JST

THE ULTIMATE VOCAL PRODUCER'S HANDBOOK

Contents

Introduction

If you're someone who struggles with vocal production, this guide should put many of your worries at ease. Many producers and engineers seem to share the mindset that vocals are a type of instrument that's just too tough to tame. For many of those music professionals, that means burying the most important element of their song; hiding the most human element behind the parts of their mix they're more confident about.

Let this guide serve as both inspiration and lessons in technique. Vocals aren't hard; they just take some knowledge and understanding to get right the first time. Once you're able to achieve a clean, professional vocal sound it's like riding a bike. You'll have the skill set to do it over and over again.

Yes, your source is going to change with each and every band you work with. The challenges you face with a single vocalist might vary from song to song. If you focus on the fundamentals of what makes a great vocal, you'll never need to worry.

To begin the conversation, we need to start right from the source: the tracking sessions. Within the tracking session, there are techniques you can use to help make your singer feel more comfortable and confident in their performance. Some of these are age-old tricks of the trade while others are newer techniques that we find ourselves using more and more.

From there, the conversation moves to the editing you should be doing before your vocals make it to the mix session. Things like tuning and timing are key to a great performance, so we're going to focus on what you should be doing to nail those down every time. We'll also take a look at how comping together multiple takes can give you the perfect lead vocal every time.

Finally, we'll dive deep into what makes a great vocal mix. Do you know what makes a good lead vocal stand out in front of background vocals? How about why doubled vocals sound so much better than a copy of a single vocal track? Are you doing everything you can to keep all of your vocals (leads, doubles, harmonies, backgrounds, group vocals, etc) sounding consistent with each other?

We've got a lot of ground to cover, but I'm positive that when you come out the other end of this guide you'll be in a position where your vocals will be able to compete with anything on the radio today.

Let's dive right in!

Writing & Recording Like A Pro

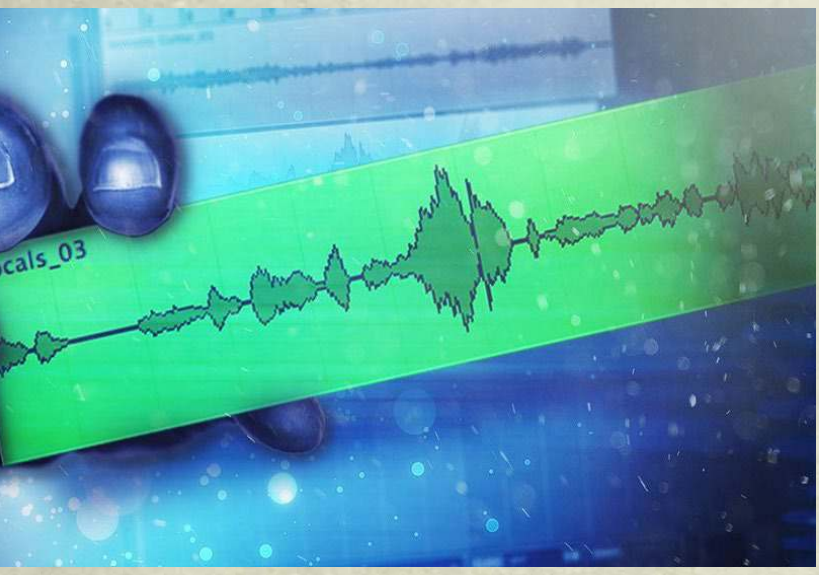
There are so many elements that go into a song from writing through pre-production, tracking, mixing & mastering. At every step of the process, the entire song can be derailed by simple mistakes. The reason producers and engineers with hours of practice get a better result is simple too: they've had the chance to learn those mistakes and avoid them at all costs.

The reward for a song that is nurtured from start to finish is huge. Chart success, whether it comes from traditional radio or streams on Spotify, Apple Music, Pandora, etc, means more touch points with your audience, more exposure, and can result in bigger shows, more merch sales & more publicity for your band. Seriously – what's not to love about that if you're serious about making a career in music?

By thinking about how your vocals will grow and develop while writing, you can prepare yourself for a great tracking session.

Write Around The Vocals

Aside from a few oddities, the majority of what you're going to hear on the radio is driven by the vocal (and subconsciously, the melody behind it). A great vocal hook doesn't have to be complex or push the boundaries of what the human voice is capable of. It just needs to be catchy.



The lyrics need to be relatable too. Whether you're writing a love song or telling a story with your lyrics, you want something that's going to stick in your listener's ear. You want to craft something that will rattle around in their head for days. Think of the last time you got a song stuck in your head. It might drive you crazy, but it gets in there and bounces around until you inevitably go listen to the song to satisfy your desire to listen to it for a while.

Production Perfection

If your vocal is the centerpiece, the rest of your arrangement should be supporting the vocal in your spotlight. To achieve this, it requires equal parts songwriting and studio ingenuity. When you're going into the studio, you can afford the liberty to write what sounds good, not necessarily what you're going to be able to play perfectly live.

If we had to live up to that standard, we'd rarely have any doubled/quad tracked guitars, vocal harmonies would be limited to the number of band members able to sing live, and your production synths would be limited to what one band member can do with their two hands (assuming they're not already playing another instrument).

Go ahead and use the studio to create vocal stacks from floor to ceiling. Add new percussion elements and software synths. All of these elements can be printed to a backing track for live use later if you end up needing them for your live show.

Vocal production is a creative engineer's playground. A great singer is nearly impossible to find – just look at every flash-in-the-pan band or some of the performances that made it into TV shows (just for the humor value we get from a terrible performance). But when you find the right one, vocal sessions should flow naturally and the end results are nothing short of amazing.

Start With The Lead

If the lead vocal isn't right, no amount of production trickery is going to improve it. When you've got a good singer in the studio, get as many takes as you can. Make their voice the highlight of the song. Give yourself plenty of vocal parts to comp together the perfect take if you have to.

Won't you end up with a lot of extra material if the singer is inconsistent? Absolutely.

Even a consistent, on-key vocalist is going to have different inflections and phrasing though, and a lot of the gems can be found in the takes that aren't right on the money.

Once you're back in the studio, you'll be glad you've got extra material to work with (especially when it comes to doubling a part in the mix later on).

Harmonies, Adlibs & More!

Even the best singers can't do it alone. Very rarely are you going to hear a powerful vocal in pop or rock that doesn't have stacks of background singers around them. Especially in a modern, full mix – you need that extra push to get your vocals out front.

