

3D Recording with the "2L-cube"

Morten Lindberg, 2L

Fotos: Morten Lindberg



The beauty of the recording arts is that there is no fixed formula and no blueprint. It all comes out of the music. Every project starts out by digging into the score and talking with the composer, if contemporary, and the musicians. It is not our task as producers and engineers to try to re-create a concert situation with all its commercial limitations. On the contrary; we should make the ideal out of the recording medium and create the strongest illusion, the sonic experience that emotionally moves the listener to a better place.

I have recorded music in 5.1 surround sound since 2004. Then I met Wilfried van Baelen from AURO 3D at the Nordic Sound Symposium three years ago. He challenged me to explore the height dimension. Two weeks later we set out for a remote medieval church with TrondheimSolistene and recorded our first album in the 9.1 AURO 3D configuration. I believe the SOUVENIR was the first ever commercial album produced in immersive audio. The 5.1 surround sound is still our main commercial product. The expansion to 9.1 3D has been our playground. The development of the Pure Audio Blu-ray screen-less navigation makes it possible to reach out to a large home entertainment audience with our music recordings. Now, with the release of the MAGNIFICAT album it's all about immersive audio to us.

Our approach is that the image is not created in the mix. It is made in the recording with dedicated microphone techniques. The composers and musicians should perform to the extended multi-dimensional sonic sculpture, allowing more details and broader strokes. Then immersive audio and surround sound is just a matter of opening up the faders. When the music is created, performed and recorded in immersive audio then stereo is our most time-consuming challenge;

figuring out how to preserve the total impact and level of details from this sculpture into a flat canvas.

Our "2L-cube" is only remotely inspired by Decca- or Mercury-tree. The microphone array is really a direct consequence of the speaker configuration in the AURO 3D playback system. Time of arrival, SPL and on-axis HF texture is directly preserved in this 5.1.4 or 7.1.4 microphone configuration. Proportions are cubical and the dimensions could vary from 120 cm for a large orchestral array down to 40 cm in an intimate chamber musical context. I always use omnis in the main array. But depending on the room, the music and the instruments I alternate between the DPA 4003 and the 4041 with the larger membrane, the latter providing a more focused on-axis texture.

I do appreciate the predictable channel based production flow in the AURO 3D configuration. Our recordings play back well in the Dolby ATMOS and the DTS:X speaker layout, but the concept of objects and local rendering introduce a few unpredictable factors to us as content producers.

Recorded music is no longer a matter of a fixed one-dimensional setting, but rather a three-dimensional enveloping situation. Stereo can be described as a flat canvas, while surround sound is a sculpture that you can literally move around and relate to spatially; surrounded by music you can move about in the aural space and choose angles, vantage points and positions.

2L record in spacious acoustic venues: large concert halls, churches and cathedrals. This is actually where we can make the most intimate recordings. The qualities we seek in large rooms are not necessarily a big reverb, but openness due to the absence of close reflecting walls. Making an ambient and beautiful recording is the way of least resistance. Searching the fine edge between direct contact and openness - that's the real challenge! A really good recording should be able to bodily move the listener. This core quality of audio production is made by choosing the right venue for the repertoire, and by balancing the image in the placement of microphones and musicians relative to each other in that venue.

Morten Lindberg is a recording producer and balance engineer with 20 American GRAMMY-nominations since 2006, thirteen of these in categories "Best Engineered Album", "Best Surround Sound Album" and "Producer of the Year". He is the founder and CEO of the label 2L in Norway. He is also an Associate Professor in Acoustic Music Production at Western University - Oslo School of Arts, Communication and Technology.