

A NETWORKED APPROACH TO THEATER DESIGN

# Battersea Power Station

## Q-SYS Enhances Cinema Experience in London with Automated Control & Immersive Sound

📍 London, England

The [Battersea Power Station](#) is at the heart of one of central London's largest new developments. The decommissioned power station and its surroundings are being redeveloped as a leisure, accommodation and business center, spearheaded by Apple's announcement that it would locate its new London flagship campus there. Leisure facilities are incomplete without first-class cinemas, but rapid development made for a dilemma. The traditional structures and flat spaces were quickly taken. Where then to locate cinemas, with the latest in audio and video technology, and easily manage and control them? Enter Stephen Burdge, owner of the Olympic Studios 3-screen cinema in Barnes, UK, which proved that smaller, well-appointed installations could draw in the crowds. Building on that concept, Burdge hit upon using the empty space in Battersea, underneath railway arches leading from Victoria Station, for a 3-screen complex, consisting of a single 40-seat and two 60-seat rooms. Naming them 'The Archlight Cinemas' was the easy part. But bringing them to fruition would involve creative thinking and sophisticated technology.



“By using Q-SYS, we gain all the capabilities and facilities of a sophisticated network-audio processing system, as well as all the system-control capabilities.”

**Graham Lodge**

Managing Director, Sound Associates

# Challenges



### Demanding Physical Environment

The small spaces, steel frame enclosures and brick walls posed cabling and ventilation problems, but laser projectors still needed to be considered.



### Exacting Dolby Atmos Standards

Designing and installing a Dolby Atmos system in an unconventional space presented a challenge due to the need for schematics, sound quality, safety, and practicality.



### Comprehensive Intuitive Control

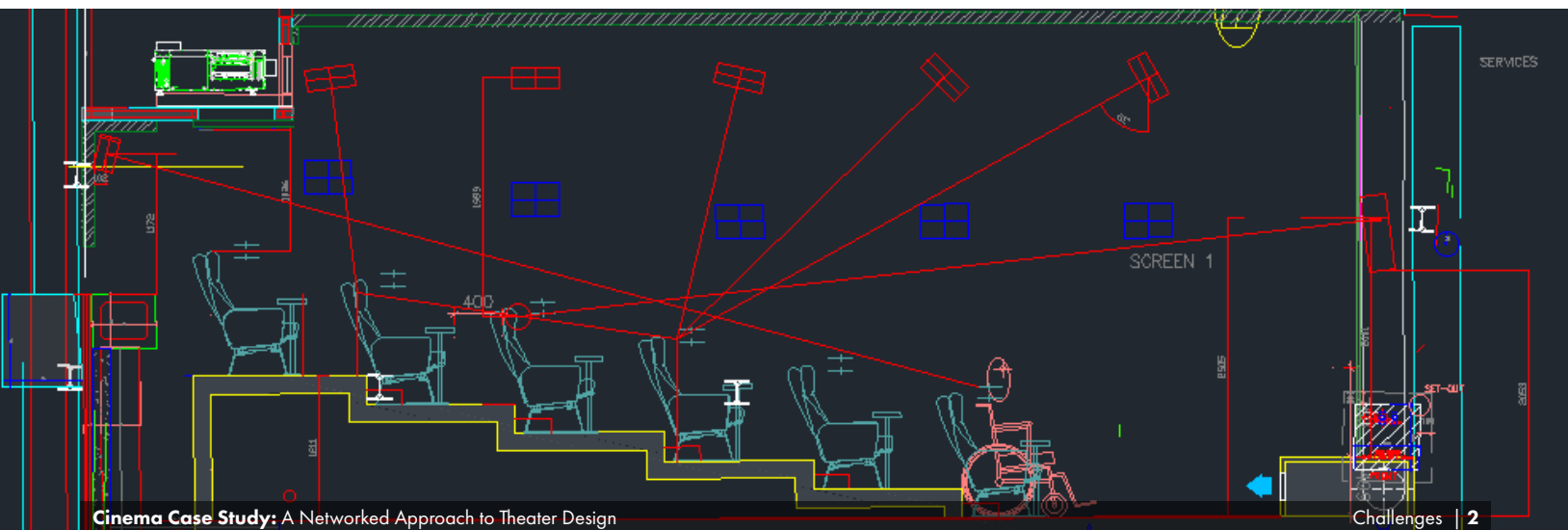
The need to maximize the Dolby Atmos technology in small spaces with multiple input possibilities required the installation of powerful, user-friendly control systems.

