

# SOUND, LIGHTS, PERFECTION: THE STAR GROUP'S ROLE IN DUA LIPA'S STUNNING MUMBAI SHOW



Star Group perfectly executed Dua Lipa's Mumbai show with several show-stopping brands

*When global pop sensation **Dua Lipa** brought her highly anticipated Radical Optimism Tour to Mumbai's Bandra Kurla Complex, the scale of the event was immense. Ensuring a flawless execution of such a large-scale production required meticulous planning, state-of-the-art technology, and an expert team adept at handling every technical nuance. The concert was not merely a performance but an intricately designed, multi-sensory spectacle, demanding precision in lighting, visuals, and sound integration.*

At the helm of this massive production was **Star Dimensions India Pvt. Ltd.**, a key entity within the **Star Group of Companies**. With the support of its sister companies, **Spectrum AV** and **Audio Dimensionz**, the Star Group meticulously orchestrated the technological aspects of the concert, setting new benchmarks for live event production in India.

## Lighting and Trussing

As the primary provider of lighting and trussing, Star Dimensions India Pvt. Ltd. played a crucial role in defining the concert's visual aesthetic. Every element of the lighting design was carefully crafted to enhance the musical performance, with a focus on seamless synchronisation between lighting cues and stage movement. The goal was not merely illumination but an immersive visual narrative.

To achieve this ambitious vision, Star Dimensions deployed an extensive range of lighting technology, including:

- **Milos Roof Truss** – Custom-modified for enhanced load-bearing capacity, forming the structural backbone of the lighting rig.
- **Martin Mac Ultras (48 units)** – High-output beams delivering intricate aerial effects.
- **Martin Mac Viper Performance (32 units)** – Providing sharp, vibrant beams to amplify stage energy.
- **Clay Paky X-Frame (12 units)** – Offering precise and rapid movements to

enhance dynamic elements of the show.

- **Martin Quantum Wash (48 units)** – Creating deep, rich colour washes for depth and dimension.
- **Claypaky Tambora Square (32 units)** – Generating high-energy strobe effects at key moments.
- **Moving Strobe RGBW (52 units)** – Synchronised bursts of light accentuating beats.
- **Battens RGBW (40 units)** – Ensuring smooth colour transitions across the performance space.
- **Nova 4 DTR Blinder (24 units)** – Producing intense flashes to heighten dramatic moments.
- **MaC Ultra Spot as Follow Spots (4 units)** – Ensuring precise performer isolation and spotlight control.
- **Smoke Factory Tour Hazer II (4 units) & Fan-Fogger (4 units)** – Enhancing atmospheric depth for immersive lighting.
- **grandMA3 3 FULL SIZE (2 units) & PU-L (3 units)** – Industry-standard lighting consoles for precise cue execution.
- **LED Par RGBW (48 units)** – Ambient lighting to enhance mood and aesthetics.

## Integration with Stage Design

Ensuring cohesion between lighting and stage architecture was a critical component of the concert's success. Strategic positioning of strobes, washes, and intelligent fixtures allowed lighting cues to synchronise seamlessly with Dua Lipa's setlist and choreography, maximising the immersive experience for the audience.

A key player within the Star Group of Companies, **Spectrum AV** took charge of video and LED screen execution. The objective was to ensure high-resolution visuals that seamlessly complemented the performance, providing a captivating backdrop while maintaining synchronisation with live footage and pre-programmed content.

To achieve a flawless visual experience, Spectrum AV employed:

- **Barco E2 Processor** – Ensuring colour accuracy and frame synchronisation.
- **Fabulux LED Panels** – High-definition displays maximising clarity and detail.
- **Resolume Arena Software** – Operated by **VJ Azad Siddiqui** for real-time video effects and live content manipulation.

Managing LED calibration and synchronisation across multiple panels for a large-scale outdoor venue presented challenges. However, through meticulous planning and expert coordination, the Spectrum AV team delivered a seamless and visually stunning experience, elevating the artistic impact of the concert.

Delivering pristine, immersive sound to thousands of fans was the responsibility of Audio Dimensionz, the audio division of the Star Group of Companies. Under the leadership of **Neil Lean** and **Sean Lobo**, the team executed a world-class audio setup designed to ensure uniform sound distribution with optimal clarity.

Key audio components included:

- **DiGiCo Quantum Digital Mixing Consoles** – Managed by **Will Nicholson** (FOH) and **Alex Cerutti** (Monitors) for precise audio control.
- **d&b Audiotechnik KSL Series Line Arrays, SL G Subs, S16 SL Flying Subs** – Ensuring even sound distribution and deep, resonant bass.
- **Array Calc Software** – Optimising speaker placement for uniform sound coverage.
- **Shure & Neumann Microphones** – Ensuring high-fidelity audio capture.
- **Shure ULXD2/KSM9HS Wireless In-Ear Monitors** – Providing flawless on-stage monitoring.

