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In this document I'll discuss the genre conventions followed by my chosen reference tracks, my musical decisions off the back of these and the technical methods I employed. I produced these songs using Logic, Protools, Reaper and Ableton in order to expand my DAW skillset.

Song 1: The Weeknd Influenced Beat (Dark R&B, Hip-Hop)

I referenced the song "The Hills - The Weeknd" (The Weeknd, 2015), produced by Illangelo, while using "Low Life - Future ft. Weekend" (Future 2016) and "Better Now - Post Malone" (Post Malone, 2018) as secondary references as they are similar from both a songwriting and mix perspective.

Reference: Characteristics

Besides the funkier stuff with Daft Punk, The Weeknd's productions tend to be very mid heavy and there are rarely many bright instruments; the sound palette consisting mostly electronic drum machines, synths and prominent sub bass. The other two references are similar in this regard.

The tempo and time signature in 'The Hills' remain unchanged throughout at 113bpm and 4/4. A higher bpm would be inappropriate for The Hills as it isn't a party/club song.

Most of the high end in The Hills comes from the high hats, synths (that have had their highs boosted) and the vocal - as a tenor, his voice sits nicely on top and nothing competes for space with it.

Reference: Arrangement & Mix Techniques

The arrangement seems deceptively simple with 5 stems but there are several clever devices used to create dynamic movement in the mix. Interestingly and against pop music convention, the song title only appears in the bridge. This isn't a singalong song and is 100% about the vibe, so the fact it went 9x platinum and was the single that broke him, going to #1 on US billboard (Billboard, 2018), speaks volumes about how powerful the melodies and production are.

Songwriting: The chord progression is I, VI, IV, VI and remains constant throughout until the bridge. Contrast between verse and chorus therefore must come from other things, like the production dynamics and the vocal melody switching octaves.

Drums: Drums consist entirely of drum machine sounds with no organic elements at all, which is typical of the genre. The high hats seem to be panned slightly right, which gives them their own space but not so far as to unbalance the mix. Snare, kick and ride are down the center.

The drum parts tell a story of their own, building up in the chorus and pulling away during the verses and bridge to create contrasting dynamics. Every element of the track uses dynamics in this way to create 'light' and 'dark' sections in the song.

Bass: If you solo the bass part for the chorus drop it sounds pretty awful. However in the mix it props up the brighter / higher fidelity elements and gives a great sense of 'hardness' to the track as a whole. It's therefore important to design sounds in context with each other rather than in isolation, as it's all about how they interact.

In the verse the bass is a quiet low rumble, hence there's a big dynamic change when the chorus drop kicks in.

Vocals: The vocals are another example of dynamic movement in the mix and are perfectly listenable by themselves. The reverb in the verses sounds like he's in a small room and he's close to the mic so it sounds intimate. The chorus vocal then becomes much louder and is heavily saturated. The second and third choruses are developed by the addition of extra harmonies underneath the lead melody.

The melody is very similar between the verse and chorus which glues the song together, though the chorus is sung an octave higher which raises the energy level. A neat melodic trick employed is that almost every 'melodic phrase' in the verse and chorus resolves on the 3rd note of the minor scale, so it never really feels resolved. This helps to drive the song forward throughout.

The vocal is heavily compressed throughout and there is very little dynamic variation between words, meaning every word is easily understood.

Instrumental ad libs: 'Non-musical' samples and effects are another device used to add movement. Going into the chorus there's a sample of a girl's scream, following by a whoosh which automates up and down in pitch and volume. Similar effects are used throughout, which helps to glue the sections together and both adds interest and varies the dynamics.

EQ: Mid-side EQ was probably used to separate the instruments, moving the synths and pads to the sides and leaving space in the middle for the bass and vocal. There is some panning but no elements are hard panned, which probably helps with mono compatibility but also keeps the whole piece glued together in a tighter space.

My Track: Techniques & Creative Decisions

Arrangement and mixing was performed in Ableton which in my view heavily lends itself to sample and loop-based music, making it best for the job here.

