

# Assignment Title: Advanced Audio Production

Module: VEPT20013

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## Introduction

This report will show how I have mixed each track and mastered Crooked. Discussing and analysing production elements of each track. Both my chosen productions are near identical with their instrumentation, other than using a 7-string guitar and 5-string bass on Jim Bowers' track.

Jim Bowers is a modern progressive metal musician. He is a solo musician who tends to write everything in his song.

Near Mrs are a 5-piece indie band, they have three guitarists, a bassist, drummer and vocalist.

## 1. Main Body

### 1.1 Production one, Jim Bowers – Jimbo

#### Drum Processing.

One thing to mention about these drums is that they are programmed drums. It is the Kontakt program, while also getting samples of the kick, snare, toms and cymbals from other sources.

Larry Crane (2013. 0:30) states that, "I've come to learn that cutting frequencies, especially while your mixing, can be really rewarding and actually help everything work much better." And Larry continues to say that he will use an Equalizer to boost the frequencies and look for aspects of the sound he does not like, and then reduces them. (Crane, 2013)

I could hear a clicky sound in the kick, it started from 240Hz and but did not get unpleasant until 1000kHz. A low pass filter was applied to remove any frequencies past 1000kHz. While also reducing some frequencies at 200Hz, to stop interference with the bass track. (Figure 1.1)



Figure 1.1 Kick Drum EQ

I started working on the snare, this track originally had four snare layers, but when listening to the mix, the snare was not punching through and seemed to lack in any high mids. But instead of boosting the high mid, I decided to add another layer.

I picked a snare from drum labs in komplette kontrol. The snare sample is called trebly snare, which has more high-mid and high frequencies than the other snare samples. The combination of the trebly snare and the original snares resulted in a much fuller sound that punches through the mix.

A compressor was sent to the snare group. Using Bobby Owsinski's master class video on compression, I set the compressor's threshold to -13.4dB so it affects the peaks of the snares as I did not want to overly compress them. (Figure 1.2) while the main elements of the compressor I changed was the attack and release. (Owsinski, 2018)



Figure 1.2 Snare Compressor

The attack affects how fast the compressor opens. I set the attack at 28.3ms which made the compressor affect the decay of the sound, which is what we want to create a punchy snare, as the main body of the sound was being focused by the compressor which makes the snare have more sustain. (Owsinski, 2018)

The release affects how long the compressor stays open. I set the release to 323ms, so it closes as the next snare comes in. So the signal is constantly being compressed, which makes the sound of snare bigger and the transients last longer. (Owsinski, 2018)

The last processing I did was parallel drum compression. I wanted to make the drums massive. To capture what Jim likes about the production of Gojira and Periphery. Also to make the drums aggressive which complimented the bass and guitar.

Hewitt states that, (2015, 2:21) "You're adding a little bit of this really aggressive, assertive sound to your standard kit." The attack and release are set at a longer amount, so it affects the decay of the sound and adds more sustain. (Figure 1.3)

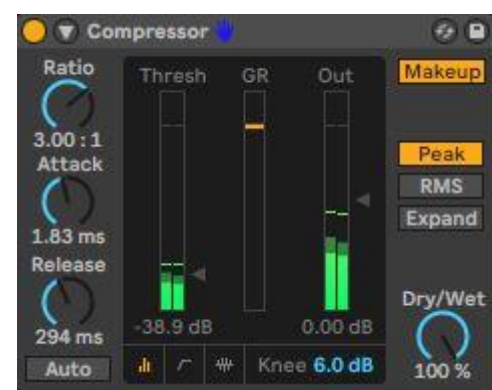


Figure 1.3 Parallel Drum Compression

I decided to use Hewitt's approach to parallel compression. Instead of putting the compression on a bus and sending it to the drum group, he decides to solo the bus compressor and does a mix via the bus compressor and then adds that mixed drum compressor bus to the whole mix. (Hewitt, 2015)

### Bass Processing.

After listening to the bass, I felt like it was thin and lacked low end. Bobby Owsinski that states, (2018, 0:00) "Whenever a bass is taken direct and the amp is miked as well, a phase difference between the two occurs."

