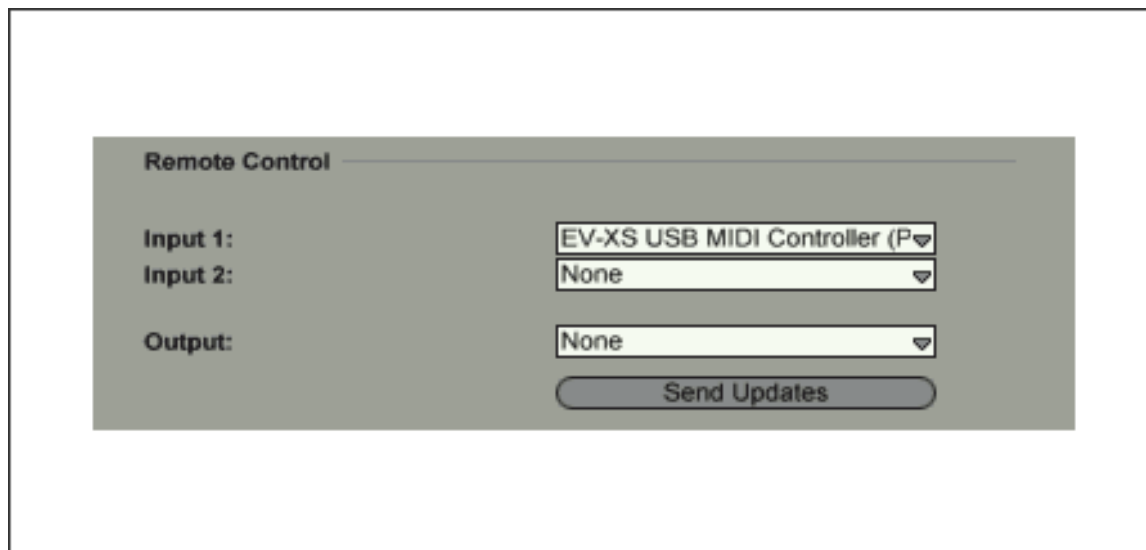


The mouse can be used to control the crossfader, but for a more hands-on approach, use a MIDI controller with faders or even knobs. I often use an Evolution X-Session MIDI controller, which actually has a crossfader built in.

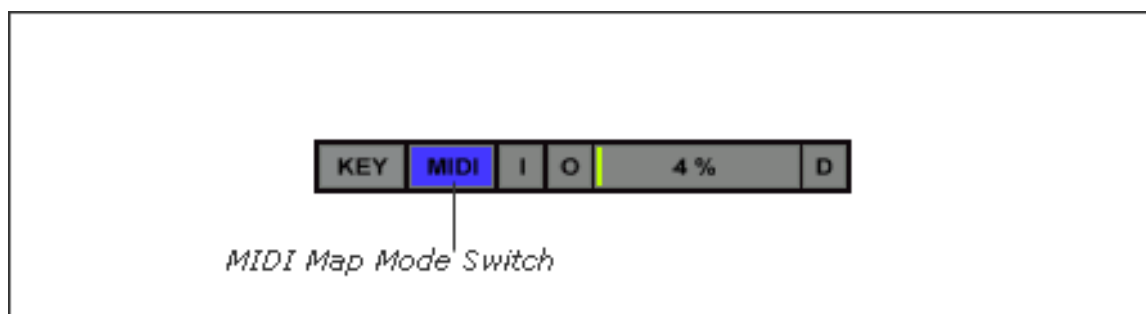


Assigning a MIDI control in Live is very simple.

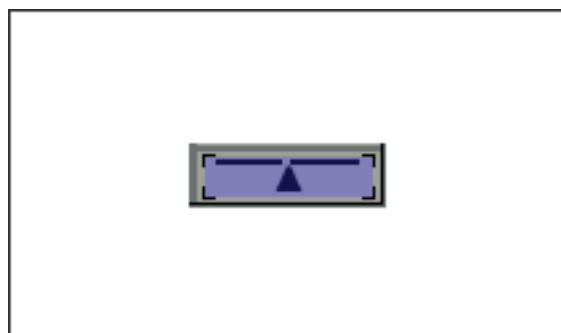
First, select your MIDI controller in the Preferences MIDI/Sync tab's Remote Control section as shown below.



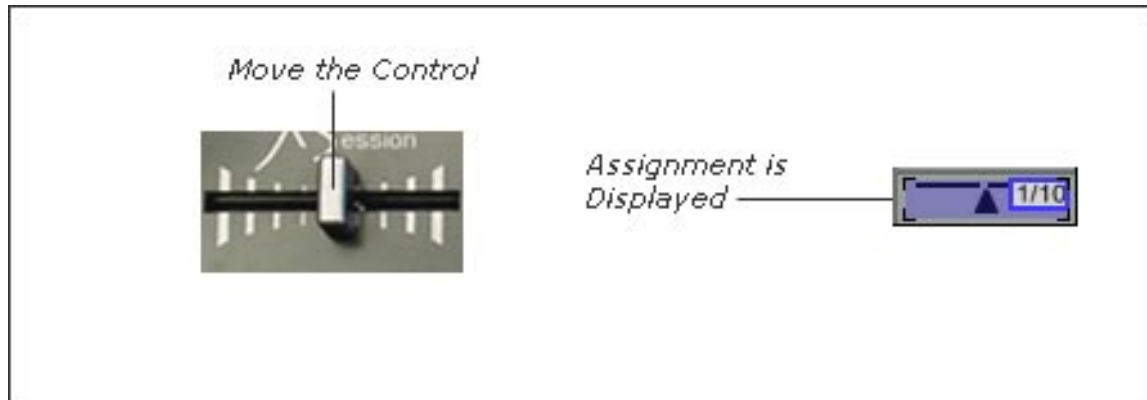
Next click the MIDI Map Mode switch.



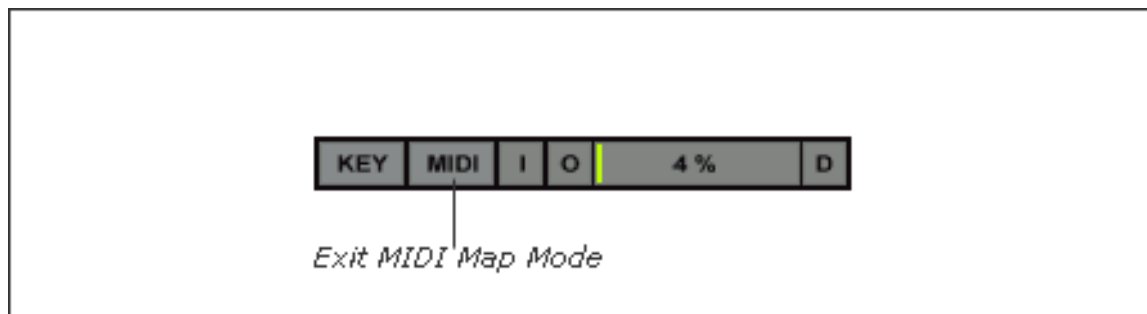
Click on the crossfader to select it.



Move the MIDI control you would like to assign to the crossfader. You will notice that the crossfader now displays the MIDI channel/C.C. number of the control you have assigned.



Click the MIDI Map Mode switch again to complete the assignment and exit MIDI Map Mode.

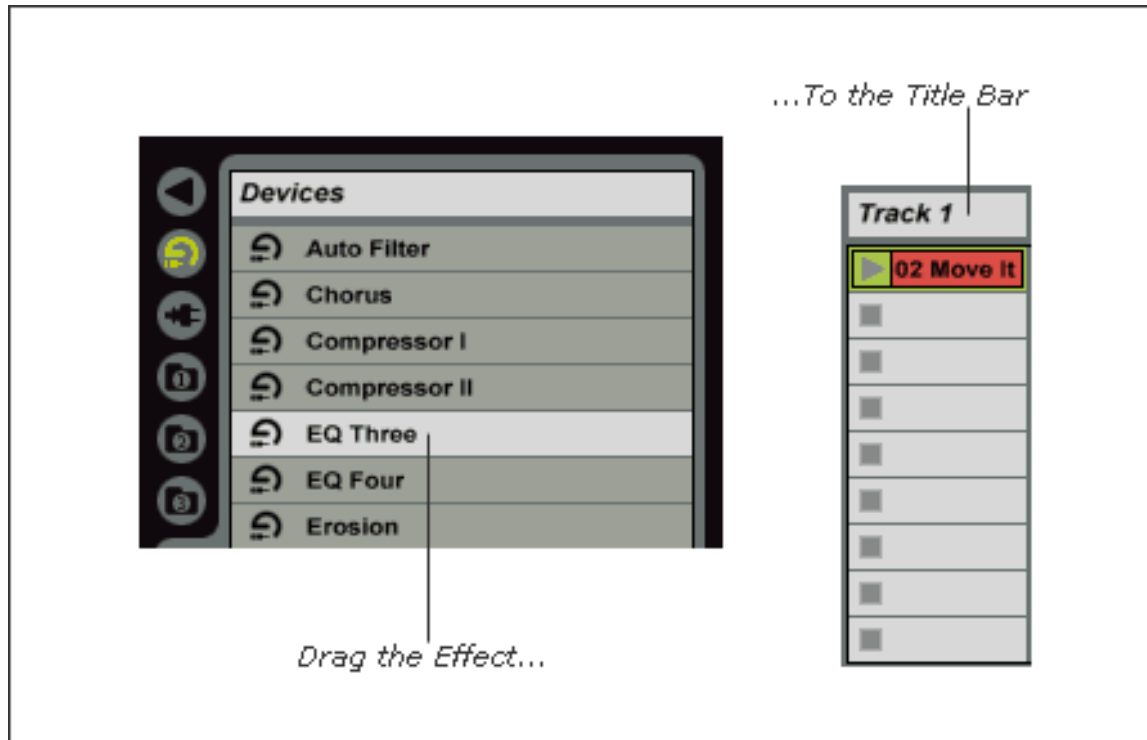


The crossfader is now assigned to your MIDI controller, allowing you to execute massive DJ maneuvers instantly.

