

## In the News

**5** Brown Note Productions Plans AVL Hub in Austin; Aims for National Reach

**5** Marc Lopez Joins d&b audiotechnik as VP of Marketing, Americas

**5** Fyre Media Founder Billy McFarland Sentenced to Six Years in Prison

## Parnelli Awards



**30**

## Buyers Guide

**52** Kick Mics



## 36 PRODUCTION PROFILE

# BECK

Mixing the *Colors* 2018 World Tour

COVER PHOTO BY TODD KAPLAN

**54**

## ROAD TEST

Allen & Heath SQ-7



## inside this month

**20** **Show Report**  
Product Hits of AES in NYC

**38** **Production Profile**  
Rascal Flatts *Back to Us* Tour

**44** **Installations**  
Inside Nine New Theater Projects

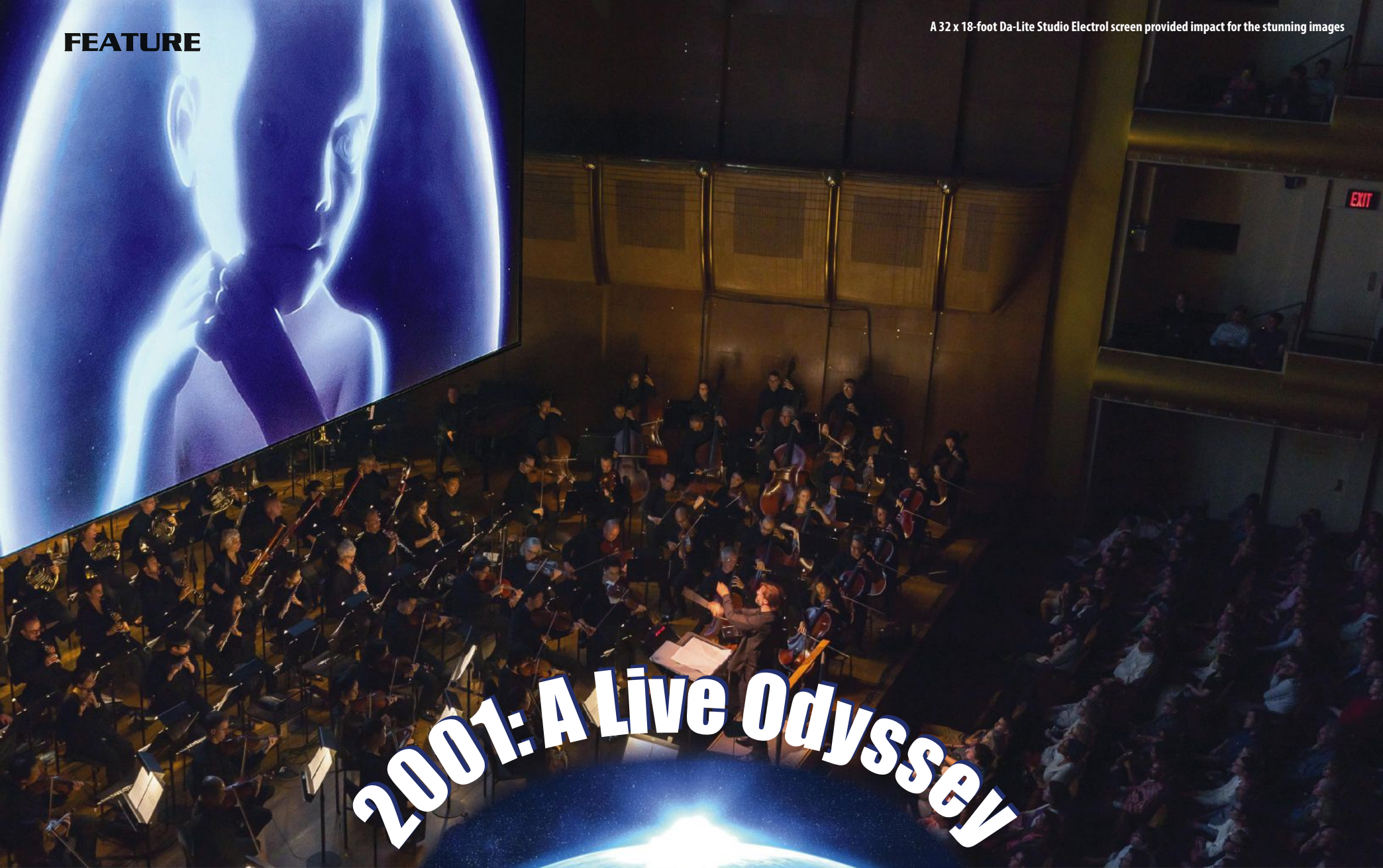
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# 2001: A Live Odyssey

