

11 Essential Audio Mixing Tips and Tricks

How to Mix Like a Pro

Secrets to A Professional Audio Mix

Back in my old days of mixing and bouncing tracks on a two-track tape machine it was basically a microphone or two and learning how to get the most out of tape. There was no such thing as being able to afford a mix-down deck. But now there's a lot of musical competition in the world – engineers have come out of the woodwork. And they have gotten pretty clever in their ways and there are now a number of excellent mixing styles for all genres. So if your tracks don't sound like they can compete with your favorite commercial band's sound then your material just won't make the grade. It's as simple as that. So listen to your mixes and compare, compare, compare to the commercial stuff. The record store (or wherever you get your music) is your oyster.

#01. Clean Tracks are Bliss

This first tip covers a lot of ground and some of it may seem a little overly obvious but it is worth mentioning. Ask your band to give you some of their favorite recordings in advance so you know what sound you're going after. This puts everybody involved on track, so to speak, and it's possible to focus more on the end result for a better sound, more focus, and it also saves time by not later arguing over details that may be too late to change. And by doing this you preserve the projected overall tonal balance. On another note (yet another metaphor), your beautiful mix will always be dragged down by the worst sounding track. So make sure all tracks can hold their own. Never try to fix it in the mix – fix it now. Try to keep up with problems as they occur. You can start by making sure your recording levels are right before the recording begins. Digital distortion is very difficult to fix (a **Sans Amp** helps) and it just makes more sense to avoid it in the first place. Another thing that helps clean up the mix, unless it's a bass guitar or bass drum, is to roll off the low end on the finished tracks. (NOTE: Some people call it using a **High Pass** filter but I hate that term, it makes engineering sound like a football game.) There's no need for sub bass frequencies on cymbals, reverb, guitars, voices, and so on – cleaning up all that extra unnecessary bass gets rid of mud in the final product. So does using noise gates or simply cutting off unnecessary stuff on the end of a track (stem). Also, In the final mix erase all frequencies at or below about 24-28 cycles per second. This makes for better mastering. And they don't do any good and just make an amplifier work much harder for almost nothing. Make all the lows mono – I usually shoot for anything below about 200 cycles or so. Use a gate on noisy tracks or re-record the track

correctly. Nowadays there are gates that are noise specific like the **X-Noise Stereo** by **Waves** and these work pretty good for problem tracks. Simply loop the problem noisy area and let the noise analyzer sample it and then use that as a noise gate template. However, mixing cannot fix everything and it may be an asset to know when a recording is too far gone and just cannot be fixed or salvaged. Some bands have brought me something they did and asked me to make it work. Unfortunately I had to break the news to them that it's just too far gone. Also, and I know it's boring, but solo every track looking for any sonic issues. You (and your clients) will be glad you did, and you'll get repeat business and you'll look like a star. And another note, and this may seem a little too obvious, but always use 24 bit recording to preserve the dynamic range. Never ever try to squeeze the largest amount of time out of your hard drive by using anything else. If your client can't play 24-bit files simply copy and dummy the mix down to 16-bit for their listening pleasure. Voila.

#02. Always Mix to Mono

Always. Back in the day I ran two mixes; one was stereo and one was mono. This method checks for phasing issues (like a guitarist who needs every speaker he ever owned mic'ed up at the same time). Using too many cabinet simulators can give phasing problems. The drum over-heads can be a phasing issue. Use a tape measure from the center of the snare drum to equal distance from the left and right over-head microphones. Or use an X/Y pattern for the overheads and the phasing will be at extremely high frequencies that cannot (or will not) be heard. Use software that detects and helps repair phasing issues like the **Waves InPhase Stereo**.

#03. Squash the Mix

Put on your headphones and fine tune any other small issues with your mix stereo separation and analyze the EQ balance to your liking. Once you are satisfied with that, take off the headphones and split your stereo output into two stereo outputs and mute one. On the other stereo mix run it mono and then through a compressor set to maximum squash and then run this horrible mono mix through your favorite typical ghetto-blaster type boom-box for a mix-down. Back in the day I used a separate small mixer for this job, but it is quickly accomplished on my DAW by using the mono button and a compressor on the output. Then I can jump back and forth between the two mixes if needed. Anyway, have the compressor make your other mix as splatty as possible. Don't be shy, just crank it until it's flattened and there are no dynamics left. There may be some hiss in the mix so just ignore that. I used to use a tube compressor and cranked it until the dynamics disappeared. Of course, my other real mix was not compressed and it was in stereo. This is the one

that silently went to the mix-down deck for recording later. Now, if you can hear everything in your mix using this type of squashed mono setup through the boom-box then your mix is good. If you can't then there are several things you can do. Turn up (or down) the offending track. If something seems buried in the mix try adding or subtracting some EQ or add some exciter for sparkle. If something cannot be heard in this type of mixing scenario then consider it gone for good until the problem is found and repaired. Now mute this mono mix and open up and listen to your other mix – the real mix going to mixdown. You will probably notice that it is more open, more defined, much more balanced, and sounds great on most systems. And this mix will work great for mastering. I've had many of my mixes on the radio and they tend to dominate the airwaves over other studio mixes.

