



## motion dampening for moving lights

The RSC Lightlock (Pat pending) is a revolutionary new device for the entertainment industry, which allows moving lights to be rigged on very lightweight hanging or flown, structures. Until now it has been impossible to hang moving lights onto trapezes, lightweight automated bars or pantographs due to unwanted oscillation in the structure. The RSC Lightlock is the first device of its kind to counteract and eliminate unwanted movement of automated lights on lightweight structures and opens up a plethora of lighting solutions.



RSC Lightlock is the proud winner of the following awards....

- 
- 2008 PLASA  
Gold Award for Innovation
- 
- 2009 LDI  
Best Debuting Product Award
- 
- 2010 Live Design Magazine  
Product of the Year
- 

TOTAL  
STRUCTURES

Julius Caesar  
Photos by Ellie Kurtz



The Winter's Tale  
Photos by Alessandro Evangelista



Julius Caesar  
Photos by Ellie Kurtz



As You Like It  
Photos by Ellie Kurtz



As You Like It  
Photos by Ellie Kurtz



## The RSC Lightlock Story

When the Royal Shakespeare Company began planning the £112 million (\$200million) refurbishment its Head of Lighting, Vince Herbert, saw a unique opportunity to transform the way that theatre lighting rigs were assembled. Here Vince talks about how necessity brought about the invention of the RSC Lightlock.

“I started working on this concept when we were working on the refurbishment of the Royal Exchange Theatre in Manchester several years ago. The idea was to put moving lights onto television pantographs so that we could vary the angle of the lighting within cues and make them much easier to maintain.

“When we started talking about the RSC's auditorium designs for the new Royal Shakespeare Theatre in Stratford-upon-Avon, Flip Tanner (the Technical Project Co-coordinator) asked me what I really wanted the rig to look like and what we should do with it. I had never forgotten the modular cluster lighting idea, and this was the ideal time to put it into place. It was

also driven by health and safety because in the future we won't be climbing up to the lights; the lights will be coming down to us.

“However there is a huge drawback with a small modular single or cluster moving light hang: they swing! I did an experiment in The Courtyard Theatre to test just how much it would swing and it was way more than expected. I realized at this point that I would need to find or design something that would stop the swing. I assumed that this problem must have already been solved, and when I found it hadn't I realized that it was up to me! In the name of research I spent some time on a swing in a park in Stratford-upon-Avon. The idea I had was that if you could start yourself swinging by moving your legs, you could stop yourself by moving your legs in the other direction. I must have looked crazy testing out my theory. However, it worked! An equal and opposite amount of energy: simple physics.”

From this point Vince developed the RSC Lightlock device. The prototype was exhibited publicly for the first time at PLASA

08, winning a Gold Award for Innovation and attracting interest from a number of manufacturers as well as designers and end users. The contract to develop, manufacture and sell Lightlock was eventually awarded to Total Solutions Group and U.S. strategic partner Total Structures Inc. on the grounds of experience, geography and not least of all both companies commitment to innovation and safety.



Lightlock inventor Vince Herbert pictured with Patrick Stewart at The Courtyard Theatre in Stratford-upon-Avon

## Benefits and FAQs

The main benefits of RSC Lightlock, the RSC's lighting invention are:

### Creativity

The device enables the creative benefits of moving lights to be used in a broader variety of theatre, TV and film situations as it removes the need for heavy duty mounting infrastructure.

### Flexibility

Use of lightweight rigging means that the moving light can be situated virtually anywhere and the halting of movement ensures that there are no 'out of action' moving lights.

### Quiet Operation

The RSC Lightlock emits low noise levels, which allows its use during live performances.

### Health and Safety

The RSC Lightlock reduces the need for bridges or trusses and therefore reduces the need for working at height when maintaining or adjusting a light.

### Cost efficiency

Moving lights can be maintained at ground level by lowering the rig to where staff can safely maintain or adjust them. Avoiding working at height results in significant time savings for the entertainment industry.