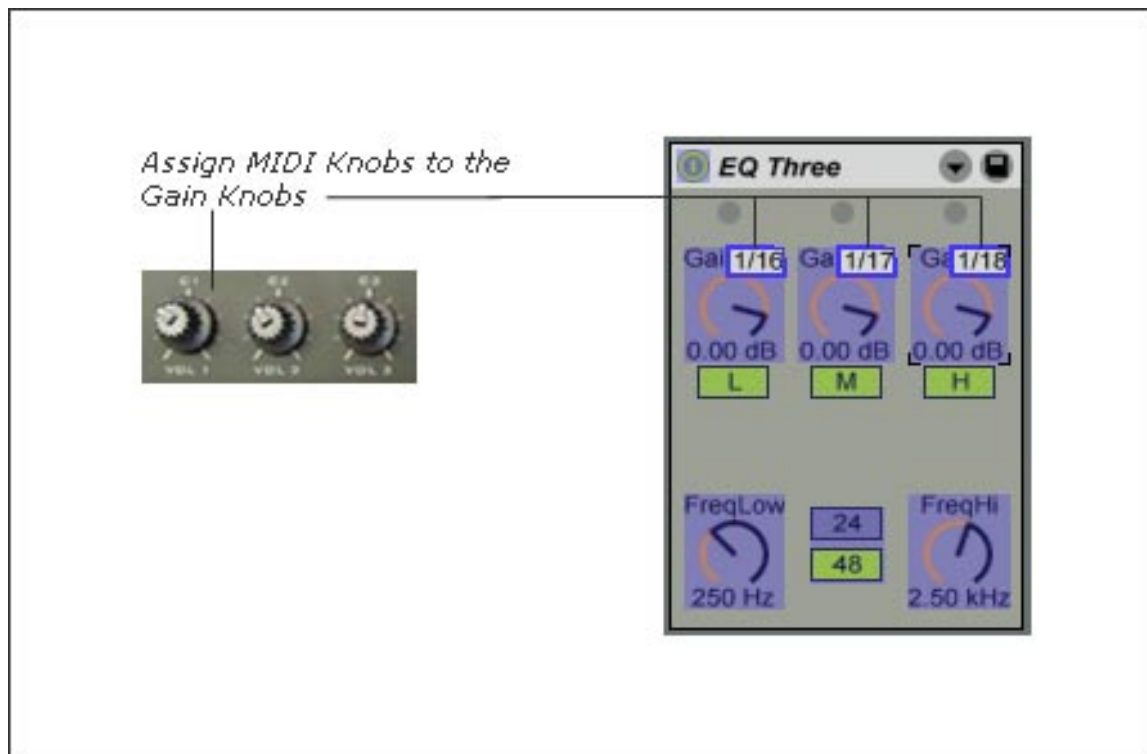
Me and My EQ Three

EQ Three is one of Live's most essential DJ effects. Most DJ mixers have an EQ section to boost and attenuate the low, mid and high frequencies for each channel. EQ Three is Live's DJ-mixer EQ section.

To add EQ Three to a track, drag it from the Live Effects Browser to the title bar of the desired track(s).

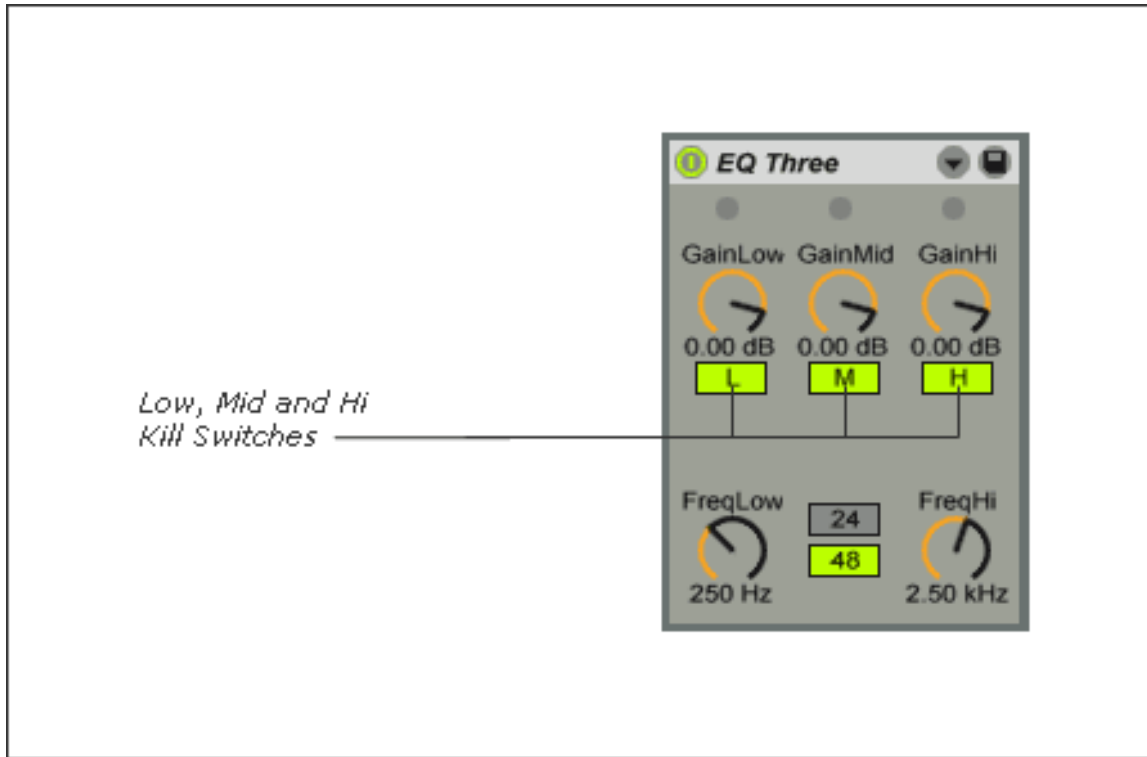


If you are working with a MIDI controller, you can create a more realistic DJ-mixer feel by assigning the frequency gain controls of EQ Three to the knobs of your controller.

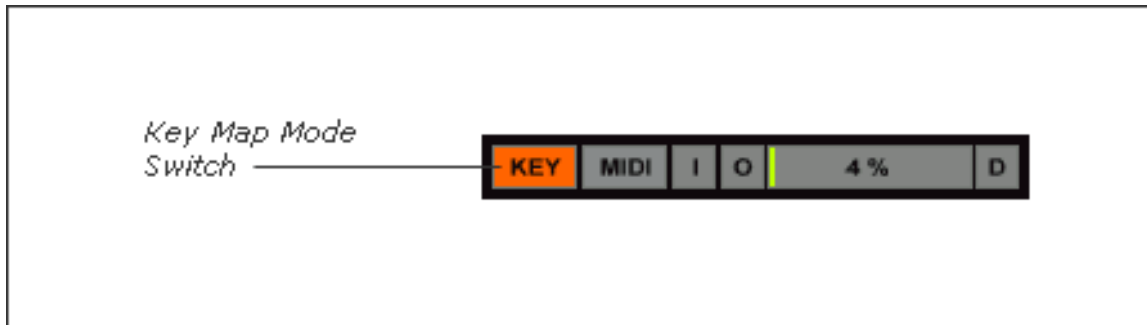


Let's say that you have a mix that requires you to instantly cut the low and mid frequencies of one track and the highs of the other. You may find that you have a shortage of hands to perform this maneuver. Some DJ mixers offer on/off buttons, commonly referred to as "kill switches," for each EQ frequency

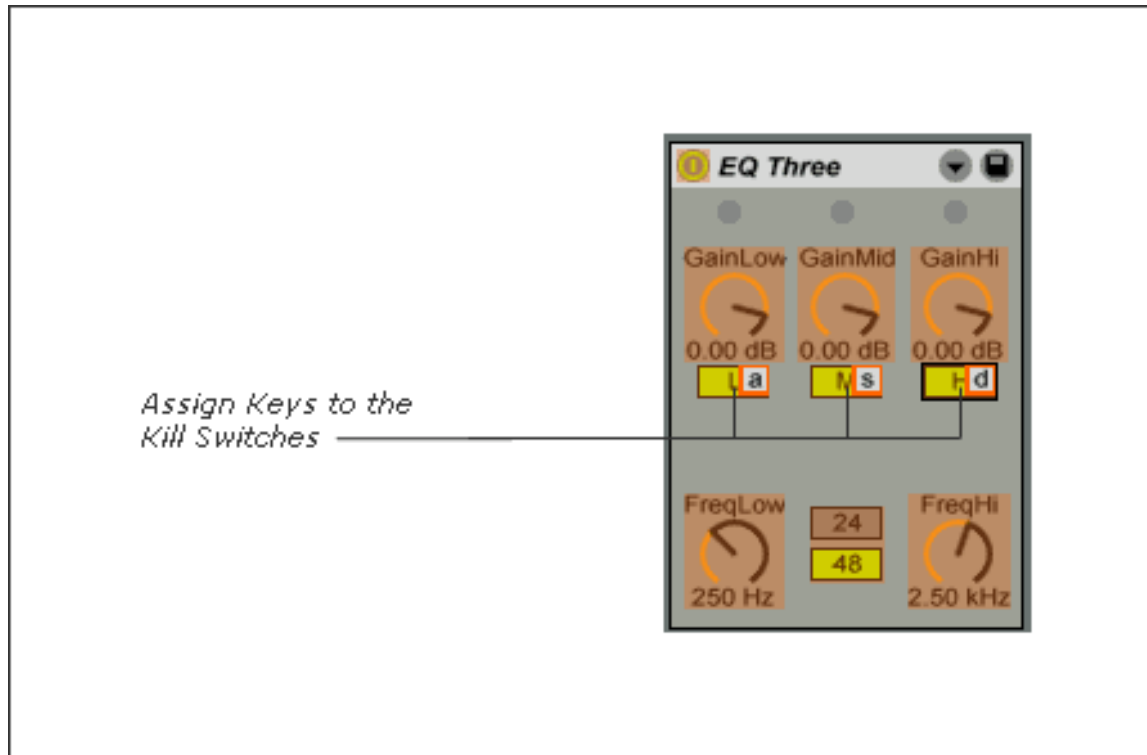
band. EQ Three also has on/off buttons for its three frequency bands, allowing you to independently mute or “kill” frequencies for the track with the press of a button.



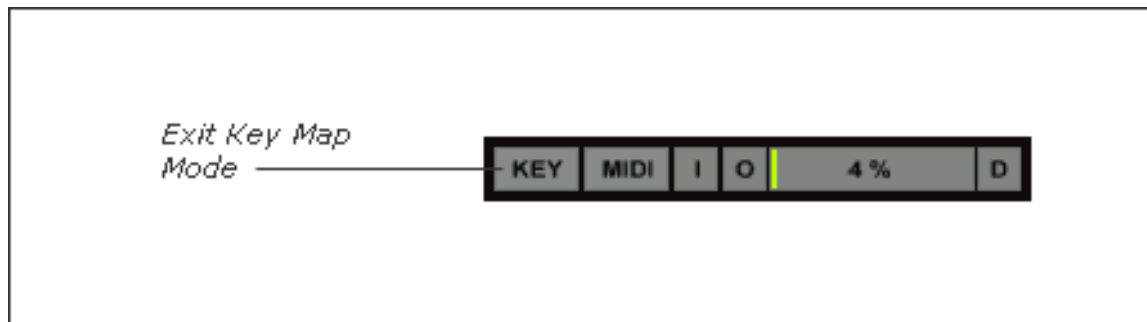
One trick is to assign the on/off buttons to the keys on your computer keyboard. To do this, enter Key Map Mode by clicking the Key switch as shown in the figure below.



Click one of the on/off buttons and then press a key on your computer keyboard. Select the other on/off buttons and assign them to different keys on the keyboard.



When you have made all assignments, click the Key switch to exit Key Map Mode.

