



CASE STUDY



## University of Wollongong Dolby Atmos Immersive Studio

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This year, in 2025, the University of Wollongong is celebrating its 50th anniversary as an independent institution. In the scheme of things, as far as universities go, it's still a new kid on the block – it probably doesn't have any proper ghosts lurking in the corridors or secret tunnels underneath the library. Even so, in that relatively short time, the university has forged a strong and globally recognised reputation for academic excellence, and a reputation for innovation and pioneering research.

Which is a wonderful achievement, but you might wonder why a university really needs a recording studio equipped for Dolby Atmos immersive mixing? Sure, the UoW does offer a Bachelor or Creative Arts (Music) and has two fully equipped recording studios that would be the envy of any commercial enterprise. Still... Atmos? You'd

think the BCA teaching curriculum might hold off a while longer rather than dabble in the dark arts of the latest music-streaming fads. The big platforms are increasingly offering Atmos content, but there's always the niggling thought that Atmos is just a passing phase that might soon lose momentum or be replaced by something else.

The answer lies in that word research, an undertaking at which the university excels, and the understanding that immersive sound is definitely here to stay and becoming prevalent throughout many more applications than just music and, of course, film and television. Atmos systems are being used in public spaces, for example by the visual arts such as museums and galleries, and by commercial enterprises that are jumping on the immersive bandwagon. High-end retail outlets and businesses are starting to envision the benefits



## ATMOS MIX SCALABILITY

Glenn has a long history in broadcast and sound post-production, primarily in re-recording mixing and mastering for television and film, and he points out another plus to using Atmos.

“In the past, you would mix for your primary release format. In feature film that would be a 7.1 Theatrical Mix, then part of your required ‘deliverables’ would be a 5.1 fold-down and an LR (stereo) mix, plus an M&E mix (Music and Effects). Further, all of your stems that make up the soundtrack (Dialogue [DX], Music [MX], Effects [FX], Backgrounds, Foley, English Crowds, etc.) need to be separated in each of your required delivery formats elements. All of this is being performed at the native frame rate of 24fps and this process needs to be repeated for the 25fps DVD and Television versions, and again at 23.97fps for Blu-Ray and Streaming Versions.

A single Atmos Master can be used to generate deliverables for:

- Theatrical Releases (e.g., 7.1.4 or 9.1.6 speaker setups)
- Home Theatre systems (e.g., 5.1.2 or 7.1.4)
- Streaming platforms and
- Binaural audio

This scalability reduces the need for multiple bespoke mixes, ensuring consistency in quality, creative intent and streamlining the delivery process.

Dolby’s innovation in this space has provided an opportunity for engineers, mixers and sound teams to rethink their strategy when starting a project to assess their templates and workflows so working in this format pays dividends in time, efficiency, flexibility and creativity.



of immersing their customers and clients in a different, inspiring space as soon as they step through the door. That’s just the tip of the Atmos iceberg. How exactly all this can be done, and just how far the concept can be taken, is going to be thoroughly studied by the university.

Another area of research for the studio will be in microtonal music. Basically, “microtonal” means musical intervals smaller than a semitone and is heard in a lot of non-Western music, including

ancient Greek theory, but it goes a lot further than analysing the sounds of different cultures. Can microtones be used in other areas of science and the arts? What kinds of new tunings can be created with microtones to explore uncharted musical terrains? The University of Wollongong aims to find out.

## LOOKING AHEAD

The university’s Technical Lead, Aaron Hull, began looking at upgrading the facility’s 5.1



immersive monitoring environment without being too compromised by the structure of the room. “Fortunately, it was already a well-designed and built 5.1 Surround studio and from an acoustics point of view, reconfiguring it into 7.1.4 wasn’t too much of a stretch. We asked a local integrator, SWAT Installations, to help us out, and even though Myles Watkins and his crew didn’t have any experience in this sort of project before, the results were fantastic. Their skills in installing the extra infrastructure – the cabling, the power, the speaker mounts – were exceptional. Nothing was too hard, and SWAT’s commitment to finding the perfect solution was brilliant and their eye for detail and workmanship was outstanding.”

### **READY TO ROCK**

The final configuration incorporated seven LYD 5 Dynaudio speakers in the lateral plane, while the four in the ceiling are Dynaudio Core 5 speakers. The upper monitors could have been LYD 5 too, but the Core 5 has more advanced DSP onboard and more flexible mounting options that worked better for the room.

With that focus on research, including the microtonal component, some funding grants were possible, and Aaron has a big shout-out to academics Dr Tim Bruniges, Guy Freer and Dr Terumi Narushima. He says, “Without their help and support for the concept, the upgrade to 7.1.4 maybe wouldn’t have gotten over the line. That’s the kind of future vision for which the university is renowned.”

The University of Wollongong may well be ‘only’ 50 years old, yet it’s constantly proving to be the equal – and more – of institutions with reputations forged over 10 times that period of years. With the new Immersive Dolby Atmos studio, the university is now a step ahead of many.

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**University of Wollongong:** [uow.edu.au](http://uow.edu.au)  
**SWAT Industries:** [swatsystems.com.au](http://swatsystems.com.au)  
**Amber Technology (Dynaudio):** [ambertech.com.au](http://ambertech.com.au)

mixing studio around 18 months ago, and it was Aaron, alongside Music academic staff at UOW, who saw the future and the advantages in taking the studio a step further into a 7.1.4 Atmos configuration. Thinking to incorporate the existing Dynaudio monitor speakers and seek some advice on alternatives to mounting the LYD 5, Glenn Humphries was approached, who is Amber Technology’s Sales Engineer for Professional Audio Products – a.k.a. a guru in surround and immersive designs.

Aaron explains, “It is a studio, and at the same time it needs to be a space where students can observe and learn, and they can have hands-on experience. That makes it a little different from a more traditional room where mostly you have one person in isolation, the engineer, creating the mix. It’s not a classroom either. Comfortably, you might have three or four students in there. Once you get up to a half-dozen, people might start getting under each other’s feet.”

### **JUST ADD SPEAKERS**

Glenn’s challenge was coming up with a system design that accurately delivered a multi-purpose