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25-8-2024

## AUD214.2 Mixing Methodologies Example 1

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You may format the template however you wish but be sure to address the requirements of each section

hint: Use command + shift + 4 for screenshots

# AUD214.2 Project 2

## Mixing Methodologies

*Use this template to guide your project. Complete all sections & add sections if needed.*

Student Name: Casino Biddle-Cserney



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## Use of AI Tools Declaration

**Note: You must complete this section accurately in order for your work to be assessed**

### Declaration

I declare that I **haven't** used Generative OR Assistive AI within this project in accordance with SAE Academic Integrity Policy.

### Details

No generative or assistive AI was used for this project, though assistive tools such as Grammarly and MyBib were used for grammar mistakes and APA7 referencing

**Student Signature:** Casino Biddle-Cserney

**Date:** 16/08/2024

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## Rock/Band Mix (Research Informed Mixing)

In this project section, you will mix a multitrack selected from the **Rock/Band Category**. The emphasis will be on **researching practitioner insights** and **incorporating techniques** learned into your own mixing practice.

In this section you will complete:

1. Investigation Of Practitioners Within The Genre
2. Mix of a Rock/Band Multitrack (Research Informed)
3. Post Mix Reflection (250 words, 1 reference in APA7)

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## 1. Select Multitrack

Select a multitrack from the Rock/Band via Campus Online or source your own.

Import the multitrack into either Pro Tools or Ableton and prepare them for mixing.

**Artist Name:** Wires

**Track Title:** Red on You

**Genre/Style:** Metalcore

[Unmixed/Unmastered](#)



[Mix/Mastered](#)



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## 2. Investigation (LO3)

My chosen track was quite different to the tracks my chosen practitioners mixed, though I found a lot of their methodologies to be quite helpful.

I knew I would need a method of removing audio bleed on drum mics as after analyzing my chosen multitrack I noticed that was going to be a problem. Mike Dwyer of 'The Bunker Recordings' provided a helpful tip in his YouTube video on removing audio bleed from hi-hats on snare mics through two methods. I focused on using his first method in which he uses a multiband compressor to control the high frequencies where the cymbal bleed was most prominent and allowing everything else to pass so the initial thump of the snare was not affected as much (2019)

I knew I wanted the bass to sound beefy and gritty to fit within the sound of the track, and through my research I stumbled upon a video from Mix with the Masters with Tom Lord-Alge (2021) and the techniques he used to get a gritty bass sound. He starts with two bass tracks (DI & amp) adding a slight shelf to the DI track boosting around 400Hz. This adds a bit of character to the bass and makes it feel less hollow. Tom continues on with the amp track where he uses IK Multimedia's Amplitube to add a lot of distortion to the harmonics of the bass giving it a bit more punch in the track.

Next I wanted to look into creative techniques I could try incorporate into the vocal mix and again, stumbled upon a video from Mix with the masters featuring Tom Lord-Alge (2020) and the mix he did for Sum41's 'Fat Lip'. Though there was a lot I could have taken from this video, one technique I enjoyed of Toms use of effects on the vocals including distortion, delay, filtering, and flanging. Toms use of the delay a filter to create a sweep effect filled the space add helps to transition from the verse into the hook/chorus. Though this mix is drastically different to what I will be doing, I found this method creatively interesting and wanted a way of incorporating it.

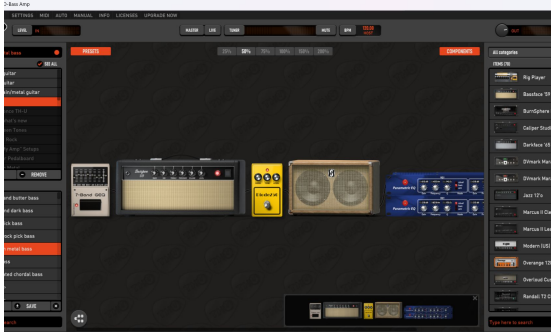
Lastly was to figure out the mix for the guitars as I knew along with the vocals, they were going to be a key component throughout the entire track. I found two sources that helped dictate my decisions moving forward with this mix. An article from Spectre Audio talks about using double tracks with metal guitars and panning them hard left and right. Along with a few other variables that need to be taken into consideration when recording the tracks, this method helps to not only make the guitars sound more full and expansive, but it also helps to make them sound more aggressive as it essential doubles the low-mid frequencies (2023. a), which aggressiveness was going to be an important factor for my mix. The article also mentions that double tracking helps to add clarity to the mix by widening the sound giving it depth (2023. b). Having my guitars panned hard left and right is important as I wanted them to sound full and in the mix, without taking away from the vocals which I needed to pop through in the centre stereo image.

