

Music production techniques essay sample



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So we are in the studio rearing to go, our musicians are well practiced and have a great track ready to lay down. As an engineer or a producer we need to decide what is the best possible way to capture the sound we want from the band. We are faced with a number of challenges at this point, such as where are we going to set the instruments up in the room? What order shall we record the artists in? What is the best process to take to make the recording go as smoothly as possible? However with all this aside, the 'big question' is what microphones shall we use? There are endless amounts of microphones available at our finger tips these days, so how can we really decide what kind of mic is best for certain parts of the recording? First of all we need to see what types of microphones are available to us. There are various types of mic's, with specific polar patterns and sensitivity and frequency ranges, making each microphone unique for different roles. Today we will concentrate on Dynamic Microphones.

Dynamic mic is the standard general-purpose mic like the type you see people singing with at live gigs. The design of a dynamic microphone is very simple and they have few moving parts. This makes them quite rugged and able to withstand high volumes and abuse. Dynamic microphones work using the electromagnet principal. The diaphragm vibrates when sound waves hit its surface and this in turn moves a coil of wire back and forth past a magnet. This generates an electrical current that is sent down two wires and out of the mic. Now we know the basic design of a dynamic microphone, we can decide how we can take advantage of these features. So why would we use a dynamic mic in a studio, surely we would want a higher frequency

range and response and clarity within our recordings? So why don't we just use a different kind of microphone which is on paper better and less rugged?

Well we must think of what instruments sound best close mic'd at a higher dB, also what instruments are going to pump out some volume which may require a higher SPL Threshold (Sound Pressure Level) to capture the full sound. They are good for miking drums, where the microphone is most likely to get hit with a stick, or miking very loud audio like the screaming lead singer of a hard rock band. There are all kinds' tricks tips and techniques you can use with microphones but in a studio it is important to get the right mic in the right position. So when you are next thinking of what mic you can use for you band, think what instrument would need either a more durable mic to withstand higher volumes or a more sensitive mic to pick up the more delicate parts of the recording.

Miking up a drum kit

There isn't much more of an art when it comes recording, than capturing the unique and diverse sounds of a drum kit. With different twists turns and techniques there are endless ways of recordings drums. With a dynamic range of drums, different tones, shapes and sizes all create their own sound. So how can you approach such a complexity? Firstly we must think of what kind of drum kit are we miking? As you can come across various different types and styles of drums, the most subtle of changes can make the biggest differences, so always make sure you have listened to the drum kit before you go making any big decisions on what mic's, placement or techniques you are using. Secondly make sure your kit is tuned! There is nothing worse than

trying to compensate for out of tune instruments, like anyone will tell you, you can't polish a turd. When we have a fully functional drum kit to work with we can start to set it up.

Always making the drummer is happy and comfortable, remembering the drum kit can't play itself (you need to treat the drummer as part of the kit) we need to position the drums into the live room, ideally in the oh so ever sweet spot in your beautiful acoustic treated room, also always keeping in mind the room is as big as part of the recording as the snare drum is. Now once everyone is happy it's time to get down to business, Microphones!! Now what kind of mic's can we use for a drum kit? There are no rules when it comes to recording but they are certainly factors of a drum kit which cannot be ignored. A good range of dynamic and condenser microphones can be used. To help you decide I would recommend listening to points where you want to mic the drums.

For example the snare or the kick. For the bright, harsh and loud hit the snare drum projects, it is important to decide how much of this sound we wish to capture, with an idea of how you want your drums to fit into the track you can have a rough idea of the sound you want. So use your ears and find the sound you want, and then marry the mic to the music. For the bright and crisp sound from that snare, I would recommend a small diaphragm dynamic mic, such as an SM57. You can attempt a similar routine with your kick and toms ECT, always bearing in mind the sound you want and how you feel the different microphones and qualities they have can interpret this. There are a range of stereo miking techniques you can use to create the ' image of the drums' and get as large or as little stereo spread as you like, which gives

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depth and width to your mix. A few common techniques of stereo miking would be an X, Y technique (Image A.) over the centre of the drum kit. Or to get a representation to the human perception of hearing you can try the 'ORTF' technique (Image B.). Or a quite common way of working is a split pair with 2 overhead mic's spread over the left and right of the drums.