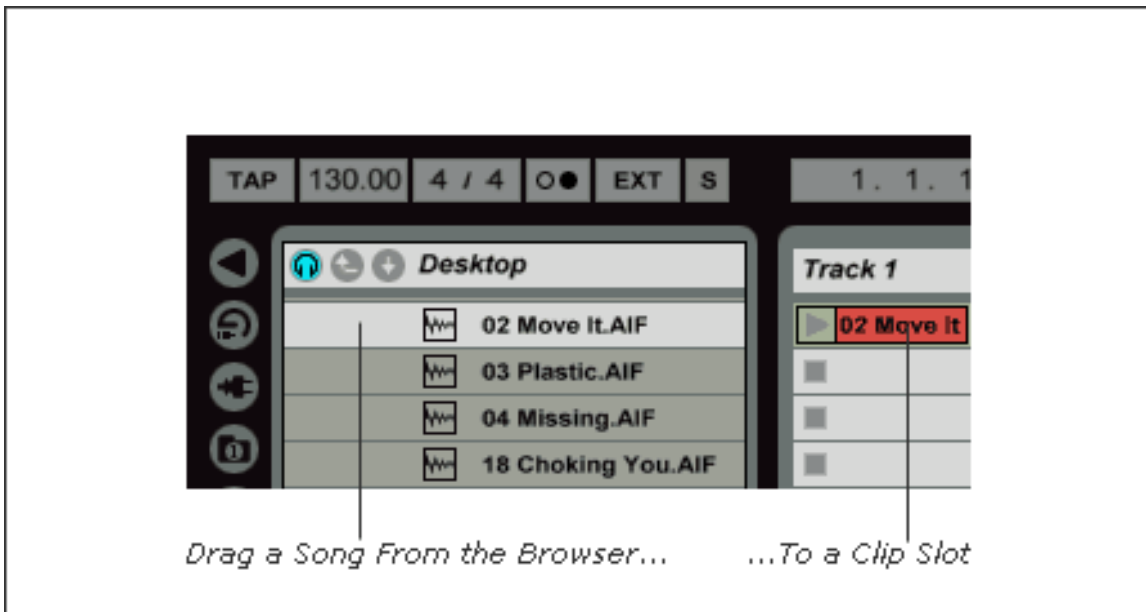


EQ Three gives added flexibility in mixing tracks together. Cutting the low frequencies of one track and the high frequencies of another, for example, could bring a mix together by eliminating conflicting frequency ranges.

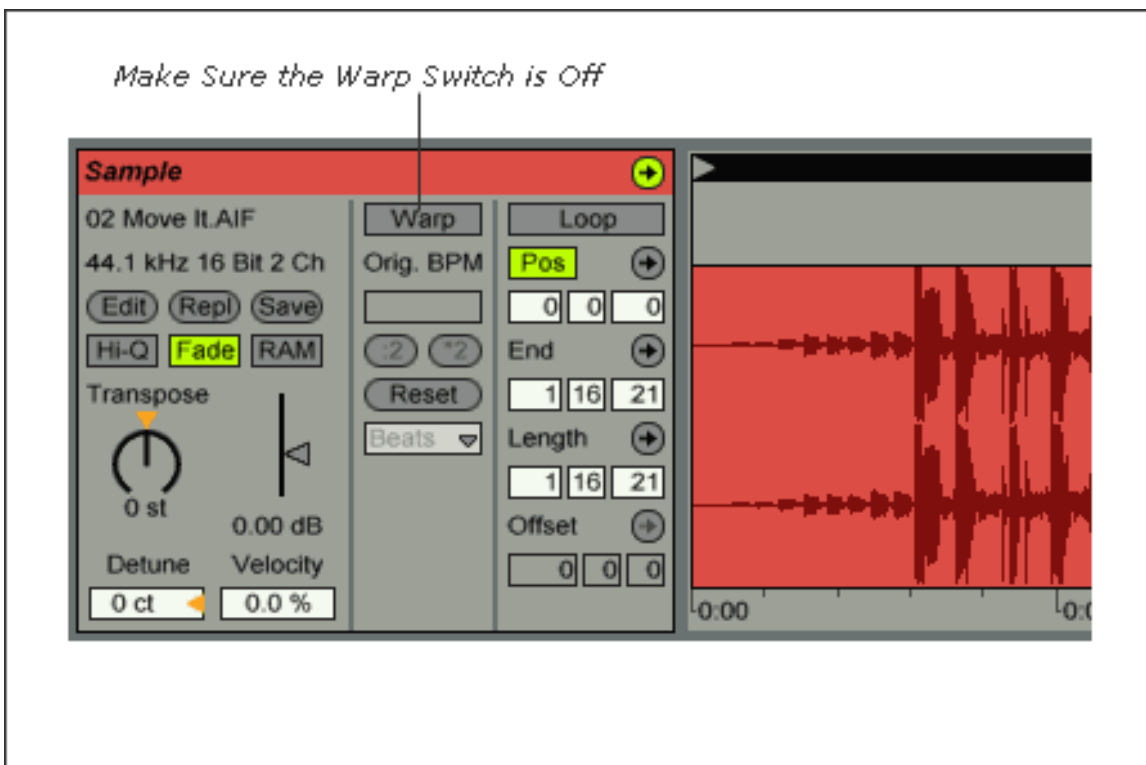
Warping the Beat, Not Your Records

Warping is how Live stretches or “pitches” the music to match the current tempo of the Live Set. When your music is properly warped, there is no longer any need to worry about tempo. With properly warped songs, you can simply drag any number of them into Live, and they will all be automatically beat-matched. Warp an entire song by following these steps:

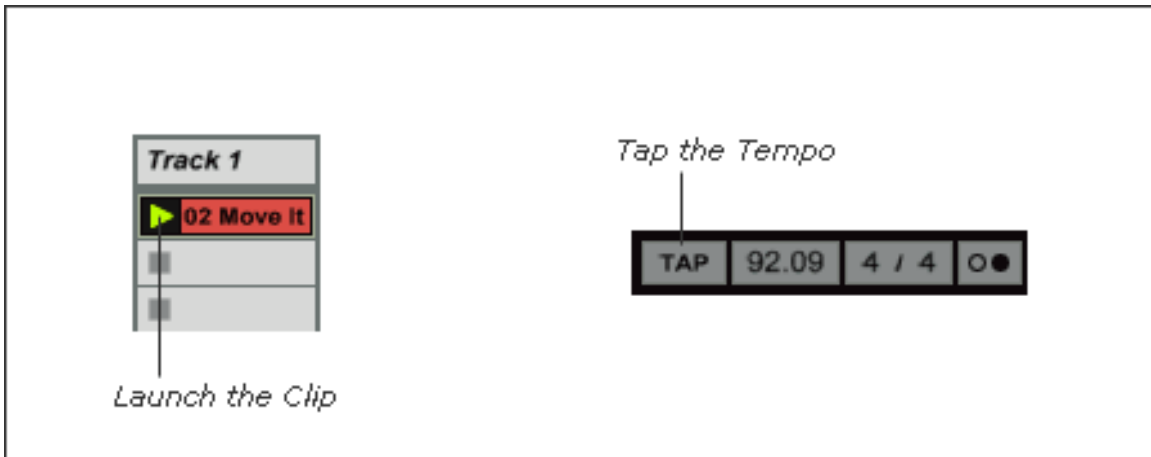
1. Drag a song from the File Browser into a Session View clip slot.



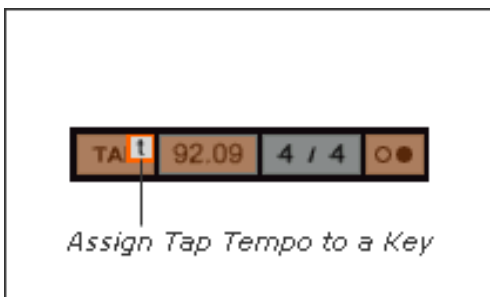
2. Double-click on the clip to bring up the Clip View. Make sure that the Warp switch is off.



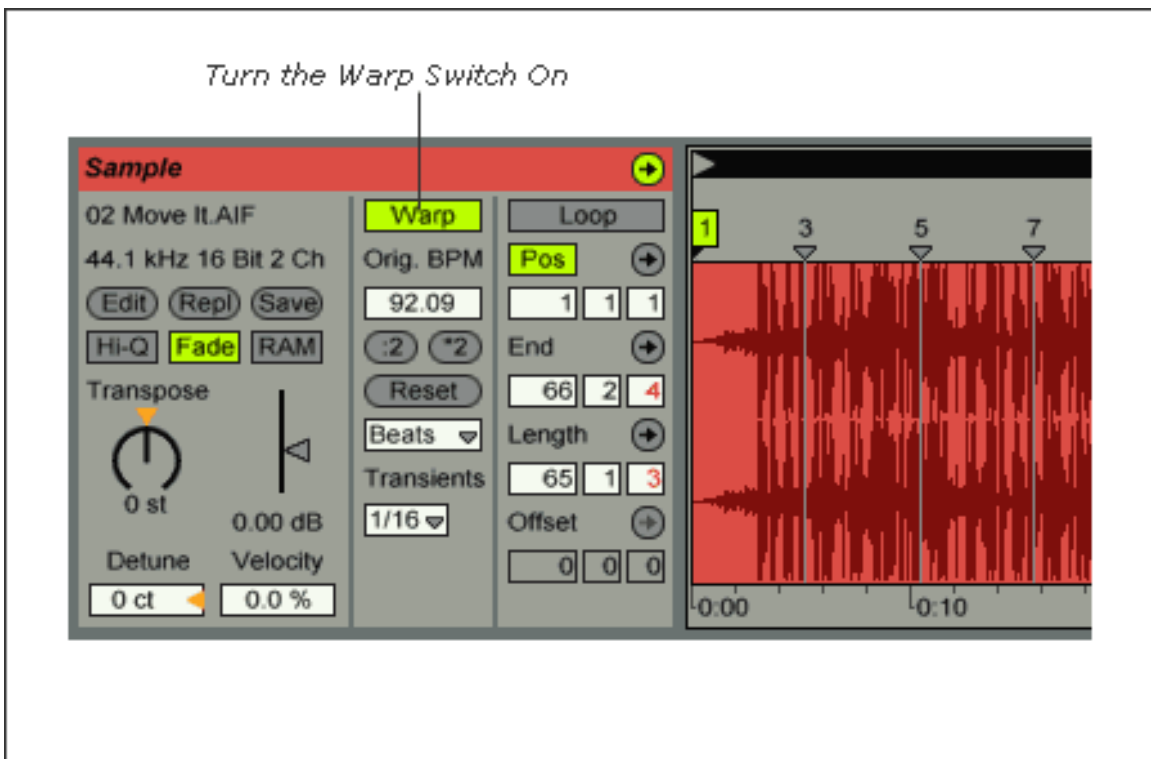
3. Launch the clip and use the Tap Tempo button to tap along with the beat of the song for a few bars.



