



**Show Producer:** Jayson Raitt, Quantum Creative Studios  
**Creative & Show Director:** Kelly Easterling, Quantum Creative Studios  
**Lighting Design:** Jesse Cogswell, Quantum Creative Studios  
**Snowflake Design:** Jeff DuVilla, Adirondack Studios  
**Technical Director:** Jeff Collier  
**Snowflake Fabrication:** Adirondack Studios  
**Music Arranger:** David Caldwell



**QUANTUM**  
CREATIVE STUDIOS



Quantum Creative Studios was commissioned by Mall of America to create a suspended Snowflake art installation/show experience in the Mall's new North Atrium during the holiday season. Dubbed the [Enchanted Snowflake Experience](#), these twelve giant snowflakes combined festive holiday spirit with incredibly artistic and elegant design.

Every 30 minutes, the majestic hanging snowflakes displayed a magical show, programmed to contemporary holiday classic songs. Quantum worked closely with [Adirondack Studios](#) to design three snowflake styles with different skins, creating a uniform look across the Atrium. Quantum requested [City Theatrical](#) to build custom power supplies, LED drivers, and DMX control to the snowflakes' bright LED center core as well as LED spots in each of the snowflake arms. This allowed each snowflake to light up, change colors, and sparkle in synchronization to wonderful holiday music. City Theatrical spoke with Producer at Quantum Creative Studios, Jayson Raitt. Jayson went through the process of working with City Theatrical's custom team to create the LED drivers.

**CTI: What is the design of this project, how did the idea come about to create the lighting snowflakes?**

**Jayson:** After undergoing a recent expansion and with the development of a beautiful new atrium entrance, the management at Mall of America in Bloomington, Minnesota turned to Quantum Creative Studios to help design and produce an elegant (yet festive) holiday installation for the space – twelve unique, giant mirrored and illuminated Snowflakes suspended in midair.

(continued) Quantum's creative team collaborated with the staff at Mall of America and Adirondack Studios to refine an overall look inspired by the interior design of the atrium. Ultimately, the creative team landed on three snowflake designs that were unique, but also felt collectively part of the overall aesthetic of the installation. Twelve snowflakes were created ranging in size from 5 foot wide to 11 foot wide, and then each snowflake was carefully rigged to hang at varying elevations in the atrium, filling the airspace over the heads of mall guests. The snowflakes were viewed from each of the four levels of the mall and from all sides.

Each snowflake featured a color-changing LED panel in the center as well as color-changing Gantom light fixtures in the tips of each arm. This allowed for each snowflake to be programmed dynamically as part of a larger show. Quantum produced and designed "The Enchanted Snowflake Experience" - six different shows that played in rotation in the atrium. The LED panel and arms of each snowflake were programmed and synchronized to holiday songs creating a spectacular dancing light and music display.



Photos provided by Quantum Creative Studios

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**CTI: Is this the first time requesting custom from City Theatrical? Have you used any of our gear in the past and if so any particular project?**

**Jayson:** Yes this is our first time commissioning custom units from City Theatrical Inc.

**CTI: How did the project come about? What was the need for custom dimmers?**

**Jayson:** One of the creative objectives of this design was to achieve as “clean” a visual as possible. We wanted the snowflakes to appear as though they were floating in space. This meant that we had to hide all the cables and ensure that there was no visible production equipment. Given that the ceiling above the snowflake installation was an actual glass skylight, hiding the drivers and power supplies for the LED panels and Gantom fixtures meant that they had to fit within the tight space inside each snowflake. This allowed for the electricians to simply bring a small power and data wire to each snowflake.

**CTI: Did the custom dimmers resolve a problem that was encountered during installation?**

**Jayson:** While the custom dimmers worked as planned during the installation, they certainly solved some major design and functionality problems in the design and development process. The atrium ceiling at the Mall of America is very high and meant that we could not place the drivers on the ceiling. The distance from the ceiling to many of the snowflakes was simply too far for a low voltage cable to carry the voltage; our system simply wouldn't work. We figured out pretty quickly that we had to put the drivers inside the snowflakes themselves. Having the ability to collaborate with the CTI team and create a custom driver and power supply to fit perfectly within the structure of each snowflake was a critical turning point in the success of our show.

**CTI: Was there any design restrictions that needed to be met?**

**Jayson:** The internal structure of the snowflakes was top priority to ensure the structural integrity and rigging capacity of the snowflakes. So we needed to find a solution that would fit within those very specific guidelines. We needed small form with big function.

**CTI: How was the process of going through custom and working with our customer service?**

**Jayson:** We could not have accomplished this project without the staff at CTI. Our needs were very specific and the team at CTI nailed it.



The Talented (L) Producer Jayson Raitt and Creative Director Kelly Easterling

Photo provided by Quantum Creative Studios

## Quantum Creative Studios Biography

Quantum Creative Studios is a complete experience innovation group, blending creative and technical expertise to inspire uniquely themed, story-driven ideas and imaginative concepts for installations, environments, entertainment, and attractions for theme parks, cruise ships, casinos, retail centers, venues, televised appearances, corporations, Broadway and the theatrical stage. From conception and design to execution and production, Quantum provides hands-on, turnkey solutions for the best in immerse and dynamic experiences.

