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DIGITAL
EDITION

IN THIS ISSUE:

Review: ISE 2020, Amsterdam
Highlights from the show floor

Theatre: Blue Man Group
An expanded canvas

Tech Focus: Shure's TwinPlex
Testing the subminiature mic

Bombay Bicycle Club

Live from Alexandra Palace...

PREVIEW: PROLIGHT+SOUND, FRANKFURT • THEATRE AUDIO: GHOST STORIES UK TOUR
VENUE: THE WAREHOUSE, LEEDS • PROFILE: COLOUR SOUND EXPERIMENT AT 30
AUDIO IN EDUCATION: MOUNTVIEW ACADEMY • TOUR: LIGHTING TAMINO - AND MUCH MORE ...

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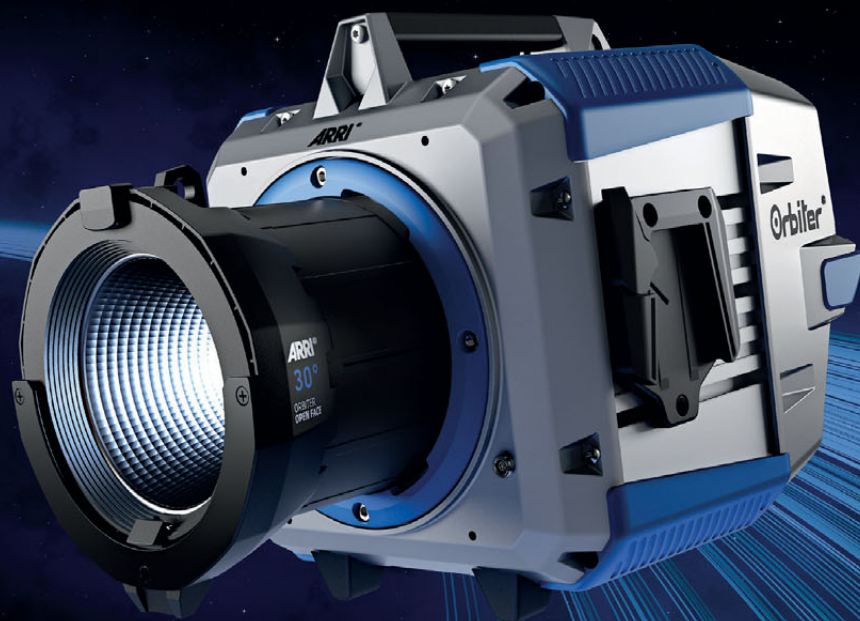


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contents

FEATURES IN THIS ISSUE

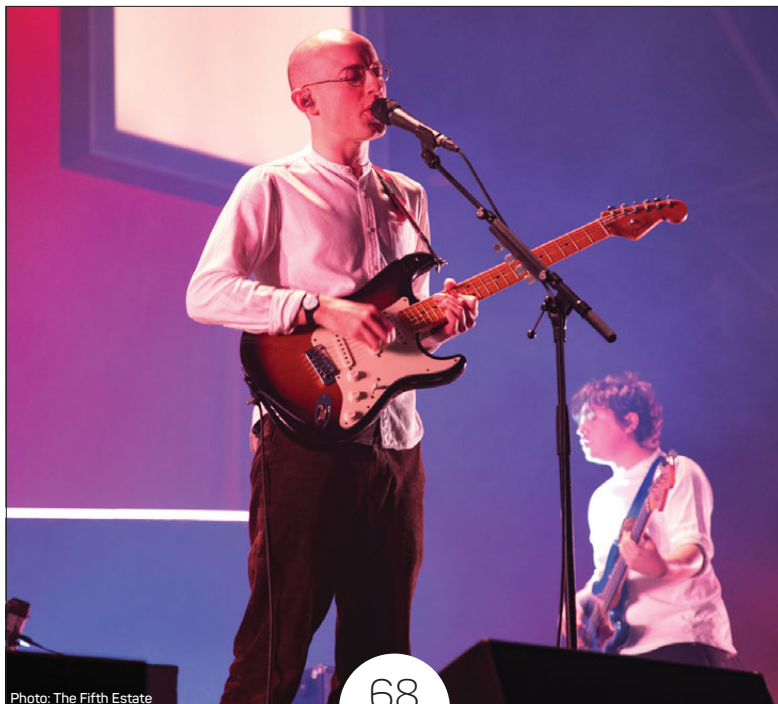


Photo: The Fifth Estate

68

COVER STORY

On Tour : Bombay Bicycle Club

Indie rockers Bombay Bicycle Club return to the touring circuit with a scalable show and a clean yet striking stage set. LSI reports ...



92

Theatre : Blue Man Group

Sharon Stancavage reports on the latest touring exploits of theatrical sensation Blue Man Group ...



48

82

Trading Places

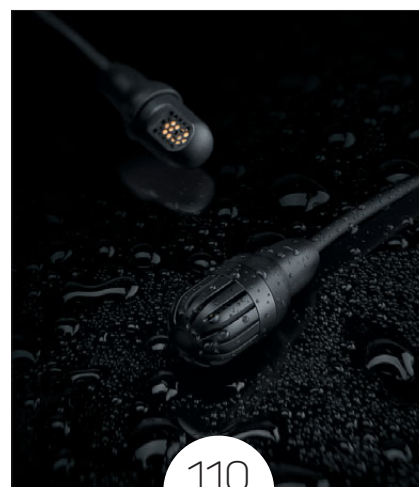
A round-up of news from ISE, Amsterdam, and expected highlights from the upcoming Prolight+Sound, Frankfurt ...



102

Experimental Colours

Louise Stickland charts the history of Colour Sound Experiment, one of the most enduring rental companies in the UK ...



110

TF : Shure's TwinPlex

Simon Allen tests Shure's TwinPlex subminiature lavalier microphone system ...

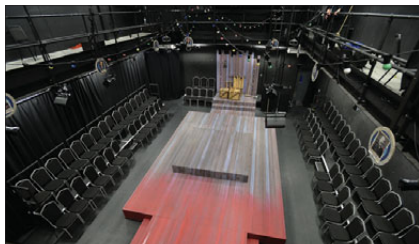


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NEWS

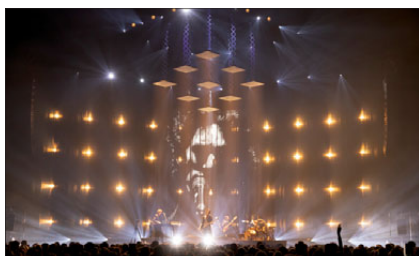
10 In the News

Latest business news & developments, association news, events, training & education, standards & safety



26 Partnering with the future

A partnership between London's Mountview Academy and Autograph Sound has proved a breeding ground for new technical talent...



28 Tamino takes to the stage

Jan Van Lindt creates ethereal visuals for rising star Tamino. LSi reports...



30 Back to live

Steve Moles visits The Warehouse in Leeds as the venue returns to its live music roots with new in-house tech...

34 Immersive progress

Simon Duff discovers the latest developments in L-Acoustics' L-ISA...

36 The sound of terror

The UK tour of *Ghost Stories* puts a new audio system through its paces...

38 Hire power

Kate Lyon meets the team behind Nexus Dry Hire...

40 Feel the flip

AO Drones launches the iconic Motorola Razr in the Dubai sky...

REGULARS

42 Book Review

Stage Lighting Design, Second Edition

44 Early Stagers

Ola Przytula

46 Future Tech

Haptic soundwaves

64 Tools From Beyond

Electric vehicles

66 Audio File

A world of adventures

78 Crew Cuts

Coty Allison

80 Rigging Call

Rescue planning

90 Classic Gear

Lamp-Tramp

100 Tech Focus

The rise of industry podcasts

108 Help Desk

News from the TSP conference

114 In Profile

Pablo Gutierrez

NEXT ISSUE

Coming up in the April 2020 issue*:

- Touring: Lewis Capaldi
- Attraction: Mamma Mia The Party
- Event: Tokyo Rising at Troxy
- Tech: GLP's Highlander Wash
- Preview: PLASA Focus Leeds
- Plus all of your regular favourites...

*Subject to change

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Photo: Ovi Jimenez and Christopher Stewart



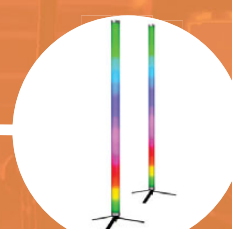
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PLASA Media aims to produce LSi with an approximate 60/40 split between editorial content and advertising respectively.



LSeye

Claire Beeson editor
claire.beeson@plasa.org

"I've never used hand sanitizer so religiously - but I still returned home with my annual post-ISE cold!"



For our cover story this month, we take a look at Bombay Bicycle Club's return to live touring after a five-year hiatus, as the band bring their scalable live show to London's Alexandra Palace (pages 68-76). Also inside, Steve Moles pays a visit to The Warehouse in Leeds as the venue returns to its live music roots (pages 30-32); Kate Lyon meets the team behind Nexus Dry Hire (pages 38-39); Louise Stickland charts the 30-year history of rental specialist Colour Sound Experiment (pages 102-107); and Sharon Stancavage profiles the latest Blue Man Group tour (pages 92-98) where "the men are still blue, but everything else is new."

We also uncover how a new loudspeaker is spooking audiences up and down the country on the UK tour of *Ghost Stories* (pages 36-37). Plus, we discover how a partnership between Mountview Academy of Theatre Arts and Autograph Sound is helping to shape our industry's next generation (pages 26-27); and Simon Duff reveals what's new in the latest L-ISA update from L-Acoustics (pages 34-35).

On the tech front, Simon Allen reviews Shure's new TwinPlex subminiature lavalier microphone system (pages 110-113), which was presented with a prestigious PLASA Award for Innovation at the PLASA Show 2019. Meanwhile, Wayne Howell rounds-up the latest standards news concerning lighting protocols for this month's *Help Desk* column (pages 108-109).

We also report from the recent ISE exhibition - held for the final time at Amsterdam RAI before relocating to Fira de Barcelona next year. With the spread of coronavirus a prevalent concern and Storm Ciara disrupting the travel plans of many exhibitors and visitors, this year's show was significantly quieter on day one, but footfall did improve as the four-day event went on.

With hand sanitizer being used obsessively, fist bumps advised instead of handshakes and face masks infiltrating the show floor, ISE 2020 did feel a little surreal at times. (Personally, I've never used hand sanitizer so religiously - but I still returned home with my annual post-ISE cold!) But, as our report on pages 48-62 shows, none of this got in the way of a plethora of major product launches and debuts...

With the world currently still in the midst of the COVID-19 health scare, it's uncertain the effect the virus will have on our industry as time progresses. Already, a number of European countries have implemented widespread measures against the spread of the virus, with France and Switzerland banning large-scale public gatherings, including the Geneva Motor Show. International tours are also being affected, with artists such as Stormzy, Khalid, The Pixies, Mable and more cancelling or postponing dates due to health concerns. Fingers-crossed that coronavirus is brought under control soon and we can all carry on with business as usual! ☺

{ PRE-LOVED EQUIPMENT }



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EVENT

New judges and awards for KOI 2020

[UK] The Knight of Illumination (KOI) Awards has announced the introduction of two new awards to the Concert & Events category for the 2020 ceremony. The new awards are being added to the line-up to accommodate the ever-evolving high standards of production in live events.

The new award for Festival Headliner, sponsored by Ayrton, will be open to submissions for any festival headline set that has been designed with additional packages without relying solely on the use of the pre-installed festival rig. To accommodate the entire festival season, eligible performances will have been performed between 1 January and 31 December 2019, and the closing date for submissions is 30 June 2020.

In the same category, the existing Events award will be split into two awards - the award for Event Lighting Design, and the award for Event Digital Content.

Meanwhile, two awards are being renamed. In the Concert & Events category, the Video Content award is now Digital & Video Content, to welcome design submissions from all concert sizes. In the Television category, the Video Content award will become the Video Content and Scenic Design award, to encourage submissions from further afield.

Also in Television, the Light Entertainment and Events awards will merge into one due to frequent crossover between the submissions received for both awards.

In other news, five new judges have been appointed across its three categories for the 2020 Awards. Joining the Theatre panel are Mark Pullinger (opera critic and editor of classical music magazine



From left: Stew Hume, Susannah Clapp, Sarah Crompton, Mark Pullinger and Nigel Catmur

Bachtrack), Sarah Crompton (dance critic for *The Observer* and theatre reviewer for *Whatsonstage*), and Susannah Clapp (theatre critic for *The Observer*). Meanwhile, *TPI* editor Stew Hume joins the Concert & Events panel and lighting designer Nigel Catmur joins the Television panel.

Submissions to the Television and Concert & Events categories can be made through the KOI website until 30 June, whilst theatre productions will be nominated by the Theatre judging panel only. The winners will be announced at the 2020 KOI Awards ceremony and gala dinner at London's Eventim Apollo, Hammersmith on Sunday, 6 September.

➔ www.knight-of-illumination.com

EVENT

Speakers confirmed for Rigging Symposium

[USA] The speakers have been confirmed for the 2020 New Rigging Symposium, taking place 31 March - 1 April in Houston, Texas. The event will kick off with a keynote address from Jeanette Farmer, whose career spans more than three decades of professional theatre technical support, show production, concert and theatre lighting design, theatre design consulting and themed entertainment project management. She will be followed by a session on video wall rigging, featuring Joe Clayton of Stage Rigging, Tony Galuppi of PRG, and Stefan Pries of Creative Technology.

Focussing on emergency response and rescue plans will be performer flying experts Fred Caron (Cirque du Soleil), Stu Cox (Sapsis Rigging) and Jim Shumway (TAIT), whilst Joe Champelli of Entertainment Projects, Pete Svitavsky of Wenger/JR Clancy, and Nils Becker of ETC will discuss the differences between automation and motorisation. There will also be an opportunity to put questions to four of the industry's most respected engineers: Tim Franklin, Bill Gorlin, Miriam Paschetto, and Jeff Reder.

To register to attend, visit the web address below . . .

➔ www.esta.org/nwrs

CHARITY

BTS charity developing therapist registry

[USA] As part of its mental health and suicide prevention drive, US-based industry charity Behind The Scenes is seeking therapists with experience in the entertainment technology sector to sign-up to an online 'therapist finder' service. The initiative was prompted by the charity's recent industry-wide research that indicated few therapists seen by entertainment professionals were familiar with the pressures of the business.

"We are seeking therapists who either have personal experience in our industry or have previously seen clients who work in the industry, and learned about the unique pressures and stresses," says the charity. "If you have experience with a therapist you think should be listed on the finder, please send their contact information to mh@btshelp.org."

➔ wp.behindthescenescharity.org

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www.lsonline.com*

PEOPLE

Danley restructures sales and marketing

[USA] Danley Sound Labs has restructured its sales and marketing division by promoting key staff members. Jeff Pulliam has been named general manager, whilst Jonathan 'JP' Parker (*pictured*) has become director of global sales and marketing.

Parker oversees a team, including newly-promoted national sales manager Skip Welch, who will manage the domestic sales department, featuring Cooper Hedden (promoted to southeast regional sales manager), Jay Andrews (formerly with Lienau AV, promoted to northeast regional sales manager) and Kim Comeaux (formerly with Anderson Marketing, promoted to western regional sales manager). Additionally, Harold Sexton and Scott Howard have been recruited as sports market/house of worship and recording specialists, respectively.

➔ www.danleysoundlabs.com



➔ www.lsonline.com



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PEOPLE

Leadership changes at Green Hippo

[UK] Green Hippo has announced that David March and Ryan Brown are to take on new directorship roles at the company. Meanwhile, business unit director and former CEO Emma Marlow is to leave the company after almost seven years at the helm. During her stint, Marlow expanded the company's international operations and oversaw the 2018 acquisition of the company by US-based Spitfire Creative Technologies.

The company says in a statement: "Now that Marlow has successfully overseen the integration of Green Hippo into the Spitfire group of specialist AV brands, she will not be directly replaced. Instead, her responsibilities are being split across new roles shared by staff across the family of companies."

David March, a 30-year veteran of the entertainment lighting and video market, expands the sales and marketing role he took on last year, with his promotion to sales and marketing director. March will work alongside Ryan Brown, previously product manager, who is now appointed operations and product director. Both will report to Denise Nemchev, president and CEO of Spitfire Creative Technologies, and be based in Green Hippo's new London office in Camden.

The company has also appointed Abi Roberts as project and marketing coordinator. Joining Green Hippo's London team, Roberts manages a range of marketing tasks, including digital and social media, tradeshow, and provides



Ryan Brown and David March

marketing support for the distribution network. She works closely with Green Hippo's head of marketing, Mercedes Stevão Boase.

➔ www.green-hippo.com

BUSINESS

CLF and TMB reach UK distribution agreement



CLF's Bram Adams and Martijn Gerards with TMB's Lauren Drinkwater, Tim Obermann, Nuri Waheishi, Anton Sanders and Adam Burton

[UK] TMB has been appointed as the exclusive distributor for CLF Lighting for the UK and Ireland. TMB already has experience with CLF products as it offers the lighting brand Nuri*Lites by CLF in the US. Now, TMB UK will offer a broader range of products under the banner Nuri*Lites by CLF, including LED fixtures, moving heads, and the Spectrum series.

"We are extremely happy to offer CLF's wide product range to our customers in the UK and Ireland," comments TMB's EU sales manager, Tim Obermann. "Nuri*Lites by CLF represents a new range of LED PARs, bars, wall washers, special effects lights, and moving heads, all of which complement our current product line-up. Customers will certainly benefit from this expanded product selection for many applications and every budget."

➔ www.clf-lighting.com

➔ tmb.com

➔ www.lslionline.com

BUSINESS

Prolyte adds new distributors

[UK/Switzerland] Prolyte has appointed DJP Diffusion as its official distributor in Switzerland and Stage Electrics for the UK.

In Switzerland, DJP Diffusion will primarily focus on venue and theatre installations and the rental fleet business. The company has also partnered with Prolyte's most experienced ambassador, Rose Oberer, who has more than 25 years of partnership with Prolyte and the Swiss market.

Meanwhile, in the UK, Fons van Teijn, Prolytes CEO, signed its distribution deal with Stage Electrics operations director Adam Blaxill at the company's Bristol-based offices. Van Teijn comments: "Stage Electrics has been a good ambassador for Prolyte for the past 15 years. We plan to build on that heritage and develop a strong working relationship."

// djp-diffusion.ch

www.stage-electrics.co.uk

www.prolyte.com

EVENT

ISE ends RAI residency

[The Netherlands] Integrated Systems Europe (ISE) completed its 10-year residency at the Amsterdam RAI amidst growing public health concerns caused by the coronavirus outbreak and disruptive weather conditions.

The biggest AV technology tradeshow went ahead despite a challenging backdrop, with a number of exhibitors from China forced to pull out due to travel restrictions related to the virus, whilst others opted not to exhibit on health grounds.

Meanwhile, high winds caused by Storm Ciara led to flight cancellations, hampering visitors' travel plans. For more details, see

PEOPLE

Solotech appoints GM for Quebec City office

[Canada] Frédéric Sujobert has been appointed as general manager of Solotech's Quebec City office. Sujobert has held various



management positions over the course of his career, notably as vice-president of operations and general manager at Groupe Le Massif.

Under the joint leadership of Solotech's Martin Chouinard and Philip Giffard, Sujobert will supervise operational and sales performance for the Quebec City/Saguenay region and oversee the development of new business opportunities while promoting synergy across the company's live production and sales and systems integration divisions.

➔ www.solotech.com

our ISE show review on pages 48-62. Whilst ISE 2020 recorded a drop of nearly 30,000 unique visitors compared to 2019, organisers remained positive. "This year's show demonstrated to us just how determined our attendees were to come to ISE," comments Mike Blackman, MD of Integrated Systems Events. "Many of our exhibitors exceeded their targets for customer engagement and lead generation. The show has delivered on all fronts."

ISE 2021 will take place on 2-5 February 2021 at Fira de Barcelona.

➔ www.iseurope.org

BUSINESS

Unusual gains ISO accreditations

[UK] Unusual Rigging has achieved a series of compliance standards. The Northampton-based company met both the ISO 9001, which sets out the criteria for a quality management system, and ISO 14001 which focuses on environmental systems. Unusual is also currently working towards securing ISO 45001 for good health and safety practice.

Operations manager Lizzie Richmond comments: "We are extremely proud to have secured these ISO standards, which, though not compulsory, demonstrate to our customers that we are leading the way with our policies and processes. When we tender for work we are increasingly being asked to demonstrate how we meet the various requirements surrounding quality, environmental impact, health and safety



Unusual's 'green team': Tom Nightingale, Lizzie Richmond, and Tom Harper

etc., and we have always been able to provide the evidence required. Achieving the ISO standards however makes this all more official."

➔ www.unusual.co.uk

BUSINESS

EXE Technology hosts training in Germany



Attendees at the first EXE Technology training session in Germany

[Germany] The Area Four Industries Direct Germany office recently hosted a two-day EXE Technology training session. Held in Emsdetten, the event provided attendees with an overview of EXE Technology's range of chain hoists, load cells, controllers, and dynamic stack tracks. Participants witnessed a complete strip down of the chain hoist and learned about its operation from the inside out. After the mechanical heart of the hoist was put back together, a complete overview of the inspection process was covered.

On the second day of the event, attendees were given the opportunity to practise the inspection procedure. Attending companies included: TDA Rental GmbH, Rigging Service GmbH, Satis&fy AG, Groh-P.A. Veranstaltungstechnik e.K., Litecom GmbH, Stagebox Rigging Service, and Lockschuppen Event GmbH.

➔ www.areafourindustries.com

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VOICES IN THIS ISSUE

"We've had to knock down a few walls just so the queue for the ladies didn't cross paths with those queueing to come in..."

p30 The Warehouse's Alan Redfearn on the changes at the newly-reopened venue

"It feels as if the sound is coming from the building itself - this incredibly deep rumble that is utterly terrifying..."

p36 Nick Manning on designing the sound for *Ghost Stories*

"... are we now at a place where we can explore digital touch?"

p46 James Simpson charts what's next in theatre

"By its nature, everything we do has never been done before, so we are always thinking on our feet..."

p68 Martha Turville-Petre on designing scenery for Bombay Bicycle Club

"The gunmen hid under our tour bus..."

p78 Meet *Crew Cuts* star, Coty Allinson

"The Blue Men can essentially 'play the lights' as well as musical notes..."

p92 Blue Man Group LD Jen Schriever on the outfit's tricky lighting requirements

"Anyone... can buy good equipment now, so winning jobs often comes down to people."

p102 Colour Sound's H on how his company stands out

PEOPLE

J&C Joel appoints new CFO

[UK] Stage and theatrical drapes manufacturer J&C Joel has appointed Lauren Kellett as its new chief financial officer (CFO), replacing Nick Warton, who left the business in December. Kellett brings 13 years of experience to the organisation, having worked for some of the biggest names in finance, most recently as director of finance at West Yorkshire-based textiles firm, Camira Fabrics. She was also finance manager for Colliers International (UK) and spent two years within the London Audit team at BDO, a major accounting firm with a global presence.

➔ www.jcjoel.com



PEOPLE

Andy Barnby joins Audiologic

[UK] Audiologic has appointed Andy Barnby as business manager. With 30 years' experience, including as area sales manager at Prolight Concepts for the past 14 years, Barnby first started his career in audio working at Bose Professional and, following this, held a range of sales and account management roles with other respected brands. At Audiologic, he will be responsible for driving forward the company's strategy, conducting demos and guiding projects to completion.

➔ www.audiologic.uk



BUSINESS

Genelec goes green

[Finland] Speaker manufacturer Genelec has reinforced its sustainability credentials by ensuring its newly-extended factory is powered exclusively by renewable energy sources.

The manufacturer's recently opened factory extension provides almost 2,000sq.m of floor space for warehousing and logistics, along with additional space for customer support offices, a centralised automation control centre, and efficient waste processing. The expansion also enables consolidation of Genelec's external warehouses, offering further improvements in the efficiency of material flow, lean manufacturing and reductions in waste and power consumption.

Genelec's original facility, built in 1985, was designed to reduce energy use through the use of heat recovery and generous insulation. The factory



moved to a combination of wind and hydroelectric energy supply many years ago, and the new extension brings solar energy to the mix, courtesy of over 450 roof-mounted solar panels which will supply 30% of Genelec's annual power.

▶ www.genelec.com

BUSINESS

SLX relocates to new warehouse



[UK] Bristol-based specialist hire and events business SLX has completed its move to a new warehouse as a result of "planned growth and continued investment". The company has moved from its warehouse on Third Way, Avonmouth, to 115 Burcott Road, Avonmouth. The site comprises over 54,000sq.ft of warehouse and office space and will also feature a visualisation suite and a theatre space for outreach activities and training.

▶ www.slx.co.uk

PEOPLE

Pixl Evolution appoints warehouse manager

[UK] Hertfordshire-based live events video specialist Pixl Evolution has appointed Gilles Quentel as warehouse manager. Quentel has forged a successful career in the UK following the move from his native France more than 25 years ago. With wide experience in the preparation of AV equipment for the touring, corporate and exhibition sectors, he is accustomed to management roles in busy, high-pressure environments.

▶ www.pixl.live



TRAINING/EDUCATION

Nexo supports training in South Africa



[South Africa] Nexo is working with the new generation in South Africa's technical production community by providing free skills training and access to the latest Nexo sound reinforcement equipment in the country's major cities.

In Cape Town, the company recently presented a free-to-attend Education, Training, Certification course encompassing workshops, hands-on and listening experiences, and an overview of Nexo's line array evolution, from Geo S and D ranges to the contemporary Geo M and STM Series. Presented by Nexo's leading training engineer Nicholas Poitrenaud, the three-day seminar was attended by students and teachers from ASE, freelance engineers, house of worship technicians, and audio techs from Sound Stylists.

Meanwhile, in Johannesburg, a new Nexo P+ Series sound system has been made available to the South African Roadies Association, to help raise the production skills of young and aspiring audio professionals. The rig comprises the new P12 point source cabinets, with LS18 subs, and the latest NXAMP4x4Mk2 amplifiers.

▶ www.nexo-sa.com

Daily Industry News :
www.lslionline.com



EVENTS DIARY

USITT

1-4 April 2020
Houston, TX, USA
www.usittshow.com

NAB

18-22 April 2020
Las Vegas, NV, USA
www.nabshow.com

Lightfair

3-7 May 2020
Las Vegas, NV, USA
www.lightfair.com

PLASA Focus Leeds

12-13 May 2020
Leeds, UK
www.plasaleeds.com

Media Production & Technology Show

13-14 May 2020
London, UK
mediaproductions.show.com

AES 148th

25-28 May 2020
Vienna, Austria
www.aes.org/events/148

PALM Expo

28-30 May 2020
Mumbai, India
www.palmexpo.in

ABTT

10-11 June 2020
London, UK
www.abtttheatreshow.co.uk

InfoComm

17-19 June 2020
Las Vegas, NV, USA
www.infocommshow.org

NAMM

9-11 July 2020
Nashville, TN, USA
www.namm.org

Integrate

19-21 August 2020
Sydney, Australia
www.integrate-expo.com

PLASA 2020

6-8 September 2020
London, UK
www.plasashow.com

IBC

11-15 September 2020
Amsterdam, Netherlands
show.ibc.org

Light & Sound

15-16 September 2020
Lucerne, Switzerland
www.lightandsound.ch

INDUSTRY ISSUES

Environmental impact report published

[UK] A free report that exposes the environmental impact of the events sector and hopes to "inspire change" has been released. Led by festival industry steering group Powerful Thinking, *The Show Must Go On* covers energy, waste, food, water, travel and governance. This is the second edition of the study, which was first launched in 2015 in response to the United Nations climate talks that gave rise to the Paris Agreement.

Headline findings include:

- Two thirds of events now have a sustainability coordinator
- 1 in 4 events have a dedicated sustainability budget
- 1 in 3 events created a new public engagement campaign about the environment in 2019
- 1 in 3 events introduced a new environmental policy and/or action plan for events in 2019
- More events overall are reporting and addressing their carbon emissions
- Environmental action is increasingly important to festival-goers
- Energy now makes up 77% of a festival's on-site CO2 footprint, and waste - 23%

To download the report, visit:

➔ www.vision2025.org.uk



BUSINESS

Polar adds four brands to portfolio

[UK] Polar has added four new brands to its distribution portfolio. The company has become the UK and ROI distributor for LEA, a US-based pro amplifier manufacturer, and has also announced distribution agreements with AV conferencing and networking solutions manufacturer ClearOne; conversational AI platform UMI; and intelligent management, monitoring and software provider Utology.

Within its Integrated Solutions division, Polar has further developed its Project Design Service and has introduced hardware support contracts, including next-day hardware replacement warranties on select products - a service offered through partner integrators.

➔ leaprofessional.com

➔ polar.uk.com

BUSINESS

Adamson joins OCA Alliance

[The Netherlands] The Open Control Architecture (OCA) Alliance has added Adamson Systems Engineering as its latest member company. "Adamson has stepped up as a major advocate in the media networking development and standards arena," says Ethan Wetzell of the OCA Alliance. "Their support of the AES70 standard in recent product developments is

a significant milestone for the industry. Needless to say, we are extremely pleased to welcome them into the Alliance."

Commenting for Adamson Systems Engineering, Brian Fraser states: "As an audio manufacturer, we recognise the immense benefit open source protocols offer to the industry as a whole. Open Control Architecture is a protocol we've been investing in for a while and we're happy our choice has been validated and standardised by the AES as AES70."

➔ www.adamsonsystems.com

➔ www.oqa-alliance.com

PEOPLE

RCF grows UK dealer support team

[UK] RCF UK has appointed Tom Martin to provide UK technical sales and support. He will be supporting all RCF dealers south of the M62. Martin has worked across tour and product management, FOH engineering, corporate production and audio installations, and many large-scale events including the Olympics, the BRITs and MTV Awards.

➔ www.rcf.it



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BUSINESS

Doughty celebrates 50th anniversary

[UK] Doughty Engineering is celebrating its 50th anniversary this year. The company was first registered as Doughty Trailer Sales Ltd in February 1970, trading in and manufacturing trailers for 10 years before turning into Doughty Engineering.

"We are extremely proud to be celebrating half a century in business," comments sales director, Julian Chiverton. "When Russell Doughty, Mervyn Lister and my father George Chiverton started out in 1970, little did they know that the Doughty brand would become synonymous with clamps and other kit relied upon by riggers and lighting designers across the world. Their business was trailers, then

designing and manufacturing attachments for rough terrain and forklift trucks in the farming and construction sectors. But by the mid '80s, it was clear that to survive the impending recession, they'd need to diversify even further."

He continues: "A local theatrical supply company, AJS Theatrical Supplies, asked us to manufacture some bracketry. We were asked to quote on the manufacture of 500 hook clamps. The company's owner, Adrian Sant, was so pleased with the quote and the quality, this quickly led on to orders for boom arms, safety chains . . . and the rest, as they say, is history!"

➔ www.doughty-engineering.co.uk



Russell Doughty and George Chiverton

EVENT

Registration opens for 148th AES in Vienna

[Europe] The Audio Engineering Society (AES) has opened registration for the upcoming AES Vienna 148th International Professional Audio Convention, taking place at the Austria Center on 25-28 May.

Under the theme *A World of Audio*, AES Vienna will focus on "the technology of today and tomorrow", including audio for new distribution platforms like Magic Leap. Attendees will also experience VR productions from the Abbey Road Spatial Audio Forum and examples of immersive music and game audio, presented with production insights from the engineers who brought the projects to life. Legacy productions will also be examined, such as the music of Bruce Springsteen.

➔ www.aeseurope.com

TRAINING/EDUCATION

LVR Optical hosts laser safety training

[UK] LVR Optical held laser safety training for operators, installers and manufacturers of laser products on 2 March at Hunton Park Hotel near Watford.

