

Transformation Station

The Benefits of Mixing in Mono



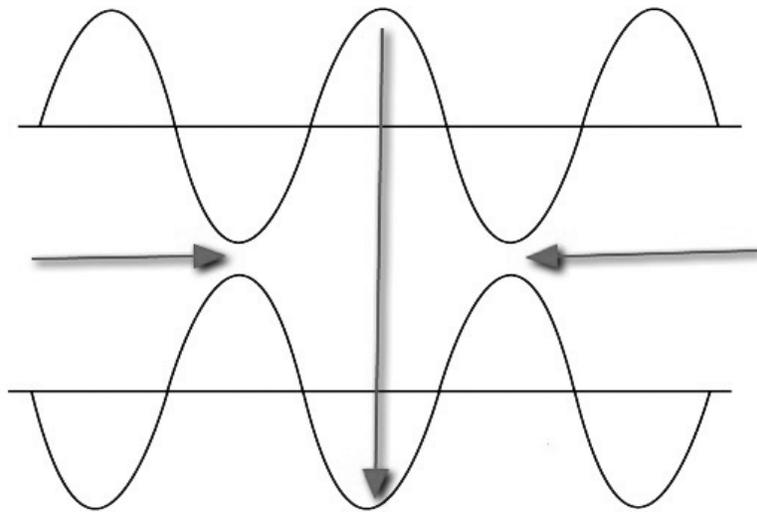
The Benefits of mixing in Mono

The benefits of mixing in mono are pretty substantial yet also very little known.

Let's dive in to what makes mixing in mono such a powerful technique....



Phase Cancellation



Phase cancellation is when you've got the waves of two or more signals out of phase with each other.

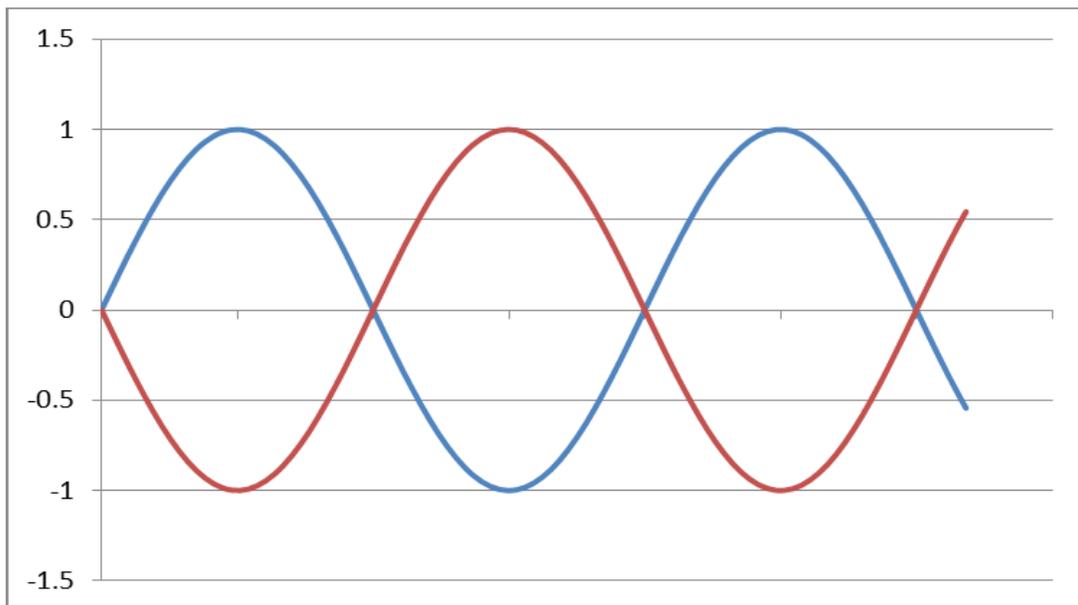
In other words the wave on one signal is in it's peak, another is simultaneously in a trough.
(Like in the illustration above)

Because the peaks and valleys are out of sync, they work against each other or cancel each other out completely, causing moments of silence when there should be signal.



If we take a look at the image below, we see 2 Sine waves. The most basic of waveforms.

Both waveforms have their peaks and valleys which usually support & strengthen the sound, however, when one wave is at it's valley, when the other is at it's peak, the waves essentially cancel each other out.



So what does this have
to do with Mono?



Great question....

So although stereo has many advantages, because of the full spectrum of left & right signal, it can often be more difficult to tell if there are phase issues in your mix.

In other words, when parts of your left signal are out of phase with parts on your right signal it won't be as apparent until you force those waves to come together in a mono signal path.



Once in mono though, the issues will become much more front & center.

Your bass or kick might sound noticeably weaker or a vocal might lose it's impact.

This can especially become a potential issue when you have 2 parts in the same frequency, or if you are doubling up an instrument or vocals.



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Solving Phase Issues



When it becomes clear to you that a phase issue exists between 2 instruments there are a few approaches you can take to solve the issue.

