Mashup Assignment

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Course: Multimedia Applications Development

Year: 2

Module: Audio Production

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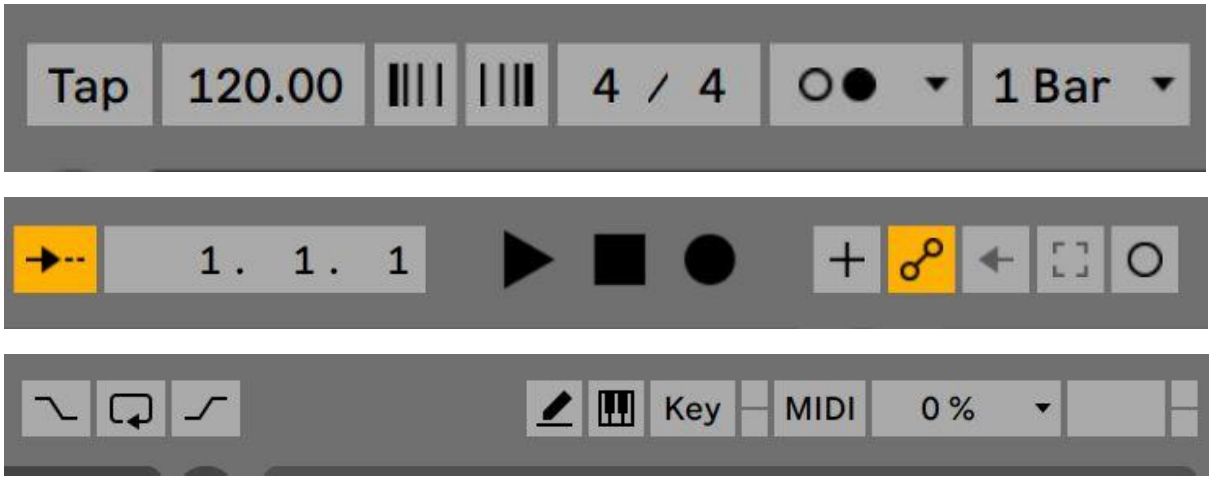
Part 1 – Wrapping / Clip Creation

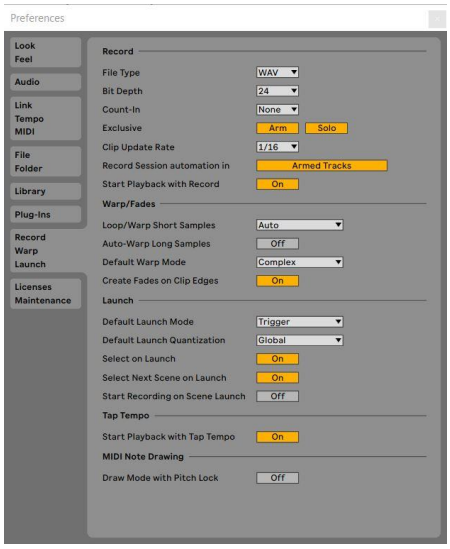
A) The Setup

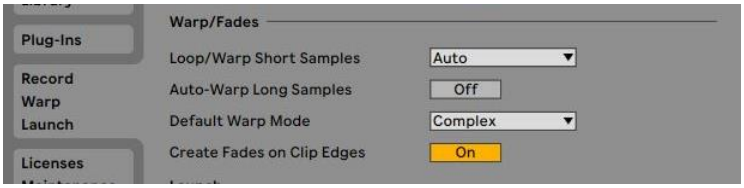
This image above is the toolbar, where the following is located:

- Tap
- Beats per minute (120.00)
- Metronome (
- measure (1.1.1 - bar, beat, sixteenth),
- play,
- stop,
- record
- Draw (pencil symbol)
- Key
- CPU Load Meter



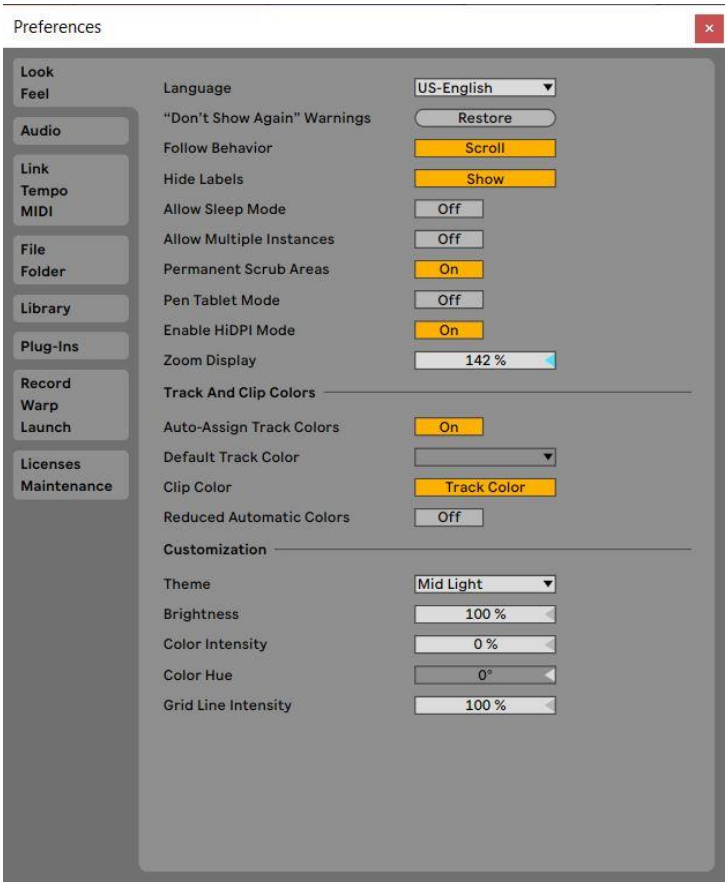
There are more buttons above I didn't list, but these are main buttons I be using for the wrapping. However, the first thing I am going to do is adjust some settings for the wrapping. At the top of the window in the Options tab (Windows version used here, different for Macs). I select Options > Preferences > Record Warp Launch, **turn off** Auto Warp Long Samples and have Default Warp Mode = **Complex.**



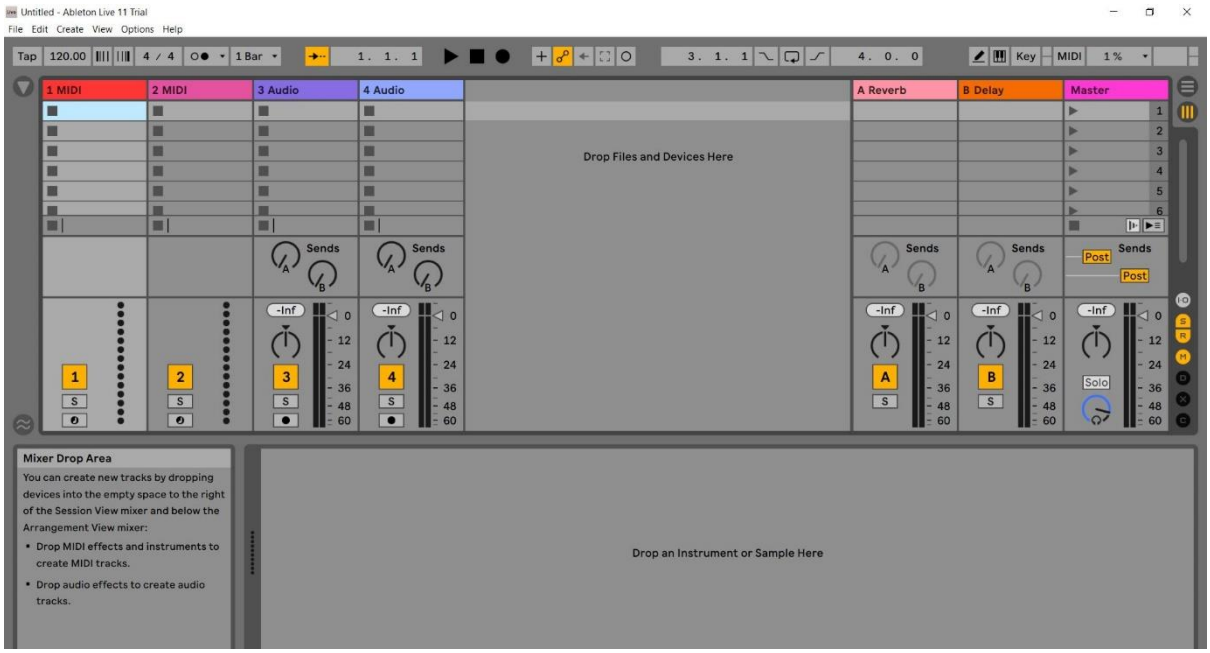


Zoom Setting

To make it easier for me read the labels and while searching in the browser panel (left hand side). I would recommend 142% in the zoom display



Now it is more appealing to for me to work with.

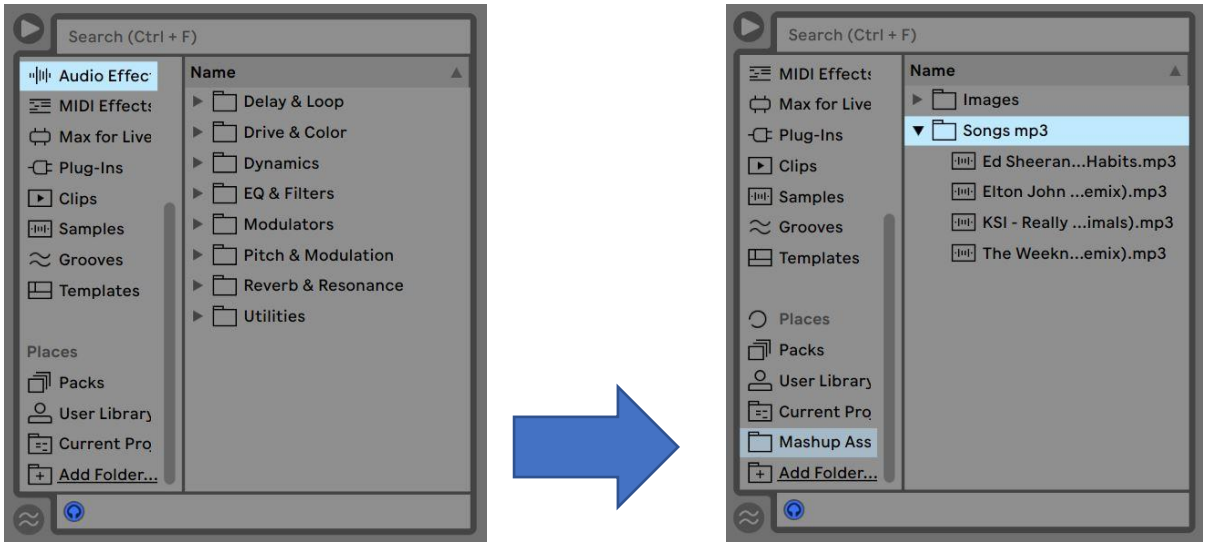


To make it even better, I could toggle off the (in descending order) send, return, mixer, delays, crossfader and high performance on the bottom right corner.

Adding Folder (containing my mp3 tracks)

To add any folder, I go the Collections Selection on the far left of Ableton Live. Then at the bottom is the Places Section. This is where the contents of folders on your hard drive is located.

I select “Add Folder”, locate my Songs mp3 folder and import it to Ableton Live. It will update the Places Section with my Songs mp3 folder.

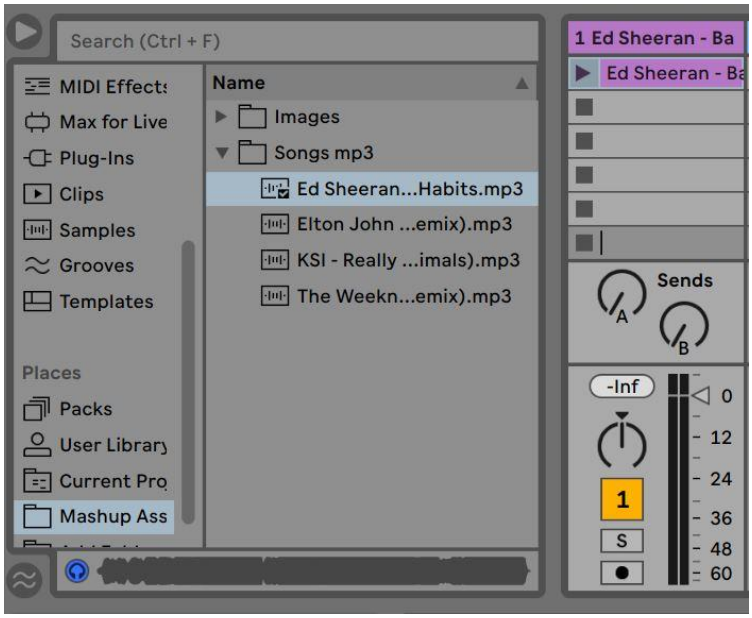


Adding Tracks To Session

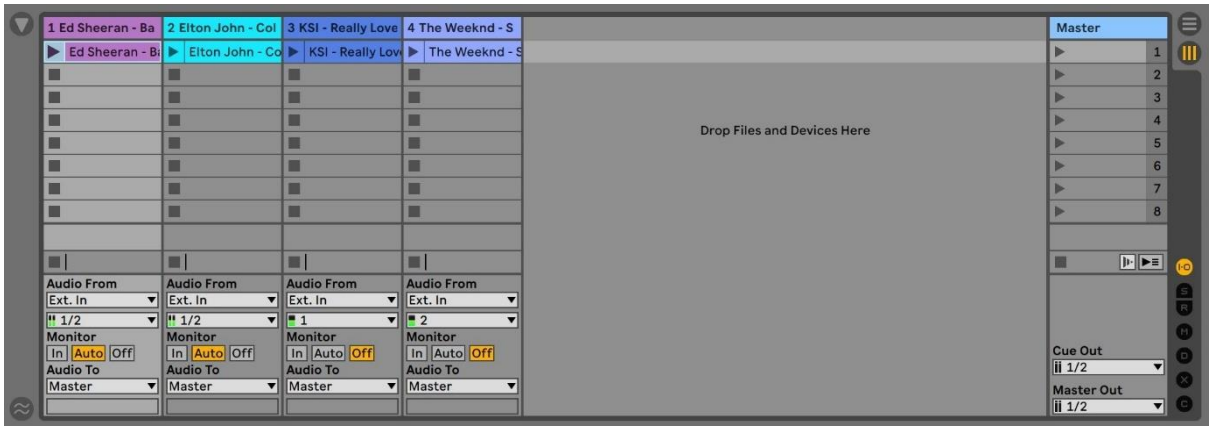
I select my Songs mp3 folder in the Places Section. My four tracks are visible in the Browser Content Plane. Now I am going to add my tracks on the Session view. I can do this by dragging each track on one of the empty columns or into the black space where it says, “Drop Files & Devices Here”.

NB: If you are in arrangement view, you can switch to session view by selecting the s button or shortcut “Tab” key (works both on Windows & Macs).

(1. Adding My First Song)



(2. Now With Added Tracks In Session)



(2.1 Changing Colours)

At first I thought the default colours Ableton gave me were clashing with each other. This could become an issue later. I discovered that if I right clicked on one my songs, I could change the colour of the label.

B) Warping

Once I have all my songs inserted into Ableton, I can begin warping my songs. Warping is basically letting time stretch my tracks so it can match my tempo I set in my song. Is it great tool for mashups because some songs don't have their **first beat** at the very start, it might begin later. Warping allows me to place my initial start at the first beat I chosen instead of relying at the very beginning of a song.

Recall, the toolbar I mentioned at the start of the writeup. I will now be showing how I will try to estimate the tempo of a song. Tempo is the speed of song while playing. The speed is measured in beats per minute (BPM). If a song lets says has 40.00 BPM, the song will feel fast and would affect the duration too, making it shorter. The opposite affect applies if I use 250:00 BPM, song feels slow, and duration increases.

Using the key tool

The first step is to turn on the “Key” tool, on the far right of the toolbar.

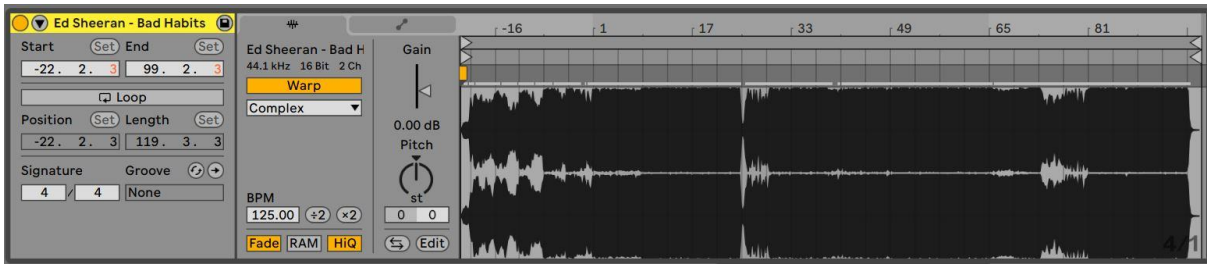
The second step is to select “Tap” tool and then press the “t” letter on your keyboard. (I could choose a different letter if I wish, but using t makes sense)

After that I made sure to turn off the “Key” tool, now my shortcut for the Tap tool is saved. I will have to repeat this every time as Ableton doesn’t save the progress.