The course, hosted by laser expert James Stewart, covered a range of topics relevant to the light show and entertainment industry, including hazards associated with the use of lasers; how to design safe shows and effects; and how to prepare risk assessments and working with the local authorities. The session also covered the British Standards Institute's PD IEC/TR 60825-3 document relating to laser effect safety, and PLASA's own laser display safety guidance.

➔ www.lvroptical.com

BUSINESS

Allied ProTech to distribute Active Audio



Margie Kirby (Allied ProTech), Régis Cazin (Active Audio) and Rik Kirby (Allied ProTech)

[France/USA] Loudspeaker specialist Active Audio has appointed Allied ProTech as its exclusive distributor for the US.

Régis Cazin, Active Audio CEO, comments: "Now is the ideal time for us to enter the US market, and Allied ProTech is the right partner to help us succeed. We're confident they will provide the expert sales management and distribution we seek, along with the outstanding service and support that our customers deserve."

➔ [//activeaudio.fr/](http://activeaudio.fr/)

➔ [//alliedprotech.com](http://alliedprotech.com)

TRAINING/EDUCATION

DWR hosts MA3 basic training

[South Africa] DWR Distribution hosted its first grandMA3 basic training course from 25-26 February in Johannesburg. Presented by DWR's Jannie de Jager, the two-day workshop focused on familiarising the operator with the basic functions of the grandMA3 software and lighting consoles, as well as the operating philosophy. The event also covered patching, presets, phasers and timecode.

➔ [//dwrdistribution.co.za](http://dwrdistribution.co.za)

BUSINESS

Backstage Academy partners with STS

[UK] Manchester-based STS Touring Productions has made its partnership with Backstage Academy official. The rental company has been supplying a vast range of equipment, including LiteDeck staging, PA, lighting and backline, virtually since the Academy was founded.

Miles Marsden, Backstage Academy's industry partnership director, comments: "My relationship with [STS managing director] Pete Dutton goes back to the late 1980s. They are an established supplier and we are delighted that they have now signed a partnership agreement."

➔ www.backstage-academy.co.uk

➔ www.ststouring.co.uk

PEOPLE

Shure appoints development manager

[Poland] Shure Inc. has appointed Jacek Rusek as integrated systems market development manager for Poland,



the Czech Republic and Slovakia. In this new role, based in Warsaw, Rusek will build relationships with end customers in the region and work closely with Shure distributor Polsound to help Shure expand its market growth and position in Poland. Before joining Shure, Rusek worked for a telecoms solutions distributor in Poland in management positions in IT, engineering, and business development.

➔ www.shure.com

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BUSINESS

Version 2 moves and expands

[UK] TV lighting rental specialists Version 2 has relocated to a re-purposed factory in Reading, Berkshire. The facility offers significantly extended storage space alongside modern equipment preparation areas. The move will also see an expansion to the company's project management offices. The new address is: Version 2 Lights Ltd, The Old Grain Store, Childs Court Farm, Ashpampstead Common, Reading, RG8 8QT.



In other news, Joe Marter (*pictured*) has joined the company as an account manager. Marter began his career in a technical role at Aurora before progressing to project management, supporting LDs such as Chris Rigby and Gurdip Mahal. He then passed through the BBC Wood Norton training academy and was most recently at event lighting company TSL.

➤ v2lights.co.uk

EVENT

Area Four hosts Rigger's Voice

[Czech Republic] The 2020 edition of Rigger's Voice turned its ear to voices from the north of Europe, as experienced riggers and production professionals from Scandinavia travelled to Area Four Industries' HQ in the Czech Republic for this annual conference.

Arriving from Norway, Sweden, Finland and Denmark, attendees took part in rigging and support structure discussions that were led by Area Four Industries technical director Norbert Tripp from 11-12 February. Many questions were asked, various rigging, truss and support structure discussions held, and even truss stress tests conducted during the two day event. Participants were also treated to a grand tour of the Milos factory.

➤ www.areafourindustries.com

Daily Industry News :
www.lslionline.com

BUSINESS

Audio-Technica expands distribution portfolio



Members of the Audio Pro and A-T teams

[Europe] Audio-Technica (A-T) has added Swedish speaker manufacturer Audio Pro Business to its portfolio of distributed brands in the UK, Ireland, France and Spain.

Gary Maguire, commercial director A-T EMEA, says: "We are delighted to be representing Audio Pro Business in our UK and Ireland, French and Spanish territories. Audio Pro Business addresses the needs of business wanting better quality sound and the flexibility to match changing retail and hospitality environments. The brand's forward-thinking approach aligns to many of the requests we have experienced in the market."

➤ www.audiopro.com

➤ www.audio-technica.com



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TRAINING/EDUCATION

Fineline hosts MagicQ training



[UK] Fineline Lighting recently hosted over 20 lighting designers for MagicQ console training. Held in partnership with ChamSys, the sessions took place at Fineline's premises near Bristol on 17-18 February. The basic course focused on how to start new shows, plus layouts, patching, recording and editing cues, cue lists and chases, FX programming, and pixel-mapping. The advanced course covered MagicQ features such as advanced patching, media server control, timecode, scheduled events, execute window and group FX.

➔ [//chamsyslighting.com](http://chamsyslighting.com)
➔ www.finelineighting.com

BUSINESS

Lawo celebrates 50th anniversary



[Germany] Lawo launched its 50th anniversary celebrations in January with a Michelin-star-studded party for its 300-plus employees in the company's hometown of Rastatt, Germany.

The milestone anniversary follows Lawo's most successful business year to-date, achieving a record revenue result that represented growth of 40%, a performance generated by an uptake of Lawo's IP media solutions based around core products of video, audio, workflow and monitoring technologies.

➔ www.lawo.com

PEOPLE

DWR extends Cape Town sales team



[South Africa] DWR Distribution has appointed Andrew Pettit (*right*) as a sales and technical support for the Cape Town market. He joined Bradley Bruchhausen (*left*) at DWR's offices in Milnerton, Cape Town, in mid-February. Pettit attended The Cape Audio College where he achieved a Diploma in Audio Technology while working as a freelance technician. Following graduation in 2015, he joined Solid Group, a well-established production and events planning company.

➔ [//dwrdistribution.co.za](http://dwrdistribution.co.za)

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TRAINING/EDUCATION

Sennheiser training courses launch online



[UK] Sennheiser Sound Academy training courses for the first half of 2020 are now available to book online. Run by Sennheiser's Andrew Lillywhite and Joe Mahoney from the Customer Development & Application Engineer (CDAE) team, the courses are designed for RF techs, AV integrators and technicians, sound engineers, designers or consultants, live event professionals, equipment resellers and apprentices, who want to further their understanding of the specific area of each course.

A wide variety of courses are available, including *Wireless Mics Monitoring Essentials*, held at Sennheiser UK offices in Marlow as well as at Arnolfini in Bristol; *RF Best Practice for Production and Touring* course in London; *Wireless Audio for AV Integrators*, held in Marlow and London; *Audio For Meeting Rooms & Conferencing*, taking place in London and Scotland; and, finally, *Wireless Mics & Monitoring: The Master Class*, held in Marlow. Each course offers a combination of classroom training, practical modules and e-learning.

▶ portal.sennheiser.co.uk

Daily Industry News :
www.lsonline.com

BUSINESS

RGB to distribute Penn Elcom AV racking

[UK] Penn Elcom has appointed RGB Communications to distribute its full range of 19" racking enclosures and associated accessories. Penn Elcom sales director, Rob Platt, comments: "We look forward to a busy and proactive working relationship with RGB. With 29 years' experience in the pro AV industry built on understanding the products they distribute, we think RGB will be great Penn Elcom brand ambassadors and a solid partner for the continuous development of our various 19" ranges."

▶ www.penn-elcom.com

▶ www.rgbcomms.co.uk

BUSINESS

Absen stockpiles LED

[World] Chinese LED manufacturer Absen has moved to allay concerns caused by the coronavirus outbreak by stocking more than 5,000sq.m of LED product ready for shipping, with a further 27,000sq.m in production. The stock, comprising indoor, outdoor and rental display products, is available from the company's manufacturing base in Huizhou and its European headquarters in Frankfurt, Germany.

Tania Zhao, MD of Absen Europe, comments: "We would like to reassure our customers and the market that our company is in a very strong position. We have a vast array of products in stock, which can be shipped directly, or collected from our European warehouse in Germany or our regional distribution partners. Our priority is to ensure our customers and our partners continue to have access to the latest LED products."

Absen is also set to move its European offices into larger premises by 30 March.

▶ www.absen.com

TRAINING/EDUCATION

OutBoard and EM Acoustics hold joint demo

[UK] Immersive sound specialist OutBoard recently teamed up with loudspeaker manufacturer EM Acoustics to present a combined series of demonstrations. Held from 3 to 5 March at London's SARM Music Bank Studios, the sessions demo'd TiMax spatial mixing, immersive 3D effects animation and vocal localisation with live stage-tracking using TiMax SoundHub and TrackerD4 on a multi-channel EM Acoustics system.

OutBoard's Dave Haydon and Robin Whittaker ran the TiMax sessions, whilst EM Acoustics demo'd its new Reference Series R10 point-source loudspeaker (see *The Sound of Terror* on pages 36-37 of this issue for more on this) along with the Halo-B medium-format line array.

▶ www.emacoustics.co.uk

▶ www.outboard.co.uk

PEOPLE

Bandit Lites grows HQ sales team



[USA] Nick Brown, Ginny Wynn and Joe Muncy have joined the Bandit Lites team. Brown will provide lighting design and console operation for various productions, whilst Wynn and Muncy join as an inside sales representative and a sales floor technician, respectively.

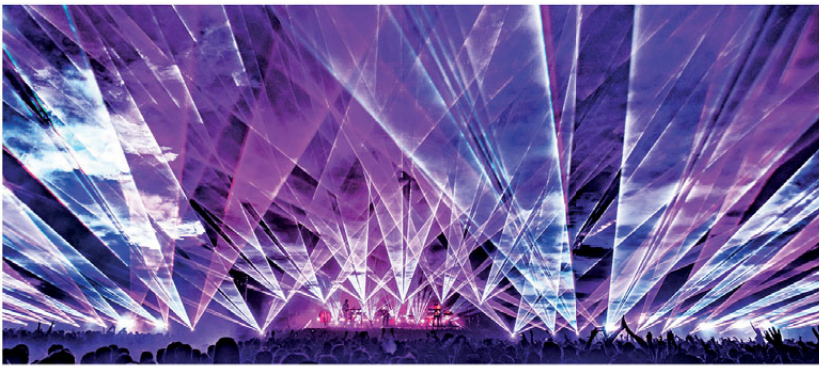
▶ www.banditlites.com

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The Kinekt series also offer a full range of efficient rigging capabilities with our Pre-Rig truss and Pre-Rig circles as well the new MOVE-ER.

The AT range was launched in time for Tame Impala's mesmerising set at Coachella 2019. 34 AT-30s made up part of an astounding 1020w laser show, one of ER's most powerful shows to date. 20 AT-20s AND 70 Beam-ERS were also part of an incredible laser light show for Metallica's HardWired Tour 2019.



For more information, or a demonstration
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www.er-productions.com



BUSINESS

Audiologic takes DiGiCo to pro AV sector

[UK] Audiologic has signed a distribution agreement with console manufacturer DiGiCo to promote and distribute its S-Series and 4REA4 digital mixers to the corporate pro AV market in the UK.

"With the increasing popularity of our 4REA4 solutions and S-Series consoles, plus the addition of the two new Dante-enabled stage racks, we knew it was time to expand our dealer network in the UK for these products," says DiGiCo's general manager, Austin Freshwater. "We are delighted to welcome Audiologic to the DiGiCo family and we know their extensive experience in the installation market will help to further increase the appeal of both 4REA4 and S-Series."

➔ www.audiologic.uk
➔ digico.biz

TRAINING/EDUCATION

CAST Group releases education schedule

[Canada] CAST Group has launched an online education programme to offer scheduled and on-demand training and education sessions on BlackTrax and wysiwyg. The classes are available to new and experienced users alike, with each seminar covering essential knowledge of wysiwyg as well as new features and tips. Custom training is offered on a case-to-case basis. Meanwhile, BlackTrax users can benefit from free monthly webinars exploring how to create live experiences using realtime tracking.

➔ cast-soft.com/training

PEOPLE

Roginska begins AES presidential term

[USA] Agnieszka Roginska has begun her term as president of the Audio Engineering Society (AES).

Currently celebrating her 20th year as an AES member, Roginska has served in numerous leadership roles within the society. Professionally, she is a professor of music technology and the vice-chair of the Music and Performing Arts Professions Department at New York University.

➔ www.aes.org



BUSINESS

AED Group appointed Next Truss distributor



AED Group will make the complete Next trussing and staging catalogue available

[Europe] Next Truss has appointed AED Group as its European master distributor covering Benelux, France, the UK, Ireland, Italy, Spain and Turkey, whilst in Germany, AED Group and Eurotruss GmbH have become exclusive co-distributors of Next Truss.

Glenn Roggeman, CEO of AED Group, comments: "For nearly 30 years, we've set the industry standards with a leading brand in a loyal relationship. Despite this, recent events have resulted in an uncertain situation, without guarantees for the future vision, organisational structure, distribution policy, production capacity and delivery terms. These conditions made us decide to take a new direction, the Next chapter. We strongly believe in this new brand, its strong values and clear vision."

➔ www.aedgroup.com
➔ www.next-truss.com

EVENT

Music Inside Rimini postponed



[Italy] MIR Tech (formerly Music Inside Rimini), the annual live entertainment technology tradeshow, has been postponed. The Italian Exhibition Group (IEG), which organises the show, has taken the decision "in light of the critical international situation caused by the COVID-19 [novel coronavirus] emergency". MIR Tech was due to take place 8-10 March at the Rimini Expo Centre.

New dates will be announced following consultations with exhibitors and the wider sector. IEG has also moved to postpone its other March shows, including Enada Spring, the International Amusement and Gaming Show, the accompanying Rimini Amusement Show, and the spring edition of Abilmente Vicenza the Creative Idea Show.

➔ en.musicinsiderimini.it

CHARITY

Rosco continues to support Behind the Scenes



Rosco's Chad Tiller and Behind the Scenes' Lori Rubinstein

[USA] Rosco Laboratories recently reinforced its support for entertainment technology charity Behind The Scenes as the company's vice-president of global live entertainment, Chad Tiller, presented a cheque to Behind the Scenes executive director Lori Rubinstein.

"Behind the Scenes goes above and beyond to help our colleagues and industry professionals in need, and Rosco is proud to give back and support this outstanding charity," comments Tiller. "This marks our 11th year of donating proceeds from Roscolux 359 Medium Violet, and we are thankful to Behind the Scenes for their commitment to the entertainment technology industry."

Rubinstein adds: "We continue to be extremely grateful to Rosco for having led the way in our Pledge-of-Support programme and, particularly, for their long-term commitment to the charity. While some other companies come and go from the programme, Rosco understands it is this steadfast support that allows us to plan ahead with the confidence we will be able to fulfil our mission and to undertake expanding our services where we see the need, such as with our new Mental Health and Suicide Prevention initiative."

➔ wp.behindthescenescharity.org
➔ rosco.com

BUSINESS

Cymatic Audio and punQtum join forces

[The Netherlands] punQtum B.V. has announced a cooperation with Cymatic Audio in the fields of logistics, service and procurement to "avoid unnecessary costs". The arrangement will not affect the distribution channels of either company, with punQtum remaining focused on business-to-business direct sales operation, whilst Cymatic Audio products will remain available through dealers and distribution partners.

➔ cymaticaudio.com
➔ punqtum.direct

BUSINESS

L-Acoustics rolls out L-ISA Auditoria globally

[World] L-Acoustics is rolling out its L-ISA Auditoria in strategic locations around the globe. Demos, training or mixing sessions of the L-ISA Immersive Hyperreal Sound technology can now be accessed in 15 locations, including L-Acoustics' headquarters in France, the UK and the US, as well as via Delta Live's facility in Surrey, UK. Other locations include: Sonorus in Moscow; Matrix in Denmark; Audico in Finland; Klausys in South Korea; Pro Music in Czech Republic; Babel & Haeger, Groh-PA and Wilhelm & Willhalm in Germany; LMG in Orlando, US, See Factor in New York; China's Rightway in Taipei, Chengdu, Guangzhou, Shanghai and Beijing.

➔ www.l-acoustics.com

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EVENT

Vectorworks Design Summit speakers confirmed



[USA] Woodroffe Bassett Design's Roland Greil (pictured) and Vectorworks CEO Dr. Biplab Sarkar will be the keynote speakers for the fifth Vectorworks Design Summit conference. The event, taking place 22-24 April in San Diego at the Omni La Costa Resort & Spa, will provide over 40 industry sessions and workshops, networking events and over 90 hours of training.

On 23 April, Sarkar will discuss Vectorworks' strategies, including future partnerships, acquisitions and emerging technologies. On 24 April, Greil will speak about being efficient on tight deadlines, using examples from his own design work.

To register and get more information, visit:
➔ [//vectorworks.net/design-summit](http://vectorworks.net/design-summit)

PEOPLE

Peter Mumford becomes ALD fellow



[UK] Lighting designer Peter Mumford has received a fellowship award from the Association of Lighting Designers (ALD) in recognition of his outstanding contribution to the art of lighting design.

The award was presented during *In Conversation with Peter Mumford*, an event held at the National Theatre where Mumford and his collaborator Victoria Brennan spoke about the lighting designer's 50-year career.

The talk is available as a two-part podcast from the link below.

➔ [//anchor.fm/ald](http://anchor.fm/ald)

➔ www.lsonline.com

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NELT training scheme launches

PLASA has announced the launch of National Event Lifting Training (NELT), a new programme covering the safe application of lifting equipment below the hook. Aimed at production technicians who only use lifting equipment as a limited part of their job, NELT is part of the association's ongoing effort to promote safety and best practice at every stage of event production.

The three-day NELT course has been developed in conjunction with PLASA's Live Event Production Group and the National Rigging Advisory Group (NRAG). Attendees will receive a certificate upon completion along with a listing on the PLASA website.

➤ www.plasa.org/nelt



Date announced for PLASA Members' Day



The annual PLASA Members' Day and AGM will return to the Royal College of Physicians in London on 4 June. Attendees will hear what the association has been up to throughout the year from active members and the PLASA board, along with an expert-led keynote address. The event is open to PLASA members and offers a valuable opportunity to network and learn about the latest industry trends.

Book your ticket : ➤ www.plasa.org/agm

New members

PLASA is delighted to welcome the following new members:

- **ATP Projects Ltd**
www.atpprojects.co.uk
- **HOF Alutec Metallverarbeitings**
www.h-of.de
- **STLS Events**
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PLASA launches spring training events

A new series of training events for Spring 2020 have been announced by PLASA. For the first in the series, HR professional Nicky Gleadow will take a look at the latest developments and upcoming legislation changes in employment law. The event will take place at ETC's London HQ on 25 March. Other workshops will examine mental health, diversity in the industry, electrical equipment testing and CDM (Construction Design and Management Regulations) as applied to live events. More information can be found at:

➤ www.plasa.org/events

Diary Dates

Employment Law Updates: **25 March**

Mental Health and Diversity for Employers: **16 April**

CDM Applied to Live Events: **22 April**

Members' Day & AGM: **4 June**

IET Code of Practice: **2 July**

For locations and more information:

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MEET THE BOARD

CHAIR : Adam Blaxill

Day-job?

Operations director at Stage Electrics



First role in events?

Ancient Lights in Cambridge. I was selling consumables and equipment to professional theatres.

Biggest industry challenge?

There is a lot of disruptive technology about, but I believe the biggest threat is from inappropriate Health & Safety legislation. H&S is important, but often legislation from other industries is applied to the entertainment industry. It often comes from construction and isn't necessarily thought through as to how appropriate it is. At its worst it is applied to entertainment without an understanding of the implications, as a consequence it can increase costs unnecessarily or at its worst it can be ignored which protects no one.

Most significant industry change during your career?

The use of LED lights and digital audio.

Why did you join the PLASA MGB?

As a member company, Stage Electrics wanted to contribute more to PLASA. One of the best ways of doing that is getting involved, participating in the governing body and helping to manage it. Stage Electrics felt strongly that we wanted to be part of that larger industry, PLASA was the obvious choice. There are all sorts of people in this industry, working in diverse sectors and we need a body that can represent all of us, and it can only do that if we all get involved.

How do you switch off?

I play in a brass band with my children. I play baritone and they play euphonium and horn. I'm also the coach for an under-15's rugby team. Plus, for the first time, this year I'm a season ticket holder at Gloucester Rugby.

Advice for someone starting out?

Give everything a go. Don't be afraid to ask questions about how things work. Be prepared to put the effort in because the rewards and satisfaction are worth it.

Best thing about working in events?

I still never fail to get a buzz from watching a show. I always get a thrill out of seeing a live performance.

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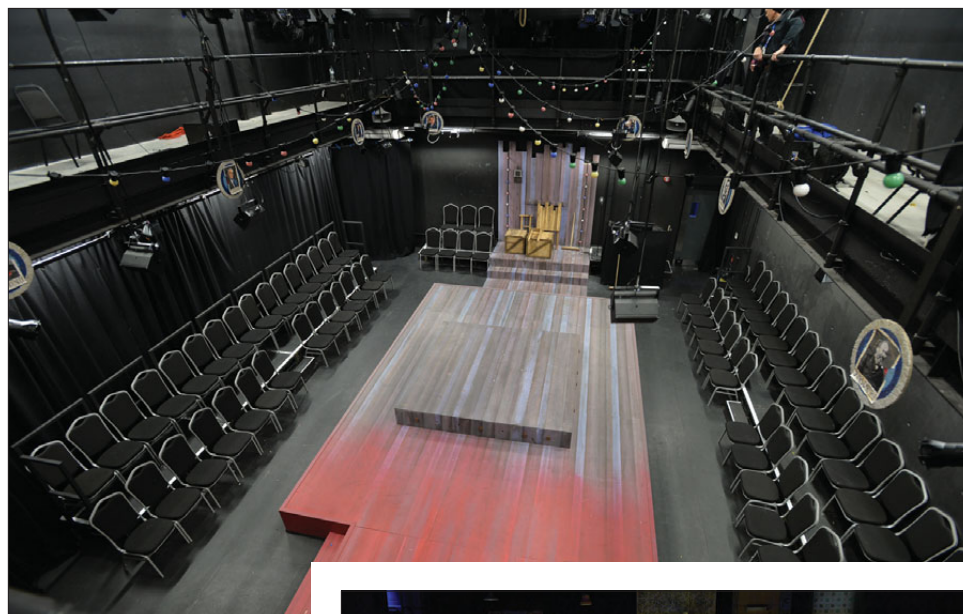
A partnership between London's Mountview Academy and audio supplier Autograph Sound has proved a breeding ground for new technical talent. LSi reports . . .

UK Mountview Academy of Theatre Arts is one of the UK's leading drama schools, providing specialist vocational training in acting and musical theatre as well as production arts. Their state-of-the-art campus in Peckham, south London, opened in 2018 and includes an enviable array of theatres, meeting rooms, studios and rehearsal facilities where students can study to Foundation, Undergraduate and Postgraduate levels (see LSi January 2019).

For those aspiring to technical roles in theatre, Mountview offers an FdA / BA (Hons) Theatre Production Arts course, either as a two-year foundation degree (FdA) which provides a fast-track training, or a more comprehensive three-year BA (Hons) course and the possibility of design roles. Students with previous experience but wishing to gain a recognised qualification can also undertake a one-year Diploma specialising in sound.

In addition to the Academy's work with the next generation of performers and technicians, Mountview also plays an important role in the artistic life of Peckham, providing creative workspaces, workshop facilities and other community resources specifically to facilitate engagement with its local community. The training facilities are available to the public on evenings, weekends and holidays, with local community groups given discounted rates, all aimed at providing access to arts-based education for all.

All this activity requires close partnership with some of the industry's key companies. Autograph's Duncan Bell comments: "Autograph has been a regular supporter of Mountview for some years, but the relationship has developed to reflect and support the Academy's needs - and those of the employers for whom these students will one day work - for the 21st century. We are seeing an evolving pattern,



where many educational facilities are radically improving their resources to ensure the quality of both teaching and key facilities really do prepare students for the real world. Gone are the days of using yesterday's cast-off, obsolete equipment, as the production values have been raised in all disciplines."

He adds: "Autograph's role has expanded to include advising on equipment choices, engaging direct manufacturer support, and training. Perhaps more importantly, our facilitation of work placements and specialist workshops in production engineering allows Mountview students to access the technical knowledge, sound design skills and system engineering techniques of some of the industry's leading names."

Vocational education clearly relies on access to the right learning tools, and Autograph has so far supplied Mountview with a DiGiCo SD10T, loudspeakers from KV2 and EM Acoustics and 24 channels of Sony DWX digital radio mics, complete with DPA 4061 miniature microphones and further DPA instrument mics to augment their previous inventory.

Mountview's head of sound



1 From top: The studio theatre

Technical rehearsal for *Betty Blue Eyes* in the main theatre

L-R: Robin Nash and Autograph's Avgoustos Psillas with the analogue Soundcraft console

and lighting is Robin Nash, formerly a senior sound tutor at the Academy and whose diverse background includes extensive theatre and broadcast audio but also lighting and video. "Fundamentally, our ambition here is to produce useful human beings - people who understand the basics, like turning up on time," he laughs. "From a technical viewpoint, it's very different now to when I started out, largely because of software like Garage Band that enables music production with not much more than a laptop. Many of the students we meet here are familiar with those things and have achieved good results, but they often have no understanding of the basics of sound reproduction, such as signal flow and gain structure."

Chatting in his teaching studio, surrounded by iMacs all equipped with QLab, Pro Tools and Logic Pro, he points to a Soundcraft analogue console which occupies one end of the room. "This is absolutely the best way to get those basics across to students, because everything is laid out right in front of them, it's one physical control per function and you can always see the status of every input and output at a glance. Our students will be very familiar with professional digital audio mixing from using our DiGiCo digital consoles by the time they graduate, but as an introduction to the basics, this is ideal."

Nash continues: "I really wanted the Academy to own as much as possible of its own gear, but at the same time, it's obviously vital that it replicates what students will find when they enter the workplace. Additionally, and unlike any of our contemporaries, we run a very intense programme of commercial productions, all of which are crewed by students but for which we employ established West End producers and sound designers, who treat these projects exactly as they would any other."

"We run 26 shows a year between our 200-capacity main theatre and smaller studio space, with every one presented to professional production values," he continues. "The only difference is that we have a much longer ratio of

rehearsal and tech time to performance, but obviously that's because we're a teaching facility that covers all aspects of performance and technical learning. However, when the curtain goes up, the pressure is very real and that's absolutely invaluable for our students. That approach largely defined our purchasing and being able to access Autograph's experience and knowledge was so helpful for us."

So how do students make the leap from learning to earning? "Having professional producers and designers working here all the time has another great benefit in that it's a marvellous networking opportunity. These guys are very adept at spotting talent and frequently do - it's quite commonplace for third-year students to get snapped up and given dep' roles on West End shows. For competent and committed individuals, this is a very natural route into a full-time career in a number of roles, from stage management to designing, RF tech, PSE and #1, #2 and #3 jobs. For example, one of our current students is now occasionally deputising the sound #3 position on *Harry Potter And The Cursed Child* since she was talent-spotted here."

He continues: "We also run an annual talent showcase somewhere in the West End, at the Cambridge Theatre this year, designed to access theatrical agents and which is another great opportunity to get noticed. I also try to get our tech students into touring productions, simply because it's a much harsher and less predictable environment and so a better (if steeper) learning curve. Each show is like a fresh installation, unlike an established show which could have been in the same venue for years."

Nash concludes: "There is a massive shortage of talent in the technical production side of theatre and there are jobs ready and waiting for people with not only the technical knowledge but the right attitude. Be competent, be punctual, be committed and you will get a job doing something you love - ultimately that's the mindset we try to deliver to Mountview students." 🎤

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Tamino takes to the stage

Jan Van Lindt creates ethereal visuals for rising star Tamino.
LSi reports from Belgium's Lotto Arena . . .

[Belgium] It's easy to see why music critics were so exuberant in showering praise on Tamino when the emerging star released his debut album *Amir* in 2018. Weaving deeply evocative musical elements from his Egyptian heritage with moving orchestral passages, the Belgian-born singer-songwriter's sound is at once timeless, original and very much in the moment.

Lighting designer Jan Van Lindt captured the power and complexity of Tamino's unique music in light for a recent one-off the star performed at the Lotto Arena in advance of his upcoming North American tour. Drawing on a collection of over 90 Chauvet Professional fixtures supplied by Splendit, Van Lindt created an appropriately transcendent mood on stage by balancing warm, intimate moods with intense theatrical effects.

"Because of the size of the stage, I tried to go for a more dramatic look," he explains. "However, the lighting also needed to be subtle and small to relate to the emotions of Tamino's music. By balancing the right lights, we were able to be punchy and big at the appropriate times in order to fill the large arena, without losing that sense of intimacy."

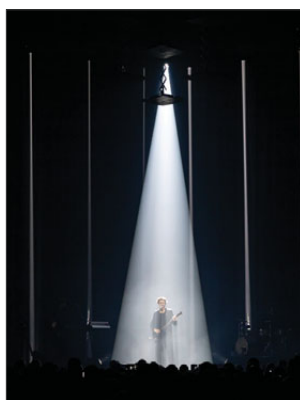
Anchoring this lighting concept were 36 Nexus AW 7x7 fixtures that were hung from nine centrally positioned pantographs. Quite unusually for a venue the size of the 5,000-capacity Lotto Arena, the fixtures provided a soft and inviting focal point created with saturated warm white beams.

"The arrangement of Nexus fixtures helped me achieve the desired theatrical look - even from a height of 10m above the band - with the distinctive column-like beam effects," adds Van Lindt. "They looked fantastic in conjunction with the hanging pantographs, which was quite an unusual yet effective addition to overall look of the stage."

Another key visual element of Van Lindt's lighting concept



Photos: Picturesk



was his inclusion of 44 Strike P38 fixtures, which helped him achieve the seemingly paradoxical feat of evoking the atmosphere of a small theatre in a mid-sized arena. Van Lindt also chose to place the fixtures behind a silky-black draped cyclorama to give a muted yet highly material lighting effect that was in-keeping with the flow of Tamino's performance. "It was tricky to know what the actual effect would be using the Strike P38 behind the semi-translucent drape, but I'm glad we took the risk," he explains. "The Strike's low heat output also meant we could position the fixtures relatively close to the fabric, but still safely distant. This would not have been



possible with an equivalent halogen fixture."

Adding a dramatic edge to the show were the six Maverick MK3 Profile CX fixtures in Van Lindt's rig. Positioned on front mounted truss, the 820W LED movers were relied on to profile the performers on stage. Van Lindt says: "The Maverick Profiles allowed me to have a number of focused colour runs to translate the emotions from the music. Their zoom was very helpful."

As an artist, Tamino thrives on sharing his experience with the audience. Helping to underscore his connection to the fans was audience lighting from eight Strike 1 fixtures positioned on a top square grid

downstage.

Elaborating on the role lighting plays in engendering that "shared experience" between artist and audience, Van Lindt notes: "Lighting should translate the emotions from the music. Because of this emotional dimension, a design can never be finished, but must evolve with feelings around a show."

If the captivating and immersive looks that Van Lindt created for this one-off are any indication, the 'evolution' of his lightshow should continue to take Tamino fans to ever-more inspiring places down the road. ☘

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Back to live

Steve Moles visits The Warehouse in Leeds as the venue returns to its live music roots with new management and new in-house tech . . .

[UK] 20 years had passed since a band had played at The Warehouse, Leeds' famed venue, where the likes of Oasis and The Stone Roses among many others had performed in its hey-day. The Warehouse reopened in January with a Badly Drawn Boy solo gig, before the band Terrorvision performed two sold-out shows on 7-8 February.