## A Half-Century Later, A Sci-Fi Masterpiece Returns to the Big Screen with Live Chorus and Orchestra

By Bryan Reesman

For many devoted followers, watching Stanley Kubrick's sci-fi masterpiece *2001: A Space Odyssey* on the big screen with a superior sound system is akin to a religious experience. When I saw it this past spring on the big screen in commemoration of its 50th anniversary, I was awed by how great it looked and sounded after all these years, even with famed director Christopher Nolan overseeing the "restoration" of new prints that actually were not upgraded on HD or sonically remastered. Rather, the audience experienced the film exactly as people did back in 1968, reel change cues included.

Witnessing this film at the David Geffen Hall at Lincoln Center on a 32-by-18-foot roll-down Da-Lite Studio Electrol screen — accompanied by André de Ridder conducting the New York Philharmonic and Musica Sacra choir — was a sublime experience.

On Sept. 14 and 15, 2018, the film was shown to large audiences this way. The full film performance included iconic compositions such as Johann Strauss Jr.'s majestic "The Blue Danube" and Richard Strauss' stirring "Also Sprach Zarathustra" (with a full orchestra) and György Ligeti's eerie "Lux Aeterna" and beguilingly dissonant "Atmospheres" during the psychedelic "Star Gate" sequence. It was mesmerizing. Ligeti's chilling choral piece "Requiem for Soprano, Mezzo-Soprano, Two Mixed Choirs and Orchestra" sung live — the creepy female and male voices serve as the sound of the alien Monolith — sent chills up my spine.

### » Challenges Abound

Balancing the amplified sound of the film with that of the performers was not an easy feat, particularly in a 2,800-capacity venue with three slim balconies wrapping around the room. Live engineering here requires

more subtlety and finesse. Modern movie theaters tend to assault the sense with bass-heavy mixes, but for a classical presentation, more care needs to be taken.

"I have to try to create a cinema effect with a live orchestra, and that, inherently, is problematic, which is the reason why it hasn't been done for so many years," says live engineer Lou Mannarino of L&M Sound and Lights. "I have to create a landscape that has what would be typical in a 5.1 or 7.1 theater when you go see a movie, but integrate that in a concert hall. It's also with a live orchestra, so the dynamic ranges are different. I have to decide upon how and what we choose to make more obvious."

He points out that at any New York Philharmonic concert, the orchestra is always the star on their stage, so he remains reverent to that edict. "I try to never manipulate the genius of the individuals and the collective of the orchestra, and I think that's why I've been working here for 12 years," he says. "I'm a maestro myself and a score reader, so I work directly with the maestros."

Even when one is so armed with extensive musical knowledge, creating the audio landscape for such a screening has its challenges. "I have a center cluster that covers the whole room," he says. "That's really very difficult to do. New technology with *Star Wars* last year

was the first time we'd ever managed to achieve it with digital steering. Then I take some fill speakers on the tiers and the orchestra and some speakers in the front to enhance the areas that are closest to the proscenium."

