

LIVE SOUND

I N T E R N A T I O N A L

A circular logo with a yellow background and a black border. Inside, the number '31' is written in a large, bold, black font. Below the '1', the word 'years' is written in a smaller, black font. A white waveform graphic is visible at the bottom of the circle.

INSIDE

HYBRID MONITOR MIXING

Approaches when using in-ear monitors and wedges together.

A DEEP DIVE INTO POWER DISTRIBUTION FOR AUDIO SYSTEMS

HIGHER GROUND: ZEN & THE SUBTLE ART OF GIVING A DARN

HOW TO UTILIZE VLANS TO BUILD SYSTEM NETWORKS



ENHANCING THE GOOD TIMES

A controlled sonic approach at the Goodtime Hotel in Miami Beach.

by Kevin Young

When the Goodtime Hotel in Miami Beach opened in mid-2021, the plan was to use its expansive rooftop pool deck to host DJs like Steve Aoki and Marshmello. Unfortunately, shortly after the festivities began, it looked like the hotel's partners, hospitality mogul David Grutman and rapper/entrepreneur Pharrell Williams, would have to forego their plans due to multiple noise violations and complaints from their residential neighbors.

After wrangling with the Miami Planning Board, Goodtime was given two months to solve the issue by lowering the level by 40 dB from the street. Consequently, the company behind the hotel, Groot Hospitality, engaged acoustician David Kotch, President of Criterion Acoustics, and Angelo Poulos, CEO of Anthem SSL Productions, to provide an answer.

A key to the revised approach were 1 SOUND loudspeakers, which were created by founder/designer Lou Mannarino to address situations just like those facing the hotel in delivering sufficient coverage but with enough cancellation and steerable qualities to meet the city's guidelines. The first step was to illustrate how the system would do that, Kotch explains. "I worked with Angelo and Lou and provided an acoustical model. 1 SOUND's products were critical based on their directionality, but the second part was constructing a noise



A perspective of the rooftop pool deck area at the Goodtime Hotel in Miami Beach.

barrier. Then, the third part was building something like a trailer for the DJ that was fairly isolated."

Asked to assemble a team who had worked together previously, Poulos tapped Criterion and 1 SOUND on the project. "They wanted people who had worked together on numerous projects before," he explains. "I have a great relationship with 1 SOUND, we do a ton of their installs, and I do a ton of work with David Kotch and knew he was very well-versed in issues like this."

FACING THE CHALLENGE

The loss of that permit was no minor issue. The pool deck (part of the hotel's 30,000-square-foot Strawberry Moon restaurant) is a critical economic component of the project. As Goodtime's attorney, Michael Larkin, states, "If (the hotel) is not able to have outdoor entertainment on our pool deck, it will cause our hotel to shut down."

With a September 2021 deadline looming, the hotel did everything possible to minimize the noise in the interim, hoping

the team they hired would adequately address the issue. When speaking with Mannarino about the project, I suggested that it sounds like the core problem was too much of a good time, to which he laughed and then explained that after Poulos contacted him and asked about the feasibility of using his products to mitigate the problem, he got straight to work, visiting the hotel and beginning work with Kotch and Criterion. "The goal was two-fold," he says. "One, change the audio system to make a palatable amount of cancellation for nearby residents. Two, get approval to build a wall to ensure even more isolation. So, we presented a design using our products that provided an additional 20 dB of cancellation."

"It performed to the specs and then some," Poulos notes, adding that (at the time of our interview) the wall had yet to be completed but soon would be. "But already, it's doing what it needs to. With the wall, it should be phenomenal."

All the elements were critical to the result, Kotch explains. "They work in conjunction, so the system and the wall



Left to right, acoustician David Kotch, Anthem CEO Angelo Poulos, and 1 SOUND founder/designer Lou Mannarino.

needed to be engineered simultaneously.” Built by IAC Acoustics, the wall will surround the entire pool deck, providing “a noise barrier wall similar to what we’d use for rooftop air handlers in NYC.” The remaining piece of the puzzle is an isolated DJ booth that allows performers to turn their monitors up to full show volume. Both the wall and booth utilize the same panelized, modular system. There are no other treatments.

“Everyone who came onto the pool deck after we got approval – just to try it – was shocked at how well it worked,” Mannarino notes, adding that even without the wall, “There were no complaints. We’ve given them 65 dB on the street, which is basically (as loud) as street traffic. There’s that much cancellation, and the wall will provide an additional 10 dB of isolation, which would make it inaudible.”

