

Arrangements, Counting Bars & Phrase Mixing

Now that you have a deeper understanding of the fundamental principles of mixing two tracks together, we can talk about how to start creating seamless mixes.

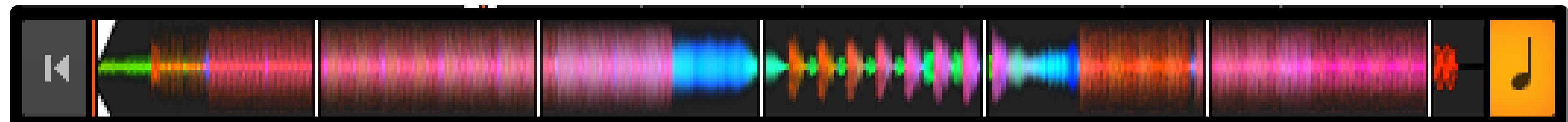
If you are a young producer that is learning how to DJ, then you are most likely familiar with the concept of **musical arrangements**.

If you aren't, worry not, as we will do a very quick breakdown.

Every song has an arrangement. The most simple and common arrangement for pop songs is having an intro, verse, chorus, verse 2, chorus 2, bridge, final chorus, and outro.

Now, in the following image you can see a deep house/tech house song which is at 123 BPM.

ZHU - Desert Woman (Original Mix)



It is incredibly easy to tell (visually), that this song has an intro, then it goes straight into its main beat section, then it slows down into a melodic beat section—the lighter pink and blue section—goes straight into a break, and builds up into the main part once again plus an outro.

Learning how to read waveforms comes with practice, but you shouldn't rely entirely on this. You should be very familiar with the tracks you're playing and know how their arrangements are laid out.

Almost every musical phrase in contemporary arrangements comes in a multiple of 4. One section can either be 4 bars, 8 bars, 16 bars, or even 32 bars. It all depends on the genre.

Some producers even do 12, 20, or 24 bars sections, and this isn't that rare to be honest, as certain genres of dance music allow for a lot of creativity within arrangements.

Arrangements, Counting Bars & Phrase Mixing

If you don't know what a **bar** is in music, it is simply a way to organize written music in small sections. Every song has a "regular beat" or **pulse** that you should be able to feel; A small trick to find it is to tap your foot on the floor while a song is playing.

If you do it with most pop and dance music, you should be tapping your foot while counting up to 4.

1, 2, 3, 4... 1, 2, 3, 4... the first beat is called the **downbeat** and it's the strongest one out of all. So, 4/4 or **common** time, means that **four beats** (numerator) made out of **four quarter notes** (denominator) build a single bar.

It is completely acceptable to have smaller note values as long as they add up to **four quarter notes**. This would still be considered as a bar, for example:

2 + 2 + 2 + 2

| | | |

Bass Clef

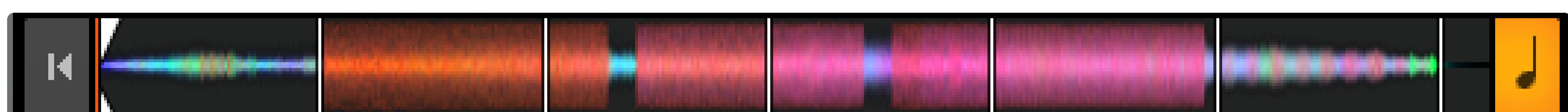
4/4

8 eighth notes grouped into 4 pairs by vertical bar lines.

So, multiple bars, usually in groupings of multiples of 4, build **musical sections**.

In the following image you can see a progressive arrangement, where the intro is a little bit longer compared to most pop songs (32 bars). But once the beat drops, there are only two small 4 bar breaks and the track keeps building and going on until it hits the outro (32 bars).

Pryda - Project L.O.V.E (Original Mix)



Arrangements, Counting Bars & Phrase Mixing

You should be starting to realize by now where this is going to. To create seamless transitions and borderline flawless mixes you need to make sure that certain sections of both tracks align.

The most basic one would be aligning the **outro** of **Track A** with the intro of **Track B**. If both songs are from similar artists or within the same genre, it is highly likely that the outro will be exactly the same length as the intro.

Note: *For really progressive four to the floor genres, intros and outros are usually 32 bars. Genres where the average track length is around 3-4 minutes usually have 8 bar intros, while the larger main sections may be 16 bars.*

This way, when **Track A** finishes, **Track B** will go right into its verse, chorus, drop, or main beat section. Once again, this is genre dependant.