Mumbai's outdoor venue conditions introduced environmental noise factors and unpredictable weather. Audio Dimensionz tackled these challenges by fine-tuning speaker placement and leveraging high-directivity arrays to maintain clear, powerful sound throughout the venue.

## Coordination The Backbone of a Flawless Production

Executing a concert of this scale necessitated seamless coordination between technical teams. The Star Group of Companies deployed the latest Riedel Bolero professional radio communication system, ensuring real-time, uninterrupted collaboration between lighting, video, and sound departments. This system was instrumental in maintaining efficiency and resolving

on-site challenges promptly.

## Leadership and Execution

Strategic oversight played a crucial role in ensuring the success of the concert. The event's technological execution was spearheaded by **Jay Mathuria** & **Ashish Mehta**, Directors of Star Dimensions India Pvt. Ltd.

## Setting a New Benchmark in Live Production

The Star Group of Companies, through the expertise of Star Dimensions India Pvt. Ltd. (Lighting & Trussing), Spectrum AV (Video & LED), and Audio Dimensionz (Sound), has redefined live event production standards in India. By integrating state-of-the-art technology with precise execution, the team delivered an unparalleled concert experience.

With a steadfast commitment to innovation and technical excellence, the Star Group of Companies continues to push boundaries in live event production, setting new industry standards and solidifying its reputation as a leader in the field.

## Selecting the Right Equipment

Ensuring an immersive sound experience for thousands at the Bandra Kurla Complex (BKC) required precise planning and advanced technology. The audio team relied on **DiGiCo Quantum digital mixing systems** for both front-of-house (FOH) and monitor mixing. Will Nicholson operated a **Quantum 852** for Dua Lipa, while the other acts used two **Quantum 338** at FOH. Alex Cerutti managed monitors with a third Quantum 338. Additionally, a **Yamaha PM5-Rivage** served as the main production console.

The system design was led by Neil Lean and Sean Lobo, ensuring extensive configurability. The setup featured the **d&b Audiotechnik KSL series** as the primary PA, supported by **16 S16 SL flying subs**, **28 SL-G ground subs**, and eight **V-10P point source fills**. Three delay stacks were deployed, consisting of two **KSL top rigs** and one **V rig**. Using Array Calc software, the team strategically positioned the speakers to optimise horizontal and vertical coverage while avoiding hotspots. Advanced array processing maintained a consistent Sound Pressure Level (SPL) variation within just 6dB, ensuring that every attendee experienced the same high-quality audio, regardless of their position in the venue.

The choice of the d&b KSL system initially raised industry concerns, but it proved to be the optimal solution. "There were doubts and industry gossip about whether the d&b KSL system was the right choice, but it delivered exceptional directivity and clarity while keeping noise pollution minimal in the surrounding areas. Against all odds, it was the perfect system for the job, proving once again that great sound is all about the right planning, the right gear, and the right team," said **Herman Lobo**.

Each piece of audio equipment was meticulously chosen to ensure clarity, powerful bass, and uniform coverage throughout the venue. The line arrays comprised 96 d&b Audiotechnik KSL series speakers, covering an area of 88,000 feet and ensuring consistent audio distribution without distortion. At FOH, Will Nicholson worked on a DiGiCo Quantum 852, while Alex Cerutti managed monitors using a Quantum 338. These consoles provided reliability, flexibility, and high-fidelity sound processing.

For low-end reinforcement, 284 d&b SL G-Subs were positioned on the ground, accompanied by 16 flown d&b SL Subs, producing deep, controlled bass. Dua Lipa and her team used a selection of **Shure SM58**, **Shure Beta 87A**, and **Neumann U87 microphones**, chosen for their clarity and warmth. The band and backup vocalists relied on **Shure ULXD2/KSM9HS wireless** in-ear monitors, ensuring interference-free performance.

"At the core of our setup was the need for reliability, consistency, and high-fidelity sound. The DiGiCo consoles provided the redundancy and configurability needed to handle any challenges, while the KSL system ensured a balanced, immersive experience for every listener in the crowd. It was all about delivering perfection and we made it happen!" Lobo emphasised.

## Overcoming Challenges in Sound Engineering

Every large-scale concert presents unique challenges, and Dua Lipa's Mumbai performance was no exception. The BKC ground posed specific acoustic challenges, such as echoes and dead spots, which were mitigated through extensive soundchecks and speaker adjustments using **Array Calc software**.

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Weather resistance was a priority, with contingency plans in place to handle sudden changes in conditions.

Managing the balance between audience energy and the music required high-directivity d&b Audiotechnik KSL line arrays to minimise spill into non-essential areas. "The area behind and around the venue was absolutely silent up to -26dB compared to the venue," Lobo explained. Technical failures were anticipated with redundant DiGiCo Quantum consoles and backup systems in place.

Seamless coordination with other departments was also crucial. Effective communication with lighting, stage, and production teams, facilitated by professional radio systems, ensured smooth operations. Through meticulous planning, cutting-edge equipment, and a dedicated team, the engineers delivered an unparalleled listening experience.

