

ARRI and Creative Technology commit to the future of film together with StageSmarts

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ARRI Uxbridge Studio—a state of the art installation



Two StageSmarts C72tv powers the entire studio

As virtual production techniques revolutionise the film and television production industry, the need for safe, and reliable power distribution has never been greater. Leading designer and manufacturer of camera and lighting systems, ARRI, collaborated with audio-visual solutions specialist Creative Technology to create ARRI Stage London, supported by world-leading power distribution technology provider, Stage Smarts . . .

ARRI Stage London is one of the latest arrivals in the virtual production boom. Virtual production techniques are revolutionising filmmaking by using an innovative combination of existing technologies to produce hyper-realistic, real-time environments, enabling the capture of VFX in-camera. In production terms, this means more 'pre' and less 'post'. Among its many advantages, it offers filmmakers greater creative control, reduced costs and a smaller carbon footprint.

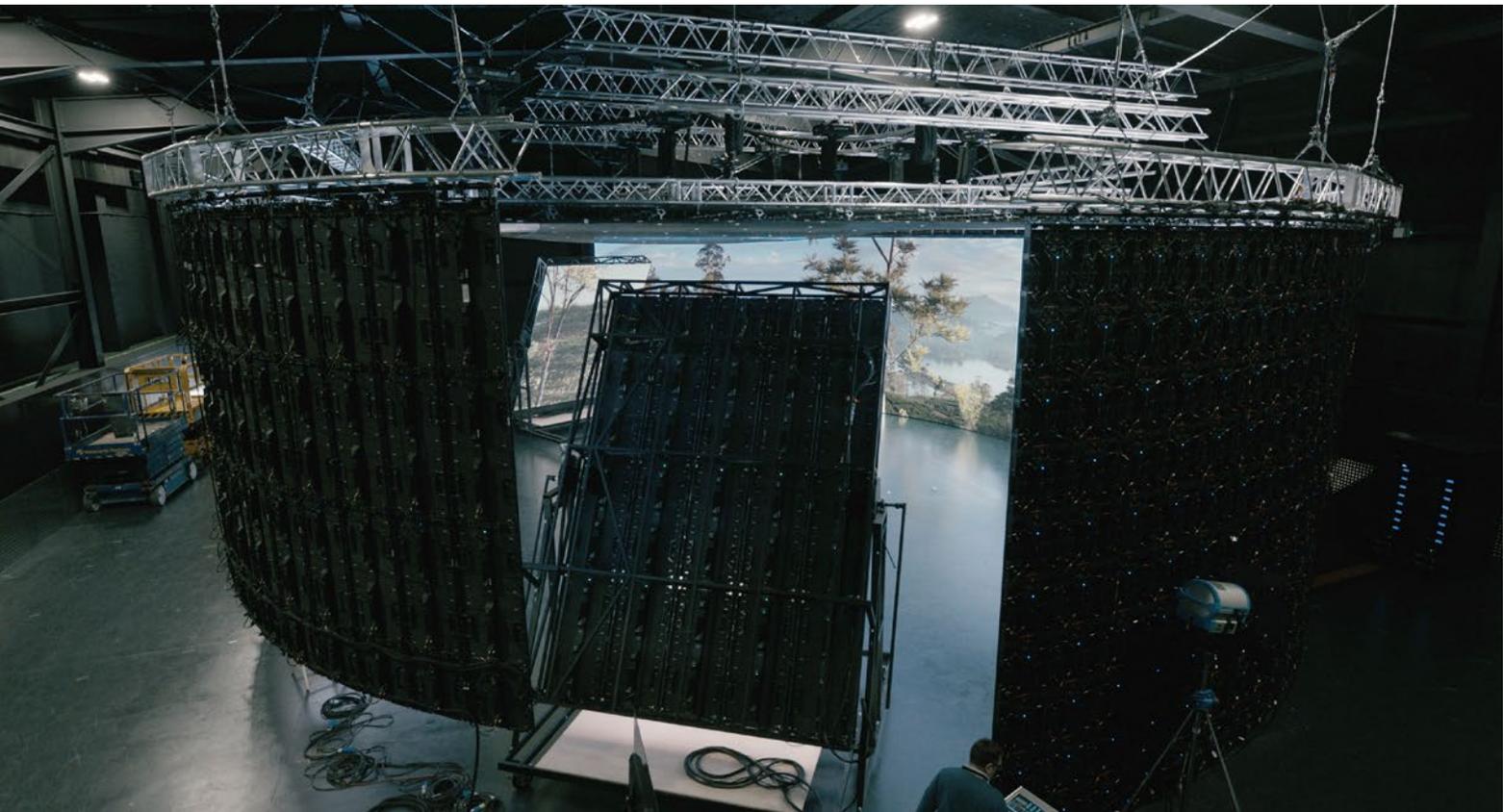
This combination of technologies includes an immersive 'volume' of high-resolution LED screens, powerful gaming graphic engines, highly specialized software to create and control the screen content, and precise camera tracking systems. Altogether, it's a high-value mass of specialist hardware, software and processors – *but it saves fortunes in production.*

