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Havana Nights

By: David Barbour

Jonathan Deans brings an intricate design and new technology to *Buena Vista Social Club*



The stage was frequently dominated by a 10-person band consisting of bass, percussion, piano, brass, reeds, and guitars. As seen above, the percussion section was on a platform that could roll downstage.

Some jukebox musicals trade on a parade of well-remembered pop hits; others put an entire genre of music to dramatic purposes. The latter applies to *Buena Vista Social Club*, which opened in December to favorable reviews and an extended run at Off Broadway's Atlantic Theater Company. Inspired by the Academy Award-nominated documentary film, Marco Ramirez's book focuses on a host of Cuban musicians before and after the revolution, focusing on a pair of sisters who perform for tourists in a hotel nightclub. As Castro comes to power, one of them flees to the United States; the other, deeply drawn to the island's music, stays on, becoming a cultural icon while enduring many personal disappointments. The show is particularly acute on the issue of racism in

Cuba, a problem that was not erased by the Communist regime.

Few musicals allow its instrumentalists to occupy center stage; these days, the band is often hard to find, being hidden behind scenery or located in an adjacent room. In *Buena Vista Social Club*, however, the stage was almost always dominated by a 10-person band consisting of bass, percussion, piano, brass, reeds, and guitars. It made quite a challenge for sound designer Jonathan Deans, especially when working in the Atlantic, a converted church with less-than-ideal acoustics and stone walls that generate plenty of reflections. And, Deans adds, "It's a uniquely shaped room, wider than it is deeper."

The challenge, the designer says, involved "approaching the show with

the knowledge that this is very, very special music, beloved by so many around the world." His respect was evident in the sound design, which allowed every instrument and musical line to be heard. Working with orchestrations and arrangements by Marco Paguaia, Javier Diaz, and David Oquendo (with creative consultation from Broadway's David Yazbek), Deans achieved a sound that was highly present yet never assaultive, retaining an enviable warmth and clarity.

The process involved dealing with many practical matters. "We were in a small space," the designer notes, "and the stage was built lower than usual," to accommodate Arnulfo Maldonado's two-level set design. This decision meant "any front fill speakers we

would have normally put in weren't possible. Also, we had three percussionists seated on a platform that moved downstage until they were only several feet away from the audience in the front row."

Describing the task, Deans says, "I equated it to repairing a watch with tiny components. If you remove one thing or put a tool inside to adjust the balance of a cog, it's going to affect everything else." Also, he says, even allowing for the natural spontaneity of live theatre, when dealing with this kind of music, "it's about the interpretation at that moment in time. They weren't improvising but every performance was unique; when it came time for each musician to stand and play, which doesn't happen in theatre a lot, your mouth would just open at what was happening."

Even when the songs were at their brassiest and most uninhibited, the performers' voices sat clearly on top of the music, something that doesn't always happen in musical theatre. This was especially difficult to achieve in

the Atlantic's auditorium. "This space is pretty hard to get sound into," says Atlantic's production manager Zach Longstreet in a video by audio gear supplier PRG. "This is a converted church building and it's bricks from wall to wall and a peaked ceiling. And so it traps noise pretty specifically and makes it hard to reach especially the front rows."

Deans concurs: "When I looked at the height of the stage compared to the front row and the width of the theatre, which is 34', compared to its depth of 30', I thought, I need something to create a rectangle." In other words, without front fills, the "sound had to come from the sides. But it would feel like there was a big hole in the middle of the audience—the second, third, fourth, and fifth rows. In that space, you couldn't turn the speakers back in, because then it would feed back." The solution came in the form of the Holoplot X1 sound system, which, this year, began crossing over to high-profile live entertainment applications. (See "Achtung Las

Vegas," *LSA*, November 2023.) "I've been to many Holoplot demos and saw how it could be used to shape sound," Deans says. "I decided to use that particular speaker system for vocals, really just to carve out that space. I took care of the rest with everything else."

Therefore, Deans says, "The Holoplot system places the vocals comfortably in the middle of the room, taking care of that part of the audience in rows two through six." He adds that the product uses wave field synthesis to control the pattern hitting the audience, thus shaping the sound. "It really helped us out, keeping our pattern tight in the room, not bouncing off the walls. We were able to cater our image to the seating area and use it to have that separation, so we weren't dealing with any acoustical reflections."

Handling the music and voices in the rest of the room were Meyer Sound Ultra-X20 point source units and Ultra-X23s, for extra wide coverage. Deans says the Holoplot gear succeeded in putting the voices on top of the orchestrations, delivering the necessary intelligibility, with the Meyer gear providing additional vocal warmth.