The article follows with techniques of using an EQ with a low and high pass to remove any muddiness that would be caused by the low-end frequencies, and clean up any harsh frequencies in the high-end reducing ear fatigue (2023. c). This technique is also expanded upon in Joey Sturgis' Video 'How To Fit Guitars In A Mix'. Other methods Joey uses for finding a balance for guitars in the mix is to adjust the gain and presence on an amp plugin to find a sweet spot with the sound. Adjusting the gain will give you a louder sound overall and adjusting the presence affects the higher frequencies giving the sound a bit more clarity through the mix. Finding the right balance between the gain is important as too much gain may make it sound loud, but it can push away every other element in the mix, making it sound flat and noisy, whereas too little gain will make it sound too quiet. Too much presence on your guitars and they can start to sound thin and harsh. (2022. a). Another method Joey uses to find a balance for the sound is to crank the guitar tracks loud and listen to what elements start to go missing, then he pulls back the volume till its just under everything else to see what really pops through. He uses this technique to help dictate where he should make adjustments not only to the EQ of his guitars, but also informs him on problematic areas of other elements he will need to adjust (2022. b). If you notice that even with the guitars loud, the cymbals are still over the top, you may want to high shelf the guitar to allow those frequencies to cut through, or when your guitars are too low and the midrange of the bass or drums is still sounding flat, boosting either of them around 500Hz may allow it to sit better.

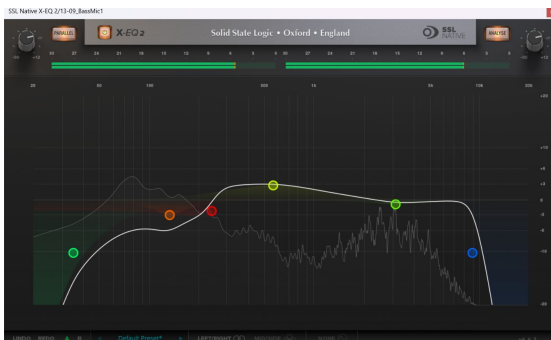
# 3. Rock/Band Mix Process & Evidence (LO2)

## Research Influenced Mixing

### Bass Distortion



Building off the Distortion Tom used for his bass mix, I used Slates TH-U Overload which gave me a variety of amps, pedals, and EQs to use. I tried to emulate the sound Tom had but also wanted mine to fit within the context of my track.



This was the EQ I went had on the bass track with distortion. I rolled off the sub bass and had it reduced till around 300Hz. I decided on this to avoid too much low-end clashing in the mix. A boost around 500Hz was to bring out the mid-range frequencies I wanted to be present from the bass and make it less hollow.

Overall this was executed okay given I wasn't using the exact tools Tom had, though I think it could have been better especially with TH-U not being a bad amp emulator at all. The distortion definitely added some needed grit to the bass to make it a bit more grungy. If I were to do it again, I think I would try harder to emulate the distortion sound Tom had. The EQ for this bass track could have used a bit more tweaking as I feel like the low-end was still clashing with my other bass track. I could have worked to find a better balance between the two.

# 3. Rock/Band Mix Process & Evidence (LO2)

## Research Influenced Mixing

### Bass Boost



Using the SSL 4K B on the other bass track, I copied what Tom did with his and added a slight boost around 400Hz. Tom states he did this to give the bass a bit more fullness and not sound hollow (2021). This did give my bass a nice full sound in the mids which had a lot of the character I didn't want to lose in my bass.