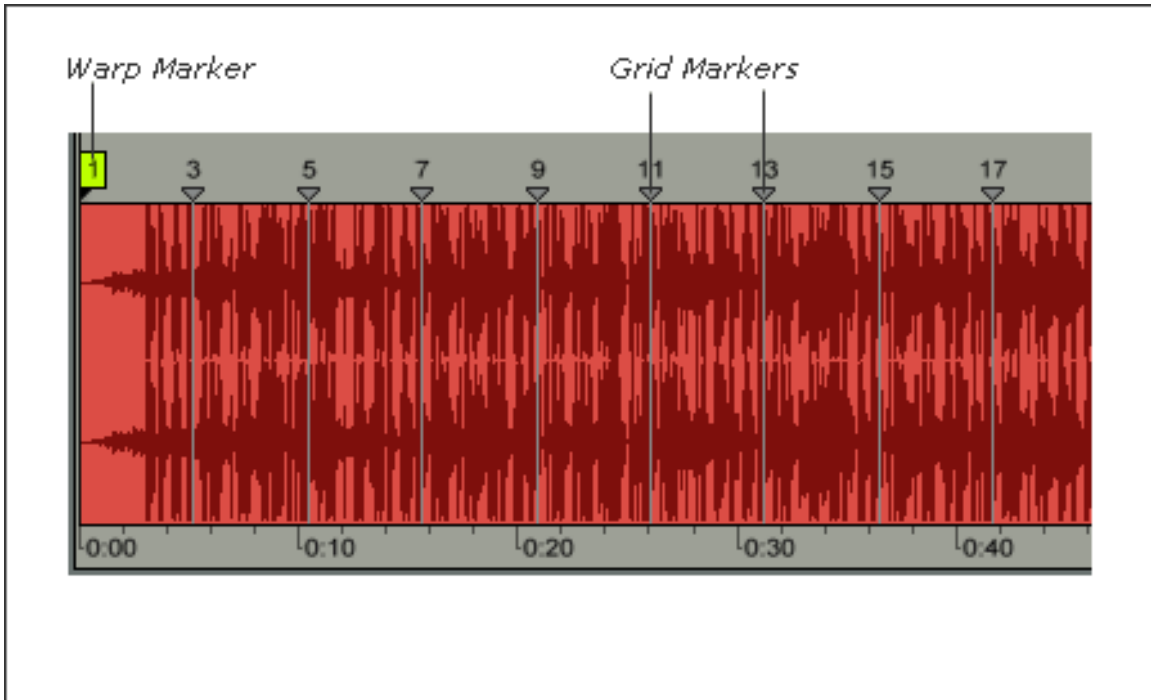
4. You may find it easier to tap your song's tempo by assigning the Tap Tempo button to a computer key.



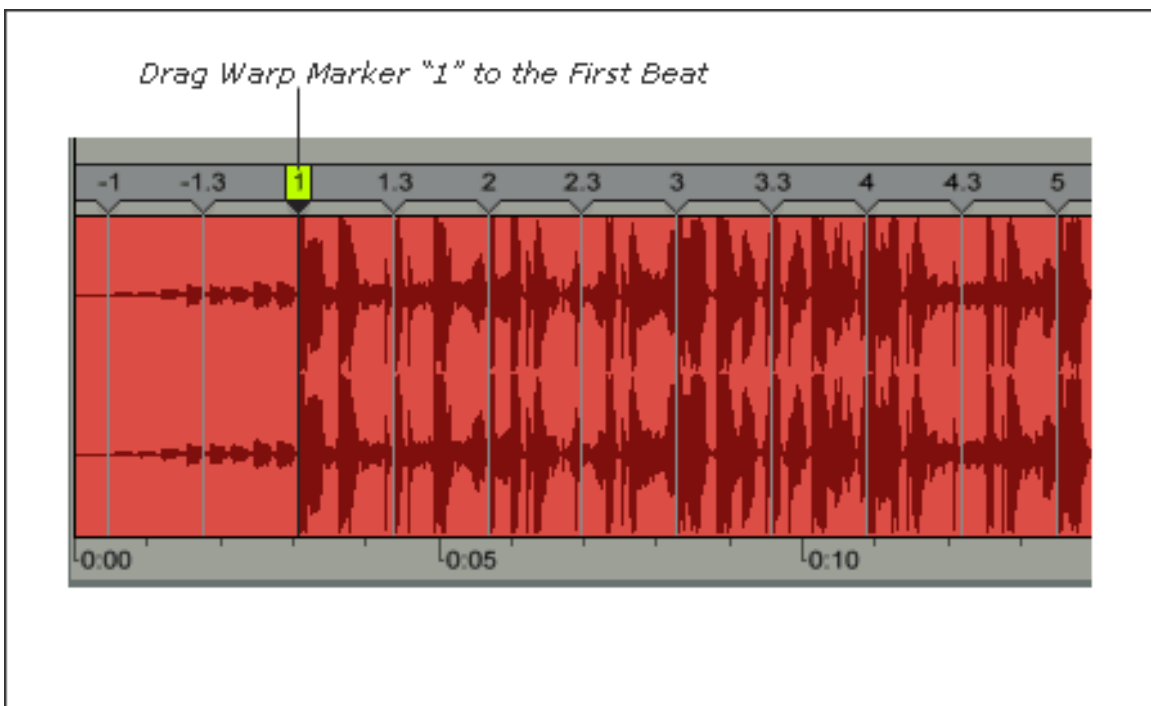
5. After tapping the tempo, turn on the Warp switch for the clip.



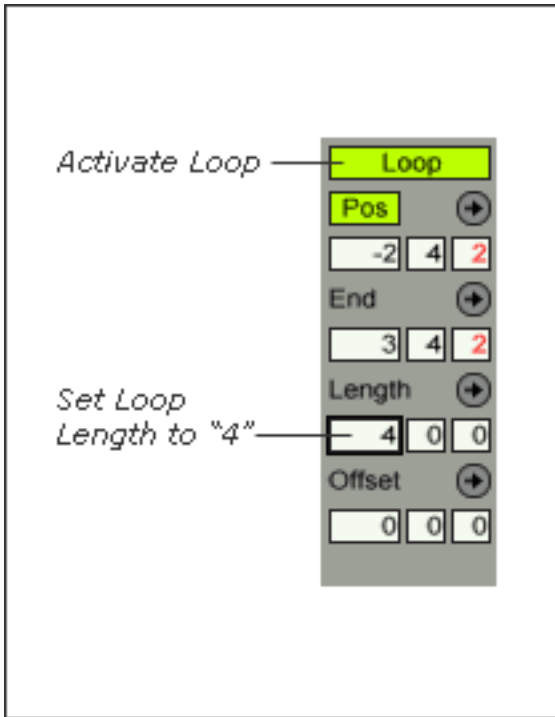
6. You will notice numbered markers above the waveform display. These markers determine the bars and beats for how Live's warping engine plays back the song. The first marker, which is green, is called a Warp Marker. The other markers are grid markers.



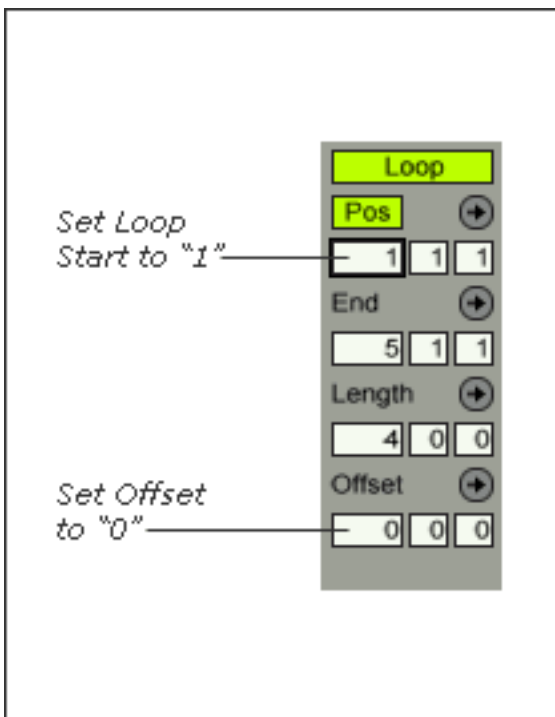
7. Drag Warp Marker "1" to the first significant downbeat of the song. This is usually easier to find once the beat really starts to kick in.



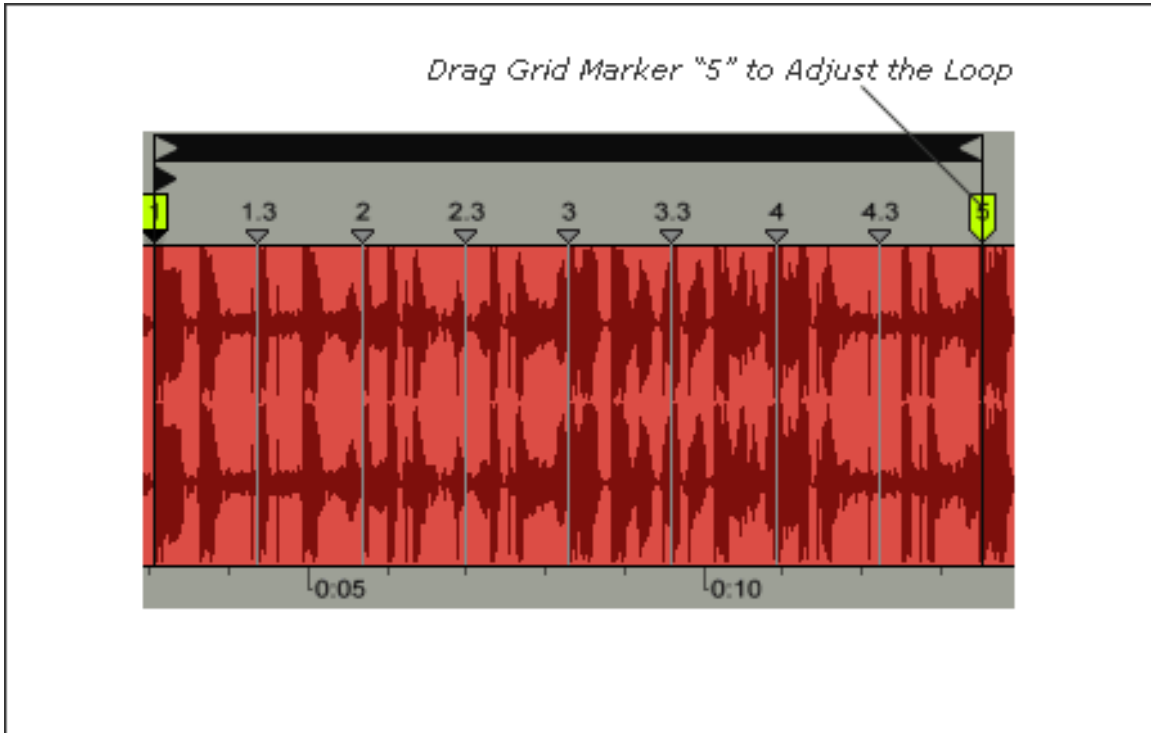
8. Activate the Loop switch in the Clip View's Sample section and type "4" in the leftmost Loop Length field to create a four-bar loop.