The Holoplot team had been talking to Deans, looking for a suitable project on which to road-test the technology. "Jonathan is aware of every bit of new technology," says Reese Kirsh, segment director, performing arts and live, for Holoplot. "He'd been following Holoplot for a while and we agreed that *Buena Vista Social Club* presented a great project for X1 to significantly improve the audience experience. The powerful combination of 3D audio-beamforming and wave field synthesis allowed him to overcome the layout and ensemble challenges of this unique production; he reached out and said, 'Can you facilitate it for me?' We used only a very small system design, which is a bit exotic but really highlighted the versatility of Holoplot products. We simulated the proposed design and sent it to him, and that's



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Although the tiny system for *Buena Vista Social Club* is the opposite of the all-enveloping rig designed for U2 at the Sphere, Kirsh says the gear “was designed with modularity at heart, to be scalable. As a company, we’ve mainly delivered extremely large projects, so it was great to be able to showcase the impact of what we can do in a more intimate setup.” Noting the presence of the Meyer and d&b gear, he adds that the X1s “can play well with anything else in the speaker chain, slotting into whatever is the best creative solution for the customer.”

Interestingly, Deans also embedded a system of d&b audiotechnik E5 speakers in the stage deck. “The musicians needed to hear themselves even when standing next to the percussion. There were 18 speakers in the stage, facing up. They were in zones so when a musician walked from one place to another, we’d have the sound they needed, mixed for

them. It was the same with the singers.” Discussing the choice of E5s, he says, “I didn’t want to install any self-powered speakers because the stage would get mopped and kicked and all those things.” Also, he says, the E5’s 100° conical dispersion was felicitous for the task. “If you put them 6’ apart from each other, when you stand at 6’ high, you get a nice coverage across the stage.”

Nevertheless, it was important, he notes, to keep an eye on “who was standing where, and what they needed to hear.” Also, he says, because a lot of Cuban music involves call and response, directing the sound correctly was especially crucial. “It’s a live interaction between the musicians, both musically and vocally; you don’t know exactly who’s going to say what and when they’re going to say it. The congas might be in charge of a certain moment, but then it might go to the second guitarist, and their interpretation would reflect on everyone else. Everyone needed to hear [things like

that]. But it wasn’t possible to have in-ears as they had to stay connected to the actors and their own roles and it wasn’t possible to have a monitor mixer.”

The in-deck speaker system, Deans estimate, “was about 80% successful because of the platform that came forward and hid some of the speakers, and because of how loud I could turn it up for the musicians without destroying the audience’s enjoyment. It was very, very tricky.”

The full speaker package included three Holoplot M1 matrix arrays, four Meyer Ultra-X23s hung in proscenium positions, five Meyer UP-4s for some front fill, three Meyer 750-LFC subwoofers, and nine d&b audiotechnik E12-Ds in side orchestra and rear fill positions. In addition to the E5s built into the deck, an additional three units, placed in the theatre’s rear, functioned as surround speakers; another eight were used as stage monitors—six flown and two wall-mounted. Completing the speaker rig were eight



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Anchor Audio AN1000 self-powered units, a ButtKicker mini-transducer, and four Meyer MJF-208 stage monitors.

Another complication involved the two onstage pianos. The grand piano, Deans says, was placed next to the bass player and percussion section. “With the giant soundboard underneath [the piano], any sound that it heard would resonate; all the sound onstage got into it. We had to have pickups on the piano while still trying to make it sound like a Steinway, which it was. I had three pickups mixed down to one transmitter so we could balance middle, high, and low. The pianist who played it was just stunning, but you never knew what his solos were going to be.”

Deans used Helpinstill pickup devices, which helped to ensure that each zone on the keyboard was isolated and produced a clear sound. The piano’s mic fed to the transmitters, which were located inside or on the side of the upright piano. “We used a 240 Helpinstill model on the upright and a 280 on the grand piano.” In the pianos’ solo passages, Timothy Jarrell, the show’s mixer, would rely on the instrument’s miking. In numbers prominently featuring the pianos over the other instruments, Jarrell mixed using both the mic and Helpinstill units. In full-out numbers with the band and heavy vocals, the Helpinstill prevailed.

The actors wore DPA 4466 CORE and 4066 CORE omnidirectional headset mics with the company’s subminiature lavaliers for backup, paired with Sennheiser transmitters. The extensive instrument mic package included, on percussion, two Neumann KM 184s, three Shure SM57s, five Shure SM58s, two AKG 747s, and six Audix D2s. DPA 4099s were deployed on saxophone, clarinet, trumpet, pianos, and bass.

Control was provided by a DiGiCo SD7 Quantum console, chosen, Dean says, “because we needed to do a lot of tricks, a lot of grouping, and a lot of bussing, because of everything we’ve mentioned.” Characterizing the console as a bridge between other aspects of the sound rig, such as the microphones and loudspeakers, he adds that the SD7 “helped solve a lot of problems.” Processing was provided by four Meyer Galaxy 816 units. Effects gear included TC Electronic M6000, REVERB 4000, and Icon Series units plus Waves Soundgrid Server. Plug-ins included a Mercury bundle, the Abbey Road Collection, and Waves SuperRack.

Deans also mentions the contribution of associate sound designer Mike Tracey, his frequent collaborator on shows like *Waitress* and *Jagged Little Pill*. *Buena Vista Social Club* concluded its successful run in January, but one suspects it may be heard from again. 📶