Once you get the hang of this basic technique, if know your songs well you can start creating more complex mixes and “arrangements” within your entire DJ mix.

For example, you could have the intro of your incoming track (**Track B**) to play right at the break of **Track A**. Then, you could start fading away **Track A** by lowering its volume gradually, or using some effects.

Ideally, and also depending on the tracks you selected, the drum beat should never stop. This is a great way to maintain energy on the dancefloor.

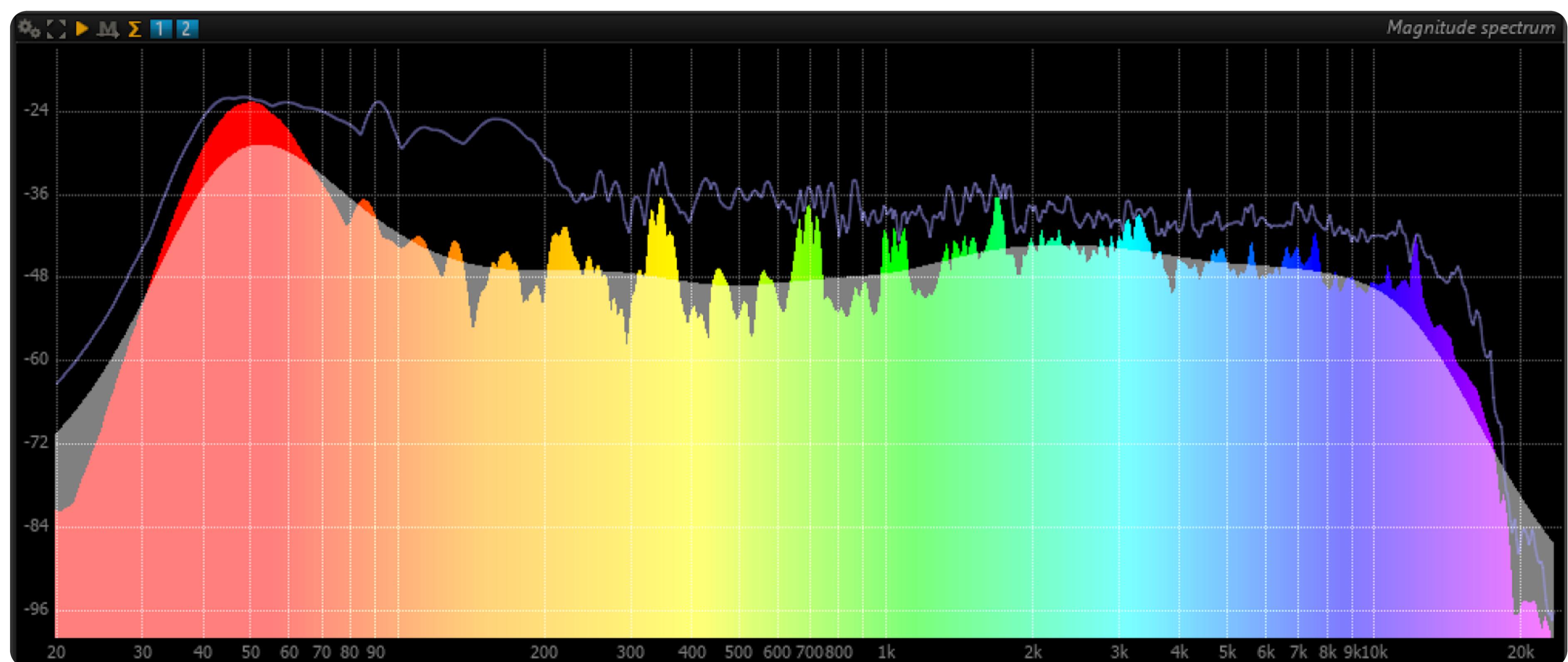
Just remember, the crowd can't be going wild 100% of the time, use your breaks wisely.

Equalizing

Learning how to use the mixer's EQ is the next step to achieve clean and flawless transitions.

If you come from a music production background, you are well aware of how tricky it can get to make your kick and bass sit together nicely. Especially when both are huge and share the spotlight throughout your song.

However, if you have no music production background, don't stress. All you need to know is that low frequencies carry a lot of power.