Click Track

Dodgy drummers? Problems with keeping in time? Crazy time signatures? Well I have the thing for you! Not so brand new and exclusive, and not really heard off! Now in every single DAW possible!! You will be one of the only people to actually use it!.. Yes it's a Click Track!!! Click tracks are one of the most unused and underestimated features in digital workstations. People constantly battle with editing and developing their recordings because nothing ever stays in time. Is there anything worse than sitting at your desktop for hours on end tweaking loops and slicing and stretching audio into time, it's such a waste of time. So how is this hidden gem so useful? You can say it ties the track together and keeps it in time, but I feel this is why people overlook the feature so easily. There are all sorts of things you can do, such as create a tempo track, which you can automate your tempo time signatures with. It can be also used as an effect within a piece. Another reason people can overlook using a click track is that it can be quite a skill to be able to play tightly to a click. Some can find it rather off putting to use. However ever not everything has to be played at once.

A click track gives you the opportunity to structure your music and gives the advantage of being able to record each section at a time to a click, dropping

the musician in (counting in) the correct part, which is so much better than going from the top! It gives the right amount of beats and bars at the bpm (beats per minute) you set. This can prove useful when you naturally struggle with funny time signatures. A click can be handy for a DJ when they are detecting tempos or giving a target for beat matching. Other features have developed over time, moving away from the bog standard click, such as flex time and musical modes, and time stretching.

This allows the producer to manipulate the audio to get it in time, and to the click track you want. It has never been a set rule that everyone must use a click, or everything should be in time, music has gone beyond this, but there is no doubting the importance it has in certain recordings. So next time you're in the studio, set your click track for your drummer, break his parts up into sections and try piecing things together, unless your one of those lucky people who have one take wonder musicians) Try dropping your musicians in on certain bars of the song, and you will be able to see visually where you are up to on your DAW, making your work so much more organised, structured and dare I say easier.

Drum Loops within dance music

Today's dance scene is one that is growing constantly, pushing boundaries, remixing the old, flaunting the new. There are many secrets within the art of dance music production, everything from e. q to filters and side chaining, technology is developing alongside progressive beats, and there have truly become no limits to the lengths production can go to. So what really gets that ever so consistent beat moving? Yes the detailed processing being that

thud of a kick, but what is a kick on its own? How do all those claps and hats and percussion and snares blend so smoothly and effectively into a big dance beat? So where to begin? With the basic structure of your beat, you now need to add some life into it. Snare claps and hats aside, you can really fill out your beat with drum loops. The key rule to remember you are not replacing your already steady kick, snare, claps and hats. You want to be adding extra loops to create an effect and to push your beat into the mix without over doing it.

A common technique is to add a similar loop to your beat maybe with a different rhythm to it and layer the sounds over your basic beat, using filter effects and flanger ect, you seem to find percussion loops within dance music on a hi-pass filter in unison to create a wide stereo image of the higher frequencies which can really fill out all those gaps and tie the drums together to make a solid beat. You can use a variety of drum loops in music production; there are certainly no boundaries and plenty of tricks you can use. You can find loops that are used in double time and half time, the joys of this is that they don't always have to be top quality to use, as a bit crushed or lower quality sound can be quite appealing with the right amount of processing applied.

When it comes to choosing your loops, I feel a key factor to look out for is the different rhythms drum loops can offer. Instead of finding a basic nice sounding loop, maybe try to be experimental? Because you never know how easily a different beat will sound over your standard heavy beat and how easily it can get the track moving. With the right practice drum loops can be used so efficiently within dance music, however it is important to remember

not to get in a loop with your loops, don't get into the habit of only using pre-made drum loops in your music, the beat is arguably the most important thing in dance music. Saying this it is the most deceiving part of production. It's very easy to think it is very simple and basic, but I assure you with the right time and effort, the slightest of things can make the biggest of difference to your delivery of great dance music. Section C

Production analysis

Superstition

Funnily enough, Superstition 'was' the way, when it came to our group project. Our aim was to deliver a fully produced cover track for commercial realise. Rightly so we jumped straight into action throwing ideas around. We organised our first meeting to decide what song we would like to record, who we would record, and would we need session musicians? We came to an overall agreement in that we would entirely record session musicians so that we could concentrate on our individual roles and group tasks. By doing this we each had individual things we could be doing which got the planning moving very quickly; instead of three of us working on the same thing, with a quick bit of maths it got us going three times faster. The Track we chose was Stevie Wonders famous superstition. We decided to do this to challenge ourselves with the production; we wanted to go all out. We needed drums, guitars, bass, vocals, trumpets, and saxophones. When it came to choosing which song we would produce, originally we decided to do Seals Kiss From A Rose, as it is only a few instruments to record.

