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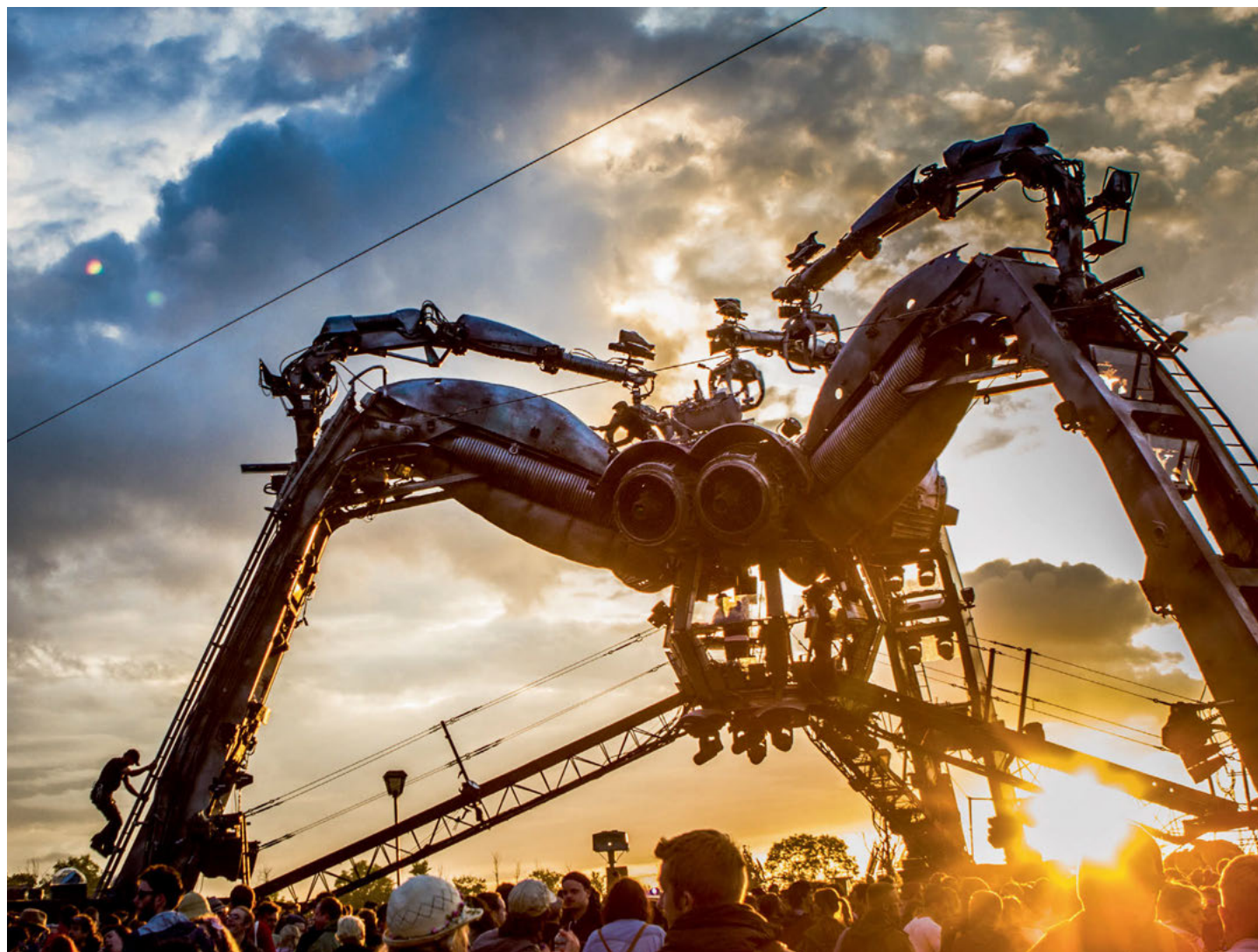
ARCADIAN SPLENDOR

GLASTONBURY'S MOST SENSATIONAL STRUCTURE

IN THE SPOTLIGHT: D3 TECHNOLOGIES • PARKLIFE WEEKENDER • NEIL YOUNG • MILEY CYRUS
YPN AT SONISPHERE • EDC LAS VEGAS • HOVE FESTIVAL • LIGHTING CONSOLES MARKET FOCUS



First page: The 'alien spider' stage was born of a desire to challenge the traditional lack of visual stimuli at festivals. Below: Arcadia's alien spider is made up of 50 tonnes of recycled military parts.