Now why did I do this? It’s because for the warping to work, I need to estimate a tempo of a song while its playing. If I let every warped song use the default global tempo, it could lead to mix results and would sound out of place.

With my first song (Ed Sheeran – Bad Habits) selected in the Session View, I hold and alt + drag to an empty row. This copies it, also you could just right click your selected clip and right click to "duplicate". I press the green arrow to play the song. When I hear the first beat, I tap the "t" key to try to synch with the beat. I tap four times.

As you see above, I got 125.03 which is not bad as it close to a whole number. I repeat this a few times to try to get a good estimate, I really looking for a **whole number**.



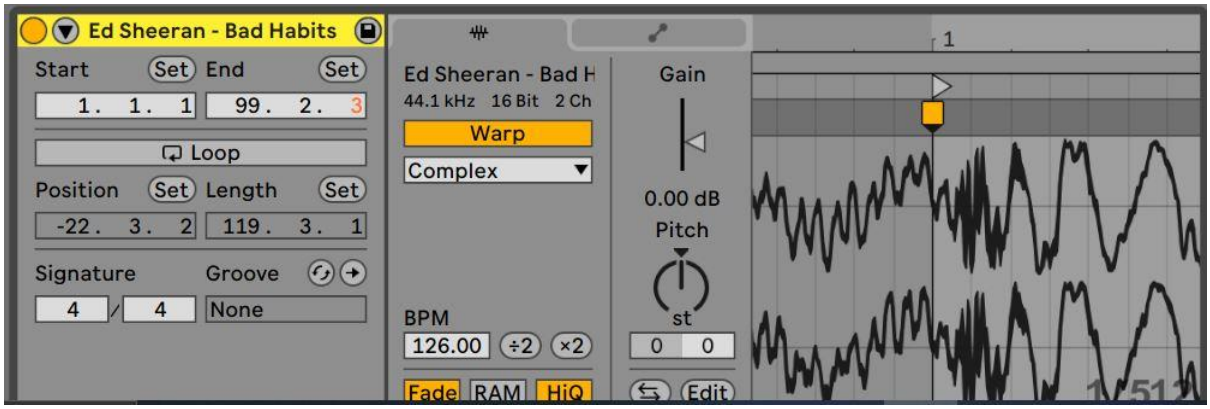
Warping was something I found hard to understand, but I will show where I went wrong and how I fix it. Above in the image, I already have some of my settings enabled at the very start in the warp setting. For example, I already set the warp mode to **complex.**

The tempo I decided to use was 125:00 BPM, and I set the warp marker at the very start of the song. This is wrong because it's not the first beat, I got confused as a different instrument played. Making me think it was the first beat.

Why is it this an issue? It's because if I use the "Metronome" tool and played the song. The beats are not in synch with the metronome, making the song sound out of place. It is evident especially at the end portions of the song.

Warping Correctly

I undo my mistakes (CMD + Z) and this time I go back and try a different tempo number, which is now 126:00 BPM. With help from my lecturer, I found out what is the first beat of my song.

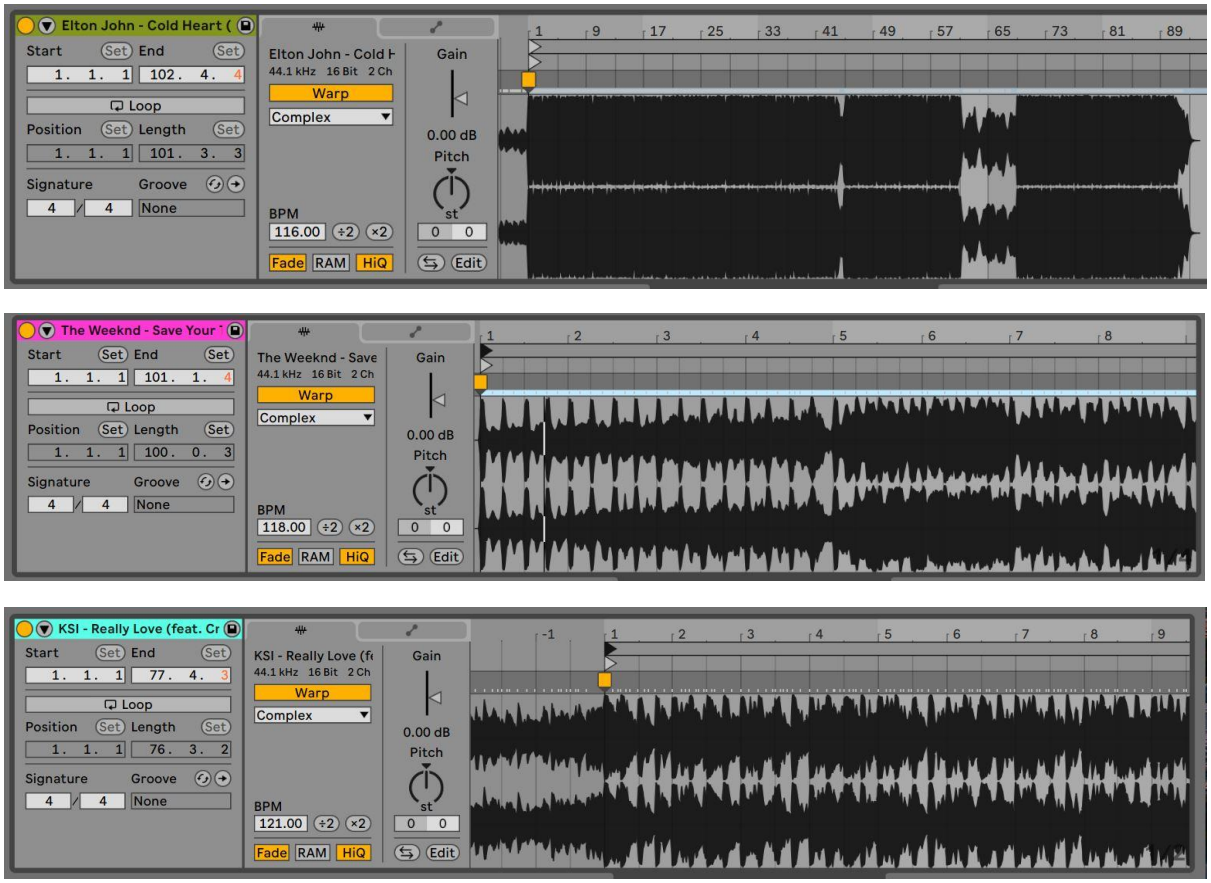


Using the mouse, I hold and scroll down to zoom into the waveform to pinpoint the exact spot for the first beat. I right click to "set 1.1.1", now my song will start here when I play it and be in synch with the metronome.

In conclusion, I learn that the first beat of the song is not a vocal or a different instrument. To best describe it, the beat is a distinct pumping that is repeated in a song. Also in that the metronome is a great tool to test my synching.

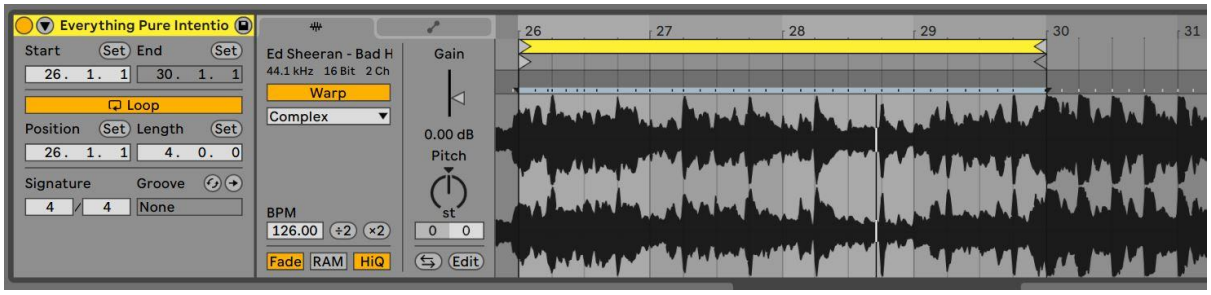
(N.B) Make sure to save it by selecting the floppy disk symbol at the end of title track. This will create an alc file for my live set.

(My other tracks warped)



C) Looping Clips

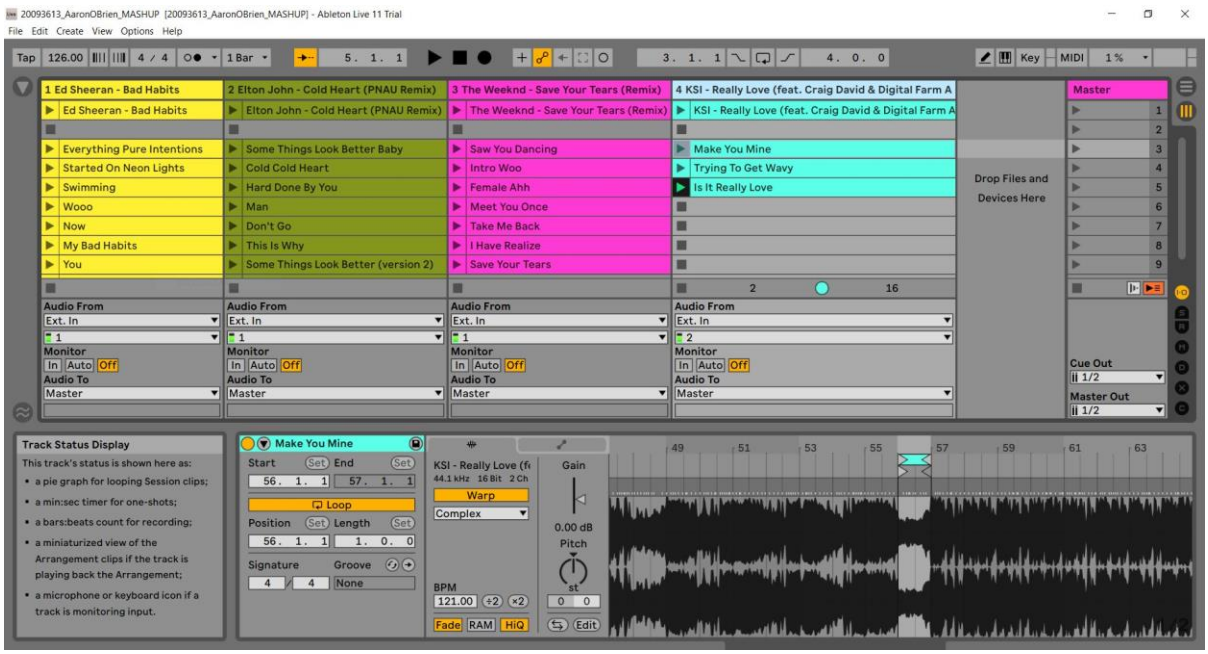
Now that the tracks are warped, I can make some looping clips. I found this quite fun because I get to pick out at least 3 of my favourites parts of a song. In my session column for "Ed Sheeran – Bad Habits", I duplicate the clip that did for my warping earlier. I can rename it too if I wish.



I then double click the new copy clip to view the Clip Display at the bottom of the page. Turn on “Loop”, the loop brace will match colour with the song (yellow). I play the song to find a section I really like. Once I do, I simply drag both the “start/end” and “loop start/loop end” arrows.

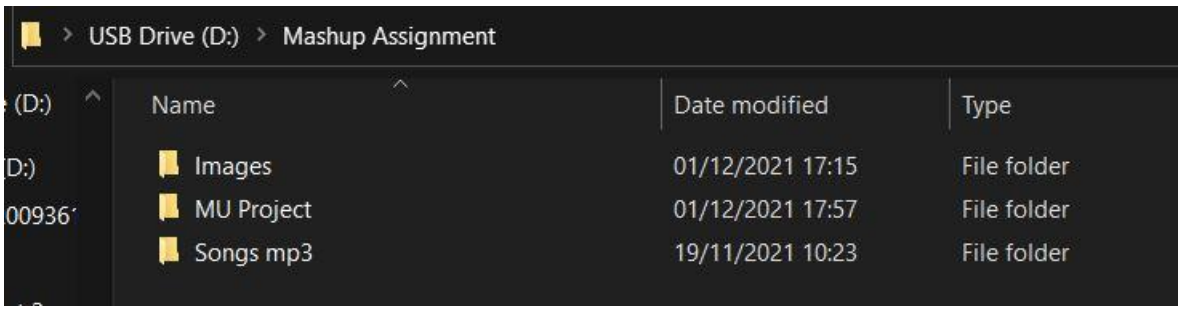
For any clip, it needs to be 1.0.0, 2.0.0, or 4.0.0 beats for the length. I make sure it the clip is saved by selecting the floppy disk. This is a process that is repeated for all of my clips, some are in different lengths then others.

(Result)

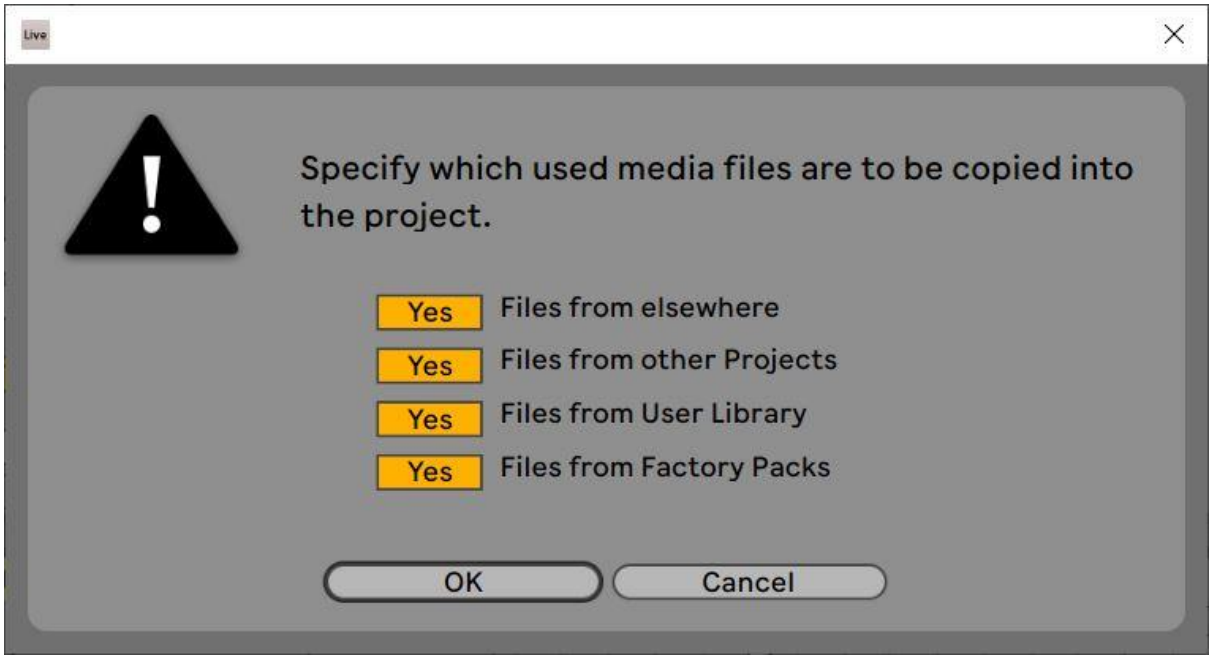


D) Saving My Project

Unlike other software I have used before eg: Adobe Audition, saving in Ableton requires a few steps. The first thing I did was create a folder where I be storing my mashup project. I named this folder "MU Project".

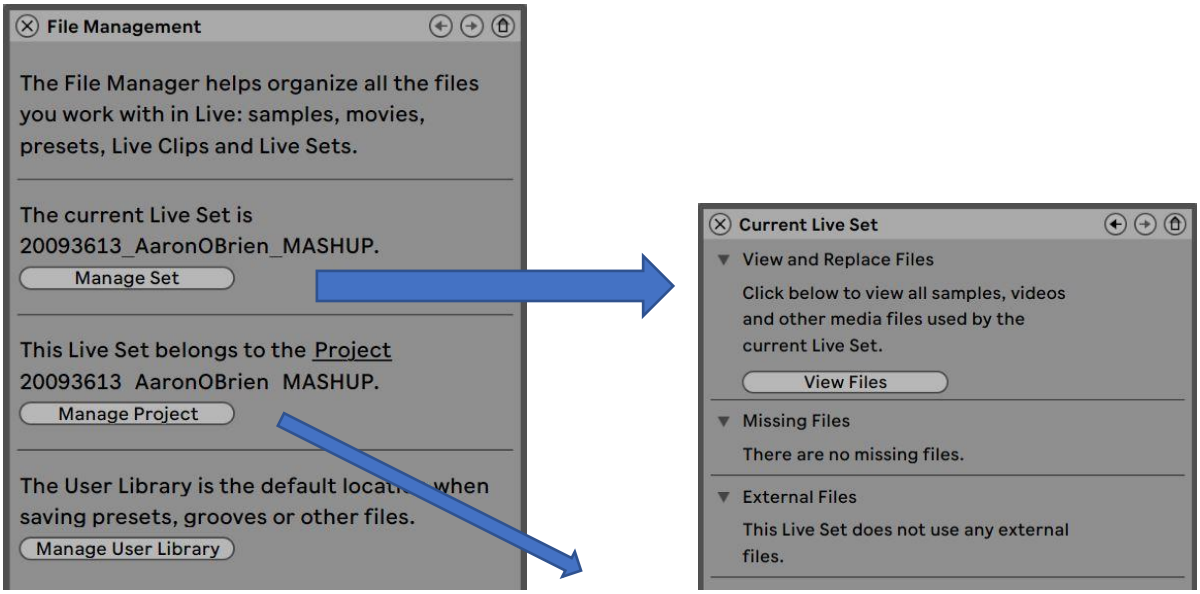


Back in Ableton, under the file tab there is a "Collect All & Save". This will save any changes I did to my live set, as well (if it untitled) create a new folder with my live set. In the pop-up I select "Yes" for everything and click "OK".