However with constant timing issues and vocal problems during rehearsals we came together and agreed that this isn't the right song for us, as we may have ended up spending too much time on getting the song right to record. Once initial ideas were concluded, we had our song and our aim we got together to plan our timings and bookings and how we would approach the project. The first thing we did was book our rehearsal space and studio time, then decided how we would record the track. We chose to multi track each individual part, as opposed to how Stevie Wonder would record live, letting the musicians vibe off one another. This then gave us a starting point off when we could book our session musicians and in what order. Our session musicians were booked briefed. We told them what song and part they will be expected to perform, come the recording date set.

Due to tight bookings and availability the efficiency and professionalism during recording had to be pristine. We always arrived at the studio an hour prior to hitting the record button, allowing us to set and mic up instruments accordingly. Once we were set up we checked our levels and took samples, so that we could discuss the sound we had captured and made sure it was the sound what we were aiming for. The session would be recorded and mixed in Logic Pro 9, as this was mutually the most known software. We also felt we could benefit from our knowledge of the DAW a lot more than others that we weren't too familiar with. We chose to use a variety of industry standard mics such as a Rode Nt2 and an AKG 414, which were both involved in a variety of techniques with recording vocals, drums, sax, trumpet and guitars. Rode Nt5's and Neuman KM 185 were used in several stereo mic techniques whilst recording drums.

When micing the instruments we used several mics in different positions, distances and techniques so we could compare results before decided which to record the final parts with. When it actually came to recording, First we got in the drums. Like requested our session musician had practiced and was ready to go. The decision was to capture the overall sound off the kit whilst individually micing the kick drum so that we had more control of that in the Mix. We used Rode Nt5's in a ORTF position placed above the drummer facing the impact of the hit, with the intention to record what the drummer was hearing. Directly in front of the kit we used a Mid Side technique, with an AKG 414 in a Figure of 8 polar pattern with a single Neuman KM185 above the 414 pointing at the drums. Once recorded we could then invert the phase of the positive side on the 414 which then created a wide stereo image, which then captured the sound of the room, creating almost a live feel to the recordings, as if he were playing live which is how Stevie Wonder would record.

When we recorded the guitar we felt that this was a pinnacle and turning point for the project as the song is pretty much famous for its riff. The sound we aimed for wanted to be sharp with a jangly tone. We used a variety of amps from a large Marshall rack and cab to a fender amp. We used a selection of mics close to the face of the cab such as an SM57 and 58. The results that we gained from this proved positive, but not quite that sound we were aiming for. However we used the recordings and applied effects such as duplicating the track and processing the recording through guitar rig, which allowed us to manipulate the sound with internal plugin's whilst maintaining the natural recording. From this we developed that harsh sound

we wanted. As mentioned there were a variety of techniques used throughout the production such as micing techniques with different placements around the room at different angles on and off axis.

Using multiple techniques allowed us to directly compare results, this process was not only used throughout the recording period, it was applied during mixing and editing. With several takes of recordings we could audition parts with playlist features and promote the best bits to the final product. During the mixing process we waited until we had all the parts recorded before going ahead with mixing, as we did not want to mix parts individually as we could then find when bringing things back together they don't blend together. As mentioned the over all sound we were aiming to deliver was a high quality studio produced version of the track with a live feel, like the original. We wanted to recreate the energy as if artists were playing together and really keep the track moving. As a whole, we feel the product to be a success. The efficiency and professionalism really took place from planning to recording to working with the session musicians to gain the right results, to the mixing process.

Health and Safety within a recording studio.

Health and safety plays its part everywhere within in industry. Laws and regulations, can and can't do, simply right and wrongs are put in place to ensure that our health and safety in environments off risk are at ease. There is no doubt about it that there have been incidents where people and equipment have been harmed. It happens everyday, however precautions must be taken to assume the worst so that there is the least possibility that

an incident can accuse. Health and safety should always be put first when it comes to using a recording studio. As mentioned not only are yourself and others at risk as is the equipment. Needless to say health and safety is just as important in Poundland, however a recording studio can have a sufficient amount of expensive and valuable equipment. When you are trying to run business, damaged equipment, software and people can have a serious financial impact. Therefore it is essential that we are looking after number one, yourself, and two, the studio.

There are many risks within a studio, and when it comes to booking and being used it is important that the health and safety officer briefs you of the risks and hazards, if there is not one, then a competent person must. Its clear to say that their cannot be a rule for every little problem as a lot of the time issues are created whilst in the process of work, so having an “ heads up” attitude, always being aware, and would you believe it common-sense, is vital. The Law states that we must provide relevant documentation of assessments of risk in all areas of the business, highlighting all risks and hazards that could arise. Then necessary method statements must be provided which will inform how to approach and action the risks should they happen. So what are the risks in a recording studio? You wouldn't think it could be much, but there are endless hazards and risks that constantly arise. The smallest of things can have the biggest outcome, so when it comes to taping down wires, checking the equipment is working properly, correctly plugging in equipment and not overloading sockets and supplies provided, it is essential that you are doing it correctly.