It's not too often that we get to write about a stage as unique as this. The words 'alien spider' are perfectly descriptive for the other worldly structure, which was born out of a passion to create something truly memorable and boundary breaking for live events and festivals, something that would draw crowds in and allow the performers to feel part of something quite unusual whilst still delivering a sense of community to everyone involved.

The initial idea came from artists who specialised in welding and creative technical design, namely Pip Rush and Bertie Cole. Five years later the 'alien spider' has become one of the most talked-about stages on the European festival circuit, and it all started at Glastonbury thanks to Michael Eavis' backing. This year's 'Glasto' as it's known to its attendees, saw Arcadia Spectacular adorned with flames effects and pyrotechnics, lasers and LED screens representing facial features of the spider. It looked incredible, sounded rave-perfect - even in the rain - and literally lit the sky with an abundance of production worthy jaw-dropping gasps and the story behind what that takes is as heartwarming as the beast's propane gas breath.

ARTISTIC VISION

"Bert and I had an early morning chat in 2008 about how we were bored of linear stage set-ups and consistent lack of visual stimuli at music festivals, so we set out on a mission to make the visuals at a festival complement the music... we got working on every element from the staging through to the truss and of course all the electronic effects we had available. We didn't have any capital but we could weld, so scrap became our best resource," explained Arcadia's Creative Director, Pip Rush.

Rush is from a sculpture background, a skill that would lend itself nicely to his vision: "My family are all artists of some sort, including my elder brother Joe Rush who made giant metal sculptures and taught me to weld as a teenager. I met Bertie [Cole, Technical Director] in 2008. He'd been working for Khyam Tents mastering some of the largest tensile structures in the world and had experience of construction on a huge scale, so we teamed up and the scope of what we could build really expanded..."

Rush and Cole had both been attending Glastonbury since childhood and after looking for bigger projects to get involved in, 2008 became the year they would become one of the festival's stage suppliers. "Michael Eavis

gave us our first budget and we made our first 360° stage in a cow shed for Trash City. It was supposed to be a chill out stage but Eat Static played the first set from a jet engine in the middle! It was instant; we had 5,000 people raving on top of it and before we knew what was going on we had become Glastonbury's late-night rave stage!"

Today, Arcadia's alien spider is made up of 50 tonnes of recycled military parts. The eyes and underneath the DJ booth are engines from old planes and the legs are made up of old scanning machines used by HM Customs & Excise. When not in use the structure is kept on a farm in Somerset (UK) and in neighbouring Bristol there is an abundance of creative people creating interesting things to enhance the project.

"It's perfect for Glastonbury because it's real, you can see it all around you, hear it, feel it, smell it, touch it... it's truly immersive on every level and it's all made from re-used military hardware that's been re-invented to create smiles and laughter," he continued, citing that the hope is for people to leave the stage feeling a sense of unity from the experience.

This was certainly the kind of sentiment felt by DJ Craig Charles who played Arcadia

Below: An Avolites Sapphire Touch console provided lighting control and triggered flames, pyrotechnics and lasers with on-site support from the Avolites team.



for the very first time this year, explaining to the crowds that he could “tick it off my bucket list”. Post set, he rather enthusiastically told TPi: “Playing the Arcadia spider was hipper than a hippopotamus dancing to hip hop at the Hippodrome. We chased the rain away through the power of funk. An epic magical moment... we are soul busters!”

Indeed, Arcadia’s Spider is often seen as a ‘must do’ for DJs and dance acts. James Pinnock is the man in charge of music and DJ scheduling / programming for the spider and Freefall Collective compose and mix the both the show and finale music. This year the collective worked with an onsite studio to do last minute

remixes and tweaks to bring the show together, ensuring each and every act walked (or danced) away from the stage happy.