#04. Compare your Mix

Reference your mix to a mix that you (or your band) has chosen. Do they like the sound of the **Strawberry Nosebleeds**? (And who doesn't?) Have them bring you some recorded examples in advance. As a discerning engineer always use reference tracks for mixing. As your skills get better you can abandon this notion somewhat. I always mix to what I want to hear. But a reference track helps the project to stay on course. Do you need to purchase a reference type of software? No. But it does make it easier, especially for those who have never tried or learned the old method. Back in the days when there was no such thing as reference software I used two analog 31 band audio analyzers and my ear. Then I'd run the reference track through the analyzers to see what my EQ curve should be. Then I'd run my mix. Sure, it took a while to learn this method, but it can be done. And you can also use this method to repair individual tracks. Watch the analyzer and make sure the track doesn't jump off the meter. Also, the mix you are doing should be compared to a mix of something that is similar to what you are working on. If the band sounds like Lawrence Welk then get a Lawrence Welk recording to match it up. Simply match the volumes of the two mixes and then use your ear and the analyzer to get the two mixes to sound very similar. This method takes a little practice but it usually gets pretty close. Keep your ears fresh when doing this. Take frequent breaks. Compare the mix with the recording and adjust the instruments until it is damn close. Another way to do it is with a software called **PAZ** by **Waves**. This will get your mix closer faster to the reference and you can compare the stereo spread too.

#05. Reverb and Effects

Just like you did on your other tracks, don't forget to roll off the low end on the reverb. Also record the reverb return to a separate stereo track just in case you need it in the future for a re-mix. Also, spread your reverb far left and right and listen to it in mono. If it disappears then get a new reverb or you've done

something horribly wrong. Also, don't over-do it with the effects. Use the effects for complimenting the tracks, not burying them. Unless you're planning on recording the next psychedelic masterpiece, use common sense and discretion.

#06. Headphones

Use pro headphones with a flat EQ curve response, not consumer headphones. And use them sparingly. They are great for placing items in the stereo field or chasing down weird gremlin sounds that shouldn't be there. But once that's done use the speakers. Air is always the best mixer, so use it to your advantage.

#07. Always Mix Fresh

Don't mix on the band's recording and tracking day. Always mix when you are rested and ready. Take frequent ear (and brain) breaks. Forget about indulging in the band's party along with the beer and the smokey treats. When they sober up it better sound good or you're just wasting time. Be polite but don't let the band help you mix them very much. I once gave each band member a mixer fader for their track and by the end of the session every fader was full volume. Save your mix for their final judgment. Use their favorite band music they brought you to do your comparisons. Another trick that gets rave reviews is to have each member bring a commercial recording of their favorite musician and try to match their personal sound to this. Every band I did this to said the mix was better than they thought it could be. That means the engineer (that's you) becomes a star for a day. Also, when beginning to mix start with the drums and get a good drum mix. I usually run this mix at about -10dB so there's enough room for the bass, solos, voice, and the rest of the band in the mix. I've heard some engineers say they use -6dB for the drums but to me this cuts it too close to the bone or zero dB mark. Also, use a side-chain compressor from the bass drum to the bass guitar so the low end of the bass guitar is fat and the bass drum doesn't get lost. Do the same thing with the snare drum and the rhythm guitar so the mid-range isn't stomping on the snare. Play the mix and walk away from the speakers and see how the mix changes. Listen from a distance for a while. Are there any problems you missed while listening up close? Try listening at a gradually lower volume until it is off.

Generally the last instrument sound heard before the sound becomes off or non-existent is the one people will say is the most obvious or the leader of the band. So if the mix is about the vocalist and the reverb or the drum set is the last sound you hear then you need to make some adjustments. And remember, don't mix the life out of the band; try to be true to the source and capture who they are. Spending long hours listening to a small part over and over doesn't do much good, it wastes time and energy, and it sucks the life out of everybody involved. This includes you. And by all means, one of the most important things to remember, save your computer DAW files often. I use the auto save function built into the DAW to save

every 15 minutes to an external drive. It has saved a few projects from certain death. And know when good enough is good enough. There's no such thing as a perfect mix, although sometimes it feels close. So give yourself a relative mixing timeline and try to stick to it. And always rely on and trust your ears except for after an excessively long day. Trust your DAW but don't mix with your eyes. Always mix with your ears. Your ears generally don't lie (unless excess fatigue sets in) but in the end it's the band's ears that are always the final judge to the sound. And this includes bands and people who shoot themselves in the foot with poor final sonic decisions. Unfortunately it happens – your hard work goes out the door with (what you may feel is) a bad sound. They listen to it in their old pickup truck and decide it needs 10dB more 10K. Ouch.