For the EQ I kept the low-end flat and didn't want to boost it too much as there would be further processing where I would introduce a bit more low-end. I added a divot around 150Hz which is where I found the initial smack of the kick to sit and made space for it to pop through. Around 600-700Hz I pulled the frequencies a bit as this is where the other bass track would start to fill the space, and then I rolled off the unnecessary high-end

This in conjunction with the other bass track did give me a really beefy sound. This bass holds a lot of the rumble and punch in my bass where the other gives me some flavour. Again though, I do think it could have used some better processing overall as once it was put into the mix it did start to sound a bit muddy.



# 3. Rock/Band Mix Process & Evidence (LO2)

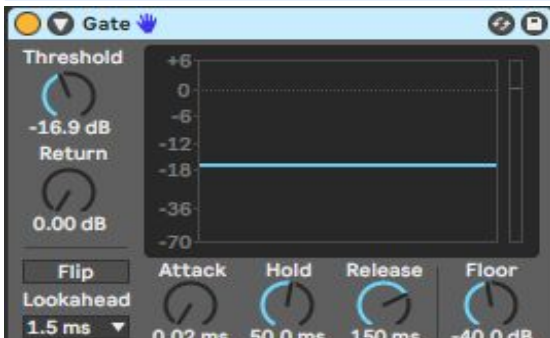
## Research Influenced Mixing

### Drum Bleed



I copied Mike Dwyers technique on removing noise bleed from his snare using a multiband compressor. In his video, he keeps the multiband active on the high-end and adjusts its bandwidth so it's just catching all the cymbals and stops before the sound of the snare starts to get affected (2019). Using the SSL G3 multiband, I deactivated the mid and low compressors, dialed in all the frequencies that contained the cymbals, and reduced them to try remove as much of their sound from the source without affecting the snare sound too much.

### Snare Gate



One other technique I used to further keep only the snare present was to use a gate on the snare. This allowed only the hard hit of the snare to come through and after a few adjustments of the release parameter, I had it slowly taper off to let the tail of the snare come through and not sound cut off

This technique worked successfully within the mix. I could have achieved a better sound if I had made some more adjustments as in Mikes video, he was only dealing with cymbals bleeding into the snare, whereas my snare mic was still picking up the entire drum kit. If I had utilised the low compressor, I could have probably reduced the kick and toms a lot more. I decided not to do this as these frequencies sat right near the snares thump, and I didn't want to do any adjustments that would affect my snare sound.

# 3. Rock/Band Mix Process & Evidence (LO2)

## Research Influenced Mixing

### Vocal Effects



Tom Lord-Alge used the board for his effects sending recording the delayed vocal to tape then having it sent back to the board where he used the EQ to create a filter sweep (2020). Doing this from within Ableton, I achieved a similar effect by using SSL X-Delay and an auto filter on a return track which I sent the lead vocal to.

### Automation



This is only used once about halfway through the track right before the breakdown. I automated both the return send and the filter sweep so as it plays, the low-mids in the vocal delay fade out.

Creatively this worked great, contextually though, I just don't think it was a right fit within this mix. It definitely creates a nice effect that leads into the breakdown and was a technique I later used in the Electronic mix. I definitely think this effect could work within this genre, I just think there was already a lot going on with the other elements that it didn't necessarily need this occupying space.

# 3. Rock/Band Mix Process & Evidence (LO2)

## Research Influenced Mixing

Guitar EQ and presence



Joey Sturgis and Spectre Digital both provided some helpful techniques that aided me in my mix. First I used an EQ to cutout any high and low frequencies that would become problematic. I added a slight shelf to the high frequencies to allow it to give them a bit more presence in the mix (Sturgis, J. 2022). After some more processing to get my desired sound for the guitars I panned each one hard left and right. This gave my guitars more clarity and made them sound a lot fuller (Spectre Digital. 2023) while also giving some room in my mix for the vocals to fit.

Guitar Amp



I used TH-U again on my guitars to make use of the amp selection they had. I picked a preset that gave the guitars some distortion and made them sound more gritty, then I adjusted the gain and presence knobs on the Marcus II virtual amp to allow some more of the high frequencies of the guitar to come through, and balancing it with the gain so it didn't sound too loud as well as not being too thin (Sturgis, J. 2023).

The low and high EQ cuts was always something I had done previously, but I never knew the context as to why it's needed in a mix like this. To hear what it helps achieve in the guitar mix was a nice realisation, and it definitely helped my guitars pop without making them too harsh or too muddy. I also don't usually hard pan though I could definitely see why it was necessary in a track like this.