The venue began life just as the 1970s drew to a close. Through the 1980s, it earned a venerable reputation for hosting future talent, no less than U2 and local lad Marc Almond, who used the venue as the springboard for his career as Soft Cell. But all things must pass, and by the end of the 1990s, the prevailing club culture had taken charge. The Warehouse had already doubled as a club, so the shift was natural, but the live acts fell by the wayside.

"The last two years have passed by in a bit of a blur", says venue manager, Alan Redfearn. "Propaganda bought the club and [Propaganda founder] Dan Ickowitz-Seidler brought me up from Birmingham where we'd worked together at two other clubs, and put me in charge. Since then, Propaganda merged with The MJR Group, and now, Australian company TEG has absorbed both."

The way Redfearn tells it, much of the driving force behind the regeneration of The Warehouse came from Ickowitz-Seidler. "Since taking over, we've had to knock down a few walls just so the queue for the ladies didn't cross paths with those queuing to come in," says Redfearn. "As we did that, Dan already saw reinstating live shows as the destination." Ickowitz-Seidler is now the UK COO of the merged group; the UK operations are now renamed TEG | MJR UK.

So why did an Australian company buy into a UK entity? Ickowitz-Seidler explains: "Many people will not know TEG in the context of the UK,



Photo: Hannah Metcalfe



Photo: Hannah Metcalfe

but they are through their ticketing operation Ticketek, the biggest in the Australian Pacific market. They also promote live concerts and events, including corporate events, and include arena and stadium events in their activities. They are keen to establish Ticketek in the UK and Europe and saw MJR/Propaganda as an ideal opportunity, initially for concert and promotional activity, but also as a springboard to ticketing.

"In Australia, Ticketek has been trading for 40 years; these

days, their operation is based on an integrated model, the link between promoting and staging events is, to them, inseparable for generating the ticket sales. They know their market and promote to suit. MJR has a similar profile in the UK - as well as our own venues and managing venues for others, we promote concerts and events. So, in simple terms, there were obvious synergies between TEG and MJR, which made this a great fit as an acquisition for both parties."

He continues: "More widely,

- 1 The venue re-opened in January with a Badly Drawn Boy solo gig
- 2 Facing page, left to right, from top: Eureka Machines' FOH engineer Dave Dearing and house LD Jordan Miller

Jon Hull tour manager and FOH engineer for Terrorvision

MJR has been expanding in recent years and have promoted shows that originated in the UK and taken them to the EU and Australia. So, as operators, we are known to each other."

TECH INVESTMENT

The reinstatement of live shows at The Warehouse has seen TEG|MJR UK invest a quarter of a million pounds in the latest technology, a project led by Curtis King, technical manager for all their venues.

"This is our fourth venue with L-Acoustics products installed in-house," says King. "I'm a qualified system tech and designed the installation myself. In addition to it being very helpful in that we know the product inside-out, we also wanted consistency with our different sites. Chauvet lighting is also a consistent choice in the venues and extremely well-liked. We have a lot of respectable competition in the Leeds area with venues and their production, so we didn't want to copy what they're doing.

We want to offer a different experience for both the artist and the public. The outcome was simple - the best possible production with what's possible in the space."

In short order, the new modular stage sports an L-Acoustics PA comprised of Arcs II and SB28 subs; overhead is a new mini-truss grid filled with a broad selection of R2X moving heads from Chauvet. Monitoring is from a Soundcraft Vi1 to Martin Audio LE400 wedges - the only kit in the venue that isn't brand new. Out front sees a Midas Pro2C console for sound with a ChamSys MagicQ as the lighting desk. All is supplied by Adlib, though King's team undertook the installation, working between 7-20 January when they also installed a comprehensive new mains system from the basement to the stage.

"Even the mics and stands are new; it's all new," says a visibly-pleased Jon Hull, tour manager and FOH engineer for



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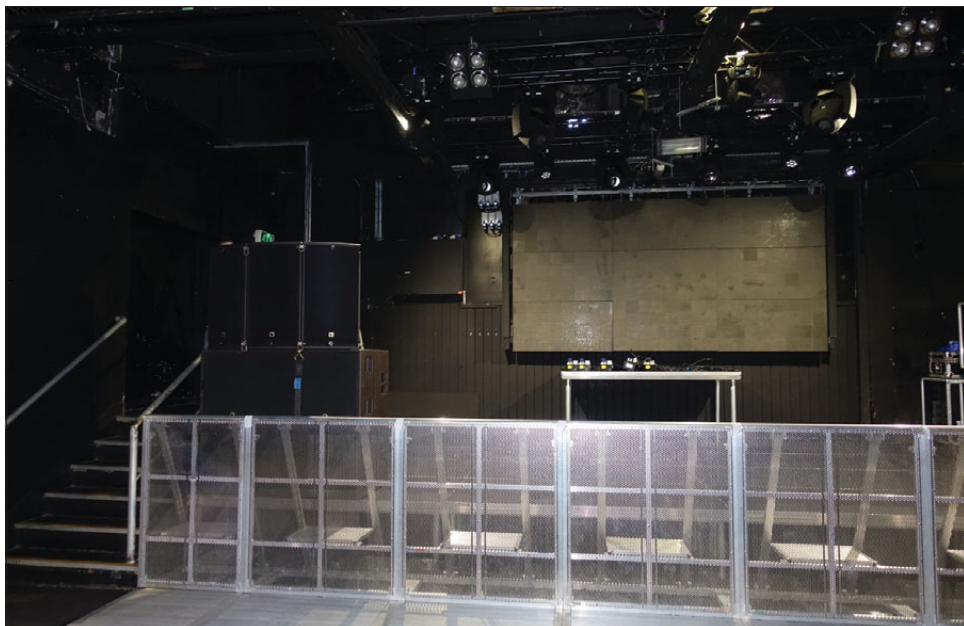
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"We saw the legacy of live acts at The Warehouse as an asset to be reinstated and built on..."

- Dan Ickowitz-Seidler



1 Alan Redfearn, venue manager

Terrorvision. Hull is an old hand - readers may recognise the name from his lengthy career at Sanctuary, where bands such as Iron Maiden, Helloween and Thin Lizzy passed through his hands. "Everything works, it's all fine; perfect, in fact," he says. He does have a couple of quibbles, however: "The room could do with a bit of acoustic treatment. It's all hard surfaces, so even when it's packed, there are reflections. And parking is limited to a single splitter van."

There is nothing to be done about the parking - the building, a former Victorian warehouse, sits on a narrow cobbled street in the heart of the Leeds business district - and for this size of venue - licenced for 600 for live, 1,100 for club nights - you have to take local acoustics on the chin, though a bit of scatter panelling, particularly behind the bar area, wouldn't go amiss and wouldn't cost the earth. "That said," Hull continues, "load-in access from street to stage is reasonable, and the atmosphere is rocking." Terrorvision were about to perform their second sell-out show, so Hull spoke from experience.

I also bumped into Dave Dearing, a FOH engineer I'd met six years ago when he was mixing Heaven's Basement at Leeds Festival. He was at The Warehouse to mix the support act, Eureka Machines. "It was a great night last night," he says. "A live venue this size is ideal for Leeds, just what the city needs."

Dearing lives close by, so he

knows the local market even if he is about to tour the US with Palaye Royale, a band he hotly tips. Dearing wasn't the only one who commented that the venue size was ideal - house LD Jordan Miller said likewise, as did Hull. In fact, it seemed like everyone I spoke to said the same thing. And therein lays the answer to the question I'd asked Ickowitz-Seidler: "The capacity aspect is about where to focus your efforts. The live music industry is still growing in the UK. Yes, there have been a few stumbles here and there last year, where acts have overdone expectations, but at this level, the demand is very, very strong, so represents a real opportunity."

He adds: "Leeds is a great city for live music, with a growing student population, and has a good reputation for a night out. We saw the legacy of live acts at The Warehouse as an asset to be reinstated and built on. To put that in perspective, MJR acquired The Warehouse two and half years ago. The venue has a 40-year history and, up until the 1990s, regularly hosted live concerts. That had disappeared by the time we made the acquisition, but we felt the opportunity was there to bring back the live element."

"For us, the capacity of The Warehouse is a USP, whether as a live venue or expanded into the two other spaces adjoining the live room, to function as a club. There are comparable live venues in

Leeds, but they all tend to top over the 1,000-capacity mark. The more valuable factor for TEG was knowledge of the market, to provide an opportunity to introduce their brand into the UK and the EU, and to begin the process of spread and growth. We are always on the lookout for other venues, either locations that we can develop from the ground up, or as in the case of The Warehouse, to resurrect the live concert side of things."

With the obvious synergy between The MJR Group, Propaganda Promotions and TEG, I asked Ickowitz-Seidler if we would begin to see artists from TEG's Pacific portfolio presented in the UK? "Yes - TEG is seeking to promote Asia-Pacific artists over here. In the southern hemisphere they are already strong in the K-pop market and that's certainly an option for here. Known bands such as BTS have played mega concerts down in London, but with venues of our size, you can introduce that music genre more locally, maybe present K-pop once or twice a year and see how it fares outside the capital. More generally, it's worth emphasizing that with the synergy between MJR and TEG, we have venue management, promotion, events and concerts in common, and MJR had already started to expand operations into Europe. That's very attractive from the TEG side of things; they have already made plain that they will be commencing Ticketek operations in the UK later this year."

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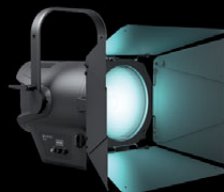
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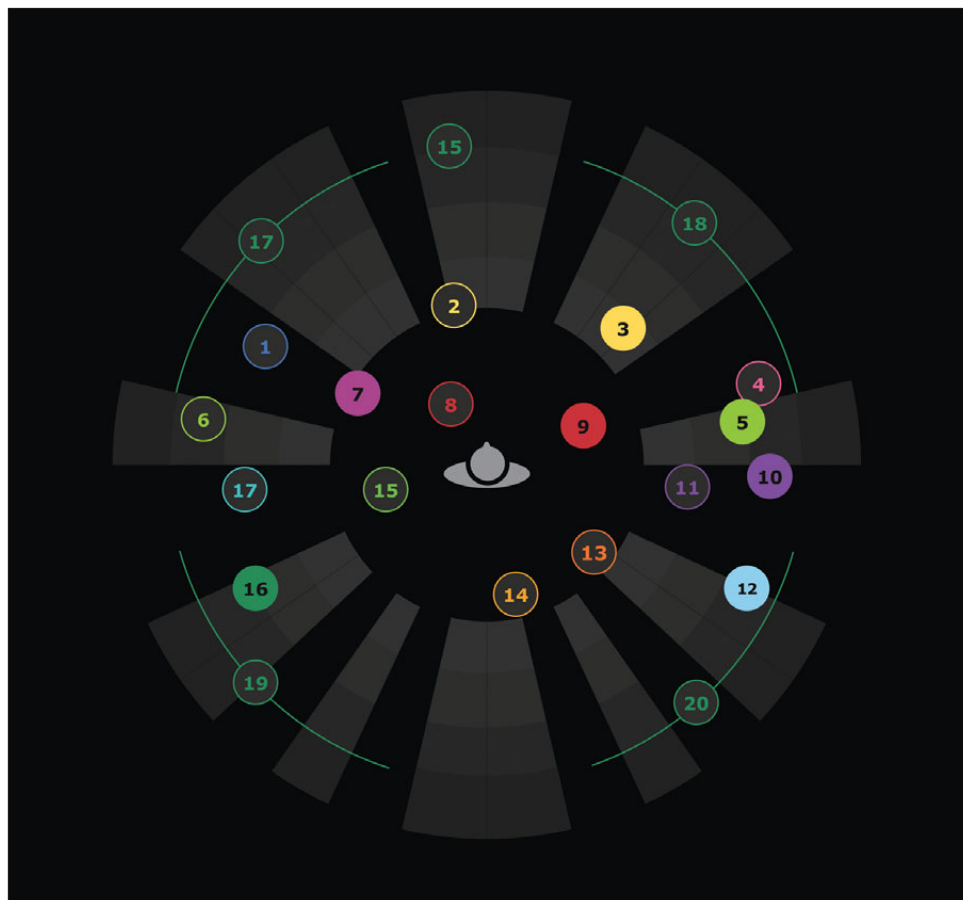
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Immersive progress

Simon Duff discovers the latest developments in L-Acoustics' L-ISA system after the release of v2.0 processor firmware and controller software . . .

[France] Since launching in 2016, L-Acoustics' L-ISA Immersive Hyperreal Sound technology has featured on high profile touring shows and fixed installations, including Ennio Morricone, alt-J, Lorde, Childish Gambino, Bon Iver, Aerosmith, *BBC Proms*, Mark Knopfler, Christine and the Queens, the Puy du Fou theme park, and The Sydney Coliseum. The technology combines L-Acoustics' sound design and loudspeaker systems with sophisticated processing, providing audio engineers and producers with the tools to create and mix a wide, object-based panorama of sound with a high spatial resolution.

L-ISA uses the dedicated L-ISA Processor, piloted via the L-ISA Controller software from a PC, Mac or suitable audio console via a plug-in or firmware integration. On a single screen soundscape, the L-ISA Controller offers five control parameters: pan, width, distance, elevation, and aux-send. All sound object and speaker parameters are centrally-managed by the L-ISA Processor, which provides object-oriented mixing of up to 96 audio sources routed into up to 64 output channels, supporting MADI, up to 96kHz, using a low latency, 32-bit floating-point architecture. In a live application audio signal path, the L-ISA Processor is utilised between the channel and/or audio group, post-fade and processing direct outputs of a FOH console and the loudspeaker amps. It processes and dispatches object-based spatialised outputs to a multi-array L-Acoustics loudspeaker configuration designed and certified in L-Acoustics' Soundvision 3D modelling software. The main system is based on a high-resolution Scene system of speaker arrays which allows for accurate localisation and separation of sound sources and motion tracking of performers.



VERSION 2.0

At January's NAMM Show, the release of L-ISA software v2.0 was announced. Sherif el Barbari, director of L-ISA Labs, explains some of the new features: "Version 2.0 has quite a few enhancements. The whole code for the Processor has been re-written to optimise the structure for future developments. This also allowed us to reduce the latency to just above 3ms, almost 1.5ms less than it was before. Of course, in live applications, minimising latency is absolutely crucial. I think L-ISA is the only live object-based mixing platform on the market right now that allows users to have 96 objects at 96kHz that are processed at this low latency with the audio network involved."

He adds: "Other significant updates are plug-ins dedicated to stereo sources and L-ISA groups of sources. We added

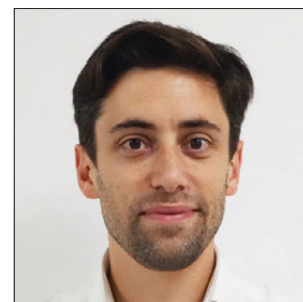


colour-coding for objects and groups to enhance visibility. Along with myself, key staff involved with the new design are Guillaume Le Nost, executive director of Creative Technologies, Sylvain Biguet, L-ISA Labs engineer, and Frederic Roskam, head of immersive audio."

- ↑ L-ISA Controller v2.0 showing mix objects
- ← Sylvain Biguet, L-ISA Labs engineer
- Facing page, L-R: The L-ISA Lab in Highgate, London

Guillaume Le Nost, executive director of L-Acoustics

Frederic Roskam, head of immersive audio



LINKING TOGETHER

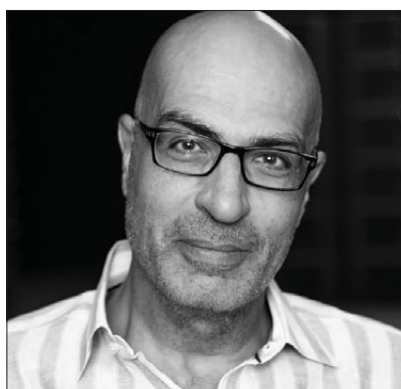
Alongside the v2.0 update, L-Acoustics announced a new console partner in Yamaha Professional Audio, who co-developed the L-ISA DeskLink plug-in that brings L-ISA object controls within its flagship Rivage PM7 and PM10 mixing systems. "The new DeskLink is a great example of collaborative design," says El Barbari. "Within the Rivage consoles, for every mono or stereo input channel, a direct control of L-ISA objects or groups will be available on the console control surface and touchscreens. The L-ISA DeskLink now provides a seamless workflow on two of the industry's leading consoles, allowing for Immersive Hyperreal mixing in a familiar environment and making adoption of our technology even easier."

Tracking software providers are also teaming up with L-Acoustics. They include Modulo Pi and its Modulo Kinetic, a high-end fully integrated media server solution; TTA and its Stagetracker II, a radio frequency-based 3D tracking system for audio, video, and lighting; Robert Juliat's SpotMe, a manual, user-friendly 3D tracking device relying on a followspot operator, and CAST Software's BlackTrax, a camera-based 2D and 6D tracking system.

In the UK, the L-ISA Lab HQ in Highgate, north London, includes a state-of-the-art mix facility used for pre-production work, engineering training and L-ISA's content creation. A similar set-up is available at L-Acoustics' US HQ in Westlake. The studio is based around a full L-ISA set-up. DiGiCo SD10 and Avid Venue S6L consoles are available, along with Pro Tools, Nuendo, Reaper, Logic Pro and Ableton Live. Multitrack audio is sent to the L-ISA Processor, essentially mirroring a live event PA set-up. A MADI interface can be used for a visiting engineer to interface their own computer. The loudspeaker set-up includes 13 L-Acoustics X8s, 10 5XTs and a SB28 sub delivering a dynamic range down to 25Hz. Amplification is by L-Acoustics LA4X.

ON THE ROAD

Major tours in 2019 using L-ISA included Mark Knopfler's *Down the Road Wherever* European and North American dates. Sylvain Biguet, L-ISA Labs engineer, explains how L-ISA was deployed: "Dave Dixon, who mixes FOH for Mark, was onboard with the idea to use L-ISA early on in the tour planning. That philosophy was



"I have always said that for L-ISA, hearing is believing. You can explain it in a million words, but it will not really do justice to the experience itself..."

- Sherif el Barbari

critical to success - we had plenty of time to prepare. During the first band rehearsals at the new Music Bank facility, the L-ISA infrastructure was deployed, and we created a scaled-down coaxial system of the arena set up in a control room for Dave. He was able to build his full patch from scratch and never worked in stereo; he was convinced by the system on the first day."

He continues: "SSE Audio designed the infrastructure of the loudspeaker configuration to ensure it would be deployed in the same amount of time as a standard L/R arena PA. The tour chose an L-ISA Focus design, which varied from venue to venue. At the O2 Arena in London, one of the biggest venues on the itinerary, this comprised five hangs for the main scene: three centre hangs of 16 K2s and two outer hangs of 18 Karas each. The two extension system hangs were made up of

two arrays of 15 Karas each, with two out-fill hangs of 12 K2s to extend the coverage of the system to the extreme sides. A central cluster of nine KS28 subs provided coherent low frequency throughout the venue."

Another 2019 highlight was the Wavepaths Brick Lane Space project in East London (see LSi June 2019) which set out to merge science and psychotherapy to offer a new approach to mental health and wellbeing. The content of the Wavepaths Space system was therefore designed to target specific emotional and psychological processes, and was created by collaborating artists such as Jon Hopkins, Greg Haines and Brian Eno. To fully immerse visitors, an L-ISA installation of 25 speakers and one subwoofer was custom designed for the space, with Delta Live UK working alongside L-Acoustics to deliver the system, using the French manufacturer's Soundvision 3D acoustical simulation tool.

L-Acoustics' immersive sound expertise also spans into the high-end residential market thanks to the company's L-ISA Ocean and Island systems. To deliver the best sonic experience, the company has set up BluBubbles, a music label/sound art gallery, part of L-Acoustics Creations, which represents artists, bands and orchestras from different musical genres to produce limited edition recordings that are remixed for the BluBubbles label. These recordings, called Bubbles, are encoded in the BluBubbles proprietary BluSpace immersive playback standard, which makes the most of the capabilities of an L-ISA installation.

Artists working with the label so far include French classical music ensemble, Les Siècles as well as Yapa, a world music group from Paris; British pianist Jeremy Brown, and Robert Thomas. A recent high-profile project is *Spirito*, a recording by the Latvian opera star Marina Rebeka.

El Barbari concludes: "Our technology is always evolving to serve creativity as well as expanding our technology to integrate with new partners. We have a growing network of auditoria spaces all over the world that act as demo spaces, where users can experience and learn about the technology. From the start I have always said that for L-ISA, hearing is believing. You can explain it in a million words, but it will not really do justice to the experience itself. Because I believe that it is truly exceptional." ❖

▶ www.l-acoustics.com

The sound of terror

EM Acoustics R10 makes its chilling debut on *Ghost Stories* as the supernatural stage show ventures out of the West End for a UK tour. LSi reports . . .

[UK] Celebrating a decade of terrifying people out of their wits worldwide, Andy Nyman and Jeremy Dyson's masterful cult horror phenomenon *Ghost Stories* returned to the Lyric in Hammersmith last April. Currently on a nationwide tour following a triumphal return to the West End in October, the new production has taken advantage of advances in theatrical technology to increase the tension to almost unbearable levels.

The original show was designed by Nick Manning, who was head of sound at the Lyric at the time and is now head of sound and video at the Linbury Theatre in the Royal Opera House. An inveterate fan of EM Acoustics, his original spec was based on the ubiquitous EMS-61 and what he describes as the 'fabulous' i-12 infra sub. When he was asked to design a system for the new production, he chose to base it on his initial choices - but this time, with some exciting new twists . . .

SONIC SCENOGRAPHY

"Sound is such a critical part of how stories are told," Manning reflects. "The use of sound to create and build tension - or indeed, dispel it - is important to the success of most theatrical productions, but for *Ghost Stories* it is absolutely fundamental. I never even thought about specifying anything other than EM Acoustics - it did a great job the first time around, and I had new toys to play with this time, so for me it could only get better."

Indeed, Manning's new design has been described as 'deeply unsettling' which, in this context clearly translates as 'highly successful.' "Oh, yes, I'll definitely take that as a compliment," he laughs. "The key to this show is creating the unexpected, so we basically have loudspeakers everywhere - you're never allowed to get comfortable as sound effects are being hurled at you from every direction."

The main surround system



Photo: Chris Payne

is largely based on the EMS Series - as indeed it was on the first production - in particular the EMS-61s. "They sound amazing and are incredibly versatile," explains Manning. "However, we've got a few of just about every other model in the range as well acting as delays and fills. We're also using the incredible i-12 infra sub which is quite simply an amazing loudspeaker. Ed Kinsella at EM helped design what I needed to create the effect I was looking for - basically, we ratchet-strapped two i-12s together and added a wave-extending chimney which effectively turns it into one big sub. We have two of these devices hidden under the stage, and the effect is absolutely electrifying. It feels as if the sound is coming from the building itself, this incredibly deep rumble that is utterly terrifying. It's sonic art at its best!"

AVANT PREMIERE

However, the big change to the design this time has been the deployment of EM Acoustics' newest product, the Reference Series R10. According to EM Acoustics, this low-profile point source loudspeaker with interchangeable horns is



Photo: Chris Payne

destined to be a game-changer. Only seen publicly for the first time at ISE in Amsterdam last month (see pages 48-62 of this issue), Manning has been quietly putting it through its paces since the show moved to the Ambassadors Theatre in the West End in October.

"Actually, it's anything but quiet," confides Manning. "Used in anger, the R10 packs a punch that literally knocks the wind out of you, so it was perfect for this show. *Ghost Stories* is a fully immersive experience in that the audience has to feel fully connected to what's going on, otherwise it just doesn't work. That means you need

- ➦ From top: Scenes from the spine-chilling show
- ➦ Facing page: Nick Manning, sound designer

a speaker that can push the sound right out to the farthest corners of the room so that audience members, wherever they are seated, feel included. We're using four R10s as the main proscenium system, and they just fill the space with sound completely. Even when we moved to the Alexandra in Birmingham in January, which at nearly 1,400 seats is a bit of a barn compared to the Ambassadors, they still filled the room effortlessly."

A NEW REFERENCE

Manning admits to being impressed with the R10. "I think that Ed and Mike [Wheeler] at EM Acoustics learned a huge amount from the development of Halo-A, and in particular Halo-B, which came out last year (and sounds amazing), and have managed to distil a lot of that experience into R10. That's certainly what it feels like from a user point of view, anyway. You can run the R10 really flat and it will get you 90% of the way. You may have to tweak the last 10%, but it'll be because of an anomaly in the room, not because the box is flawed. I like the fact that EM have concentrated on getting the design of the cabinet right and that they're not relying on DSP to make it sound good - R10 sounds good from the second it's switched on."

In addition to the way it sounds, Manning thinks that the concept of the new speaker will appeal to a wide audience with its rotatable, swappable horn and attractive aesthetic. "I can see that for touring, it offers a lot of advantages - the ability to easily swap horns with different dispersion characteristics in and out of the same box gives us as designers a huge amount of flexibility. You can really tailor your system to the requirements of the venue at very little expense. Finally, it looks great - it's very elegant, tidy and sits nicely on the proscenium where there isn't a lot of room."

So how would Manning sum up the difference between what he specified 10 years ago, and the system currently haunting audiences on *Ghost Stories* today? Is it really that different? "Well, yes and no! I won't say that it's radically improved - the original spec' was great, and I've conserved a lot of it for that reason - but the addition of the R10s definitely lifts it to another level. The other noticeable difference between now and 10 years ago is the addition of digital audio networking. Back then, touring the system was difficult - we had nearly 70 speakers then to do the work of around 50 today, and with traditional analogue cabling, it was laborious. Now that EM's amps are all Dante-enabled and we have



a digital console, life on the road is much easier."

The UK tour of *Ghost Stories* continues to terrify audiences until April. Attend if you dare . . . ☒

▶ emacoustics.co.uk

▶ www.ghoststorieslive.co.uk/tour

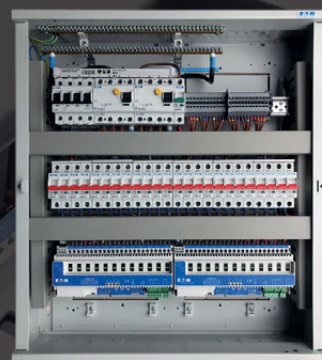
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Hire power

Kate Lyon meets the team behind Nexus Dry Hire . . .

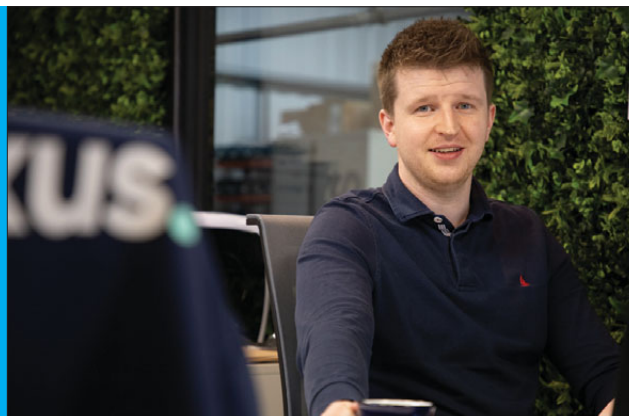
[UK] Nexus Dry Hire is a young company with a young enthusiastic team to match, headed up by Tom Agar, founder, shareholder and MD. In an industry dominated by a few big names in manufacturing and hire services, it takes a brave and resolute team to work towards establishing a firm footing in an increasingly competitive market. Based in Macclesfield, just under 10 miles from Manchester Airport and with good links to the motorway system of the north-west, Nexus is ideally placed to take on the challenge.

"Having spent 12 months analysing the market, Nexus was founded at the end of 2015 with a high-level goal to provide the best dry-hire service in the industry," opens Agar. "We always highlight the fact that we are a 'true' dry hire company. The line can quite often get blurred in the industry where dry-hired kit could be coming from a competitor. Nexus isn't into that; we are one of the few dry hire suppliers in the UK that don't also compete in our customers' market. We are a close-knit group of people who all have a vested interest in making Nexus a success."

He continues: "The first six months of trading were interesting - a bit frantic, if I'm honest, but we sought comfort knowing that, right from the outset, Nexus was working with some of the biggest names in the industry, both manufacturers and customers, giving us a solid start to getting the Nexus name out there. Our first investment was with Claypaky - the kit came into our warehouse and went straight out again that same afternoon. Our stock soon grew with investments in key workhorse products that were, and some still are, leading in the industry."

As Agar rightly points out, the potential success of any hire company rests heavily on making the right purchasing decisions that service the customer base, provide the right return for the company, and maintain their position as a go-

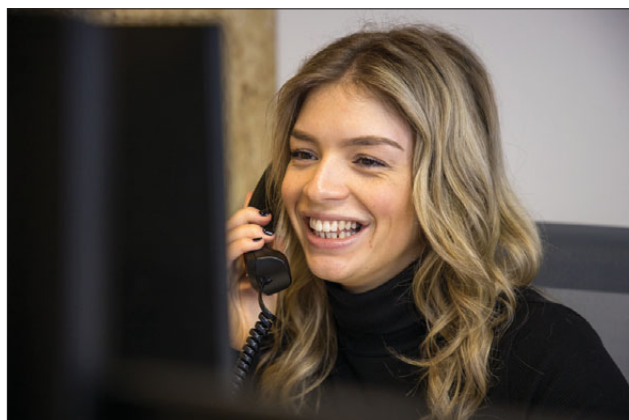
"We are one of the few dry hire suppliers in the UK that don't also compete in our customers' market . . ."



- ↑ Tom Agar, managing director
- ← Niall Rodgers, operations manager, and Dan Everett, warehouse technician
- ↓ Kerry Brownjohn, office manager

to piece of hardware in a continuously evolving market - not an easy balancing act to get right. Nexus has invested wisely and made intelligent choices about what it offer its clients.

To that point, Agar says: "Over the last four years, Nexus has invested over £2.5m into its fleet of equipment and we plan to keep investing at that level to keep the inventory up-to-date and maintain availability. We have invested heavily into workhorse brands such as Martin Professional, Robe, Claypaky, grandMA from MA Lighting, to name just a few. We've found the market predominantly requires lighting fixtures on a dry hire basis; however, we have seen more of a demand for 'infrastructure kit' too - networking, cable, etc. - and we have some interesting products and services coming to market to help bridge those gaps. Responding to our clients' needs is always a primary factor in our purchasing strategy - we spend time analysing the



market and work very closely with our customers to listen to their needs and then use that information to make wise investments."

The company may be in its first throes of development, but from the outset, it is clear that the Nexus strategy is to compete successfully with the major names in the market. From day one, operations were based at a large, modern, industrial site in Macclesfield, but there are already plans for a move to bigger premises towards the end of this year, to accommodate future growth plans.

And, it is not just in hardware that Nexus is developing what it can offer its customer base, as Agar says: "Nexus is currently going through some big developments in terms of brand image, functionality and customer journey. Towards the end of 2019, we launched a new brand for Nexus and we have an exciting website launch due to go live in the second quarter of 2020 that we hope

will make us stand out in the market. The new website will massively improve the customer journey, making hiring from us even easier, with complete visibility through a dedicated account management section, giving customers instant access to our stock lists and prices, all tailored to their individual accounts. We wanted to give our customers the flexibility to manage their requirements, whether getting off a gig at 1am and needing an instant quote for a broken fixture replacement or wanting an instant price to allow them to tender for an urgent job. Our direction of travel is very much technology-focussed with many more exciting projects in the pipeline - all aimed at getting our customers the best outcome and delivering industry-leading value for money."