1. Get the 2 audio signals next to each other in your DAW & get in close enough that you can see the waveforms.

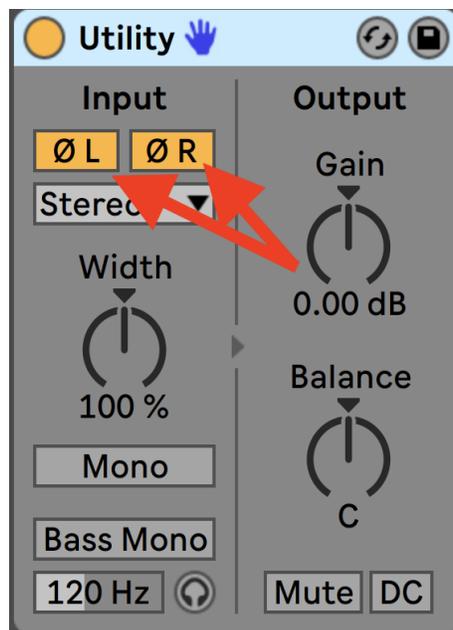
Once you can see the waveforms of each instrument up close, you should be able to find a trend of 1 waveform going upward when the other is going downward.

By simply nudging one of the audio clips until they are more in sync, you can solve the issue. Make sure you trust your ears over your eyes though. The visual can sometimes be a bit deceiving.



2. The 2nd approach that can be taken if 2 parts are consistently & noticeably out of phase is to reverse the phase of 1 of the parts.

This can easily be done with Ableton's Utility Tool by clicking on the left & right phase buttons as seen in the image below.



Another reason it can be so important to check for possible phasing issues in mono, is in the event that your song is played over a mono sound system (which may be more often than you think).

Many of the big clubs around the world use a mono system instead of stereo. This gives a big room the same balance of sound throughout the club.

Phasing issues however, can destroy an otherwise great sounding track when played in mono.

Be aware!



The Benefits of mixing in Mono

Although phase cancellation issues are a great reason to do some of your mixing in mono, there are several other benefits that are lesser known that I want to dive into.



The Benefits of mixing in Mono

Just to be clear, when I discuss mixing in mono, I'm talking about running your mono signal to just one speaker & turning off the other speaker.

Preferably you would have this single speaker front and center, but as long as the speaker is directly facing you, this should work just fine.

Most engineers that mix in mono have a separate center speaker for this, but this isn't completely necessary.



Why only one speaker when both speakers are sending out the same output?

Because you don't want the extra sound bouncing off walls or getting to your ears at different times depending on their location in the studio.

That would mean that in one position something can sound clear, and in another location the same instrument may sound a bit more muddy.

Much better to have one speaker to focus on that will remain consistent. You also don't want the speakers creating a false sense of stereo as you mix.

Lets explore some of the benefits now...



The Benefits of mixing in Mono

No “sweet” spot

When mixing in stereo, as you move your head and body around in your studio you begin to lose the stereo illusion and detail of your mix.

When mixing in stereo, that perfect location of the stereo illusion is called the “sweet spot”.

Move your head or body too far in 1 direction or the other and you lose this illusion, making your mixing much less effective.

In mono you don't have this problem.

You'll be able to hear everything in your mix no matter where you are.



**Instruments panned opposite each other
are easier to balance in mono**

When mixing guitars (for example) to opposite sides of the stereo field, you may find it a little tricky to find that perfect balance, so your mix doesn't start sounding lopsided.

When the sound of both speakers are superimposed on each other in mono, it's easy to hear which of these instruments out of balance.

Typically if the balance is off, the volume of 1 will be a bit louder than the other.

To balance that out, either pan the louder part further from center or the quieter part closer to center.



Panning made easier

After getting your basic panning done in stereo, it's a great time to switch to mono to fine tune things.

If you are looking for the "sweet" spot to put an instrument in the stereo field, do it in mono.

As you make minor panning adjustments in mono, suddenly a clear spot will pop out at you.

That is the spot!

Mono reveals when an instrument is fighting for position or frequency much more easily.

Try it!

Reverb settings made easier

Reverb settings also are easier in mono.

If you are questioning whether you have too much or too little reverb, mono reveals the mud or the “holes” in your mix.

As you start to tweak your reverbs in mono, you’ll notice a whole new depth to your sounds. When it sounds good here, it’ll sound great when back in stereo.

Less ear fatigue with longer mixing sessions

Aside from the occasional switch to stereo to check your sub levels, you'll find mixing to be easier at lower volumes and thus you'll be able to trust your ears for much longer during a session.

Nothing is worse than mixing for 8-10 hours straight and realize your ears stopped being reliable after the 3rd hour.

Mixing at a lower volume tends to be more effective in mono.

Since you are listening from 1 vantage point instead of 2, your brain is better able to focus on what it's hearing.

Mixing simplified

Stereo mixing can be complex and pretty daunting.

Move your head too far in any direction and you lose that magic spot.

Mono mixing puts everything into one simple box that will always sound the same wherever you move your head and body.

Problems and solutions can be revealed much easier in mono. Your mental perception sees your project as smaller and more manageable.

If you can get things sounding good in mono, they will almost always sound great in stereo.

Give it a try

Don't just take my word for it. Explore the benefits of mono mixing for yourself.

It's safe to say that once you get your basic levels, panning and reverbs set in stereo, you can switch to mono for most of your fine tuning and mixing.

Now you are an expert in all things mono.

Happy music making!