I adopted Owsinski's phase removal technique. Which is to checking for phase by switching the it via a plugin. if there is a difference in sound, then zooming right into both tracks and seeing if the peaks and troughs line up. If they don't, then lining them up to eliminate the phase. (Owsinski, 2018) (Figure 1.4)



Figure 1.4 Bass DI out of phase with Bass Amp

### Guitar Processing.

I wanted to make the guitars a bit bigger. So, I used Bobby Owsinski's distorted delay technique to thicken the guitars. (Owsinski, 2018)

The first processing I did was set up a bus channel with a delay plugin applied, and set the delay time to under 30ms, and then mix it in to my guitar group channel. It makes the guitars sound a bit thicker, and a bit louder. But main change will come from the distortion placed on the delay channel.

I used a plugin called stockholm from my Kazrog LLC plugins, and I used a preset called lo fi crunch that gives the sound a broken distortion rather than a crisp tone, which adds more aggressiveness. (Figure 1.5) With this distortion on the delay channel, I went back to blending in this delay channel with the guitars to get a good balance.



Figure 1.5 Delay Channel with Distortion

## Vocal Processing.

Before I did any creative processing, I wanted to make sure the vocals were corrected. I applied a De-esser, which has the ratio set to 7.00:1 with a -15.2dB threshold. The vocals are really aggressive; sibilance has been amplified by his vocal style. (Figure 1.6) (Gibson, 2011)

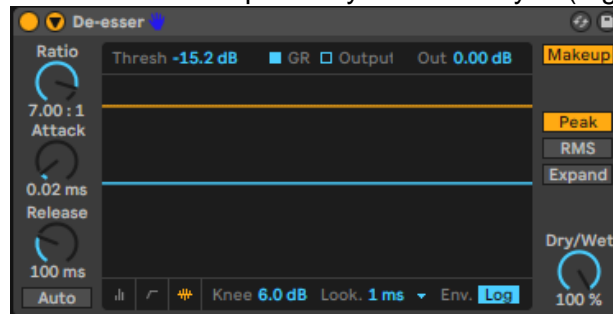


Figure 1.6 De-esser

I also applied a high pass filter EQ at 200Hz (Figure 1.7) to remove any unwanted noise from the vocal track and to remove a thump noise at the beginning of the vocals. (Owsinski, 2018)



Figure 1.7 EQ to remove low end thump and noise

After the EQ, I applied a multiband compressor to the vocals as it monitors the frequency bandwidth of the vocals and reduces elements when they appear. Vocals are complicated and a simple EQ will not cut it. (Owsinski, 2018)

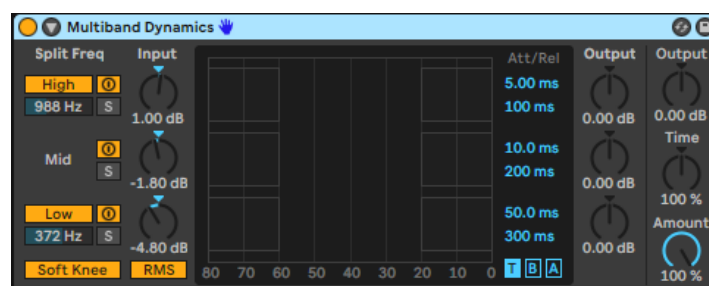


Figure 1.8 Multiband Compressor

Unfortunately, the Ableton MBC does not give the option to choose where the mid compressor affects. But by reducing it by 1.80dB it helps bring down the roomy sound. I reduced the frequencies 372Hz as this was where the muddy bandwidth lies. I boosted the frequencies 988Hz, this helps bring out the high mids which gives definition to the vocals and brings it out of the mix. (Figure 1.8) (Owsinski, 2018)

## 1.2 Production two, Near Mrs - Crooked

### Drum Processing.

After listening to the kick track, I realized it sounded boxy.

I watched a video on sampled drums and found the technique of turning the audio track into a midi track. (White, 2009) Which is simple process in Ableton, as you only have to drag the audio file over the midi track and choosing the drums option. (Figure 1.9)

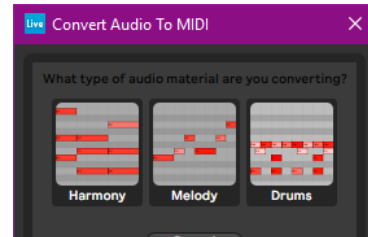


Figure 1.9 Converting Audio to MIDI

I raised the last kick in the song, as this leads to the outro and I wanted that last kick to be the loudest, so it emphasizes the outro. (Cochrane, 2010)

I removed the unwanted elements of the rack and floor tom tracks. (Crane, 2013) This helps reduce any phase in the drums, and lets the rack and floor be raised in level or compressed without worrying about the other elements in the track being raised as well. (Figure 2.0) The floor tom track has some cymbal left in it, so I applied a gate and adjusted the release and hold time, so it faded out.