With just five years of trading under its belt, how does Agar assess the company's position in the market? "Looking back to the first months of Nexus, I could never imagine that we

would be where we are now. The growth has been incredible and I'm extremely proud of how far we have come in such a short space of time. The whole team gets excited every day because we know that Nexus is just scratching the surface of what it can truly achieve, the relationships we have in place and the future growth we have in the pipeline. Our client base has increased tenfold over the last four years and continues to grow every month. We get a lot of phone calls from new customers who have heard of us through industry contacts, which is always positive to hear as it tells us that what we are doing is making an impact."

The ethos of Nexus is very clearly based on ambition, enthusiasm, drive and boundless energy, coupled with intelligent investment and development. Agar is unambiguous about where the company is heading. "We are a multi-market business," he says, "looking after customers in concert touring, theatre,

TV and broadcast, special projects - the list is endless. The nature of the beast means we can quite quickly need a lot of people to make a job happen. We're committed to never letting the customer down; we've been known to bring people in at 10pm on a Sunday night to make sure we deliver on that promise. If you supply professional lighting equipment, no matter what the application, you should be talking to us."

Looking to the future, Agar concludes: "We have big plans for Nexus. In the next five to 10 years, we will move to new, bigger, state-of-the-art premises that will give us the capacity to increase our stock levels to match industry demand. We are also looking to implement an in-house project and technical delivery team to allow us to deliver some of our most ambitious goals. We will, of course, continue to invest in our inventory, with a goal of being the largest 'dry hire only' stockist in the UK by 2025." 📍

🔗 www.nexusdryhire.com

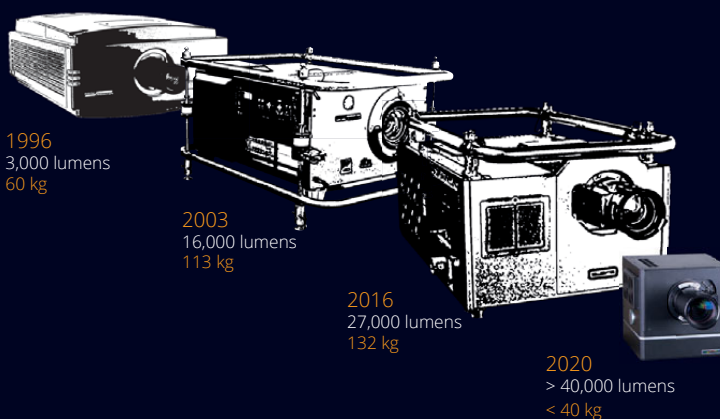
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Feel the flip

AO Drones launches the iconic Motorola Razr in the Dubai sky. LSi reports . . .

[Dubai] AO Drones, a specialist global provider of drone light shows, has delivered an eye-catching airborne show to form a video campaign promoting Motorola's re-imagining of its iconic Razr flip phone in the Middle East and Africa. Following its upload, the video quickly attracted more than 200,000 views through Motorola's social media channels.

The teams from AO Drones and AO Creative, part of entertainment lighting visionary AO Technology, worked in collaboration with Motorola and netizency, the Middle East-based digital marketing agency, to design and deliver all the visual content. Animated logos, brand names and messages - including the #feeltheflip hashtag from Motorola's social media campaign - filled Dubai's night sky. AO Drones' design team even recreated a perfect animation of the Razr flip phone opening, closing and rotating in the sky.

Vinayak Shenoy, head of marketing, Middle East and Africa for Motorola's parent company Lenovo, said of the Razr launch event: "A unique, one-of-a-kind product like this deserves a unique, one-of-a-kind experience. We felt that this drone show symbolises what this product is all about - a great blend of technology and art . . . The beauty of 120 drones rising in the air all together, the whirring of the drones and the beautiful formations is something I'm going to remember for a very long time."

The spectacle was achieved with 12 crew on-site, including licensed operator 'pilots', drone technicians and a film crew to capture the show for Motorola's social media channels, the key aim of the launch, as AO's founder and executive producer Marco Niedermeier explains: "From the beginning we asked, what was the intention? It was to create great content for social media and get maximum shares and engagement. So, we looked after the whole production - the drone show, the film - but



↑ → From top: Drones formed elaborate shapes, including that of Motorola's Razr flip phone and the company's branding

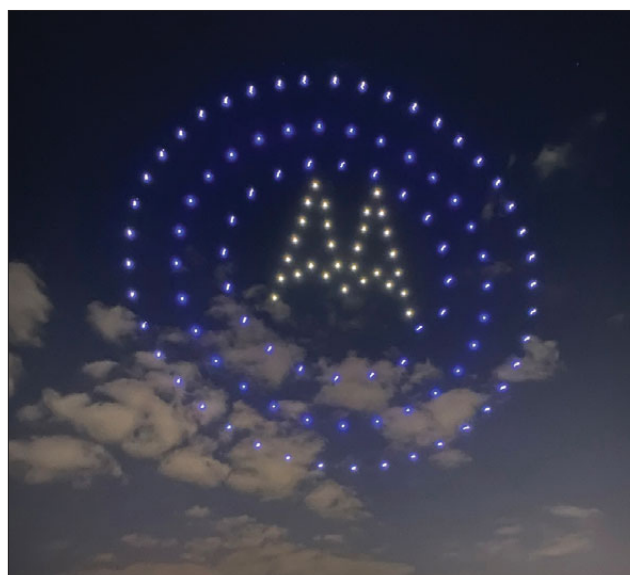
→ Facing page: The AO Drones team worked closely with representatives of Motorola and digital agency, netizency



without an invited audience on-site."

The AO Drones fleet has been specially developed over two years, using highly sophisticated technology, to meet the unique needs of live entertainment production. Its advanced control platform enables flexible, efficient and safe creation of shows in outdoor environments. What's more, the speed and accuracy of the drones enables efficiencies which are vital for AO Drones to achieve its aim of making airborne lightshows a viable option for event productions everywhere.

"Drone shows will often use 300 or more drones, but in two layers," Niedermeier continues. "Some will be visible, making one image,



while others, switched off, move to position to make the next image. Here, however, we created every effect we needed with just 120 drones, which is a more affordable proposition. We can do this because our drones are fast enough, and our show programmers are skilled enough, that we can make extremely efficient use of their airborne time."

For drone shows, as with any event production, safety is of the first importance. In modelling the 3D performance space, AO Drones' pilots set exclusion zone parameters within the software, blocking any drone from venturing beyond these limits. This is vital where audiences or production crew are located nearby, so that safe operating distances are constantly maintained. In the event of failure - a loss of control signal, for example - the drones are programmed to return safely to their original launch positions. "But, in more

than 1,000 hours we have flown with this fleet, we have had no failures," says Niedermeier.

The drones' battery life allows them to stay airborne for 20 minutes in normal conditions, or less where they need to use more power to counter the wind. "We recommend shows are between 10 and 14 minutes in duration, to allow for take-off and landing, and wind speed," says Niedermeier. "For this show, it was quite windy in the evening, but our drones are designed to cope with this. They can move fast - up to 10 metres per second - so they have the power to accurately maintain their positions against the wind. They are very stable."

Adding a further spectacular dimension to the aerial display, the AO team used camera drones to provide dynamic 'fly-through' footage, so that the video would take the viewer up and into the drone formation, even passing directly through the 'o' at the centre of the



Motorola logo. "It's not just filming a flat logo in the sky," explains Niedermeier. "This really is three-dimensional, dynamic show content."

This was the latest successful project for AO Drones, which has found its expertise in increasing demand since its launch last year. Its skill in designing, programming and executing these 3D aerial animations, combined with AO's 25 years in

entertainment production, make them one of the go-to providers in this increasingly popular entertainment medium.

Niedermeier concludes: "We are very happy that Motorola chose to use a drone show for their product launch. Working with Motorola and netizency has been such a positive experience, and the result speaks for itself." 📍

🔗 www.ao-technology.com
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Stage Lighting Design (Second Edition)

Simon Duff reviews Neil Fraser's recently-updated theatrical lighting book . . .

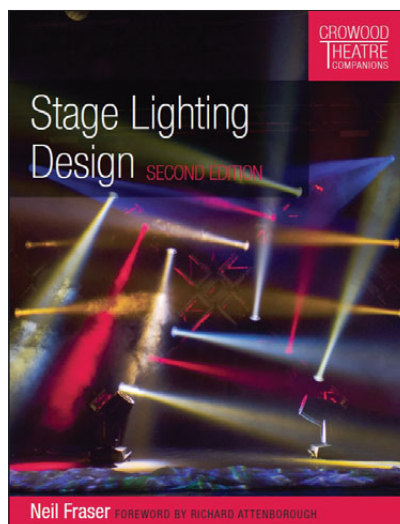
[UK] Neil Fraser's credentials to write about stage lighting are impeccable. His credits include *The Tempest* for Deborah Warner at Contact Theatre, Manchester; *The Resistible Rise of Arturo Ui* for Di Trevis at the National Theatre; *Moon Landing* at Derby Playhouse, Howard Brenton's *Bloody Poetry* (off-Broadway), and many UK repertory theatre productions. He was appointed head of lighting for RADA in 1985 and director of technical training in 2002. He has also taught across Europe and Russia, at the National School of Drama in New Delhi, and in 2008 was appointed visiting professor for the National Academy of Chinese Theatre Arts.

His academic yet down-to-earth approach to writing combined with a highly artistic flair serve him well in his book *Stage Lighting Design* (Crowood Press), which works as a comprehensive guide for lighting students and indeed for directors and others involved in theatre.

The introduction takes the reader through a history of stage lighting, from how the ancient world worked in outdoor religious ceremonies, through to the Renaissance use of candlelight, silks, colour and water bowl reflectors. Other key milestones that helpfully set readers up for what is to follow in the book include: 1803 when the Lyceum Theatre in London first used gaslight as part of its lighting; 1881 when the Savoy Theatre started to use electric light; and 1914, when Strand Electric was founded in England.

The book is set over 14 chapters, with the first, *What is Lighting Design?*, exploring the science of light in theatre. Chapter two, *The Equipment We Use*, discusses the luminaire, different lenses, and provides a basic introduction to profile, PC, beam light, flood, Fresnel, as well as LED colour mixing and moving lights and control systems. Chapter three, *The Performance Layout*, explains patching systems, fuses, electrical safety and rigging basics. Then onto dimming, control and DMX. Chapter four, *The Equipment In Use* focuses on techniques, while chapter five, *Beginning To Light The Performer*, represents a creative take off for the design process and explains the basics of how to light performers on stage.

In chapter six, *Colour and Light*, Fraser starts to delve deeper into colour theory, including creative use of gobos and other techniques to enhance atmosphere. Then, *Making It Look Real*, elaborates on creating natural and interior mood lighting, whilst in *A General Cover Of Light*, Fraser examines rigging positioning and the importance of working with set models for initial



"Practical and down-to-earth advice is key throughout. Fraser, like most leading practitioners in the field, understands the critical importance of having the right attitude and approach to work . . ."

creative ideas. *Movement In Light and Lighting Effects* sees Fraser describe gobo techniques and working with other creative tools, including haze generators and other mood and atmosphere techniques.

Subsequent chapters explore further creative techniques and encourage the student to be highly-skilled both technically and artistically. Chapter 13, for example, explains in more detail the production process, including rigging, focussing, plotting and working with the director.

Lighting design examples conclude the book with in-depth practical examples of Fraser's work on shows such as Dylan Thomas' *Under Milk Wood*, *The Jealous Wife* by George Coleman, *Bloody Poetry* by Howard Brenton and *Beowulf* adapted for the stage by Christopher G. Sanford. All with notes from initial meetings with directors, as well as rigging positions charts and cue

sheets. Each chapter includes plenty of practical exercises - 100 in total - designed to help reinforce student understanding and learning.

Throughout the book, Fraser's use of his literary knowledge and influences are crucial to his thinking and design. In one of my favourite exercises, he sets the reader a task based around a passage from a novel by the American author E. Annie Proulx called *In the Garden*. Fraser asks how a designer might visualise the passage and how they might create a colour chart to aid their design. The textures available from the prose are huge.

Fraser flags the importance of being influenced by a range of master painters and examines how those artists approached light through paint. Rembrandt, Caravaggio and Vermeer, just a few that he name checks.

Practical and down-to-earth advice is key throughout. Fraser, like most leading practitioners in the field, understands the critical importance of having the right attitude and approach to work. In the conclusion he highlights the importance of networking.

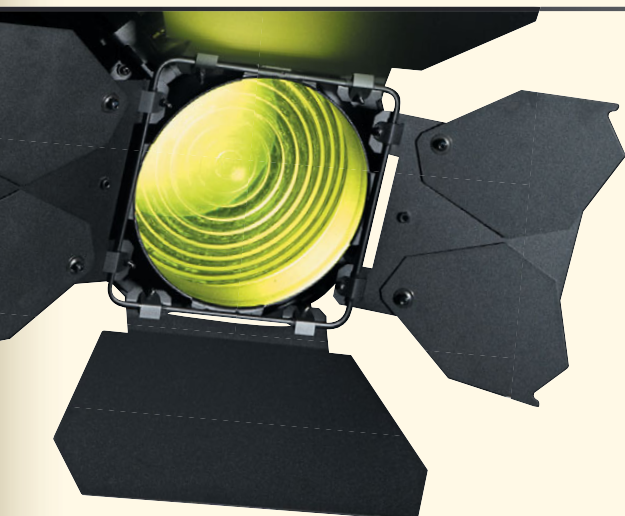
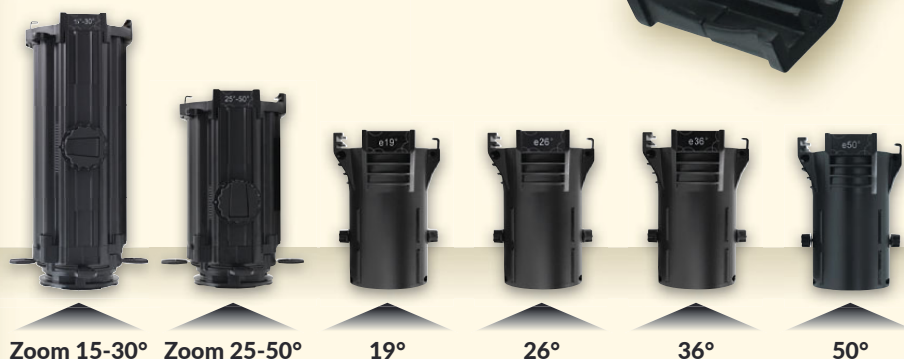
The best is kept for last. In exercise 100, *The Story is King*, Fraser challenges the reader to create a story using only light. "This may at first seem a ridiculous challenge," he writes. "How can light alone tell a story? But if we remember that lights can be shaped and isolated, grouped, chased and coloured, then we can begin to see how we could give character to the light - to what the light appears to be." He concludes: "Light used in drama is all about hitting the right dramatic temperature for any given moment and these moments are always within a story of some kind. I hope you enjoy telling your stories."

Asked about what he might like to write about in the future, Fraser comments: "The big new player on the theatre lighting scene is video. Pictures, animations effects from the mouth of a projector often blend in with the work of the lighting designer. Embracing and incorporating into their palette of options ever more subtle and effective intelligent lighting units, LED colour instruments, and a multitude of digital pixelated bits and pieces are key. Newly-minted LDs should consider embracing both areas in their work. Even more importantly perhaps, the author of the visuals for a production has begun to shift from the traditional set designer to a creative team, who have to work and move as one team together." Wise words indeed from a true master of his art. ☘

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early stagers

Ola Przytula, LAMDA

"When you come straight from university and haven't had a lot of work experience, it might be difficult to suddenly take on jobs without the security of being a student..."

Name, age, place of study & course?

Ola Przytula, 26, London Academy of Music and Dramatic Art (LAMDA), FdA Production & Technical Arts: Stage & Screen

What attracted you to this business?

I worked in advertising back home in Poland for five years as a video editor, but I got slightly tired of it and wanted to mix things up. I've always been a fan of theatre and enjoyed the backstage aspect, so I thought it would be a good idea to try it for myself. There is something fascinating and thrilling about live performances, which is very different from film and advertising.

What do you think of the course you're studying?

The course is perfect for anyone like myself who hasn't had much experience in theatre. It gives you amazing opportunities to work in any aspect of production - including construction, stage management, sound and lighting - so you can discover what you enjoy most and then pursue that area of interest. You get to learn a bit of everything and then decide what you want to specialise in, rather than having to decide at the very beginning.

What work experience have you had?

I occasionally work as a casual technician and I'm really enjoying it. Everyone is very welcoming and helpful and really appreciates the fact that you come from LAMDA, because they know you have the skills to work in more than just one area of production.

Who has been your biggest mentor/s?

I wouldn't say I have a mentor *per se*, but the tutors at LAMDA are very helpful. They really appreciate it if you have an interest in something and they will strive to help you develop that into something more.

What's the best career advice you've received so far?

The best piece of advice I ever got was: 'If it looks like there is nothing to do, pick up a broom and sweep the stage.' If you show people that you're prepared to work hard and willing to do things that others don't necessarily want to do, your employers will really take notice of you.

What's the most valuable lesson you've learned so far?

Be bold. That's definitely something I wasn't used to before I came to LAMDA, but now it's become part of what I do. It's very important to be able to step out of your comfort zone and face the challenges ahead.

Who would you most like to emulate?

I don't think there is one person I'd like to emulate. What I would most like to achieve is to find good work and be happy doing it. Turn my hobby into a job, in a good way.

What would be your dream project to work on?

My dream project would be to work on a big Shakespeare play at the Royal Shakespeare Company. I still haven't decided whether that would be lighting design or production electrician.

What's the toughest thing about entering this business?

Insecurity. When you come straight from university and haven't had a lot of work experience, it might be difficult to suddenly take on jobs without the security of being a student and having that safety net of saying 'oh, I am still learning'. Again, it's very much about stepping out of your comfort zone.

What's your experience of the industry's attitudes towards students?

My experience has been very positive. Everyone seems very kind and helpful.

I also find that people respect you more if they know you come from LAMDA.

What advice would you give to anyone following in your footsteps?

To anyone who is doing or thinking about doing the same thing, I'd say be bold and take a risk. As the saying goes: 'No risk, no reward.' It's very important to try things you haven't done before so that you can say definitively whether you enjoy this type of work or you never want to do it again.

What do you want your job title to be in 10 years' time?

I have no idea! I know I'd love to work in lighting, but whether that's making practicals, doing lighting design, or being an electrician is still to be decided. ✕

STATS

LONDON ACADEMY OF MUSIC AND DRAMATIC ART

Location: London

Industry courses: FdA Production & Technical Arts: Stage & Screen, BA (Hons) Production & Technical Arts Top-Up

Industry links: Autograph, Richard Martin Lighting, Anna Valley, White Light, Sparks, ChamSys, Nexa, plus many other suppliers and production companies...

Average number of students: 30 per year for the FdA and approx. 10 for the BA (Hons) Top-Up

▶ ww2.lamda.ac.uk

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future tech

Haptic soundwaves | James Simpson predicts the shape of tech to come . . .

"Theatre has often played with creating a sensory experience for audiences - are we now at a place where we can explore digital touch?"



If we assume for a moment that human kind is set for a world where the digital replaces the physical, one of the biggest challenges ahead is finding a way to make the physical necessary for us to believe in the digital.

I personally proscribe to the vision that, eventually, our living world will be augmented by digital content that is laid over the real world by glasses or maybe even contact lenses. I don't see this as any more of a disruption to the way we live than that caused by smartphones, TVs or even mass media (early printed press inspired revolutions, after all). We are just taking it to the next phase.

However, the human body and our psyche has developed over millennia to require certain physical stimuli to help us connect our senses. Sometimes, seeing something isn't enough to believe it, unless we can also hear it, touch it, smell it and sometimes taste it.

Artists working in immersive productions suggest that three senses must be triggered at a time in order to properly draw a person into an experience. Computer game makers figured this out some 20 years ago by introducing Rumble Paks into controllers - attachable devices that simulate physical sensation corresponding with the action; a common example is seeing a bullet fly towards you in-game, hearing it travel either in stereo or surround sound, and then 'feeling' the impact thanks to a vibrating sensation in your hands. Another example is a faint rumble of feedback when you click a button or a menu - a technique copied into many products these days, including our smartphones.

ULTRALEAP

In my previous column, I wrote about the lighting desk of the future, which would have no physical buttons or faders and the LD would use haptic gloves to provide haptic feedback. In a timely reminder of what's to come, during February's Consumer Electronics Show (CES), an incredible new technology was launched; it creates virtual haptic feedback, so there is no need for gloves or any other wearable technology.

This product is called Ultraleap and uses soundwaves to create the sensation of physical touch. It has an array of 16x16 tiny transducers that emit high-frequency sound (40kHz), higher than our normal range of hearing - although I do feel sorry for dogs living in this potential future! Using a hand-tracking camera, the array can project a high-frequency buzz, which feels the same as the vibration from a game controller or phone when you hit a button, effectively simulating the presence of a physical object.

You need to be within 50-150mm of the device to feel it working, and the cone of effect is 30° from the source, so the further away you are, the lower the resolution of

the experience. This typically gives you a pressure point 8.6mm wide, which can be delivered instantly with varying intensity.

However, although 256 transducers is obviously a remarkable feat to have developed, the human finger has a resolution of 10nm. This means the resolution needs to be reduced to about 0.5mm before we begin to register the type of feeling that would allow us to use this sense to register and identify different types of surfaces, and many times smaller than that if we wanted to fool ourselves into believing we were touching something textured.

A BIT OF THEORY ON HAPTICS

What this technology doesn't do is to physically stop your finger dead in empty space - it doesn't exert any actual force. But that's why research into haptics is popular at the moment - the psychology of virtual touch means we can make a user think that they have indeed 'touched' a solid object and therefore they won't move their hand any further. If they made a conscious effort to push past the sensation of a solid surface, nothing would physically stop them, but they would be overcoming a natural, human instinct.

I have experienced this many times whilst using virtual reality controllers. The carefully-designed haptic vibrations give you the sensation of physical interaction, and when you are immersed in a VR environment and your brain tells you that you have touched a brick wall, your instinct will not let you push past it unless you have managed to break yourself out of your immersion (which, in design terms, would be considered a failure). After all, the human body has been conditioned since our time began to believe and trust in what our senses tell us, and our reaction to these stimuli is almost subconscious.

Having just written a piece on haptics for lighting desks, and thanks to so many of you for your positive feedback - please feel free to reach out anytime with your thoughts on any of my columns - my first idea for this technology was to be used to apply physical sensation for interacting with buttons and faders on a lighting or sound desk.

But, then I realised that we can go further still. Aside from the applications in virtual reality, imagine if we could build this technology into the backs of seats in a theatre and create the sensation of physical touch on a member of the audience? How about if Sweeney Todd swipes his blade across a victim's throat and the audience feels the sensation?

What if, as the genie casts magic on the audience during a pantomime, the magic ripples all over your body? The Woman in Black reaches out to touch the audience and you feel her stroking your right cheek?

Theatre has often played with creating a sensory experience for audiences - are we now at a place where we can explore digital touch? 🌀

James is a creative technologist and designer working in the world of digital theatre. He is a pioneer in the use of VR and AR in theatre and is trying to evolve the production design process with his research in design visualisation.

2020



1980

NEVER STOP EVOLVING

Things change, true quality remains



DTS celebrates 40 years of innovation in the lighting industry by launching the Synergy 7 Profile, a new projector that, thanks to its power and elegance, has become "The Stallion" in our family of moving heads.

With an output up to 55,000 lumens, the Synergy 7 Profile offers incredible versatility and freedom of use.

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2020

Hall 12.0 Booth E65



ON SHOW

Review : ISE, Amsterdam

Highlights from the showfloor at this year's ISE exhibition, held at Amsterdam RAI . . .

Face masks, hand sanitizing gel and fist-bumps were the order of the day at ISE 2020, as the show took place this February amid growing concern about the spread of novel coronavirus. Despite several high-profile companies, including LG and GLP, withdrawing from exhibiting due to health concerns, on the whole the show maintained visitor levels and delivered a successful final event at Amsterdam 's RAI ahead of relocating to Barcelona next year.

LIGHTING & VISUALS

Absen's Venus series launches

Absen launched the Venus (VN) series, a lightweight touring solution for rental applications. The product features a fast-locking system and an integrated 'module-on-frame' design, which makes the panels lighter (at 27.5kg/sq.m) than competing products if the cabinet frame is removed. Venus will be available in two sizes: 1,500mm (W) x 1,000mm (H) and 500mm x 1,000mm, and in 3.9mm, 4.8mm and 8.3mm pixel pitch versions, with up to 5,000nits brightness.

Also highlighted were the company's MiniLED series of ultra-fine pixel-pitch LED

panels for installations and rental, showing all four core product lines - Aries (AX), Acclaim (A27 Pro), Control Room (CR), and HC. The company also announced the availability of new pixel pitches for its popular AX display for rental. Previously only available in 1.5mm, it will now come in 1.2 and 1.9mm varieties.

➔ www.absen.com

ACME unleashes the Thunder-Roar

ACME Lighting debuted the Thunder-Roar BL-200 CS, part of the company's BL-200 range of stackable LED blinder units, which offer multi-source RGBW LEDs for complete pixel control. Multiple units of the BL-200 series can be stacked together in both horizontal and vertical arrangements to create eye-catching designs. Also shown, the Solar Impulse - a powerful, high-performing, CMY colour mixing, hybrid LED moving head with a 1000W LED engine producing an impressive 35,000lm. Other products demo'd included the Dottedline360 batten with 12 x 30W RGBW LEDs and class-leading colour mixing, and the Energy Spot Pro, a compact, lightweight fixture with an output of 8,400lm.

➔ www.acme.com.cn

Adam Hall debuts Opus X

Adam Hall presented a range of fixtures from its extensive lighting technology portfolio. The Cameo Opus X Profile, a new 750W white light LED fixture, was shown in Europe for the first time following its launch at LDI, Las Vegas in 2019. With a CMY colour mixing system (including a colour wheel with six dichroic filters and linear CTO correction), 6° to 48° zoom range, and flicker-free operation, the fixture is suitable for a range of applications, from theatre to TV. Also shown was the Cameo Evos S W7 washlight, with RGBW and warm-white LEDs; the F4 series LED Fresnel spotlights; and a new range of houselights for theatres and industrial applications.

➔ adamhall.com

Multiple launches from ADJ

A variety of products from ADJ made their European debuts. These included the Vizi Beam 12RX moving head; the Encore Profile Pro WW, an LED-powered ellipsoidal designed for professional theatrical and other performance lighting applications; the IP65-rated Hydro Wash X19; and the new 'VS' Vision Series of modular LED video panels.

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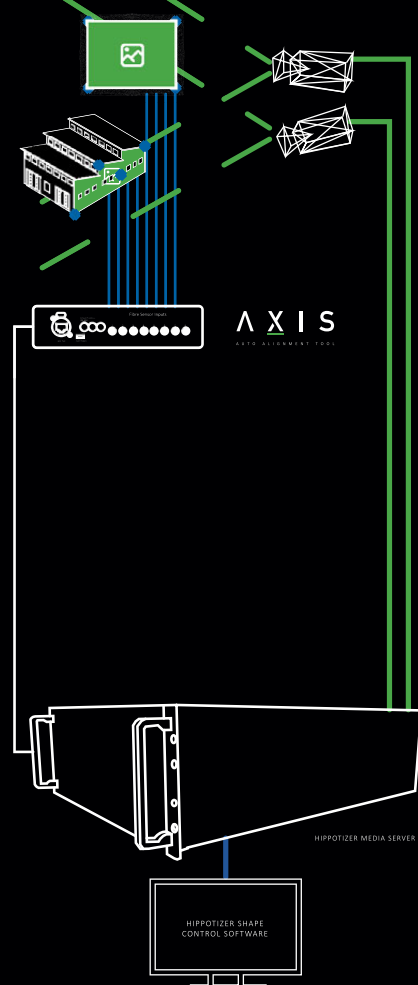
AXIS automates 3D projector alignment; small sensors placed in the 3D model allows projector line-up to be done in seconds at the press of a button. Whether a 3D projection mapping installation, touring production or cruise ship,

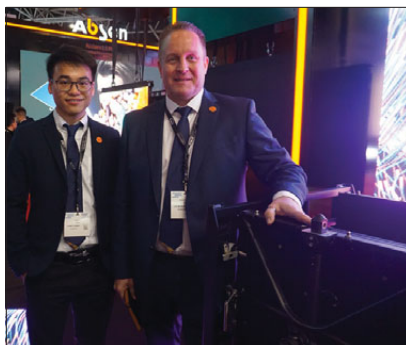
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Hall 12.0 Booth D40





From top: Absen's Christian Czimny and Joyce Lin with the tour-friendly VN series

Julian Carro of Audinate

AV Stumpfli's Hans Stucken

Piet Vanhuyse of Barco

Christie Digital's Joel St-Denis



PRODUCT DEBUT

BROMPTON DEBUTS TESSERA S8

Leading LED processor manufacturer Brompton Technology launched its new Tesseract S8 LED processor. The Tesseract S8 is a cost-effective solution for high profile projects that don't require the large output capacity of the award-winning Tesseract SX40 processor, but still want to benefit from the flexibility of Brompton's industry-renowned Tesseract feature set and easy-to-use software to produce stunning results.

Like the Tesseract SX40, the S8 provides support for all of Brompton's key features including High Dynamic Range (HDR) and Dynamic Calibration, which deliver better image quality for LED screens. In addition, S8 delivers Ultra Low Latency and High Frame Rate, as well as offering full 4K@60fps input support, with eight 1G outputs, each capable of 525K pixels at 60Hz, 8 bits per colour. All industry-leading Tesseract processing features are also available, such as On-Screen Colour Adjustment (OSCA) for colour mismatch corrections, Dark Magic for dark-area detailing, and ChromaTune for video colour replacement.

➔ www.bromptontech.com

Meanwhile, joining the Focus Series as its new flagship, the Focus Spot 6Z boasts a 300W cool white LED engine and pairs it with precision-engineered optics to create a sharp and bright output. While still retaining a compact design, this is ADJ's most feature-rich Focus Series moving head to-date. A dedicated wash luminaire has also been added to the Focus Series in the form of the new Focus Wash 400.

➔ www.adj.com

Audinate raises Dante awareness

Audinate offered free Dante Certification Training to visitors of all levels of familiarity with the networking protocol. Beginners were offered insight into basic Dante audio networking concepts, while intermediate Dante users learned specific Dante capabilities such as redundancy, clocking, latency and multicast. The company also continued to promote Dante AV, the integrated audio and video-over-IP solution for manufacturers. The Dante AV Product Design Suite is due to start shipping to manufacturers imminently.

➔ www.audinate.com

AV Stumpfli previews new Pixera

Austrian AV solution specialist AV Stumpfli presented its latest projection screen products and a v1.6 preview of its media server system Pixera. Unveiled in 2019, Pixera combines one of the most powerful render performances on the market, along with a user-friendly GUI. Key features in v1.6 include live preview editing, which allows changes to running shows to be previewed by the operator and then blended into the output on-the-fly; and native support for the Unreal and Unity rendering engines,

allowing users to use projects created with both.

Also unveiled was Pixera two RT, a 2U media server that enables the playout of six simultaneous uncompressed 4K60 8-bit streams or four uncompressed 4K60 10-bit streams. The strong rendering performance is combined with NVMe read speed of up to 10GB/s, making Pixera two RT the fastest comparable media server on the market.

➔ avstumpfli.com

Ayrton shows Karif-LT

Ayrton presented the Karif-LT lighting fixture, the first in the company's line of long-throw products. A 300W LED beam-spot, Karif-LT is equipped with a 168mm frontal lens offering a zoom ratio of 15:1 and a 3°-45° zoom range. A new high-efficiency, low-etendue, compact LED module delivers an intense beam which, calibrated at 8500K, can generate metallic white and deep, vivid colours. Karif-LT has an overall output of 13,000lm and a centre-beam luminous intensity of 3,500,000cd.