## Overcoming Environmental Challenges

To transform the vision into reality, Burdge called in integrator [Sound Associates Ltd.](#), led by Managing Director Graham Lodge, to procure, install and commission a fully-automated projection and sound system. The plan called for Dolby Atmos for every screen and compact Barco laser projectors, with Q-SYS to manage audio and control processing, including control of everyday lighting, masking and general theatre operations.



The physical environment of the arches, both inside and outside, was far from ideal: small spaces and solid brick walls, six trains passing overhead every 10 mins with noise and vibration, and London’s humid climate. Building the utmost flexibility into the cinemas to leverage a variety of content – from traditional Digital Cinema Package (DCP) movies to Blu-ray discs to streaming high-definition cultural and sporting events – also required an easy-to-operate yet sophisticated system. Sound Associates worked closely with the building contractors to design a unique layout, which included constructing completely isolated steel enclosures placed 150mm (5.9 inches) from the original brick archways. These provided the housing within which Sound Associates could apply its considerable experience and expertise.



## Solutions

### Q-SYS Brings Automated Control in Cinemas

With the physical environment, Sound Associates took power, ventilation, network cables and audio between the three screens through the front of each arch, around and back in again, rather than attempt drilling through brick. Speakers were positioned along the sides and ceiling, working closely with Dolby and 3rd party designers and acoustic experts. Sound Associates decided that technologies from Q-SYS would help realize the potential of Dolby Atmos (whose Dolby IMS3000 media blocks drove the laser projectors) while bringing a high level of automation to almost every aspect of the cinemas' operations.

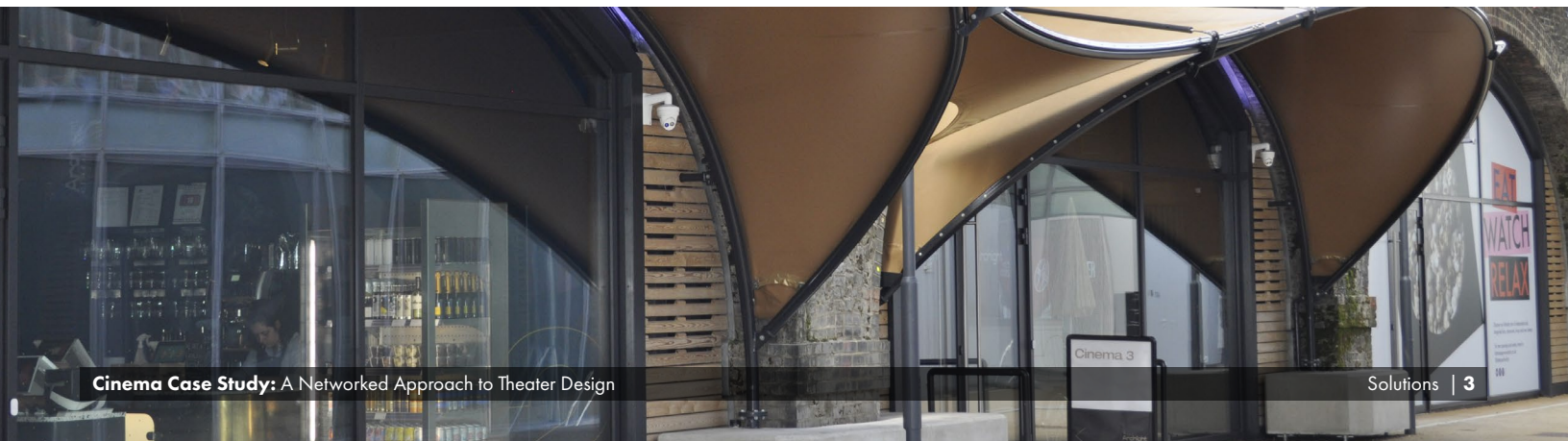
Q-SYS was used to manage the 35-plus channel audio streams coming from the IMS3000 as well as switching, equalization, and systems control, with DPA-Q network amplifiers running all the stage, subwoofer, and surround speakers. Each of the three screens relies on a [Q-SYS Core 110f processor](#) to direct all audio switching and routing. The IMS3000 server's automation commands are delivered via Q-SYS to meet the audio needs of the Atmos system. Q-SYS also controls common automation requirements such as curtain and masking control, volume and lighting levels.