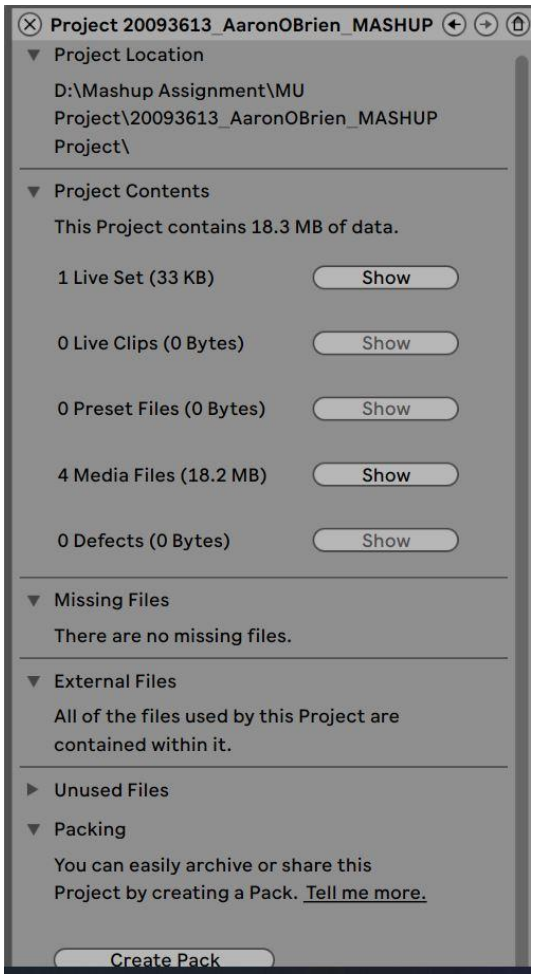
Once it is successful, in my file explorer under the folder "MU Project" will contain my "20093613_AaronOBrien_MASHUP Project". However, it won't be file, but folder created by Ableton. It will contain my live set and my imported mp3 songs.

Back to Ableton again, I then select the file tab again and click onto "Manage Files". This a section in Ableton where it organises all my project files and checks if I am missing any files.

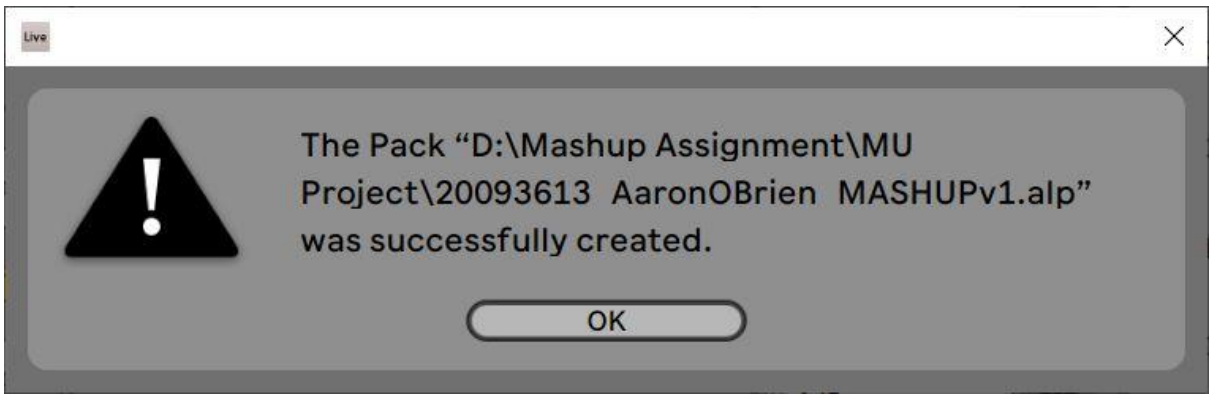


The very next step is taking my saved project, "20093613_AaronOBrien_MASHUP Project" and create a pack for my version 1 of my assignment. It is easy to do but it still needs to do carefully.

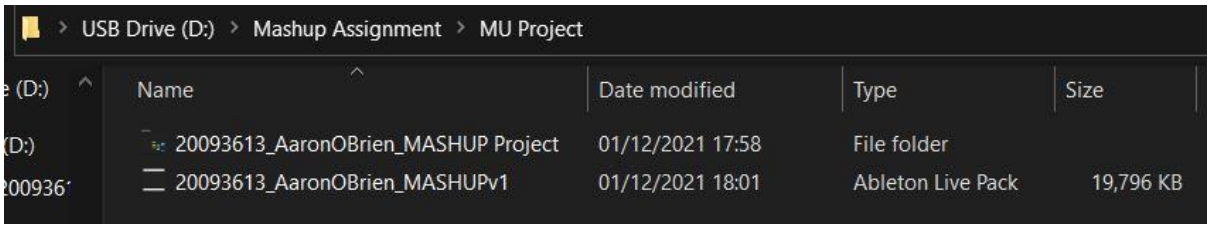
I select "Manage Project", this will display where my files are located and what is the content of my files, including the size of them. At the very bottom is where I can select "Create A Pack".



It will have pop-up asking me to save the pack as alp file (Ableton Live Pack). For me, I saved the alp file into my MU Project folder.



(Results)



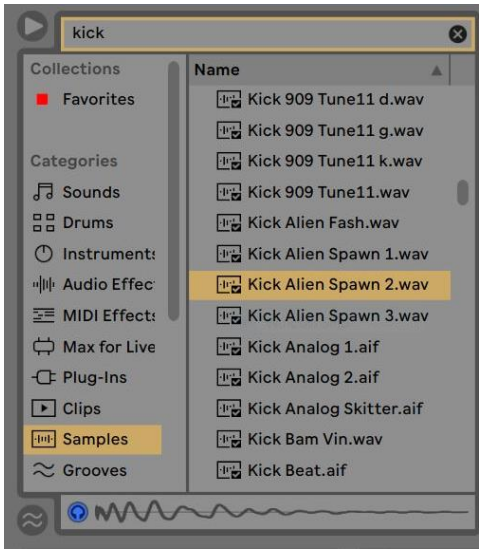
Part 2 – Beats / Drums

This is a section where I be making my own drum loop that will be played in the background. Before that, I have decided that the global tempo for my arrangement will be **124:00 BPM**. This is because I don't want to have anything to sound out of place when I am mashing up my tracks. In prefrence, I choose the three songs

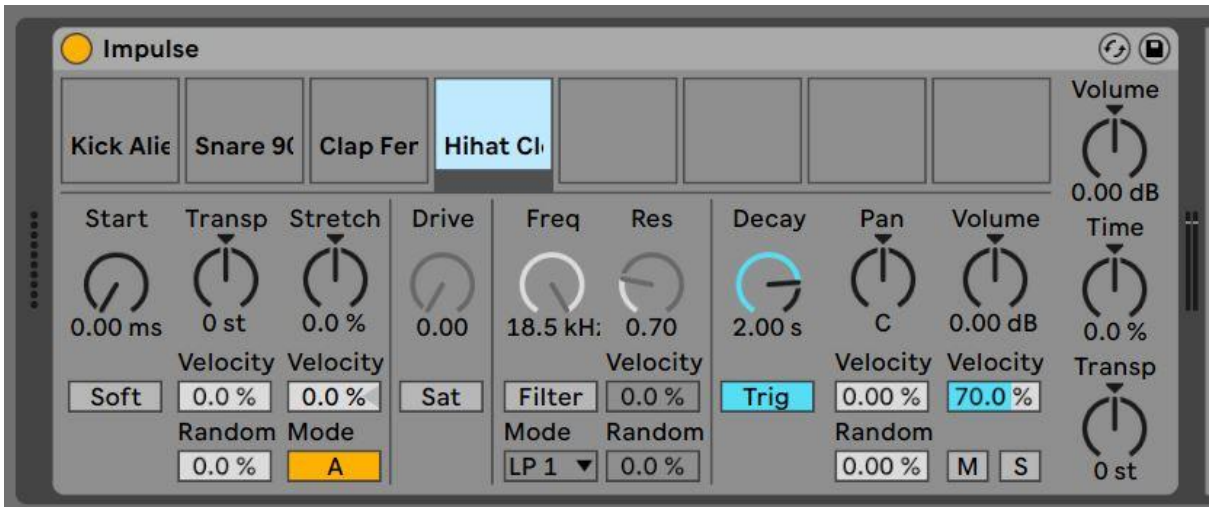
- "Ed Shreeran – Bad Habits" (126 BPM)
- "Elton John – Cold Cold Heart" (116 BPM)
- "The Weeknd – Save Your Tears" (118 BPM)

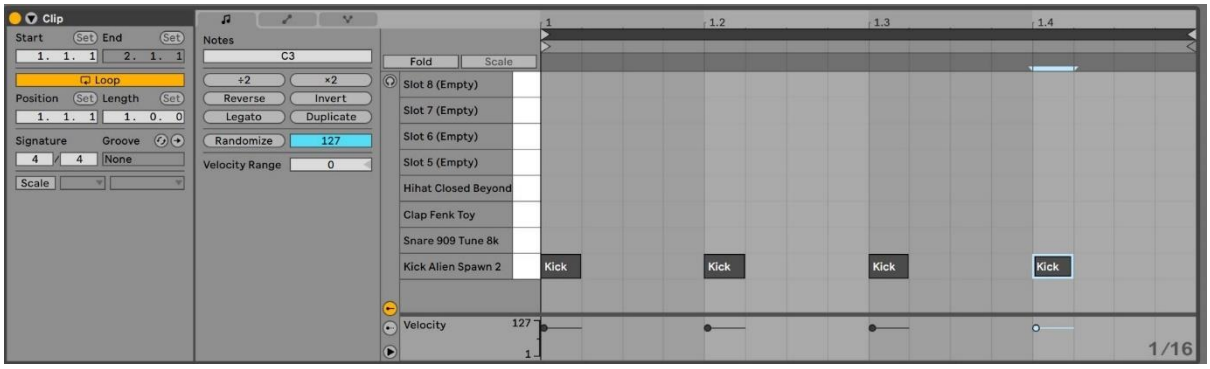
I started by choosing an intrument I want drum loop to be based off. Inside the browser section, I select Instruments > Impulse. I double click on Impulse so it can created in my session view as an empty column. I also drag it to the beginning before my songs by holding the mouse and bring it the left just before Ed Sheeran column.

If not selected, I double click the title bar for Impulse so that my Device appears below. This where I can customise Impulse and add my own kick, snares, claps or hihats.



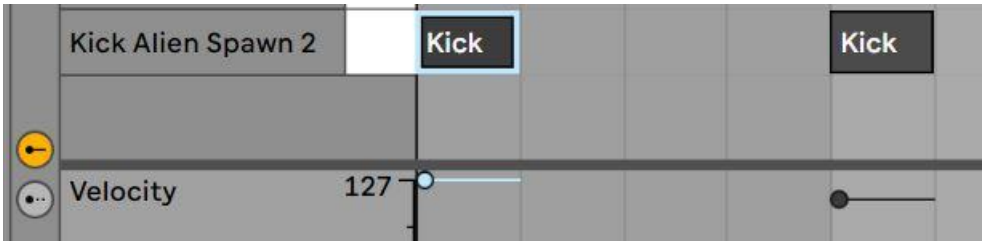
I search for a kick sample I could use for my project. I can click on each one to hear what they sound like in a loop. It even produces a small waveform at the bottom of browser section. I decided to use "Kick Alien Spawn 2" as my Kick. I click and hold my mouse, to drag down to my Device inside my first empty slot. I repeat this process for my snare, clap and hihat.





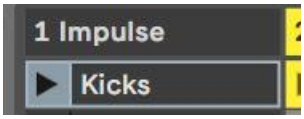
Within my Impulse Track, I double click on an empty clip slot. Therefore giving me a MIDI Note Editor (looks like Piano Keys). Now you can see all of my chosen samples have appear onto it.

As seen above, I have some fills (colour boxes) for my Kick. To add fill, I double click onto the Editor. I can do it on same one to remove it too. I place a kick fill for 1, 1.2, 1.3, 1.4. This is a basic pattern but it does work quite well.



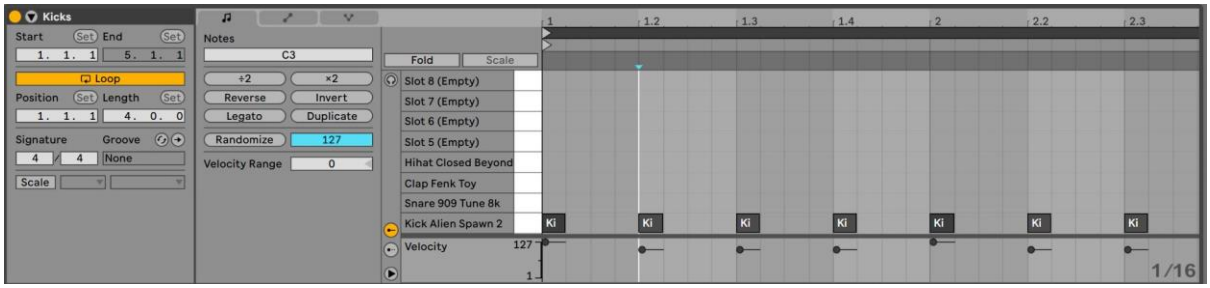
What I can do is adjust the velocity in the Velocity Editor so that my first kick is more louder than the rest. I click on the first handler and drag it upwards so the velocity value is 127.

After that I renamed the clip as "Kicks" and saved the clip. Since my kick fill is only 1 bar in length, I can press the "duplicate" button to copy my pattern and increase my bar length. I press duplicate once, it becomes a **2 bar loop**, I add another kick fill on 2.4.3. Press it again and becomes a **4 bar loop**. (I save the changes again for this clip)

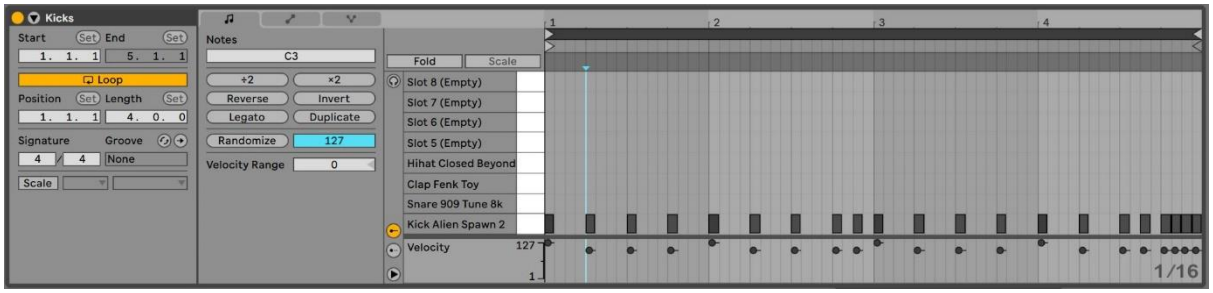


- *Renaming clip as "Kicks"*

(2 bar loop)

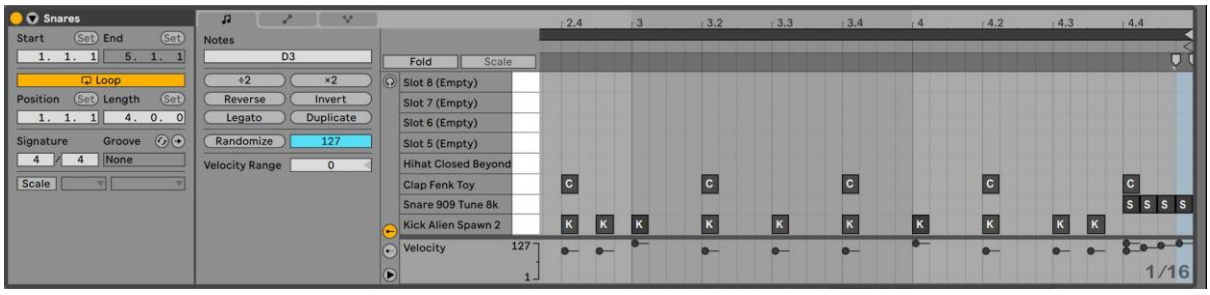


(4 bar loop)