### » Gear Here

Mannarino manned a DiGiCo S21 with a 96 kHz D2-Rack stage box with 12 inputs total and "many more outputs, because we have surrounds and things going on." Each film shown at Lincoln Center's "Art of The Score" series, of which this was a part, is different. The orchestra needed 93 members for *2001*, and 32 members of the Musica Sacra choir were enlisted.

For the P.A. at any screening, Mannarino uses a combination of K-array Anakonada KAN200 flexible array element speakers with d&b units from K&M's inventory. "I chose K-array Concert Series because it's the only system that's bendable and digitally steerable, so that's how I can achieve the first row to the top," explains the engineer. "I can bend the banana and I can actually steer it as a single wavefront, so if you take a meter reading throughout the three tiers, we're getting really the closest that I've gotten here. And with d&b, I love the cardioid subs that match the profile of the cardioid behavior of the K-array."

There are seven boxes in each cluster (left, center, right) comprised of 21 K-array Concert Series units. The two subs in the center are d&b and the front fills in the boxes are d&b. The goal is to create a more natural sound that becomes a part of what the orchestra does. Close to 100 different microphones were used to capture the sound.

The sound effects are split between left and right, but the problem becomes the fact that people on the stage right will hear the effects there more than the other, and vice versa. Thus, Mannarino takes the signal from one side but puts a delay on it for the other.

"So then a person sitting in that seat hears what they consider to be a surround effect, but I'm tricking the brain," he elaborates. "I often do a script — for *Star Wars* it was maybe 60 pages of actual different landscapes of what I was thinking and how it evolved over two to three months. It was great. I did 7.1 times three levels and that was big. *2001* is 5.1, and we're doing it not per three levels necessarily. We're just doing it as a whole for this one because it's a little simpler in terms of its content. Whereas *Star Wars* had the content of the effects and things moving in and out, of things ping-ponging, there was a lot more in the content. For *2001*, the content is more in the orchestra and the choir. Audio works with the maestro and with the artistic team to decide on how we're going to create that landscape."

### » Details, Details

Each conductor works off of a time code display located on his stand. Sometimes the orchestra has a part that also overlaps with a sound effect. Then Mannarino has to make a determination of how to deal with that. "For Disney [films], I always get 32 stems or something a little more elaborate, so then I can edit on the spot," he remarks. "They trust me



Live engineer Lou Mannarino



Maestro André de Ridder conducted the 93-piece orchestra and 32-voice choir.

to do that, and then they print what I do and generally send that on tour. This always seems to be the tryout house. We've had great success with the film series here. It's complicated, because people are used to being intimate in their living room, but the orchestra is big and bold. To have a film where somebody's talking over that is not simple. That's where the creativity comes in. What's going to be our overall dynamic range? How are we going to achieve it with respect to preserving the content? But having the audience survive and feel the experience? So that's a blend, a balance."

Mannarino achieves that equilibrium in collaboration with Larry Rock, who serves as audio director for the Philharmonic and is a Grammy Award-winning engineer (and whom Mannarino praises as his mentor and "the greatest audio engineer alive.")

#### » Translating to P.A. — and Record Capture

Rock also records each performance in a separate studio located above David Geffen Hall. Part of his goal is "to idealize the sound of the orchestra in the room," Rock explains. He has to work around any acoustic issues and peculiarities, which as he points out, any concert hall has. Microphones will never truly capture the sound in the room, but he wants his recordings to "give the impression that you are in the greatest hall in the world that doesn't really exist." He also does the live sound mixing for the orchestra when they play outdoors.

Rock and Mannarino collaborate on creating the landscape, which will be captured in the hall and in recording. Rock says that everything they do with this film series dovetails with the live sound, and that is part of the challenge acoustically because the concert hall was not designed for any kind of amplified sound. He notes a big irony — the position that is the most obvious for rigging speakers is "arguably in the live-est part of the hall, which is not something one would choose to do ordinarily for sound reinforcement," he says. "So it creates a lot of challenges in the quantity [and] the quality." He adds that Mannarino has worked hard on building subtlety into the system while also anticipating the difference in the sound with and without an audience present.