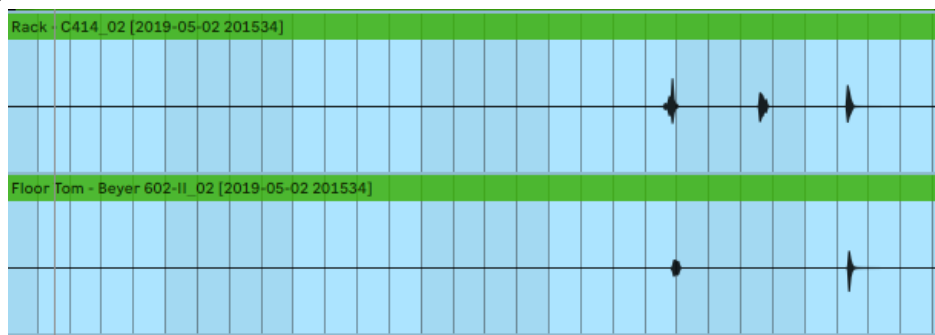


Figure 2.0 Removing the unwanted elements from the rack and floor tracks.

I applied corrective and creative EQ to the snare top. I reduced the frequencies at 505Hz to help with the boxy sound from the snare and to give it clarity. I increased the frequencies at 147Hz to bring out the low end from the snare. I increased the frequencies 3030kHz to give a snappy sound and increased 8000kHz which helps the snare pop out the mix. (Hewitt, 2015) (Figure 2.1)



Figure 2.1 Corrective & Creative Snare Top EQ

The processing technique I did to both snare tracks is called side-chained gate. Which has the gate be triggered by another track, usually the kick. It completely removed the kick from the snare tracks and helped reduce the other elements. The reason I did this was because in both my snare tracks, the kick drum was the persistent element that I could not remove with a simple gate. (Hewitt, 2015) (Figure 2.2)

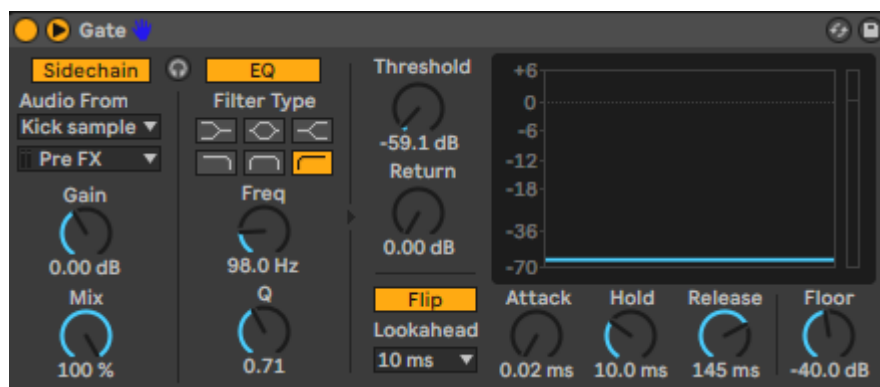


Figure 2.2 Side-chained Kick Gate to Snare

### Bass Processing.

The bass lacked definition; the notes could be heard but they did not punch through the mix and lacked any characteristics other than low end. I followed Owsinski's bass definition technique. Which is duplicating the bass track, using a filter on the original bass track and cutting at 750Hz, turning the resonance off, and adjusting the drive. (Figure 2.3) I left like the drive on the bass did not fit the song, so I decided to go without. (Owsinski, 2018)



Figure 2.3 Filter on original bass track

An interesting option I got on the filter that Owsinski did not mention, was the circuit type options. (Figure 2.3) Shows the circuit type set to MS2, which is a sallan-key circuit with soft clipping. I liked the idea of the soft clipping to help define the bass but not overly distort it and I left this circuit option offered the best sound for this bass. (Owsinski, 2018)



The next part was to apply a high pass filter on to the duplicated bass, I set the filter to 200Hz and also cut the high end at 17.8kHz to clean the track up (Figure 2.4).