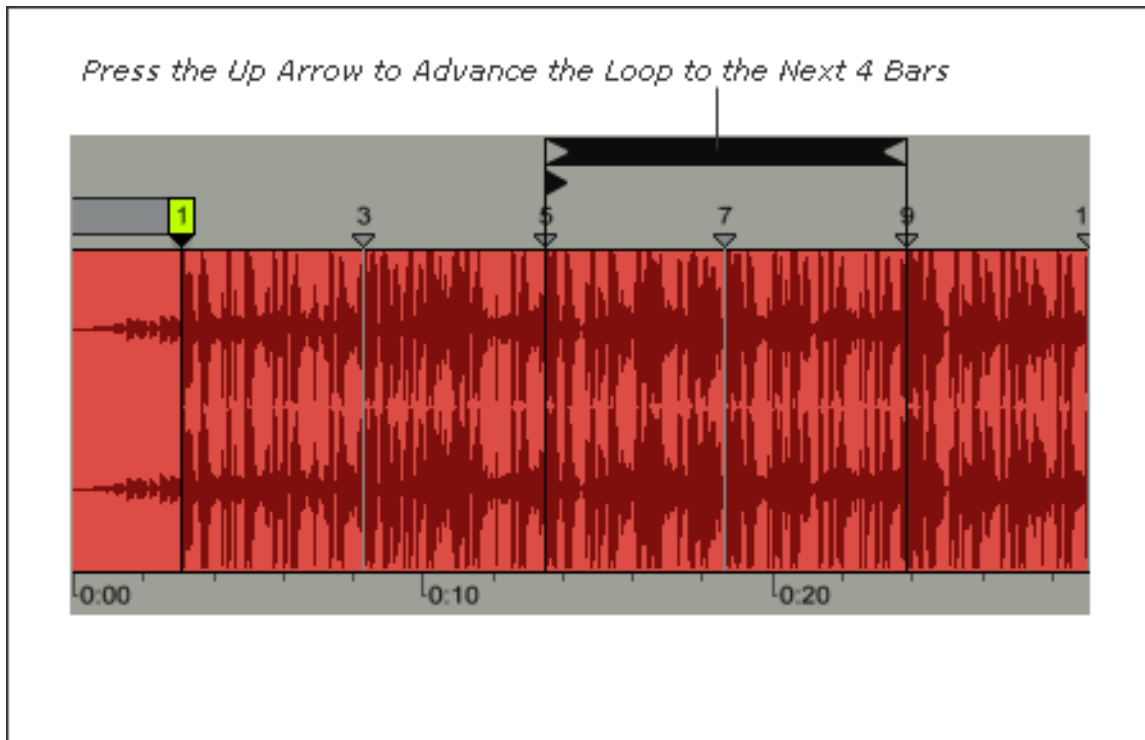
9. Type "1" in the leftmost Loop Start field so that the Clip Loop/Region Start Marker is on Warp Marker "1". Also type "0" in the Loop Offset field if needed.



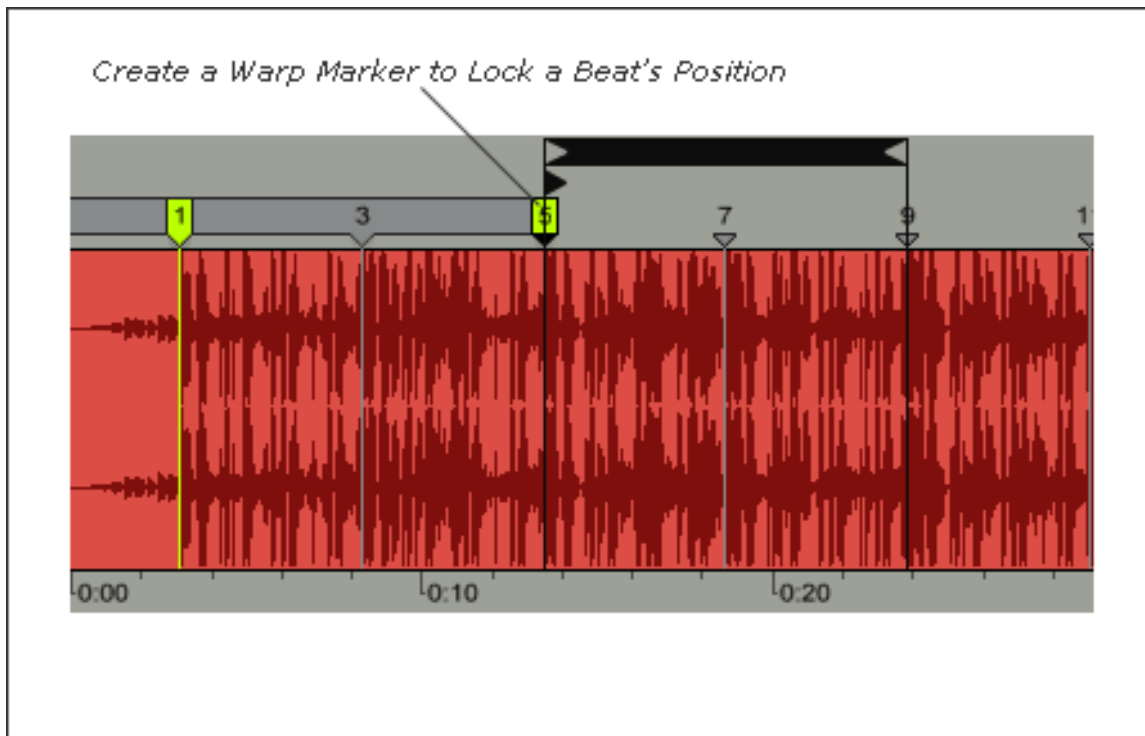
- Listen to the loop to see if the tempo you tapped was correct. If the end of the loop is not quite right, you can make minor adjustments by clicking and dragging the grid marker labeled "5" at the end of the loop. You may need to check the accuracy of Warp Marker "1" as well. When doing this, it might help to zoom in a bit. To zoom, place your mouse pointer over the waveform display until you see a magnifying glass icon appear; then click and drag up and down to zoom out and in respectively.



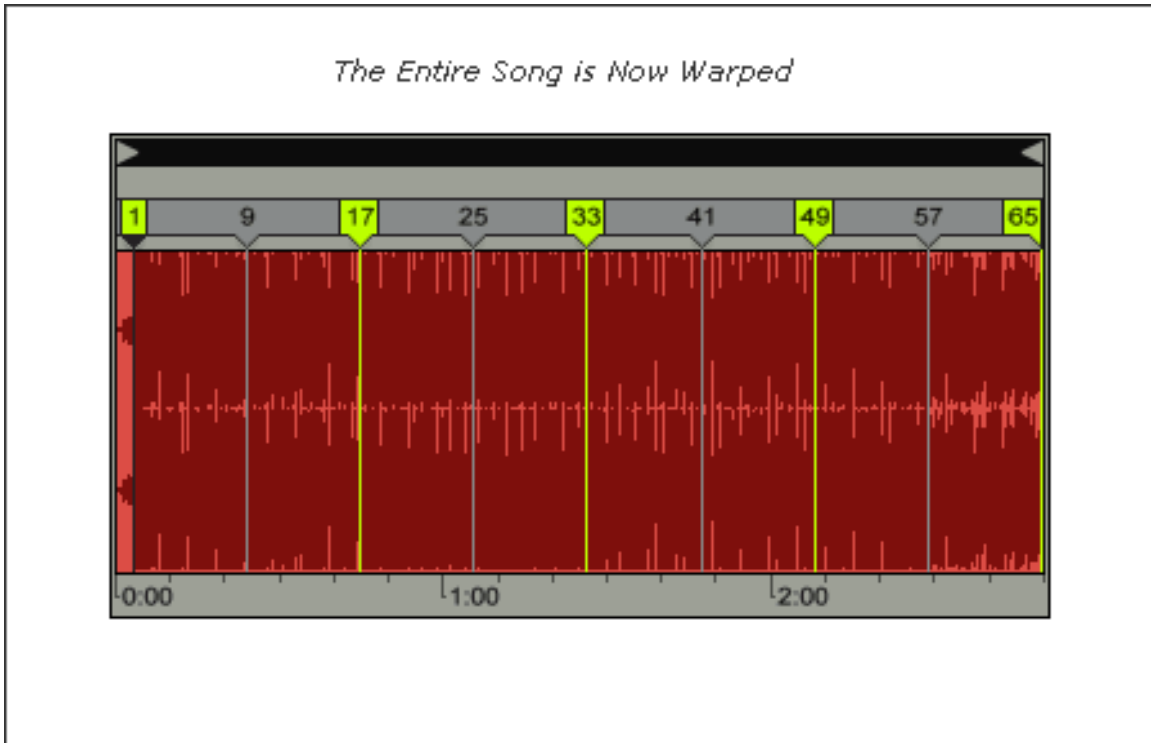
- Once the loop is correct, click on the bar running between Clip Loop/Region Start and End Markers, and press the up arrow on your computer keyboard. This causes the clip loop/region to jump ahead to the next four bars. Listen to the loop to check that it is correct.



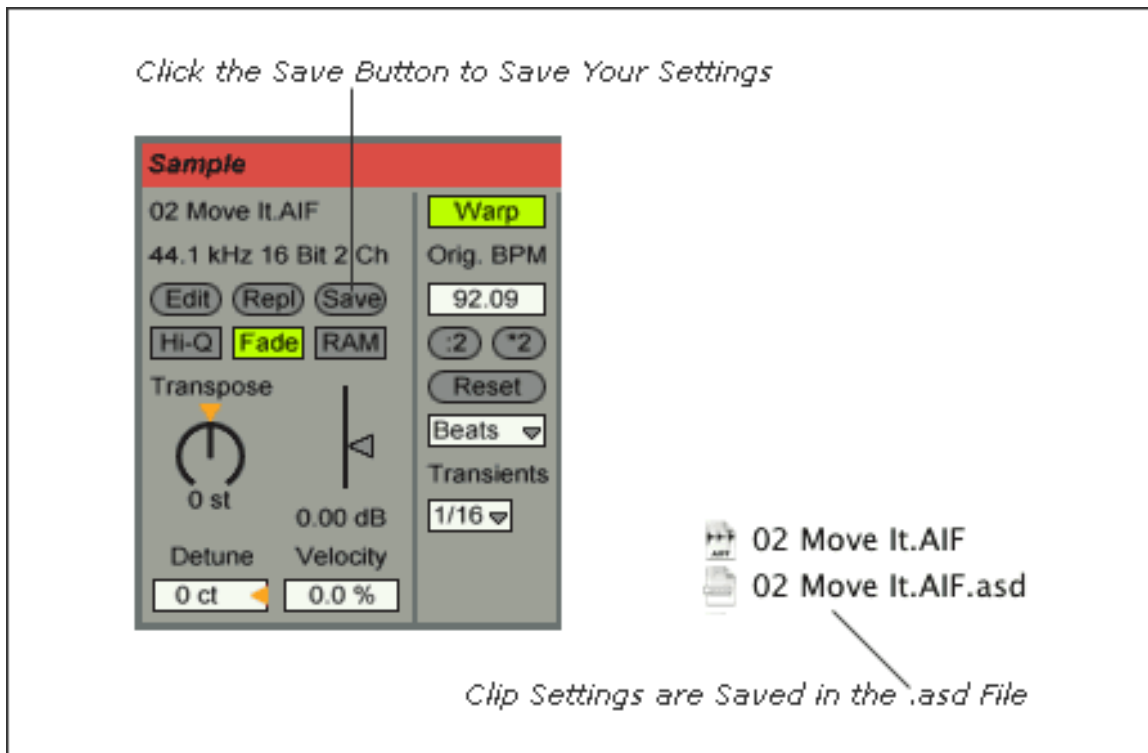
12. If the loop is not correct, you can create a Warp Marker at grid marker "5" by double-clicking on the marker. Warp Markers lock to the current position and are not affected if you reposition markers before or after them. You can now drag the grid marker labeled "9" to correct the loop without affecting your previous work.



