



*Working In The CMS1 Studio (Recording & Mixing Journal)*

**Oversaturated Mixing & Recording Process**

TRACK	MICROPHONES / RECORDING	REASONS & ISSUES
Lead Vocals	<p>Seinheiser e935 Dynamic Cardoid with a pop filter</p>  <p>Nice quality microphone for female vocal range using a homemade pop filter from a coat hanger and an old pair of tights. It worked surprisingly well and I made sure to watch my pitch and spacing from the microphone this time around. Recorded at home before the CMS1 recording day</p>	<p>Mixing my own vocals took a while to get right – used parallel multi band compressor to balance the levels of compression for my mid range and upper register. Had problems with attack and release time on compressors. I got the attack time sounding right on compressor 2 for the sharper consonants but the release time was really cutting out some of the later vocal levels and it got lost a bit towards the end of the track.</p>
Vocal Harmonies (Group)	<p>Seinheiser e835 Dynamic Cardoid x2 in XY position as we ran into issues setting up the AKG 414 condenser mics (clipping audio, issues with phantom power set up)</p>  <p>Captured a basic stereo sound to balance the lower &amp; upper voices pre mixing (less to think about). It was a</p>	<p>We didn't have enough headphones for people to wear to hear the playback so we used one set with the sound bumped up slightly so one person (Gem) could cue the tempo &amp; key. This meant I had to EQ the top end quite considerably on the group tracks to reduce phasing on the lead vocals. Problems occurred when re-timing it players and having to crossfade between tracks to make it sit better. But the effect of using multiple takes of</p>

little more flat than I would have liked – would've been cool to have an omni mic for the room sound or to have the mics spaced XY from above the singers rather than just at them laterally (people were different heights so some voice were more overpowering than others in the arrangement we had)

these groups really gave the illusion of a full space and choral like sound which I loved, especially when adding reverb to it.

**DRUM KIT:**


1. Overheads
2. Kick
3. Snare & Toms



1. C1000 condenser mics x2 Spaced XY equidistant from snare as much as possible as the mic stands were being problematic and most of them were too loose to use
2. AKG Kick Drum Mic D112 Cardoid Dynamic
3. Beyer M201 mic x 3

Some big issues we faced in the studio revolved around a lack of working mic stands / mic clips and having failed to get the play back to work on the monitors. To problem solve, we didn't mic up the hi-hat or the underside of the snare and I sat in the corner of the studio with Zach and manually synced up my laptop playing the song with Jennice hitting recording on the other side. Worked well as a quick, but I did learn how to get the monitors working afterwards

The track we settled on for the kit had quite a bit of unnecessary snare hits cluttering the sound with ghost notes. Only when playing it back after did I notice this and would have re-recorded the drums had I had more time. To compensate for this, I manually automated the snare track to reduce the presence of ghost notes, which although not my best solution, sounded better to me than the track without it. Added some reverb and compressed to accentuate certain parts of the release to the snare to improve this as well (make it sound resonant). Cymbals sounded great, light EQ-ing did the trick and cut out the lower tom altogether as it cluttered the bass. Would've tuned drum if given time

<p>Bass Mic</p>	<p>Used a Seinheiser e835cardoid dynamic mic on the bass amp (spaced a little further from the mic than the electric guitar to catch photo so to have better bass response).</p> <p>NO PHOTO (Recorded 30<sup>th</sup> July 2020)</p> <p>We recorded the bass with a DI but the sound was too clean and the vocal mic had a fantastic bass response so we kept it as is (couldn't mix with the DI as I didn't have the equipment at home and was using a non-waapa student to record.)</p>	<p>Bass needed very little EQ-ing bar minimal side chain compression with the kick drum to let it sit better with the mix.</p>
<p>Lead Guitar</p>	<p>Used a Seinheiser e835 cardoid dynamic mic from home on the amp and let the guitarist choose their own effects.</p>  <p>Again, the Seinheiser really just coming through with recording quality. Had to EQ out some of the bass response but we did that pre-mix rather than post on the amp itself as we knew the bass and other electric guitar would cover the bottom end fairly well</p>	<p>Was tempted to side chain electric guitar with vocals so it didn't overcrowd each other but decided to manually go in a bump up the solo and any other extra bits I was particularly keen on as some areas with vocals and lead guitar I didn't want it compressed. EQ-ing was a little rough as the guitar went through very reverberant effects to distortion effects but I ended up doing a high &amp; low cut either side with a little high &amp; low shelf EQ to reduce the clutter.</p>
<p>Violins (1&amp;2)</p>	<p>2xC1000s condenser mics over the shoulder of the player (Jennice in CMS1)</p> <p>These were really nice mics and by the time we were recording Jennice, it was about 1 hour after our booking finished so we didn't end up setting up an room mics.</p>	<p>Had to chuck some mildly intense pitch correction on the strings and EQ the scratchiness out of the sound. Would've been nice to have the room sound recorded for a more naturalistic reverb but I put a plugin on them anyway for the smoother / more angelic effect.</p>

## ***“Goodness Gracious” Mixing Process***

When mixing “*Goodness Gracious*”, I used Missy Higgins’ track “*Nightminds*” as the reference track to see how to get the cello and string section to sit right with the piano, drums and vocals. Sadly, I had trouble moving the song I purchased on my phone into the Logic session BUT it would be extremely useful as a guide listening between the two.

I used a multi band compressor on the lead vocals, back up vocals to try and bring out the singer’s mellower vocal tone in his mid to lower register as that’s where he sounded the strongest and his more mellow tone stood better against the more cutting timbre of the strings. I was actually pretty happy with how the mix ended up in regards to the levels and reverb balance with the vocals, piano, guitar, bass and strings. I had a little trouble with the drum kit as the brushes made the snare sound quite “gong-like” and the twang was hard to EQ out.

The solution I landed on was to leave out the snare’s bottom mic, EQ out a bit of the upper harmonics on the remaining snare track and then brighten the cymbals track so that the sound from the snare leaking into the cymbals would bring out the crisper timbre of the snare sound. Then I used a slow attack & release for the snare’s compressor so that the initial hit would sound clean (but would bring down the gross resonance) and then used a quicker release on the cymbals so that they could ring with the top half of the snare sound that I liked.

### **Extra Group Notes from the Day Recording in CMS1:**

Joined notes with Jennice, Gem, Ethan, Liam, Zach, Sabrina and Yona

- Turned all power on
- Turned down volume from the people who used the room before us
- Hannah has pre-recorded a bunch of instruments on Logic
- Put the individual tracks into audio WAV and moved those tracks to a Protools session
- Set up two AKG C414 mics in XY position
- Changed to a spaced Stereo set up
- Recording backing vocals
- The microphones aren’t coming through to the desk
- It’s working!
- Odd bass drum beat coming from no where
- 1420: We’ve decided that it’s likely to be an issue with one of the condensers
- Swapping them for a pair of E835s (XY Position as well)
- IT WORKS
- YAY
- 1500: started recording BGV
- Issues regarding timing can be fixed in post production
- 1630: drums mic set up
- 1700: drums set up complete, no toms though
- 1720: focusrite couldnt work,, Ethan patched it into the input of the fireface
- 1745: drums recorded
- 1755: overheads weren't panned, redo drums

- o 1815: violin recording
- o 1845: finished recording
- o 1850: exported files
- o 1900: completed packing away We used the window between the rooms and writing backwards with whiteboard markers as a form of communication. Drum mic set up! (mostly done by Hannah, aided by Ethan, Jennice & I) Mic set up for choral styled vocals



Photo of Jennice tracing our work in the studio...