Figure 2.4 High Pass Filter on Duplicated Bass Track

I noticed that there is little high end on the bass as it drops at 1000kHz. I had to apply a multiband dynamics, which I then set to remove the low end, add some mids by 7.50dB and 5.90dB. (Owsinski, 2018) (Figure 2.5)

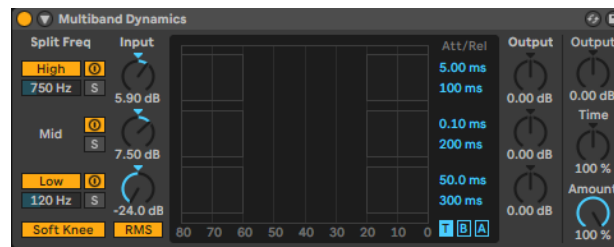


Figure 2.5 Multiband Dynamics on Duplicated Bass Track

Then I blended both tracks together, raising the high pass bass to give definition to the overall bass. Last thing I did was apply a compressor to both tracks, to help give more definition. And to use it almost like a limiter, getting the ratios as high as possible to control the peaks. (Figure 2.6)



Figure 2.6 Overall Bass Group Compressor

## Guitar Processing.

A creative processing I did was apply chorus to Will's guitar. I wanted to create an interesting guitar tone while also adding more character to the clean guitar, as a chorus helps give guitar tones a ringing tone which adds a richness. (Gibson, 2011)

Since Near Mrs have three guitarist, panning them each so they keep their clarity and characteristics is important. Will is set in the role of rhythm guitar so I had panned his to the hard left. Ryan is also a rhythm guitarist so to keep them distinguishable, Ryan's guitar was panned hard right. (Gibson, 2011) (Figure 2.8)

Equalizing was another process to help keep the guitar tracks clear. For example; adding frequencies at 200Hz on a guitar, but then cutting those frequencies for another guitar at a similar decibel give every guitar track its frequency bandwidth and clarity in the mix. (Owsinski, 2011)

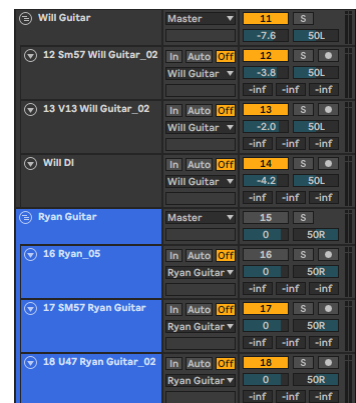


Figure 2.7 Panning Will and Ryan's guitar tracks



Figure 2.8 Will Guitar Equalization

As shown in (Figure 2.8) Will's guitar has been equalized so it has more warmth and punch to the guitar recording. But a cut was made at 185Hz to remove some of the muddy sounds to help bring out the low end and the boost at 352Hz. (Gibson, 2011)

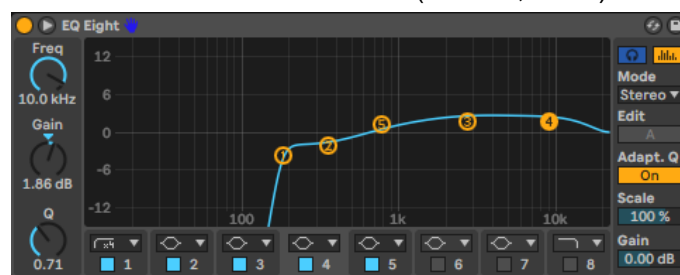


Figure 2.9 Tai Guitar Equalization

(Figure 2.9) Shows Tai's guitar is opposite in EQ to Will's guitar (Figure 2.8). The goal of this EQ was to bring out more of the edge and definition, by boosting the frequencies of 2.90kHz and 10kHz. A boost at 791Hz was done to give the guitar more body. To help give clarity between each guitar track, a cut was made at 352Hz at the same decibel. (Gibson, 2011) (Owsinski, 2011)

## Vocal Processing.

I began by preparing the vocals for mixing, I did this by comping the takes I had. Both takes could have served as the chosen take. I went through the vocals in contexts with the instrumental and choose the best bits of each take. (Gibson, 2011) (Figure 3.0)