TECHNICAL PRODUCTION

Having worked at Glastonbury in various roles, Technical Production Manager, Tim Smith of Smash Productions explained that he “stumbled across a job advert for Arcadia, met with the guys and fell down the rabbit hole into a crazy journey.”

Coming on board with the project earlier in the year, Smith continued with existing suppliers and relationships where possible. New suppliers were chosen to advance the technical capability

of the spider. “Arcadia are always looking to push the boundaries of what is possible and are keen to work with suppliers with innovative ideas and who can think outside the box,” he added.

“The spider is not your everyday stage to work on, forget your three truss stage, or left and right sound system, everything has to be designed around the creative vision, aesthetics, possible weather implications and suitability to the task, never mind the full 360° experience! All of our suppliers provide us with a wide variety of equipment, suiting the ever-changing nature of the show, surroundings and countries that we work in.

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Below: The Arcadia concept is a fusion of industrial art and innovation, now with the addition of LED.



"From a technology point of view there is endless effort, creativity and late night problem solving which enable Pip and Bertie's vision, and our own creative pride. The show is a once in a lifetime project and I speak for all of the technical team when I say that we are proud to be a part of such an amazing show!"

As with any live production, there are a lot of speciality staff on site for Arcadia at Glastonbury besides the engineers and operators. Arcadia has its own key production staff including Head Rigger, Adam Blackburne and site riggers Wim Penhaul and Rupert Sherston. Crane drivers are Sam Bond (Head of Cranes), Nathan Dare, Henry Arnold, Richie Pearce and Steve Corocan, Show Caller and Creative Producer is Ami Jade Cadillac and Ceri Wade is Arcadia's Event Production Manager, ensuring the event runs smoothly. Arcadia also has an in-house team of Aerialists.

Smith continued: "They are all very specific and demanding roles and it has taken a few years for the right team to grow. There is a huge amount of trust, professionalism and respect between the disciplines which is essential when working on such an unusual stage and innovative show."

VISUALS

Arcadia's visuals are created by Video Illusions and blinkinLAB, with projection supplied by video production specialists, Central Presentations CPL.

The fabulous and highly visual Arcadia concept is a fantastic fusion of industrial art and innovation that's captured the hearts and minds

of festival goers from around the world, now with added LED.

CPL was invited back to Arcadia after its successful collaboration at last year's Glastonbury extravaganza, this year led by Matthew 'Max' Boyse and Jimmy Smith.

Again they worked closely with Video Illusions' Dave Whiteoak - who first came up with the whole concept of bringing the spider to life with video, a project that has energised him for the last four years - and with blinkinLAB's Tom Wall, who created all the bespoke footage and animations for the visuals show.

Together, CPL and Video Illusions designed the dynamic HD projection system - using six of CPL's Panasonic PT-DZ 21K projectors - one for the back and one for the front of each of the spider's three massive legs. This year, with the whole Arcadia space being increased to allow a greater capacity audience to catch the vibes, the custom projector towers complete with scenic surrounds were moved back another 20 metres - so the machines had to throw a distance of 40 metres.

Each image projected was 11 metres wide by about 15 metres high and were mapped precisely onto the spider's legs using an Avolites Ai media server which stored and replayed all the video content.

In addition to the projected visuals, Video Illusions supplied its own 10mm LED screen panels which were integrated into the structure around the DJ booth, forming the mouth and the brain of the spider, with the projections

effectively becoming its skin.

The bespoke content for the 2014 show was originated by blinkinLAB which received a 3D CAD model of the spider from Arcadia and created a simplified UV-mapped 3D model for use in the Avolites Ai media server.

