



Photo by Jeff Johnson

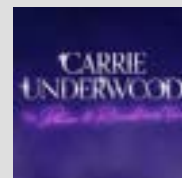
## PROJECT SNAPSHOT

Project Name: **QolorFLEX NuNeon® in Carrie Underwood's "The Denim & Rhinestones Tour" Wings**  
Tour Start Date: **October 15, 2022**  
Venue Name: **Bon Secours Wellness Arena**  
Location: **Greenville, South Carolina, USA**  
Lighting Designer: **Nick Whitehouse, [Fireplay](#)**  
Lighting Package: **[Bandit Lites](#)**  
Wings Scenic Fabrication: **[PRG](#)**  
PRG Technical Designer: **[Jay Woods](#) (for scenic electrics)**  
PRG Set Electrics Team Lead: **[R.J. Craig](#)**  
PRG Asst. Electrics Team Lead: **Bjorn Holm**  
PRG On Site Coordinator and Set Electricians: **Chad Philips; Alphonso Cooper, John Wood, and Peter J. Ray**  
City Theatrical Solution: **QolorFLEX NuNeon, RGB, 42 reels**

## BACKGROUND

Carrie Underwood launched her "The Denim & Rhinestones Tour" on October 15, 2022 with a sold-out show at the Bon Secours Wellness Arena in Greenville, South Carolina, USA. One of the scenic elements used on the tour is a set of LED neon wings, which are suspended in midair, to appear to float behind Carrie while she sings over the audience.

City Theatrical had a conversation with PRG's Technical Designer for Scenic Electrics Jay Woods, and PRG Set Electrics Team Lead R.J. Craig, who are leading members of the Scenic Electrics team from [PRG North America](#) behind this project. This is what we found out more about the design and fabrication of the wings scenic element that will be used on tour through March 2023.



Carrie Underwood emerged from the promise of her 2005 American Idol win to become a true multi-format, multi-media superstar, spanning achievements in music, television, film, and as an author and successful entrepreneur. She has sold more than 66 million records worldwide, recorded 28 #1 singles, and has seven albums that are certified Platinum or Multi-Platinum by the RIAA, all while continuing to sell out [arena tours](#) across North America and the UK.

## CASE STUDY Q&A:

**City Theatrical (CTI): Jay and R.J., thank you so much for joining us. To kick things off, let's hear from Jay: How did you get started with the electrics for this scenic design element for Carrie Underwood's "The Denim & Rhinestones Tour"?**

**Jay Woods (JW):** Work began from a rough concept sketch and photographs which provided visual research. The team at PRG used this to create a 3D CAD model of the wings. Using that model, we were able to begin working out the specifics of the layout, and next steps for fabrication using LED linear lighting products.



QolorFLEX NuNeon lit in wings scenic element, in production.  
Photo courtesy of PRG.

**CTI: How did you approach the LED linear lighting component of the wings design?**

**JW:** There were some facets of the design that we thought were going to push any LED rope product to its limits. Tight curves and angled bends were important features of the design. There were also some long sections where we needed to seam multiple sections of LED linear lighting together while keeping a continuous smooth line of light. Having used QolorFLEX NuNeon before, we knew its flexibility could help us accomplish the task at hand.

**CTI: What were some of the challenges your team faced when it came to fabricating the design for the wings?**

**JW:** For me it was the fact that the wings are visible in 360 degrees, mirroring left and right as well as front and back. It was critical that we be able to accomplish all the bends, angles, and seams flawlessly – multiple times.

**R.J. Craig (RJC):** Agreed. This scenic element was double sided, had control and power built into it, and was designed to fly over the audience behind Carrie herself. All three of those factors contributed to our greatest challenges in terms of building a beautiful and safe scenic element.



**“I think it all came together due to the craftsmanship of the Set Electrics team at PRG, and the versatility of**

**QolorFLEX NuNeon as a low profile, highly flexible, super vibrant LED product backed by the team at City Theatrical.”**

*- Jay Woods, Technical Designer for Scenic Electrics, PRG, on Carrie Underwood's "The Denim & Rhinestones Tour"*





**CTI: R.J., how did you get started with fabrication for this project?**

**RJC:** We started the project with a second set of wings so we could test fit and cut all the QolorFLEX NuNeon we would need ahead of time. After cutting the QolorFLEX NuNeon to length, we soldered connections onto each piece, with some at the ends and some in the middle of pieces as needed. We knew that delicacy and care was key.

**CTI: What was the greatest challenge of this unique installation?**

**RJC:** QolorFLEX NuNeon is very flexible but only meant to bend to a certain amount, and we needed to ensure reliability. The most difficult bend was getting the QolorFLEX NuNeon into or out of our routed channel where it lives in the piece. This involved bending it into the channel vertically until it sat perfectly in the groove. To ensure longevity, we replaced and any tape entirely if a single LED issue arose. The stakes of this tour were too high to risk anything less.

Once the QolorFLEX NuNeon tape was in the channel of the wings scenic element, we knew it would be safe for the duration of the tour.

**CTI: How were these installation challenge solved?**

**RJC:** After we put the QolorFLEX NuNeon into the channel for the final time, we found that the added depth of the foam, paint, and glitter treatment required the QolorFLEX NuNeon to bend more than anticipated to insert the tape.

Since we were using custom cut lengths of QolorFLEX NuNeon to fit each channel, it was more challenging to get a perfect end-to-end light transmission. From there we developed installation techniques to ensure the most seamless light transmission throughout the tape. These included cutting our LED edges short, to be sure the tape was safe, and working perfectly.

**CTI: R.J., overall, did QolorFLEX NuNeon help your team achieve the intended design of the wings?**

**RJC:** Once we figured out how to overcome the challenges



QolorFLEX NuNeon lit in wings scenic element, in production.  
Photo courtesy of PRG.

at hand with a few fabrication techniques, we ended up with a product we're really proud of.

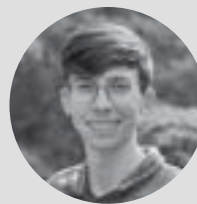
**CTI: Jay, do you think QolorFLEX NuNeon helped bring the design of the wings together?**

**JW:** I think that the fact that it all came together so well comes down to two key factors. First, the craftsmanship of the Set Electrics team, led by R.J Craig, at PRG is amazing. Over the years they have expanded what is possible with products like QolorFLEX NuNeon and they know how to turn out a great product.

Second, the versatility of QolorFLEX NuNeon makes it possible to create amazing things. It has a low profile, it's highly flexible, super vibrant, and it is backed up by the support of John Demous and the team at City Theatrical.

**CTI: How was it to work with the Set Electrics team from PRG?**

**JW:** It was an absolute pleasure to be on the team for this project. It was a great opportunity to work with great people behind the scenes who work hard at their craft and create amazing illuminations.



**“Once the QolorFLEX NuNeon tape was in the channel of the wings scenic element, we knew it would be safe for the duration of the tour. We used custom cut lengths of QolorFLEX NuNeon to fit each channel, and developed installation techniques to ensure the most seamless light transmission throughout the tape.”**

- [R.J. Craig](#), Set Electrics Team Lead, PRG, on Carrie Underwood's "The Denim & Rhinestones Tour"



QolorFLEX NuNeon