

The Future of Mixing — *An Immersive World?*

Do I need to be working in Atmos? Is this going to be compulsory for mixing, or is this a niche product?

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BY · **JOHN
HANES**

SUBJECT · **DOLBY ATMOS · IMMERSIVE AUDIO · MUSIC
PRODUCTION**

Several of my mixer and producer friends have been asking me, "Do I need to be working in Atmos? Is this going to be compulsory for mixing, or is this a niche product?"

This has been quite a difficult piece to write because as I go further into the whole

Atmos production process, a lot of it is still in flux and changing in requirements and processes.

But let me try to start with the mixing basics and the transitions from stereo to immersive.

The Basics

When working on your stereo mix – or rather when thinking of how to address your stereo mix into an immersive format – I think you should have surround in mind. But I don't think that you need to leave stereo behind, rewire every room, and change your creative environment.

Much like you send a mix to be mastered by another facility, you can send your mix, in stemmed form, to be given the Immersive treatment.

Stereo sounds are still good. Let's face it, we're Immersed in a stereo world. Just because you will be working in Immersive surround in the future, doesn't mean that all your recording needs to be, or even can be, done in Immersive formats from the start.

A piano is a piano, we perceive it with two ears, so two microphones are good enough to capture it for recording. The microphone arrays for Immersive sound capture the space around the piano, which is great if you want that piano to be mixed so it sounds like it is played in that room. In classical music, this is the goal – to capture and recreate that performance in that space.

In modern music, however, we are constantly creating, modifying, and warping the space around the instrumentation; so, we don't need to record things with microphone arrays in seven channels and more. Your stereo synthesizers, samples, instruments and recordings are still good!

Recording a singer with a mono microphone has never meant that we can't play with the space around them in the mix; the same goes for stereo in the immersive mix, we are just playing with the space.

I will look at it as many stereo pairs and not just entire immersive space. I can put a stereo piano in front, to your left, to your right, behind, or above you. The piano doesn't need to be a multi-channel thing to be in a multi-channel space.

So, my Immersive mix of a song made up of regular mono and stereo sounds that you create in your stereo world from your stereo instruments and recordings is my ideal way to work.

I think that the stereo mix is not going to be going away. In fact, in my workflow, a finished stereo mix would still be the first step of any project destined for Immersive mixing.

Now that might be me set in my ways of doing things, but I think that I can make a case that it is a good way to work.

The Benefits of Mixing in Stereo First

A lot of the process of mixing is making decisions about volume and EQ. These kinds of mixing decisions are much easier to make in stereo.

When all the instruments and vocals are playing together out of two speakers, this is the opportunity to listen for clashing frequencies and volume balances. Because much of the listening is going to be of the binaural downmix and heard on headphones, those mix balance issues are still paramount, and having that stereo mix finalised provides the baseline for comparison.

I believe that getting that stereo mix approved by the producer, artist, label, and everyone else needs to be done to have that template to work from. It would be incredibly time consuming to be sending Immersive mixes out for approval, having changes made, and then reworking mixes. I can imagine scenarios of geometrically more difficult mix tweaks because the artist has so many more possible choices. Best to nail down the sound first, then work on Immersive mixing.

As elements in an immersive mix are panned back, the timbre and perceived volume of the sound changes and those decisions are harder to make. So, for me, getting those EQs and volume balances right in stereo is the first step. I can then adjust volume as I pan some elements to more speakers.

I tend to do little corrective EQ in the Immersive mix; I'll let the elements stand as they are in the stereo mix EQ wise. This way when you turn your head, or sit towards the back of the room, or even face backwards, the mix elements still sound like the mix.

In a binaural mix, a downmix to stereo or another format, the collapse back to stereo would make these elements really stand out against the normal "stereo" mix and against the intention of the mix itself if they are EQ'd differently just for placement corrections.

Another reason is because if I want moving elements, panning front to back, bottom to top, those timbre changes are part of the cues to us hearing where the sound is and its movement; they are a feature of immersive listening and not a bug.

In my Immersive mixing, I'm constantly going back and forth between the stereo mix and my surround mix, making sure that volumes are correct and appropriate as I move things around the room. I'm also listening for timbre changes that might not work.