# 3. Rock/Band Mix Process & Evidence (LO2)

## Additional Mixing Evidence

### Reference Spectral Analysis

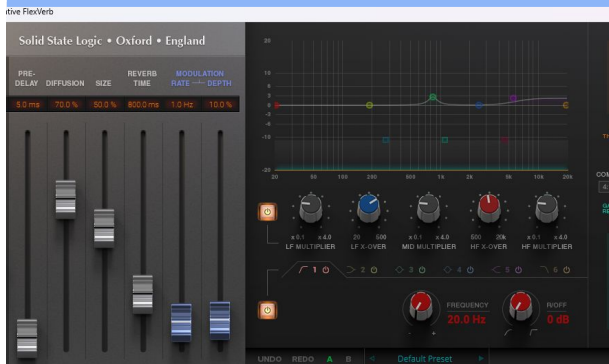


This was my analysis of Knocked Loose Piece by Piece which was my reference track. I used this as a base for working on my balance between elements of my track. One thing I noticed was the hard cut of frequencies at around 16kHz almost like it was hitting a wall. Through some research I found that this could have been due to YouTube compression of audio files (I didn't know this till later).

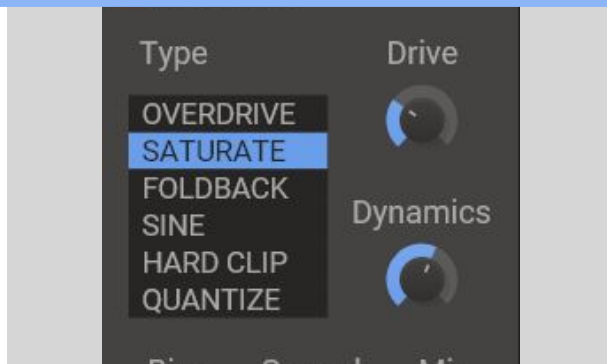


This was the analysis from my mix. I tried to emulate where frequencies were more pronounced, and where they were shallow. I wouldn't say it was terrible, though it could have definitely been better. I also tried to emulate the cutoff around 16kHz (this would have been handy if I had researched it before doing this).

### Vocal Reverb & Distortion



I added some slight reverb to the vocals on a return track. This allowed me to still have the dry vocals sit in the mix while the verb made it feel a bit more cohesive. It also helped the vocals not feel so flat and one dimensional giving them a bit more depth.



As this is quite a gnarly genre, I wanted my vocals to emphasise that. I added some distortion to the vocal bus giving some saturation to the mid range. I toyed around with the overdrive and saturate functions, messing with the parameters. I settled on what I had in the final mix as I felt it added a bit of grit without taking away from the dry sound too much. I do feel like a track like this probably could have used some heavier distortion to really fit the context, though the elements were already enough and I didn't want the distortion to take away from the impact of the vocals.

# 3. Rock/Band Mix Process & Evidence (LO2)

## Additional Mixing Evidence

### Bass & Vocal mix



I used the SSL SubGen on my bass to bring out the sub frequencies a bit and make it more beefy, then reduced them around 150Hz to allow the kick to still have space in the mix



I used VocalStrip 2 on my vox bus which provided extra compression as well as a deesser to remove any harsh sibilance. This then filters into an eq which I used to regain some clarity in the vocal.

### Sidechain & Saturation



I sidechained the bass and guitar to the kick to allow the initial thump to come through. On the guitars, I also used a sidechain from the snare to try help reduce any clashing frequencies in the mix



Saturation was used on the guitar buss to add some warmth and texture to the guitars. I wanted them to sound like they were almost ripping apart and so this with the TH-U distortion provided some power.