Figure 3.0 Vocal Comping

I decided to use automation on the vocals, as it has a large dynamic range. But using a compressor was not enough as I did not want to heavily compress it, I wanted to keep the dynamic range to a certain extent. So, I went through the song and automated certain areas within the vocal track. (SoundonSound, n.d) (Figure 3.1)



Figure 3.1 Automation on Vocals

I moved on to creative processing. I wanted to add an airy feel to the vocals. So, I used a technique from Bobby Owsinski. Where you duplicate the vocal track, hard compress it, boost around 8kHz to 12kHz while cutting below 600Hz, reduce the sibilance with a de-esser and then bring it in to the mix. (Owsinski, 2018) (Figure 3.2)

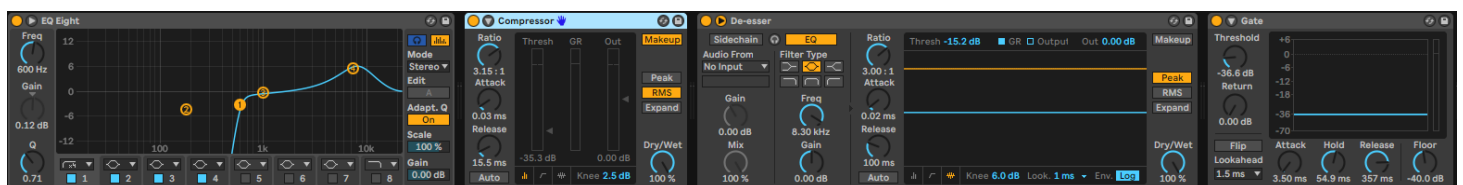


Figure 3.2 Vocal Air Processing

I decided to add a gate afterwards as it bought up a lot of noise and breathing that I did not want in the mix.

### 1.3 Master track, Near Mrs – Crooked

I applied a compressor to the master track. As the average level of the track before hand was -12dB, and I wanted to increase it to meet the commercial standards, so I raised so it averages at -6 to -1dB. (Huber, 2011)

I applied a multiband compressor to help bring out certain frequency bands, I wanted to try and balance the low, mids and high end as I felt that the low end and high end were lacking in the track. (Huber, 2011) (Figure 3.3) After my initial tweak, I inserted a spectrum on the mastering channel to check the frequency content of the song.

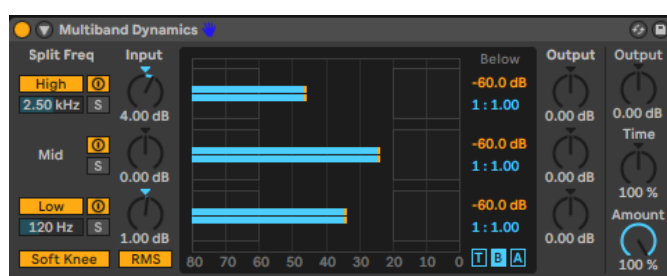


Figure 3.3 Master Multiband Compressor

I applied a stereo widener, which control how narrow or wide the song is. I wanted to slightly widen the song to help fill out the stereo field and give every element of the track its own space. (Owsinski, 2013) (Figure 3.4)

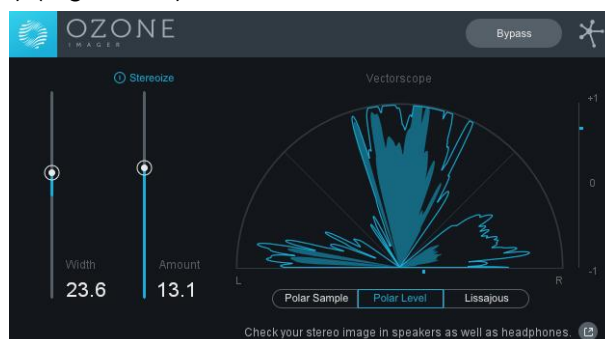


Figure 3.4 Stereo Widening on Master Channel

The last processing I did was using a limiter, which I left to default setting of -0.30dB ceiling which keeps the level from exceeding -0.30. (Huber, 2011) (Figure 3.5)

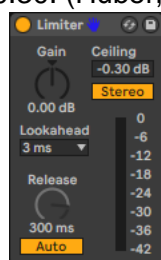


Figure 3.5 Limiter on Mastering Channel

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