➔ www.ayrton.eu

Barco extends XT Series line

Barco bolstered its XT Series of fine pixel-pitch LED screens with five new models for indoor and outdoor applications. XT Series was launched at ISE 2019 following a strategic partnership between Barco and Chinese LED maker Unilumin, with Barco promising superior performance from the panels through proprietary LED image processing solution Infinipix. The new screens comprise the entry-level version XT-E (with 1.2, 1.5 and 1.9mm pixel pitch tiles) and the higher-end XT-HB (with 1.9 and 2.5mm tiles and up to 1500nits

brightness), also suitable for outdoor use.

Also launched at the show was Barco Insights, a subscription-based projector management solution that offers realtime information on the operating and environmental conditions of the projectors as well as usage data and light-source runtimes.

▼ www.barco.com

Calibre display makes worldwide debut

Calibre's LEDFusion A160, a 163" all-in-one LED, display made its worldwide debut on the stand of Calibre business partner MediaScreen.

The LEDFusion A160 provides a complete, integrated solution that can be installed by two people in an hour or less - largely eliminating the time, effort and expense typically associated with deploying screens of such a size, says Calibre.

▼ www.calibreuk.com

CAST demos broadcast solutions

Daily demos by CAST Group showcased various BlackTrax applications for live entertainment and broadcast. These included lighting, media and virtual lighting, spatial audio, interactive games, talent-tracking and augmented reality powered by CONVRG, BlackTrax's broadcast-control environment. Plus Helios, a new camera-

tracking beacon. Mounted directly on the camera, Helios tracks and provides a synchronised data stream to broadcast systems and media servers, enabling realtime virtual and augmented reality graphics in any production.

CAST Group joined forces with partners for a live entertainment show designed by MEPTIK, as well as a broadcast and XR demo programmed and supported by White Light.

▼ [//cast-soft.com](https://cast-soft.com)

Chauvet's Ovation CYC 1 FC

Chauvet Professional presented the Ovation CYC 1 FC following its launch at LDI, Las Vegas in November 2019. The fixture can be positioned unobtrusively on the stage and in broadcast studios. With an illuminance of 173lx at 5m, the CYC 1 FC ensures a wide, smooth coverage area, often allowing larger backdrops to be fully illuminated only from the ground without the need for downlighting, the company says.

The CYC 1 FC can also act as a foot light, fill light and side light in a wide variety of applications. Drawing on Ovation's award-winning RGBAL colour-mixing technology, the CYC 1 FC produces virtually any hue with the utmost realism and saturation. A virtual colour wheel in the unit matches popular gel colours and colour temperature pre-sets. The fixture also features

16-bit dimming of the master dimmer and individual colours.

▼ www.chauvetprofessional.com

Christie debuts laser projectors

Christie Digital presented its MicroTile fine-pitch LED displays with added 3D capabilities, as well as a full line-up of tiled and discrete LCD panels. From its laser projector stable, the company showed the Crimson 31 and gave ISE debuts to the Christie Roadie 4K40-RGB and the Christie Mirage SST.

On stand, four Christie D20WU-HS Series projectors were used to create a 360° 3D projection-mapping display with AR featuring content provided by loop light GmbH. Visuals were managed by the Christie Spyder X80, the Christie Mystique for automated 3D camera-based alignment, Christie Pandoras Box in 64-bit, and Terra SDVoE AV-over-IP solutions.

▼ www.christiedigital.com

CLF's Poseidon makes waves

CLF Lighting promoted its new IP65-rated CLF Poseidon, a powerful outdoor beam fixture developed for smooth CMY colour mixing. Based on the successful CLF Aorun, Poseidon features a double prism, gobo wheel, animation section and frost. The 190mm wide lens and optics allow for big,



National Event Lifting Training (NELT)

A new training programme for production technicians in the event and entertainment industries. Technicians from the Royal Albert Hall, PSI, Whitelight, PSAV/Hawthorn have already completed NELT, here is what they say...

"The course content and quality of the training was absolutely fantastic"
"What I liked about the course was learning about safe systems of work"

Reserve your place today at www.plasa.org/nelt



From top: Simon Hutchinson of Digital Projection

Peter Kirkup of disguise

Elation's Larry Beck with the Artiste Mondrian

David Faulkes and Fina Mateo of Highlite

Martin's Ben Payne and Peter Dahlin with the ERA 800

mid-air effects with a bright and punchy beam, delivered by a 400W light source. Colours can be mixed smoothly by using the CMY wheels; a fixed colour wheel is also available.

www.clf-lighting.com

Digital Projection's modular system

Digital Projection (DP) debuted a new modular projection concept - Satellite MLS. The system separates the light source and its associated power and thermal management, leaving a small and light (weighing as little as 35kg) projection 'head' that only contains the minimal optical and video processing. The modules are connected via fibre-optic cables, which can reach up to 100m. In addition to the many logistical, installation and performance benefits of Satellite MLS - including modularity, small size, low noise and low power consumption - users will benefit from enhanced system longevity with reduced need for servicing, says DP.

www.digitalprojection.com

disguise showcases integrated solutions

disguise combined its AV solutions to create an integrated system on stand and to showcase its involvement in various live events and fixed installation projects. The company presented its line-up of media servers, including the vx4, optimised for playing lossless 10-bit video and up to four times uncompressed 4K @ 60fps; and the gx 2c which is capable of 38,433 Notchmarks, allowing creatives to build environments with more particles, effects and richer scenes at higher resolutions and with smoother frame rates. disguise also partnered with Novaline and Carbon Black to create a multi-dimensional holographic installation to celebrate the next chapter of ISE ahead of the show's relocation to Barcelona in 2021.

www.disguise.one

Elation's Artistes out in force

Elation presented its latest wash and profile luminaires - Artiste Rembrandt, Artiste Mondrian and the Fuze Profile. Artiste Rembrandt is a bright, full-featured LED wash fixture that offers an impressive output, optimised wash field and a wide colour-mixing gamut through its seven-flag SpectraColor engine (CMYRGB+CTO). Meanwhile, the Mondrian produces over 50,000lm with its 226mm PC lens and a 3.3° narrow zoom angle. It utilises a custom hotspot LED engine to provide impressive centre intensities at long throws.

Elation's Fuze Profile is designed for applications requiring a fully automated ellipsoidal fixture with a large colour range. A full colour spectrum, 92-CRI RGBMA LED engine ensures accurate colour reproduction whilst delivering an output of over 9,000lm. Compact, quiet and

lightweight, the Fuze Profile houses a full blackout framing system, 7°-46° zoom, rotating gobo wheel, fixed gobo wheel and animation wheel.

The Proteus range welcomed the Proteus Lucius, a compact and powerful LED profile with IP65 rating that features an efficient 580W LED engine and over 30,000lm. Lucius features framing shutters, 20 gobos on three wheels, animation and CMY plus variable CTO colour mixing.

www.elationlighting.eu

Highlite to Infinity and beyond

Highlite reported strong interest in its Chimp 100.G2 and 300.G2 light controllers which were showcased alongside fixtures from the Infinity Wash range of LED moving heads, including the iW-741 and iW-1941. Luminaires from the popular IP65-rated Showtec Polar range of moving heads were also showcased. The iW-1941 is equipped with 19 RGBW 40W Osram LEDs plus a motorized zoom and produces a beam from 3.6° to 60°. Pixels can be individually-controlled via DMX, Artnet or RDM.

www.highlite.com

Martin's ERA debuts in Europe

ISE 2020 welcomed the European debut of the newly-launched Martin ERA series, causing crowds to gather and generating "very positive" feedback from visitors. The range includes a number of variants, from the versatile ERA 300 right through to the mighty ERA 800 which boasts a 34,000lm output. Also making its debut was the ERA 500, Martin's first IP-rated moving wash light. There was also lots of interest in the interactive Scepter installation running off Martin's P3 software.

www.martin.com

Obsidian presents Netron

Netron, Obsidian Control Systems' new line of data distribution products, made its European tradeshow debut having launched at the NAMM Show in January. Netron comprises three Ethernet-to-DMX gateways and three RDM splitters suitable for applications from live production and venue installations to architectural environments. All Netron products can be configured through the internal OLED screen and encoder or the integrated web menu system.

obsidiancontrol.com

Roe brings Ruby to Amsterdam

Roe Visual presented its new Ruby LED display which features 2.3 4-in-1 LEDs, exclusively developed for the product. Each 4-in-1 LED has four individual lenses instead of one large one, this reduces the glare effect and creates "perfect on-camera visuals," says Roe.

www.roevisual.com

tvONE reveals 8K processor

tvONE launched its most powerful video wall processor to-date, the CORIOmaster 2. This 8K-ready processor delivers power to up to 128 video windows and supports up to 56 high-bandwidth outputs and 360° rotation. Any input can be internally switched to any of the video windows and there's embedded audio or external audio connectivity. Also unveiled was Pathfinder, a new KVM-over-IP solution providing a scalable KVM solution for 4K and HD sources.

▶ [//tvone.com](http://tvone.com)

Vioso's mind-bending demos

German projection specialist Vioso demo'd its 360° projection dome and the high-end Pandome installation which includes a curved projection surface which showed VR-mapped content. The attraction played a key part in DepthQ VR, LightSpeed Design's interactive VR theme park ride, where attendees were taken on an 'aquatic ride' without the need for a VR headset.

The company also announced a new business structure, separating its AV projects under Vioso AV, whilst Vioso Simulation will handle simulation projects.

▶ [//vioso.com](http://vioso.com)

AUDIO

Active Audio and APG link together

French pro audio solutions manufacturers Active Audio and APG exhibited jointly. Active Audio launched Ray-On, a column speaker range that benefits from Power over Ethernet (PoE+) technology, as well as a 60W internal power amplifier and a Dante RJ45 digital input. The series includes the R70-PoE and R110-PoE (vertical arrays) and the B70-PoE (horizontal).

Meanwhile, APG presented its new iX range of coaxial installation speakers. The line comprises five coaxial speaker models: iX5, iX6, iX8, iX12 and iX15, all of which are two-way speakers loaded in bass-reflex for low-frequency extension.

▶ [//activeaudio.fr](http://activeaudio.fr)

▶ www.apg.audio

Adam Hall launches Maui i1

Adam Hall presented its pro audio solutions for live events and fixed installations.

A particular highlight was LD Systems' new Maui i1 speaker, a fixed-install version of the popular active column speaker co-designed with Porsche Design Studio. Maui i1 features nine 3" woofers and two

1" HF drivers as well as a BEM-optimised high-frequency waveguide for adjusting the vertical dispersion as required. Also new were the LD Systems DQOR compact outdoor speakers, available in 3", 5.25" and 8" sizes.

▶ www.adamhall.com

Adamson showcases IS-Series

Adamson Systems Engineering presented its premium install-focused IS-Series loudspeakers, including the new IS219 high-powered subwoofer. Additionally, Adamson partnered with the CAST Group for a series of daily immersive audio demos showcasing its BlackTrax realtime tracking technology and Adamson's intelligent, Milan-ready CS7p and CS118 loudspeakers.

▶ www.adamsonsystems.com

AED rolls out audio products

After launching its pro audio brand AED Audio last December in a nod to its speaker manufacturing legacy, the AED Group debuted three products at the show. The multi-purpose powered line-source speaker Flex6 and two powered subwoofer cabinets - the Solid15 and Solid28 - were demo'd throughout the show. The three products were presented in various configurations to



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modulo-pi.com





1 From top: Allen & Heath's David Kirk with the Avantis console

APG Audio's Charlotte Vernette and Gregory Dapsane

Ashly Audio's Noel Larson

Audiologic's Andy Barnby and Kamil Hamidou

Simon Browne of Clear-Com

show how a single system can suit various applications and service small and large events alike.

➔ aedaudio.com

Alcons' latest pro-ribbon solutions

Alcons Audio presented new pro-ribbon line array technology and launched the LR24 mid-size line array in Europe. The company also showed the CRMS-SRHV/9090 compact horizontal/vertical reference immersive surround, with patent-pending 90x90 waveguide and the QB242 modular low-frequency array column.

To showcase its systems' capabilities, Alcons transformed its stand into a Pro-Ribbon Immersive Experience demo room, which featured digital lossless signal distribution in a 11.x.8 surround configuration. The company partnered with Sony for projection, Storm Audio for processing, ShowTex for acoustics and DreamScreen for the screen technology.

Alcons also held off-site demos of the LR24, whilst the micro line array, LR7, was featured on the ISE Main Stage.

➔ www.alconsaudio.com

Allen & Heath's new ecosystem of sound

Allen & Heath introduced AHM-64, a powerful 64x64 audio matrix processor supported by a comprehensive ecosystem of scalable I/O, control and Dante solutions. Designed for corporate, retail, hospitality and education environments, AHM-64 allows integrators to quickly create systems that build from a single boardroom to a complete campus, the company says.

Also presented was the recently launched Avantis console. The third mixer based on A&H's 96kHz XCVI FPGA engine, Avantis is a 64 channel / 42 configurable bus console, with dual Full HD touchscreens, a flexible workflow with Continuity UI, extensive I/O options, add-on processing from the dLive mixing system, and a rugged, full metal chassis.

➔ www.allen-heath.com

Apex debuts CloudPower amplifiers

Debuted from Apex was the Apex CloudPower Series - a proprietary Class-D amplifier control loop with DirectDrive technology and low intermodulation, which benefits from cloud control or a standard Cat5 connection. Through an intuitive web UI, multiple amplifiers can be remotely controlled and monitored, saving integrators time and resources. Apex unveiled four models with power ratings ranging from 350W to 3000W per channel, for applications from small commercial spaces to large theatres.

➔ www.apexacoustics.co.uk

APG launches fixed install series

APG launched the iX series of coaxial speakers for fixed installations, set to

start shipping from April. The iX series comprises five models: iX5, iX6, iX8, iX12 and iX15. APG also introduced two pseudo-coaxial speakers - optimised for vocal applications - in the iX2.5 and iX2.6.

The speakers are suited to a variety of applications, including main FOH or distributed sound reinforcement (front-fill, out-fill, in-fill, under-balcony, delay lines) in all types of venues (theatres, concert venues, clubs, bars, restaurants, conference rooms, congress centres). It is also possible to combine iX speakers with APG's popular Uniline and Uniline Compact systems.

➔ www.apg.audio

Ashly Audio debuts two speaker lines

Ashly Audio showcased the AW Series of on-wall speakers, IS Series dual-impedance column speakers, and the SP subwoofer.

Designed to take full advantage of Protea and AquaControl DSP, the AW Series with a DOC crossover reduces the off-axis deviation in sound pressure levels; they are also IP rated, making them suitable options for patios, balconies, and many other under-eave applications.

The IS column speakers are ideal for simple applications or in distributed installations - up to 32 IS speakers can be run off a single Ashly PEMA or CA amplifier.

➔ ashly.com

Audiologic bolsters portfolio

"It's been a turbulent show in more than one way, so we expected lower footfall, but it's been rather good," said Audiologic's Kamil Hamidou. The UK-based pro audio solutions distributor has been busy in recent months, first by furthering its relationship with QSC to include its live sound portfolio, and then forging a distribution deal with DiGiCo for its S-Series and 4REA4 digital mixers. The show also saw Andy Barnby - a popular face in the industry from his 14 years at Prolight Concepts - begin his new role as business manager at Audiologic, where he will be introducing the company and its services to rental and production firms.

➔ www.audiologic.uk

Clear-Com has the Edge

Clear-Com's presented its award-winning FreeSpeak Edge digital wireless intercom solution. Operating in the 5GHz band, Edge delivers "the clearest 12kHz audio quality with ultra-low latency and advanced RF performance even in high multi-path environments," the company says. The system, which will be available in the summer, is highly scalable to accommodate the largest productions and can be combined seamlessly with FreeSpeak II 1.9GHz and 2.4GHz systems, providing three bands across a single unified intercom system. Also shown was the LQ

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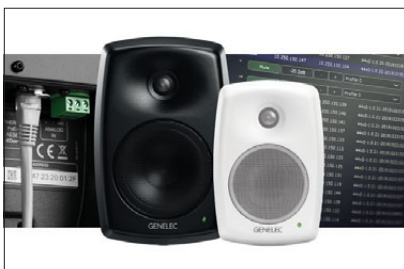


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↑ From top: d&b's Simon Kenning with the D40 amplifier

Ed Kinsella of EM Acoustics with the new R1

Funktion-One's Tony and Ann Andrews with the compact new F5 speaker

Genelec's 4420 and 4430 speakers

→ Facing page, bottom:

Kramer's Aspen-1616UX switcher

IP interfaces, a popular choice for bringing network or internet IP to any intercom or audio system, and the Encore RS-801 beltpacks, ideal for marine, industrial, theme park, stadia, and other weather-exposed applications thanks to their IP53 rating and marine-grade certification.

The company also highlighted its support for leading Audio-over-IP standards across its range, including Dante, AES67 and SMPTE 2110-30.

➤ www.clearcom.com

d&b enters the install arena

d&b audiotechnik introduced the new KSLi System package, including the new 40D amplifier, and A-Series augmented arrays. The KSLi System comprises KSLi8 and KSLi12 loudspeakers combined with matching KSLi subwoofers for both flown and ground-stacked applications and d&b's new 40D amplifier. Completing the KSLi system approach is a full catalogue of system specific accessories, hardware, customisation options, and software. The introduction of the KSLi System sees d&b address the needs of fixed installation applications for the first time. The company also hosted Soundscape demos throughout the show.

Amnon Harman, CEO, d&b audiotechnik Group comments: "As we continue to work closer with specifiers and integrators, shows like ISE provide an opportunity to not just present our latest offerings, but to increasingly understand how we can support the unique applications and projects they are seeking to address."

➤ www.dbaudio.com

EM Acoustics presents R10

British loudspeaker manufacturer EM Acoustics previewed the flagship model of its new Reference Series of loudspeakers. With natural voicing and flat characteristics, R10 is a three-way passive system featuring dual 10" LF drivers and a 4"/2.5" mid-hi coaxial unit. It is supplied with two interchangeable dispersion waveguide options: a wide 110° x 50° guide and a narrower 80° x 50° option, both of which are rotatable and offer pattern control to below 800Hz. The speaker is suited to any performance environment requiring high-quality sound reinforcement in a low-profile package. R10 was recently deployed for the UK tour of *Ghost Stories*, see pages 36-37 in this issue for the full story.

➤ [//emacoustics.co.uk](http://emacoustics.co.uk)

Fulcrum Acoustic highlights PCT

Fulcrum Acoustic highlighted its recently-patented Passive Cardioid Technology (PCT) in addition to a broad range of coaxial products. These included the CCX coaxial cardioid loudspeaker, the FL283T line array module, the CS-series of cardioid subwoofers, and the FW15 coaxial cardioid stage monitor. Fulcrum's PCT reduces

excessive low frequency rear radiation, a common shortcoming of compact loudspeakers and line arrays.

➤ www.fulcrum-acoustic.com

Funktion-One's smallest models yet

Funktion-One launched two compact loudspeaker models - the F5 speaker and the SB8 bass unit. Offering a balanced and natural sound quality, not often found in loudspeakers of its size, the F5's ultra-compact dimensions and high output mean it's suited to a wide range of applications, including distributed public address systems, bars and restaurants, as well as domestic applications, such as home cinemas, desktop monitoring and home music systems.

The F5 features a Funktion-One bespoke wide-range, high-sensitivity 5" driver, an integrated high pass filter for low frequency protection, angled cabinet design for desktop use and a 3/8" microphone stand mount.

Meanwhile, the SB8 bass unit is ideal for a similar range of applications where a conventionally sized subwoofer would be too large or obtrusive. It features a high-sensitivity 8" bass driver and requires no EQ or controller, only crossover filters. A self-powered version will be available soon.

➤ www.funktion-one.com

Genelec launches Smart IP speakers

Genelec debuted two new loudspeaker models - the 4420 and 4430 - featuring the company's single-cable Smart IP technology. This provides scalable power, audio and loudspeaker configuration, supervision and calibration features via one CAT cable. The 4420 and 4430 are produced from recycled aluminium and are compatible with Dante and open IP standards such as AES67 and ST2110-30, and derive power via PoE and PoE+.

➤ www.genelec.com

Harman highlights AMX Enova switchers

Harman's stand was a hive of activity, not least for its mix of fixed installations and live entertainment solutions. To deliver superior AV processing power to integrators, the company launched two new AMX Enova DVX all-in-one presentation switchers. With 4K at 60Hz 4:4:4 video support and a built-in 120W Crown DriveCore amplifier capable of driving 8Ω speakers, it is suitable for a variety of fixed installations, from lecture halls and conference rooms to auditoriums.

Alongside the new switchers, Harman released new 4K60 4:4:4 twisted pair and fibre I/O boards for AMX Enova DGX 100 Series AV matrix switcher enclosures, along with accompanying transmitter and receiver end-points. See separate entries for the latest from JBL and Martin by Harman.

➤ www.harman.com



PRODUCT LAUNCH

CODA AUDIO UNVEILS N-RAY

Coda Audio unveiled N-Ray, a new ultra-compact three-way line array. N-Ray places the benefits of Coda's flagship AiRAY technology into a shallow, lightweight cabinet ideal for theatres, performing arts centres and corporate events. "N-RAY incorporates the latest in driver and system design technology, delivering twice the power handling and SPL, as well as significantly more low-frequency output, when compared to other systems. It delivers high-fidelity sound with a large dynamic range and extended low-frequency with unlimited flexibility, thanks to its variable horizontal dispersion," the company says.

Key to N-Ray's efficiency is the inclusion of a unique 6" double diaphragm planar wave driver (DDP), dual 6.5" neodymium ultra-low distortion low-frequency cone drivers, N-Ray insta-fit magnetic coupler sums and unique Dynamic Airflow Cooling (DAC) technology, ensuring exceptionally high sound pressure and low power compression.

The system offers a phase linearity similar to AiRAY, a 60Hz-22kHz (-6dB) frequency range and power handling of 1,000W, plus variable horizontal coverage (90°, 120° or 105°) and vertical curving (0°-12°). The speaker can be integrated with Coda's Linus management amplifiers.

▶ codaaudio.com

JBL's rainforest experience

With increasing numbers of installations needing to be able to face the elements, JBL put its IP-rated loudspeakers to the test as part of an on-stand 'rainforest experience'. The products were in use inside a dome furnished with plants and running water fountains, to enable visitors to see the units withstanding all matter of weathers. Visitors to the Harman stand could also witness and demo the newly-launched JBL VTX A-series system.

▶ jblpro.com

Kramer presents flexible switchers

Kramer showcased its 12G SDI matrix switchers. The Aspen-1616UX is a 16 in, 16 out matrix switcher, while the Aspen-32UXFX features 32 programmable ports that can function as inputs or outputs. Both units come equipped with multi-standard operation, cable equalisation and Genlock. The units feature input signal equalisation and output signal re-clocking to gain extended-reach signal extension. Using coaxial SDI cables, they support extension of up to 300m for SD signals; 200m for 1.5G HD signals; 100m for 3G and 6G HD signals; and 80m for 12G 4K signals.

▶ www.kramerav.com



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↑ From top: Harman's David Glaubke

Genio Kronauer of L-Acoustics with the new LA2Xi install amp

Alexey Khodchenko, Aleksander Kasin and Jérôme Michel of Mag Audio with the Sting series

Meyer Sound's Pablo Espinosa with the new Ultra-X20 and USW-112P sub

→ Top, right: DiGiCo's Austin Freshwater with the new Quantum 338 console



PRODUCT LAUNCH

POWERFUL NEW OFFERINGS FROM DIGICO

DiGiCo announced two new I/O Racks, the A164D Wall LCD and A168D Stage, for its acclaimed 4REA4 processing engine for networked audio in installations. Both racks bring all the connectivity of the original A164 Wall LCD and A168 Stage, but with the additional advantage of Dante connectivity.

The company also showcased its new Quantum 338 console for the first time in Europe following its launch at NAMM in January. Quantum 338 is based on seventh generation FPGAs and includes 128 input channels with 64 busses and a 24 x 24 matrix, all with full channel processing. There is a new look and feel 'dark mode' application and three 17" 1,000-nit multitouch screens, allowing both the meter bridge and soft quick select buttons to be displayed on each screen. There are also 70 individual TFT channel displays and the floating Quantum chassis features 38 100mm touch-sensitive faders laid out in three blocks of 12 fader banks, plus two dedicated user-assignable faders, each complete with high-resolution metering.

A new level of local audio connectivity and performance comes via the 'Ultimate Stadium' 32-bit ADC and DAC conversion, which are built in to Quantum 338 as standard, alongside six single or three redundant MADI connections, dual DMI slots and a built-in UB MADI USB recording interface. Mustard Processing, Spice Rack, Nodal Processing and True Solo, all launched last year for the Quantum 7, are also standard on the Quantum 338.

▶ [//digico.biz](http://digico.biz)

L-Acoustics aims at install market

Recognising that the increasingly robust installation market demands scalable, economical amplification, L-Acoustics launched its first install-specific amplified controller. Primarily designed to power L-Acoustics compact loudspeakers, the bridgeable 4 x 4 channel LA2Xi offers anywhere from one to four outputs, allowing it to also drive medium and large format loudspeakers, in full or reduced SPL, for various types of applications.

Milan-certified and packaged in a 1U chassis, LA2Xi was tailor-made for integration applications such as background music in leisure installations, distributed fill systems in performing arts centres, studio monitors, private auditoriums and more. Underneath the streamlined front panel lies the same DSP engine as the flagship touring LA12X amplified controller, including features for loudspeaker management, protection and monitoring as well as a comprehensive set of tools for system adjustment and calibration.

▶ www.l-acoustics.com

Mag Audio buzzes with activity

Ukrainian speaker manufacturer Mag Audio made its ISE debut, showcasing key lines from its portfolio. Highlights included the Sting point-source loudspeaker line, which features rotatable horns for fixed installations and portable uses; and the Field series for stadiums, arenas and other open air spaces. Also shown was the touring-grade Wasp line array, which can cover distances up to 100m, whilst for portable applications, the NX Series of powered loudspeakers with onboard Powersoft amplification was promoted.

▶ [//mag-audio.com](http://mag-audio.com)

Martin Audio launches commercial install range

Martin Audio demo'd some of its latest products, including the new X218 double 18" subwoofer and new members of the Adorn family. Also highlighted were the BlacklineX and the Backline Powered lines; the VIA amplifiers; and the XE Series of stage monitors.

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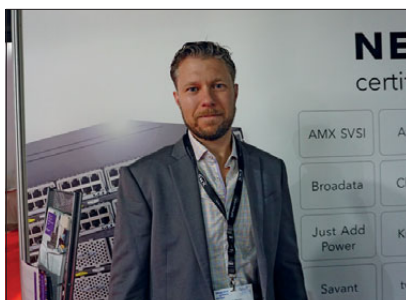
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1 From top: Netgear's Cody Kleven

Federico Lugli and Gioia Molinari of RCF with the DMA and DPA amplifiers

Brandon Heinz of Renkus Heinz

Sennheiser's Jens Werner with the new Team Connect Ceiling 2

SHOW HIGHLIGHT

XR SUMMIT - JAMES SIMPSON REPORTS...

As part of ISE, a series of mini-conferences were run at the nearby Hotel Okura with speciality focuses. The XR Summit attracted a wide range of speakers across enterprise, commercial, manufacturing, arts, broadcast and live entertainment who spoke about everything from VR for pre-visualisation to interactive screen technology used for audience engagement in shops.

disguise hosted a panel on XR for broadcast and film, made up of Peter Kirkup, Nina Salomons, Michael Al-Far, Andy Hook and myself. Together, we explained how White Light's Smart Stage is currently being used for live broadcast and film production, as well as the potential use it could have in the theatre industry. The panel discussed "what XR means to us" and "where it is going in the future" and presented a different point of view of what XR could be to the rest of summit.

CADwalk demonstrated an architectural visualisation tool which projection maps a CAD plan on a floor up to 2,000sq.m, which allows you to move 2D elements around the space using tracking markers on stands whilst simultaneously updating a 3D model to be seen in VR or on a screen. So, for example, you could grab a plan of your furniture and lay it out in the space on a 1:1 scale plan and then view it in full-scale on a VR device.

The team from Elumenati showed some exciting case studies of their immersive projection domes which are used to create virtual environments for storytelling or for visualisation.

One of the highlights of the summit was listening to so many inspiring creative studios and discovering more about the work they produce. During one panel, a question was asked how their company had survived where so many have failed. Their answers all varied, but they all said consistently that they have to make money on the jobs they don't necessarily want to do but which pay well, in order for them to do the creative projects that excite them more but *don't* pay well.

In complete contrast from the sensory and cognitive overload that the 15 halls of ISE gives you over several days of walking and standing, the XR Summit and others like it are a great place to listen to experts, reflect on your own practises and bring together the overwhelming amount of technology you have seen at the tradeshow into something you can identify to use in your own work.

▶ [//xr-summit.org](http://xr-summit.org)



The Adorn series of on-wall loudspeakers was expanded by three in-ceiling loudspeakers and the company's first pendant speaker. All ceiling models have a nominal impedance of 16Ω, enabling four or more speakers to be driven in parallel by one amplifier channel; they are also fitted with a 70V/100V multi-tap line transformer with a switch to select the output level. For full-bandwidth protection, the low and high-frequency sections are individually protected against overload in all models.

▶ [//martin-audio.com](http://martin-audio.com)

Medialon debuts show control solution

Medialon demo'd its Showmaster Go system for the first time. Geared towards attractions and theme parks, Showmaster Go is a show control and multi-channel audio playback solution combined in one product. It comes in a rugged, compact hardware form and combines a Pro version Medialon show controller with 16 channels of Dante network audio output. The new Showmaster Go comes ready loaded with the V6 release of Medialon Manager and

will be eligible for free upgrade to the new V7 manager release, coming soon.

▶ [//medialon.com](http://medialon.com)

Meyer Sound goes compact

Meyer Sound introduced two new compact, self-powered loudspeakers for install and portable applications. Little brother to the award-winning Ultra-X40, the new Ultra-X20 compact point source loudspeaker incorporates two 5" cone drivers, one 2" diaphragm compression driver and a rotatable 110°x 50° horn in a coaxial configuration. Power comes from a three-channel Class D amplifier with DSP, with everything fitted inside a compact cabinet that weighs only 11.8kg. Preliminary performance specifications give an operating frequency range of 60Hz to 18kHz, phase response of ±45° (100Hz - 16kHz) and linear peak SPL of 123.5dB measured with M-Noise.

For extended low frequency power, the Ultra-X20 may be paired with the new, compact, self-powered USW-112P subwoofer. Measuring less than 12" deep, the USW-112P's slanted connector panel allows placement flush to walls, in vertical or horizontal

orientation, making it an ideal choice when stage or installation space is limited.

Throughout the show, Meyer Sound also ran demos of Spacemap Go, a new spatial sound design and mixing tool that leverages the processing power of the company's Galaxy network platform.

▼ [//meyersound.com](http://meyersound.com)

MXL extends web conferencing range

MXL Microphones, the pro audio division of Marshall Electronics, showcased new web conferencing microphones and systems. Debuting at the show was the AC-44 USB web conferencing mic and the MXL AC-44 LCR multi-microphone system. MXL also expanded its AC-360 conferencing line with a new ceiling mount.

▼ www.mxlmscs.com

Netgear's stackable switches

Netgear highlighted its M4300 switch series, scalable from 24-port 1G PoW+ configurations to 96-port 10G.

10G models can be stacked with 1G ones, and the whole series supports edge-to-core stacking, nonstop forwarding and full power redundancy, making it ideal for AV-over-IP and multicast applications

thanks to being preconfigured with the IGMP Plus protocol.