Start with the easy stuff: have your lead singer come up with variations of harmonies for their lead. Once again, having more in this situation means you have more to choose from later. While you may think a higher harmony might not sound as good as the lower harmony during tracking, having both options to make a 3-part stack might be just what you need.

The same goes for adlibs & hype tracks (we're not just talking about hip-hop either)! Record some fun parts just because! I can't tell you how many times I've recorded seemingly unnecessary screams, sounds & more that end up making it to the final mix.

Having fun with the vocal sessions keeps the creative energy high in the studio and makes your song sound fun and bouncy instead of stale and overly rehearsed.

The Recording Session

Any vocal engineer is going to tell you that the key to a good song is in the quality of the vocal. Of course they would - it's their job to make sure that's the case on every session they touch. But they're not wrong...

Some other engineers tend to put heavier emphasis on other parts of the mix, depending on where their skills and attention are needed. This is a fair approach too; a good vocal alone doesn't protect you from having your mix absolutely destroyed by another element that's not meshing well. But no matter who you talk to, a commercially successful song is one that's got to have a great sounding, locked in vocal (outside of instrumental-only music).

By the time you get to tracking, your vocals should be locked in lyrically and melodically, at which time a great vocal engineer/producer will take that creativity and run with it. An experienced vocal engineer should be able to pair a voice with the right microphone, pre-amp and any other part of the signal chain that accentuates the smallest intricacies that make each voice unique.

If you have the privilege of working with a killer vocalist throughout the process (tracking through mix/master), a little extra work during the tracking stages can give you everything you need to breeze through the vocal editing and mixing.

The very first step you should be taking with any new artist is testing out various microphones if they're available. This is a key moment of the very first session, as the decision made here could drive your creative process well down the line. Isn't it worth spending some time at the start to save hours of trying to make something fit later on?

This might sound like a luxurious or excessive step when you know that you've got a great sounding go-to mic, but I can assure you the results are worth it. While Neumann microphones are the poster children for expensive vocal mics, there's a reason you see singers opting for the occasional SM7B, Blue Bottle, or various clones: some voices just sound better with other options.

Getting The Best Sound (Without Expensive Equipment)

Even if you don't have an extensive microphone selection to choose from, there are steps you can take to ensure your tracking session sets you up for success when you get to mixing.

Spend time with your singer recording different takes, even when they nail a

performance on the first take. The variations of the performance will be a life-saver when you go to edit the vocal and you realize one of the verses was cut short and you missed it during tracking, or when you suddenly realize you need to double a vocal that you didn't intend to double track.

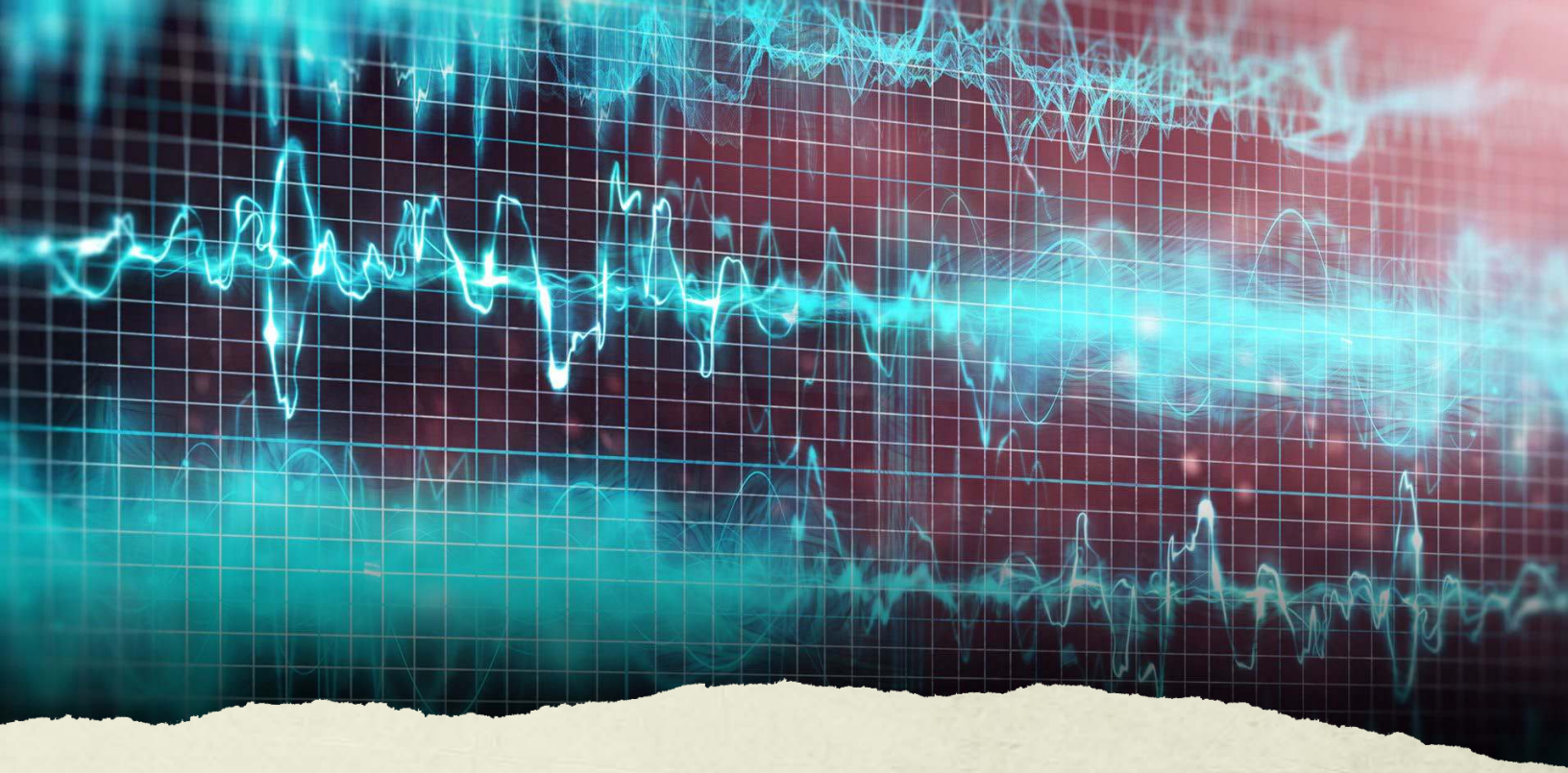
Have your singer come up with new ideas in the recording session to keep things creative and inspired. Anyone can get bored recording the same thing over and over again, but giving him or her some flexibility and creative direction can bring a new dynamic to the mix that might be missing without your help.