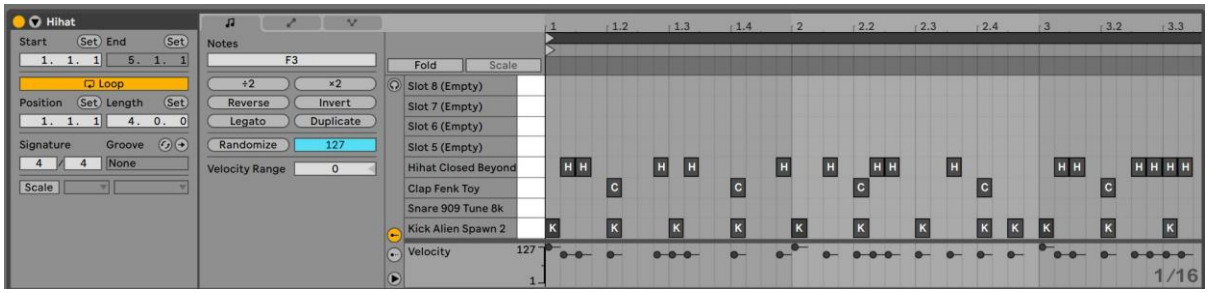


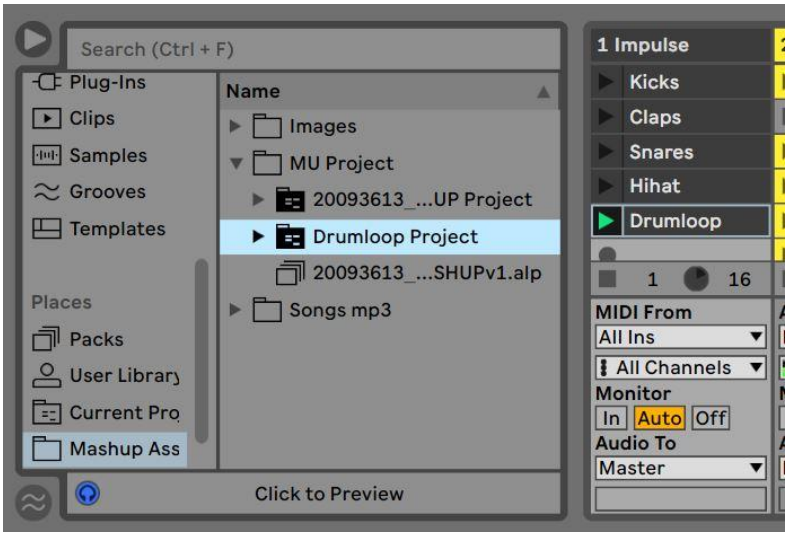
In the image below, I have fills for my claps (Clap Fenk Toy). Like kick clip, I did the claps on a separate clip I copied from kick clip. I saved the clap clip and duplicate it to create the snares clip below.

I have them almost aligned with my kicks. They are placed on every .2 and .4 of my drum loop. The snares (Snares 909 Tune 8K) are added but only from 4.4 onwards as a fill. You may notice at the Velocity Editor that I change the velocity of each snare, I saved the Snares clip.



(Hihat Clip, created from a copy of Snares clip. Fills are random)





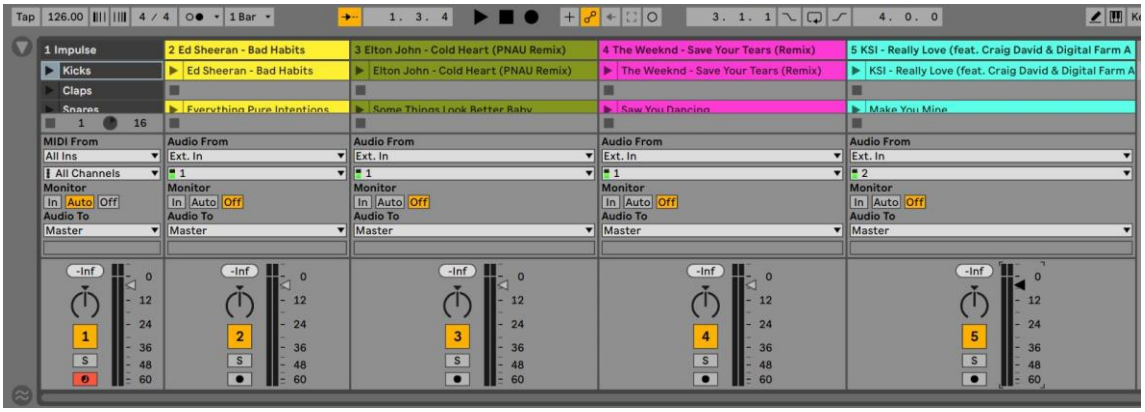
After making the Hihat clip, I make a copy of it and renamed it as "Drumloop". I save it and proceed to drag my Drumloop clip in my project folder to be saved as "Drumloop.alc". For me it automatically created a Drumloop Project but conatins the Drumloop.alc file inside.

I collect and save this live set as 20093613_AaronOBrien_MASHUP_PART3.als and create an alp pack with same file name.

Part 3 – Mix A (PLAIN)

Recall the buttons in the Show/Hide In/Out section. While still in session view I turn on the Mixer button.

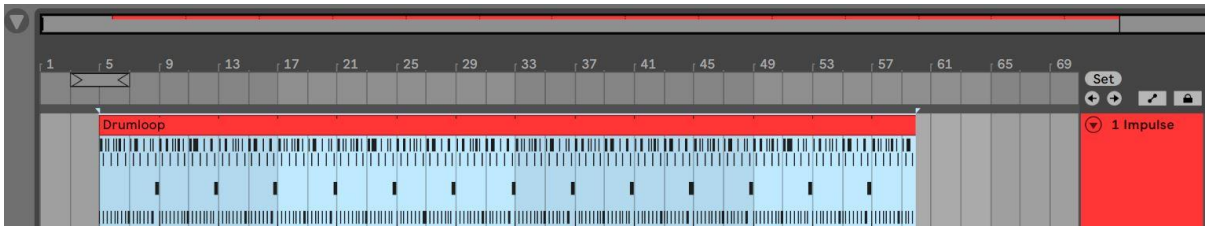
Having Mixer turned on allows me acess to the channel faders of each column. This is because I want turn each track down to -4dB (only for now, I will explain later why).



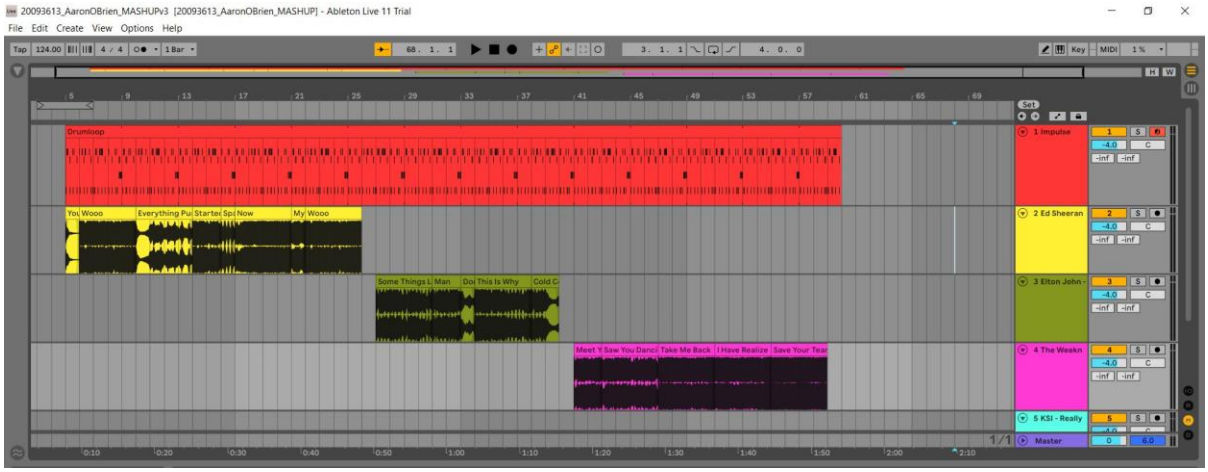
A) Creating The Arrangement

Beforehand, I switch into arrangement by the “tab” key. The red button as seen above is the “Back To Arrangement” button. I just click once to disable it, allow me to add my clips from sessions into arrangement.

I will begin with my drum loop I made in Part 2. You might have noticed I have change the colour to red, it was black previously. In session view under the impulse column, I select and hold my "Drumloop" clip and press the "tab" key to insert into arrangement.



By default the length will be a four bar, but I can drag the end of clip to extend it more longer. I want to do this because I need the drums background to be played over my 3 tracks. I learn this method because you can do this in another software named "Adobe Audtion". Lets add my songs now.



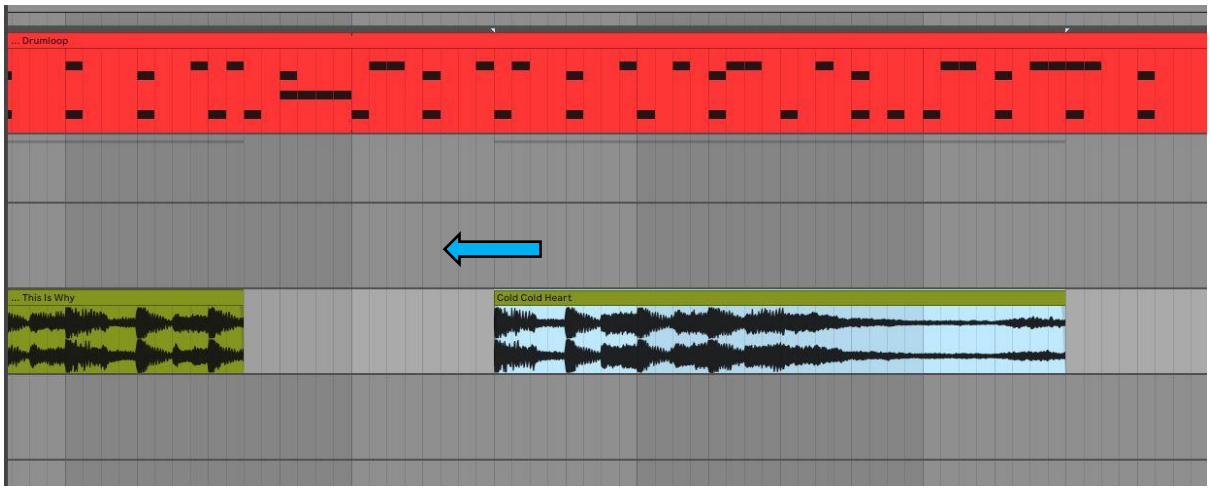
Its important for each song to be sepearted because having them in the one row could lead to problems like clashing audio and effects. In the image above, it looks good but however I did make a few mistakes.

For one, it going past the 60 secs mark which doesn't meet my requirments for my project. I should decrese the drum loop clip so there is around 56 seconds (whole number only). Then I can allow for some space at the start and end for some special effects later on. My songs should also be fix too as it is going past the 1 min mark. Therefore I should maybe have at least 3 clips for every song. Also up at the top, I should have the loop region be aligned with the clips too.

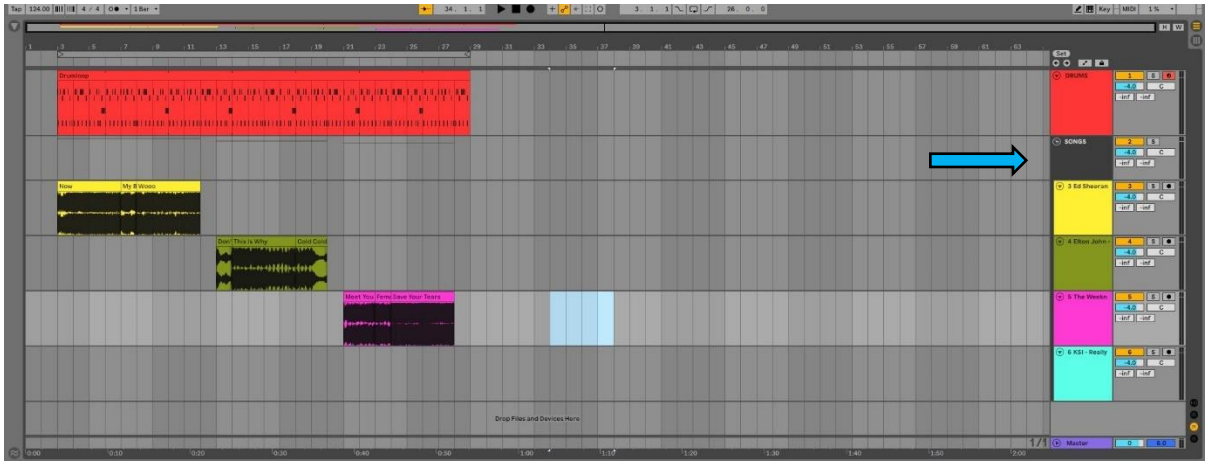
Even though I have my clips and they are inserted into the arrangment. Its important that they run smoothly with one another. To best describe it, say after hearing a clip that had calming beat. Then straight after there is another clip with a simiular beat but there bits of voacl cut off from the start of the second clip.

It sounds off and unprofessional if it was played by a radio station.To fix this I could trim the start of the second clip. Getting rid of the vocal and try to run it smoothly.

Below in the image, I am removing an unwanted clip(empty space), then dragging the "Cold Cold Heart" beside "This is Why" clip.



(Arragment Version 2)

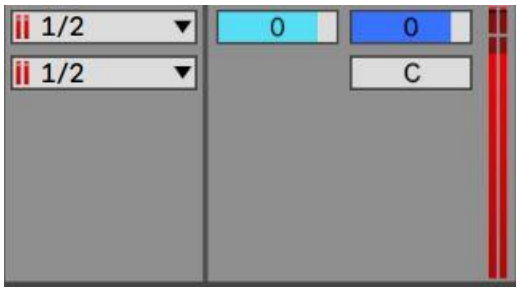


A neat trick to better organise my songs is to group them. You might notice it in the image above. There is track that is colour black with the title “SONGS”. To group some tracks, I click on my first one then hold the shift to click the next one and the next one. After that, right click on the mouse and there should be an option to “Grouped Tracks”.

Switching back to session view (“tab” key) now shows that SONGS group is inserted in. If you click on the symbol with the 3 horizontal lines, it will open the SONGS group where my tracks are stored.

A) Balancing The Volume

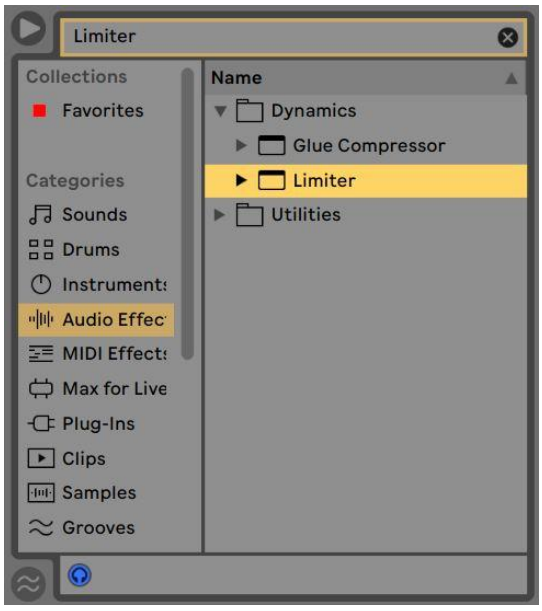
This is one of the most important tasks of this mashup project. Every song I have chosen is to have -4Db. This doesn't mean they are equally loud. Every song is produced differently. Also, I need to check if my drums are too loud. The goal is to not have the master level not clipping (turning red). I can judge this by ear and adjusting the volume or each track, so they sound equally loud.



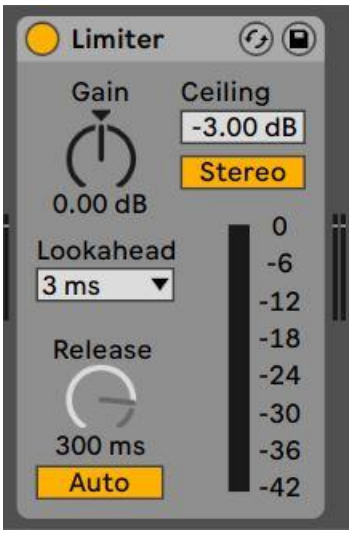
- I can't have the master volume at red at all. (Too Loud)

- Before I begin, I make sure Automation is turn on so I can adjust the track's volume

I will start with adjusting my drumloop first. I need a compression effect to reduce the clipping. In the browser section under Audio Effects, I type in Limiter in the search bar. Then with the drumloop selected, I double click on the Limiter to add the effect.



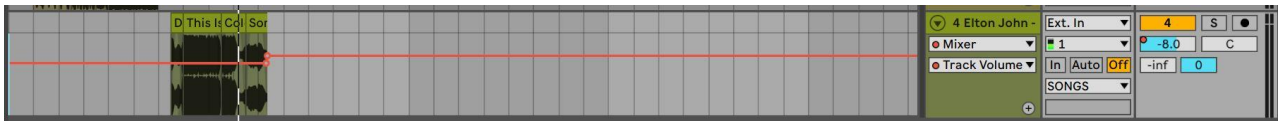
Limiter Device



Inside the Limiter device, I set the ceiling to be -3.00 db. The ceiling is the maximum level that the Limiter will output. Reducing the volume that may be too loud. Going back to the drumloop track, I also adjust the track volume alongside to get the right balance. (Green signal in the track volume while played means it is not clipping).

