

GENELEC®

CASE STUDY

**Immersive Audio at the
Studio for Research in
Sound and Technology**

GENELEC EMPLOYED FOR
A 25.4 CHANNEL SOUND
SYSTEM AT RISD





STUDENTS PRESENT FINAL PROJECTS
IN CONCERT AT SRST FOR THE PROGRAMMING
SOUND: PERFORMANCE SYSTEMS COURSE



The [Rhode Island School of Design's](#) (RISD) [Studio for Research in Sound and Technology](#) (SRST) offers a space dedicated to exploration, technological advancement and learning within the realms of sonic arts and sound design. Established in 2018 under the name Spatial Audio Studio, SRST boasts a meticulously designed space equipped with a 25.4 channel [Genelec](#) sound system (composed

of 25 Genelec [8050B](#) studio monitors and four [HTS4B](#) home theater subwoofers), an adaptable seminar/work area, an array of digital composition tools, and a collection of hardware synthesizers such as Serge modular and GRP. As a hub for research, the studio facilitates experimentation for faculty, staff, and students, aiming for outcomes suitable for peer-reviewed publication, presentation at conferences and festivals, and other forms of dissemination. The SRST hosts guest lectures

” WHEN YOU WANT TO BUILD A DOME OF SPEAKERS, GENELEC IS AN EXCELLENT CHOICE.

and workshops led by designers, artists, and technologists, offering a dynamic platform for engagement with industry professionals and cross-institutional research networks.

Shawn Greenlee is a composer, sound artist and professor at RISD – he heads the Studio for Research in Sound & Technology, delving into spatial audio, high-density loudspeaker arrays, and unconventional sound synthesis methods in his recent endeavors. Since 1997, Greenlee has been actively engaged as a solo electronic/electroacoustic improviser, showcasing his talents through extensive tours across the United States and Europe, with notable appearances at conferences and festivals. Additionally, Greenlee holds a Ph.D. in Computer Music and New Media from Brown University and is also a RISD alumnus himself (BFA in printmaking).

”Back around 2015, I became very interested in spatial audio as a research area,” states Greenlee. “I started to perform at festivals and conferences, which had massive, multichannel sound systems. Around that time, we began work on the idea to create a sound design facility at RISD, a proper studio with a spatial audio array. The main feature of the space is that it houses a Genelec 25.4 channel sound system in a hemispherical dome configuration. It’s an acoustically optimized room, with the array being about 20 feet wide and 14 feet high. An interesting part of the design challenge is we are located just steps away from the Kennedy Plaza bus terminal in Providence. In order to achieve a suitable acoustical environment in the space, we worked with the acoustics consulting firm Acentech, who did an excellent job with the acoustic isolation. We don’t experience any interference from



” IT’S CERTAINLY THE AUDIO QUALITY OF THE SPEAKERS, BUT IT’S ALSO THAT THEY CAN BE INSTALLED IN SO MANY DIFFERENT WAYS.

the outside. So even though buses go by this room all day, you would never know it!”

The space itself is divided between an Ambisonic speaker array, which are the Genelec speakers, and another side of the room, which is a flexible seminar area. Greenlee notes that once the studio was off the ground, things really ramped up in terms of student interest in the sound courses RISD started to offer. “One of the things that I’ve been particularly excited about as an educator is seeing students who are fairly new to working with sound as a medium and then having them come into the courses and begin right away with spatial audio and multichannel sound systems. Whereas my trajectory was starting with stereo, and then working my way up to higher possibilities like surround with more speakers, students are now coming in and immediately thinking

about audio in a three-dimensional way in terms of composition. They’re able to place sounds in X, Y and Z coordinates and have them move around the space, while thinking about simulation of environmental sound and so forth. It’s a game-changer.”

Unlike some schools that hold courses that are one hour long a few days a week, RISD’s curriculum is structured differently. “A really exciting thing for the students, I think, is that each course session lasts for a good portion of an entire day,” Greenlee states. “Our courses are pretty long, which is important. They run five hours for the studio courses that we hold in the space. For example, currently our ‘Spatial Audio’ course is held Mondays from 1 to 6pm. There is a lot of time in the space working with faculty. And students can also book the space outside of class, so they can work on their projects independently.”



” GENELEC IS A KEY PART OF THAT LISTENING, LEARNING, AND RESEARCH EXPERIENCE.

When asked why he chose Genelecs for the Spatial Audio Studio, he remarks, “I did my Ph.D. in computer music at Brown University, which is next door to RISD. During those years and after, as I went to various conferences, I would see Genelec speakers at a lot of the venues that I would perform in, especially if multichannel speaker arrays were installed. I think there’s a number of reasons for that. It’s certainly the audio quality of the Genelec speakers, but it’s also that they can be installed in so many different ways. They’re built very robustly and are flexible for mounting. When you want to create a dome of speakers, Genelec is an excellent choice. Regarding the audio quality, they have a very flat response and offer an honest rendering, which is a real asset for focussed and careful listening. They have a ‘neutral-ness’ about them, and they give you exceptional fidelity to what’s in the source audio. But, I also rely on Genelec speakers for their adaptability for,

let’s say, ‘non-standard installations,’ which now are becoming more common. It’s that flexibility that we really appreciate. And so, when it came time to decide on what we would use, Genelec was really my first choice.”

Looking toward the future, Greenlee shares, “I think one thing that we’re really excited about, and what this studio is helping us do, is to create a strong community around sound and music at the school. We have students that are really eager to focus their studies on sonic arts and sound design. And collaborating with other faculty and staff members like Research Fellow Alex Chechile, who develops work from his psychoacoustics studies involving the biomechanics of hearing, our course offerings are only going to expand. Genelec is a key part of that listening, learning, and research experience.”



THE KIT

- 25 x 8050B
- 4 x HTS4B