Drums: Consistent with the genre I used only drum machine sounds and these are played in simple patterns to let the track breathe. The kick drum is reserved until the chorus to provide additional punch when it drops. The kick is lightly compressed for extra thump, while reverb

was added to the claps, high hats and kick to blend them with the synths. I also added a de-esser to the high hats to take the edge off. The first kick drum hit of the drop is also louder than the rest to add a little extra power.

Bass: Heavily distorted bassline in the chorus, with light compression sidechained to the high hats to add a gentle wobble, followed by a sidechain to the kick to help it pop through in the mix. The bass stabs in the verses add a sense of hardness but are subtle enough to create a contrast in dynamics when they're compared to the heavy chorus bassline.



NB: The high hat sidechain gain reduction needle hardly moves, but there's a subtle colouration of the bass tone from it. The kick sidechain is much more pronounced.

I also added a layer of sub bass underneath the distorted bass synth help the drop compete on larger sound systems.

Synths: Consistent with the reference track, there is very little high end aside from a couple of synths occupying the high mids. This allows the topline to cut through once it has been added.

I applied mid-side EQ to boost the synths in the sides while cutting them in the middle to move them out of the way. I also applied a high pass filter to remove unwanted bass frequencies.



Harmonically I tried to dynamically build the song as it goes along, and the last two choruses incorporate an extra layer of keys to help the song reach a crescendo.

Vocals: Once I've sourced an artist to co-write this song with I'd take a similar approach as The Hills, ie: have the melody peak in the chorus with a volume boost and saturation added, then adding extra vocal layers in the later choruses. The verses might need a bigger room reverb than that of The Hills in order to blend with the wet synths.

Other sonics:

I added a couple of hidden pad and effect layers which are barely audible but help to bulk out the mix. I also manipulated samples, including 'whooshes' placed before each chorus drop to create momentum. My housemate added some vibey vocal ad libs on an SM58 which are band passed with plenty of reverb so they sit low in the mix and serve an atmospheric role.

Song 2: Ghost Of You (Soul Pop)

For this track I used 'Cheating' (John Newman, 2013) as a primary reference, produced by Mike Spencer whose credits include JP Cooper and Tom Walker. I used 'Love Me Again' (John Newman, 2013) and 'Fire in Me' (John Newman, 2018) as secondary references.

Reference: Characteristics

John Newman could be described as Pop, Soul, Nu Soul or Neo Soul (Last.fm, 2018). Soul pop productions tend to be based predominantly around real instruments, certainly more so than electronic genres like Trap or EDM. John Newman's sound is consistent with this, although the instruments are compressed and mixed in such a way that they sound much louder and more prominent in the mix than they would in a live setting. 'Cheating' and 'Love me Again' both feature piano, bass, horns and strings in the arrangement. There are likely some guitar parts in there too for thickness although they are much further back in the mix.

The songs are all arranged in 4/4 as is standard for modern pop records. 'Cheating' and 'Love Me Again' are both 126 bpm, placing them in the 'upbeat pop song' category alongside Firework by Katy Perry, Only Girl by Rihanna and Moves Like Jagger by Maroon 5 (jog.fm, 2018).

Reference: Arrangement & Mix Techniques

Songwriting: Cheating uses three chords in the chorus, I, VII and VI, while in the verse the progression is I, IV, III, II. Both the difference in chord order and number of chords creates contrast between the two sections.

Every section in 'Cheating' is preceded by a 1 bar break where the instruments pull away and there's either a moment of silence or claps. This is an effective way of glueing the sections together, as well as making the 're-entry' sound bigger than if the song had simply

moved straight into the next section. The same trick is employed in 'Fire In Me', where the silence is also used to spotlight the song title. 'Love Me Again' also incorporates a break before the chorus with just a plucked guitar.

