

MUSIC PRODUCTION 2022
BRAD ARTHUR

VOCAL PRODUCTION 🎤

A STEP BY STEP GUIDE

By Brad Arthur



INTRODUCTION

Vocals are one of the most appealing instruments to the human ear so producing them well is a super power in the world of production. Here is an overview of my current process and the tips I have found to help greatly.

These are the main sections covered:

- **Signal Flow**
- **Recording**
- **Comping**
- **Editing**
- **Mixing**
- **Vocal FX**
- **Vocal Layering**

SIGNAL FLOW

In order to stay in control of the vocal mix and production it is really important to send all of your vocals to the right places and maintain control of each of the separate signals so you can make all the necessary adjustments as you go. I also find that having my project template setup means that I save time and can more easily stay on top of a vocal mix. I have a free Project Template that will give a rough idea of how I work but it is best to figure out what will work best for you and your process. Get this setup first and then the rest of the process will flow so much smoother and you can spend more time on the creative and fun parts.

RECORDING

A high quality recording process is undeniably vital for professional sounding vocals, here are some of the most important points to remember:

Setup

You want your recording setup to feel simple and easy so that there is as little resistance to getting started on a session as possible. Spend the time testing the room, mic position, computer position and maybe get a mic boom arm so that you can get up and running anytime an idea comes to you or you have planned a session.

I have my mic ready to go and my project template accessible at the click of a button and this has led to so many more hours of stress free vocal recording and exploration. If you find yourself repeating a behavior that feels frustrating or uninspiring then ask yourself if there is some way you can simplify or automate the process so that it's as streamlined as possible.

Room Characteristics

The room you record in will have a significant impact on the final sound. You want to aim for an acoustically treated room where the walls and surfaces will absorb a significant amount of the sound and prevent sound reflections entering into the recording. If you are on a budget you can use any sound absorbing materials like sofas, duvets, blankets and pillows or record in a closet/under a duvet though it will also depend on the mic that you use

Gain Staging

You want to be sure you set your gain levels at an optimal point so the signal that you record will be loud and clear but not clipping nor contaminated with too much

noise floor from your mic. This will require some testing to find the optimal setting for you and your mic but is worth experimenting with.

Mic Type

There are many different mic options and they will all produce different results. The main two types to focus on are **Dynamic and Condenser**. I currently use the Rode NT2A which is a Condenser microphone but I also have an SM58 which is a Dynamic microphone. Here are the main differences to consider with each of them.

Dynamic Microphones:

- Generally more affordable
- Pick up less room noise/Less sensitive
- Can handle very loud signal, less prone to overload/distortion
- Rugged and Durable
- Does not need power (No self Noise)

Condenser Microphones:

- Generally more expensive
- Much more sensitive and needs less amplification
- Higher quality sound overall, more detailed frequency response
- Needs self power

Mic Technique

Singing into the microphone is a skill itself. Being closer to the mic will create an intimate and warm sound and moving further away will make the sound thinner and more distant. It can sometimes help to sing just off to the side of the mic if you are going to be making harsh plosive sounds or breaths in a vocal delivery. Using a pop filter will help but it won't prevent everything from coming through. **Getting to know the differences in outcome by experimenting with position and expression is a valuable practice.**

PERFORMANCE IS KING 🏰

You can't beat a well performed vocal. Do whatever is needed to get you or the vocalist into the **right feeling** for the performance and it will save a lot of time and effort in the editing and mixing stage. The performance is usually make or break.

COMPING

Comping is the act of arranging the best vocals into a final track that is well balanced and well timed, here are the key points that are often overlooked but that go a long way.

Listen for The Best Emotion

If there are several takes to choose from I find that using **the most emotionally engaging ones is best**, you can adjust tuning and timing subtly if needed but it isn't really possible to edit the expression, vowel shape or emotional delivery of a vocal

Crossfades for Transparency

Be sure to merge clips together transparently with crossfades or use volume automations to **end or blend phrases smoothly**.

EDITING

Editing can enhance a vocal track by improving certain notes, correcting timing issues and removing any sounds that detract from the overall vocal performance.

Cut Out Unwanted Sounds

It is worth listening to the vocal on its own to detect unwanted pops, clicks and room noises. You can then remove these where possible or re-record if needed. You also want to cut out any 'Silence' as this will likely have a noise floor from the mic recording, even if small, which will be boosted by your vocal chain. Be sure to **ask if a sound is adding or taking away from the overall experience and if it's not then turn it down or just get rid of it**.

Manually Control Esses

Although I would recommend using De-essers I find **it is still worth adjusting the loudest harsh sounds and sibilants manually first**. This allows you to avoid using really heavy De-essing that could crush or squash an otherwise healthy vocal signal.