13. Repeat the process until you have marked the entire song. You can use a larger loop length if the song has a regular tempo. The song below was marked using a 16-bar loop length. When you are done, you will also want to set the loop length to span the entire song, or perhaps turn off the Loop switch completely.



14. The final step is to save the settings for the clip. The Warp settings will be saved in the clip's analysis file (.asd file) when you click the Save button. Once the clip's settings are saved, the clip will be ready to go any time you drag it into a Live Set. In other words, you will only need to set the tempo in the project Tempo field, and Live will automatically beat-match the clip to whatever tempo you choose. Don't forget to save each clip!

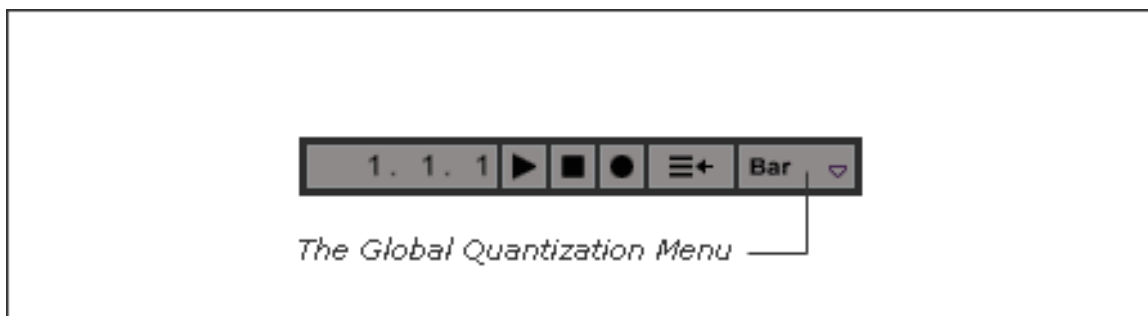


Set up two or more tracks using the techniques described earlier. Then activate pre-listening, assign the crossfader, configure EQ Three, drag a warped song into each track, and watch how Live automatically matches the tempo. Practice and experiment with the setup to get comfortable and explore the possibilities of your new DJ rig!

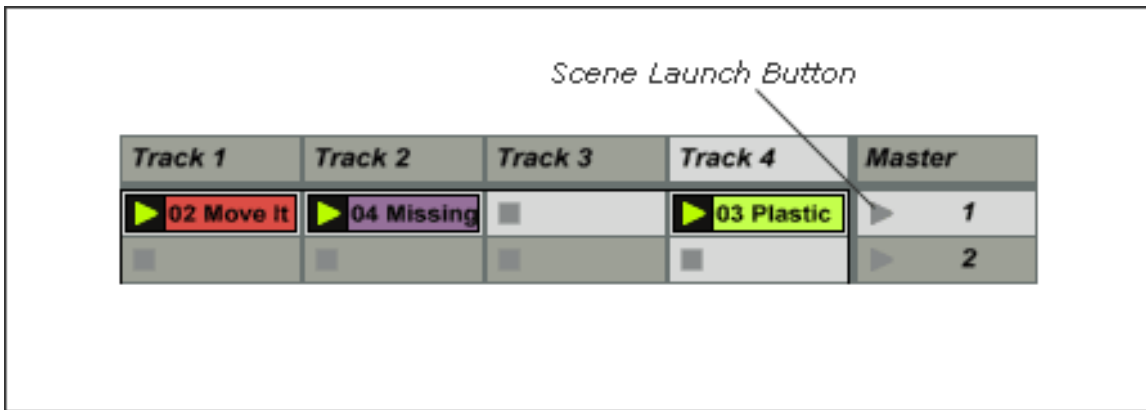
Step to the Technique

Here are some tips and tricks to help get you on your way:

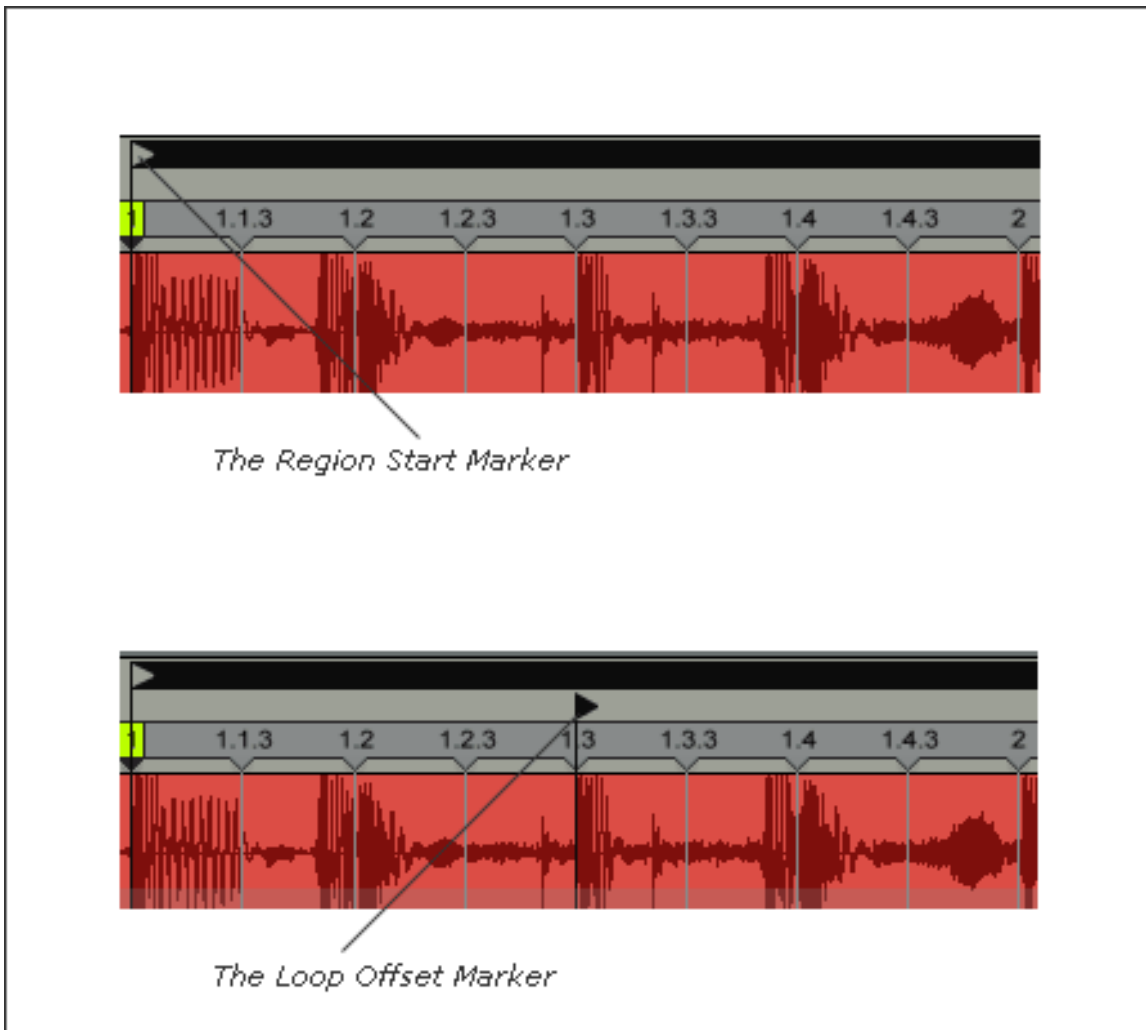
1. Clip launches in Live can be quantized using the Global Quantization menu. This can help you line up tracks with very little effort; just set the quantization to the desired value and launch the clip.



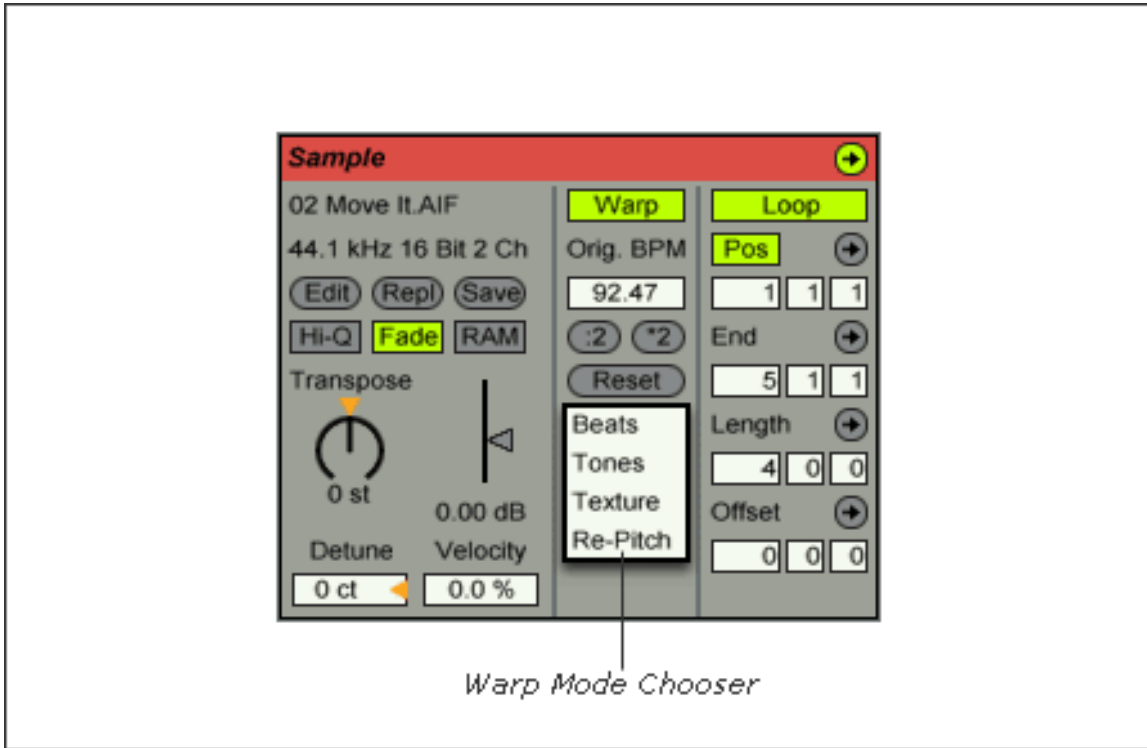
2. Scenes make it possible to launch an entire row of clips simultaneously with a single button. This can be useful for moving between several variations of a complex mix.