I have the finished and artist-approved stereo mix as my guide, so that decision making becomes more of a balancing issue than a mixing choice.

So, what I've been describing becomes more of a sequential effort, like mixing and mastering. I've been doing a lot of Atmos mixes from other mixer's mixed stems, and the quality and experience can be equally effective with well-done stems.

So my scenario might be that a mix engineer does their stereo mix, makes stems, and those stems can go to a "surround mixer" who has the equipment and room for that work. Or an engineer can complete their stereo mix first, then begin the process of breaking it out in spatial mixing.

Mixing from stereo stems has been a good part of the surround mixing that I've been doing. Any mixes not done originally "in house" by me or Serban, have been mixed from stems. So as a guideline for creating stems for a future Immersive mix, here is what I would like to see.

The Guidelines

More stems are better stems, but I need real stems printed from the original mix. The goal here for me is not to remix the song, but to take your mix and make it immersive.

The more separation you give me on instruments and vocals, the more I can surround you with sound. If you give me all guitars on one stem, they'll all be in the same place in the mix. But if you give me each part separately, I can bring parts out to get that Immersive experience. A counter melody coming from another place can really upgrade the experience.

Backing vocals are great if notes are separated on stems. I can pan the notes around the listener. Printing with effects for each of the parts is ok here; the reverb and delay with the vocals cements that sound in that space, which can then be chosen to be panned within the immersive sound field.

Lead vocals: go ahead and print the reverbs and delays into the vocals if you must. I've

got tricks to bring those effects out into the room.

Try to keep big hero effects separate though. That big sweeping delay or reverb can really stand out without stepping on the next vocal part if I can get an echo coming over your shoulder.

If it's possible to print a dry lead vocal and reverb and delay effects separately, then you can help to step up the immersive experience. Reverb printed separately can be made to fill the immersive space, and delay can operate more like echo from another point in space.

For some older sessions, this might just not be possible. But the good news is that we have become quite good at mixing from stereo stems, so all those older releases can be re-created in Immersive formats from the stems if available.

There are also some excellent tools, such as Nugen's Halo Upmix that can spread a stereo sound pretty convincingly, great on stereo strings, horns, or choirs for example.

"After working in Immersive mixing, I begin to think of immersive panning even when working in stereo."

— DAVE WAY

The next step after you've got your stems ready, or if you are ready to do the conversion from your stereo mix session into immersive (and I'm using Dolby Atmos so I'll be speaking specifically about that), is to begin thinking about what elements will be effective in surround speakers.

I watched an interview with Dave Way where he said – and I'm paraphrasing – that after working in Immersive mixing, I begin to think of immersive panning even when something like a doubled keyboard part – especially if it is a different timbre from the main part – then works well as a spatial enhancement in the surround speakers. Counter-melody parts are nice in surround as well. Effects and effected music and vocals then really help to immerse the listener into the mix. As you make your stems, think about these things, would it be cool to hear this part separate from that part?

So these are some of the artistic elements that I'm thinking about and working with in

working in stereo. I find myself doing this also. So I think with experience it becomes second nature to begin thinking in more mixing dimensions.

I tend to keep most of the meat of the mix still in the left and right speakers; to me it just creates a final product that feels more like putting the listener into the mix rather than finding places for sound and finding uses for speakers.

the Immersive mix.

Beyond that, and where it begins to get more complicated, are the technical considerations. How to comply with delivery requirements while maintaining a cohesive mix. How to make the immersive mix hit the right feel as a hard-hitting stereo mix while still making it an experience worth hearing.

I think I'll try to take these questions up in the next blog.

SELECTED ATMOS MIX CREDITS

Coldplay "Coloratura"

Stereo: Michael Ilbert · Atmos: John Hanes

Imagine Dragons "Cutthroat"

Stereo: Serban Ghenea · Atmos: John Hanes

Walker Hayes "Fancy Like"

Stereo: Joe Thibodeau · Atmos: John Hanes

Liam Payne "Sunshine"

Stereo: Serban Ghenea · Atmos: John Hanes