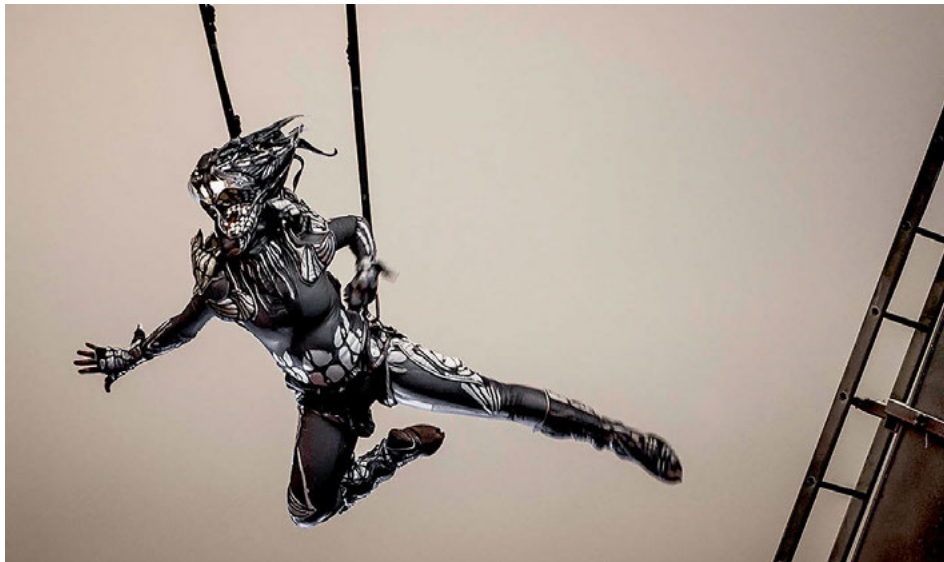
The timecoded AV footage created for the 2014 'landing' show lasted around 35 minutes. The spectacle included a hi-energy choreographed montage of aerialists, lasers, flames and cranes complete with pumping soundtrack.

The remainder of the time the area was in action, Arcadia's projected and LED visuals were VJ'd freestyle, for which blinkinLAB produced over 100 video loops and mapped animations - all with spectacular results that could be seen and appreciated from near and far.

CPL's Boyse commented: "It was incredible to be part of the Arcadia experience again this year. We really enjoyed the great synergy with Video Illusions and blinkinLAB, and we're very happy to be part of one of the most unique, talked-about and most enjoyed elements of the festival".

Video Illusions' Dave Whiteoak said: "I was very keen to work with CPL after last year's success, and once again everyone worked tirelessly with 24-hour days to produce a show-stopping production. Throughout the whole Arcadia project I have been lucky to grow a number of amazing relationships with some of the most talented technicians / suppliers and artists in the industry... Pip Rush and Bertie Cole are absolute legends and them introducing us

Below: The stage allows performers to feel part of something quite unreal, while also delivering a sense of community.



to CPL has helped us massively change how we work on our crazy designs and custom projects. I believe together we now have a new A-Team."

FULL VISUAL SUPPORT

Whiteoak also told us about the incredible manufacturer's support behind this year's project: "I arranged a meeting with Dave Green, the Ai Media Server Designer and explained to him the ideas we had in mind for Arcadia... Dave was over the moon that we had come to him for his support on this project. During a number of conversations I said we'd need the Ai server to have full control of the show and have full control of the fire. His response was "hell yes!"

Green then explained to Avolites MD, Steve Warren what the proposal involved and what the visuals team wanted. "Steve called me and offered 100% full support from Avolites Media on this project. As time passed, Jazz from Avolites soon got involved with the lighting side of the project and Steve again offered the Avolites Sapphire Touch lighting desk to play a huge part in this project.

"Quite a few meetings started to happen at the Avolites office to discuss how all parts of this project were going to work, from the infrastructure installation to the media server project design, lighting fixture plan and timecode layout.

"Before we knew it, all of the teams were in a field with 1000 metres of cable pulled in, the LED rigged, the projectors up on towers and FOH media server and lighting desks with timecode controlling fire, lighting and video! During the video mapping set-up night, we all stood back and were amazed with what we had brought to life and the new visual element to Arcadia Spectacular was born. Video Illusions, Blinkin Lab, Avolites, Avolites Media and Colour Sound Experiment - which supplied lighting fixtures - combined forces to bring a new visual element to Arcadia at Glastonbury to life," concluded Whiteoak.