▼ www.netgear.com

NST launches audio installation processor

UK-based NST Audio launched its VMO16 16-in, 16-out audio installation processor. Housed in a 1U 19" rack-mount chassis, VMO16 provides 16 discrete inputs, and a 16 x 16 matrix allowing any Dante network inputs to be routed to any of the 16 analogue outputs. Besides standard Phoenix-type 3-pin connectors, there are four GPI connections to allow configurable actions, such as fire alarm mutes and preset recalls. Up to 30 presets can be stored with recall options allowing selective recall combinations of input, matrix and output sections.

▼ [//nstaudio.com](http://nstaudio.com)

Out Board demos TiMax enhancements

Out Board demo'd further workflow enhancements to the TiMax SoundHub software, along with the TiMax TrackerD4 Precision Stagetracking system for realtime automated spatial mixing control and effects animation.

TiMax SoundHub was demo'd with its new HARDCore FPGA processing. With AutoCalc, TiMax spatial objects can be auto-calculated in 3D from a map of the venue and readily adapted for all shapes and sizes of spaces, stages, auditoria and sound system configurations. Also unique to TiMax workflow is the ability to "get under the hood" allowing Image Definition spatialisation objects to be manually fine-tuned by the user, or even subjectively crafted for special applications.

▼ www.outboard.co.uk

Outline schedules double launch

Outline launched two new products - the Stadia 28 line array module and the L3000 amplifier. Stadia 28 is a medium-throw, constant-curvature line array that shares the same weather protection and audio quality as the rest of the company's Stadia range for large sports arenas. It can be arrayed either vertically or horizontally, with just six cabinets providing a full 150° coverage in both deployments.

Also making its debut was the freestanding L3000 amplifier, an alternative to 19" rack-mounted solutions. If rack mounting is required, however, two L3000s



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1 From top: Shure's Stuart Moots
Javier Reolid of Work Pro / Equipson

can be mounted using dedicated Outline kit. Onboard DSP provides a range of essential amplifier controls and its universal regulated switch mode power supply allows it to function on various input voltages and mains cycles globally.

➔ www.outline.it

Polar announces new brands

Pro audio and integrated solutions distributor Polar announced the addition of ClearOne, UMA and Utelogy to its portfolio. ClearOne produces hardware and software for complete collaboration and communication solutions; UMA is a meeting room management solution for enterprise; and Utelogy is a provider of intelligent management, monitoring and software.

Polar also highlighted wireless communication solutions - such as beyerdynamic Unite - which lend themselves to many applications in HE, the public sector and enterprise, whilst LEA Amplification offers cloud-based management of installed multichannel amplifiers with built-in DSP.

➔ polar.uk.com

Powersoft celebrates 25 years

With beer on tap and presence across two stands, Powersoft celebrated its 25th anniversary by showcasing the capabilities of its latest products in real-life applications.

On one stand, the company demo'd its line of fixed install products, including Mover, Mezzo, the Duecanali, Quattrocanali and Ottocanali lines of FI amplifiers. The second stand was an experiential zone split in to hospitality and meeting room areas, where visitors could select audio from one of three screens as the source to play in the entire hospitality area, or control the volume for the sports bar and the stage area via GPI controllers.

➔ www.powersoft-audio.com

RCF expands TT range

Italian manufacturer RCF has extended its TT touring range by adding the TT- 4-A series. Comprising three products - a line array (TTL 4-A), a wide dispersion element (TTW 4-A) and a point-source speaker (TTP 4-A), boxes in the new series are equipped with FIRPHASE 0° linear phase and RDNet as standard and are suitable for both indoor and outdoor applications.

RCF also released its Business Music line, comprising commercial audio products including two digital mixing amplifiers and the MF 33EN ceiling speaker; two bass reflex speakers in the MR 40T and MR 50T, and five speakers from the Compact M series with cabinets ranging from 5" to 12".

➔ www.rcf.it

Renkus-Heinz sets sights on integrators

Renkus-Heinz highlighted its DC12/2 column array and ICLive X series, both suitable for offices, small- to medium-sized performance spaces, retail and hospitality, houses of worship, and education.

The DC12/2 is a compact self-powered column array that can be set up via presets through an iOS or Android device; integrators can also choose from multiple directivity options in the app. "By providing multiple directivity options in the app, Renkus-Heinz is making it possible for everyone to deliver consistent coverage that dramatically outshines a typical point source or column loudspeaker," the company says. Meanwhile, the ICLive X series comprises two steerable-array modules, the ICLX and ICLXL, and a matching subwoofer, the ICLX-118S.

➔ www.renkus-heinz.com

Sennheiser shows business solutions

Celebrating its 75th anniversary this year, Sennheiser launched its SpeechLine Multi-Channel Receiver. Ideal for higher education facilities and corporations, the compact

new multi-channel microphone receiver offers easy integration, uses license-free 1.9GHz technology and can be centrally software controlled through Sennheiser Control Cockpit. The IT-friendly receiver will be available from Q2 2020 in two-channel or four-channel versions.

Also highlighted, Sennheiser's new ceiling microphone TeamConnect Ceiling 2 includes patented beamforming technology to provide consistent audio coverage for meeting and conference rooms.

➔ sennheiser.com

Shure highlights IntelliMix

Shure showcased its audio conferencing processor IntelliMix P300. Benefits include Dante compatibility, echo cancellation, automatic mixing and gain control, and noise reduction, as well as AES256 encryption to protect confidential content. The system is suitable for use with the Shure Microflex Advance ceiling mic and the Microflex Wireless variants.

➔ www.shure.com

Work Pro presents Integra

Spanish manufacturer Work Pro launched its Integra multi-zone digital audio matrix. Delivering an audio distribution, mixing and processing solution for "nearly every environment", Integra is available with either 8x8 or 16x16 inputs/outputs, as well as line and mic level inputs and the capacity to handle up to four paging microphones.

The inclusion of WMC1 Ethernet/PoE wall-mounted controllers makes this lightweight IRU audio matrix a versatile option, as does the inclusion of RS232 and RS485 serial ports that deliver compatibility with almost any automation/control system. In addition, Integra delivers eight programmable GPIOs, which further increases its control capabilities. There is also the option of incorporating a 4x4 Dante Card, which extends the unit's audio networking capability.

➔ www.workpro.es

Yamaha debuts Dante switches

Yamaha launched the SWR2310 series of switches, designed to provide additional high-quality options for Dante systems at larger events and venues. Also demo'd were Yamaha's digital mixing systems, including Rivage PM and the latest V5.5 firmware for CL/QL series digital mixers, which supports ProVisionaire Control/Touch. The latest v3.6.0 enables complete control over the entire network chain, from mixers through to amplifiers, processors and speakers.

Other highlights included new white models of the DZR/CZR series loudspeakers and DXS XLF/CXS XLF subwoofers. All powered DZR/DXS XLF and passive CZR/CXS XLF models are available in the new finish.

➔ www.yamaha.com/proaudio



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Electric vehicles | by Rob Halliday



A couple of months ago, I wrote about charging points for electric vehicles on this page. But what good is an EV charging point without an EV to charge?

It still sounds like a future too good to be true - no exhaust emissions from the car itself, effectively zero emissions from power if your electricity comes from renewables, which is becoming true of more and more of the UK's electricity. However, if you think making this switch will involve great expense but will at the same time make you a pioneer, think again. Many, many people have now been there before you . . .

Which, of course, means that there are now many of these cars out there - true EVs running on electricity alone, not hybrids or plug-in hybrids that carry the weight of both batteries and a traditional engine. Which also means that many are now looking for new homes. Sure, many of these are 'first generation' models with some compromises involved; take the Nissan Leaf, the best-selling electric car to-date and so the most commonly found second-hand model. With a five or six year-old model, your range between charges will be, at the very best, 90 miles. That sounds ludicrous by the old ICE (Internal Combustion Engine) model, but if you have a fixed daily commute of less than that, or a driving routine of school runs and shopping trips, is it really actually a problem at all? In return, you'll get much lower fuel costs, lower servicing costs, no road tax to pay, no company car tax - not even the congestion charge if driving through central London.

More range is possible for more money. That might lead you to the world of Tesla, pioneers in this field. Used, these will give you a 200-250 mile range depending on model, plus a unique advantage over even brand-new Teslas: free power for life from Tesla's nationwide network of Supercharger high-speed chargers. Free fuel, in effect.

Or you could jump right in to the new wave of 'next generation' EVs, many manufacturers now with models offering ranges of 200-300 miles as standard. These are expensive, even with the £3,500 Government grant still on offer, but mean less need to change your range expectation or driving behaviour. Even a few of these models are starting to appear on the used market.

Rob has been working in and writing about lighting for more than 25 years, on shows around the world. He wonders if this makes him a classic... or just old!



Photo: Jan Kaluza on Unsplash

In every case, there's some research to be done, a whole new language of kWh and charging rates and charger types to be learned in place of the old mpg figures. Battery condition seems to be a more important consideration than mileage, and watch out for cars with leased batteries with a monthly rental charge. Be aware also that many old-school car dealers haven't really figured out electric cars yet. Know your stuff and you can play that to your advantage. Or turn to eBay, where owners seem to turn to sell their first electric car as, converted, they move on to their second.

Do I sound evangelical? I think I am - and I don't even own one. Yet. But even the briefest ride in anything from a humble Leaf to a mighty Tesla is compelling, not just on green grounds but because this genuinely feels like a better way to make a vehicle move - silent at rest, hushed in motion, instant torque always available and with much less to go wrong.

Find one near you. Give it a go. I think you'll enjoy the ride. ☺

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▶ www.gov.uk/plug-in-car-van-grants

Company car tax rates:

▶ www.nextgreencar.com/company-car-tax





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A world of adventures | Phil Ward speaks volumes . . .

"We are fast approaching, and may even have reached, the point where the limit of necessary processing has been met . . ."



It's odd, but this age of forensic mixing and audiophile quality - on and from the stage - seems to go hand-in-hand with the decline of rock and pop music as an expression of social change. Just as jazz was the liberating sound of gradual Afro-American emancipation, rock and pop have been the noise of Boomers breaking free from that generation's own sense of repression. And at the live events that signed the times, even as recordings captured the sounds of rebellion with ever more accuracy, musical verity left almost everything to be desired. It didn't really matter. Sound quality was nothing compared with the impact of the ritual.

As live sound has improved, music's role as a social liberator has receded. This may be nothing more than a coincidence, of course, but at least the technical reasons for this inverse ratio are much easier to understand than the sociological ones. And the best place to find them is Chessington, Surrey. This is where seventh-generation FPGAs became available to console market leader DiGiCo a couple of years ago, offering much faster communication between chips and far greater application capacity. As 'roadmap partners', the R&D team at DiGiCo gain early insight into the potential of new chips, and time to work out new code - during which the price tends to come down, too, as they gain common currency.

These integrated circuits are at the heart of the latest advancement in production capacity and, therefore, overall sound quality. The more headroom a sound system has, the faster it can go without blowing a gasket. Or, avoiding metaphors from Dunsfold where *Top Gear* is recorded, also in Surrey, the clearer the signal before distortion. A new KLANG:technologies module, for example, incorporates an FPGA with an integrated ARM [Advanced RISC Machine] processor, enabling all of its functionality to fit on one single IC; the same combination is used to drive all of the new individual TFT channel displays on the Quantum 338 console. According to designer John Stadius, this provides 10 times more processing than on any previous surface - while also making it faster and more intuitive. And with 3D chips on the way, together with parallel processing so that even if one chip is at full capacity you could use several in tandem, there are no signs of the technological pace easing up - Moore's Law or no Moore's Law.

If this sounds like a very familiar story - the ever-expanding capacity of the console and what sometimes seems like a runaway increase in the number of channels for studio-quality mixes - it prompts a tantalising notion. We are fast approaching,

and may even have reached, the point where the limit of necessary processing has been met. Just how many channels are needed to accommodate a large-scale production?

It seems that, like traffic, production expands to occupy the space available for it. If DiGiCo's ability to run bandwidth like 12GB between devices seems huge - and it is the equivalent of 2,000 to 3,000 channels of 96kHz audio between transported between FPGAs - the hunger for expansion shows no signs of being sated. DiGiCo reports that the biggest show productions are now running at 500-plus channels, including a growing number employed by the great taboo of modern performance, and one that I'm not going to break: playback.

The scale of current touring is inflated not least by competition. It is now the main income of the music industry and if you consider the amount spent on recording when that particular medium was the message . . . well, if it took well over a year or two for a leading band to follow up a key album - time spent with studio meters running - nobody considered it profligate until along came home computing and the Internet. That same amount of creativity now goes into live sound, end of story.

And then there's monitoring. We've gone from a vague reference to what's going on, in wedges, to studio-quality mixes individually tailored to each performer on stage, sometimes running up to 40 in-ear programmes via 80 busses. "If you'd told someone 10 years ago that they'd need 80 busses for a monitor console," says DiGiCo MD James Gordon, "they'd have laughed and said: 'I'm fine; I've got 24'."

Artists don't turn back from this kind of upgrade, and quickly get used to things once considered a luxury which, in no time at all, appear on the rider. Just around the corner is an even bigger step, by which immersive in-ear monitoring (I-EM) will introduce object-based audio into the ear buds - at this stage, also courtesy of DiGiCo and KLANG:technologies - at which point onstage sound surpasses even the recording studio.

Theatre applications are making the same demands, not that there has ever been the faintest murmur of rebellion from the world of the stage musical. When DiGiCo launched the SD7T, it appeared to go way beyond the wildest dreams of sound designers - the same sound designers who, upon experiencing the later Quantum consoles, breathed a sigh of relief and admitted that they were 'max'd out' on the SD7T.

I suppose there's *Les Mis*, if you insist. But it ain't Shea Stadium. 🎤

After turning a simple 8-track home studio into a hugely successful Miss Factory, Phil Ward turned to pro audio journalism and became an editor and now freelance writer. He lives in Cambridgeshire where he also runs a small taxi firm for the exclusive use of family members

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Bombay Bicycle Club returned from their five-year hiatus in August last year with a headline slot at Wilderness Festival. Their hunger to make music again was matched by the enthusiasm of the audience there, and so the tracks of the comeback trail were laid. By then, the new album *Everything Else Has Gone Wrong* was pretty much in the bag and a UK winter tour in the offing.

Under the stewardship of Only Helix, that tour took in 15 dates over January and February and featured an eclectic run of venues - from the 1,500 capacity Cardiff University Great Hall to the 10,000-capacity Alexandra Palace for two sold-out shows.

Only Helix's Steve Down has worked with the band since their early touring days around 10 years ago.

He explains: "The whole tour has been quite up and down for the UK run, fluctuating between a few academy gigs - 1,000 to 2,000 capacity - with varying stage sizes and trim heights and all sorts of limitations, and then going through into Brighton Centre, Manchester Warehouse and then Alexandra Palace essentially being an arena show. It was quite changable, day-to-day, in terms of what we could do. That was all built into the design by Cassius Creative, who did the production design, including lighting. We've worked with them for a number of years now and on similar tours where we needed to scale quite dramatically from one day to the next, so that was another known challenge. It was all designed with that in mind."

That design process and definition of all the production elements started with the biggest shows and then scaled

Bombay Bicycle Club

Indie rockers Bombay Bicycle Club return to the touring circuit with a scalable show and a clean yet striking stage set. LSi reports . . .



down. "What we usually do with tours like this is take the largest show and we design to that," explains Down. "So we're working to ensure that we've got something that delivers as a headline production show and as a headline main stage festival, because they've got a few of those in the summer. That was our starting point, but in the backs of our minds we were thinking about how to take this look and make it work in academies . . . all the way down to the American tour with a bus and trailer."

He continues: "Start with the big design, get the creative side of that signed off with the band, then figure out how to scale it down to fit both the transport that the tour can afford and physically into the venues - particularly the doors for these types of venues. We've got a version of it into every venue so far, so it's been a success in that respect."

The tour featured lighting supplied by Neg Earth, sound by SSE Audio, All Access staging, set and scenic by Hangman and transportation from Fly By Nite and Phoenix Bussing. Video from Universal Pixels and special effects from BPM SFX were added for the Alexandra Palace shows.

Cassius Creative's co-founder Chris 'Squib' Swain has also worked with Bombay Bicycle Club for around eight years, preceding the formation of his company by around five years. Taking inspiration from Maria Medem's album artwork, Squib and fellow Cassius Creative co-founder Dan Hill devised a clean stage design, putting a focus on doing 'minimal' very well. "It's a set-based design," explains Squib. "We've kept it pretty simple - there aren't tonnes of lights, it's more about lighting the band and set well and putting light on different surfaces to create depth."



Photos: Tony Woolliscroft

Once the concept was agreed, Hangman mocked it up before clearing it with Only Helix and Cassius Creative and commencing the build. Turville-Petre continues: "The most time-consuming elements were the lightboxes, because they needed to have a pretty big presence onstage and do quite a lot. They also needed to be light and strong but, ultimately, entirely smooth and seamless. By its nature, everything we do has never been done before, so we are always thinking on our feet, trying to avoid any future pot-holes, with the fundamental aim of producing a set that is both practical for touring and beautiful onstage. In the end, each element came together really well and our crew were able to deliver and install the full set at Neg Earth in good time for rehearsals."

The backdrop surface was uplit by a run of Chroma-Q Color Force II 48W battens. Six TMB Solaris Flares punched through the backdrop, while floor arrays of Martin Aura XBs fired across from stage-left and -right and Lowell Omni-Lights from the front. A flown truss loaded with GLP JDC1 and Robe Spider fixtures provided front lighting. Atmospherics came from Cirro hazers with Breeza fans for extra propulsion, while LD Henri Charlton worked on an MA Lighting grandMA2 Light console.

Neg Earth has supplied Bombay Bicycle Club since the early touring days, as Down explains: "They've always been really good to Bombay. They're always very helpful, both with the quality of equipment, the people they use and accommodating the fluctuating spec of



VISUALS

The set features four square LED-loaded lightboxes and two crisscrossing textured scenic flats by Hangman, the latter mounted with GLP Impression X4 Bar 20 LED battens (to highlight their slopes) and uplit by Martin VDO Scepton 1000mm from Neg Earth. The linear runs of LED on the scenic flats are complemented by three strips of X4 Bar 20s flown above the stage.

Discussing the scenic elements, Hangman's Martha Turville-Petre says: "We were contacted by Squib at Cassius initially. He already had a pretty clear idea of what the set would look like and we have worked together a lot so we were able to crack on with the job pretty quickly. As usual, we had a meeting with everyone that would be working on the job and discussed the overall look and the various ways of achieving it. I love these meetings because it's when some of the best solutions and interesting ideas surface."

"By its nature, everything we do has never been done before, so we are always thinking on our feet..."

- Martha Turville-Petre

the shows. They were particularly useful on this occasion because they have LH3 [rehearsal studios], which is a great facility. For our production rehearsals, we did the lights, set and everything in LH3 without the band, who rehearsed in another place. Because the whole show is timecoded, we were able to send audio files across from the band rehearsals to the team at LH3 and then run the show in that way. We didn't do a full rehearsal until the first show."

The production rehearsals were done with the Alexandra Palace rig, minus video or special effects. Down explains: "We programmed the show with the full-size rig but within that programme, we knew we could strip out a couple of trusses and make all the trusses shorter, so the programming still works when it goes down to a 9m wide show at its smallest, then the Ally Pally show at 15m wide, which covers any other show they'll do over the next 18 months or so."

As the production stretched its wings for Alexandra Palace, video, courtesy of Universal Pixels (UP), was added. UP supplied two 5m x 5m InfiLED ER5 LED IMAG screens with Brompton processing, a Kula PPU featuring three Sony

HDC1500 camera channels (pit, long lens FOH and long lens stage-right access platform), two Agile Lite robocams, three UP Block Cams and six channels of Blackmagic HyperDeck Studio recorders. In addition to the IMAG package, two Epson 25K projectors (located at FOH) and two disguise gx 2c servers were used for scenic projection onto Hangman's four custom 2m x 2m lightboxes, which were flown upstage.

The video specialist also provided five crew, including legendary video director Richard Turner of Lucky Frog. "UP does a great job," enthuses Down. "It's always difficult when you're rolling onto a tour like this for a one-off IMAG show - you've got crew that don't necessarily know the music, but they did a fantastic job. Richard Turner, who directed, came down to a couple of shows to get a vibe for what was going on with the band onstage; we gave him some board mixes to listen to and he took some pictures and video. He learned the setlist enough that on the first night his cut was really slick. We were very happy with what he did."

UP's Jay Mobbs-Beal comments: "It was a pleasure working with Only Helix and

"Adding large production elements for a one-off show is always a challenge, but everybody paid close attention to it all to ensure it went very smoothly..."

- Jay Mobbs-Beal



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Photo: Tony Woolliscroft

starting at the top of the show when the crowd is engulfed in a cloud of white paper, gold metallic and orange metallic confetti synced with the drum beat of the night. Another highlight comes with the track *Luna* - the song ends with 15 seconds of cascading pyro waterfall. The show concludes with a huge hit of multi-coloured streamers on the track *Always Like This*.

Special effects technicians working on this show were Josh Corkerton and Jayden Stansfield. Corkerton says: "We were excited to be working with Bombay Bicycle Club again after their amazing headline set at Wilderness Festival last summer. The SFX hardware used at the two sold-out shows at Alexandra Palace included eight MKII stadium shots and a Galaxis wireless firing system to trigger the 28-piece pyro waterfall. This was timecoded on a grandMA interlinking the Galaxis wireless firing system to give the audiences the exact same show each night."

AUDIO

Anyone working in audio is familiar with the acoustic challenges of Alexandra Palace and will, in a bid to dampen the reverberant environment, often purge the production budget for a more extensive draping package. However, thanks to the d&b audiotechnik KSL system from SSE Audio and system tech wizardry by SSE's Mark Pantlin, additional draping wasn't required for these shows. FOH engineer Tom Wiggans, who first worked with the band in 2014, took over the hot seat for the final run of shows before the band's extended break.

Photo: The Fifth Estate



Cassius Creative again. My first 'big London show' with Bombay was the band's closing show at Earls Court in 2014, so it's great that things have come full circle. Adding large production elements for a one-off show is always a challenge, but everybody paid close attention to it all to ensure it went very smoothly. A lot of that was down to the crew - especially Richard Turner - really doing their homework. People often look at Ally Pally as a standard show and don't think about IMAG until the last minute, so it doesn't always get the time and money needed to do it properly. Being part of it early enough in the process like this means we can get a great crew together and still be economical."

SPECIAL EFFECTS

Special effects were also added for the Alexandra Palace show. "Bombay love a bit of confetti," quips Down. BPM SFX answered the call with a mix of scenarios,



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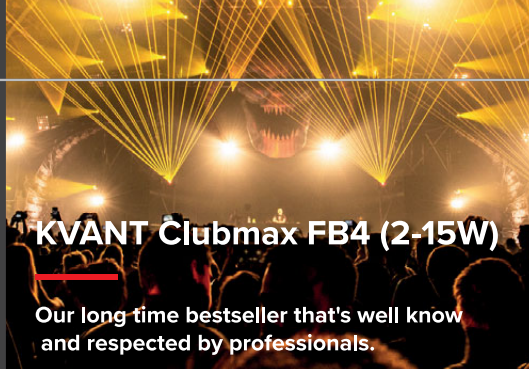
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The system, which was scaled throughout the tour depending on the venue size, featured KSL8 (80°) and KSL12 (120°) cabinets with cardioid SL-SUBs and D80 amplifiers. V7Ps and T10s were used for in-fill.

SSE Audio's Dan Bennett, who spec'd the tour before handing it over to Pantlin and Wiggans, comments: "By using a versatile dual 12" speaker like the KSL, we were able to do Cardiff Uni and Ally Pally with what is essentially the same box - we just added more of it because it's very scalable. The name of the game was to get the FOH engineer mixing on the same cabinets for all of the shows."

Bennett adds: "Tom has used d&b a fair bit, going from J-Series to J-Series with ArrayProcessing and now he's using the

KSL, so it seemed like a natural progression for him and this project to use the KSL with the D80 amps - in combination, the directivity control is really, really good. Also, the rejection on the back of the box is excellent, again reducing the number of reflections. The subs are cardioid out the box, so not much comes off the back of them either - the FOH engineer isn't dealing with weird reflections coming back into the microphones, low-end rumble or anything like that."

Wiggans adds: "The KSL system made what can be a tricky show into a fairly routine one. Mark Pantlin from SSE, who was tuning the system, is a genius. That was the most consistent thing. The system's really good, but you've got to attribute a lot of that to the skill of the person who's setting it up. Most days, I could basically have the band walk on and start playing and I'd be happy with the way the PA sounded. I wouldn't need to spend much time listening because Mark would do such a great job setting it up. It was remarkably consistent across all those venues."

Wiggans and Simon Lutkin on monitors both worked on DiGiCo SD9s with StadiuS 32-bit input cards, sharing one SD-Rack. Wiggans explains: "I use a couple of Sonible MADI converters to switch between all the different audio formats. We've got the SD9 on the Optocore, the monitor desk is also an SD9, so they're sharing one SD-Rack. In this scenario, the two twisted pair MADI ports on the SD9 can be used to run Live Rack [UAD realtime effects processing

system] in one, while the Waves port does multi-track recording and sends stuff to the Waves server. It means I don't have to be aligned to a Waves or UAD platform and can get the best of both worlds by using the things I prefer about each of them." Lutkin was assisted by Paul Keeble at stage-end.

The band's vocalists, Jack Steadman and Liz Lawrence, used DPA d:facto 4018 mics. The drum mics were also from DPA with Sony C100 hi-def mics used for overheads. In-ear monitors were Shure.

TEAMWORK

The production rolled into London for the tour's biggest shows on three Fly By Nite Arctic Mega Cubes. Fly By Nite's Matt Jackson says: "Steve Down has been involved with Bombay for over 10 years now and it was on this gig that our now long-standing relationship with Steve was formed. It's always a pleasure working with him and the rest of the Only Helix team."

The band and crew enjoyed the comforts of double-decker cruising courtesy of Phoenix Bussing, who supplied a 14-berth sleeper bus with three lounges

for the band and a newly-designed 16-berth for the crew.

Phoenix Bussing's Stewart Scott says: "Steve is one of the nicest guys you could meet, as well as deal with, when talking about buses for his tours. I often head out and visit Steve and the team on the road just to make sure everything is going well with the bus and driver. I'm always offered a nice cuppa and end up having a good catch-up. Only Helix have an excellent team of guys - it's great to be working with them."

Praise for Down and the company he formed with friend and collaborator Tom Nicol at the start of 2019 isn't in short supply. The duo joined forces to enable a more strategic approach to their work, as Down explains: "Instead of operating as individuals, we're operating as a company. It's a different approach to just being a tour manager and production manager. It's given us some freedom to take on more of a tour director capacity, putting tour managers and production managers on tours and supporting remotely from our office.

"When you're out on the road, there's sometimes too much going on day-to-day

"The name of the game was to get the FOH engineer mixing on the same cabinets for all of the shows..."

- Dan Bennett



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Bombay Bicycle Club
 Alexandra Palace
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Photo: The Fifth Estate

and too many fluctuations in schedules and requirements for touring personnel to stay on top of everything that's coming up in the diary. By opting for more of a team-based approach, we can take the pressure off the road and give management companies a more efficient service on the planning side of things. Instead of calling up a stressed-out tour or production manager who's dealing with a busy day on tour, they can speak to less stretched people in an office, objectively looking at what's going on months in advance and keeping things moving in the right direction."

As Only Helix looks to future growth, it does so with an impressive client roster that includes Hot Chip, Rex Orange County, Amy Macdonald, Years & Years and Glass Animals.

For Bombay Bicycle Club, the immediate future holds a healthy run of European then North American dates that bring them nicely into the heart of festival season.

A band statement around the release of the album said: "We've touched previously on how the album is about the comfort that music can provide in times of need. Hopefully, this record can give you that escape should you ever need it. We want to get to as many places as possible to play these new songs for you. Wherever you are in the world, fingers crossed we'll see you soon." Watch this space . . . ✕

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21 x GLP X4 Bar 20
16 x GLP JDC1
10 x Robe Spider
18 x Martin MAC Aura XB
21 x Martin VDO Scepton 1000mm
6 x TMB Solaris Flare
8 x Lowel Omni-Light Flood

2 x Breeza Fans
4 x Cirro Hazers

2 x MA Lighting grandMA2 light

Video

2 x InfliED ER5 LED IMAGs (5m x 5m)
Brompton Technologies processing

Kula PPU

3 x Sony HDC-1500 camera channels
1 x Pit Cam
2 x Long lens

2 x Agile ARC360 Lite PTZ Cams
3 x UP Block Cams

6 x Channels of Blackmagic HyperDeck records

2 x Epson 25K Projectors
2 x disguise gx 2c media servers

Audio for Alexandra Palace

House Control Racks

1 x SSE DriveStation
1 x Klark Teknik DN9650 Network Bridge with MADI card fitted
1 x Rupert Neve Designs 5045 Primary Source Enhancer

Delay Speakers

8 x d&b V8
4 x d&b V12

House Loudspeaker System

20 x d&b KSL8
8 x d&b KSL12
6 x d&b V7P
6 x d&b Y10P
6 x d&b SL-GSUB
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Coty Allinson, guitar technician

"... the criminals escaped across the train station parking lot at the rear, with police in hot pursuit. The gunmen hid under our tour bus ..."

Name, Age, Job?

Coty Allinson, 54, guitar technician. I've also been working as tour manager and personal manager for various artists.

Recent Activity?

I am currently out touring with Amon Amarth, a viking metal band from Sweden. They're a great bunch of guys and I love working with them. The production is massive due to the enormous stage set.

Worthy Past Glories?

Queens of The Stone Age (QOTSA), Joan Armatrading, Vivian Campbell, Michael Schenker, Motörhead, Thin Lizzy, Richard Fortus, Tom Hamilton, Little Steven, Magnum . . .

Why are you what you are?

I was the worst guitar player out of my mates, so I started helping as a drum roadie. I was about 18 when I was poached for a guitar tech position with a signed band, so I jumped ship, kept my head down, and the rest is history.

Three best things about your job?

Getting to travel the world on someone else's dime; meeting your idols; being part of what makes a great show happen.

Three worst things about your job?

Airports; saying bye to your family; coming home to find out your lovely kids have grown up and you weren't there.

Detail the equipment you use?

Peterson Strobe Tuners; Ultracase guitar vaults; Shure Axient AD4Q wireless system - just love this gear. And my trusty Power Peg string winder.

Proudest moment?

Watching my daughter fire the confetti canons after a great show, she was so excited.

Best gig while working?

Def Leppard.

Best gig as a punter?

UFO back in the '80s.

Biggest nightmare on the job?

Trying to get QOTSA's Nick Oliveri to put his pants back on during Rock in Rio as the police wanted to (and did) arrest him.

Most irritating request from a member of the public, artist or promoter?

"Can I stand there?" Uhh, NO!

Also: "Could you please lift my washing machine into the bus loading bay?"

A regular request of a wardrobe staffer after the show. I obliged, of course - and got drenched on a regular basis!

Artist from the past you'd most like to have worked for?

Jimi Hendrix.

What other member of the crew would you least like to be?

Meet & Greet coordinator - people expect the world.

Which other member of the crew do you take your hat off to?

Caterers - no food, no work. Production managers. And our great bus drivers, who get us from A to B in style and comfort and, most of all, safely.

Most irritating thing on the crew bus and why?

Door slamming in the bunk area and people who think smoking with the roof open is OK. D'oh, it's not.

Best hotel you've stayed at while working?

Stayed in some amazing hotels, so too tough to call, but I do like Roomers in Frankfurt - it's got a kinda rock'n'roll vibe with cool staff.

Members of the audience you loathe the most?

The clown who thinks it's cool to throw beer at the artist.

Any artists you'd happily spend time with socially?

I like to think that I've worked with pretty much some of the coolest and friendliest of them, so I could hang with any I think.

Best passing through customs anecdote?