Bass: For all three references, there is a funky bassline played by a real bassist. The tone is almost identical across the three tracks and they sound like they were played by the same player, on a bass guitar with smooth pickups, run through a DI with compression and saturation added. This is consistent with the genre as the songs draw inspiration from motown and soul records, where programmed bass lines were non-existent and it was the feel of the bass player that got the song moving.

Drums: The chorus drops in both 'Love Me Again' and 'Cheating' by John Newman incorporate a drum pattern which is similar to one known colloquially as the "Amen break". This dates from a song called Amen Brother by The Winstons with a drum loop beginning around 1:26 minutes (Uplifting Waves, 2009), which has been sampled and imitated countless times since (WhoSampled, 2018).

Piano: The piano in Love Me Again has two different parts with bass notes panned left and rhythmic stabs panned right, which adds interest and helps to make the mix sound fuller. In 'Cheating' the piano sounds more directional and is panned mid-right.

Vocals: True to its soul & motown influences 'Cheating' incorporates a gospel choir, while Fire In Me has backing gang vocals which makes the vocal sound bigger in the chorus. Lead vocals are heavily compressed and saturated in all of the references.

My Track: Techniques & Creative Decisions

The arrangement was largely performed in Logic X due to the abundance of stock instruments, while the mixing was done in Protools.

Instrumentation: I used the same instrument types as John Newman and tried to mix them loud and prominently as per the reference tracks. As far as tone and timbre is concerned, I had to make the best use I could of stock Logic X instruments which may have had an impact on how authentic the record sounds.

I tried to be a little more adventurous with the chorus chord progression opting for a I, III, VII, VI, VI(maj 7), I, VII, VI. The verse is a more conventional I, VI, VII, III.

Before the verses and choruses I incorporated a 1 bar break with clap samples, consistent with all three references.

Drums: The drums are a nod to the Amen Break but I also used some funk percussion samples to fill the sound out. The drums were entirely programmed unlike Cheating which appears to use a heavily processed live recording. This was due to resource constraints rather than a stylistic choice, and I intend to get a live drummer on the record as I develop it further.

Bass: I played the bassline via DI and tried to incorporate passing notes to mimic the feel of the reference tracks. All I added was some light EQ, compression and saturation as the original signal already sounded quite overdriven. Some chopping in Protools was required to line the notes up on the grid although the original feel of the performance was largely preserved.

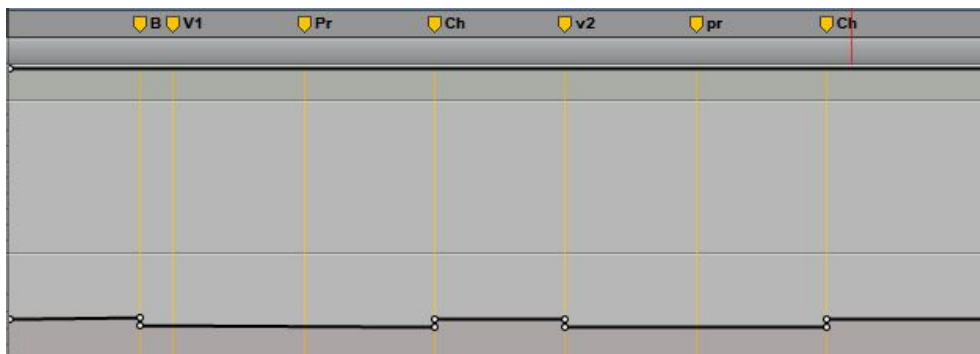
Piano: For the piano part I mimicked the technique in 'Love Me Again' of playing two different but interlocking parts and panning them left and right, which adds interest and helps to make the mix sound fuller.

Horns: Similar to 'Cheating', the Horns consisted of a bass part, midrange 'stabs' and high melodic riffs to fill the gaps. These were each sent to their own bus and EQ'd and compressed separately to fit their respective parts of the mix.

Vocal: I applied light pitch correction and saturation to the lead vocal. The vocal volume is boosted for the chorus as well as the addition of choir backing vocals, staying true to the references and overall genre. My John Newman impression is still a work in progress so I opted to keep my co-writers original vocal for now - this version could be pitched to female artists looking for a similar vibe.