Once you've got a handful of solid vocal takes, move on to adlibs and harmonies. Get your singer to show off their voice and push their limits. Even if none of it gets used in the final mix, your singer gets to feel out their boundaries in the forgiving studio environment - something that isn't always a luxury on the road or in rehearsal.

Focus on the Pitch

If your singer cannot hit the notes that were written for the song, you're starting a long, uphill battle early on. Have an open and honest discussion about what works and what doesn't with your artists. A singer may be hesitant to say they can't do something, just like any other musician might be slow to admit they're having trouble with a complicated riff. Create a safe space for them to be transparent – you're here to make the most of what they can do, not create something that they can't.

Make the conversation as easy as possible for your singer to provide their honest feedback. Instead of asking "Are you struggling to hit that note?" ask something like "Are you completely happy with that melody?" This kind of question leaves the singer room to second guess and give you their input without having to admit they're struggling outright.



Editing Vocals

Let's say you weren't involved with tracking, or you noticed an issue with some notes after the tracking session. This is the time and place where an analytical mind can shine in the studio. Using tools like AutoTune, Melodyne, or Waves Tune – engineers have tons of options for pitch correction in the studio. Beyond that, you have nudge functionality that lets you pocket vocals perfectly with the timing of any song.

All of these small tweaks add up to a perfectly edited vocal that can cut through any mix with ease. Now is not the time to start deciding what reverb or delay to use to make your vocal stand out – that's saved for the mix stage. When editing, your goal should be to create the best possible performance to make it easier to mix.

Vocal Tuning

Beyond the basics of pitch correction, most of the vocal tuning tools available today have different parameters for things like pitch drift, vibrato, formant, and much more. These additional controls provide entirely new sets of adjustments that can be made, giving you everything you need to completely rebuild the way you vocalist sang a performance. Even spending just a bit of time with a well-recorded vocal, you'll find that small variations can be cleaned up, removed, or accentuated in almost any performance.

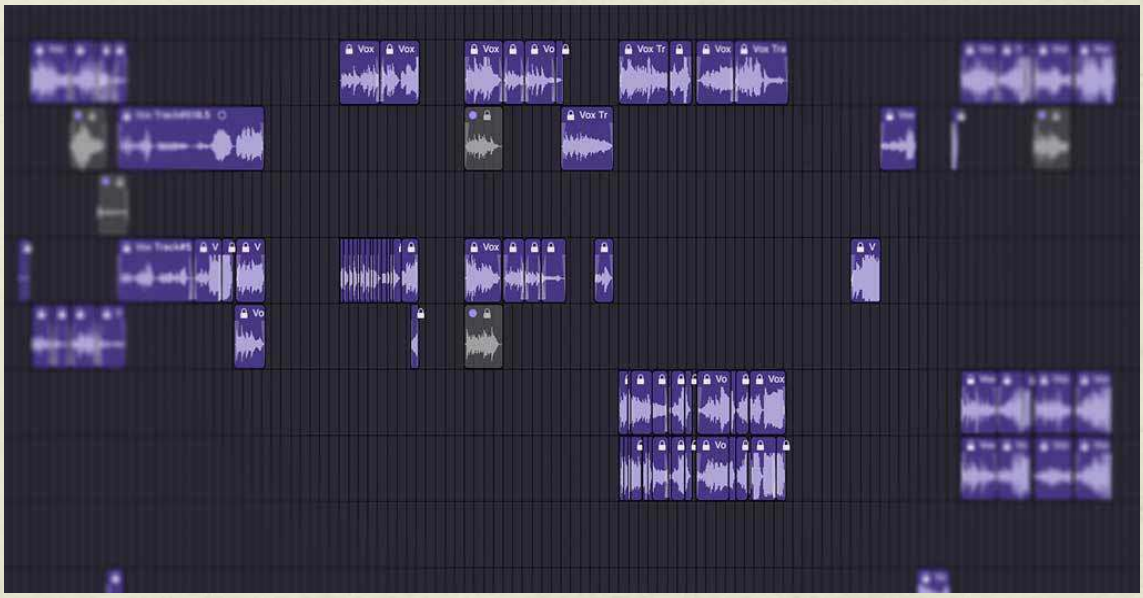
I'm not going to give a full course on vocal tuning here – that exercise is much more hands on and requires active listening to really hear the adjustments as they're made. There are plenty of great tutorials out there that will cover the various nuances of vocal tuning in detail. Go watch a few, and more importantly, go experiment with some tuning first hand!

Take the time to get the notes of the vocal performance right ahead of time and your mix sessions will be easier to manage later on.

Pocket Your Timing

Just like any good bass line or drum groove; a vocal should have pocketing perfection. Find the spaces in your mix that the vocal can ease into, and stretch or nudge it to fill that space.

A good, dynamic vocal can play off of the other elements of the mix. You can have the singer come in on a downbeat with a kick drum for some added impact, or nudge it just before to sound urgent and rushed. A lot of the emotion of your vocal will need to be based on the type of song you're mixing.



Some of the earlier mentioned pitch plugins also offer timing adjustments, so if you get really familiar with one of those tools, you might be able to do all of your vocal editing in one pass. However, if you prefer, the old-fashioned slice & dice approach works just as well, and sometimes even better than the modern plugins.

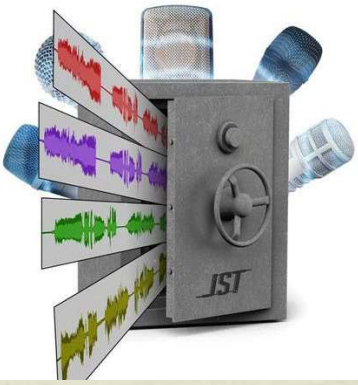
Regardless of your approach to vocal pocketing, be wary of breathing and space around vocals. Slice your voice in the wrong spot or stretch a syllable too far, and you end up with something jumpy and unnatural in your final mix that'll pull your listeners right out of the zone. I find it easiest to toggle the Solo button on and off as I'm working with vocal timing, just to make sure the breaths and other soft parts aren't getting mutilated due to an editing decision.

Pay Attention

A professional vocal can only be achieved with a dedicated attention to small details. Focus in on what makes your vocal unique, interesting & captivating. Accentuate those features and build your mix to support them if you're looking for a hit.

An excellent way to lock down your vocals as a group is by using some bus compression to tie them together and tighten them into the rest of the mix. A good vocal bus compressor like BG-Vocals gives you several different tonal options to match to your particular song.