The Avolites products came from Smash

Productions which supplied Arcadia with several Avolites and Ai products. This year the lighting kit comprised an Avolites Sapphire Touch lighting console, two Titan Net Processors, and a Tiger Touch II lighting console. Media servers were the Ai Infinity EX8 model alongside a Sapphire Media controller surface. Avolites' Steve Warren added: "We are overcome with pride to have supplied Arcadia Spectacular 2014 with Sapphire Touch, providing lighting control as well as triggering flames, pyros and lasers, and to have controlled the non-uniform video mapping from a sapphire Media console and Ai servers. The fully timecoded opening show, followed by live lighting and video jamming to DJs demonstrated the flexibility and power of Avolites control systems.

"On a personal note, I will never forget the moment when I saw Arcadia for the first time, my eyes open wide in awe of the stunning spectacle. With Avolites now working directly with the creative team headed up by the charming and capable Pip Rush and Bertie Cole, I look forward to helping them take Arcadia to even greater heights."

LIGHTING FIXTURES

Colour Sound Experiment provided further lighting elements to Arcadia, as it has done for some time. This year's lighting design was an evolution of the 2013 creation with upgraded kit.

Colour Sound deployed its new Robe Pointe multi-purpose moving lights and 100 DragonLED 220 external PARs for lighting the structure. The DragonLEDs feature six-colour RGBWA and UV LEDs; the huge metal beast gave main stage headliners Metallica a run for their money in terms of hardware credentials.

Other lighting fixtures include Robe LEDWash 600's, Clay Paky Alpha Spot 1500's and another huge smoke emporium, all operated by Jamie Trant using an Avolites Sapphire Touch, while Colour Sound Experiment's Crew Chief for the area was Stu Barr.

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Below: Specialty staff are brought in to fill the unique roles created by undertaking a project like the spider; The huge metal beast gave main stage headliners Metallica a run for their money in terms of hardware credentials.



Trant first became involved with Arcadia in 2012 when he was brought in as last minute Operator for the 'Afterburner' show at Bestival, Isle of Wight. From that point forward, the young LD continued to light many of Arcadia's festival shows leading to his first involvement with the 'Spider' at their landmark Glastonbury show in 2013. He told TPI: "The rig this year consisted mainly of Robe Pointes. Although being predominantly a beam fixture, their surprisingly wide zoom and effects prisms provided an additional set of looks to be utilised. They're also barking bright! For what is a completely open air show, I could rely on them to punch through."

"The design for the spider is one of delicacy and consideration - a mixture between architectural and effect lighting. Whilst there are many exciting audience effects, it is important that the structure is lit in a way that it can always be recognised as a sculpture," said Trant.

His console of choice - an Avolites Sapphire Touch - came about because the majority of the show was busked: "It was a very easy decision to make, both the 'landing' and 'finale' shows are fully time coded, as well as needing to receive midi triggers which control the flame lamp posts. Being a longstanding Avolites user, I'm no stranger to their friendly 'family' style support. They are a great bunch of people, producing some really great products who are always there to help. I would like to extend my personal thanks to Gregory Haynes and Peter Budd who both went well outside of their remit

supporting us through Glastonbury during some pretty gruelling programming!"

LASERS

Dal Badial of Laser Hire London took care of Arcadia's laser effects thanks to his existing relationship with Arcadia supplier Smash Productions. Badial supplied four staff to help man the lasers as and when they were being operated for the show. Laser products used for the production comprised nine laser units including HB, Kvant and Laser Hire's own in-house designed units.

Said Badial: "When first seeing the sequence and watching and hearing the response from the crowds, it was emotional. All the hard work, effort and creative vision of the Arcadia team had done the task it had set out to do!"

PYROTECHNICS

Pyrotechnics are a huge part of Arcadia's personality, so much so that even if you're not a fan of the music, the flames will catch your attention and seek your presence as the spider gets excited. Ed Samkin of Event FX told TPI: "I first got involved with Arcadia in 2009 when I introduced them to the use of Pyrotechnics for their Glastonbury shows. This year I was approached by Pip eight weeks before this Glastonbury and he briefed me of the new finale they wanted to produce. I wrote a proposal and within a week I had been signed up as Pyro Designer and a supplier for the show."