The Cinema Manager can monitor sound in each auditorium from a central office and control the entire automated operation of the venue from one iPad interface. Q-SYS controls all non-DCP cinema signal routing, allowing a laptop to be connected to any screen and for content from a central Blu-ray player to be decoded by the IMS3000 in each projector and sent to any screen. Non-sync music is stored in MP3 format on the Core, allowing management to create custom playlists for different feature films. And it's all very compact. The entire sound system for each cinema was built into its own, 17-module equipment rack, located beneath each projection pod, to minimize the equipment footprint. Each rack is only 600 mm (23 inches) wide, 600 mm deep, and 1.3 meters (4 feet) high.

### Smooth Cinema Operations

"It's a pity that so many in the exhibition industry have yet to realize the immense monitoring and control features of Q-SYS. For our part, Sound Associates has leveraged Q-SYS in roughly 45 sites over the past three years, discovering more and more capabilities with every cinema design done. By using Q-SYS, we gain all the capabilities and facilities of a sophisticated network-audio processing system, as well as all the system-control capabilities. By having everything together in one place, we can make it accomplish the tasks associated with operating a modern cinema as smooth and seamless as possible. Q-SYS is the only platform that can do all this," maintains Lodge.

Control takes many forms, and Lodge notes that if an amplifier or speaker goes offline for any reason, Q-SYS sends an instant email with information, and Q-SYS can take action to resolve it. "Q-SYS allows us to move amplifier channels in a pinch. For example, if Q-SYS reports via email to us that a center-channel LF has gone 'open circuit' or short-circuited, Q-SYS provides us with a quick 'emergency bypass' so that the show can go on until the speaker can be examined," said Lodge. "That's facilitated by Q-SYS' capability to make a mix of the left, center and right channels, send that output to all three speakers, and then we simply mute the speaker that was distorted to begin with. We can do that remotely or give that capability to the local theatre manager to do it at the touch of a button on their controlling station. Certainly, it raises the comfort level of the client!"





## Solutions

### Crafting Immersive Theater Experiences

The cinemas with their advanced audio and projection systems are very busy on weekends. One of the first movies to test the overall system's capabilities was Bohemian Rhapsody, the winner of Academy Awards for Best Sound Mixing and Best Sound Editing, and Sound Associates – and the client – were pleased that it passed with flying colors. Audiences marveled at the sights and sounds that these unique, custom-cinemas delivered. The client was specific about his needs and Sound Associates brought its decades of experience and considerable expertise to meet and exceed expectations.

"We are very pleased with the immersive sound environment that Sound Associates crafted for us, combining the best of Dolby and Q-SYS solutions," said Burdge, Managing Director, Olympic Studios. "How happy? So much so that we commissioned Sound Associates to repeat their success using entirely Dolby and Q-SYS audio and control gear in our next project, 'The Cinema at Selfridges' London flagship store. This permanent film complex, the first in a department store, will have three auditoriums, with world-class sound technology. We are eagerly anticipating another top-notch project."



Q-SYS is a globally recognized manufacturer of audio, video and control (AV&C) solutions for huddle rooms to stadiums—and everything in between. Our systems make it easy for your team to design and integrate flexible, scalable solutions and deliver the native IT integration and standards-based technology your customers expect.

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