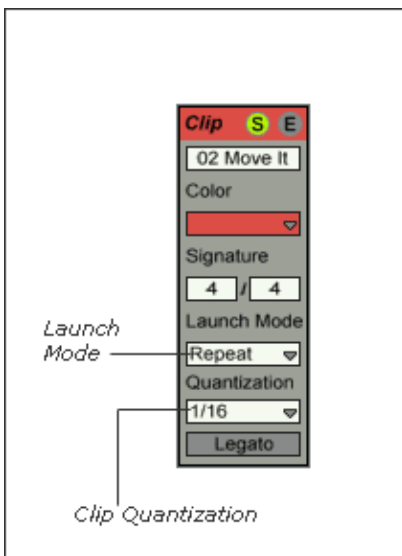
- The Loop Offset Marker or the Region Start Marker specifies the start point for the clip. You can think of the Loop Offset or Region Start Markers as being similar to the needle on a turntable; wherever you drop it is where playback will begin when the clip is launched. Use the Loop Offset Marker when a clip is looped and the Region Start Marker for clips that are not looped.



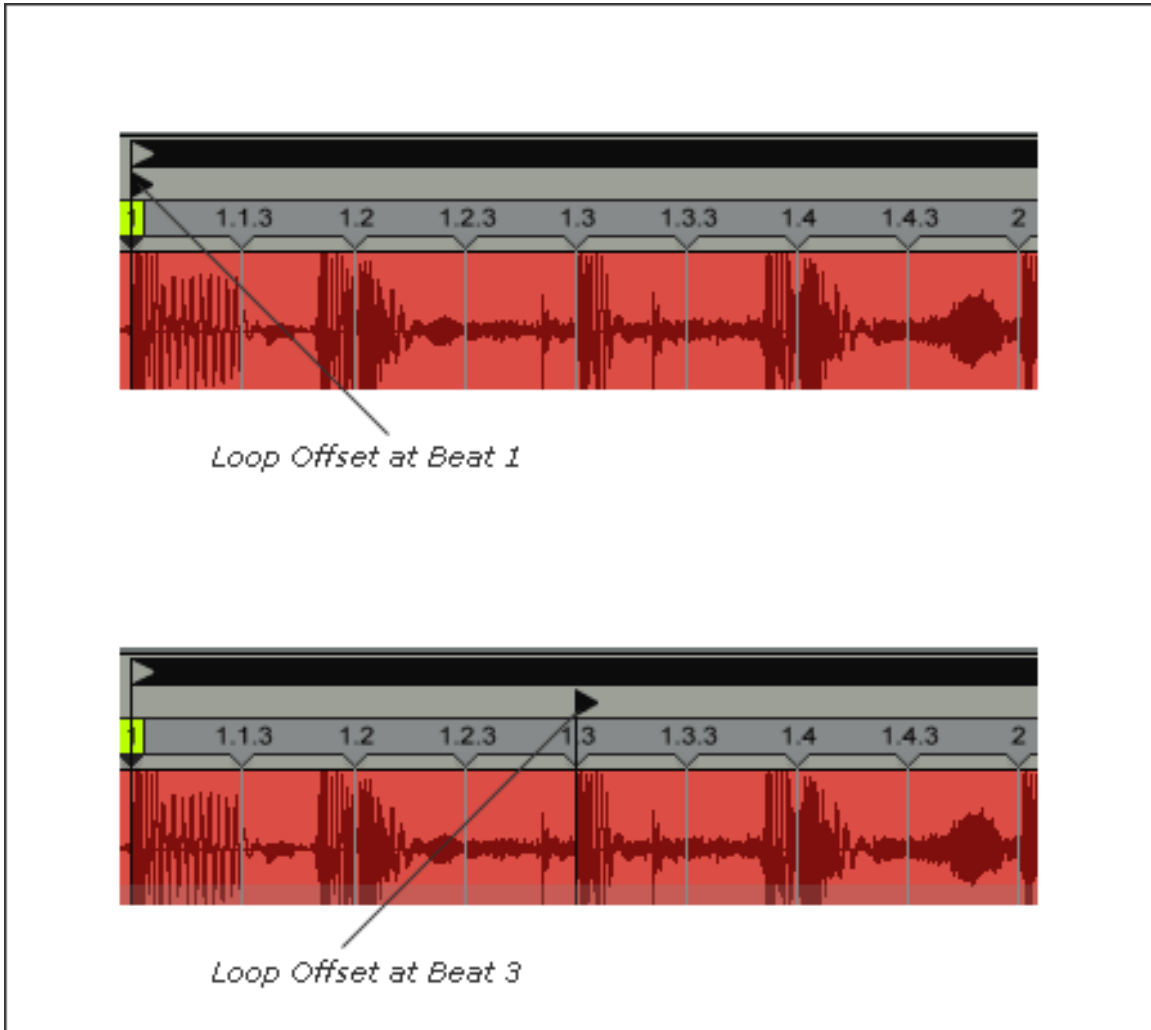
- Live's Warp Mode defaults to Beats Mode, which is ideal for most rhythmic music. Beats, Tones and Texture Modes each offer independent control over the pitch, or the key, of the clip. This means you can change the pitch without changing the speed of the clip using the Transpose knob (shown below). If you want your clips to play as they would on a turntable, try Re-Pitch Mode. Re-Pitch Mode slows down or speeds up the clip to match the tempo and does not correct the pitch as the other Warp Modes do. Experiment to find the best settings for each clip.



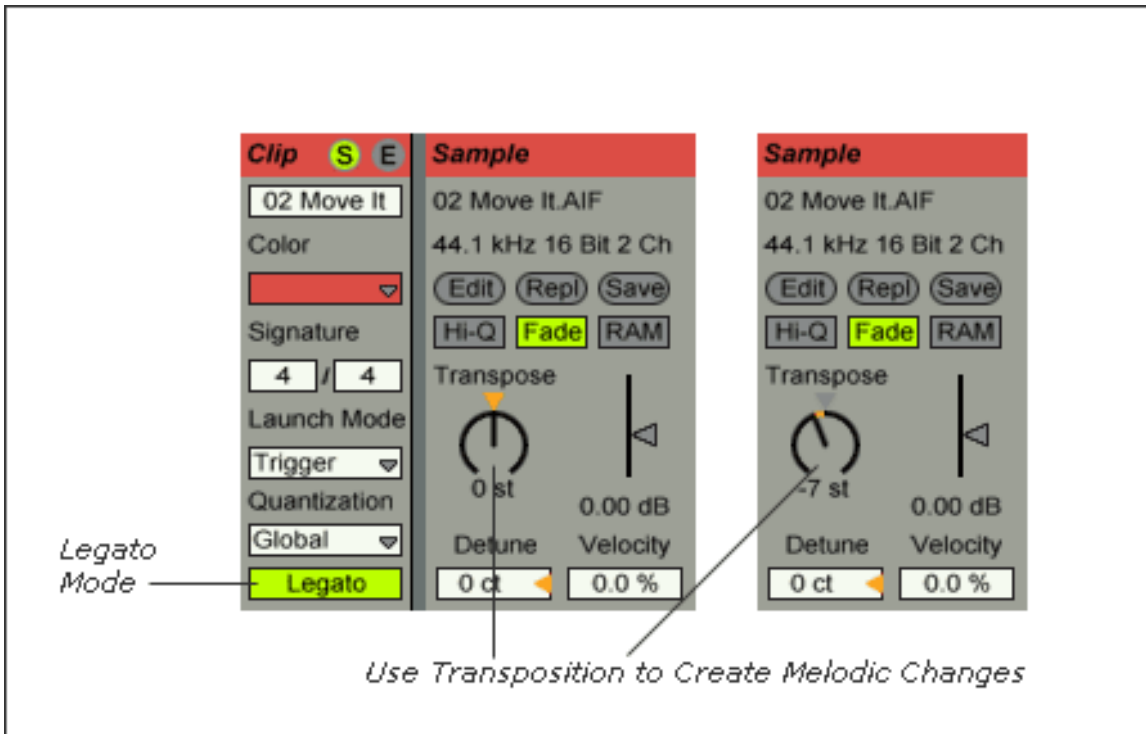
- Each clip has independent settings for quantization and Launch Mode in the Clip View, as shown in the figure below. Try setting a clip to 16th note quantization with Repeat Launch Mode; then click and hold the Clip Launch button down, listening to the first 16th note of the clip repeat until you release the Clip Launch button.



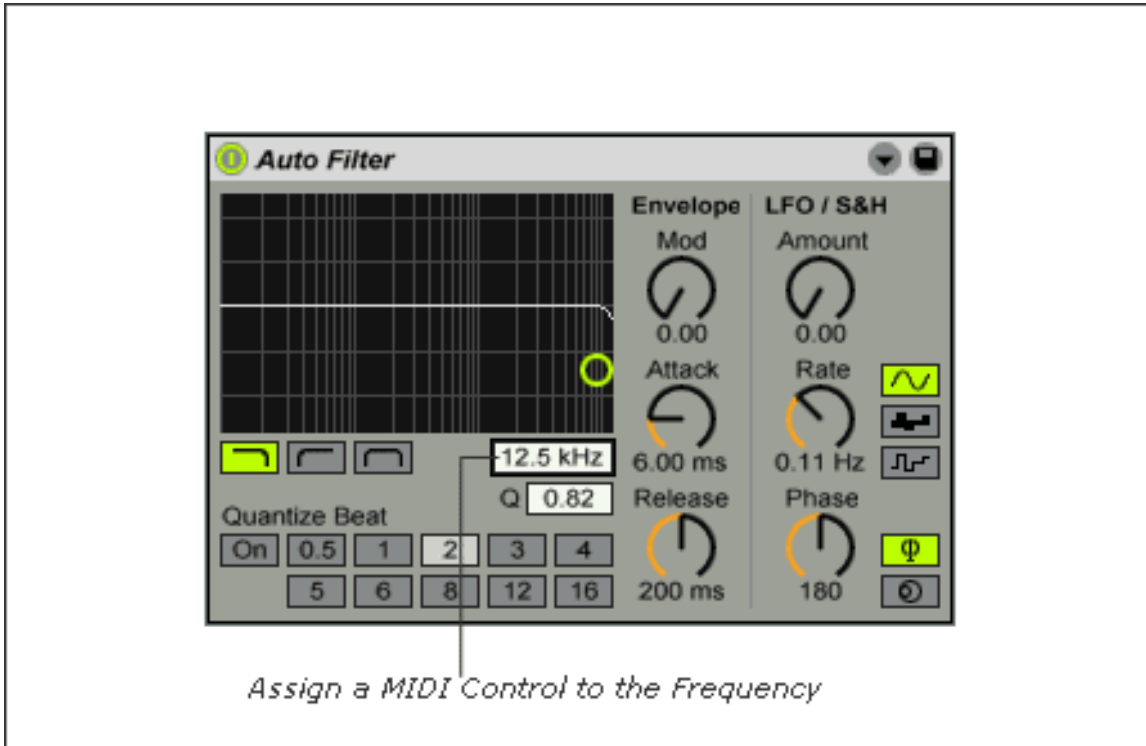
6. Drag the same clip into two slots on the same track. Change the Region Start or Loop Offset to different positions on each clip; alternate launching the two clips to perform beat-juggling effects. You can also place the two clips on separate tracks, launch them, and assign the crossfader so that you can switch between them without retriggering.



