



## CASE STUDY

# Carmen

## Royal Ballet and Opera

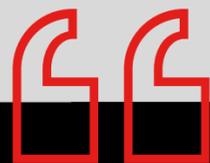
LIGHTING RIG AND CUSTOM  
INTERNALLY WIRED BARS





For over two and a half centuries, Royal Ballet and Opera has dazzled audiences with its grand productions—a finely tuned symphony of creativity and precision, with multiple shows running simultaneously throughout the year.

Amidst the bustle of numerous shows, efficiency reigns supreme. Time is money, and when the Royal Ballet and Opera team needed a practical, tidy, and aesthetically impressive solution to their lighting design for this touring production of *Carmen*, Stage Electrics, working together with CHAUVET Professional, were happy to help.



"We were looking for a bespoke IWB that would allow us to transmit power and data in the neatest way possible.

We didn't want black aluminium tube with cable on the outside, as the structure is always on view during the performance. We also needed a grid that would be easily and tidily transported worldwide due to the travelling nature of this production of *Carmen*.

For lighting, we looked for uniformity in colour and brightness at the right price point."

Nick Woolley  
Lighting Systems Manager  
Royal Ballet and Opera





## THE CHALLENGE

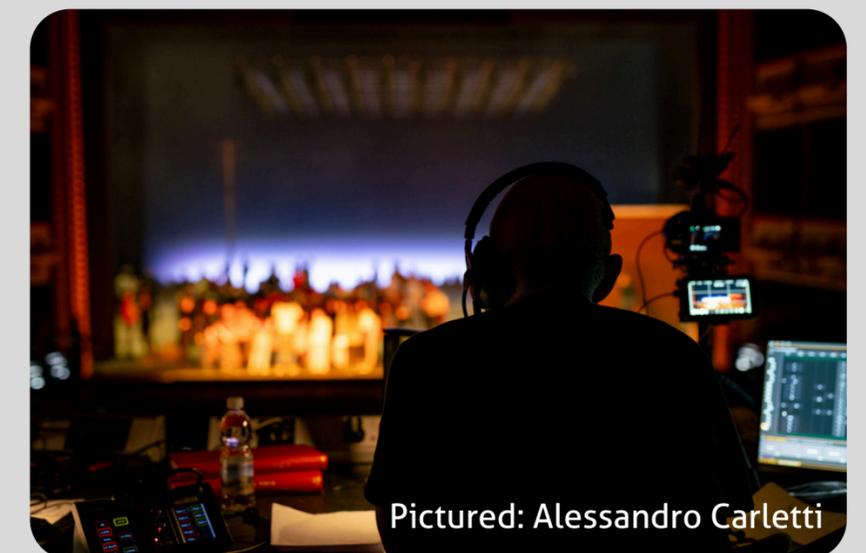
The conversation between Stage Electrics and Royal Ballet and Opera commenced with the need to create a lighting grid for their upcoming production of *Carmen*. They sought a multifaceted solution that seamlessly balanced functionality with aesthetic appeal.

Not only does the staging for Royal Ballet and Opera need to be easily taken on and off stage multiple times a week for storage and rehearsals, but it also needs to be able to withstand international travel, in this case, accompanying the production of *Carmen* as it embarks on a worldwide tour. They needed a design that made lowering and manoeuvring easy, emphasising the importance of precision and adaptability in the well-oiled machine that is Royal Ballet and Opera.

Royal Ballet and Opera is known across the globe for its high production values, so an aesthetically pleasing lighting grid was essential, with minimal cable clutter to enhance the visual sophistication and professionalism of the setting.

The need for an aesthetically pleasing grid was especially important for *Carmen*, due to the minimalist stage design. In this production, the grid takes centre stage.

A further important factor for Alessandro Carletti, the lighting designer for *Carmen*, was, of course, having a grid that was capable of dynamic adjustment, essential for orchestrating the desired dramatic lighting effects crucial to the portrayal of *Carmen*. When choosing lighting, aside from the price point, the most important factor was having a well-calibrated and uniform lighting setup.



Pictured: Alessandro Carletti



## THE SOLUTION

In a collaborative effort, Stage Electrics, Royal Ballet and Opera, and CHAUVET Professional embarked on a journey to engineer a bespoke solution. The team came up with a bespoke solution comprised of 20 IWBs (Internally Wired Bars) and 100 CHAUVET Professional P56FC Pars.

Stage Electrics is known for its high-quality manufactured staging supplies, made here in the UK by a team of professionals with over 100 years of combined experience. These handmade IWBs, made from brushed black aluminium with black socket boxes, deliver on the brief in every way, creating an impressive spectacle.

The bars provide a sleek visual finish, but they don't just look good. IWBs "kill two birds with one stone"—cables are threaded through the bars, with sockets placed directly on each sturdy bar. They offer tidy data transmission while also providing space for rigging of lights.