Down below are my tracks from the SONGS group. With the mixer button turn on, each track has a track volume I can adjust. The dB value can be change by clicking and holding it while using the scrollbar on the mouse to change values. This for me took a while as certain songs were louder than the other i.e. Elton John (Cold Cold Heart) was much louder than the next track.

Fixing the Volume for Elton John (Cold Cold Heart)



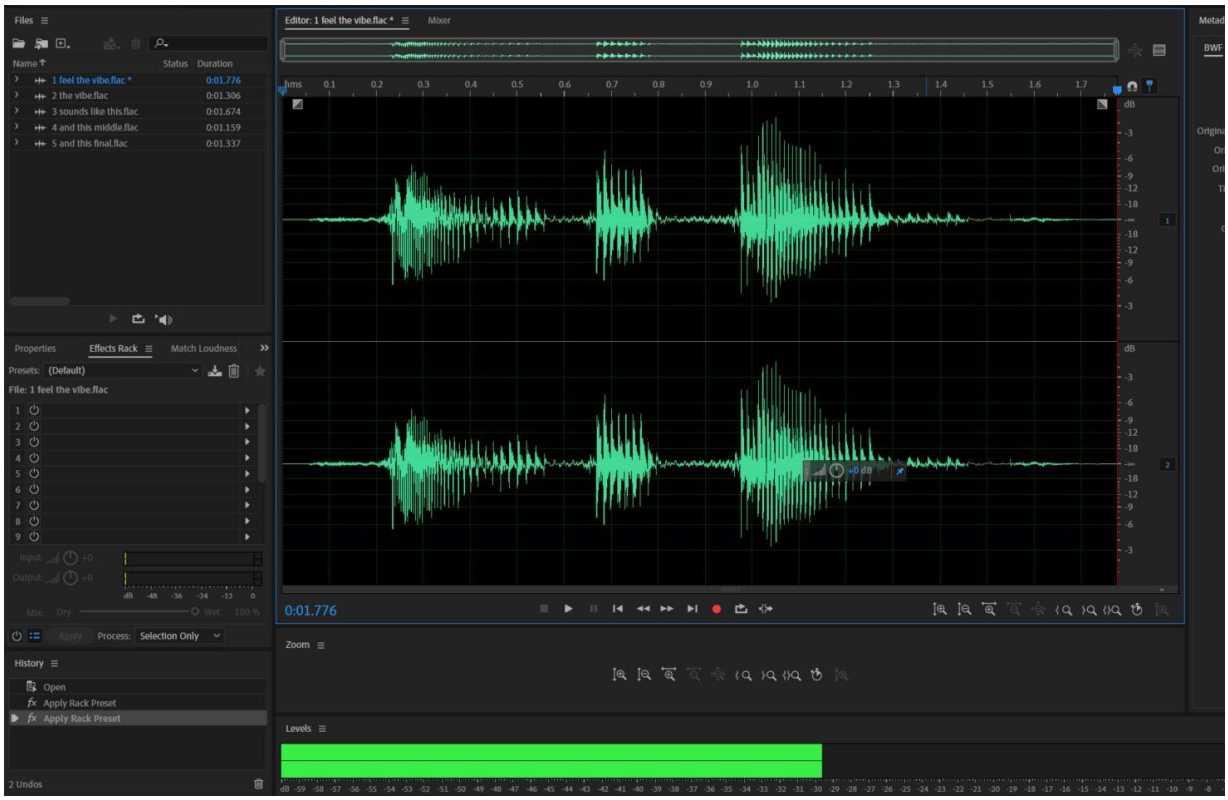
With Automation on, I click on the red dotted line to add a breakpoint then dragging it to -8:00 db. The second breakpoint (made by clicking the red line again) returns to the default -4.0 dB.

(Results)


Set
DRUMS
Limiter
Ceiling
All Ins
All Channe
In Auto Off
Master
1
S
-4.1
C
-inf -inf
SONGS
Mixer
Track Volume
Master
2
S
-4.5
C
-inf -inf
3 Ed Sheeran
Mixer
Track Volume
Ext. In
1
In Auto Off
SONGS
3
S
-9.2
C
-inf 0
4 Elton John -
Mixer
Track Volume
Ext. In
1
In Auto Off
SONGS
4
S
-8.0
C
-inf 0
5 The Weekn
Mixer
Speaker On
Ext. In
1
In Auto Off
SONGS
5
S
-5.5
C
-inf -inf
Master
Mixer
Song Tempo
60.0 - 200
1/2
1/2
0
6.0
C

Part 4 – VOX

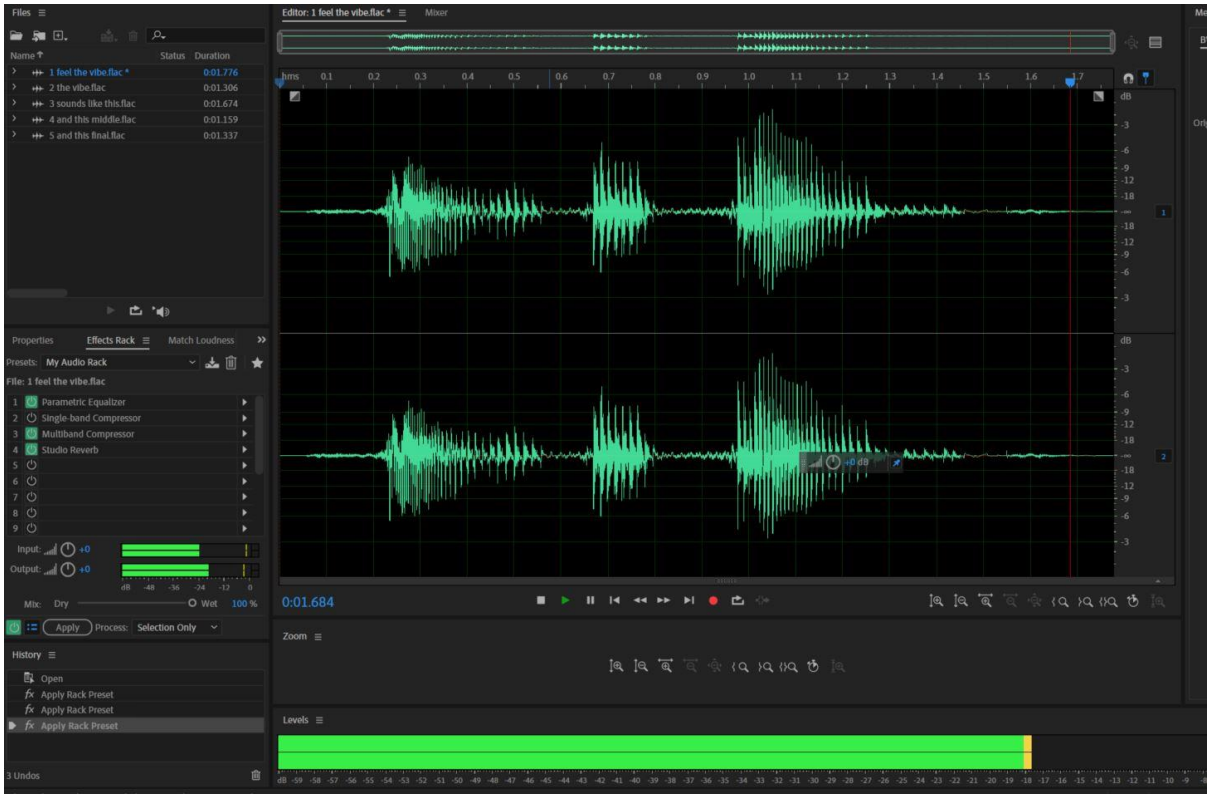
A) Processing The VO Files With



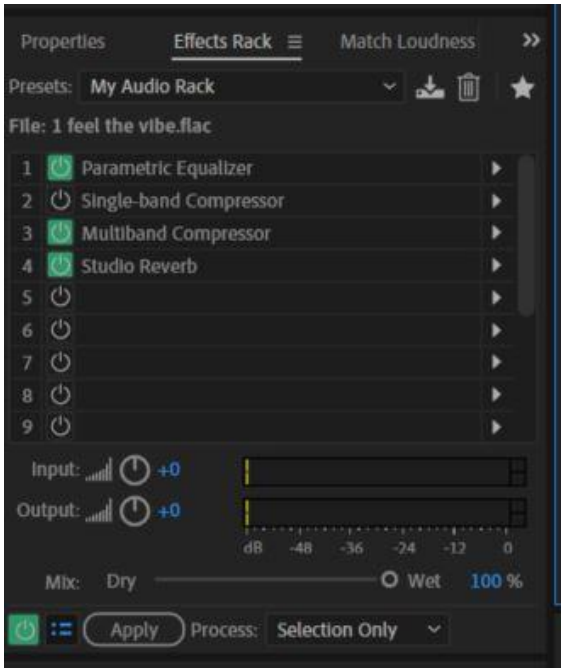
I am changing software now for this section of the mashup project. For my project I have been given five vo files (.flac) to be use in the project. Earlier in the semester I work on my first assignment which was making a voiceover. Adobe Audition was the software I used and at the time I made an Effects Rack to help enhance any voiceover recording.

Now with my saved effect rack, I can apply my settings to the VO files that I be using in the mashup project.

Selecting “My Audio Rack” on my presets in Effects Rack



With the VO file selected, all I need to do is press the “Apply” button in the image on the right. This will add the effect onto the file.

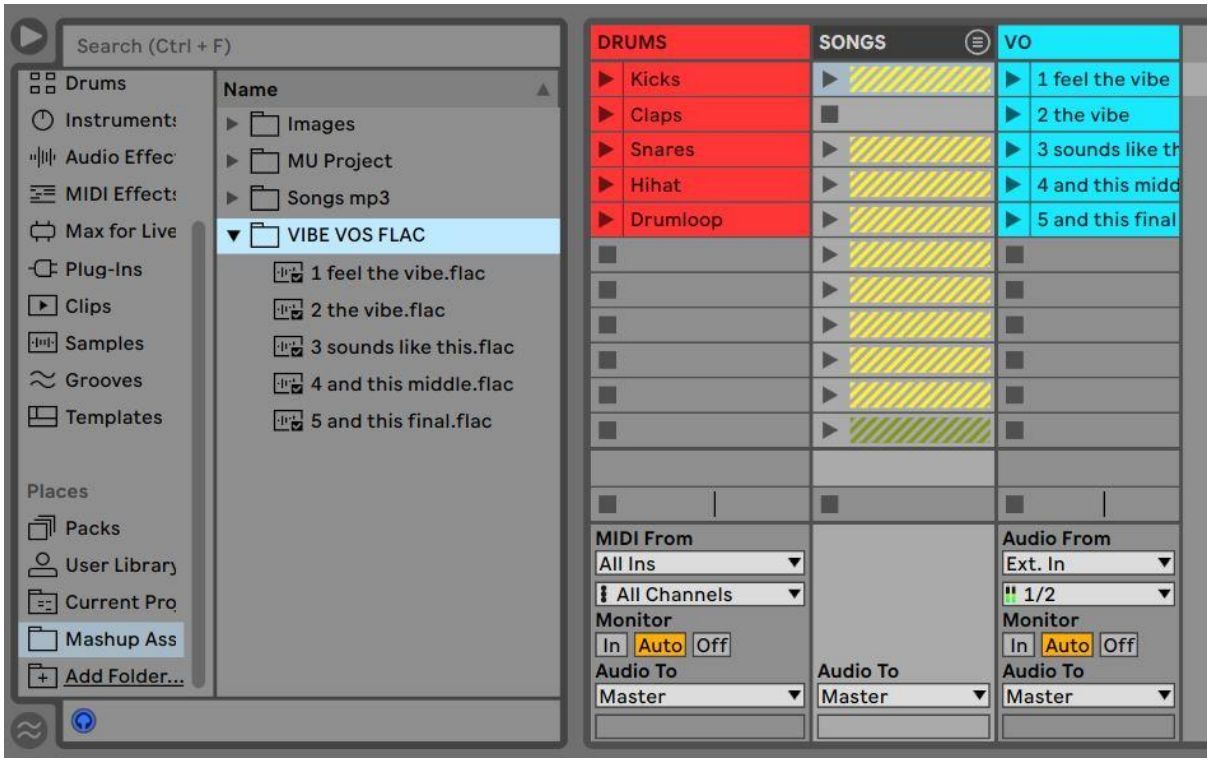


(N.B Make sure to save the file with the shortcut CMD + S)

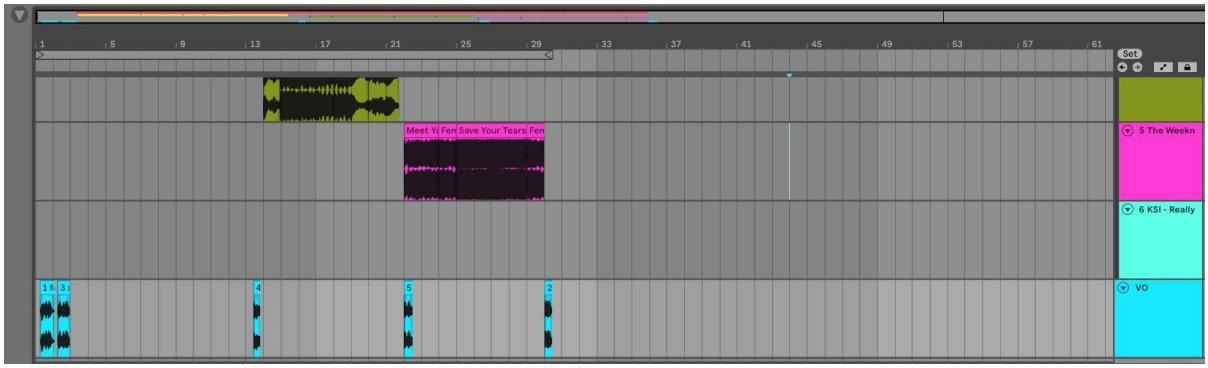
Now the VO is overwrited with the enhance effects. I repeat this process for each VO file I was given.

As a result, I can definittly hear the differenec. The new VO sounds more professional, giving a broadacast atmosphere.

B) Adding The Enhance VO In Ableton

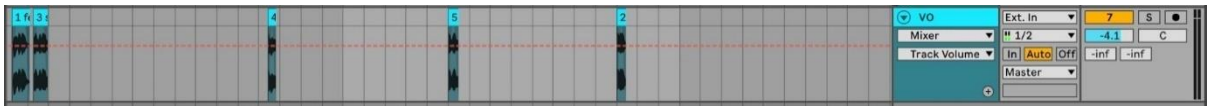


Like in previously steps for Part 1 when I added "Songs MP3" folder. I go into my browser under places section. Within my Mashup Assignment is the folder I was given to use (now with the enhance audio from Audition). I create a new column by right-clicking in Clip Area > Insert Audio Track, then dragging each vo file into each clip.



For each clip, I click and hold the selected clip. Then press the "tab" key to switch to arragement view to place my vo clip. However, I am not just placing them randomly as each one has a role. The two files label as "1 feel the vibe" and "3 sounds like this" are placed at the start before my drumloop.

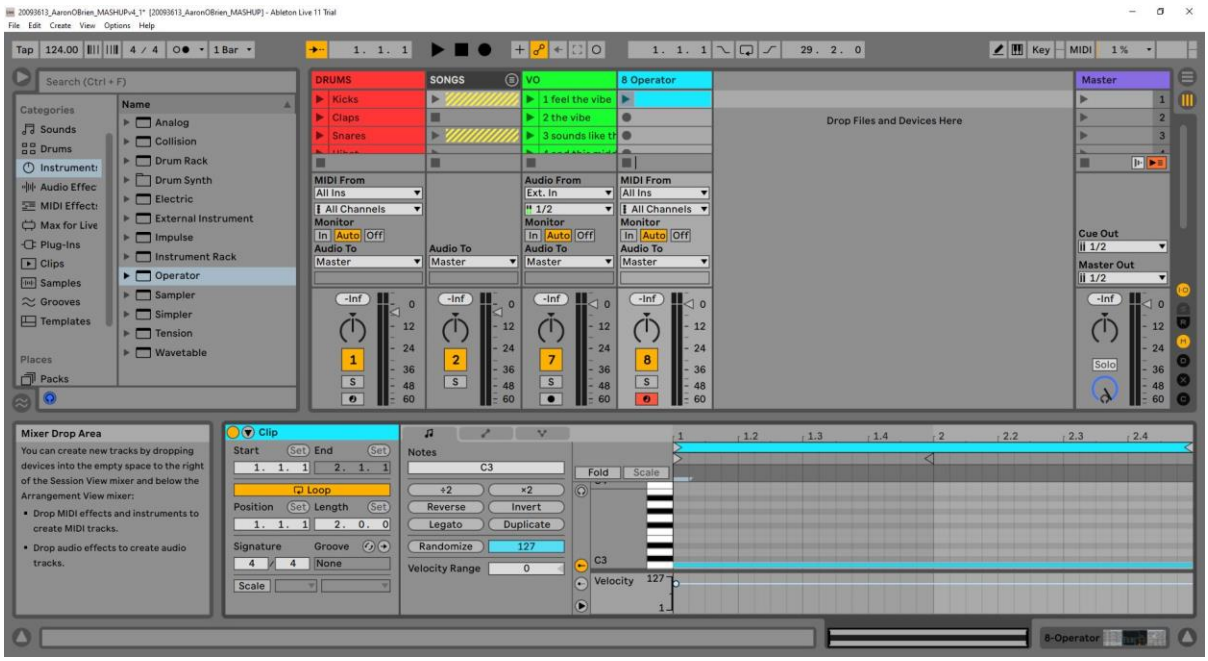
“4 and this middle” file is placed during the transtition between my first (Bad Habits) and second song (Cold Cold Heart). “5 and this finale” file is placed during the transtition between my second (Cold Cold Heart) and third/finale song (Save Your Tears). “2 the vibe” file is placed at the end of my third song (Save Your Tears).



