





Lewis Sound & Video Professionals create perfect sound through art and science

by Greg Lynch

hink back on high school physics and you'll probably remember that sound is a physical thing, a wave of vibrations traveling through the air. Your ears pick up those vibrations and your brain perceives them as information.

Most of us don't pay very much attention to how sound works or the underlying physics that create a remarkable, memorable listening experience. But for Susan Lewis, her son Nathan and the crew at *Lewis Sound & Video Professionals* in Waukesha, Wisconsin, sound is a way of life. They specialize in the design and installation of audio

and video systems, from the projectors and displays at the Harley-Davidson headquarters in Milwaukee to the audio systems at the new University of Wisconsin performing arts center. It's challenging work that requires a range of skills from electrical and acoustical engineering to software programming to team management.

"There's something called intelligible sound," says Susan, who is CEO of the company. "Sound obeys the laws of physics, and there is a lot of math that comes into play when designing systems that generate crystal clear sound. With years of experience, small, simple rooms are

intuitive to design; however, larger, complex rooms require the use of a 3D acoustical modeling software called EASE to predict how the sound waves will react in their environment. This program allows us to verify speaker locations and coverage patterns during the design phase so that by the time construction begins, everything is in the correct place. Done well, you end up with a unified sound wave front that hits the listener's ear all at once. That's intelligible sound."

LEARNING THE NOTES

Lewis Sound was started more than 30 years ago and incorporated in 1989. In the beginning, the company focused only on audio, because, as Susan explains, at the time, audio and video were considered two separate entities.

"We cut our teeth on sound," she says. "Video was added into the mix in the 1990s. As technologies change and become more interdependent, Lewis Sound continues to change and add more services.

"Everybody in the AV industry can see it; we're becoming intertwined with high-speed networking and even lighting control," Nathan says. "I don't know if we'll converge all those technologies under one roof, but I wouldn't be shocked if in 15 to 20 years we're all doing one standard across the industry."

The second oldest of Susan's four sons—all Eagle Scouts—Nathan is the only one who works at the family business. Although all of them worked there during their high school years, she discouraged her boys from joining the family business, as

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Susan Lewis, CEO, Lewis Sound & Video Professionals

she wanted them to seek their own adventures and didn't want any of them to feel obligated. For Nathan, however, it wasn't an obligation; it was a calling.

Nathan has the perfect background for this career. Like other audio engineers, he has had a lifelong interest in music; he played the piano and cello in elementary school, trombone in high school, and more recently, guitar. Like others who work in technology, he's set up computers and computer networks since he was 12. He also has an intuitive knowledge of mathematics and a degree in mechanical engineering from the Milwaukee School of Engineering. Currently, he's catching up on his

AV industry certifications while employed as a systems engineer for Lewis Sound.

MAJOR AND MINOR

Over the past 30 years, Lewis Sound has created a reputation in the region for quality and professional service. The company has served clients in sectors including education, hospitality, sports, restaurants, worship and more. Some of their recent projects include work for Great-West Financial; University of Wisconsin-Madison; Concordia University, St Paul; MillerCoors, Hyatt Regency and state and local governments.

"We can do projects of all sizes," Nathan adds. "We do some as small



The Lewis Sound & Video Professionals team reviews plans for a project. Pictured here, from left to right: Nathan Lewis, systems engineer; Susan Lewis, CEO; and Rob Rack, design engineer and programmer.



as \$2,000 all the way up to projects of \$1.2 million. There's a lot of variety in what we do and what people need."

"We don't specialize in specific clientele," Susan says. "We find people to help and then help them—big and small. That's what we do. Any kind of commercial AV, from churches to universities to restaurants. Wherever there's commercial AV need, we serve that market. We've done work all over the U.S., but we try to stay local. We're a Midwest company, and

we only go outside the region if an existing client has offices outside the area and wants us to do work for them in other locations—like a project we're working on in Palm Springs, California. But we don't actively pursue those projects."

Lewis Sound doesn't need to pursue projects. The company employs no dedicated sales staff; most of its work comes from referrals and projects it has been asked to design or bid on.

"There's not necessarily a lot of repeat business in this industry," Susan says. "Once someone installs an AV system, it tends to serve them for a long time. But our reputation spreads by word-of-mouth. And many of our clients have been with us for 30 years now. When they call in for service, we know exactly what their systems entail and often have the ability to help them over the phone. It seems like once they come on board, they stick with us."

CHANGING TEMPO

When Nathan joined Lewis Sound as a full-time employee in 2016, he brought in new technology for the company itself. This included providing Microsoft Surface tablets for the installation technicians, so they could view 3D building plans or update the programming for a control system or audio processor while at a client site. In an industry like this, however, technology can change overnight, and what was cutting edge yesterday may be obsolete tomorrow.

"Probably the most difficult part of the industry is the technology changes so quickly," Nathan says. "The most difficult thing we have to deal with is tech improvement between design and install. Then it becomes changing things to accommodate the new technology. We might design a project using one technology, and by the time we're actually working on the project, the technology has changed. Then it becomes a question of meeting the owner's needs with the new technology, what they want with the system they want and what we have. It can be difficult to explain to the owners why things are changing and what



they're changing to—and explaining the reason for the change to the owners. We're working on a project now at a local college, and a third of the equipment called for in the original design has been discontinued. Some of the replacements are effectively the same, but some of them are out of date and no longer available."

Susan is understandably proud of the legacy of excellence Lewis Sound enjoys in the region and the industry. Whether employees or clients, Lewis Sound has formed strong bonds, treating both like family and minimizing any attrition in the ranks of either over the years. Susan established a tradition of spending the time and energy to go the extra step from the first days of the company, creating user-friendly intelligible systems for their customers, and that tradition continues today.

"Our most important job at Lewis Sound," Nathan says, "is to take our decades of collective experience, education, all the science and art of today's technology and apply these to something that's so simple it turns out to be extremely hard: asking, listening, probing until we understand what our customers really want and need."

Greg Lynch is a mystery. With a background in journalism and private investigations, his first novel, "Plain Brown Wrapper," was published in 2016.



Lewis Sound & Video Professionals installed audio systems in the ice arena, fitness center and basketball and volleyball gym at the 210,000-square-foot Kern Center at the Milwaukee School of Engineering.



Lewis Sound & Video Professionals has been maintaining and upgrading the audio system in this U.S. District Court in Milwaukee for 25 years.