Other physical things that can cause damage could be anything from trying to carry things incorrectly, lifting, moving and transporting equipment. You need to be aware larger issues also which can have a long term effect such as, repetitive strain from leaning over a computer for hours editing, claustrophobia can be an issue in small spaces, like editing suites and isolation booths. Electrical safety is very important in the studio, power loading is always a constant factor in the studio, artists plugging as many amps as they want into a single 13amp socket making it unstable and causing switches to trip and fuses to pop. You must always be aware of what you are plugging in and where. A competent engineer must always do installation and wiring and be there to supervise other activates when equipment is in use. As mentioned common sense can get you a long way, things like drinking over a mixing console, we all know not to do it, yet we still do. So being aware of hazards and risks and always being cautious plays the biggest part of Health and Safety.

Section B

Question 1

One of the key skills a music producer has is the ability to work with musical ideas. During my work over the year I am always keen taking the active role of the producer. With a musical understanding and a technical ability I feel that the blend really helps breakdown key barriers in the studio between the artist and the engineer and the track. Then turning what can be a good idea to a great hit. Confidence, communication and ability, I believe are three key factors into being a great producer. When working on our Christmas number

one project we constantly reached barriers and issues with the production and vocal performances. When at the production stage with my partner, I managed to communicate his ideas into the software getting the sound that we were aiming for. He played the riff out of a guitar and said he wanted a very processed synth that slid between notes. Musical knowledge told me that this was a glissando, sliding between notes, and my production head led me right where I needed to go on the synth routing.

On the trigger of the note I would route the oscillators to a pitch glissando and by tweaking settings I could make it almost climb up to the note. This is communication and ability working together. When it came to recording the vocals we were constantly faced with tuning and timing issues. However we had to work in a way with an artist that gets the full potential out of that performance, due to the timescale and availability of singers we had to be sharp on our toes. When the singers arrived they had never heard the song or seen the lyrics before. I found that the best way to teach them was to break the song down and talk them through it. We produced a guide track for vocals in which a piano played the melody over the song. As we were not the greatest singers, we were not the best example for demonstrating the tuning of the song. As the singers were just friends and not very experienced in a studio environment we had a lot of nerve issues, so the confidence and professionalism we expressed, I feel put the singer at ease.

Whilst reassuring them we had to keep them calm before recording, making sure they are happy and looked after as well as making sure they are reaching their potential and singing what we need them to do correctly. This

was confidence needed at it's most. The project is constantly developing as we move on, as the producer, having an input of all areas of the production is vital. I always learn more between different projects and the role is never the same. I will always make sure I can get the best out of others and myself to deliver a professional product. When working with engineers and artists it is important to never have your way, I cannot sing, therefore when working with the singers on this project there input was just if not more important than mine. Working together musically we developed and tweaked the melody so it built up better towards the chorus.

Question 2

A music producer has to work with others to understand and interpret their musical needs. When it came to the project of Remixing ' Trust me' I had to work in different way that I would in the studio with an artist. The brief given required; ensuring that the whole vocal is retained, remix ' trust me' using Logic Pro in an instantly recognizable dance genre of your choosing. My instant reaction was that I never had used Logic Pro before. So within the 20hours set, I had to learn the software and produce the track. This is where as a producer I had to maintain a professional attitude and work efficiently. With sufficient experience within dance music production within other DAW's I found that adapting software was not an issue. Working to the guidelines gave me a starting point, I knew I was asked to retain the following instruments: Vocals (must still sound as though they are from the original record) Bass (parts of this can be used accordingly) Feedback Guitar (parts of this can be used accordingly).

My aim for the track was to consistently develop the track musically in a trance like form. I used the vocals to structure the track, whilst chopping parts up to allow me to use them creatively in a simple 4/4 formant. The bass was chopped up and I looped a specific section in double time at drop, whilst clearly identifying its place within the song, I managed to experiment creatively and use it in a dance form as a bass would do. Similar processes were taken with the feedback guitar. It originally seemed a challenge to use in the track, with just being feedback.