#08. Mixing Less Items is Easier

Sub mix your similar tracks so there are less things to mix. If there are several tracks of backup vocals then combine these into a folder track. Back in the old days of mixing the vocals were permanently mixed to a stereo track and that was the mix used for the tune. Fortunately today we can leave all tracks separate and just subbed to a folder. If there are several guitars for a wall-of-guitar sound then sub the guitars so it's a one-knob-does-all situation. The same goes for drums.

#09. Transients

Use compressors and limiters judiciously to keep the transients under control. Bass guitar, acoustic guitar, synths, and drums/percussion can have transients that will force the instrument to be turned down thereby ruining a mix. Put a small amount of compression on the offending track(s) to help seat the instrument in the mix, and then use a transparent limiter to tame the spikes that may leap out of the track. This gives the most consistent sound. For an excellent free limiter download and try the **Thomas Mundt** (64 bit version) and the free download **FR-COMP 87** is a very pleasant sounding compressor as is the **Klanghelm MJUCjr** or the **Molot** by **Vladislav Goncharov**. Another free compressor that's really great for guitar is the **TDR Nova 4-Band**.

#10. Speakers

Studio speakers generally come in three different sizes: small, medium, and HOLY MACKEREL. Headphones are great and often needed but always do the final mix with your speakers. And know your speakers. Listen to all your favorite commercially recorded stuff on them. It's a smug feeling to know your speakers well enough to recognize problems in the audio before it becomes a tangled mess. And use a consistent and pleasing listening volume – talking volume or so but never louder than a vacuum sweeper. The world doesn't need deaf engineers.

#11. Use Outside Experience

Hire a Pro to demonstrate what your tracks can be. Some people will send their music to a pro to mix it and this is a great way to discover where your skills need work. This can be money well spent and it shouldn't cost a lot. On the other hand, many years ago I took one of my mixes to a well known place to have it mastered and the end result was much less than I anticipated and it cost me a hundred bucks for a song only 1 and a half minutes long. Needless to say I never sent anything off to anyone ever again. My mastering job was hands down better than anything they did for me. And one particular song went on to be featured in a popular national mixing magazine (listen to *Marijuana* by Dangerous Neighbors for an example of 4-track tape mixing and mastering) and it was on several local college radio stations. Over time other studios sent me their mixes to master for them. So work hard and know when you're ready to go on your own and offer your services. Learn as much as you can about the shortcuts offered in your DAW. Learn the common ones and work your way up to the obscure. Offer your skills for free or greatly reduced prices to local bands until you feel ready to start charging. Give them the masters so they can take them somewhere else (usually their home) for mixing if they feel so moved. As you go along some bands will never come back. That's just how it goes. People get disgusted, quit, or move on. But some musicians or bands will become loyal and request you for all their studio and stage recordings. It's a wonderful feeling.

OH NO! The Recording Tape Ran Out.

I hope all this helps save you time and money, especially if you are a hard core do-it-yourself type of person like me. Music production courses are OK if that's what you think you need, but nowadays there is so much free mixing advice online as to negate the need to purchase any mixing course at all. Also, this **11 Essential Tips and Tricks on Audio Mixing** list is not an exhaustive narrative by any means; I overlapped some stuff, repeated myself, and made some of the topics cover enough range to be divided into even more topics. There are many things to remember on a recording project, but they come over time. And I feel the craft can be learned without spending money on teaching stuff because there is so much free information out there to be had. I started out bouncing tracks on a two-track Sony tape deck back in the sixties and early seventies, then bought another, then bought a 4-track, then bought another 4-track to bounce between them, then bought to an 8-track, then a 16-track to sync with the 8-track, then a 24-track to sync with the 16-track, and then to a dedicated computer for a DAW. Digital mixing and mastering has become cheaper, faster, easier, and the quality is head and shoulders above what I learned on. It just gets better and better. If you want to get

really good really fast simply record as many bands and take as many opportunities as you can for cheap or free. When you get to a difficult recording situation and you immediately know the answer (instead of referring to a book or an online video) then you are thinking on your feet. That's when you are ready to move on and start asking for payment for your efforts. You made it. And now you're worth it.

Fred

(c) 2022 F. Kissell
Zystrix.com