**The Backstreet Boys Make History as the First Pop Act to Perform at The Sphere, with Five Thunder | Core-Driven Digital Audio Denmark Core 256 Interfaces**

*With 848 I/O, unmatched format compatibility, best-in-class latency performance and sample rates of 384 kHz, the Digital Audio Denmark Core 256 is a tiny powerhouse*

**Las Vegas, Nevada, September 2, 2025 — The Backstreet Boys recently made history as the first pop act to perform at the Sphere in Las Vegas, where their summer-long residency at the fully immersive venue celebrates the 25th anniversary of the release of the band’s Millennium album. To interface with the Sphere’s unique 360-degree sound system, front-of-house mixer James McCullagh and playback engineer Tim Rose have integrated a total of five Thunder | Core-driven Digital Audio Denmark (DAD) Core 256 interfaces into their setups to handle playback and recording and to host plug-ins.**

“This is a complicated setup and a complicated show at one of the most sophisticated venues in the world,” says McCullagh, who has been holding down the FOH mix position with the Backstreet Boys since early 2013. “I'm using two Core 256s primarily to run plug-ins and to record. I needed a really small box with high quality, high channel-count audio that could handle multiple different formats with the lowest possible latency.” Core 256 offers 848 I/O, supports Thunderbolt, Dante, MADI, ADAT TosLink and DADlink and sample rates up to 384 kHz with a latency of just seven audio samples.

**The heartbeat of the show**

Rose has a triple-redundant system of three Core 256s in his rack configured for playback — the five singers are performing without musicians on these Sphere dates — of about 400 tracks in Ableton bused down to 105 audio outputs. The playback setup is hosted on several maxed-out Apple Mac mini M4 Pro computers. “They keep reminding me in my camp that I'm the heartbeat of the show,” says Rose, who was a fulltime musician for nearly15 years before becoming a guitar tech then a keyboard tech. “Playback always appealed to me. A lot of people just don't want to do it because it's a high-pressure seat, but I've been enjoying the challenge.”

Elaborating on his system at the SSL Live mixing console he’s using at FOH, McCullagh explains, “I'm using one of my DAD Core 256s to multitrack the show. That's 160 channels and comes in over Dante and then goes to Reaper for recording. I wanted to use a lot of reverbs and I've got 16 CPU-intensive Bricasti emulations running. Those are on the second Core 256; that basically does all the heavy lifting. I'm running those on a Mac mini M4 Pro with Gig Performer software, and it works very well.”

**DAD Control | Pack upgrade**  
Rose and McCullagh are among the first to use DAD’s new Control | Pack upgrade, which supports channel-based redundancy for playback systems and live processing with manual or logic-based switching and show control. “I use the Control | Pack AE 6 tone generation,” reports Rose, to notify him if there is a failure. He is also taking a tone out of DADman, “The AE 6 is just a warning light but the tone generator within DADman will automatically failover the 128-channel Dante bucket,” the term DAD uses to describe a set of routed I/O sources and destinations, up to a total of 256 per bucket.

“The playback system is redundant, and obviously that's where the Core 256 excels,” says McCullagh, who encouraged Rose to adopt the DAD components. “We chose it because it can failover using the Control | Pack, the channel count, and because it has MADI and Dante. But what's key about the product is that the quality is so damn good.”

**Recreating the iconic, big sound of the 1990's with DAD**

For years, McCullagh has used compression and EQ to help recreate the iconic, big sound of the 1990s when mixing the Backstreet Boys live in stereo. But for the band’s "Into the Millennium" residency at the Sphere, he had to rethink his approach, since the venue’s 167,000 speaker drivers, amplifiers and processing channels, configured as dozens of speaker clusters throughout the domed venue and behind the stage, presented new, immersive possibilities.

For the residency, Backstreet Boys are using a pre-recorded band produced by McCullagh and Keith Harris, the musical director and drummer. “We wanted it to sound like a real band. We didn't want it EQ, compressed or edited,” McCullagh says. “We were very cognizant of the multiple speaker arrays in the Sphere, and the fact that all the speaker arrays are basically distributing audio to all parts equally yet at the same time. You can't put the same sound source in multiple speakers, because it will phase, so if we want a big sound, we need a big channel count.”

That approach meant that, for example, a single guitar channel from a musician on stage would be separated into, say, separate clean, dirty and lead guitar tracks on the pre-records. “The concept of how we broke it up was as if there was a real band playing,” he elaborates. Every drum mic — kick in, kick out, snare top, snare bottom, and so on — is on a separate track, and the electronic drum kit and Roland SPD sample pad lines are also broken out. “So we can have percussion going to different parts of the Sphere.”

However, he continues, “It turned out that it wasn't as easy to pan things because of the great distance and the timing offset. So, 80% or 90% of the mix is in the center, then I ended up using reverbs. And that brings me to why I needed another DAD Core 256.”

Previously, McCullagh notes, he would have used onboard reverbs and maybe three hardware Bricasti reverbs. But on this show, he says, he wanted to be able to use as many plug-ins as he wished, without worrying about channel count, latency or audio quality. In all, he’s currently using 16 Seventh Heaven Bricasti emulation plug-in hosted on the Core 256: “And the CPU is only at 1%.” What’s more, he points out, being able to host so many emulations has saved the show production the potential cost of the equivalent hardware devices.

For more information on the DAD Core 256, please visit [https://digitalaudio.dk/core-256/.](https://digitalaudio.dk/core-256/)

**About Digital Audio Denmark**

DAD - Digital Audio Denmark (www.digitalaudio.dk), a brand owned by NTP Technology, is renowned worldwide for analog-to-digital and digital-to-analog audio converters delivering outstanding sonic performance. Based in Copenhagen, NTP is part of the Dan Technologies Group, one of Europe's leading suppliers of audio, video, transmission products and digital media solutions.

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