Based at ARRI UK's premises in Uxbridge, ARRI Stage London was designed and delivered in collaboration with ARRI Solutions, ARRI Rental and Creative Technology (CT).

The facility caters for high-end feature films, episodic television, commercial projects and corporate events but has also been designed to test, streamline and refine virtual production workflows.

And as we shall see, the key to its success is reliable, robust and managed power distribution.





SPEAKING VOLUMES

The heart of the 708m² space is the LED screen volume, supplied – along with the signal distribution network and playback systems – by CT. The main, curved ‘in-vision’ LED wall (30m wide by 5m high) with high-resolution (2.3mm pixel pitch) ROE

Visual Ruby LED modules, is the critical VFX wall. The camera position, tracked within the volume, influences the screen output in real-time, delivering convincing point-of-view ‘parallax’.

Completing the volume, surrounding LED screens provide vital and highly realistic lighting and reflections to the on-camera set, actors and props.

These are huge, too: the back wall, built from ROE Visual’s Carbon CB5 panels (5mm pixel pitch), measures 18m wide by 4.2m high, while two side screens of ROE Carbon CB5 are 3m wide by 4.2m high each, and the reconfigurable ceiling panel of ROE Carbon CB3 is 9.6m by 9.6m. Altogether, the volume carries over 35 million pixels of state-of-the-art LED display technology – *a very significant investment, and that’s just the screen.*

Overseeing the project for CT was Tom Burford, who has been investigating the possibilities of virtual production since as far back as 2017. “It was one of those ‘stars aligning’ moments,” he says, recalling the origin of the ARRI Stage London project. After trying out ideas for a studio for some time, finding the right partner proved tricky until a mutual acquaintance introduced him to ARRI Rental CEO, Jannie van Wyk and, in turn to David Levy from ARRI Solutions, a dedicated group within ARRI that designs and engineers production environments. A strong shared commitment to virtual production formed the foundation of a firm partnership.

Within their specification, CT included StageSmarts’ SmartPDU distros. “We used to use conventional distro systems,” explains Burford, “and yes, the Stage Smarts solution is more expensive, but we switched because our background is in live events, and you only get one go at that – ***you don’t get another take!***” He adds, “You don’t compromise, you want your system to be as robust as possible, and that includes the incoming power. A solid and dependable distro is important because power is fundamental - it’s the one thing you can’t go without. The distro is always a critical part of that.”