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## 4. Reflect on the Mixing Process (CLO1)

I found this multitrack rather difficult to work with from the beginning and faced quite a few challenges that I don't believe I overcame. I wanted something that challenged my process a bit more and opted for a track from Cambridge Music Technology which was within a genre I love to listen to but have never mixed. Firstly, the practitioners I researched for this track had a lot of methodologies that helped my process, Sturgis' techniques on finding a balance with the guitars really helped me fit them in the mix. An excerpt from week 10s reading 'Eric Dubowsky: Sculpting Space and Warping Time' provided me with an insightful way to start picturing audio. Dubowsky says " I always like to think of mixes as existing in three dimensions: I think about the panning, which is your "left to right." I think of it from a frequency standpoint, which you might call "top to bottom." There are so many frequencies you can play with, particularly in electronic music. Thirdly, I tend to do a lot of stuff with reverb and delay, basically placing things from "front to back." That really helps with electronic stuff, too."

Though insightful, this mix has proven that even knowing this, it's not as easy as just plopping sounds in wherever to fill space. There is a lot of dimension to my mix, it sounds full, there are elements filling the sides making it sound wide, use of reverb and delay effects help the mix have depth, and a lot of the frequency spectrum is used. What sounds wrong to me is the balance between elements. The low-end sounds muddy, theres too much low-end present, and the drums sound almost washed out under it. I couldn't get the kick and snare to really punch through as much as I'd hoped, and this probably could have worked out a lot better had I spent more time refining the dynamics, cleaning up the bleed, and adjust the sidechain so it gave more space for these elements. The vocals do sound like they drown out sometimes, and I notice a ducking in volume at some points which could be due to heavy use of compression. I did however like the mess of things; in a way it seemed quite fitting to the genre. Everytthing kind of feels grungy, it's messy, things are distorted, and having the vocals shrink in the mix does make it feel like everything is thrashing for control. I just believe there could have been a better approach to achieving this.

There is a lot to be taken away from this mix, and it has definitely made me more inclined to practicing more mixes within this genre, given the challenges I faced, it was fun and I enjoyed head banging to the mix I created.

## Electronic/Pop Mixing (Mastering Preparation and Analysis)

In this section, you will mix an Electronic/Pop multitrack. You will then be introduced to the impact that mastering can have on your mix by mastering your mix using AI-assisted tools and comparing the two versions.

In this section you will complete:

1. Mix of Electronic/Pop Multitrack (employing methodologies covered)
2. AI Assisted Mastering and Analysis
3. Post Mix Reflection (250 words)

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## 5. Select Second Multitrack

Select a multitrack from the **Electronic/Pop** category via Campus Online or source your own. Import the multitrack into a DAW or platform **of your choice** and prepare to mix.

**Artist Name:** Ben Flowers

**Track Title:** Ecstasy

**Genre/Style:** Retro Electronic

[Unmixed/Unmastered](#)



[Mix/Mastered](#)





## 6. Electronic/Pop Mixing Process & Evidence (LO2)

### Reference Spectral Analysis

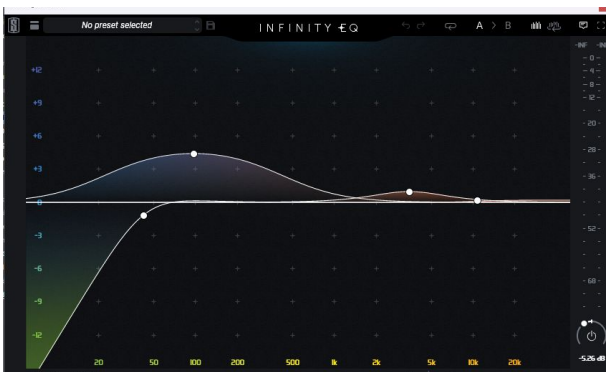


I loosely used Better Off Alone by Alice Deejayas as a reference track. This mix I wanted to see how I could go blindly mixing as I thought was best based on knowledge I've gained through my personal life and studies. Once I finished I got a well established mix, I compared it the spectrograms to see how well it matched.



I was quite surprised to see how well my spectral analysis compared to the reference track. My reference track had a stronger presence in the low-end from the bass and the high end from the synth, my seemed to be a bit more even throughout. This could have changed if I had altered the balance of the elements differently. I settled on a mix I felt sat right; the vocals are clear in the mix but still feel tucked in with everything, there is a nice balance of harmonics throughout, though perhaps some frequencies could have been reduced to minimise any harshness.

### Drum Bus



After mixing the drums to what felt like a good mix and did some dynamic processing, I added an EQ on the bus mix to further roll of the low frequencies and boosted the frequency range containing my big transients (Kick, Snare, Tom). I added a slight boost for the hi hats and where the ring of the clap.