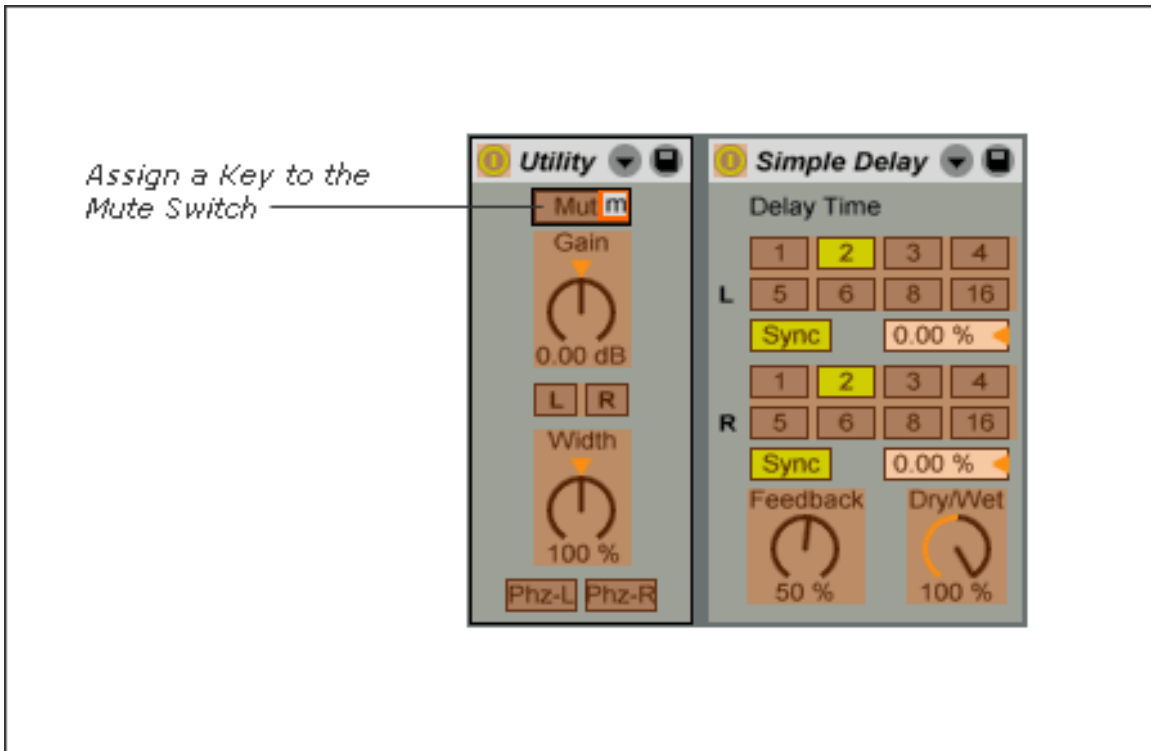
7. You can set the transposition differently for each copy of a clip to change the melodic progression of the song. Activate Legato Mode for each clip on a particular track to prevent the song from retriggering when you switch between variations.



8. Try out the other Live effects. Auto Filter on the Master track provides a virtual analog filter for the entire mix. Assign a MIDI control to the filter frequency for added pleasure.

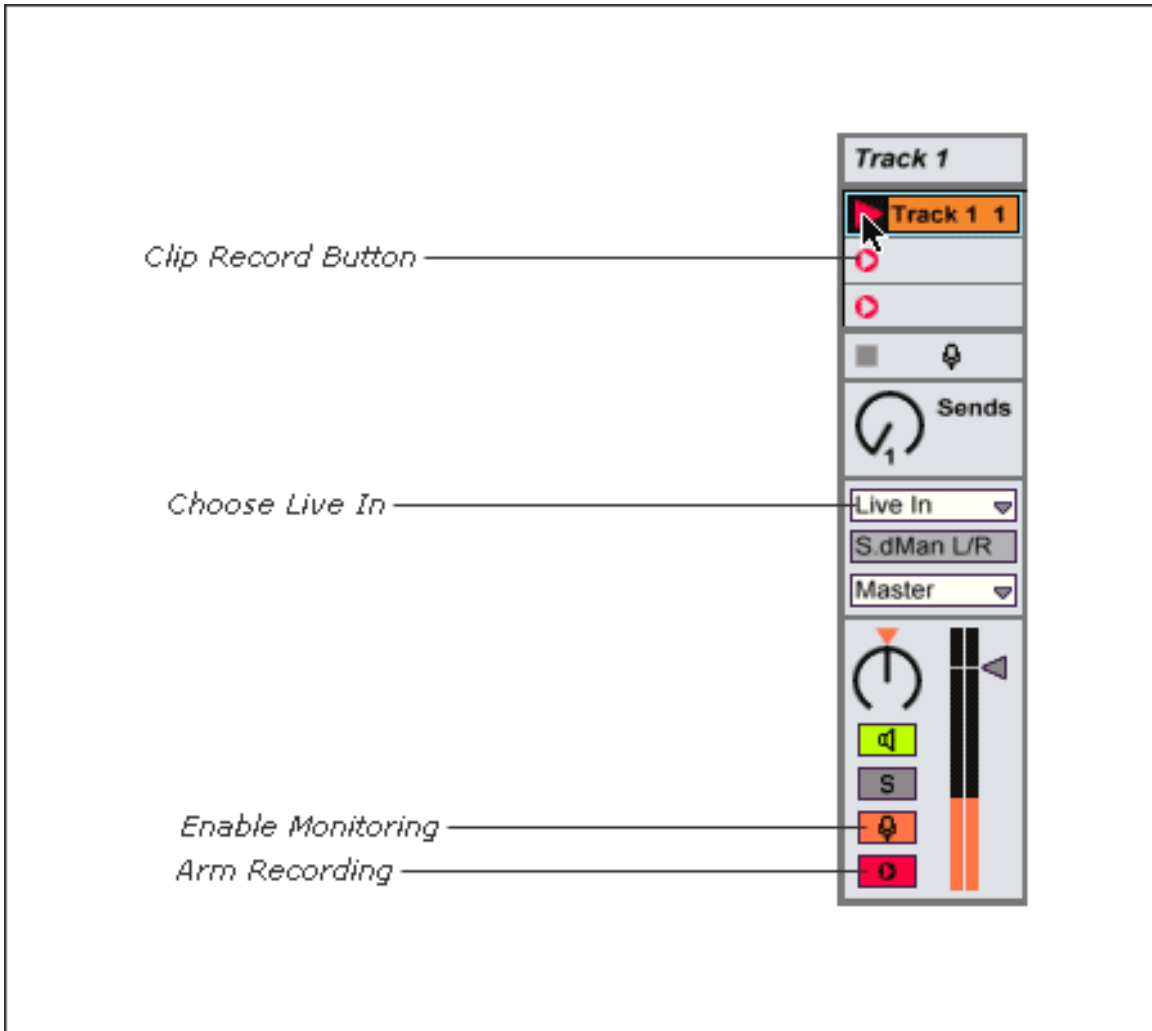


9. Live's delay effects can be beat-synced to the project tempo. Put a Simple Delay on a Send track, set the desired beat in the Delay Time section and set the Dry/Wet mix to 100%. Turn the Send knobs for the tracks you wish to process with the delay up to a suitable level. Place the Utility effect on the Send track before the Simple Delay, (you can drag effects to reorder them) and assign a key to the Mute switch. Toggle the Mute switch on and off to send particular parts of the tracks through the delay without killing the tail of the delay output.

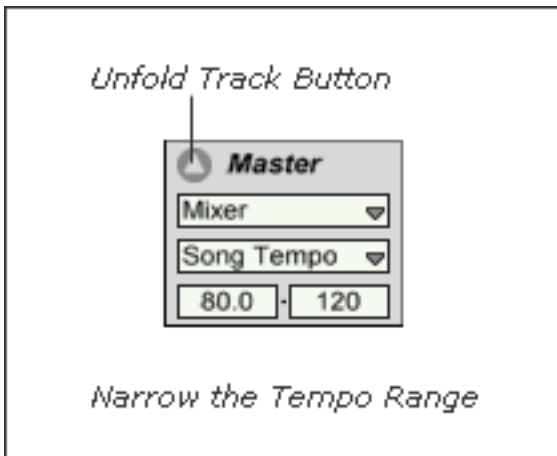


10. Run a turntable, MC or instrument through a track in Live. Choose "Live In" as the Input Type in the In/Out View, and enable the Monitoring switch. Take the signal from your turntable, microphone or instrument preamp and plug it into your audio interface's input. Enable monitoring to hear the input through the track. You can also sample the input by recording in the Session View. Sample and loop your scratching, vocals or instrument on the fly.

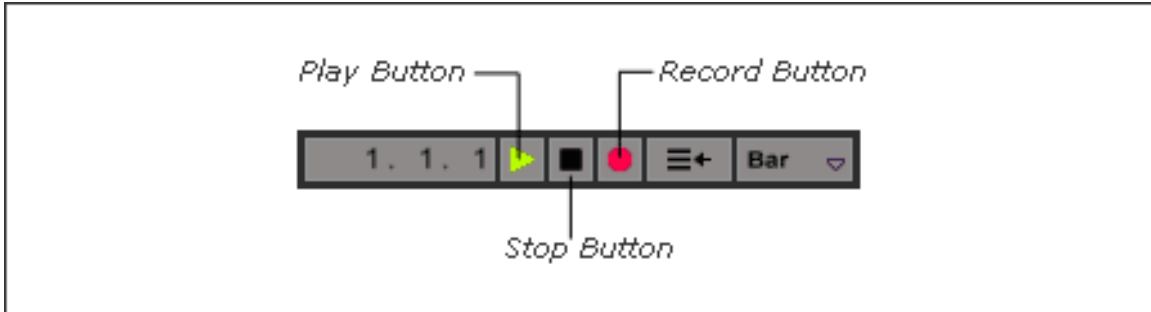
Note: Only when "Monitor through Live" is enabled in the Preferences Audio tab can you route the input through the effects in Live.



11. Assign the project tempo in Live to a MIDI control to allow tempo variations throughout your set. You can narrow the tempo range in the Arrangement View Master track by unfolding the track and selecting "Mixer" from the Device chooser and "Song Tempo" from the Control chooser. Set the desired tempo range in the minimum/maximum fields.



12. Record your entire DJ set in the Arrangement View so that you can edit it to perfection later. Everything is recorded including clips, crossfader movements, effect tweaks and even tempo changes. Simply press the Record button in the transport before launching any Session View clips, and Live will record your every move.



By now you are beginning to see that Live opens up new avenues for any DJ. After setting up Warp Markers on just a few of my favorite hip hop tracks, cueing the mix in my headphones, tweaking a few effects, and flipping the crossfader, I felt my DJ set come to life. And after adding just a few of my own loops, my mix soon entered the realm of an original hip hop remix. It just goes to show that with a small amount of practice, and a little creativity, DJing in Live can take you from mixing a DJ set to producing your own tracks in no time.