Choosing a mode that is aggressive or transparent will help you add different colors to the overall vocal mix. Find the right color for the rest of the song, and you've got a winning recipe for success!



The Vocal Producer's Toolbox

There are certain tools being used by every vocal producer to achieve a professional, fully mixed sound. For example, you know every vocal recording you've ever heard is distorted, right? No joke, we use a lot more distortion than the average listener would expect, in ways the average listener rarely notices. But that's just the start for vocal producers and mixers who are using both dynamic and time-based effects to get the perfect vocal every time.

Clippers

We've all been there – mix is nearly finished, automation written. Then you notice your lead vocal doesn't have what it takes to cut through the final chorus.

This is an extremely common issue that occurs simply because of the way we're trained to feel music. We want our songs to climb-and-climb until that last chorus punches through and drives it home. More power usually means higher levels, meaning that you're nearing your ceiling and have nowhere left to go.

So when your vocals that sounded great for the rest of the song start sounding unintelligible, muddy, or weak, you need to find a way to break the mold without pushing your mix into full-on clipping or over-compression. A clipper can be the perfect solution.

Using A Clipper

Sometimes to prevent clipping, you need to clip. Sounds confusing, right? Well, we're not talking about digital clipping here; we're talking about SATURATION. Rather than automating our vocal into the red where clipping would have a negative effect on our sound, we're going to be smart about it.

By loading a clipper onto the track, we can control how it clips, the amount of clipping, and even maintain an overall output level that matches with the rest of the song.

We're making the clipping subtle and musical – something we haven't always had access to in the digital mixing realm.

Why Clipping Plugins Work

Your DAW isn't nearly as selective as a clipper when it comes to audio exceeding a threshold. At its most basic level, your DAW is looking at 1's and 0's like any other program. When we clip in the DAW, you're driving the level so high that the program has trouble deciding what should be a 1 and what should be a 0.

To compensate, the DAW makes its best guess. This is why barely touching the red is sometimes isn't audible – the program is good at making guesses when they're close to an acceptable level. But as you continue to drive into the red, it has to work harder to interpret the audio and usually fails pretty fast. The result is harsh, unnatural distortion.

Meanwhile, clipping plugins are programmed to make clipping sound natural and warm, much like a good overdrive or tube distortion does to a guitar. They're selective about which harmonics to clip and when to clip them. They distort in a very musical way.

The result is a more aggressive, musical output with a well-defined attack and body. And if you're that guy in the back screaming, "But clipping is wrong!" - you are sadly mistaken. Clipping is actually what you do to your guitar when you put it through distortion, and clipping (when done with the proper tool) can accomplish things no other form of audio processing can.

Taking Your Clipping A Step Further

If you've used our plugins in the past, you know we're no strangers to adding "Mix" knobs when they make sense. Any time you can avoid a second bus for parallel processing saves you time and effort when making mix decisions.

When clipping the lead vocals for the last chorus of a near-final mix, we definitely want to be subtle. Applying a clipper at 100% may be too much coloration, acting far too aggressively on the voice.

By processing your vocal in parallel, you're maintaining a consistent sound going into the final chorus, but adding the body and aggression needed to cut through the dense mix. The Mix knob lets you do that quickly and easily, saving you from level-matching multiple tracks in the DAW and risking affecting other parts of the mix.

Vocal Compressors

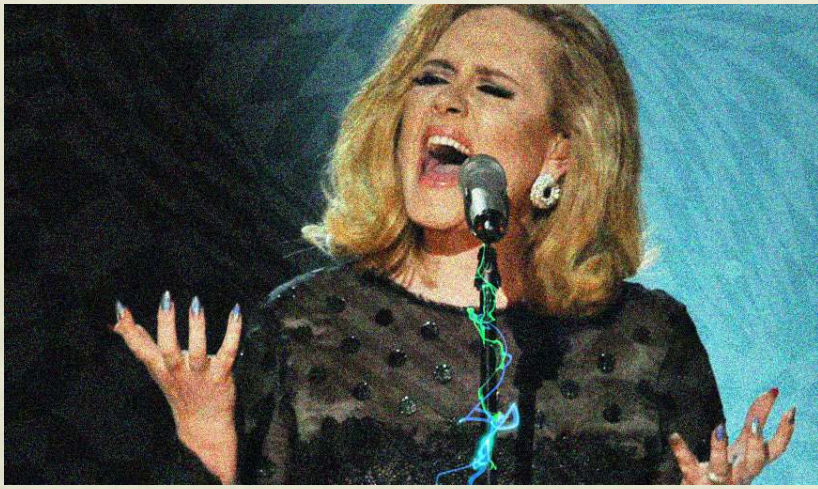
Harmonic distortion is often introduced to vocal tracks as a side effect of some other dynamic processor, most commonly through compression. Tools like Gain Reduction Deluxe add harmonic saturation and body to vocals, and can do it transparently or noticeably, depending on what you want. It's a versatile tool that doesn't just capture my signature vocal sound, but is getting used across the industry.

Great vocals have always been built around strong dynamic control and impact. It's not uncommon to find multiple levels of compression, limiters & other dynamic processing on a single vocal track. Once it's passed its own signal chain, it's bussed to a vocal bus and on to the mix bus – both of which can commonly be found with their own bus compressors (more on those in a bit).

Defining Distortion

The fundamental reason the "everything is distorted" statement sounds so farfetched is our collective definition of distortion. For the average listener, distortion is going to be noticeable and immediately identifiable as such. Unless it makes sense in the song, they want to hear something that sounds intentional and clean.

As producers and engineers, we know better. Distortion happens at all levels in music – whether it's on the way in, during the mix, or even being reproduced on playback.



The technical side of our industry takes on the monotonous task of measuring distortion in as much detail as possible. Manufacturers will measure the amount of distortion their microphones or preamps pick up, commonly referring to it as THD (total harmonic distortion).

"Why Don't I Hear It?"

Don't worry – most of us don't, and that just means these manufacturers are doing their job. For transparent audio, we want the THD to be as low as possible. By using equipment with a low THD, we're minimizing the influence our equipment imprints on a sound.

Adding Good Distortion

In a lot of situations, we may not want that pristine clarity provided by a low THD. While a lot of engineers won't say they want distortion specifically – they're looking for a distortion solution on a daily basis.

Good distortion comes in many forms from tubes to plugins. Nearly every element of processing is going to add some harmonic variations to your signal, which is the exact definition of distortion.

Most commonly, we're going to call it saturation. We're going to call it color. We might even call it warmth. They're all just different terms for the same thing: distortion.