EQ & Levels: Low end for the piano, strings, guitar, horns, choir and percussion was cut down the middle to make space for the kick, snare, bass and lead vocals, which were cut on the sides to avoid clashing with the other elements.

In terms of overall master level, I cut all sections besides the chorus by 2db to help the chorus pop out more when it comes in.



Compression: Applied heavily to most instruments. Plus light SSL compression on the master bus to glue everything together.

Reverb: Medium reverb added to the lead vocal, big room reverb to the choir and light reverb to most instruments. For the choir it was used as an effect, while for the rest it was to glue parts together and make them sound like they're in a space.

Song 3: You'll Never Be Alone Again (Garage Rock)

Garage rock is a raw form of rock and roll and much of its character comes from the looseness of the playing and overall sound. I used Girlfriend by Ty Seagall (Danny Baxter, 2011) as a reference. The playing and singing are loud and crass, which is very fitting with the genre.

Reference: Arrangement & Mix Techniques

The guitar parts in 'Girlfriend' are very boomy yet they're not muddy, which demonstrates expert use of EQ and compression. They're also high up in the mix as guitars form the foundation of Garage Rock, unlike a John Newman record where they would sit much further back.

It sounds like they were recorded with SM57s as they sound quite sharp, which helps them to sit well on top of the fat bass tone.

The vocals are double tracked (at the very least) and panned left and right even wider than the drums to provide width, though the rest of the elements are pretty central.

My Track: Techniques & Creative Decisions

Drums: To record drums I used the Glyn John mic technique with 2 Aston Starlights for overheads, and SM57 on the snare and AKG D112 on the kick. It was a small room so the overheads were pretty close to the kit which probably resulted in more prominent cymbals / hat as a result, so I turned the overhead mics down in the mix for this reason, as well as to follow the Andy Wallace method (Rick Beato, 2016) of riding the volume of the overheads.

In the mix stage I used another technique by Andy Wallace, producer for many iconic 90s rock bands, which involved triggering white noise with a gated live snare to fatten it out. I also used a low sine wave tuned to the key of the song to add punch to the kick.

I then applied light EQ and compression, but was wary of overdoing it as this would risk losing the feel of the song.

Electric guitar: Played through an Ibanez with Lollar humbuckers, through a Hampstead Artist 20 RT amp.

My micing technique was borrowed from Eric Valentine (Sound on Sound Magazine, 2016) who mixed guitars for Queens of the Stone Age's album 'Songs for the Deaf'. I used SM57's front and back of the amp and an Aston Spirit condenser to capture the room.

The front mic was right in the middle and up close, which means a sharper sound (Fuston, 2017). I opted for this as I was already capturing low end and room resonance with the other two mics so wanted to be able to dial in extra sharpness in the mix if needed.



Acoustic Guitar: I miced it with Neumann KM184's at 12th fret and the bridge to give me options for mixing later on. I had no intention of blending the two, instead choosing the 12th fret mic as it added some top without muddying the mix, versus the bridge mic which would compete with the electric guitars. All rhythm guitar sections were double tracked.

Bass: Recorded through a DI with saturation and chorus effects added in the DAW. Using chorus on bass is another trick commonly used by Andy Wallace (Rick Beato, 2016).

Vocal: The lead and backing vocals are all tracked several times to add size. The editing is kept somewhat loose to maintain the Garage Rock feel. I only autotuned one of the tracks and brought it up in the mix, deliberately keeping some of the dodgier takes audible to add to the feel.

EQ: High pass filter on the guitars to separate them from the bass, but kept the threshold low to maintain some boomyness as if they'd been played through a bass amp. I also used a high pass filter on the vocals to keep them from fighting too much with the guitars.

Appendix (not included in word count):

Audio submission guide:

- My tracks (until 12:12)
- Reference tracks (12:12-23.16)
- Similar songs of same genre (23.16-26.34)
- Work in progress clips (26.34-29.53)

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