FLYING HIGH

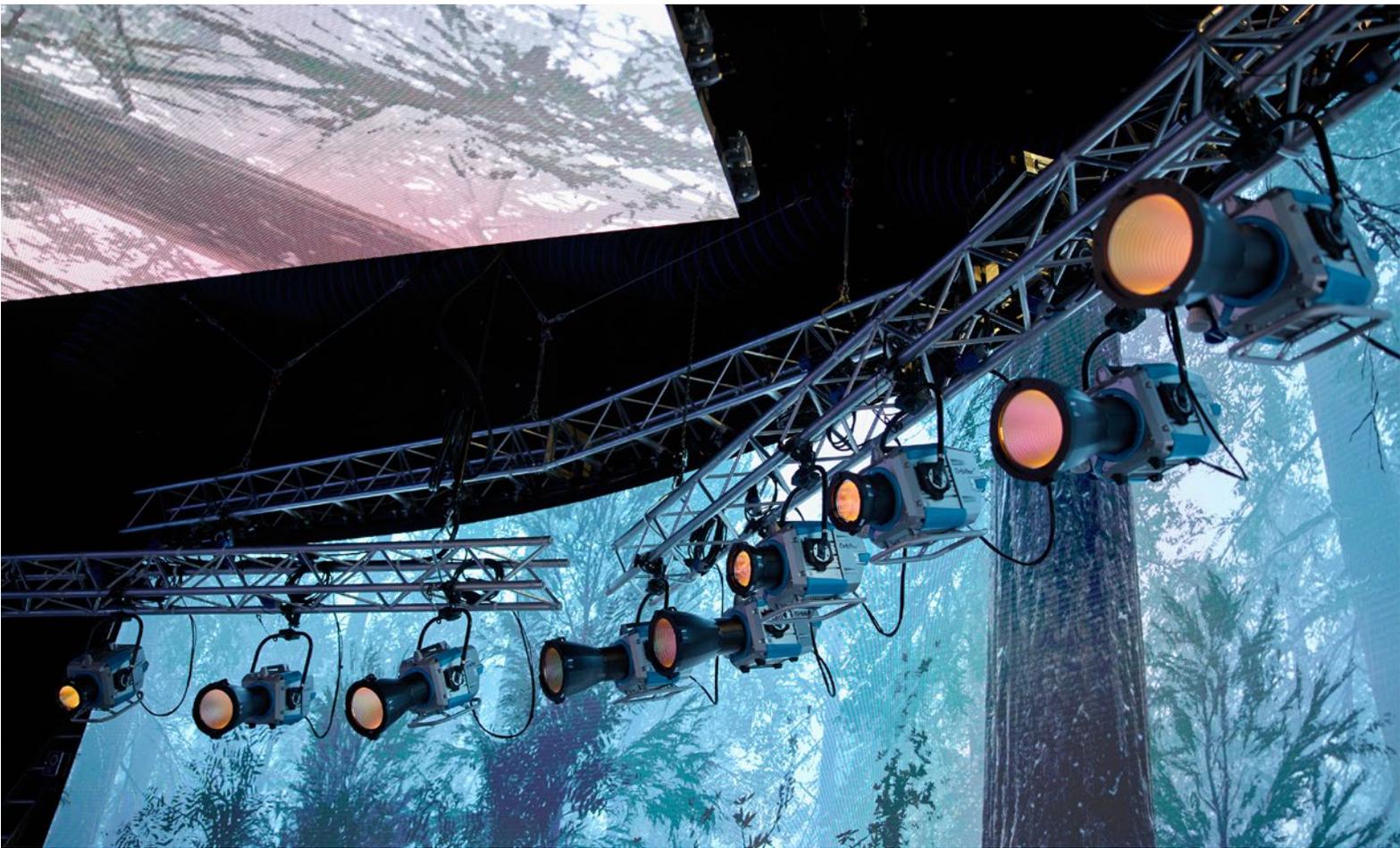
The lighting and rigging, including the reconfigurable ceiling screen and lighting trusses, are flown from a fully programmable motorised flying system. This was designed by Tim Dunn of the Nvisible Agency. "We work with other production companies as well as on our own projects," says Dunn, whose expertise in production rigging is well known. "We're six individuals, each with our own unique skills, and we like to be kind of invisible – we don't like to be in the limelight!"

Dunn provided rigging consultation and, together with ARRI stage manager Sean Ryan and with assistance from Nvisible Agency colleague Jim Baggott, designed the system.

He then oversaw the installation, working closely with a team from Total Solutions Group (TSG), in coordination with David Levy and Thomas Higgins from ARRI Solutions.