We use these terms in our vocabulary to replace the word “distortion” because we’re afraid of a negative connotation of the word. If it works for you to call it something else, by all means go with it. We’re not here to limit your audio vocabulary, just to make sure you know what’s going on in the background of that “warm” sounding preamp.

Adding Distortion To Your Mix

Vocals are subject to some of the heaviest post-processing in audio, regardless of genre. As such, we’re seeing tools like Gain Reduction Deluxe make their way into the vocal chain of not just rock and metal, but country, pop & many other production styles.

The distortion levels of compressors like Gain Reduction Deluxe can be added to any vocal in a much more subtle way than tube distortion allows. You start with saturation that makes a vocal sound crisp and cuts through a mix, and can work your way up to full-gain distortion if that’s the effect you’re after.

The best part about this type of distortion is it's ability to give you mix-ready vocals in a fraction of the time you'd need to take with a traditional vocal chain.

Rather than freaking out over a bland vocal recording through a transparent mic/preamp combo, adding a bit of saturation can resuscitate your lead vocal track.

Distorted Terminology

I don't care how you want to refer to your distortion as something else, but we need to stop the mentality that clean is always better.

I could care less if my microphone or preamp has less than 0.05% THD – I care about how it sounds. If it doesn't sound good, it's not worth my time. There are too many options out there to get caught up on the "clean" hype that gets built up around this gear.

When it comes time to add some saturation to my vocals, I know exactly how I'm going to do it.

Reverbs

Once you've got a solid dynamic foundation, a well-produced vocal mix just isn't complete without time-based effects.

When you think of a strong, gliding vocal, do you think of the space around it? The biggest mix trick any engineer has up their sleeve is the time-based processing around a vocal. A good delay can take a small, boxed-in voice and make it pop out of your speakers.

Reverbs are great at adding complexity to a vocal without being too noticeable, putting your singer in whatever space you're after.

Want your singer to have an intimate sound? Put them in a small room with some slapback delay. Going for all-out arena rock? Boost those reverb times up for endless vocal tails!

Picking The Right Reverb

Picking the perfect reverb for a song is no easy challenge. Every recording has reverb on it in some way, shape or form. For those new to recording music, they usually don't even realize that it's on every session before they ever load a plugin.

Reverb is what creates big, expensive sounds.

It's the reason labels pay so much money for artists to record in expansive rooms with high ceilings and hundreds of thousands of dollars in treatment. A good natural reverb is something to remain in awe of, and capturing it at the source leaves its mark.

Even the stock plugins for most DAWs today have amazing reverb options built right into them. Things like a short plate reverb on a vocal can effectively replace a double-tracked voice. A larger decay setting can make you sound like you're at the bottom of a well, or a guitar solo ascend to new heights.

The best part about reverbs is that they're always growing. As new spaces are captured, convolution reverbs (or IR loaders) can load that space onto any track as an insert. Taking reverbs a step further are brands like Eventide & Bricasti – both of which blur the lines between hardware and software reverbs.

Delays

Some of the best and biggest mixes consist of a voice and a single instrument. A good engineer knows how to take those two elements and make them sound good. A great engineer reshapes the space around them, turning the ambience around the voice into its own instrument.

If your song doesn't have a lot going on around the vocal, you better be 100% sure that vocal can stand on its own in the spotlight. We're talking full vocal production – editing, tuning & timing.

In a sparse mix, your vocal needs to shine.

Adding Ambience to Your Vocals

A clean vocal is just the start – the real ambience comes from the space around your instrumentation. You can take the raw elements of your mix and turn them into full-bodied soundscapes. Imagine turning a piano into a lush pad or taking the deep, rich tones of an acoustic guitar and filling the space of your mix with them.

The easiest way to do this is with a multi-head tape delay like SOAR. Using a tape delay, you can achieve unique, ambient tones that have to potential to fill out your space much like adding layered textures would. The best part is that they'll still sound natural and less processed, making them great for songs you don't want to sound too overproduced.

Using a multi-head delay for anything other than a standard echo can seem daunting, but if you focus on a few key elements, it's really not that hard to get some usable sounds quickly and easily.

Blend with the Mix Knob

Using the Mix knob is one of the quickest ways to audition a plugin without setting up a bunch of bussing. The mix knob allows you to find a balance between your source audio and the processed audio. If you'd like, think of the mix knob as a compact way of parallel processing your sound.

In this case, we're not going to want the Mix set to 100% Wet, because we wouldn't hear the original instrument. When you're looking for something subtle & natural, 20% is a good starting point and 50% or more is creeping into "too much".

Find a level where your delay level meshes nicely with the source and leave it there. Once your level is out of the way, you can focus on the creative part.

More Repeats

When it comes to multi-head delays, more repeats mean more complexity. The nature of a multi-head delay (with multiple/varying repeat times) lends itself to more depth and texture than a standard fixed delay. If you're looking to create the lushest possible sound, setting the repeats to 100% will certainly get you there.
On the opposite side of the spectrum, too many repeats can be distracting if not timed correctly. If you find your delay going in and out of time, think about reducing the number of repeats or using the tap tempo feature to dial it in just right with the song.

Feedback

Feedback in a delay can make or break your sound. Another potential cause of clutter or complexity (depending how you look at it) is the repeat of your delay feeding back into its input.

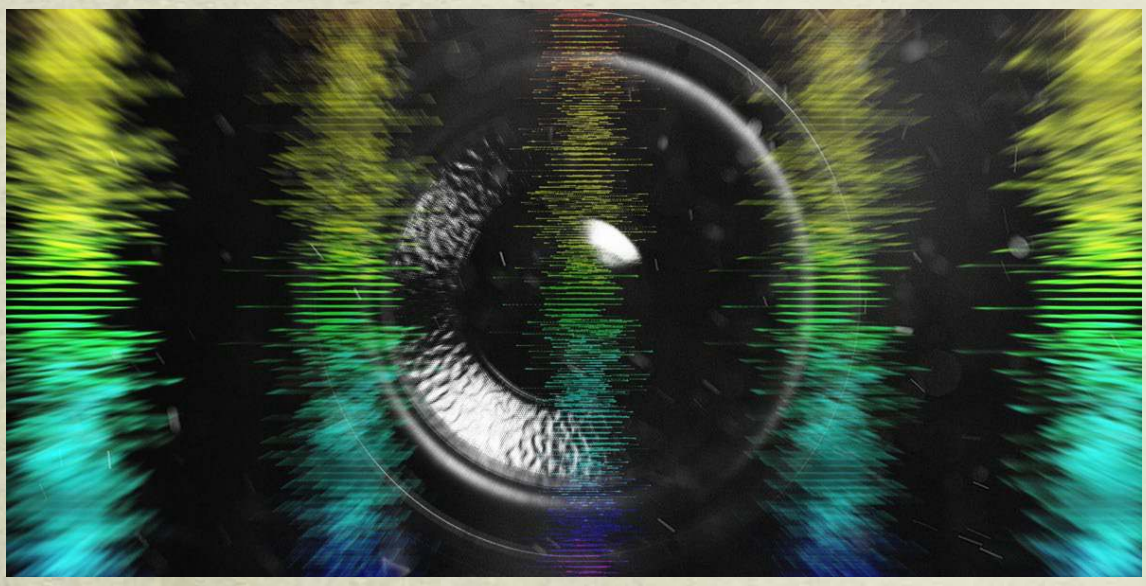
There are some very spacey, warbled tones that can be found this way if that's what you're going for. If it's not, it's as easy as flipping a switch off to remove feedback from the equation.