After some compression to pull 4dB I used X-Saturator to add some colour to the drums. I wanted them to sound a bit more fuzzy without taking away the definition of the hits too much.

## 6. Electronic/Pop Mixing Process & Evidence (LO2)

### Vocal Reverb & Saturation

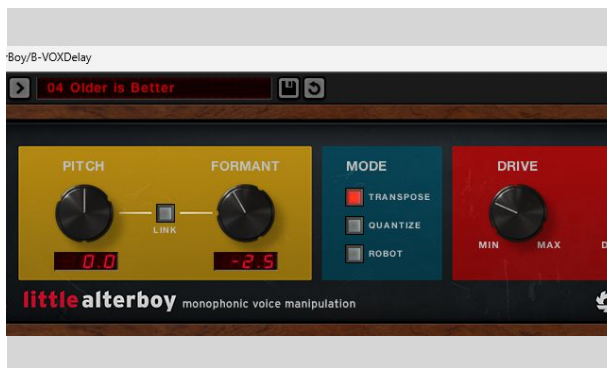


I kept the reverb simple using Verbsuite Classic on a return track so I could control still keep the original vocals in tact while dialing in a bit of depth with the verb. I used a preset that I tweaked slightly to get a reverb that didn't have a long tail but still emphasised the space I wanted the vocals to occupy



On my vocal track I used Fusions Vintage Drive to add some colour to the harmonics. It adds a bit more grit, helps it sit in front of everything a bit better, and also adds some character.

### Vocal Delay



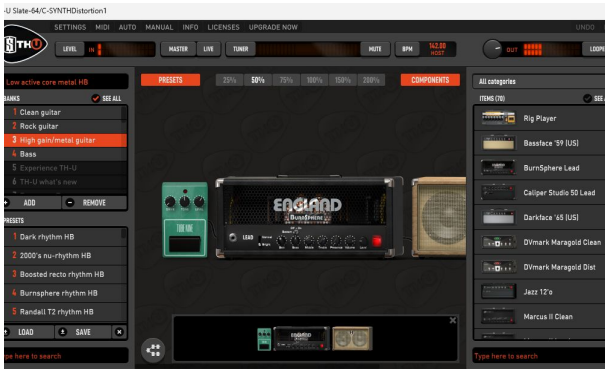
On another return track I used Little AlterBoy and used the older is better preset which shifted the formant and gave me a nice low vocal I could use to harmonise with my lead.



After the formant shift, I had X-Delay which was set very short and relatively quick as I didn't want the delay to become muddy with everything else. I had it panned hard left and right, and it's a very subtle sound but it added some nice depth to the vocals and really made them feel elevated.

## 6. Electronic/Pop Mixing Process & Evidence (LO2)

### Synth Distortion & Reverb

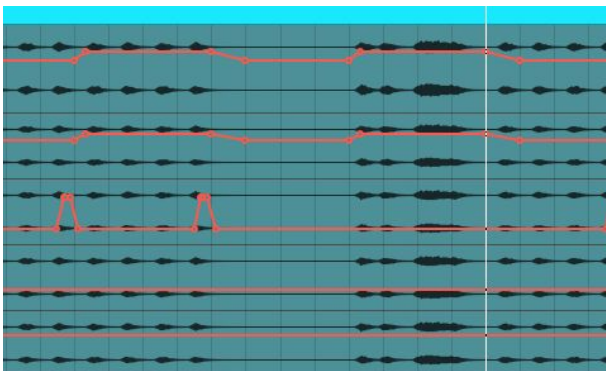


I made use of TH-U once again taking advantage of the amp collection. I used this to give the synths a bit of distortion introducing a nice harmonic range. It made everything feel a bit more explosive and emphasised its sound.