The grid's mobility was enhanced, transitioning effortlessly between stage and storage, thanks to innovative design features. Usually, Stage Electrics' IWBs are created with a copex hinge to enable bars to be folded, limiting cable exposure and damage.

However, the requirements for this production of *Carmen* meant that a fully bespoke solution was necessary. The grid needed to be split into sections and stacked between performances, so, instead of threading the cables through a copex hinge, the team designed four different types of IWB that mirror each other, with the data being transmitted through socket boxes, so that each bar can be unplugged from its neighbour. This meant that the team completed one overarching grid design, but also four different bar designs with varying lengths and outlet orientation.

When it came to choosing the lights for the grid, the Stage Electrics team took the time to demo multiple options, before the Royal Ballet and Opera team decided to go with CHAUVET Professional. The CHAUVET Professional LED lights deliver on value for money and are thoroughly calibrated and uniform in their display, creating impressive and varied lighting options for *Carmen*. Both elements of this custom grid combine to create a highly polished, impressive setup.



"The idea was to use light as an element that identified a place and the emotional time of the story and could dynamically follow the storytelling of *Carmen*.

It had to be a space under violent sunlight that left no escape routes, "always everything under everyone's eyes". And at the same time it became the source of an indefinite and unreal time using colour as an emotional tool.

With Damiano Michieletto the director, and Paolo Fantin the set designer, we arrived at this solution by imagining the grid itself with movement dynamics that could amplify the meaning of the light itself, as at the beginning of the show where the grid inexorably crushes the scene and the protagonists, or in ending when it almost tries to devour the two singers.

The choice of projectors [lanterns] was a long process with colorimetric and dimming quality evaluations, and in the end the choice made proved to be the best. The grid met all the indicated characteristics with a great construction quality."

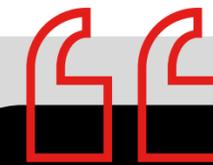
Alessandro Carletti  
Lighting Designer  
Royal Ballet and Opera



## THE RESULT

As an added bonus, the CHAUVET Professional units possibly saved them some money. Before consulting with Stage Electrics, the grid was originally going to comprise 100 tungsten parcans, which would have been 100 kW at full, but the solution provided by Stage Electrics is now 14 kW at full power. By choosing CHAUVET Professional LED lighting, this travelling production of *Carmen* has likely saved money on energy costs for each venue it will visit.

The results of this collaboration speak for themselves visually, with the grid becoming an impressive new protagonist in this production of *Carmen*. Stage Electrics delivered on both functionality and aesthetics, and the team at Royal Ballet and Opera is incredibly happy with the outcome and with the service that they received throughout.



“We like to deal with the company that is manufacturing a product for us directly. It is great to be able to talk to the person who is ‘on the tools’ and have those important conversations around the small but vital details.

We’ve been well supported throughout and I’ve appreciated the flexibility when we were dealing with storage issues. Any issues we’ve had have been sorted quickly and without hassle.

It has allowed us to present a very neat solution to the creative brief. The original render from the design team looks almost exactly how it looks in real life.

The grid was going to be 100 tungsten Parcans. That would’ve been 100 kW at full, the grid now is 14 kW at full.”

Nick Woolley  
Lighting Systems Manager  
Royal Ballet and Opera

# How Can We Help You?

Stage Electrics provide technical services and products for venues and production companies.

We take care of our clients through the three specialist divisions of Stage Electrics: Projects, Equipment Sales and Venue Services.

## Projects

Our Projects department facilitates a wide range of projects and installations. Our experts will look after all your design, installation, and commissioning needs for new-build and refurbishment projects. We work on installations of all scales, from village halls and schools to multi-million-pound projects like the Shakespeare North Playhouse in Prescot or Soho Place in London. Our Projects team are ready to help with as much or as little as you need us to do.

## Equipment Sales

Stage Electrics supports thousands of venues and professionals across the UK with their production technology and consumable needs. We stock products by over 100 manufacturers in our Bristol warehouse, many of which are available for same-day dispatch. Our online store is quick and simple to use. If you require personal assistance, our Equipment Sales team will be delighted to provide you with all the help and guidance you need to make a well-informed decision.

## Inspection and Testing

The Stage Electrics Venue Services team will help you maintain a fully functional and legally compliant venue and performance space. We are a NICEIC-certified contractor, providing tailored packages for electrical and mechanical inspections as required by BS 7671, ISITEE, PUWER, and LOLER. Our specialist onsite crew is highly qualified and DBS-checked to an enhanced level—the safety and functionality of your venue couldn't be in better hands.

**WE  
MAKE  
PERFORMANCE  
POSSIBLE**



# Let's Talk

If you'd like to learn more about our Equipment Sales services, we'd love to hear from you.

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