Back in the days when you could take a small flightcase toolbox on board, the customs guy goes: "Hey, what's this all for?" Guitarist butts in as I'm explaining to the official and says: "It's for making bombs." Great. That's me pulled into a side room for a full search, resulting in me missing the flight. Argh!

Most bizarre sight you've ever seen at work?

A kid crowdsurfing in a wheelchair was pretty insane.

Favourite artist to work for?

There have been so many great artists, but for very different reasons, the three I would have to say are Tony Clarkin (Magnum), Joan Armatrading (a sweetheart) and Damon Johnson.

Favourite / Most hated venue?

The old Wembley stadium / House of Blues, New Orleans.

Best festival?

I quite like the Ramblin' Man festival.

Best item of clothing when working?

Dickies work shirt.

Closest you've come to death whilst touring?

I was with a Swedish band Opeth, I think it was in 2006 when we had a travel/off day in Oslo. The bus was parked up behind Oslo train station. After a day in the city, a handful of us returned to the bus to chill while the rest enjoyed the nightlife. Next to the train station was the biggest bank/mail office in whole of Norway, and whilst watching a movie, we heard loud bangs. The guys said fireworks, I said gunfire (I have firearms at home). To cut a very long story short, the bank/mail office got hijacked; the criminals escaped across the train station parking lot at the rear, with police in hot pursuit. The gunmen hid under our tour bus, which was in total darkness as we had no power. They opened fire on the police with automatic rifles; this went on for a while with the police returning fire, oblivious to the fact that we were onboard, with bullets whizzing at our bus! Eventually, we were able to signal the helicopter hovering above, and after a lengthy area search, were escorted from the bus and questioned.

Oh, the joys of travel. Also with the same band, we had a bus crash and someone died - not nice at all.

Most outrageous thing you ever did on tour?

Dressed as a woman with wrestler's mask on for a QOTSA show. There's more, but that would involve lawyers. Those who *know* know.

Most sensible thing you ever did on tour?

Came home. 🏠

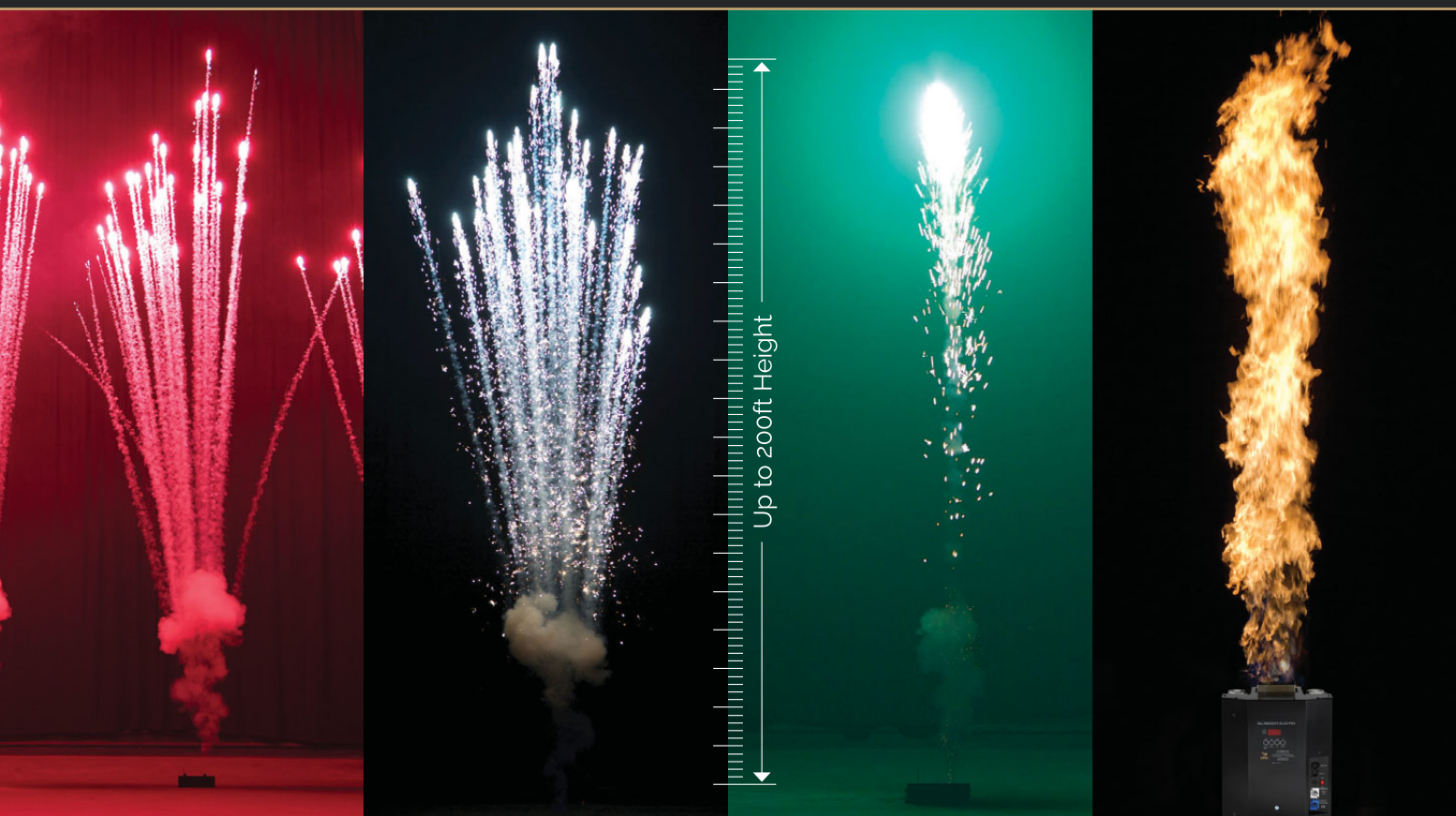
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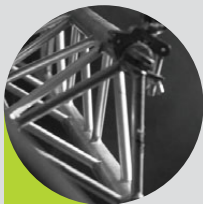
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rigging call #84

Rescue planning

"Implementing elaborate rescue provision in the belief that it's legally required is a health and safety red herring. The provision of an effective method, where risk assessment shows it's necessary, is the requirement . . ."



In the 15 years since the Work at Height Regulations came into force, many employers have become aware of the duty they and the self-employed have to consider the risks to their employees involved in working at height. Regulation 4 specifies that the planning of work at height includes planning for emergencies and rescue. Regulation 7 requires employers to consider the need for 'easy and timely evacuation and rescue in an emergency'. Although it's to be hoped the rescue plan(s) will never be needed, plans should be devised and resourced as appropriate and as many staff as necessary trained to ensure the provision is available when needed.

An important consideration is that employers should not rely on the emergency services. The need for rescue is foreseeable and shouldn't be considered an emergency. The emergency services may not be sufficiently equipped or able to respond quickly enough. Practicing the rescue method is essential since the skills required are often unlikely to be used day-to-day and without practice, competence cannot be maintained.

Rescue isn't usually something that can be carried out speculatively, neither is a rescue plan something that can be bought off-the-shelf. It's the employer's duty to arrange and it needs to be thought through, tested and documented. Rarely will this be generic, rather it needs designing as soon as the planning of work at height (or entry into confined spaces) begins, particularly when production- rather than venue-specific. The design work may well require the services of engineers and input from suppliers and users. More than one plan may be needed to cater for different situations.

Any rescue plan(s) depends on the conditions and likelihoods that risk assessments reveal. In most people's mind, someone is left suspended in a harness, but equally likely might be an aerial performer encountering difficulty, possibly during a show, and needing to be safely recovered. It's not unusual for performers to be lifted or lowered on scenic elements. A means of getting actors off a piece is needed should power be lost or there's a failure in the system.

Consider someone who suffers some kind of medical emergency at height, perhaps on a catwalk in a concert hall - a potentially difficult situation from which to extract a casualty on an evacuation chair or stretcher, and the person might not be wearing a harness . . .

The employer of the person affected has a duty to assess the risk because they are responsible for the safety, health and welfare of their employees. Many production companies may not have considered those working on short-term contracts or who are believed to be 'self-employed'. They will usually be the responsibility of the company engaging them.

Rescue options range from lowering occupied scenery to more risk laden 'technical' rope rescues. Using a MEWP (mobile elevating work platform) to access and recover someone or an installed hoist to lift or lower a casualty would be preferred, because it reduces risk to those carrying out the rescue. Technical staff frequently question the legality of using lifting equipment for rescue when it's not 'rated' for lifting people. In an emergency, if within the capacity of the equipment and provided it doesn't create new hazards, why not? Comparing risk against benefit, using an electric chain hoist to lower someone from a catwalk might represent a very appropriate rescue method.

A built-in method - i.e. 'rigged for rescue' where the fall arrest system itself is the rescue method - can often be an effective solution. Releasable rope systems or inertia reels with a retrieval facility that allows a casualty to be lowered or raised after a fall are quick and easy to use. Importantly, they involve little or no risk to the rescuer.

Theatre technicians in particular often admit they use a harness perhaps once a month and consequently don't have the experience or skill in using the equipment that a rope access technician uses daily. Technical rope rescue is not often something that technicians in our sector are suited to. Rope access training includes rescue from rope access situations rather than the scenarios likely in our sector. Is rope access appropriate for access or rescue? It's usually used in our sector because technicians have been trained how to use it rather than because it is necessary to use. My inner barrister suggests employers should check with technical management if rope access really is the only choice; using it may increase risk rather than reduce it. Although it creates new hazards and is costly, using powered access is generally low-risk.

A downside of rescue planning is the expense in implementing it; risk assessment, planning, the cost of the kit and providing training, insurance, practice sessions, the administration required in asset management, inspecting it, and so on - all for something that might never happen.

Implementing elaborate rescue provision in the belief that it's legally required is a health and safety red herring. The provision of an effective method, where risk assessment shows it's necessary, is the requirement.

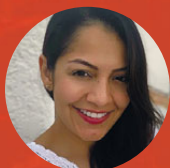
Using well-specified systems to prevent falls not only reduces the risk of a fall and the consequences of it; in many cases, it can also reduce the need for rope rescue in favour of lower risk solutions. Therefore, it seems more sensible to develop safer systems of work, so that for technicians working at height, a complex and expensive rescue plan isn't needed. ☘



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ON SHOW

Preview : PL+S, Frankfurt

Expected highlights from the 25th anniversary edition of the annual tradeshow . . .

AC-ET to show new Chroma-Q fixture

A.C. Entertainment Technologies Ltd. (AC-ET) will showcase a selection of its exclusive brands. On show will be a range of Chroma-Q's LED fixtures, including the newly-unveiled Space Force twobyfour LED soft light panel. Providing control will be the Vista 3 by Chroma-Q lighting and media control system, offering simple, visual programming scalable from a small show or venue up to large tour or film set.

Meanwhile, Tourflex Cabling, a manufacturer of high-quality bespoke data, mains and multicore lighting cables, will exhibit some of its vast catalogue of products and will display examples of its customisation options that include overmoulding and engraving services. Also on the stand will be the Stage CL, a lighting desk that offers simple, consistent control of LEDs or dimmers.

Stand: 12.1, D50
www.ac-et.com

Alfa System entertainment winches

Italian stage and theatre machinery supplier Alfa System will present select products from its range of motion solutions and services. This will include several flying winches such as the new E40, the restyled S30 and the E52 powered flying winch. The

company will also highlight its Sky winch - ideal for when the hoist can be installed right above the load - as well as stage lifts, modular turntables, radio-controlled wagons, and more.

Alfa System will also discuss recent installation projects, including delivering the stage automation system of the Regent Seven Seas Splendor luxury cruise ship.

Stand: 12.0, C14
www.stagesystem.it

Artistic Licence shines on

Artistic Licence will show the sunDial quad, winner of the prestigious Gold Award in the 2019 PLASA Awards for Innovation. This DMX/RDM/Xicato controlled trailing-edge mains dimmer works 'out of the box' with all dimmable replacement LED bulbs (also halogen and CFL), whilst its performance is further optimised through the selection (via RDM) of one of four editable dimming curves on a per-channel basis.

Also new for 2020, Commissioner dali is a hand-held, battery powered tool for commissioning, testing and configuring DALI installations. The bright, 40 character LCD is easy to read and provides a wealth of information for users. Commissioner dali has numerous intensity control functions, including direct control over DT8 colour changers. A DMX/RDM version of

Commissioner dali is scheduled for launch later this year.

Meanwhile, for data distribution, rackSplit octo (an 8-way DMX/RDM optoisolator) and rackLynx octo (an 8-universe Art-Net/sACN gateway) are budget-conscious 'skinny rack' ranges that are 50mm deep, allowing them to be doubled up in a standard 19" rack or installed in tight spaces.

Stand: 12.1, A40
www.artisticlicence.com

Ayrton to unveil secret luminaire

Code-named SO1 Project and currently being kept tightly under wraps, Ayrton will unveil a new fixture for stadium-sized applications. It will combine the output of Huracán (50,000lm) with the feature set of Khamsin, including 100% framing shutters, all in an IP65-rated body, the company says.

Ayrton will also present Karif-LT, a compact 300W LED beam-spot and the first fixture in the company's new line of long-throw products. Karif-LT offers a 3°-45° zoom range and includes a CMY colour-mixing system, a 13-colour wheel, two gobo wheels (with nine interchangeable gobos and with 39 fixed gobos respectively), a glass monochrome multi-position effects wheel, and a prism effect system comprising four combinable rotating

CREATING BETTER FOG SINCE 1980

The logo for MDG 40 YEARS. The letters 'MDG' are in a large, bold, dark blue sans-serif font. The number '40' is in a purple sans-serif font, with the '4' being significantly larger than the '0'. The word 'YEARS' is in a smaller, dark blue sans-serif font, positioned to the right of the '40'.

MDGFOG.COM



↑ From top: Chroma-Q's Space Force twobyfour soft light and Color Force II cyc and effects batten

Alfa System's E40 flying winches

Artistic Licence's sunDial quad with lamps

Ayrton's Karif-LT

The Exo Beam from GLP

Elation's Artiste Mondrian (left) and Rembrandt (right)

SHOW HIGHLIGHT

MIKKI KUNTTO TO PRESENT KEYNOTE ADDRESS

Award-winning Finnish lighting, set and content designer Mikki Kunttu is due to be the keynote speaker at the Theatre + Light Stage. He will offer insights into his work and milestones of his career, with a particular emphasis on his internationally-acclaimed work on *Swan Lake* at the Royal Danish Ballet.

Kunttu has been active in the field of theatre, live-entertainment, broadcast and visual arts since the end of the 1990s. He has designed for artists such as Nightwish, Michael Monroe, Hanoi Rocks and Apocalyptica, and was a member of the design teams for the *Eurovision Song Contest* in 2007, 2013 and 2016. He has also cooperated on visual art projects, as well as lighting and projection installations such as *Reflections*, *Oratoribus* and *Grace* for Helsinki's *Season of Light* festivals. Kunttu is the production designer for Finnish National Opera's new production of Wagner's *Ring*.

➔ www.mikki-kunttu.com



prisms. There will also be a preview of Eurus-LT, another fixture suitable for large venues with a 31,000lm output, a 4.5°-48° beam range, and a full feature set, including framing shutters.

📍 **Stand: 12.0, D58**

➔ www.ayrton.eu

City to demo Multiverse line

City Theatrical will demo its multi award-winning Multiverse wireless DMX/RDM technology. The system allows lighting users to broadcast up to 10 universes of DMX data from a single transmitter while producing less radio energy than single-universe systems.

Multiverse 2.4GHz wireless DMX/RDM products set to be demo'd include: Multiverse Module, Multiverse Receiver Card, QolorFLEX 2x2.5A 2.4GHz Multiverse Dimmer, QolorFLEX 5x2.5A 2.4GHz Multiverse Dimmer, Multiverse SHoW Baby, Multiverse Node 2.4GHz, and Multiverse Transmitter 2.4GHz.

📍 **Stand: 12.1, B50**

➔ www.citytheatrical.com

Elation bolsters popular ranges

Elation will show the latest additions to its award-winning Proteus and Artiste lines. New to the IP65-rated Proteus range, the Proteus Lucius is a compact LED profile that features a 580W LED engine and offers over 30,000lm output. Other features include framing shutters, 20 gobos on three wheels, animation and CMY plus variable CTO colour mixing.

Joining the Artiste range are the Artiste Rembrandt and Artiste Mondrian, appearing alongside the established Artiste Monet and featuring the same seven-flag SpectraColor colour mixing system, (CMYRGB+CTO) and continuous rotational framing system. Both new fixtures boast a 50,000lm output, with

the Rembrandt wash light featuring dual texture animation, flawless dimming and outstanding beam control, whilst the Mondrian has a 226mm PC lens and a 3.3° narrow zoom angle and utilises a custom hotspot LED engine to provide centre intensities at long throws.

📍 **Stand: 12.1, D56-59**

➔ www.elationlighting.eu

GIS shows LP hoists

Exhibiting at the show for the first time, GIS AG will highlight its new electric chain hoists: LPML250 for 500kg and LPL500 for 1000kg lifting capacity. The products are among the lightest electric chain hoists in their class (D8) worldwide and are ideally suited for mobile applications in combination with the appropriate flightcase and briefcase controller, the company says.

Also presented will be LP1600 and LP2500 electric chain hoists. These new hoist types increase the lifting range of the LP electric chain hoist series to 2500kg in D8+ (single fall), 6300kg in D8 (double fall). The LP hoists are modular and can be quickly assembled and disassembled thanks to the polygonal connections.

📍 **Stand: 12.0, E93**

➔ www.gis-ag.ch

GLP Fusion series set to dazzle

GLP will highlight its Fusion range of outdoor luminaires. Set to feature are the Exo Beam and Wash fixtures, as well as the Stick series of linear fixtures, in vertical and horizontal variants, and the MBL series of tuneable white floodlights.

Further models set to be presented include the bright RGBW flood, blind or strobe light Supernova SN70; the IP-rated Fusion PAR FP7 and the upcoming Exo Spot.

📍 **Stand: 12.1, D36**

➔ www.glp.de



SHOW HIGHLIGHT

CHANGES ABOUND AS PL+S TURNS 25

Visitors will be welcomed back in to the familiar confines of Messe Frankfurt as Prolight+Sound marks its 25th anniversary, with plenty of changes and new additions to the showfloor and beyond.

Hall 8.0 will once more be the pro audio destination, with several companies also set to demo their PA systems in the outdoor Live Sound Arena. Additionally, there will be demo rooms with the focus on immersive sound applications, whilst the new Centre Stage will offer an opportunity for companies to present future-oriented solutions in the audio field.

Across halls 12.0 and 12.1, visitors will once again find a selection of staging, automation, curtain technology and pro lighting companies. New in hall 12.0 will be a lecture platform with a programme tailored to professionals from the theatre sector, whilst the latest lighting technology, projectors, spotlights and lighting-control systems will be on show at 12.1.

Meanwhile, hall 11.0 will host various events and conferences, including the VPLT's conference programme; the International Event Safety & Security Conference; a new media technology conference focused on IP-based transmission technology and the interoperability of AV devices; and the Systems Integration Award ceremony.

The AV media technology and systems integration sectors will relocate to hall 11.0, where visitors will also be able to see large-scale displays, digital and interactive signage AVoIP, projection, conference and communication solutions and media control and distribution solutions. New in the hall will be the Start-up Area, where new companies will take advantage of lower stand rates to introduce their products and services.

➔ www.prolight-sound.com

Madrix to demo Madrix Radar

Madrix, the German company behind lighting control tool Madrix, will demo Madrix Radar, a centralised remote management solution for RDM lighting fixtures. Madrix Radar users can set up important settings, use automatic fixture patching, and take advantage of automatic 24/7 device monitoring and e-mail notifications. Other tools include the ability to build a database of sensor data to monitor trends of device parameters, such as temperature and operating hours.

➔ **Stand: 12.1, E52**

➔ www.madrix.com

JBL to expand touring range

JBL will introduce a new VTX series subwoofer product to expand the JBL tour sound eco-system. The new subwoofer includes an "innovative rigging system" and offers a significant step forward in terms of performance as compared to existing JBL

offerings, the company says. Along with the new product, a VTX A8 system will also be on display, with visitors invited to regular demos of the system. JBL experts will be available throughout the show to discuss the new products and answer any questions related to VTX series products.

➔ **Stand: 12.0 D61**

➔ jblpro.com

Kvant to demo "brighter" laser tech

Kvant will highlight its LD 33 Spectrum RGBY laser, part of the Spectrum RGBY range of lasers. The laser features an additional yellow module that outputs a 577nm yellow beam, which makes the projections "brighter and crispier and increases the system's luminosity," the company says. The yellow module also boosts the brightness and visibility of the white light beam, pushing the CRI to 75.

➔ **Stand: 12.1, E49**

➔ www.kvantlasers.co.uk



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↑ From top: GLP's Fusion Stick

GIS will highlight its electric chain hoists

Kvant's new LD 33 Spectrum RGBY laser

LumenRadio's MoonLite

The new Ultra-X20 point source speaker and USW-112P sub from Meyer Sound

VIRUS CASTS DOUBT ON EVENT

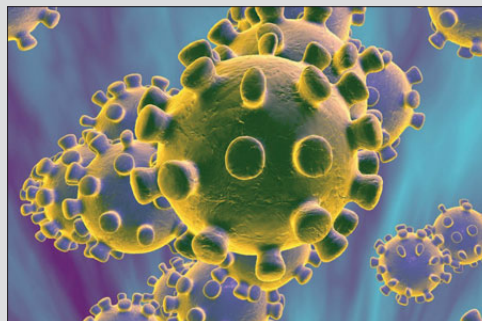
Prolight+Sound organiser Messe Frankfurt has been under increasing pressure to clarify the fate of the 2020 show in light of the rapid spread of the novel coronavirus across Europe.

The viral outbreak has caused disruption to the tradeshow calendar, including the postponement of Messe Frankfurt's Light+Building, and Berlin's large travel show, ITB. Meanwhile, some PL+S exhibitors, including Adam Hall and Vari-Lite and Strand, have already pulled out of the upcoming event due to health concerns.

As of 27 February, Messe Frankfurt ruled out postponing PL+S, stating on Twitter that "For the #PLS2020 there is no postponement. The health of our exhibitors, visitors and employees is still our top priority, which is why we continue to work closely with the authorities and implement appropriate recommendations and instructions."

The organisers also highlighted that there is "very high standard of immediate medical assistance on the exhibition grounds", including "a well-coordinated emergency management system", multiple treatment rooms, rescue personnel, and multiple doctors and paramedics trained to deal with infectious diseases.

➔ www.messefrankfurt.com



LumenRadio's MoonLite to shine

LumenRadio will demo MoonLite, the patent-pending wireless DMX lighting control device with built-in battery and updated CRMX technology. With concurrent Bluetooth and wireless DMX, MoonLite enables tablet- and phone-based lighting control software to connect directly to the transceiver, without the need for additional lighting control hardware. Configuration, linking and DMX transmissions to the MoonLite is done using Bluetooth.

The product is ideal for use for in clubs, small stage events, corporate events, theatres or anywhere else where wireless DMX connectivity is needed.

📍 **Stand: 12.1, C58**

➔ lumenradio.com

Martin ups the stakes

Martin Professional will launch a new flagship fixture by inviting visitors to a special unveiling in the Litepower Village on the show floor. Also on display will be the new ERA range, Martin's brightest light fixtures to-date. The company reports that it has increased its stand space this year, with plenty of Martin's established products set to feature alongside the new releases.

📍 **Stand: 12.0 D61**

➔ www.martin.com

MDG celebrates its 40th anniversary

Currently celebrating its 40th anniversary, Canadian manufacturer MDG will showcase its most popular fog, haze and low-fog products, including the ATMe and ATMe WPE haze generators, the new Ice Fog Q HP low fog generator, and theONE dual-

mode haze and fog generator.

Appearing for the first time at the show will be the bespoke Vertical Flight Case - designed to carry MDG's ATMe haze generator, or either of its Me1 or Me2 fog generators, plus everything needed to operate under production conditions. "The flightcase provides rugged, safe transport for the generators, and allows the entire unit to be rolled onto stage and plugged in for instant use," the company says. "Each Vertical Flight Case is fully-equipped with direct plug-in connections for power and DMX in/out, and has snug internals compartments for MDG's theFAN, two 9kg (20lb) CO2 bottles and a 4l bottle of MDG fluid."

📍 **Stand: 12.0, D44**

➔ www.mdgfog.com

Meyer Sound to demo compact point-source

US-based loudspeaker manufacturer Meyer Sound will demo its newly-released Ultra-X20 point-source speaker and USW-112P self-powered subwoofer. Also demo'd will be a new spatial sound design and mixing tool, Spacemap Go, and the Constellation digital acoustic design tool.

The Ultra-X20 is the smaller sibling to the Ultra-X40 point-source, weighing just under 12kg and achieving an operating frequency range of 60Hz-18kHz, phase response of $\pm 45^\circ$ (100Hz-16kHz) and linear peak SPL of 123.5dB. Meanwhile, the USW-112P sub houses a 12" driver and Class D amplifier and weighs around 21kg.

Previewed at ISE, Spacemap Go enables users of Meyer's Galaxy processors to configure, programme and implement sophisticated spatial sound mixing with ease.

📍 **Portalhaus. VIA, A02**

➔ meyersound.com



Outline's V-shaped innovation

Outline will highlight its range of amplifier and loudspeaker solutions, including Newton, the audio system optimisation system that combines advanced loudspeaker management tools with audio signal routing and signal synchronisation. Also showcased will be the GTA Otto eight-channel amplifier that provides eight analogue signal inputs, four AES3 inputs and two RJ45 ports with Dante. With support for Fast and Gigabit Ethernet, GTA Otto can be easily integrated into existing infrastructures, the company says.

Also shown will be the GTO large-format and the Mantas 28 medium-throw arrays, designed with Outline's recognisable V-shaped front baffle that results in a smooth yet extended HF response; and Superfly, a self-powered three-way cabinet.

📍 **Stand: 8.0, G60**

🔗 [//outline.it](http://outline.it)

Robert Juliat launches Arthur

French lighting manufacturer Robert Juliat will introduce its Arthur LED followspot to the European market following its launch at LDI, Las Vegas in 2019. At 800W, Arthur is the most powerful in Robert Juliat's LED range, which is completed by the 600W Oz and Alice and the 300W Roxie2.

Also highlighted will be Tibo HE - a high-efficiency profile from the Tibo range that offers an integrated power supply and a more efficient LED source - as well as a 1kW equivalent LED wash-spot fixture that can be used with a Fresnel or Plano-Convex lens.

Finally, to address the demand for swappable LED lamp upgrades to tungsten fixtures, Robert Juliat will unveil a 1kW equivalent LED lamp for the 600SX Series.

📍 **Stand: 12.0, C60**

🔗 www.robertjuliat.com

SES makes it 10

Power distribution solutions manufacturer SES will return to Prolight+Sound for a 10th year in a row with a renewed focus on reaching new markets and developing working relationships with customers, suppliers and competitors.

"We have worked with such a vast mix of different companies throughout the world to help them ensure that the film, music event, theatre performance, sports event or product launch happens without a hitch," says the company. "With over 80% of our products being custom-built, our range caters for every aspect of the entertainment industry."

📍 **Stand: 12.1, C70**

🔗 www.site-electrics.co.uk



📍 From top: City Theatrical will showcase its Multiverse wireless DMX/RDM technology

ionage will demo Madrix Radar

Sundrax will present its stage lighting networking solutions

Vectorworks' Spotlight 2020

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Design by Philippe Mervan, Photo by Albrecht Voss

For the 30th anniversary of the fall of the Berlin Wall: Hundreds of monochrome pixels remind of thousands who were fighting peacefully for the German Reunification.

#LEDmadeinGermany

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SHOW HIGHLIGHT

MUSIC PRODUCTION BUFFS HEAD TO PRODJ SMF

Following its collaboration with the Sample Music Festival during PL+S 2019, Messe Frankfurt, in cooperation with well-known manufacturers and the Raycademy Frankfurt, is setting up the ProDJ SMF experience zone.

Inside this interactive demo area for music production and live performance, product specialists from key brands such as Native Instruments, Ableton, Akai and SERATO, as well as start-ups in the music tech scene, will provide insights into the future of music making. International artists, including Pedro Le Kraken from France, Tony Beatbutcher from Belgium, Frankfurt DJ legend Ray-D as well as Tonspielzeug, Hix Boson and Arkæi, are set to feature.

www.prolight-sound.com

Sundrax switches it up

UK-based stage lighting networking solutions manufacturer Sundrax Electronics will present its range of DMX-Ethernet nodes, Fibre-Ethernet-DMX media converters, gigabit switches and splitters, as well as wireless DMX, DMX to DALI, DMX via powerline products. The company operates across the stage lighting, architectural and fixed installations sectors.

Stand: 12.1, E66

www.sundrax.com

Vectorworks adds GDTF support

Exhibiting through its German distributor ComputerWorks, Vectorworks will demo the latest features to be added to its entertainment design software, Spotlight, which offers drawing, modelling, illustration and rendering tools.

The 2020 software edition includes live data visualisation, walkthrough animations, enhancements to the data tag tool, schematic views, as well as a Vectorworks Graphics Module for faster file navigation and more responsive modelling. Support for GDTF file import can be added through an update, streamlining the MVR workflow and enabling a workflow between Spotlight, Vision and consoles that support these open file formats, the company says.

Stand: 12.0, D51

www.vectorworks.net

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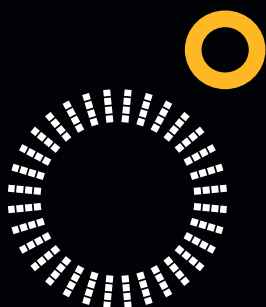
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classic gear

Lamp-Tramp | by Rob Halliday . . .



A mark of a really revolutionary product is often that it doesn't have any existing category to slot itself into. Looking at it now, you'd describe this classic as a pixel mapper or a simple media server. But when it first appeared back in 1994, those terms hadn't been invented. So it just went by its name: Lamp-Tramp. When people needed it, they found it, because nothing else could do what it did.

It wasn't created on a whim, but for a project - it was only later it became a product. Pink Floyd's epic *Division Bell* tour in 1994 had amongst its many visual elements the Periaktoi, rotating triangular structures along the front of the stage, with one face containing a grid of PAR46 lamps. The request was for a control system that would let it "have hieroglyphics come up, maybe 'Hey Teacher'".

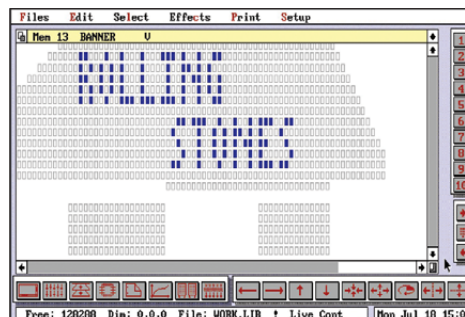
One approach would have been graph paper and intricate plotting on a traditional lighting console. But Artistic Licence's Wayne Howell, who'd been handed the specs for both this and a motion control system for the show's stage effects, was struck by a different approach: why not just sketch or place images directly onto the grid of lights. Like all great ideas, it sounds so obvious now . . .

Howell created the software to do this himself using Borland TurboC including, in those pre-Windows days, having to create his own graphical interface. Lamp-Tramp lets you lay out your grid of lights, patch them, then either sketch or type text onto them, or import bitmap images created in other software such as Corel Draw, which could then be scaled or positioned onto the grid. With lightbulbs as the output device, imported images were greyscale, the grey levels translated to light levels through an adjustable mapping.