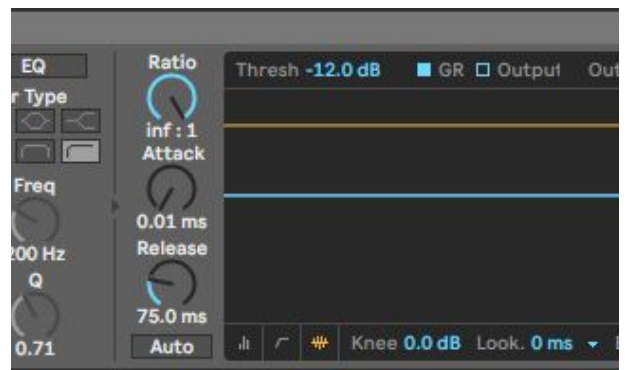


After this I used LiquidSonic's Lustrous Plates to add some plate reverb to the synths to further widen the soundscape and fill the space. These were both used on a return track as well

### Automation & Sidechain



I used a lot more automation in this mix compared to the rock as this one I felt there was a bit more variance between when the vocals or synths were present. I automated filters and reverb sends during the intro, and automated the pan effect on one of the synths every few bars to create an LFO effect. During the vocals I would duck the bass and synths slightly to give more room for the vocals, and then boosted the synths after the vocals pass a second time to really drive them through. I feel as though the automation could have used a bit more tinkering especially with the volume ducking and this is perhaps something I will make note of moving forward.



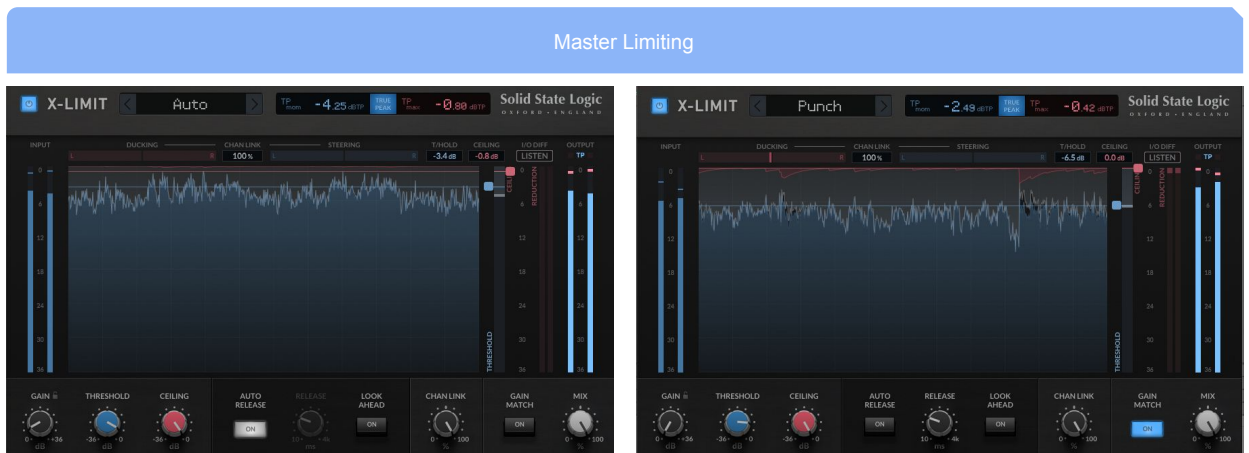
Sidechaining is very standard in most if not all electronic genres and I used it on pretty much everything. On the bass and synths I used pretty much the same settings and sidechained them both to the kick and snare so those transients could really kick through. It also helped to give the mix an almost breathing rhythm to it. Sometimes I do like to sidechain vocals too as it feels like they breathe with the beat to, so I added a sidechain only to the kick. I did pull back the release a lot though and the threshold wasn't as deep as I didn't want the S/C to be too noticeable.

# 7. Mastering Analysis (LO1)

## Export and Master Mix

Prepare and export the mix for mastering with proper gain staging and file type. Use an assisted mastering tool such as Ozone, LANDR, or Bandlab to create a master of your mix.

Provide evidence of your process.



### Red on you - Wires

This mix was very loud, and I can't emphasise that enough how aggressive it was hitting the limiter. If I had spent more time working on the issues I mentioned regarding the mix, perhaps I could have dialed this in and had it sitting better. Even after some dynamic processing to try nullify some problematic frequencies, I still had the limiter working overtime. I did manage to smooth it out a touch, but as you can see in the image there were still a lot of transients that really kicked through.