Spatial Wideners

Your vocals are already front and center, but if your mix is too dense does that even matter?

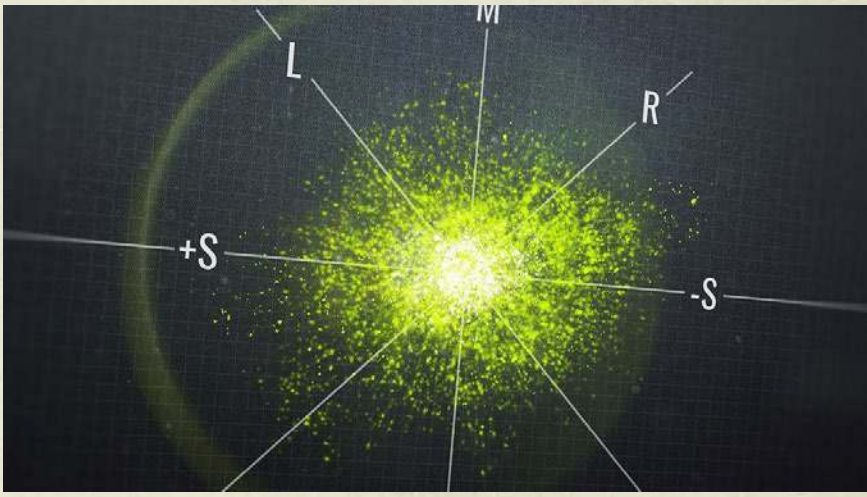
There are dozens of reasons why even a perfectly centered, full frequency spectrum vocal isn't going to cut through your mix correctly. The pocket they're sitting in could be collapsing on itself if the stereo instruments aren't mixed in a way that gives them room to breathe. Your snare, bass, or any other center-panned instrument could be masking it, making it hard to hear and harder to understand.

If you're struggling to get your vocal to sit just right you should never jump to changing other elements of an otherwise decent mix without trying a spatial widener first.



Wider Vocals for More Presence

If you're in a session with only one vocal, it's not like you can use any double tracking to reinforce the voice's performance. Those that try to use time-shifting and other effects to fake a duplicate usually find that the risk of phase cancellation often outweighs any benefit of a perceived denser vocal.



Instead, using a mono-compatible spatial widener is a great fix for vocals that are fighting for their own space. By using a tool like Sidewidener, mixers can help a vocal pop out in front and spread out across the stereo field without any risk to the center image of the vocal.

This great little trick should be used subtly – there's rarely a reason to spread a single voice across both speakers. Try tweaking the widths and widening modes to find your sweet spot. Usually 30 – 40% is the sweet spot for me.

The combination of spatial widening and clipping can be enough to take a vocal that sounds thin and distant and give it enough attack and presence to cut through the mix. Similar results can be achieved with many other mono tracks like snare drums and guitar solos.

Automating Your Widener

When building up a lead vocal track, we spend so much time focusing on dialing in the right settings that it's easy to forget how boring a static vocal can be. Parallel processing and adding more reverb or delay can usually get a little bit more out of the take, but have you ever considered automating some life back into the vocals of your song?

Finding The Sweet Spot

The first thing you should really do before automating anything is going back through your track to find out where it's needed, and to what extent. If you've got a dense vocal mix, sometimes you can take the less is more approach.

Once you know where it's needed, adding SideWidener to your vocal bus and automating the bypass to create a call and response style effect can be a very professional solution to an age-old problem. The end result is an attention-grabbing vocal that a listener can enjoy without overly obvious or cheesy processing.

Don't Spread It Thin

When working with spatial wideners on vocals, it's extremely important to avoid spreading your vocals too thin. By too thin, we mean literally shoving your vocals so far out to the side that you lose the center image when collapsed to mono.

Engineers and producers fall for this trap all the time in the studio, where wider sounds bigger and bigger = better. Unfortunately, any fans that go to listen to your mix on a laptop will tend to disagree with you.

If you're using a mono-compatible spatial widener or one that provide a visual indicator when you're losing center content, you don't have to worry as much. It's for these reasons SideWidener has been my go-to for this kind of processing. If you chose to take a different approach, be sure to flip your mix to mono or test on different systems to verify you don't lose anything in your final mix!

Beyond The Bypass

By automating the bypass, you have an easy solution for throwing your vocal through the widener for effect before returning to its pre-processed state. But what else could you do with automation?

Adding in a bit more width once you know which words you want to treat, but what if you wanted the effect to grow throughout the section? Adding automation the Width knob is an easy way to achieve it. The same could have also been done with the tone knob to make the "response" portion of the line a bit darker than the "call".

Experiment with your widener to really see what it can do for your vocals.

Vocal Bus Compression

With vocals, we get an opportunity to fine-tune the glue that holds them together through the use of multiple groups when needed. While most instruments end up bussing down to a single compressor/parallel track, vocals are in a rare situation where multiple subgroups prior to the "vocal bus" aren't just accepted, but commonplace.