That huge red bump you can see in the image above is the low end on a tech house song. And this is pretty much how most modern dance music looks like through a frequency analyzer.

If you play this song at full volume in any type of DJ equipment, your meters should be pretty hot and near the red zone.

Stay away from the red zone in any type of DJ equipment.

Equalizing

Going into the red zone in any PA system in general is a completely different ballgame than redlining your small studio speakers.

This type of sound systems deals with a more power and can overheat about three times as fast as your small monitors.

If you stay in the red zone for a prolonged amount of time there's a pretty big risk of completely blowing out the speakers. You could also severely damage them if a huge burst of energy happens that goes "beyond" the meters.

Some venues have compressors or limiters in their PA system's output to prevent performers from blowing their speakers inadvertently. But this means that they're squashing your signal pretty hard whenever you go into the red zone... and that sounds terrible.

In other words and contrary to popular belief, you don't have to redline to headline.

Whenever you're mixing two tracks together, you first need to adjust your gain accordingly with the trim knob and proceed to **cut the low end** of either song. Remember, low frequencies carry the power and give a sense of weight.

Note: Every single individual channel has a trim knob at the top which allows you to adjust the input volume on each channel. As a rule of thumb, set the gains in the channel to peak just before hitting the red zone while having your channel fader all the way up. This will be the highest gain you want to have each channel.



Equalizing

This also applies for more advanced DJ's where they might be using 4 channels at the same time to create complex tension/release loops for the dancefloor.

It's always a **single channel** carrying the low end energy.

The rest is completely EQ'd in the low end or they have no low end frequencies present at all. Hence, no need to EQ them out to begin with.

In other words, you only have 1 small room available (your meters up to 0 dBFS in the digital domain), and it's like trying to stick both an elephant and a hippo in at the same time, it's just not physically possible.

If we go back to our previous example where we mix the **intro of Track B** with the **outro of Track A**, you have two choices:

1. EQ the low end from Track A from the very first moment you bring in Track B.
2. EQ the low end from Track B and wait until track A finishes to bring it back in.

There's no right or wrong answer over here, doing either will yield completely different results to the energy on the dancefloor, and this is something you need to experiment with a little bit. The effect is also different depending on how the tracks are composed/arranged.

The second reason why we need to EQ the low end out is because low frequencies are omnidirectional and our brain just struggles recognizing two sounds in the same frequency range.

Usually our brain will just pick up the one sound which is the strongest out of both, or in other words the loudest one. So in a nutshell, everything gets really muddy and this is something you want to avoid almost at all costs.

And finally, to bring everything together, even though the low end may have different fundamental frequencies across the two tracks, the amplitudes will still add up and increase the volume. This will definitely make you go into the red zone of your mixer, even if they're clashing harmonically.

Equalizing

However, they are there for a reason and they're not useless. You can use them in multiple ways. For example, sounds that are further away have way less high frequency content.

If you intend to loop something and leave it as the background for a while, you could also carve some high frequencies out with the top band EQ to help accentuate this psychoacoustic effect.

We will talk about harmonic mixing in the following section, but alternatively, you could use the mid band EQ to carve some space in a synth loop so it doesn't clash with the vocal that may live in another channel.

Being elegant and subtle with the EQ's in a mixer comes with practice. Some great advice that will help you understand how to use them better is to search for YouTube videos where any of your favorite artists might be mixing while there's a camera pointing straight at the entire setup.



This will work even better if you're a somewhat familiar with some of the songs he plays or just the genre overall, as you will be able to tell more accurately what's going on during the mix.

Track Selection

Now that you're familiar with the most important concepts of mixing tracks together, we can take it one step further and talk about track selection.

Track selection is one of the most elusive concepts for aspiring DJ's. In an industry where there is an implicit competition between artists and limited opportunities, whenever a beginner DJ gets a shot it's pretty common to see them going as hard as they can.

There is a time and place for everything. It's crucial to understand this when you're in your amateur phase.

If you have the opportunity to open for someone big, understand that you are the warm up set. Pick your tracks accordingly.

Even though you might get some friends and other people to go and support you, the majority of the audience is there to see the headliner.

You might see this as an opportunity to impress people and make a name for yourself, but trust us... the promoters, the owners of the venue, and the booking agents don't share your perspective. You will most likely leave a bad impression on them.

Your job here is to gather people into the dancefloor and make them hyped for the rest of the night.

Great warm up sets are an almost forgotten art.