I believe the Vo files are clear and are heard throughout the mashup. It not too loud either so it won’t affect the Master Volume Output (recall, the red clipping from Part 3).

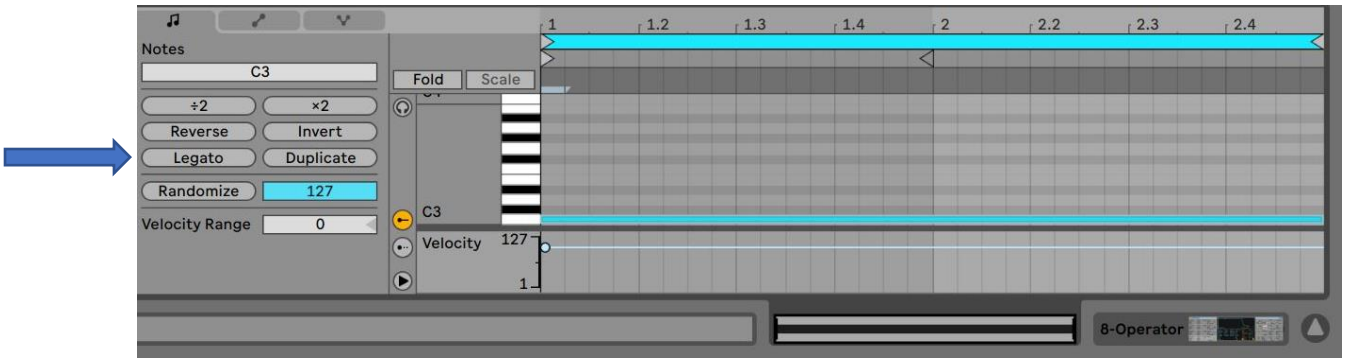
Part 5 – Audio Punctuators

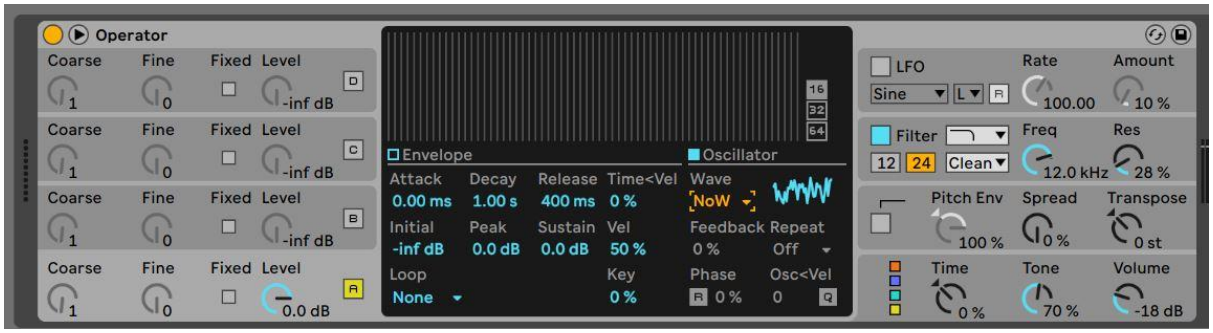
A) Creating A Basic Ramp



In this section of the Mashup, I am creating my own short audio punctuators. In the image above I am going to create a "swoosh" sound, this is often used for transitions between songs. To begin with, in my brower section, I select Instruments > Operator. (Recall when I made the drumloop back in Part 2, different instrument this time).

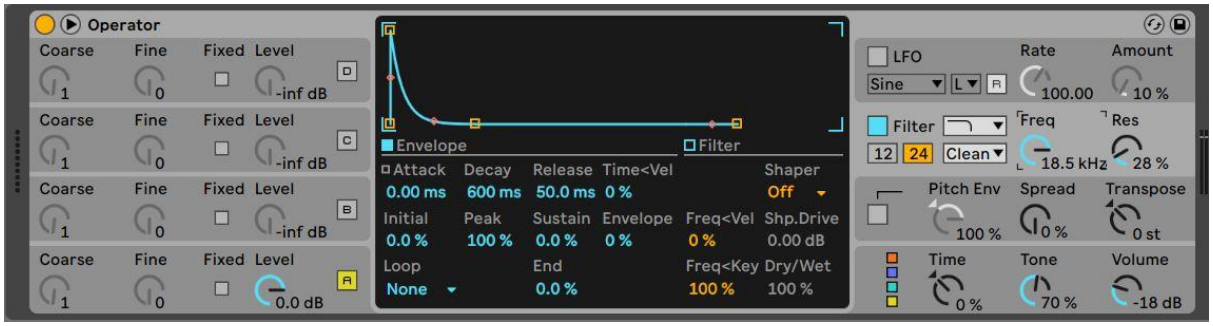
Inside the MIDI Note Editor of the clip I create a fill at the start of "C3" by double clicking. In the clip to the left hand side, I change the length from 1 bar to 2 bar loop instead. A neat trick I found was that if I press the "Legato" button while C3 is selected. It automatically fills the entire row of C3.



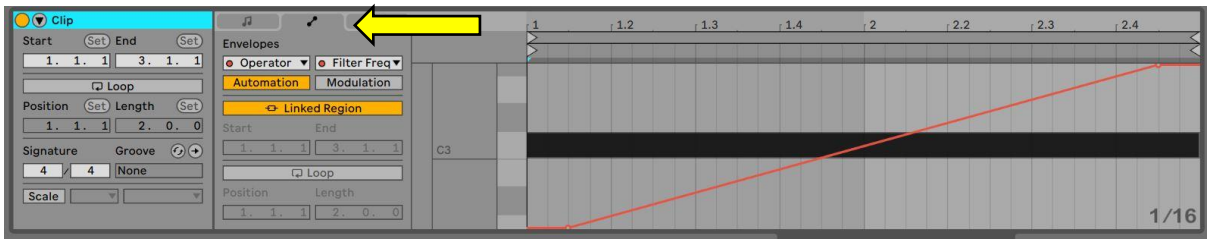


Back out of the clip, by selecting the title of the track (Operator). This will pop-up the operator device below the page. I only want to use A or label as “Osc A”. Click D, C and B buttons to them off except A. Next step is selecting the Osc A Waveform dropdown menu under “Oscillator Dispaly” (It is highlighted in orange above). I want to use White Noise, so from the dropdown menu I will use NoW.

If I play the clip above in the operator now, I would hear white noise which sounds like static from tvs. This is not the sound I am looking for in a swoosh but I can make it work.



On the right side of the operator device is the Fitler Freq meter. If I play the clip again while adjusting the freq meter from 0 to 18.5 kHz. It creates a swoosh sound that I am looking for. Doing this method also records the clip too for the C3 key I made earlier. Now the C3 key has sound thanks to the filter freq and white noise.



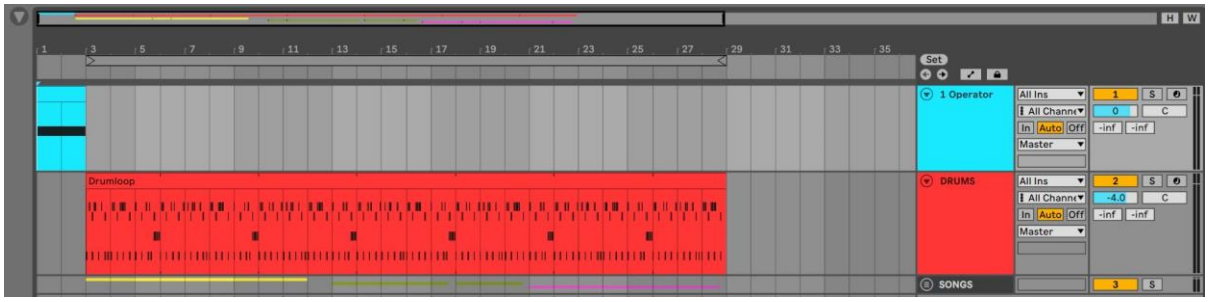
The next step is to double click on the clip inside the operator. Down below in the clip display, I will switch to the tabs to Automation.

Once I switch tab, automation is enable on the clip. This is because the “Envelopes” are automatically set to “Operator” and “Filter Freq”, which I just use earlier in the operator device. With Automation selected, I can now use the red line to make my swoosh sound.

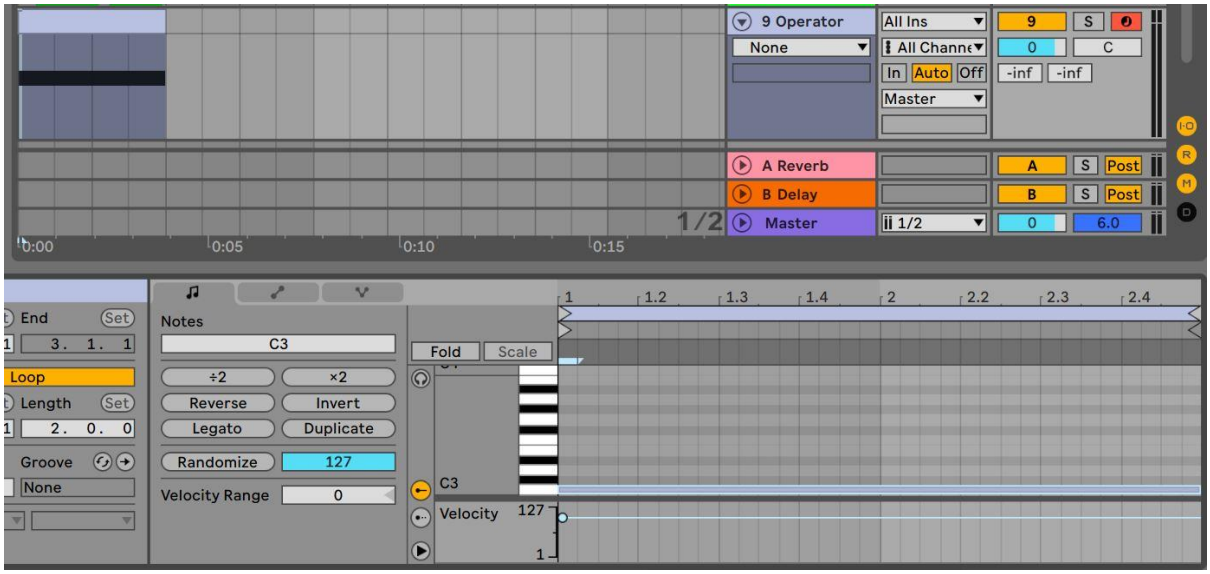
To do so, I create a breakpoint(red hollow circle) by clicking on the line at the start of the line and the end of the line. The start breakpoint is then drag down and move a bit across. The end breakpoint only out to left.

This results in a narrow hill, but this is good because it gives a buildup for the swoosh sound.

The last step for making the basic ramp is to save the clip (floppy disk) and drag it to the arrangement. This will be placed at the very start of the mashup, before the drumloop.



B) Downer

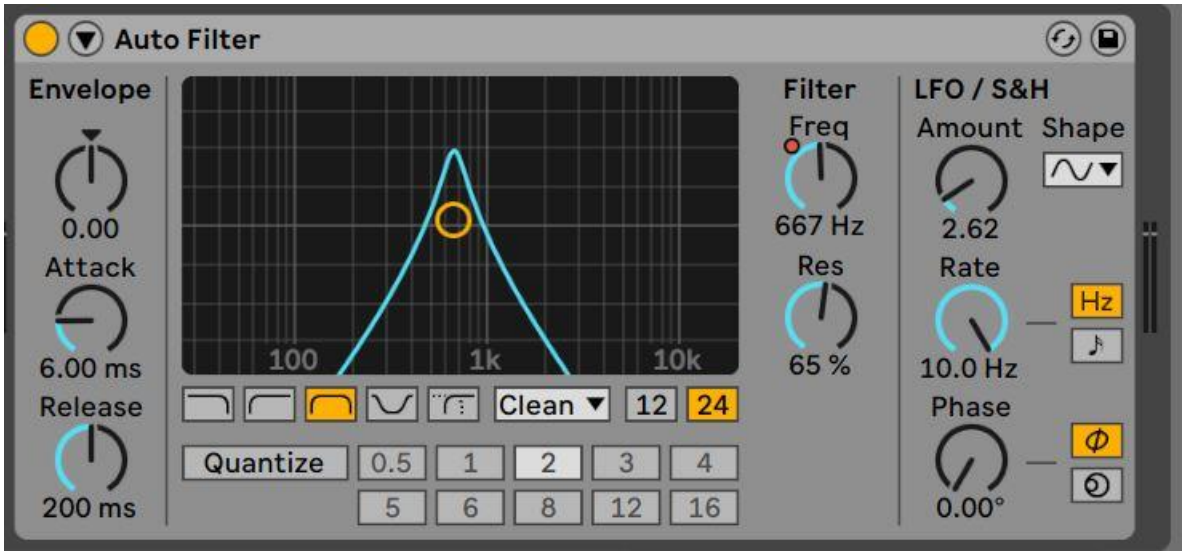


The next audio Audio Punctuator I am making is a Downer, the opposite of a Riser. It can be created similuar to a ramp, as it also uses White Noise (NoW). Operator is used again as the instrument, this time in arrangement view.

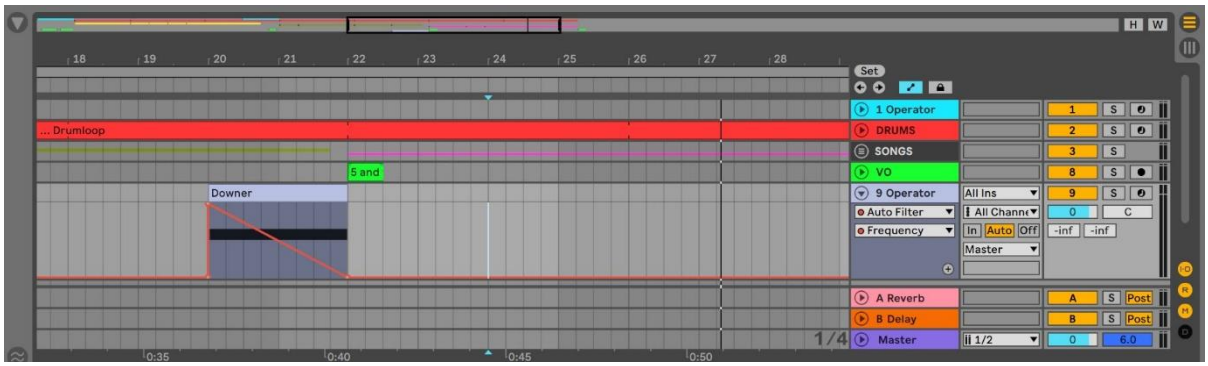
To create a region, I click and hold the mouse. Then right-click to "Insert MIDI Empty Track". Below in the MIDI Note Editor, I repeat the same process again and add a fill to "C3". Then press the Legato button to fill the row til the end.

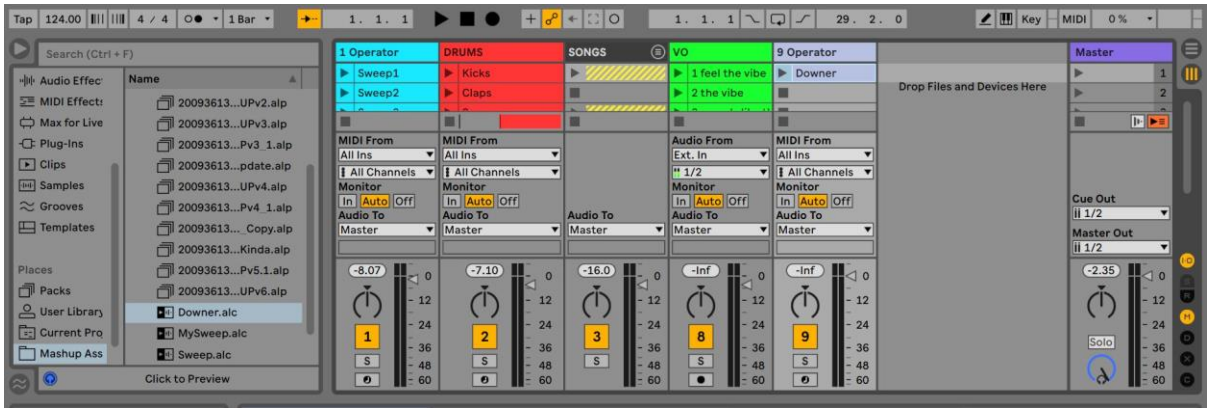
(Same settings as the basic ramp)

To make things different, I will use an Auto Filter. The filter type is a bandpass, the Resonance is increase to 65%. As seen above, I set the automation in a downwards diagonal line.