Subtle Tuning Is Best

I will often test out ideas with an Autotune plugin to see if I like them but when it comes to a final vocal I will aim to **get the best out of the natural voice as possible** and manually adjust any subtle tuning issues with something like Newtone so that it is subtle.

TIMING ADJUSTMENTS

A very powerful technique for making the vocals as impactful as possible is to listen to them with the metronome and really pay attention to the timing and rhythm. Making subtle adjustments to the timing of the vocals can really enhance the feel and rhythm of them. Obviously you want to aim to nail the timing in the performance but certain adjustments can emphasize the delivery even further. Sometimes cutting the intro or outro of vocals or moving parts of the vocal just a little earlier or later will dramatically transform the energy of the performance and the synergy with the instrumental.

MIXING

Mixing is the act of creating a balance between your vocal tracks and the rest of your instrumental tracks. The final outcome is influenced by all of the different vocal production steps. Getting better at one part of the vocal production process will naturally compliment all the other parts. If you want a good mix you will want to be sure that the recording and performing is top quality first, then you can dive into the plugins and start sculpting a sound that is really satisfying. Here is how I go about doing that.

Volumes

You want to make sure that the overall volume of the vocal takes feel coherent so it is important to listen through and adjust them roughly or automate where it is needed so that nothing is too quiet or jumps out at you.

You also want to be sure that your final vocal volumes sit well with the rest of the instrumental. This can be achieved by using a vocal reference and paying attention to how loud the vocal feels and adjusting the gain accordingly. Using an effective vocal chain is also key to getting your vocal to sit just right in a well balanced mix.

THE CHAIN

This is the processing that your vocals will run through to get a well mixed and rich sound alongside the instrumental. I find that each vocal chain will follow some similar steps even if some of the details will be different depending on the desired outcome. Here is a simple explanation that keeps me on track.

- **DE-ESS**
- **EQ**
- **COMPRESS**
- **SWEETEN**

Generally this is the order in which I process the vocals and the order is important because each effect applied will affect the outcome from subsequent effects. I find it's important to take care of volumes and harsh frequencies before compressing and sweetening otherwise you will be compressing a signal with an undesirable frequency balance making it even more harsh as a result. By De-essing and EQ-ing first you are balancing the frequencies before the compression and sweetening, resulting in a healthier outcome. Here is a simple breakdown of each stage and what my thought process is.

DE-ESS

I start with some gentle De-essing though I make sure to have manually adjusted the most harsh/loudest de-esses first so that I don't ask too much of the De-esser and crush the vocal. You want it to feel transparent and simply be there to smoothen out the esses. If you push it too much it will start to denature the vocal and make the singer sound like they were doing something strange with their mouth. It is helpful to listen at different volumes to check if your adjustments have been in the right direction.

EQUALIZE

Here you are aiming to balance out the frequencies so that you have the best across the whole spectrum. Enough high end to be present and clear but enough mids and lows to feel thick and warm. If you have recorded the vocals well then the EQ curve will generally be very subtle, usually with a low cut or a low shelf EQ and then a neutral mid and a subtle boost on the highs to taste. My EQ curve changes slightly from song to song depending on the instrumental context but it is pretty similar overall. I would show you a picture of an EQ curve but I find that using visuals can sometimes be counter productive as I really want to encourage mixing with your ears not your eyes.

I will often use an EQ with only knobs and not the visual spectrum and just pay attention to the sounds to determine if I like the balance or not. It can also help listening to previous songs of mine or other vocalists to see how the vocal balance in their tracks feels.

I will sometimes use a dynamic EQ to tame some of the low end or mids that might be boomy but this is rare. If I am stuck on a particular vocal part that is well performed but the EQ doesn't feel right then I might automate an EQ to come up just for that particular phrase so that I can make the adjustment that is needed without re-recording or over EQ-ing the rest of the vocal.

Though I have put EQ before compression in the chain I will often have a few different EQ's before and after the compressors but the first EQ in the chain is to get the balance, the rest are to make adjustments depending on taste or style.

COMPRESS

I generally compress with at least two if not three different compressors and how I compress really depends on the energy of the vocal that I am working with. If it is intimate then I will aim to make the vocal feel present and warm but I won't squash it with a really heavy compression and lose all the dynamics and expression in it. If it is a really high energy EDM or Electronic section then I will often push the compression a lot so that it really fits well with the intense instrumental.

The stock compressors in FL studio or any DAW are generally great and I only use other 3rd party compressors for taste or because I like the character they add to the vocal. I often add Virtual Mix rack from Slate Digital to my chain at this point and/or RVOX from Waves as I like the way that they enhance the vocal, giving it thickness and presence. It's worth developing a good understanding of the basics of compression as this will help you to decide what you want the compressor to do to the vocal and what type of compression will compliment the vocal style in your track. Try pushing the compressors to the extreme and listening to the outcome so you get more familiar with what a fast attack or release sounds like compared to a slow one. What does each compressor do to the sound and in what order works best for the sound you want?