"In rehearsal, you do all this setup with the EQ to try to make it sound right," says Rock, "but you always have to keep in mind the resonant frequency shifts. You have to anticipate what the difference is, because you can tear your hair out trying to make it just right in rehearsal, and then the performance comes and it's very different. That's the kind of thing that you're not going to run into in a big arena so much."

In this landscape, Mannarino points out, the sound is different in every seat. The P.A. might cover the room equally, but the orchestra might not. The percussion might be more resonant in one seat than another. "Or, if the orchestra is softer in that seat and the audio system is equal throughout, then the mix is



A DiGiCo S21 proved just right, with power and flexibility in a small footprint

not going to be accurate when you're working with what's live versus what's not," says Mannarino. "I think it's this combination of the two things, and that's what makes it the most difficult for what we do here." They also strive to make sure that the audience is truly hearing the New York Philharmonic rather than a reinforced sound experience.

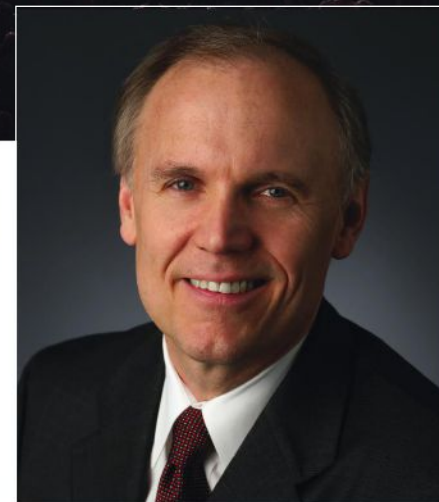
#### » Mic Selection

The duo utilizes a combination of Schoeps, Neumann, DPA and Sennheiser mics. "They're all small-diaphragm, phantom-powered," says Rock. "Tube mics just aren't practical for suspending from the ceiling." He notes that the Schoeps mics "are particularly good for strings in that they're generally designed with less high-end rise. But for close-up miking, in particular, which I'm doing for this particular production, there's kind of a warmth about them. They never get edgy."

For woodwinds and percussion, Rock prefers the Neumann KM184, which he says are workhorses. "The preamp is the cleanest one out there and it's just a very clear sound," he says. "You can use a number of them, and you don't get a build up of muddiness. I also use Sennheiser MKH-800s, which are multi-pattern mics, in a variety of ways that — given particular repertoire requirements — come in handy."

#### » Amplify or Natural: That is the Question

The choir for 2001 performed without amplification. Having them split left and



New York Philharmonic audio director Larry Rock collaborated with Mannarino on the sonic side of the project.

right between the first balconies and near the stage allowed their sound to feel like more of a natural stereo effect, and their voices resonated throughout the hall. "A few years ago, we had the choir to the left, to the right, and in the tiers," recalls Mannarino. "We didn't amplify them. We helped make the choir feel more immersive and more intimate by putting surrounds in the rears. The quote in *The New York Times* was, 'It always felt like I was sitting with them.' It wasn't amplifying that, it was creating them to be perceived individually from a seat that was unusual."

When the Philharmonic performed *Ama-deus* live last year, Rock recalls that there was some discussion about amplifying the Mozart score a bit more in that space. "We're trying to fill a large concert hall with dialog and all that, but it's still Mozart," says Rock. "We really don't want to amplify it, and it makes it tricky to control the dialog and effects when you're not amplifying the orchestra. That's all part of the challenge of doing this sort of thing. But I can tell you that however you slice it, to present films like this with the Philharmonic playing the score is thrilling. It brings in another audience that are film buffs, and at the same time, you appreciate what you get by having a major symphony orchestra playing it live. It's not a scoring stage. It's not all done in studio conditions. It's a great thrill." **FoH**

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