I increase the Rate to 10.0 Hz to make it the effect of LFO more obvious. Down below, is where I can put the Downer for the transition between the second and third song. In the session view, I make a copy of the clip I made in arrangement. (Holding the clip in arragement and pressing “tab” key on the empty clip slot).

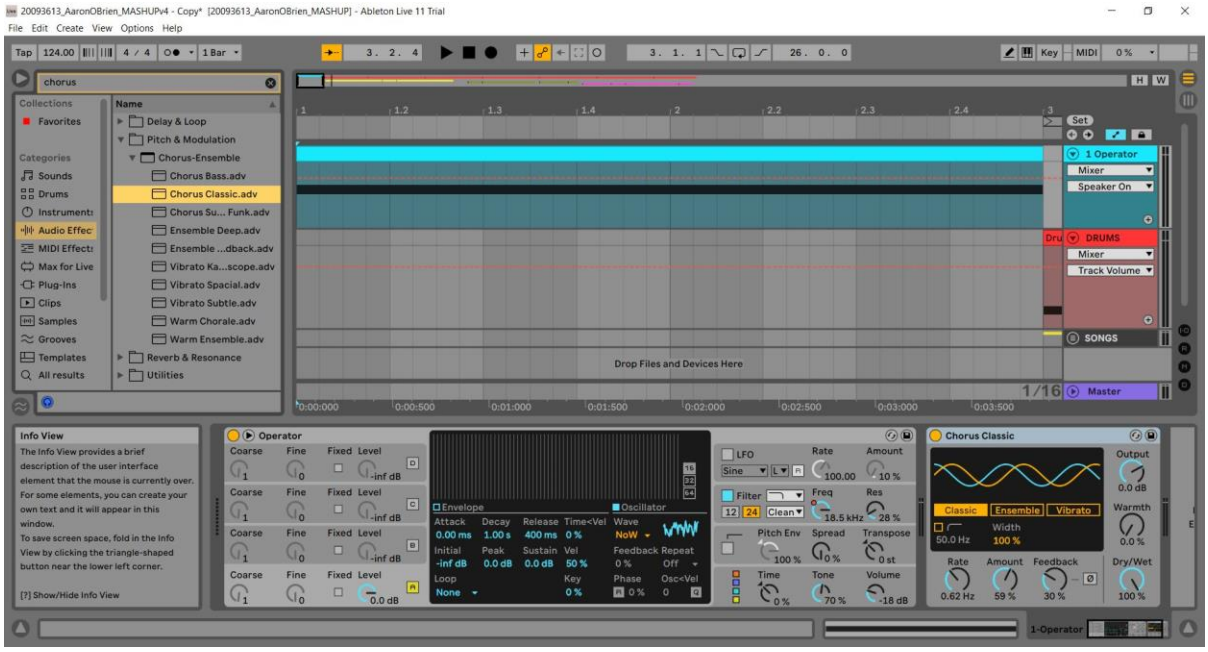




Part 6 – Mix Final (With FX)

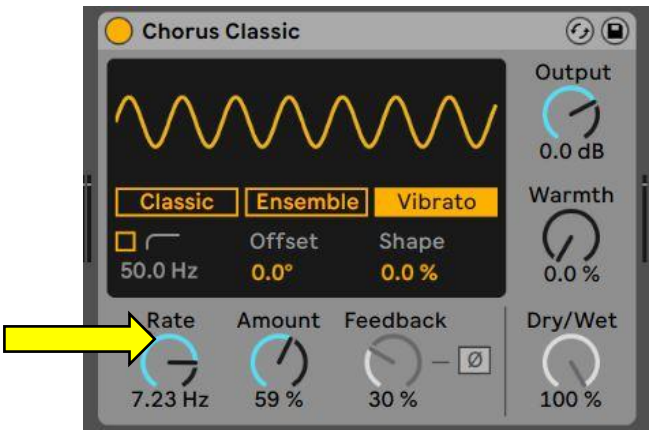
A) Fitler Sweep

Continuing from the basic ramp I made back in Part 5, I will now make the swoosh have a bigger effect onto the mashup. This is done by applying a couple of audio effects that Ableton offers.

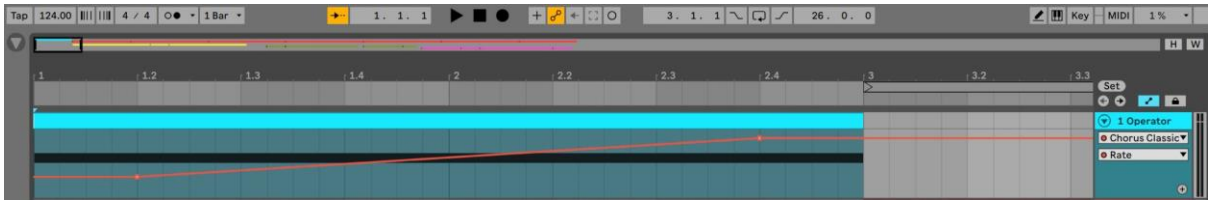


The first effect I am adding is “Chrous Classic”. Chrous is use to thickin up the sound. If I want to make the effect obvious, I can change the Chrous-Ensemble Mode to “Vibrato”. This means that it applies a stronger modulation than a chrous to create pitch variation.

Going back to arrangement here, I can automate the rate overtime for the chrous effect. In the Chrous Device, I can adjust the “Rate” meter as the track is playing.



Inside the Operator track I can select my automation to the Classic Chrous effect, then the second dropdown menu to “Rate”. To change it overtime, I can add a breakpoint at the start and end. In the image below, the rate is incraseses overtime.

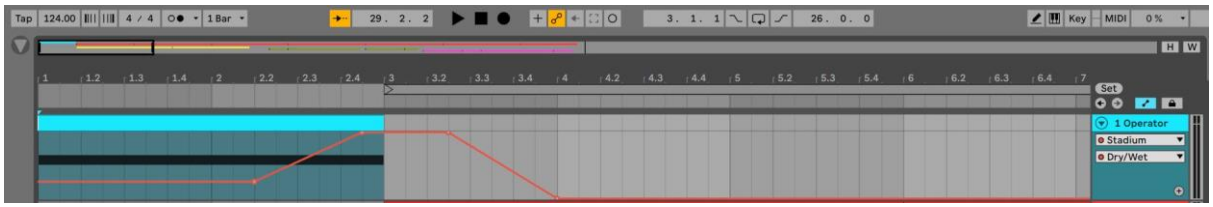


(Reverb Effect)

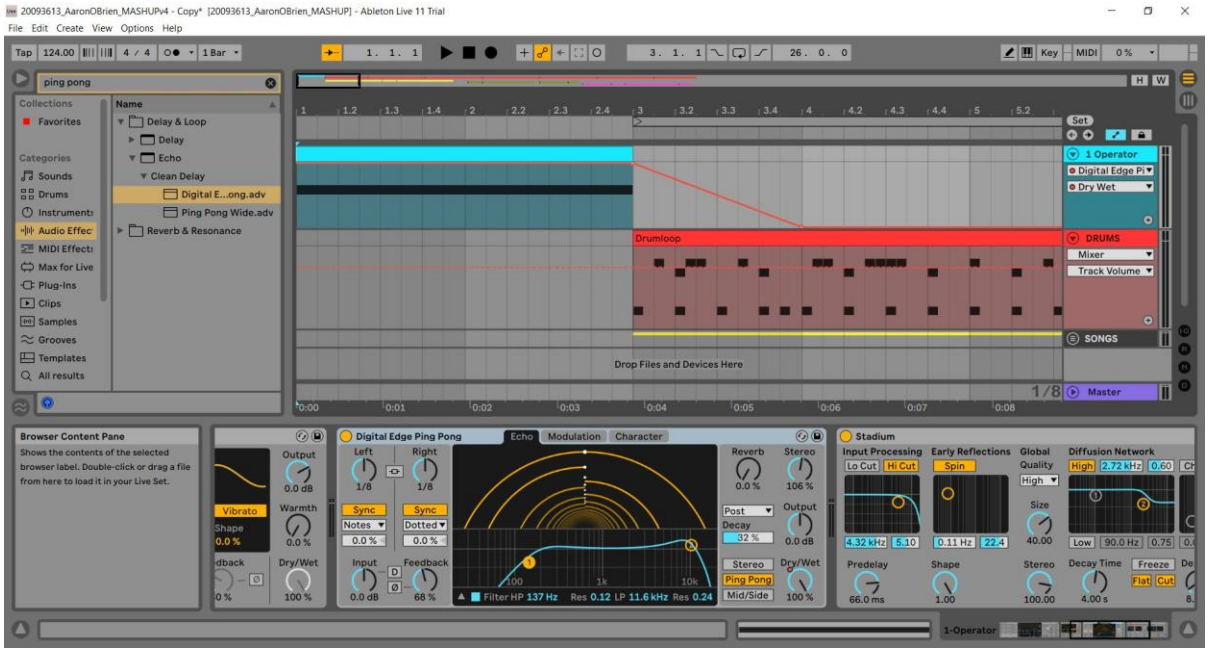
Reverbs is a commonly used effect in audio production, it gives off a echo effect. The reverb I chosen is “Stadium”, as seen above there is a Stadium device setup. Simular to the chrous effect, I want to have the reverb effect overtime on the track. Again with automation turn on, I select the Stadium effect in the dropdown as well as the “Dry/Wet”.

(N.B Dry is the origianl sound with no changes or effect. Wet is when the original sound is edited and have some effects applied.)

The automation will start with the original sound but as it gets to the end, the reverb is clearly heard. Creating a buildup overtime and giving the ramp a echo sound at the end of the track. As the reverb reaches the end of the rack, I want the reverb to fade out as well.



(Delay Effect)



This is good effect along with reverb because when mangaed right, it can create more echoes. The delay effect I used was “Digital Edge Ping Pong”. However, delay effect must happen before the reverb. To do so, I can drag the delay effect along the chain to a different position.

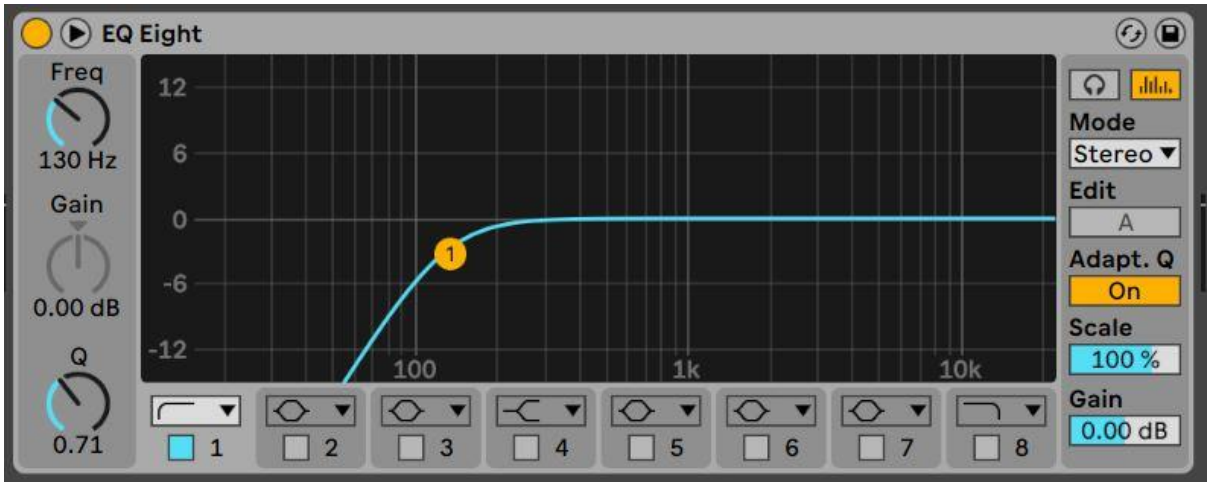
Should be like this : Operator > Chorus Classic > Digital Edge Ping Pong > Stadium

As before, I want to use the automation for this delay. Select the dropdown menu as “Digital Edge Ping Pong” and then “Dry/Wet” like the reverb. In the image above, I have the delay effect going very high during the duration but takes a sharp decline as the track finishes.

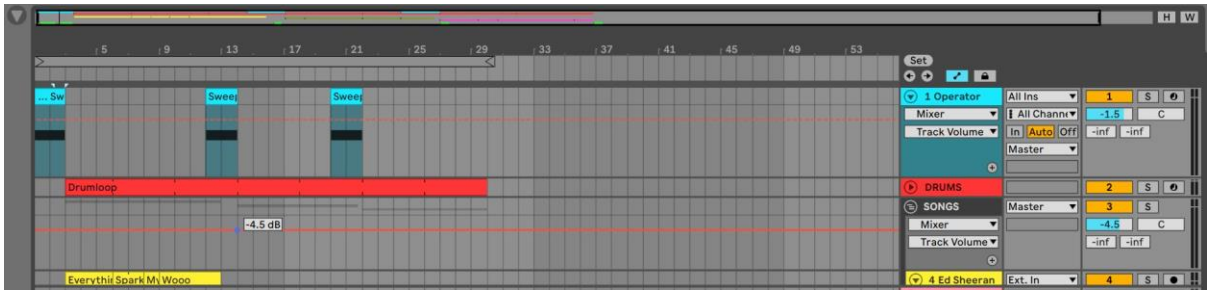
(EQ Effect)

The finally effect for the ramp is the EQ8 effect. This time I want to move the eq8 device at the very start of before chrous and after Operator.

Update : Operator > EQ8 > Chorus Classic > Digital Edge Ping Pong > Stadium



Next I turn off all of the filters execpt for filter 1, because this is going to be a high-pass filter. To change to high pass filter, I select the dropdown menu of filter 1, then select high-pass filter symbol. The filter freq is 130 Hz at the top left corner. I am doing this because I want to hear high frequencies only.

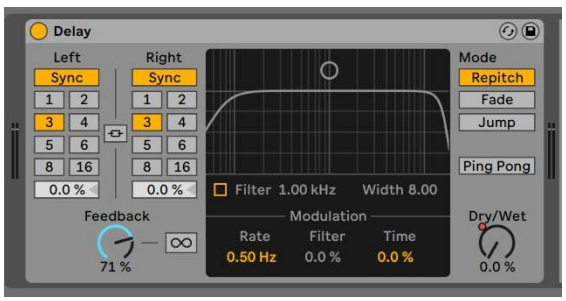


Now the first fitler sweep is done, I can copy the clip and place them between the gaps of my songs as an transition.

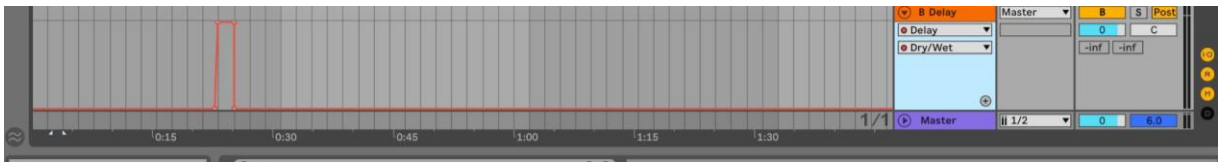
B) Delay

Recall back at part 1 where I tried to make the session view easier to view. There are show/hide buttons on the bottom right of the arrangement. Now I can use the effects which effects reverb or delay for my songs above.

I chosen the delay effect for the transition between song 1 (Bad Habits) and song 2 (Cold Cold Heart). Along with the fitler sweep at the very top of my arrangemant. I can create more echoes when the transitions happens.



This is the Delay device, on both left and right channels are set in synch for delay mode. This means that the beats division switchers specify the delay time in 16th notes. “Repitch” transition mode causes a pitch variation when changing the delay time.



Simiular when I was making the Fitler Sweeps earlier, I want the delay to be use overtime. To do this, I have automation enabled and select “Delay” in the dropdown menu with “Dry/Wet” enabled too. Next I create a four breakpoints, almost making a doorframe shape. When the effcet arrives for the transittion, it would create echos and will quickly close away back to 0 db so the it won’t clash the next song playing.