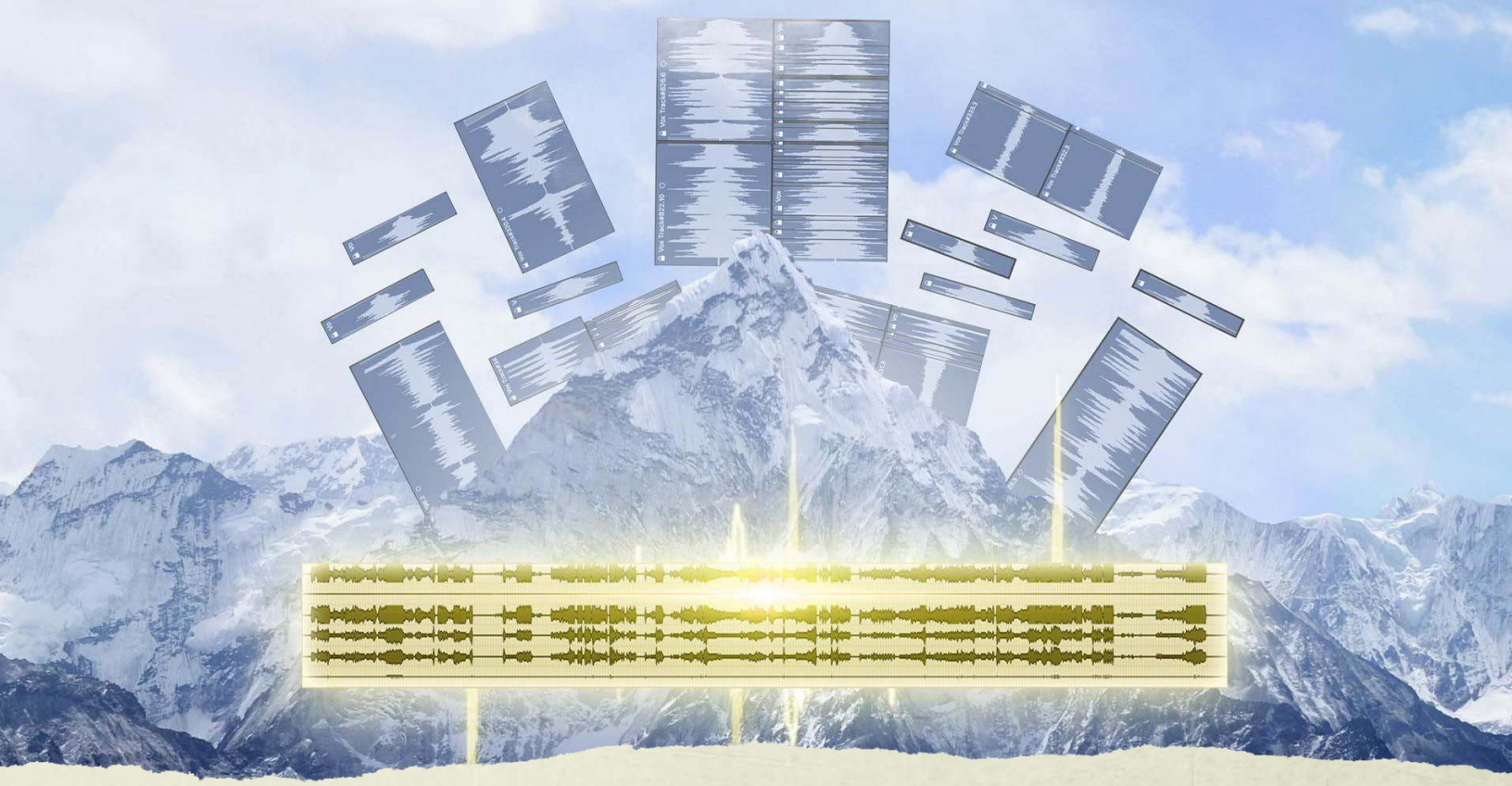
A session with a lot of vocals might look to compress high harmonies on one track, low harmonies on another, and the lead vocal/doubled vocal together on yet another track! That's just the simple version – I've seen engineers that treat third harmonies and fifth harmonies together, left channel on a separate track from the right; you name it!

Every engineer has their own approach, but the important part is having a compressor with the flexibility to handle all of the variants. While something like Gain Reduction might work wonders on lead vocals, it might be too much for a group of soft vocals tucked underneath that lead.

BG-Vocals was our attempt at meeting the requirements for each type of vocal grouping. We realize that engineers want something that can stay transparent when needed but can also give vocals a bouncy or bold sound.

The end result is powerful vocal processing that can be used on subgroups, as well as the final vocal bus before heading to the final mix.

Think of all your favorite songs: the vocal is always clear and present at the front of the mix. If it's not, you're left wanting more of it.



Printing Vocal Stems

Vocal stems are in high demand these days, and any engineer that can make high-quality vocal stems are worth their weight in gold. There are tons of reasons why an engineer might want to print vocal stems: quicker recall for vocal up/down edits, prepping the background vocals for live shows, or the motherload: the remix.

Vocal production is an incredibly intricate art. A well-produced track can have dozens (and in some cases hundreds) of vocals interweaving with each other. And it's only the well-versed, forward-thinking producers that are planning for the long game when it comes time to print their mixes down.

The next time you've got a big session that you're mixing, put in the extra time to get your stems in order, and set yourself up for success when your client comes knocking for the remix.

Why Print Stems?

Printing stems locks in your creative vision of the track you're working on. You and I know that the raw tracks for a song are just the basic building blocks of a good song, and that it takes a well-trained ear and a lot of practice to mix it right. It's the reason you can give those raw tracks to random engineers and end up with drastically different mixes.

By printing stems, you're locking in your sonic imprint on the song and the instruments in it. Not just a vocal sample signing off on your production, but a stamp of quality approval. Your guitars become "your guitars". Your drums become "your drums". It's the easiest way to hand off elements of the mix while retaining the right amount of control and input.