However I sampled a section and by automating a filter and volume I used it as an uprising swell towards drops. Having the ability to work to a brief whilst being creative is a necessity of the producer, having the skill to move a track forward and give it the potential it has. I feel producers have a personal stamp on a song; their style of work is expressed and becomes "Their Sound". Within the Trust me remix I feel I naturally met the requirements of involving necessary parts and producing a dance track, however with the style of mixing and editing of certain parts like the vocals, and with the sound of the synths used I feel that how the use of effects within certainly made my mark on the track. The final product was a success in the client's eyes, the level of production and style and genre choice showed experience, and for the first time using Logic Pro, I believe my skills as a producer certainly excelled.

Section C

Production analysis

All for a reason was the song I wrote, produced and mixed for our individual non-studio project. For the assignment I was briefed to deliver a track in a non-studio environment, which naturally created issues, as I had to think how I would go about making the song. I feel for myself as a producer that the easiest route to doing this was to sit at my computer and create what would have been a number one summer anthem! However what would take away from this project if all submit is what I do in my spare time? I have always had a musical background and was raised playing the piano and I felt that I could write a song, which could show my diversity as a songwriter and producer. I started by sitting down at the piano and playing around with some chords and making the decisions of what genre the song would be and what it then would be about.

Without wanting to over complicate my production due to the time I had, I decided upon a piano acoustic. After a short time I had a solid structure of the song which I recorded a demo on a digital piano. Whilst playing back the piano I could sit back and write the lyrics, which are about getting a chance and things happening for a reason. My next step was to decide whom I could get to sing the song. As the song is about a man perspective and thoughts I gathered it would only be right for a male vocal. I then had to hunt down a session musician on short notice and managed to get him to meet the following day. I then had to get a basic recording for vocals to perform to. As I was not aloud in a studio I chose to take a laptop and some mics to a large open space and record my desired piano.

As shown in the picture, I used a stereo micing technique of two Rode NT5's in the x, y position aiming at body of the piano, which gave me a wide stereo

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image as if the keys were in front you. I also close mic'd an AKG 414 in a cardioid pattern facing the hammers in the piano which gave me a warm tone and also collected natural detail, such as the sound of my fingers and the pedal. This gave the track a warm acoustic feel. I practiced the track consistently and make several takes with variations, so when it came to piece the track together I had options in different sections. Once I had sufficient amount of takes of which I was happy with, I could then take it back to my room and edit. The following day I had my male vocal to record. I chose not to supply the lyrics before hearing the track as I did not want him to think how it should sound to him, which in a short amount of time would prove difficult to get the right tune when recording. When he arrived I briefed him on the track and in similar fashion talked him through the song.

Once again I created a melody over my recording so he could understand timing and tuning. At the end of the chorus the notes really push the chest belt in a vocal, so warming up was important, as I wanted to stay away from the singers head voice. When recording I used Logic Pro as required in my brief. Once again previous experience in alternative DAW played its part in unfamiliar circumstances within Logic. The mic I used for the vocals was a Rode NT2 with a pop shield. My aim was to marry up the warmth of the piano recording and song overall with the vocals. Therefore as we were recording in a bedroom, the room itself wasn't ideally acoustically treated. My decision was to borrow an isolation shield, which stopped any reflections back into the mic, then allowing me to have a raw natural vocal, which I could use a reverb plate on in the post production stage.

When recording I was kept to gain feedback from the singer as we could work experimentally on the musical content, such as subtle harmonies and certain words in the lyrics. During the postproduction I had balanced out the piano and the vocals, I then applied a warming EQ by boosting the mids and adding air. I used soft knee compression with a higher threshold, aiming to keep a natural sound without sounding over-processed when he reaches the higher register of the song. With the piano I used a wide stereo imager to push the NT5's right to the edges giving the spread whilst allowing the detail to come through of the 414. After I had completed the mixing stage I came away from the song and listened to it for a day. I feel that this is an important stage. I did not want to be getting into habits and missing certain things, inevitably refreshing my ears.

After this process I re-read my brief to make sure I was ticking all the boxes. The assignment read; must be suitable for commercial release. I felt that I must add a certain element of production value if I was to hear this on the radio. I went back to the computer and played around and then I made the production decision to add a subtle beat. After the first chorus, leading into the second verse, I implemented a loop with a low-pass filter on. I decided to add the filter because the vocals were still in a lower octave and the song had not risen to the dramatic part that is the peak of the vocal performance. I had to keep the emotional architecture of the song in mind. Therefore once the vocals opened up in the higher octave I released the filter on the beat opening the whole song up instead of just the vocals. Overall I feel it was a success. I believe I took my experience of working with artists creatively and

musical experience, applied that to a certain commercial value and produced; All For A Reason - Matthew Ainsworth.