The ceiling LED screen is designed to be used either as one large expanse, or divided into four separate panels for added flexibility. Each of the 'quad' panels is suspended by four motors from the roof, while a further eight lighting trusses, each flown from two motors, carry a ring of 50 high-performance ARRI Orbiter LED fixtures, which provide high-quality hard light, complemented by an array of ARRI's SkyPanel LED soft lights. The 32 Movecat electric chain hoists were programmed by Jimmy Johnson.

"For Dunn too, the choice of Stage Smarts power distribution was straightforward. "I'd heard about Stage Smarts before, and obviously CT is a big customer. I asked around, did my own research among various people I know across the industry, and everybody agreed it was great kit."



ARRI Orbiter LED lighting fixtures lights up the volume

"It has just the kind of protection and assurance that you must have in this kind of environment. You can take no risks. Everything needs to be monitored."

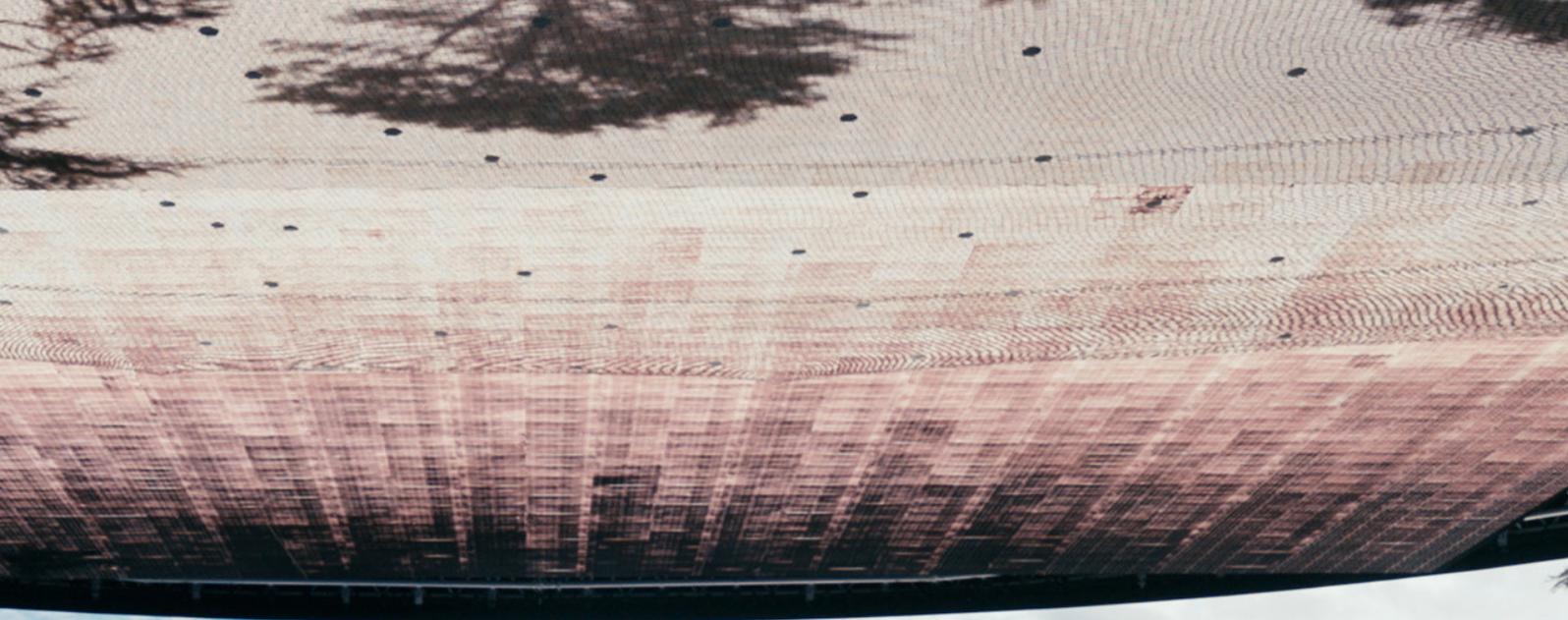
Dunn specified two of Stage Smarts' C72tv racks, which possess a raft of confidence-boosting features. These include the all-important real-time monitoring and remote reporting from its proprietary load sensors on each channel, and clearly visible status indicators on the rack itself, making things immediately clear to those working on- or off-site. Beside a host of other features, the C72tv also has battery backup for its onboard CPU, ensuring that even a total loss of power will not stop you from seeing the data you need to rapidly assess the situation.