SWEETEN

This part is more broad and includes Saturation plugins but also EQ and compression too. The first part of the chain is to establish a good sound with balance and the sweetening is just to make the vocal really shine without being overbearing. I like using Little Alter Boy from Soundtoys for the Saturation alone but I also add other EQ's and will adjust the compressors to suit. I will sometimes automate up EQ's and/or saturation to emphasize different phrases. Once you take care of the basics then you can start having some fun and exploring different FX.

VOCAL FX

This is where the real spice and fun comes into the vocal production. You can totally transform a vocal depending on your approach to effects like reverb and delay and here is what I have found works really well for me.

Reverbs

Reverb is like fire, it is magical but will burn everything if you aren't careful. It can be tempting to slap on way more reverb than is actually needed and not separate the FX signals effectively so that the lead signal and the FX signal clash and compete with each

other. As mentioned at the beginning of this document I always have my vocals organized in the project template so that my signals are separated and then grouped together in a bus so that I can stay in control of the reverbs and FX at any point in the process.

I usually use three different types of reverb. A standard Hall reverb, a Plate reverb and a Creative reverb. The Hall reverb is a very common one that adds space and character to the vocal. The Plate reverb is more metallic sounding and works really well for darker or more energetic productions. The Creative reverb can vary a lot depending on the production but it is usually a combination of reverbs and delays that I will automate in any section that I want a unique and attention grabbing sound.

Delays

I tend to use simple $\frac{1}{2}$ or $\frac{1}{4}$ delays and automate them up when I want them to feel more present. I also like adding saturation to them to make the sound more rich and enticing to the ear. I usually use the 'ping pong' setting so that the delays will move from ear to ear as this can give really nice stereo width to the FX. Sometimes I will manually create a delay by duplicating or recording a specific word or phrase and sending it to a separate mixer channel which I adjust to taste, rather than trying to get a delay plugin to behave exactly as I imagined in my mind as that can sometimes be harder than necessary.

VOCAL LAYERS and AD LIBS

I will go into more depth about adding vocal layers, ad libs and pads in a future video but here is a brief overview of what I find works really well

Left and Right Layers

I will often record two extra vocal layers of the main lead vocal (recording separate takes is necessary to add character and avoid any phasing issues that would come from just duplicating the original lead vocal). I then send each of the two vocals to a separate mixer channel and push one take all the way to the right of the stereo field and the other take to the left with the lead vocal remaining in the middle. This creates a really powerful stereo image and can bring up the energy and character of the lead vocal. I will usually do this in choruses or in high energy verse parts. I can process these vocals however suits, sometimes adding distortion or changing the formant if it adds to the overall listening experience

Vocal Pads

I will also often add a multi layered vocal pad either singing ooohs or ahhhs that fit with the chord progression, or singing specific words from the lead vocal with multiple harmonizing layers. I send those signals to the left and right and then through a variety of reverbs to get

the desired effect. Sometimes I will leave them completely dry and this can create a very captivating sound.

Ad Libs

Adding extra Ad libs to a vocal is great fun but can also lead to massively enhancing the song. I have often heard and felt that the Ad libs of a song can be the favorite parts. There is something about them that can take a song to the next level especially if they are done tastefully. I find that singing randomly over the top of the song and going with whichever words/phrases or expressions resonate most will often work really well. I then process them so that they are slightly quieter than the lead vocal and often sent to one side of the stereo field with some saturation and EQ so that they act as satisfying ear candy.

PRODUCTION/MIXING TIPS

- **Learn through exploration and experimentation.** Following rules blindly won't lead to true understanding or versatility. If you can approach something from multiple angles with a great understanding of the fundamentals then you have really learned a skill well.
- **Push the knobs and buttons about to the extremes.** That way you really get a feel for what they are doing and then you can make finer adjustments more confidently
- **Listen Loud and Quiet,** both will reveal interesting insight into your production.
- **Use a vocal reference,** find a song with similar vocals to your goal and check against that.
- **Listen to the rest of the track,** see how the vocal feels when you aren't focusing on it.
- **Produce and mix with your ears not your eyes.** It only matters how it sounds.
- **Give your ears rest.** Producing can be like lifting weights. If you get tired from doing a lot then the next best step is to stop and come back to it fresh.

SUMMARY

If in doubt 'Keep it simple'. Trust that you will continue to improve the more of it you do and aim to move step by step rather than overwhelming yourself with excessive expectations. Keep reiterating and really mastering the basic skills, the fine details will likely come along the way. Feel free to experiment and develop an understanding through exploration rather than memorizing a list or rules. Good luck and I hope you have a great time producing PRO vocals! Oh and of course, believe in yourself and you will be UNSTOPPABLE.

Thanks for downloading this and for all your support with the music and across social media.

Much love,

Brad 🥰🎵