### Environmental

A lighting designer can choose to create the same design with a smaller rig, resulting in a cost saving and environmental benefit.

## FAQs

### ■ How does it work?

The RSC Lightlock works by accelerating and decelerating a balanced mass or weight at the appropriate moment of the swing cycle of a moving structure.

### ■ Will the RSC Lightlock stabilize a truss or pipe when one or more automated fixtures are moving?

Yes.

### ■ How many moving fixtures can be moving in unison before one RSC Lightlock becomes ineffective?

The RSC Lightlock will remain effective for as many moving fixtures as you require, however it will take slightly longer for the structure to come to rest, so instead of stopping the swing instantly it may take a second or two.

### ■ Will RSC Lightlock correct oscillations produced by wind?

No, not at the moment - in its current design the RSC Lightlock will only correct oscillations produced by something that is attached to the structure. That is to say, the RSC Lightlock cannot dampen movement caused by an external force pushing the structure. However watch this space as developments are on going....

### ■ Is RSC Lightlock affected by heat emitting from moving fixtures?

No.

### ■ Does it need data?

No.

### ■ Does it need a secondary safety device?

As with all devices rigged at height, the RSC Lightlock requires a safety bond. The RSC Lightlock also has an added internal electronic safety device that prevents it from being rigged the wrong way up.

### ■ Does it require any specialist rigging?

No.

### ■ Can I tour RSC Lightlock's into different countries with different voltages?

Yes, the power supply unit is self switching.

### ■ Does it require calibration?

The RSC Lightlock self-calibrates every time you power-up; this usually takes about 1.5 seconds.

### ■ What power does it use?

The RSC Lightlock runs at a maximum of 150 watts.

### ■ Do you need a different size RSC Lightlock for larger or smaller items?

No, the standard RSC Lightlock will serve most applications, but for larger items RSC Lightlocks can be added together to work in unison with each other.

### ■ How do I rig the RSC Lightlock?

The RSC Lightlock has an integrated track for ½" or M12 fixings that can be rigged with standard clamps and couplers or direct mount plates.

## What people say about RSC Lightlock

“I've worked as a Lighting Designer for many years lighting shows for the RSC and other leading theatre companies. I've always been frustrated by the limitations of traditional lighting solutions and am delighted that the RSC has designed this revolutionary new product which will open up more flexible creative choices.”

Tim Mitchell, Lighting Designer for the RSC's 2008 production of *Hamlet*.

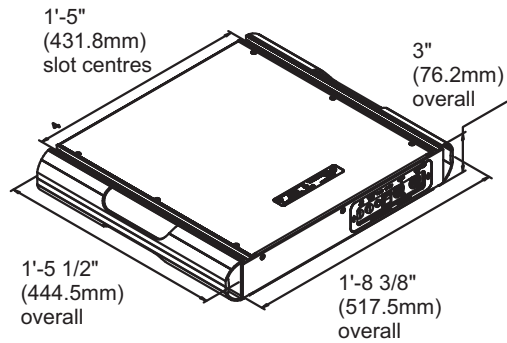
“New things are invented for theatre lighting all the time usually big, expensive, technology-driven devices. But it's the simple things that make you wonder, 'Why didn't I think of that?' Lightlock is one of those inventions. On many of my shows there are flying light ladders, and no matter how you hang them two, three or four points or how hard the electricians work, the lights always end up swinging. Lightlock has solved this problem. By putting it on top of the light ladder, it keeps the ladder nice and steady while flying in and out, and prevents the audience from thinking that the show has an earthquake effect every time the scenery changes.”