"I love working with Arcadia as they tirelessly strive to develop the audience experience and

put on the best show humanly possible within the budget and Health and Safety constraints. It's an exciting project that I'm proud to be a part of. I worked closely with Pip, Ami and Tim to work out a design to the music, establish suitable firing locations and make the best of the challenging structure and conditions."

"In my role as the pyro supervisor, I manage the crew and liaise with the other HODs and performers to make sure everyone knows the cues, locations and scale of the pyrotechnics. During rehearsals I worked closely with Ami to choreograph the crane movements to ensure we got the best from the pyro sequences as high on Pip's brief was to create a unique look that incorporated the cranes and their movements with pyro. Once we got into firing the show I was the operator at FOH."

Samkin ordered special pyrotechnic materials from the US from his supplier and imported them via Heathrow Airport. "Once these arrived I batch-tested, packed and loaded all the equipment and went to site."

Health and Safety is the most important thing when using pyrotechnics," he noted. Samkin also wrote a comprehensive safety document detailing the exact products intended for use, their locations on the structure, a specific method statement and risk assessment.

"The Arcadia spider is a very challenging structure to fire pyrotechnics from as there are a lot of moving parts, big flame effects, performers, rigging crew, crane drivers and above all else there are ten of thousands of revellers directly below us. It's of paramount

Below: As well as flame effects and expert pyrotechnics, LED screen panels were integrated into the structure around the DJ booth, forming the mouth and brain of the spider whose legs are made up of old scanning machines used by HM Customs & Excise; All the effects work together climatically with the music and lighting for show-stopping performances.



importance to use the most reliable low debris material available on the market which is why I import a lot of products from the US.

"Also the crane choreography was essential as if they were in the wrong place and the wrong time they could be physically over the pyrotechnics when they fire which could alter their trajectory and cause damage to the structure. I relied on a Pyro Spotter who is on a dedicated comms system to give clearance of the cues on the side of the spider I had poor visibility of. In addition I have a deadmans handle on my control system so although I'm running a timecoded sequence I only hold on the deadman, and hence arm the system, when it is safe to fire.

"The general theme I've always had in my mind with Arcadia is a sort of Steampunk, out of this world, scrap metal, futuristic theme. I've always tried to use pyrotechnics in a way that isn't too obvious or expected. For example I will avoid firing a row of equally spaced, same height effects

and try to use obscure angles and work with the shape of the structure. One thing I try to do is continue the lines of the spiders limbs and work with the tripod look of it. So for example, I would fire three large tailed comets from each of the three legs so that they match the shape of it."

FLAME EFFECTS

Germany-based Sir Henry Hot and his team are responsible for assembling the flame machine on top of the spider, which creates flames using propane gas. He said of his love for the job: "The mysticism, the wildness, the eeriness and the brachial aesthetic of fire has always fascinated me... you can feel the fire on your skin, in your body, as well as acoustically and visually. When fire combines with music, performance and the technology used in a live show, the sensation is indescribable.

"I believe that any plan can be made a reality. Whatever image you have in your head - providing you're willing to put enough planning into



ARCADIA STAGE AT GLASTONBURY LIVE PRODUCTION OF THE YEAR

Arcadia uses Sapphire Touch, Sapphire Media and Ai Infinity 8 Servers



ARCADIA 

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"It's the first integrated video control surface dedicated to video. It's well thought through and well designed."