Founding 1 SOUND and creating its line of products, he explains, was predicated on the immersive audio system he designed for the New York Philharmonic’s presentation of several *Star Wars* films at Lincoln Center in 2017: “The rationale was to make a front fill which could achieve an immersive quality but not alter the sound or produce artifacts. I worked with Mario Di Cola’s engineering team from Italy for two years and came up with this technology. Initially, we were going to have one speaker because I just needed a tool.” Hence the name 1 SOUND, he adds; inevitably, however, he felt additional tools were necessary and set about creating them.

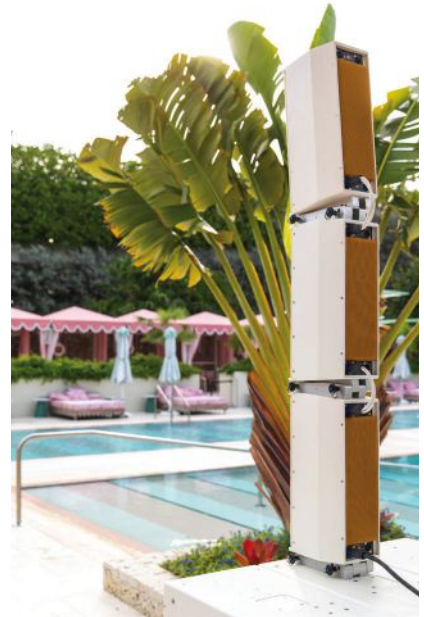
“I would normally give these ideas to other brands but I was discouraged that fewer companies build in the U.S. now.”

Manufacturing domestically allows the company to be more responsive in meeting the needs of people like himself. “You call a company that makes things here, and they can make any changes needed quickly,” he says, recalling manufacturers in the U.S. who would hand-deliver a microphone for his NY Philharmonic gig at times.

As for the central idea behind the products, he explains, “A lot of companies make great loudspeakers. They all sound great. I’m not sure I could improve on that. Instead, the idea was to make better tools. That’s the mission statement of the company.”

Those tools offered capabilities the previous system deployed on the Goodtime pool deck couldn’t. “Basically, the wrong speakers were positioned in the wrong locations,” Poulos explains, “and caused way too many issues for them to achieve what they wanted to. The sound was bouncing around, going two blocks away, and the bass was all over the place. They literally turned the subs off a couple of weeks after opening because they were getting so many complaints. I knew we could improve this dramatically with the correct speaker locations and better speaker quality, even without the (1 Sound) technology. But (without it) they’d never get to the point where they could have big parties; the technology and the wall are what allows that.”

Poulos was already well-versed in the value the loudspeakers would provide in this application. “We’ve installed 1 SOUND in about 13 other high-profile venues in the last year and a half. I



Three 1 SOUND Tower LCC44s delivering controlled full-range coverage.

knew what the system could do, what the owner/operator was looking to achieve with sound quality and the DJs they book, so I knew we could definitely hit a home run.”

USEFUL TOOLS

The main DJ booth is equipped with three Tower LCC44s, each containing three rear-facing 4-inch full-range drivers that can provide 20 dB of rear cancellation for the top left and right. Below those are a trio of CSUB610s, deployed in full cardioid mode next to each other to provide natural coupling and directed full low end.

The same components are the primary elements for the main system. Mannarino notes that the subs allow for the adjustment of the amount of cancellation, explaining that for some applications, complete cancellation isn’t necessary. “But as a designer for the Met Museum and other places, I need it. It’s a useful tool. We developed the drivers in collaboration with a driver manufacturer, but the whole thing was designed in my lab from the ground up.” Outside of that, every part of the loudspeakers are manufactured at the company’s New Jersey facility, even the screws.

Additional Towers are deployed throughout the space, along with SUB310s and CSUB610s (in omni mode). “The 310s were used not to provide more level overall but to preserve delay,” he explains. “If there’s a large separation between speakers, people tend to want to make them louder to fill in the spots in the middle. The idea was, where there was a separation problem, we placed a 310 subwoofer to make the overall sound more articulate, which actually decreased SPL because they didn’t have to make the other speakers louder to compensate.”

Controlled coverage again won out over higher SPL in the main bar area, with Cannon C4 coaxial loudspeakers placed on pendants eight feet below the ceiling, with the final piece of the puzzle – delivering sound to the high-priced VIP cabanas on the pool deck – handled by Panorama MS34 loudspeakers deployed in ‘mono+stereo’ mode. Mannarino explains that the goal is to provide true stereo in the cabanas from one source via proprietary technology that is designed to preserve true mono in its field and surround listeners with a left and right stereo image.