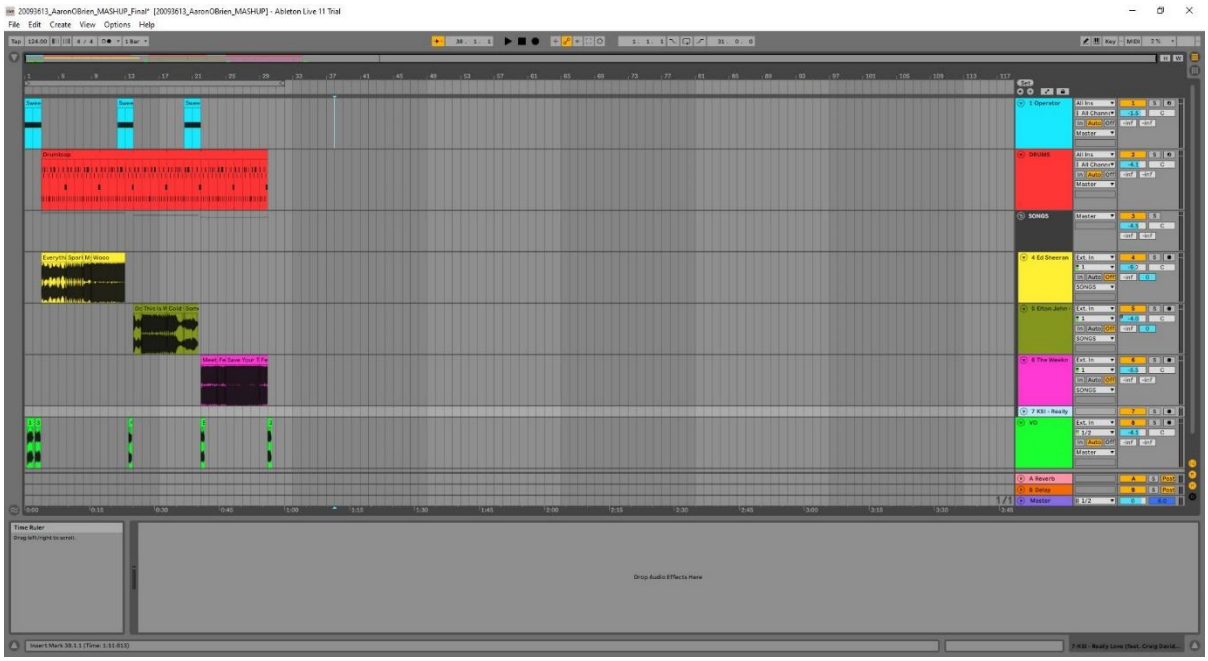
(Another delay effect – Ping Pong Wide)

For my second transittion, I wanted to use a different delay effect. This time the automation is link to the track (Cold Cold Heart) only. As before, I select Ping Pong Wide as my effect I want to use for automation (Dry/wet). Simular to the delay effect previously, the breakpoint starts at the end but only rises for a short time and is then lower back down, so the effect doesn’t go on forever.

C) Reverb

For my finale song “Save Your Tears”, I want the end the song with a echo effect. Reverb is the effect I believe would suit this to close off the mashup project. I chose the reverb effect “Large Space Chorus”. The automation is selected for it and I have the beginning right at the end of the song, rapidly incraeses high but drops down immendiatly.

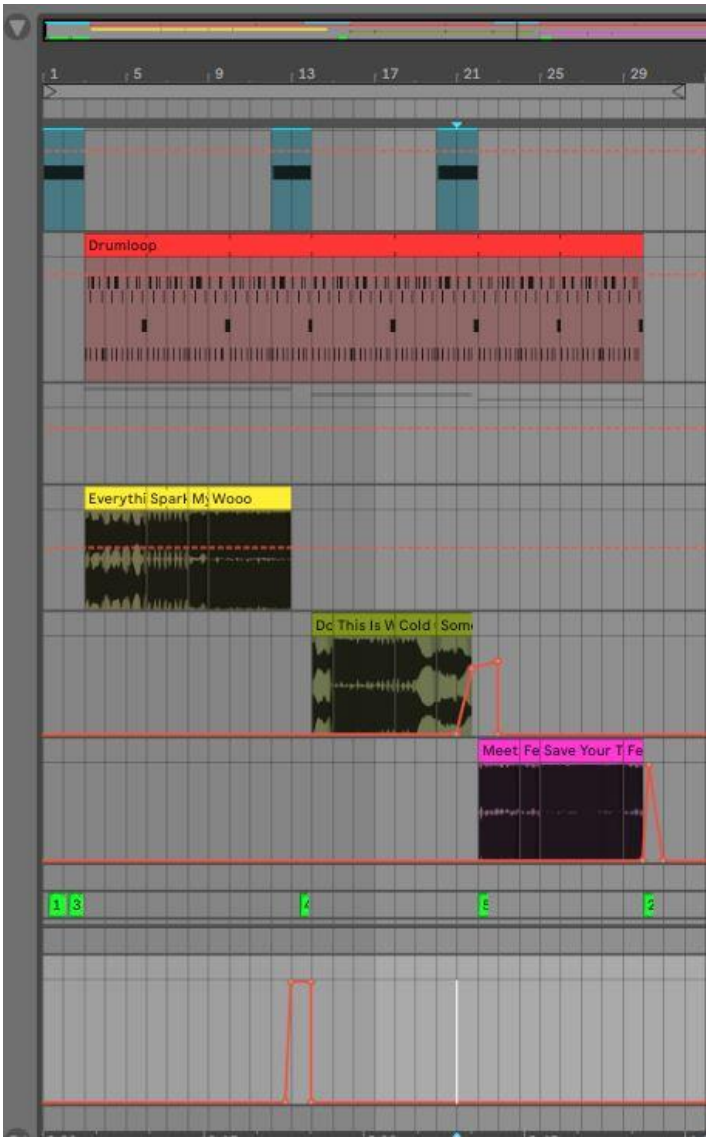
D) Final Arrangement

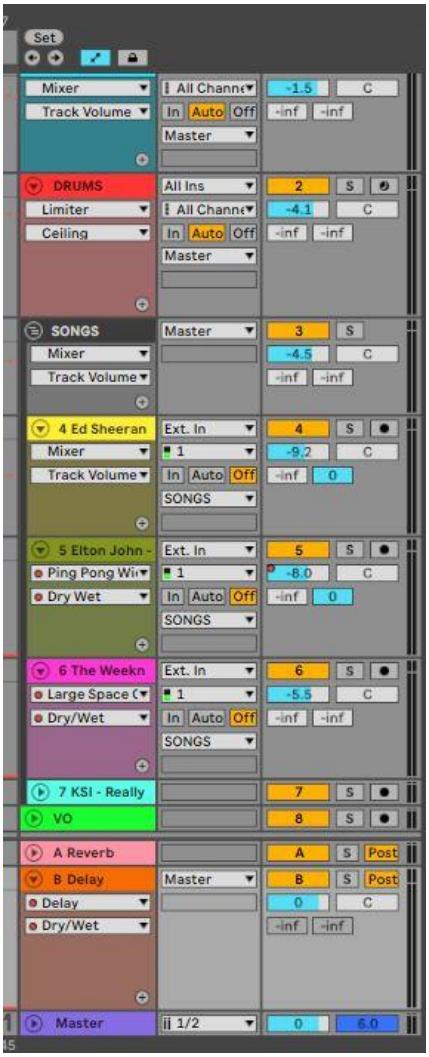


I made a couple of small changes since I shown the arrangement in full. I had to remove and fix some of clips as I felt they didn’t sound good enough for this mashup. For the VO track, I change the colour to bright green so it can stand out more. One issue I didn’t realize much later was the loop region was incorrect. My Downer track is not there because I decieded it didn’t fit well with my mashup. So I use a copy of my filter sweep instead.

Making a mashup can a long and difficult process as it can be overwelming to navigate through the menus. I had to just take my time with each part and experiemnt what work or not, espcially making the clips or the fx settings.

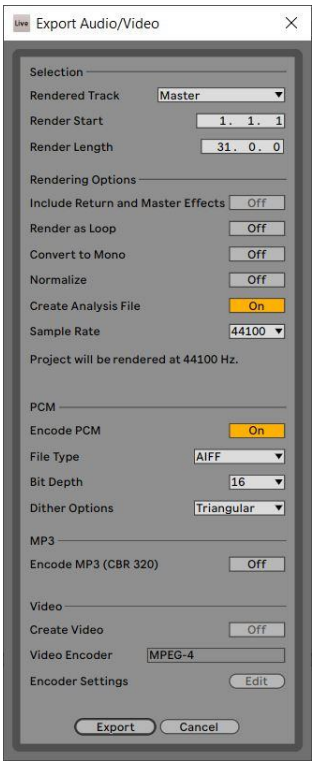
(With FX Automation Settings)





Part 7 – Final Mixdown

I want to now export my mashup audio into an aif file. In the image on the right hand side, are the Export Audio/Video settings. To begin I have to turn off Complex Analysis File. Everything else is fine, I make sure that AIFF is selected. Then I press the Export button.

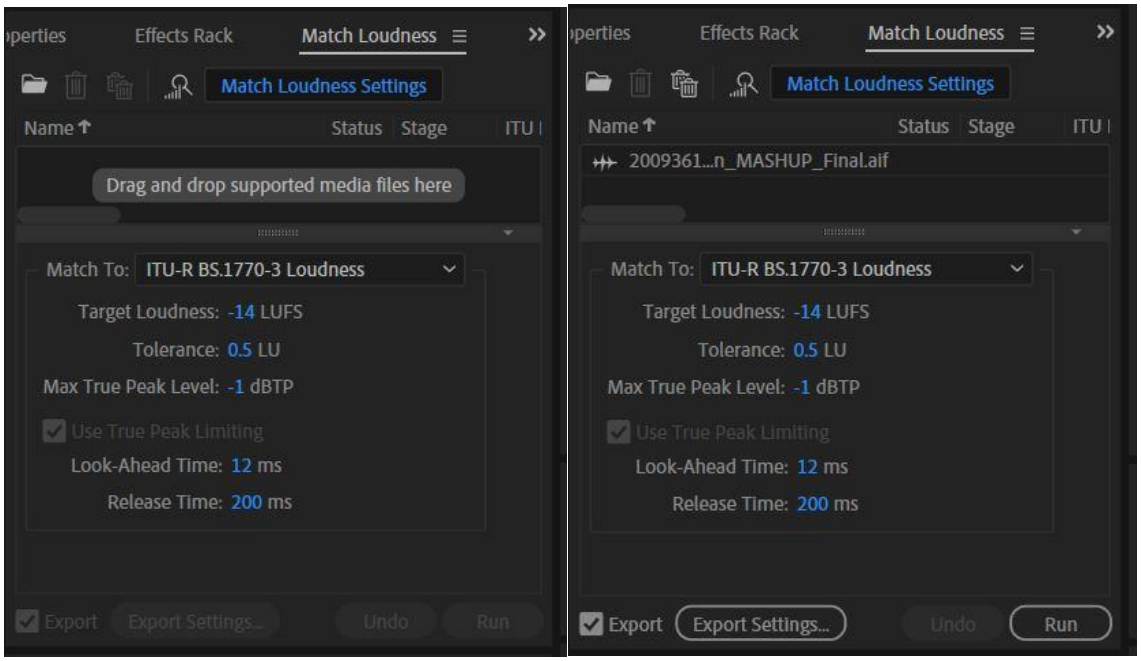


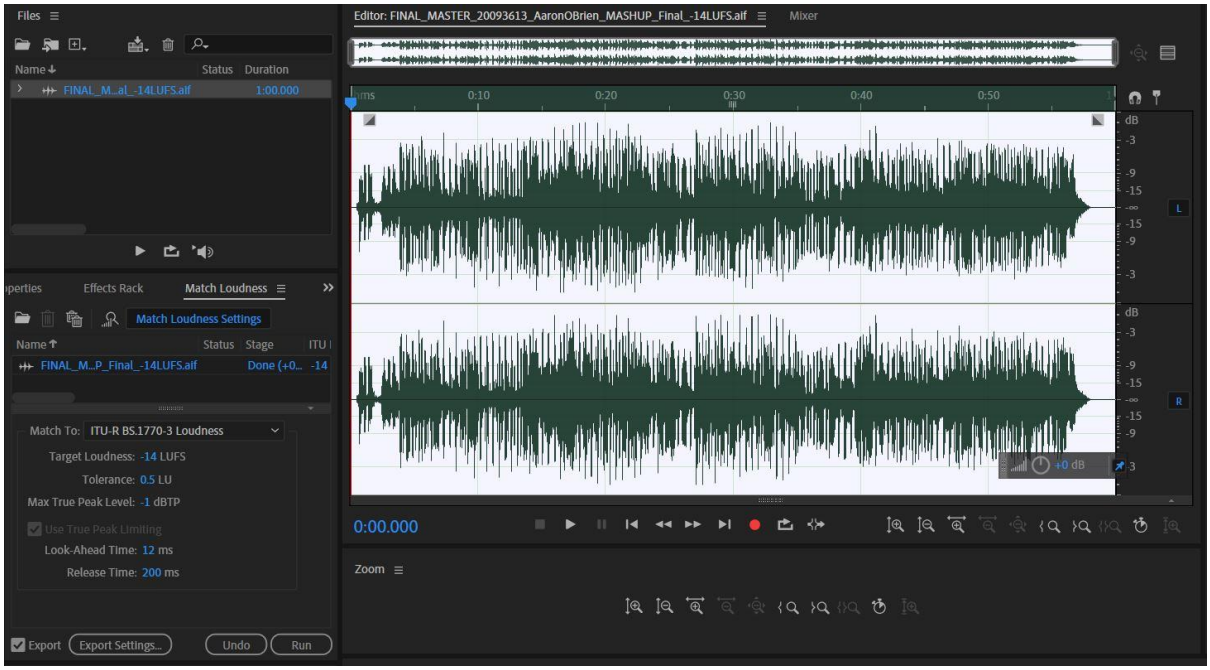
My file is now called, 20093613_AaronOBrien_MASHUP_Final.aif file.

What I can do next is to use the aif file and export it to other file formats(eg: MP3, Ogg)

The software I can use for exporting is Adobe Audtion.

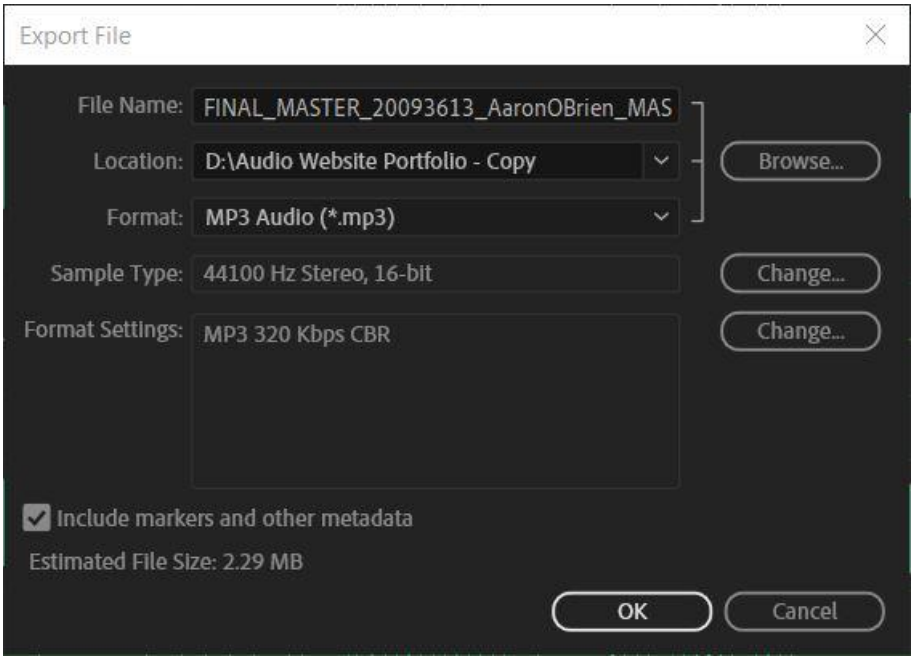
Before I do exporting, I want to master the audio for a loudness level of -14 LUFs. This is comonly used by music plantforms such as Spotify and Amazon.





Now the aif file is masterd to a loudness level of -14 LUFS. Thefore, when I export to other file types like MP3. It will also have a the -14 LUFS.

If I want to export my aif file I go to File > Export. A window will appear.



- Exporting AIF To A 320 Kbps Mp3 file

After finishing exporting my files, I can now add them to my code for my portfolio website. The reason I am making so many formats is beacause of internet speed and file storage. It's a way for users to download my audio at a lower file size but sacrifices audio quality.

```
  <H3>Listen</H3>
<audio controls>

 <source src="20093613_AaronOBrien_MASHUP_Final_-14LUFS_01.aac"
         type='audio/aac'>

 <source src="20093613_AaronOBrien_MASHUP_Final_-14LUFS.oga"
         type='audio/ogg; codecs=vorbis'>

 <source src="20093613_AaronOBrien_MASHUP_Final_-14LUFS(128).mp3"
         type="audio/mpeg">

 <p>Your user agent does not support the HTML5 Audio element.</p>
</audio>

       <H3>Downloads</H3>
        <a href="WIT-SMT-20093613-WRITEUP.pdf">WRITEUP PDF</a>
        <br>
        <a href="20093613_AaronOBrien_MASHUP_Final_-14LUFS(320).mp3">MP3 (320)</a>
        <br>
        <a href="20093613_AaronOBrien_MASHUP_Final_-14LUFS.aif">AIF</a>
    </body>
</html>
```

- Using Notepad++ for coding my portfolio website

(Results)