Lighting Designer Ken Billington

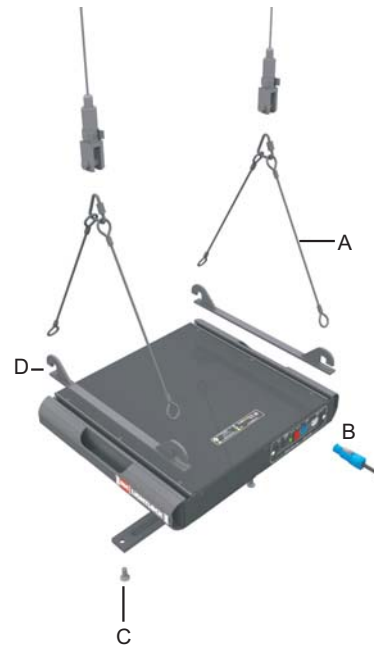
“Lightlock is the most revolutionary product to arrive in a long time. This is an amazing compact technology that solves an age-old problem within our industry. Among other applications, I am absolutely psyched to have the ability of letting moving lights share video projection trusses with far more stability.”

Lighting Designer Patrick Dierson

Dimensions



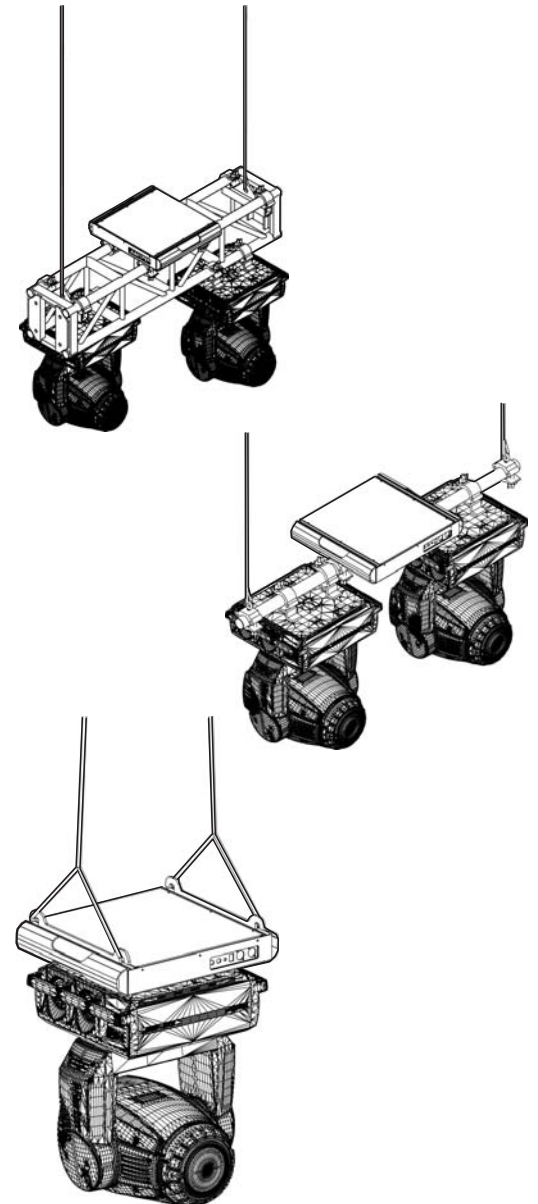
Accessories



- A LL-R-01 2-way Bridle (pair)
- B LL-P-01 Powercon input cable to bare tail (a range of connectors can be added to suit clients location and preference)
- C LL-A-01 Universal moving light adaptor w/hardware
- D LL-R-02 Bridle bracket (pair)
- E LL-R-03 Eyebolt and hardware
- F LL-F-01 Hanging clamp
- G LL-P-002 Powercon "A" to "B" cable
- H LL-P-02 Half coupler
- I LL-R-04 Stacking adaptor



Sample Applications



Technical Details

- The unit measures approximately 1'-8 3/8" (517.5mm) wide x 1'-5 1/2" (444.5mm) deep x 3" (76.2mm) high.
- The RSC Lightlock draws a maximum of 150 watts.
- RSC Lightlock weighs 31lb (14kg).