“It’s a technology I developed because of the *Star Wars* shows,” he adds, referencing a response to his question about how the sound for the films sounded in areas of Lincoln Center where the immersive nature of the overall system was diminished. “They said, ‘I heard it out of a little speaker in front of me. That’s how it sounded.’ And I thought, ‘Wow, that’s about a third of the crowd. What are we going to do about that? I decided to reverse engineer how stereo is created. So you’re hearing a dedicated mono surrounded by stereo that provides an immersive feel but is still exactly what the original recordings are.”

“In the cabanas,” he continues, “there was no noise pollution problem. It’s stable throughout the whole area, so people hear more clearly with less level. If there’s less distortion, less level, and more separation, the brain is okay with it. And it worked. Again, that wasn’t for cancellation. It was because it’s cool and sounds great.”



Above, Cannon coaxial loudspeakers suspended above the bar, while below, the Tower LCC44 loudspeakers atop CSU610 subwoofers blend in very well with their surroundings.



Poulos states, “I don’t think there’s another product like that out there right now. I’m sure they’re coming but getting that from one box is amazing. You walk into a cabana and it sounds like someone’s singing right in front of you. Usually, the first place that companies cut costs, for some reason, are the cabanas, but the highest-grossing revenue is from those areas. So, you want to have great sound quality. A lot of people think it’s not a big deal – only 10 people will be in that space, but they’re spending a lot of money compared to other tables in the venue.”

MAKING IT EVEN

All of the loudspeakers are driven by 35 Powersoft amplifiers, with T604s for Towers and subwoofers and T304s for the rest. “The T-Series are exceptional, predictive, stable amplifiers that I feel are bulletproof,” Mannarino says. “That’s one reason for Powersoft. The second is that their DSP allows for FIR filtering, something we’re utilizing in our DSP presets. That enabled us to create the presets required for this kind of equalization and sound.”

Providing a club-sized “adrenaline-rush” necessary for this applica-

tion without audio spilling over into the neighborhood required attention to detail in terms of placement. “That’s where the Towers and the CSUB610s became the ideal tool to work with for this design,” Poulos notes. “In any venue, they want great sound everywhere – in the corners of the room, in the middle of the dance floor. And to achieve that in an outdoor space is extremely challenging, even before considering the neighbors. So we specifically placed the loudspeakers to ensure that as you’re walking from one side of the pool to the other, the coverage is even. To achieve that, you need a good amount of speakers, placed in the perfect locations.” The need for highly directive coverage further complicated that effort, ultimately requiring the creation of custom brackets for certain elements.

“On top of all that, everything had to look good,” Poulos adds. “The client wanted to make sure the system wasn’t an eyesore, so we used white speakers with gold grills and did everything we could to make it look like a sexy speaker in a beautiful venue.”

Additionally, he says that the smaller footprint is essential in applications such as these, where the sound needs to be “big and bossy” but the visual impact must be discreet. “Our clients don’t want big speakers on the wall or line arrays in a high-end lounge/hotel. They want something small but that delivers high sound quality and output. And they don’t want acoustic tiles on the ceiling. 1 Sound’s loudspeakers give me high-end output and the control I need for rooms that aren’t acoustically treated. That’s a win/win for everyone – the designer’s happy because they’re not putting up acoustic tile, and the owners and DJs are happy because you’ve got sound quality.”

Mannarino sees the technology as having legs in other markets, including house of worship applications that place a high value on discreet placement and high directivity. “Theaters and churches are a big part of this. And clubs because of the high SPL, the abundance of high frequencies, and low distortion performance.



At left, Panorama MS34 loudspeakers deployed in mono+stereo mode deployed in one of the cabanas, while at right, a Tower LCC44 and Cannon C4 address specific coverage zones.



The party rolls on thanks in no small part to the effort of the sound team.

“It all circles back to more tools, flexibility, and quality,” he concludes. “Cancellation is one thing, but cancellation doesn’t occur equally at every frequency, so it needs to be musical. It’s not just science; it’s the way our brains perceive things. Our speakers are influenced by microphones. Why do I choose a certain mic over another? It isn’t necessarily what the mic sounds like; a lot of mics sound great. It’s about what they sound

like off-axis – what you don’t want the mic to pick up. Our loudspeakers are about that. What does it sound like from behind? From the side? I think we tend to ignore that because people are always listening from the proper (intended) position.” **LSI**

Based in Toronto, Kevin Young is a freelance music and tech writer, professional musician and composer.