Dunn also praised the support he received from the Stage Smarts team. "I spoke to Mats Karlsson a number of times, and he and the team were very helpful," he says. "I was very happy. It worked out well."

SMART THINKING

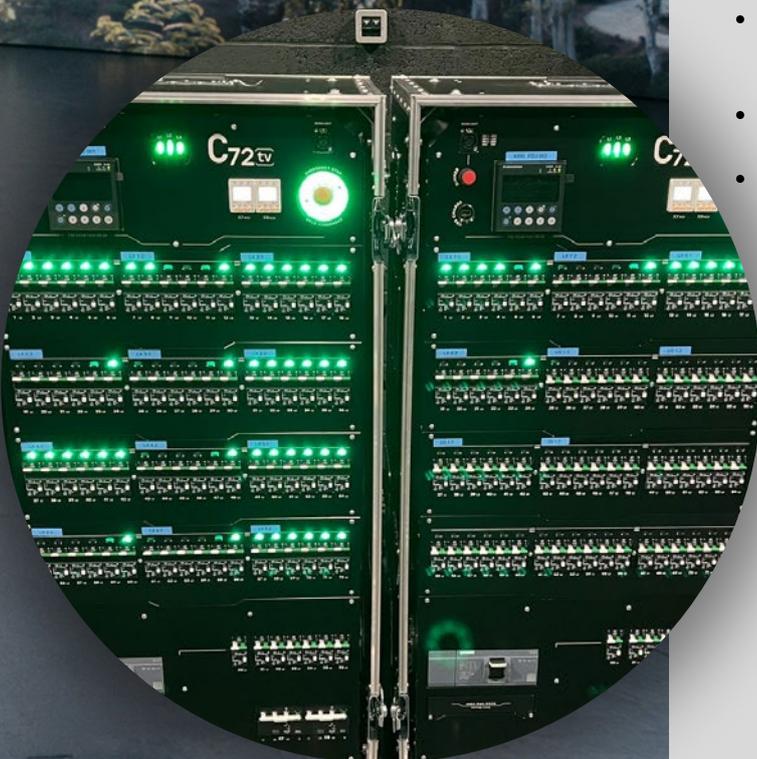
Discussing the power management for such an advanced facility, ARRI Solutions' David Levy, who oversaw the project says, "The power requirements of this stage are so broad and critical, it needs a carefully considered, robust and flexible solution for managed, smart power distribution across the studio." The demands on that power solution were high. It had to provide complete reliability and protection for the vast amount of sensitive and expensive equipment, as well as being able to satisfy the needs of the various productions planning to use the space.

Echoing Dunn's reference to the importance of monitoring, Levy says, "Because of the complexity and advanced nature of technology installed across the stage, we wanted a solution that could be closely monitored and would guarantee the protection of all the devices on the network."



C72tv

- 72 + 6 channels @ 16A
- Superior handling of in-rush and load currents
- 100% temperature stable, no de-rating in hot environments
- Loss of neutral overvoltage protection
- Integrated load supervision with local indicators and web access
- Complies to worldwide standards, including VDE
- Compact, truck-friendly dimensions
- Integrated shock-mounting



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ABOUT US

The mission of StageSmarts is to create and manufacture world-class power distribution for the media and events industry. Founded in 2015 by Mats Karlsson and Erik Davidson, the company has since become the first choice for critical applications worldwide.

Our products are designed to last for decades under the toughest conditions and are engineered to handle the difficult loads and challenges of today's events. We've taken power distribution into the 21st century with added functionality, superior performance and the best possible safety and protection for both people and equipment.

It's our belief that products and solutions should be designed for the purpose, using the best available technology and conforming to the toughest standards.

Not easy, not cheap but definitely the only way to bring safety, peace of mind and lasting value to our customers.

Be safe, Not Sorry

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