On the other hand, whenever you land your first headlining show...

Make the best out of your shot and bring down the entire place!

This brings us to the matter of learning how to read crowds and pre-planning sets. The key is to keep a fine balance between satisfying the crowds expectations and giving them tracks they didn't know they wanted to hear.

Track Selection

You need to bring them into your own sonic world, your taste in music. It's all about the journey.

Pre-planning sets is not a bad thing to do, everyone does it. Think about some of the best old school DJ's that are still touring up to this day. They do not bring 1,000 vinyls with them. They pack some of the records they personally want to play, and some others to please the crowd wherever they're playing at.

This is arguably one of the best mindsets for a DJ. If you're playing a 1 hour set, bring some extra tracks. Do your homework, ask the promoter or owner of the venue what type of music their audience usually enjoys the most.

Prepare some music in that style and get people up and grooving on the dancefloor. Once you've caught their attention, start playing some of your own tracks and show them your own style.

Never stop looking every now and then at the crowd.

This is also another reason why you should bring some extra tracks, since not every song will work in every scenario. If you realize that a song is just starting to kill the vibe of the crowd, you can just mix it out on the breakdown just like we mentioned briefly on the more advanced phrase mixing techniques.

But it's also worth remembering that just because people aren't going mental, it doesn't mean that they're not enjoying your set. Especially with certain genres of music.

You can't expect people to react to really abrupt or drastic changes in genres either. If you're a dubstep DJ, don't try to get booked for a house music event, it just won't work.

This whole concept is more about playing, for example, some tech house in a venue where they're used to deep house. You could also try playing some drum and bass in a venue where dubstep is the usual. Fans are more likely to accept that and go with it.

Keep it coherent. If you're trying something new, make sure it's something within the same realm. Don't get booked for random shows for the sake of playing, because if they go wrong it can be really demoralizing.

Harmonic Mixing

Harmonic mixing is a concept that is a little bit more advanced, so we will only talk about it briefly.

Before you even try to practice this, make sure that you can beat match and get your songs to line up correctly with each other every time (phase).

When you're doing harmonic mixing, your focus should be on the key of the tracks and not on beat matching and phrase mixing. Those should be second nature by this point.

Harmonic mixing consists in mixing tracks that are the same key, songs that are a fifth up or a fourth down (key wise), or tracks that are in the relative major/minor keys of each other.

1. Mixing tracks in the same key

Track A (C major) → Track B (C major)

2. Songs that are a fifth up/fourth down from the original key.

Track A (C major) → Track B (G major or F major)

We can't do an in-depth explanation on how this works because it's outside of the scope of his book. However, if you want to understand this to a more profound level, we suggest you to study some basic music theory.

Basically, going from C major to either G major or F major works because they only have a 1 note difference between each other.

Alternatively, you could also go to D major or Bb major. Since there's only a 2 note difference it'll still be somewhat smooth. However, this is pretty much the upper limit, as changing to a key with a 3 note difference is already too much.

3. Relative minor keys

Track A (C major) → Track B (A minor)

You could also go to the relative minor key from the original track, as both scales share the exact same notes.

Harmonic Mixing

There are a few more intricacies to harmonic mixing, but this is the fundamental concept that you should be aware of.

Sometimes songs only have a beat in their intro and this does not have a negative impact if you phrase mix it correctly with some other song that it's in a completely irrelevant key. This is another reason why it's really important to know your own library and songs.

Most of the time you only need to worry about harmonic mixing if you're putting together two tracks that have harmonic and melodic instruments/elements going on at the same time.

Most Common DJ Equipment in 2018

You now have a pretty solid picture of what entails being a DJ in our day and age. We have talked about some of the fundamental concepts, minus some small details that you can only learn by yourself by diving in, finding your own style, and getting real life experience.

It's worth finalizing this book by giving you some insight into some of the most common equipment that you will find out there.

CDJ Setup



The industry standard. You will see this setup in at least 80% of the world's clubs, venues, and festivals. Most DJM mixers have 4 channels, so it's pretty common to see 4 CDJ's hooked up instead of 2.

If you're into more underground genres of dance music, it's also very common to see mixers that aren't manufactured by Pioneer. Some DJ's like to make use of some of the functionalities different brands have to offer.

Most Common DJ Equipment in 2018

The Allen & Heath XONE:92 mixers are the second most common mixers you will see that CDJ's are being hooked up to, and this is a six channel mixer.