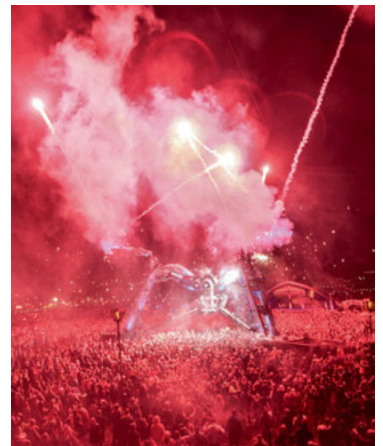


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**all quotes from judges*

Below: DJ Craig Charles described his first ever set at the Arcadia stage as “an epic, magical moment”; Stacks of L-Acoustics Kara loudspeakers were flown from the spider’s legs to fill the centre of the sound field; The Arcadia stage has become Glastonbury’s late-night music stage with a light show to rival any production; The alien spider has become one of the most talked-about stages on the European festival circuit; When not in use, the structure is kept on a farm in Somerset, UK but at Glastonbury, it comes alive with TPI Award-winning production values.



it - you can realise it. The Arcadia stage is the perfect example of this.

“I received sketches of the Arcadia structure, and we were able to develop our concept for the stage around these sketches. The fire gets released on Timecode so that all the effects work together climactically with the music and lighting - the fire has to be meticulously planned into the proceedings.

“The spider structure has also developed significantly in the last four years. Initially our flame machines were placed on the arms of the spider, but this year the machine was on the top. Of course, there are many things to factor into consideration when assembling our machines on the structure. The safety of the crowd, first and foremost, and ensuring the lighting and sound are not affected by the flames.”

AUDIO

AF Live have been supplying sound at Glastonbury for the last nine years, and have worked with Arcadia since the company began supplying its spider stage for the festival; they now supply systems for that stage, along with the company’s Afterburner and Bug structures.

Within the spider stage’s 80-metre sound field, AF Live implemented a six-point hexagonal design, with three infill positions at its centre and two outfill positions to cover viewing areas. They employed 98 individual L-Acoustics speaker cabinets to provide an L-Acoustics line source system for the event. For the six main points,

there were stacks comprising six L-Acoustics Kara modular line source loudspeakers, three L-Acoustics SB28 subwoofers and a pair of L-Acoustics LA8 amplified controllers.

According to the company’s Director Paul Rose, they designed and specified an L-Acoustics Kara system in these positions due to the sensitive noise conditions at the festival: “Using Soundvision 3D acoustical simulation software, we mapped the arena and used the data to show SPL levels both in the crowd and offsite. We applied a cardioid subwoofer design with the SB28 to four of the main stacks to help reduce the bass leaving the sound field in sensitive directions. The wide coverage of the Kara makes it an ideal box, since we expanded the sound field to 80 metres this year; traditionally we have only take it out to 50 metres.”

For the infill systems, AF Live supplied units from the L-Acoustics Kiva range in three positions flown from the spider structure, designed to fill the centre of the sound field. A total of 18 L-Acoustics Kiva loudspeaker enclosures, divided into six hangs of three units, were deployed alongside two L-Acoustics LA8 amplified controllers. The two outfill systems comprised three L-Acoustics Arcs Wide line sources, three L-Acoustics SB18 subwoofers and a single L-Acoustics LA8 Amplified controller apiece. DJ monitoring was achieved through four 8XT cabinets and two 115XT HiQ stage monitors, both from L-Acoustics, while FOH

monitoring came from four L-Acoustics 115XT HiQ units and one L-Acoustics LA8 amplified controller.

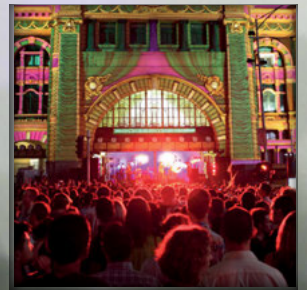
From AF Live, Rose acted as Project Manager with a crew of six working on the installation, as well as three engineers working throughout the show. Russell Kearney was FOH Engineer, while Matt Howes was System Technician in charge of design and Ben Willbee was responsible for the stage and patching audio. For Rose, working with Arcadia at Glastonbury is one of the most rewarding projects his company is involved with: “Arcadia are great to work with because they are always pushing the boundaries of production. The sound field designs we provide offer much more of a challenge than your standard stage set-up with hangs of PA stage left and right; each gig is always a new challenge!”

TPI

*Photos: Charlie Raven, Ben Daure, Shot Away
Chris Cooper, Paul Holmes, Charlie Barnyard
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