Truly remarkable design requires the ability to successfully blend the need for function with an emotional connection. We believe that every building, park, attraction, and venue is more than just architecture or a destination; it should tell a “story.” Artfully blending imagination, storytelling, and vision with decades of technical expertise, the team at Quantum Creative Studios creates experiences to enhance environments that not only fulfill a functional and physical pre-requisite, but also touch guests emotionally and leave a lasting impression.

Quantum's recent projects include the historic Queen Mary 2 spectacular Forever Cunard that illuminated New York Harbor and lower Manhattan for the 175th Anniversary of Cunard Line; a new original musical created in collaboration with Stephen Schwartz for Princess Cruise Lines; the installation of ride attraction lighting for the Drop of Fear free fall drop ride at World of Wonderland Theme Park, featuring a custom 65-foot, 360 degree video wall installed 200 feet atop the ride tower redefining the skyline of Amarillo, Texas; and numerous lighting and effects shows, ride attraction effects, and the park-wide lighting design for Nickelodeon Universe at Mall of America

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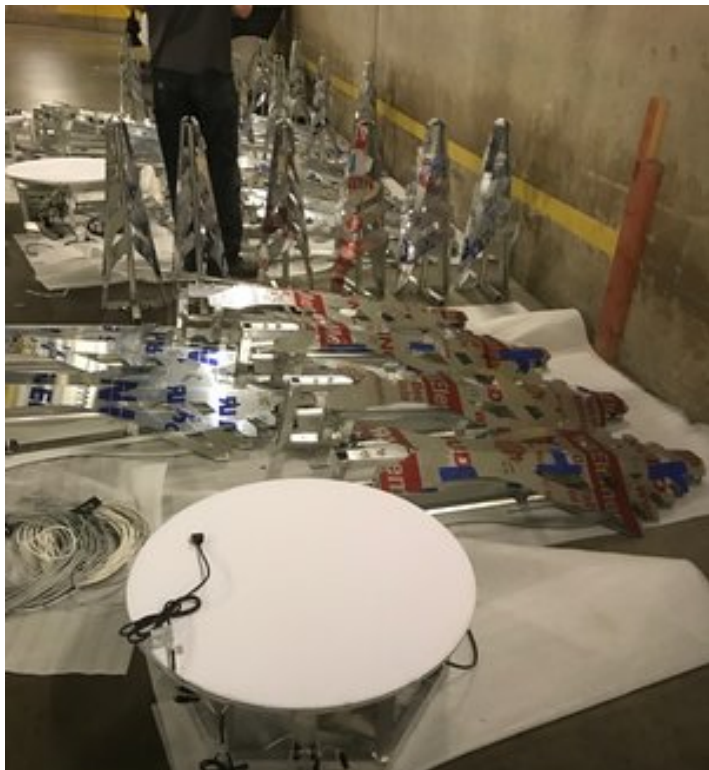


LED drivers being assembled and tested in the City Theatrical's Electronic Assembly room.

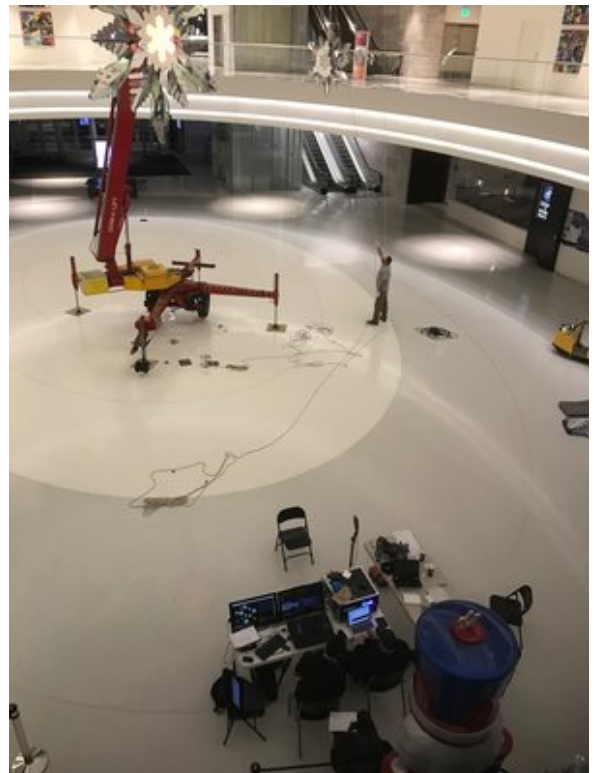
Each snowflake is constructed with a structural internal "skeleton" with a decorative skin over top. Custom LED drivers and power supplies were created to fit within the structure without adding too much weight. You can see the LED driver in the structure.



Technical Director Jeff Collier preps the internal wiring harnesses prior to installation.



The snowflakes are assembled on site prior to installation.





Technical Director Jeff Collier and Lighting Designer Jesse Cogswell inspect a snowflake prior to installation.



Technical Director Jeff Collier and Lighting Designer Jesse Cogswell inspect a snowflake prior to installation. Technical Director Jeff Collier prepares the metal "skin" of the snowflakes for installation over the internal structure.