### Ecstasy - Ben Flowers

This mix was drastically different to the first mix. The overall waveform was a lot more even, there were a few peaks where the hits would cut through the mix, but overall there was a nice level to it. I had no Clipping issues like I did in the first mix and overall I'm a lot more satisfied with how I went on this track

# 7. Mastering Analysis (LO1)

## Mastering Analysis

### Wires - Red On You Unmastered

- Overall everything sounds thrashy
- The drum kick and snare are almost drowned out in the mix
- The top end of the bass sounds a bit twangy and sits a bit too loud in the mix
- The guitars don't really have any power to them. They stack up in the centre and feel squished amongst the bass and vocals
- The vocals sound almost flat and have no dimension

### Mastered

- A lot more excitement to the elements. Everything sounds like it's trying to win an argument which could be bad though I felt given the genre it added character.
- My kick and snare still didn't punch through as much as I'd like, but they definitely have a bit more presence
- The bass is a little more tucked into the mix and the low-end is a lot more prominent
- The guitars have a lot more dynamics. They sound beefier, they have more distortion, and because of the panning, they feel a lot more full and wide
- The vocals really cut through in the mix. I did take Matt Gios advice and tuck them a bit more into everything as it is common in this style of music where everything is equally as loud and elements tend to overlap. Perhaps I could have pushed this a bit more.

### Ben Flowers - Ecstasy Unmastered

- Before the vocals come in, everything sits pretty well. Drums sound full, the bass line pumps through, as the synths compliment it well, and they have a good balance between them
- Drums didn't necessarily need a lot done to their sound
- Vocals sounds squished under everything and feel flat
- With all the elements present, the low-end feels a bit muddy and overpopulated
- The synths start feeling like they are trying to fight for space
- Everything being stacked in the centre gives no sense of depth and space making it feel flat overall

### Mastered

- Drums have a bit more oomph. Hats are dialed back more as I didn't want them to be a key focus in the mix
- Bass sits in a bit better, though I lost a nice sense of that driving rhythm that would have been nice to preserve
- Synths now occupy a wider image being panned. This frees up the centre and gives my instruments a bit of room to breathe
- The vocals have a lot more clarity and feel like they fit in the mix better.

Overall This project has shown me the importance of mixing/mastering. Mastering helps provide the final touches and embellishments to a track to emphasise parts, and glue others together. I could work on better mastering techniques and make use of more dynamic processing to achieve better mixes as for the most part I stuck solely to the use of a limiter as I had everything grouped to one final bus which had my dynamic processors on it, but I don't believe I used them to their full advantage.

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## 8. Project Completion Reflection (CLO1)

I am quite pleased with the outcome of my second mix. Electronic music is definitely a genre I've experimented a lot more with in the past and I had cleaner audio to work with given there was no live recording so I didn't have to deal with audio bleed. I had a lot of fun working on the synths especially the swelling pad that I auto panned to sound like it was moving through the scene. There were a lot of things I did that I didn't document that I feel could have been mentioned and didn't. One was the bass which there are two different basslines. I used the same technique from my first mix and used one for the low-end, and the other I emphasised the mid-range for its harmonics. This could have been where I lost a lot of the rhythm in my bass from though and would be something I'd consider before making decisions like that. There is a lot I can take away from this project, both good and bad. I feel that I can generally find a spot for where everything should reside in the mix, and creatively, I think I use the tools at my disposal to really bring out characteristics in the sounds that help make the mix work. I need to work on balance and mastering a lot more though. Everything still feels like it needs more decisive action as to what elements should have priority over others. My master tracks could use a lot more work to really give my mixes their final shine. I also need to analyse elements a lot more thoroughly to understand where problematic frequencies may reside to try counter any harshness that could be caused.

Overall I've taken a lot from this project and It has really pushed me to download more free mixes and start honing in on my skills that need more work to start perfecting this craft.

# References

## Research Informed

Better Mixes. (2019, September 9). *How To Remove Hi Hat Bleed From Your Snare*. [Video]. YouTube. <https://www.youtube.com/watch?v=b-2pGBi259E>

Joey Sturgis Tones. (2022, August 5). *How To Fit Guitars In A Mix*. [Video]. YouTube. <https://www.youtube.com/watch?v=Dy-2ygVaW7M>

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