Achieving pristine audio clarity for both the audience and the performers required multiple layers of precision engineering. Extensive pre-show sound-checks ensured all components functioned optimally, while the strategic placement of d&b Audiotechnik KSL line arrays minimised hotspots and dead zones. Custom in-ear monitor mixes provided the artists with precise on-stage audio, and the engineering team continuously monitored and refined the mix during the performance.

## Adapting to the Energy of the Crowd

A dynamic audience significantly influences sound mixing and setup. Live audio levels were adjusted in real time to maintain clarity over the crowd's ambient noise, and the FOH engineer fine-tuned the mix to align with the concert's energy. Carefully placed microphones and in-ear monitoring systems prevented unwanted feedback, while the sound team accounted for the acoustic impact of a dense crowd in their initial setup calculations.

Executing a concert of this scale required precision in planning, coordination, and real-time adaptability. Multiple pre-event planning meetings were held to outline every detail of the event, and a thorough site inspection helped optimise speaker placement and pre-empt potential challenges.

Communication was key, with professional radio systems ensuring seamless real-time coordination. Full-scale rehearsals allowed the team to fine-tune all aspects before the live performance. Specialised teams managed different components, audio, lighting, visuals, and stage design, while spare equipment and backup systems were in place to mitigate unforeseen issues. Throughout the show, engineers actively managed every aspect of the audio setup, making real-time adjustments as necessary.

The results spoke for themselves. "It sounded so good that many people who recorded the concert and posted on social media got copyright notices," Lobo quipped.

Through a combination of expertise, innovation, and seamless execution, the audio engineering team ensured that Dua Lipa's *Radical Optimism* Tour in Mumbai delivered an unforgettable auditory experience.

The success of a large-scale concert like Dua Lipa's *Radical Optimism* Tour in Mumbai depends not only on superior sound engineering but also on delivering a seamless, high-quality visual experience. The video production team utilised an advanced setup combining **Barco E2**, **Fabulux LED panels**, and **Resolume Arena software** to create stunning, synchronised visuals that enhanced the overall performance.

The **Barco E2 system** played a crucial role in integrating multiple screens, ensuring that they were synchronised, colour-accurate, and free from glitches or distortions. Paired with high-quality Fabulux LED panels, the setup provided bright, clear, and immersive visuals that captivated the audience.

Resolume Arena software offered real-time flexibility for video and graphics manipulation. This allowed Visual Jockeys (VJs) to adapt dynamically to the

performance, ensuring the visuals responded seamlessly to the music and audience energy. "This combination of equipment is specifically chosen for its ability to provide high-quality, dynamic visuals in a fast-paced, live environment like this concert, allowing technicians and visual artists to have precise control over the video output while maintaining flexibility and creativity."

- **Calibration and Colour Matching:** Ensuring consistency across multiple LED screens was a key concern. The team meticulously calibrated the **Fabulux LED panels** using precise colour matching tools to achieve uniformity.
- **Synchronising LED Screens with the Performance:** Maintaining frame-accurate video playback in sync with live music required high-performance processing from the Barco E2.
- **Managing Multiple Video Sources and Complex Inputs:** With multiple video feeds running simultaneously, careful planning was necessary to prevent latency issues and ensure smooth transitions.
- **Large Venue Setup:** In an expansive outdoor venue like the Bandra Kurla Complex, covering large audiences from different angles and distances presented challenges in signal distribution. The team strategically positioned LED walls and IMAG screens to provide an optimal viewing experience for all attendees.

Despite these challenges, the video team successfully delivered an uninterrupted, visually engaging experience. "The biggest challenges in setting up the video for this concert were calibration and colour matching, syncing the LED screens with the performance, and managing multiple video sources. In large venues like this, the complexity of signal distribution can be a challenge, but we planned meticulously and overcame them all."

## The Team Behind the Visuals

Executing a production of this scale requires a dedicated team of professionals, each with a specific role to ensure seamless integration and operation of the video systems.

- **Pawan Vishwakarma** – Technical Director of Video  
*Role:* Oversaw the integration of all technical systems, including LED screens, switchers, graphics, playback, and IMAG screens. Was responsible for ensuring that all video components work together smoothly and troubleshooting technical issues as they arose.
- **Karan Saxena** – Video Engineer  
*Role:* Managed the setup, configuration, and maintenance of video equipment. Ensured proper routing and display of video feeds while troubleshooting any technical issues that occurred during the performance.
- **Azad Siddiqui** – VJ / Video Playback  
*Role:* Handled live video manipulation, graphics, and effects in real-time. Worked closely with the music and audience dynamics to create visually immersive experiences that enhanced the concert atmosphere.

By combining technical expertise with state-of-the-art equipment, the video production team delivered a visually stunning performance that matched the energy and scale of Dua Lipa's *Radical Optimism* Tour. The meticulous planning and seamless execution ensured that the audience experienced a concert that was as visually spectacular as it was sonically immersive.