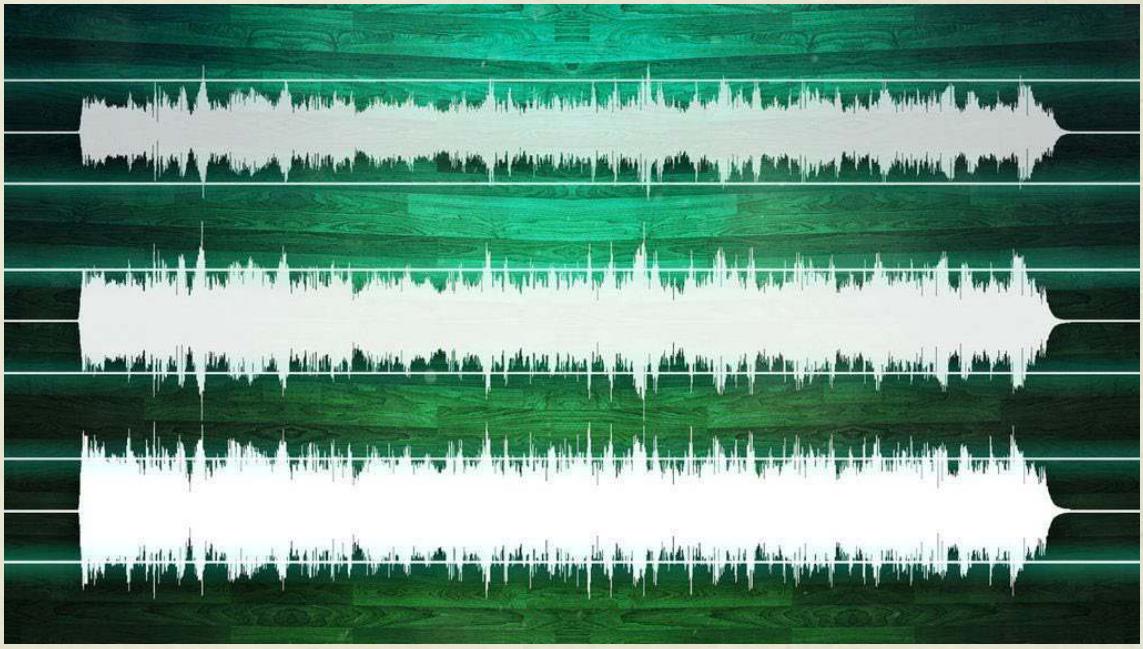
Stems provide the remixer a starting point for the elements of the song. They're not going to be concerned about making the mix sound good as their starting point – that was your job. They want something that's easy to work with that they can twist and bend into a new production with ease. Some remixers won't even touch a track if they get raw files – they'll point the finger back at you and say they need stems that sound closer to the original.

By taking a few extra minutes at the end of your mix session, you can save yourself a headache later on and have a set of next-level stems prepared.

Printing Standard Stems

Stems start at a subgroup level, after you've finished your mix. Trying to print stems even a second before that won't give you "true-to-original" stems that add up to your final mix.

Start with the biggest pieces first: drums, guitars, keys/synths, bass... Anywhere you'd likely create a stereo aux track to apply some bus compression is probably a good place to begin. Depending on the complexity and control you're after, it may be worthwhile to separate out some of these into smaller groups, lead and rhythm guitars for example.



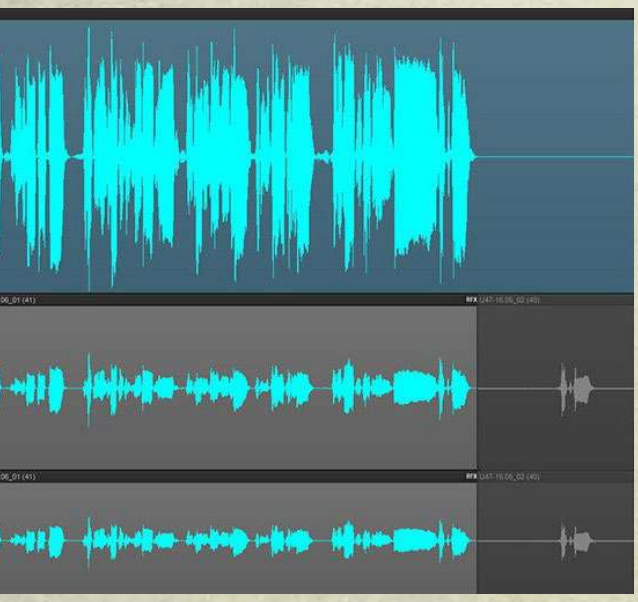
The most important piece is that you shouldn't be printing any one track more than once when creating stems. Doing so will result in a summed output when playing all of the stems back together. This means your guitar could be 3 dB louder than intended, and your remixer might have no idea that anything is wrong.

Printing Vocal Stems

Vocal stems can usually benefit from a bit more fine-tuned approach to stem creation. Similar to the lead/rhythm guitar split, you're unlikely to have just a lead vocal in your song.

You're going to have leads, harmonies, doubles, backgrounds, ad-libs, and on and on...

Do they all need their own tracks? No, but the more the next person has to work with the better.



Stem creation is all about finding a balance between simplicity and accessibility. You want to print stems that can easily be loaded up at unity gain and played back, sounding exactly like your mix. For most, this means creating a lead vocal stem with doubles on it. Think of this as your "Lead Vocal Group" stem.

Working your way down the list, harmonies can benefit from being on their own stem if you've got enough of them. If they are too infrequent (or there's just one or two of them) you might find it better to group them with your other background vocals, which can be your "BG Vocal Group" stem.

Finally, get your ad-libs, oohs & aahs all grouped together on their own stem for their own "Ad Lib Group" stem. These stems will be the go-to for chopping and editing when the remixer starts digging into your tracks.

Going The Extra Mile

A good engineer is going to have bus compression controlling their vocal bus, and as they print, that compressor is going to do its job to tame any dynamic variances it can. Depending on how your mix is structured, you might have one for each subgroup, or you might be printing stems through a single instance and muting individual tracks over multiple passes. I actually prefer mixing vocals into separate subgroups before routing everything to a "Master Vocal" aux track for this exact reason. Splitting them out earlier in the mix can actually save a lot of time at the end of the session.

If you're feeling like adding a little bit of extra ear candy for anyone looking to work with your stems, there is one rule you can break. Printing a set of dry stems can actually be hugely beneficial to remixers, especially if they're looking to mess with the tempo of the song.

Bypassing time-based effects like delays and reverbs give you a clean set of stems that still have your dynamic processing and levels applied. This can be done on vocals, or the full session, depending how much time you want to put into it. Most remixers will have more interest in the dry vocal stems than anything else – any other dry tracks would only be useful when trying to apply their own time-based effects to something you've already processed.

NOTE: If you choose to provide dry stems, be sure to label them accurately so that someone else doesn't use them unknowingly. Naming the stem something like "FOR REFERENCE – Dry Vocal.wav" gives some indication that the stem shouldn't be included when rebuilding the mix.

Conclusion

Being left wanting more is great for a song as a whole, but if you want more out of the vocal, the vocal producer didn't do his job. There's a difference between hearing something great and wanting to listen to more and being disenchanted by a poor vocal mix in an otherwise killer song. Spotting this difference is an imperative skill for a vocal producer and commercial mix engineer to have.

Hopefully by following the steps outlined in this guide, you'll be able to avoid many of the pitfalls that plague beginner vocal producers. You should have the tools to go through and make a vocal great from writing to print down, but remember that we're never done learning and experimenting.

I hope you use this handbook as a guide and point of reference for what you CAN do as a vocal producer, but not necessarily what you MUST do. Try new things and find new sounds – just do it with the foundation and confidence as a professional.