Allen & Heath XONE:92



Manufacturer Denon has also made a pretty aggressive entry into the industry recently by making partnerships with certain DJ's to perform on and promote their products.

Once you get to a certain level, clubs and venues won't let you hook up your own equipment. You will definitely need to be familiar with this type of setups, so make some new friendships and strive to get to know someone that will mentor you and let you practice in this gear.

One of the only ways that a club or venue will let you hook up your custom setup is if they are booking you to headline for the night. So really take this into consideration.

Another incredible benefit of learning how to perform in this type of setups is that you only need to carry your USB drives with you. All of which you can fit inside your pocket.

This is without even mentioning after parties. Another reason why players and mixers will never go out of fashion. Even if you develop a unique live show, you will most likely end up spinning in the after hours with a very similar set up.

Most Common DJ Equipment in 2018

DJ Controllers

DJ Controllers are way more affordable for bedroom producers and amateur DJ's. There's a plethora of controllers out there that also come with a myriad of functionalities, so we can't really list all of them.

The downside of DJ controllers is that some venues or clubs won't let you bring your own controller as we just mentioned, plus they're not that small or portable.

They can become quite annoying to be carrying around, and this is without even mentioning that most of them aren't sturdy at all. They are quite fragile, and if you don't carry them in some sort of flight case, there's a decent risk that they may get damaged somehow.

If you're interested in mixing tracks in a traditional way, having multiple creative "live" remix functionalities, or even using Stems, both of Native Instruments' Traktor S2 or S4 are incredible choices.

The Traktor S2 has a simple two channel setup that is incredible as an entry level DJ controller.

Traktor S2



Most Common DJ Equipment in 2018

On the other hand, it's big brother, the Traktor S4 comes equipped with 4 channels and has multiple added functionalities that you can check out here. Multiple high profile artists such as Mr. Carmack, Porter Robinson, and Branchez used to perform in this exact same DJ controller.

It's arguably on the low tier of the acceptable professional DJ performance equipment. If you're interested in using Traktor—because you need an iOS device or a laptop to operate both of these controllers—this is the way to go. We guarantee that you won't be disappointed.

Traktor S4



Most Common DJ Equipment in 2018

If you want to jump straight into it and start getting practice in a controller that resembles CDJ's the most, then you should opt to get a Pioneer XDJ-RX2.

It's a 2-deck, 2-channel all-in-one system that operates on its own without the need of a laptop.

Pioneer XDJ-RX2



This is as close as it gets to experiencing CDJs 2000 without actually owning them, but even this controller falls slightly short. You just can't match the real setup with any controller.

Vinyl Setups

Vinyl setups didn't get left behind or forgotten all these years. In early 2018, vinyl sales finally started surpassing digital sales. Surprising, huh?

Unfortunately, some legendary equipment for this realm stopped being manufactured unfortunately, like the Technics 1200 for example. Although it's fairly easy to get your hands in some second hand turntables, there are now newer and cheaper alternatives out there that you shouldn't disregard at all.

Most Common DJ Equipment in 2018

For scratch DJ's, the mixers are also slightly different. Some of the most common ones that you will see around nowadays are the Native Instruments' Z2, Rane's seventy-two, and Mixar's DUO MKII.

Vinyl setups usually consist of 2 channels only, unless they're being used in conjunction with two other CDJ players. This is very common within house and techno DJ's, where they only play really old records and don't have to worry about scratching or cutting mixing techniques.

2 channel simple vinyl setup.



2 vinyl - 2 digital players setup.



Final Thoughts

This is it!

We covered a vast amount of information, so don't feel stressed if you feel like you didn't grasp some of the concepts we presented in this book. Take a small break and go back if necessary.

And once you get a solid grasp of the concepts we presented in this book, you should be able to start creating simple, yet solid and coherent DJ sets.

The truth is, many DJ's out there that are already making some money out of this profession keep it simple and don't go far beyond some of these concepts. But you should always strive to be a better musician, producer, and DJ.

Just like in music production, a lot of trial and error goes into this. Study the songs you want to play, start messing with the effects on your mixer, try putting multiple songs together, and try to think about creative transition techniques... your imagination is the limit!

If you spend some time practicing and getting out there, just like you develop your own sound while producing, you'll start to realize how you like mixing songs together, transitioning, and therefore you'll develop a signature DJing style/sound.

Best of luck and happy DJing!