

CASE STUDY

Pushing the boundaries of light, space and sound for Blackpool's Lightpool festival

Client: QED Productions

Location: Empress Ballroom, Blackpool

Product(s) supplied:

PT-RZ31K

PT-RZ21K

Challenge

To provide high-end projection mapping that could also operate around the Empress Ballroom's intricate ceiling with multiple chandeliers

Solution

Installing 24 Panasonic projectors ensured limited disruption, with ultimate reliability and high-end quality for a show stopping moment

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Paul Wigfield

Director



Famously known for its annual illuminations, the town of Blackpool has a long standing history with experiments of light. Originally lighting eight arc lamps in 1879, the streets which were once described as 'artificial sunshine' have continued to impress

In recent years, these innovations have taken the form of the Lightpool project, an additional form of entertainment during the illuminations which is intended to unite the worlds of art and entertainment. In 2018, one particular highlight was the combination of classical music and state-of-the-art projection mapping, in the sell-out performance of 'Light Odyssey' which marked the official launch of Blackpool's 2018 Lightpool Festival.

Produced by Alex Rinsler, Director of Lightpool Festival, Light Odyssey was a technical and creative collaboration between QED Productions, the BBC Philharmonic Orchestra, the Guildhall School of Music and Drama and an incredibly talented team of digital artists, which saw breath-taking projected animations and live performances take place across a ninety minute show. The performance was also captured in 360degrees by Philharmonic Lab, set up by BBC Philharmonic to explore new ways for audiences to experience orchestral music.

Working together with Alex Rinsler, QED Productions was the chosen partner to bring the creative ideas to life in a complex projection mapping challenge which required projectors to operate around multiple chandeliers, in one of the largest ballrooms in Europe.

"It was only made possible by utilising the very latest in media server and high brightness laser projection technology"

"When Alex first approached QED with the idea for Light Odyssey it was clear that the scale of the creative ambition was as great as the technical challenges involved. It was an opportunity to push the boundaries of projection mapping and to produce a unique and very special entertainment experience.

"The Empress Ballroom is one of the largest ballrooms in Europe and also one of the most ornate. The magnificent chandeliers could not be removed and they were also positioned in an irregular layout, so it was an enormous challenge to work out how to cover the ceiling without casting any shadows and to create a workable template to suit the needs of all the animators," said QED Director, Paul Wigfield.

In preparation for creating the performance, QED Productions had to fully understand the space they had available, before researching the market to see which projectors offered the versatility to operate around the room.



Image credits: QED
Productions



Paul continued, "We knew that the technical solution would be a bit of a mind-meld and that it would require a very accurate model for the content creation and also some near impossible projector positions and angles. On initial site visits it was a simply a question of eye-balling all potential projector positions and deciding whether it was actually achievable. Once we had established that it might be possible, we decided to scan and model the Ballroom and thereafter we were able to plan the projector layout and design the UV template for the artists."

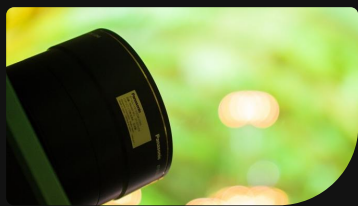
The decision was made to utilise 24 Panasonic projectors as a reliable solution to be positioned throughout the ballroom, even amongst the audience seating and the orchestra. To do so, 16 PT-RZ31K 30,000 lumen projectors were required to cover the largest areas of the ceilings and facades, with eight PT-RZ21K 20,000 lumen laser projectors being used to fill in the smaller areas, around the walls and pillars.

"The performance will be remembered by all as the night when the Empress Ballroom came to life in a riot of colour and sound"

Paul added, "Although the projection spectacular required extraordinary creative and technical vision it was only made possible by utilising the very latest in media server and high brightness laser projection technology. The projectors had to be positioned anywhere and everywhere. The chandeliers precluded any cross-projection onto the end walls, so two pairs of blended RZ21Ks with ultra-short throw 0.36:1 mirror lenses were deployed on the upper balconies in order to gain the required coverage."

Features that also influenced this decision included the quality of the projection which proved to be reliable, and versatile during their operation. In addition, the discrete performance of the projectors ensured there was no distraction for the audiences at home and listening via the radio, allowing them to fully engage with the experience.

"The Panasonic 3-chip DLP laser projectors provide the highest light output of any other projectors in their class whilst using less power. They also run extremely quietly which is a very important consideration when the audience are sitting so close to the machines. Having laser light source engines meant that it was possible to mount them in any orientation and at the most jaunty of angles," said Paul Wigfield.



"Realistically speaking it's impossible to completely back-up something like this due to the physical restrictions involved, so the projectors simply have to be totally reliable. It's a 24 piece jigsaw where any missing pieces would have broken the entire continuity of the digital artwork and so we just had to put our faith in the Panasonic projectors," said Paul.

In addition, the projectors offered a high level of connectivity to ensure that a range of content could be displayed.

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Paul added, "The content was pre-visualised and played back on-site using four disguise 4x4pro media servers fitted with quad DVI VFC cards. The 48 individual 1920 x 1200 resolution outputs (main and back-up) were fed into a Lightware FR65x65 DVI matrix switcher and then distributed to each projector using QED's bespoke fibre system which provided both signal and network control. Harris Predator II 16-Channel DVI multi-viewers enabled monitoring of all the projector signals from the control position, and the disguise media server line-up was achieved using QED's KVM Xtreme remote fibre system in order to enable the team to digitally warp and stitch together the digital canvas by hand.

"Although the animation template was 10,000 x 3,813 pixel resolution and nearly an hour of full motion video content needed to be produced, all the artists rose to the challenge and were not only able to deliver within incredibly tight timescales but also impressively with their differing visual styles and musical interpretations."

Combining all elements together, Panasonic projectors thereby allowed creatives the freedom to explore their potential, and continue the tradition of experimenting with light that Blackpool has always proudly represented.

"Light Odyssey was an extraordinary journey, and the performance on the night will be remembered by all as the night when the Empress Ballroom came to life in a riot of colour and sound," concludes Paul Wigfield.