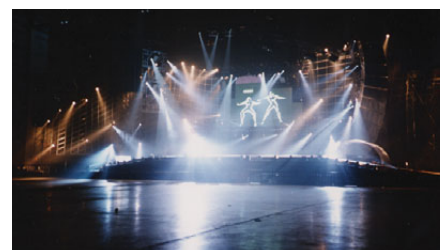
Lamp-Tramp allowed the creation of cues - an image, or a change to the position of scale of an image. Cues were then used to build sequences, and then stacks, providing a way of triggering multiple sequences - the philosophy borrowed from the Avolites consoles, on which Howell had previously worked. For the Pink Floyd show, Lamp-Tramp was triggered via MIDI from the show's Wholehog.

The limited processing power of the PCs of the day meant Lamp-Tramp needed help to output data: Artistic Licence created a custom ISA-card DMX processor containing an array of PIC microprocessors

Rob has been working in and writing about lighting for more than 25 years, on shows around the world. He wonders if this makes him a classic... or just old!



Lamp-Tramp at work on the Rolling Stones' *Voodoo Lounge* tour



working as fast as they could. For *Division Bell*, that gave one DMX universe; by the time of the Rolling Stones' *Voodoo Lounge* tour later that year, two universes were needed to control the array of 900 PAR20 lamps embedded in the set - an early warning of how data-hungry pixel mapping tends to be (and remember, each one of those light bulbs needed a dimmer to drive it).

A few years later, feeling the need to re-write Lamp-Tramp to be Windows-based, Wayne Howell realised the opportunities LEDs would offer for this kind of work, and so Lamp-Tramp added colour to become Colour-Tramp, at the same time incorporating the then-new RDM to help manage big fixture arrays.

If imitation is the sincerest form of flattery, Lamp-Tramp should be delightfully-flattered by the fact that pixel-mapping controllers and media servers are now everywhere. Or, as Wayne Howell says of the moment when these other products started appearing and adopting those category names: "I just thought, someone's given a name to what we've been doing for years." ☒

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BLUE MAN GROUP

When asked about his work on the Blue Man Group's latest tour, scenic designer Jason Ardizzone-West notes: "It was one of those wonderfully free, open processes, where Blue Man Group decided to bring in a complete outside creative team, which they've not done before; they usually create things in-house. They had a lot of ideas, but mostly they said: 'We're creating this new piece; we're expanding the sound of Blue Man, inventing new instruments, and we want you to explore what space this new iteration of Blue Man wants to inhabit'."

Ardizzone-West realised he wanted the audience to feel like being in "a space that the Blue Men had created for themselves" compared to previous productions where the performers would be the 'visitors' to the audience space. He explains: "Pretty early on, I decided that we

were going to create this space using video, sound, lighting, musical instruments - all the things the Blue Men need to do their work - not in a decorative way but in a fundamental way. This made for a very exciting and challenging design process, which translated to an attempt at making a working, room-size instrument rather than a set."

"That was an idea about a workspace, trying to design a space that functionally is a workplace," he says. "There are instruments that are built into the walls and the ladders - the Blue Men can climb the space and literally play the room. I'm extremely happy with how it turned out." The set was fabricated by Scenic Solutions, a long-time partner with the show's producer, NETWORKS Presentations.

Sharon Stancavage reports on the latest touring exploits of theatrical sensation Blue Man Group . . .

VIDEO

In terms of the video component, the crew had to choose how to incorporate it into the Group's workspace. "It wouldn't be a giant wall of video, because they don't need that," explains Ardizzone-West. "They wanted little monitors; they like collecting weird little screens that they hot-wire together, and train departure screens - all sorts of technology they find interesting and put together in their workspace."

On the choice and variety of screen technology, he says: "We have more than 90 screens spread throughout the space in a 3D way: on different planes, pointed in slightly different directions, with different aspect ratios and sizes. We can send one image to the whole composition - if it's moving, you can see it as a cohesive image - but we can also send unique images to each of the screens."

Lucy Mackinnon, video designer and content creator, says: "By housing individual LED tiles in moulded square boxes, we made the LEDs look like TV screens. We decided to use LED rather than traditional monitors because we wanted the video images to pack a punch, and we wanted images that stretched across the space to look uniform in terms of colour and brightness. We control the screens [mostly Unilumin 3.9mm] through disguise gx 1 media servers. We also use a handful of [horizontally-oriented ROE Visual] Vanish 8 tiles grouped together centre-stage. They are 60% transparent, so the LD can shine light through them, but when they aren't backlit, they look remarkably solid. There are longer runs of these tiles, which were essential to the video design because they gave us space to project things like IMAG without completely taking over the set."



Photo: Evan Zimmerman / MurphyMade



Photo: Courtesy of Blue Man Productions

instrument, hitting the drum head will trigger a video loop on the screen behind him."

Mackinnon adds: "The video is cued and triggered both by timecode and via the lighting console. There are moments when lighting is triggered by the Blue Men and it simultaneously triggers video to respond."

Live video is facilitated using two hidden PTZ cameras. "We use them to record audience members onstage, and we play the recordings back at the end of the show," says Mackinnon. "We also have two visible onstage cameras: one is held by a video operator from the crew, the other is operated by one of the Blue Men." Video gear is provided and engineered by WorldStage.

Ardizzone-West adds: "Sometimes they work as little screens just for the Blue Men, and sometimes they work on a bigger scale, as a more cohesive way of delivering a large piece of content. Occasionally, you have to deliver IMAG because parts of the audience can't see what is happening, and you don't want the balcony to feel like they're missing out on something. But we do it in a way that doesn't feel like IMAG."

Certain colour effects are created using realtime graphic effects software Notch. "The screens are used as part of the instruments," continues Ardizzone-West. "When a Blue Man plays a percussion

"The logistics of a touring show were a big challenge," Ardizzone-West says. "I spent a lot of time trying to make a set that did not feel like it came out of a truck. The tourability of it is unlike a lot of touring shows - the lighting and video are built into the set, and that's how it tours; it breaks apart in pods and is unplugged. The video, lighting, and most of the instruments stay inside the set; there are only one or two that are too sensitive and have to be detached."

LIGHTING

As mentioned, many lighting and video cues are driven by the musical instruments. "Because a number of them

are MIDI instruments, there is a channel of control that's live and able to be used by lighting," says lighting designer Jen Schriever. "For example, if a Blue Man hit this drum pad, it makes this sound, because it's talking through a computer. We can take that signal and open up that channel to any lighting fixture as well. The Blue Men can essentially 'play the lights' as well as musical notes - we can choose from a thousand lighting options to assign to the instruments. It felt important to give the performers control of their environment on as many levels as we could."

This plan was dependent on the production's ETC Eos Ti console. "In the beginning, the system was so open between the various departments that we were creating a MIDI feedback loop that was crashing us pretty hardcore," says Schriever. "We had to choose what we would listen to and when; it was too taxing to have everyone listening and ready for everything at all times. In the show's more streamlined form, the lighting console still receives and analyses about 30,000 MIDI notes during a single performance."

"We had such an interesting time figuring out how to do this," Schriever continues.

"ETC had to send two representatives for a week to build us a custom version of the software, a sort of secret build of software 2.9.1 made just for us because we kind of broke the stable release. ETC stayed with us until it was stable, which took about a week, but we were still able to work. We felt so loved and cared for by ETC; it was very cool to have such a responsive vendor."

There are two different levels of lighting/music reactivity: one from the instruments, and one from the backing tracks. "The sound department has QLab for certain sound cues, to trigger certain tracks that we play underneath, and we are able to receive MIDI from them. We communicate with QLab using our ETC console." Meanwhile, everything happens through MIDI and is triggered in realtime via Eos, so every show is different depending on the performance, as Schriever says: "ETC makes a new MIDI Response Gateway that we're using. We listen to MIDI from the instruments and tracks and assign lighting attributes - via subs and additional cue lists - to various notes, based on scenes and cues from the lighting console. Overall, we have 224 MIDI show control events that are toggled on and off by 22 show control lists, all in 75 minutes of the show. My programmer,

"The video is cued and triggered both by timecode and via the lighting console. There are moments when lighting is triggered by the Blue Men and it simultaneously triggers video to respond..."

- Lucy Mackinnon



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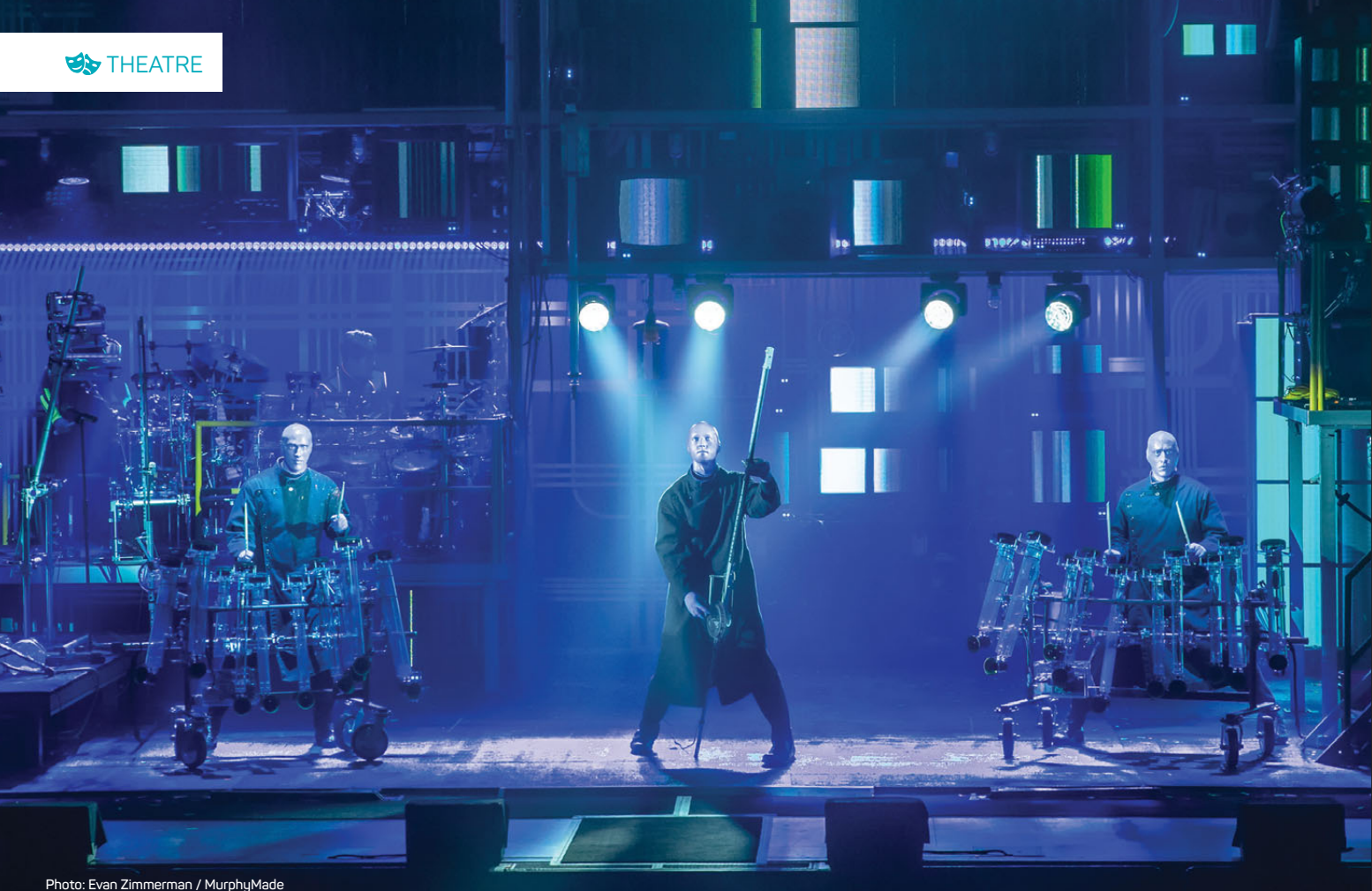


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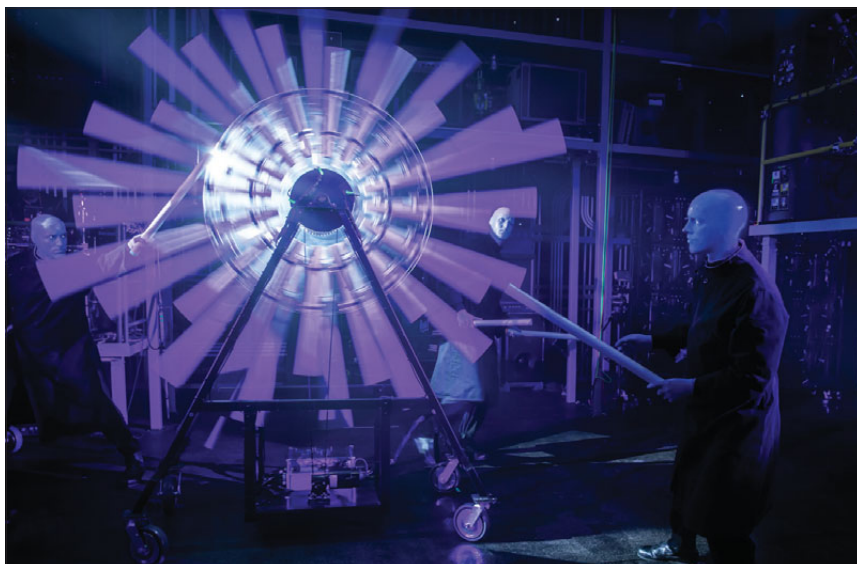


Photo: Evan Zimmerman / MurphyMade

Brad [Gray], programmed *Moulin Rouge* on Broadway, and even he said, 'This is bending my brain'."

"We listen for and receive the notes they play through Ableton; we send and receive cues from QLab, and we run our own lighting cues on top of that," continues Schriever. "Each piece has a lighting journey that contributes to the arc of the show. First, the audience slowly discovers the Blue Men; next, the Blue Men discovers the audience; finally, everyone comes together. Within this journey, the lighting focuses the scene but also reacts to the live music if we choose. Every piece is

different, depending on the needs of the storytelling."

The set, Schriever says, "is adorned with LED tubes [Environmental Lights RGBDW 4 in 1 LED strip lights in a diffusive housing]; there are about 100 of them and they're controllable as well. We are running effects and pixel-mapping through the tubes. There are 60 [Litevance 12V 12W LED A19] light bulbs that are meant to look incandescent - when you turn them on, the set looks like a construction zone at night. There is also LED tape from Environmental Lights that front-lights the shelves. Six Martin MAC Axiom Hybrids and 16 MAC Auras

are built into the set, and we have one MAC Viper Performance in the wall. All of these are used to create a space that can transport us in a variety of ways; since the set is static throughout the show, the lighting design is charged with transporting us from scene to scene."

The upstage area is home to 24 GLP impression X4 Bar 20s. "We have a ground row and an electric of X4 Bars," says Schriever, "which is trimmable, so when they're a full narrow spot, we can really reach through the set and create these beautiful shafts of light. The trimmable electric comes down pretty low - the lowest is 10ft off the ground - but it travels to create the look of the light reaching through the set."

"Three trusses over the stage are filled with moving lights, which include 19 Martin MAC Quantums and 25 MAC Viper Performances. The fourth electric has 20 Elation Professional Protron 3K Color LED strobes pointed straight at the audience; the fifth electric is our trimmable X4 bar. I tried to be lean and mean; it's big but, for touring, it's all easily repeatable." Atmospherics includes two Ultratec Radiance hazers, four Look Solutions Viper NT fog machines, six Martin Jem AF-1 MkII fans, and two Reel EFX RE4 fans.

The tour is playing Broadway-style theatres, which presents a challenge for a company known for breaking the fourth wall and engaging the audience.

"There are 20 Elation SixPar 200s, which do a great UV for LED units; there are no old-school UV fixtures. Because it's a tour, I needed a fixture that could do more than one thing. I have SixPars on the balcony rails and apron towers; we have Elation ZW19s on the box booms. The workhorses are the Vipers. Everything onstage is pretty compact and the set is modular. In theory, they set it up, we plug it in, and we're ready to go."

Lighting gear is supplied by Christie Lites. "Christie and ETC were our rock stars, and Justin Petito was my electrician," says Schriever. "It was the first time that we worked together with him; he is a genius. I hope I can afford to hire him for the rest of my life as my electrician." Meanwhile, Aaron Tacy served as associate designer.

Back to the staging, SMPTE timecode works to keep the elements together. "It's probably used for 50% of the show," continues Schriever. "We use it judiciously to keep the show spontaneous for the Blue Men; however, it is often necessary to keep us together without a conductor. Timecode sometimes plays alongside a click-track and often, there's some simple backing track. The opening for example is heavily coded - pretty

much every light cue is running off timecode, minus everything triggered by instruments."

What of lighting the performers?

"I didn't have any past experience of what front-light colour looks best on a blue person," admits Schriever. "After the first day of tech cueing, a props person said: 'Oh, Jen, we have the blue head for you.' They rolled out on a dolly a Home Depot bucket with a stick coming out of it and a blue foam head painted the exact colour of makeup the Group use. It was funny to say on headset: 'Move the blue head to the new position.' But it was super helpful to see what colour looked like on it. Creating the whole show was sort of like that - a delightful discovery of something really fun that none of us had really ever done before in this capacity. I would do it again in a heartbeat."

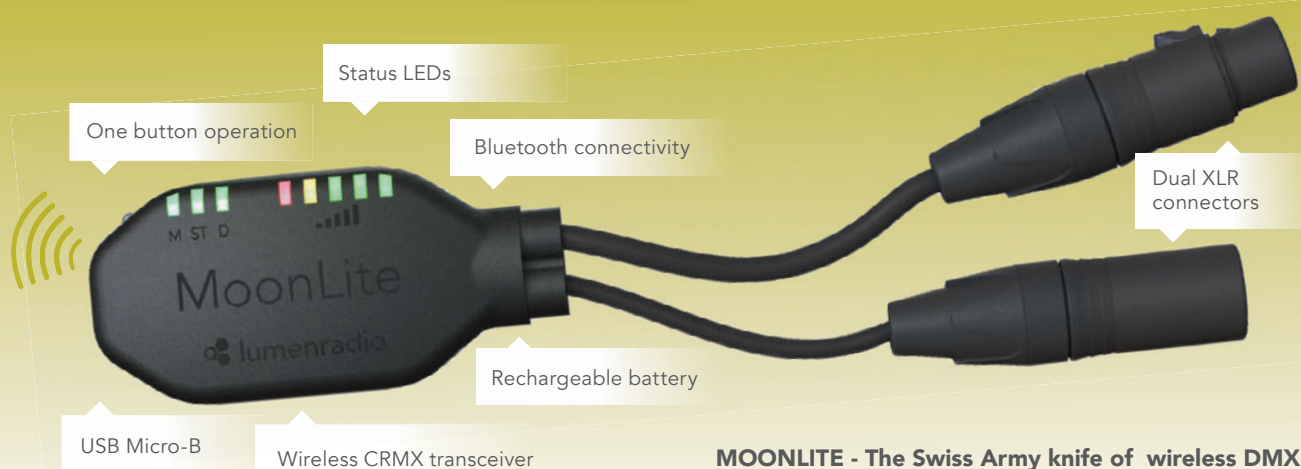
AUDIO

The tour employs the L-Acoustics L-ISA immersive sound system. The French company's Marcus Ross, who created the sound design in partnerships with Tony Pittsley of Crest Factor, takes up the story: "We started with a frontal system, which was going to give us the ability to use objects and create a panorama of all the fairly dense acoustical percussion

"The Blue Men can essentially 'play the lights' as well as musical notes - we can choose from a thousand lighting options to assign to the instruments..."

- Jen Schriever

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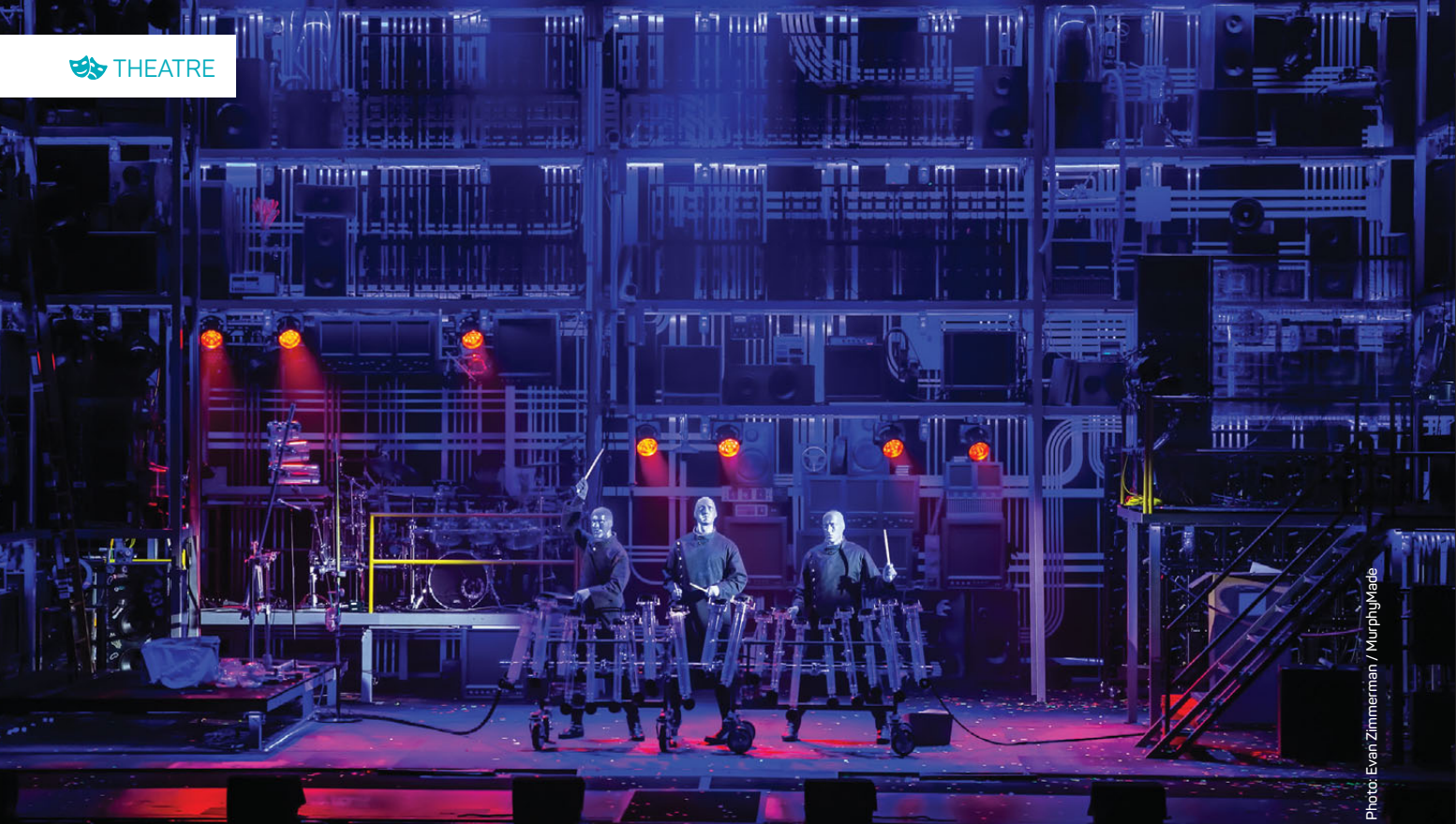


Photo: Evan Zimmerman / MurphyMade



Photo: Evan Zimmerman / MurphyMade

instruments that are Blue Man. We have a five-array wide design, and we are utilising the Kara speaker. We have five hangs of 10 Kara - so we have 50 elements - in the frontal system. We have eight SB18s deployed in two hangs of cardioid configuration that are flanking the central cluster. We are also using 8XTs as front-fills; 8XTs as under-balcony speakers; and four Arcs as our out-fill."

On taking advantage of the system's immersive sound effects, he says: "Traditionally, in a left-right mix we employ techniques like EQ sculpting or the use of dynamics effects such as comps and gates. The L-ISA technology gives us the ability to separate the objects and give them their own space. The instrument you are hearing is much more closely representative of what the original sound is and what the original intent was from the composer."

He continues: "At FOH, we have the DiGiCo SD10T console and L-ISA Processor; these devices connect via Desk Link for control of audio objects. The instrument channels route to the L-ISA Processor via the direct outputs. The processor references

the location data of the object and sends it to the appropriate speaker. We are also running QLab playback, which is sending SMPTE timecode, which we translate into MIDI time [MTC] code, and the L-ISA Processor is utilising that MTC to fire its cues and move the objects appropriately."

FOH engineer Justice Bigler, who experienced L-ISA for the first time on this tour, says: "The things that it's doing are exciting, and nobody else is doing them. The interface in L-ISA is user-friendly and streamlined, so it's a more modern system. I like it a lot. We don't have any outboard EQs, effects, compressors, or anything like that. It all happens in the console. The only outboard gear in use is a Fractal Audio Axe-Fx. The device is on the insert of the three channels of Blue Man instruments called spinulums; these are hand-cranked, single-string instruments, which use the Axe-Fx for distortion and effects."

Bigler continues: "We are running 32 channels of playback from QLab: 20 channels go to FOH and 12 are set up for fold-back for the IEMs for the Blue Men, stage management, click tracks, and SMPTE timecode. Ableton handles the MIDI instruments that the Blue Men play on stage; we have 10 channels that come from Ableton to us as audio; they just come into the console like any other group of instruments would; in some songs, I might have two channels coming from Ableton, and some other songs might have 10. It just depends on the song."

On the drum kit, he says: "There are Sennheisers [E 902s on the kick and E 904s on the Toms and racks], and there are Beyerdynamic M130s on the cymbals." Other microphones include Beyerdynamic M201 (top snare), Neumann KM 184 (bottom snare), Electro-Voice N/D868s for some low-end drums, and Beyer M130s on overheads. Also used are a Neumann TLM 103 on the thunder sheet, a Neumann KM 184 for the shaker, and a DPA [d:vote] 4099 for the Thai gong. The audio package is provided by Sound Associates.

Like a note on the Group's website rightly points out, "the men are still blue but the rest is all new." The Blue Men's North American tour is currently scheduled through to June, but for those who wish to see a show elsewhere, the performance arts company is touring year-around, stopping at various locations across the globe, including in select European countries this spring and summer. ✕



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technology focus

The rise of industry podcasts | By Richard Cadena

"Over the years, more and more podcasts have emerged, but few were geared towards technology or entertainment . . . Until now . . ."

→ When Leo Laporte started his podcast *This Week in Tech (TWIT)* in 2005, he was way ahead of the curve. Laporte tells a story of a kid, who called into his show and introduced him to the term 'podcasting'. Until then, he didn't know what it was called, even though he was doing it.

His podcasts on the *TWIT Network* (yes, he knows the name is a bit controversial, but he seems not to mind), captured my attention about 10 years ago. It was the first podcast I found that scratched my technology itch. Now, he presides over an entire network of podcasts, including *The Tech Guy* and *Security Now*, both of which I've listened to for a long time. And whilst they are not related to stage lighting, these podcasts are a great source of useful information that is hard to come by and easy to consume.

Over the years, more and more podcasts have emerged, but few were geared towards technology or entertainment as much as they covered politics and pop culture. Until now.

Recently, there has been a spate of podcasts, many of which are industry-specific and some even geared towards more narrow segments of our industry. There are enough now that it can be challenging to listen to all the episodes of all the industry-related podcasts unless you give up your day job. Not to worry; I'm here to help you navigate the crowded airwaves and help you decide which podcasts - and which episodes in particular - you will not want to miss . . .

LIGHT TALK

If you were a fan of *Car Talk*, the radio talk show with 'Click and Clack, the Tappet Brothers' on the US National Public Radio, then you're going to love *Light Talk*, the Lumen Brothers (and sometimes sister) podcast. It's all about theatrical lighting, and is hosted by David Jacques, Stan Kaye, Steve Woods, and sometimes Anne McMills. Because all of the hosts teach lighting at universities (Stan Kaye at University of Florida, David Jacques at California State University, Steve Woods at Southern Methodist University, and Anne McMills at San Diego State University), the subjects tend to lean more towards theatrical lighting and the guests tend to be theatrical lighting designers, although not exclusively.

When you listen to this podcast, you can expect to hear discussion on a wide variety of lighting and lighting design-related topics like what a master electrician in the theatre does, or how much you can expect to earn as a lighting designer, or even whether or not "techie" is a derogatory term, followed by an interview with someone in the entertainment lighting industry. With a catalogue of about 150 episodes and counting, it will take you some time to catch up if you haven't already been a listener.

GEEZERS OF GEAR

I only learned about the *Geezers of Gear* podcast fairly recently, but I've been binging on it ever since. Industry veteran

For Richard Cadena, the road to authoring books and magazine articles ran through High End Systems and Martin, took a left turn at designer, tech, and electrician, and is still under construction.



Marcel Fairbairn (formerly of Martin Professional and High End Systems, and founder/CEO of Gear Source) started it over a year ago, and it revolves around entertainment industry news and technology, as well as personalities and the history of the industry. The topics cover pro audio, lighting, staging, or video gear, as well as the people and companies behind the products.

Fairbairn has interviewed several industry luminaries, including John Wiseman, Marc Brickman, Paul Dexter, Doc McGhee, Howard Ungerleider, and a lot more. There are so many great stories - one that sticks in my mind is the one Ungerleider tells about the first time he drove to a gig with the band Rush. It's a "can't miss" episode. Also, the Dizzy Gillespie one is a great history lesson in lighting rigs, especially if you're a heavy metal fan. I've learned a lot about the history of this industry, the people involved, and how the technology evolved listening to this podcast, and I always look forward to the next episode.

NOTCH SHOWCAST

Another podcast I recently stumbled across is called *Notch Showcast*. This is the same Notch that develops the realtime video effects that are in media servers from disguise, Green Hippo, Pixera, AI, and more. The podcast is hosted by Kat Kemsley, who is a filmmaker and works at Notch as a multimedia producer. In the podcast, she interviews Notch users, and they typically discuss their backgrounds and recent projects they've worked on in which they used Notch. It's more about design and design philosophy and less about the technology behind the projects. But Notch is relatively new, and like most technology, it's constantly changing, so any information you can get related to it is welcomed.

EVENT SAFETY PODCAST

Another new podcast I recently discovered is the *Event Safety Podcast*. It's produced by the Event Safety Alliance (ESA), which is a non-profit organisation that promotes safety in the event production industry. The hosts of this podcast can change from episode to episode, but ESA VP Steve Adelman is often the anchor. The ESA started the

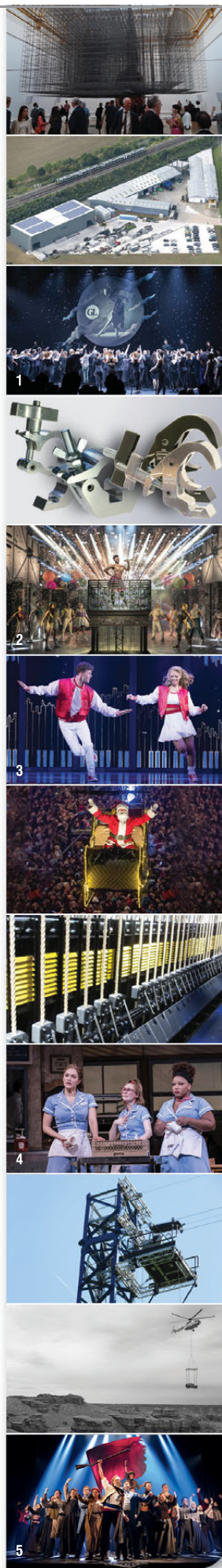


podcast in March 2019, and they are on a monthly (approximately) schedule so, to-date, there are 10 episodes. It's an excellent way to supplement your knowledge of all things related to safety in the industry, including weather, crowd safety, training, and more. It's similar to the information you can get by spending a lot of time and money at the annual Safety Summit, but it's a lot more accessible. Don't miss the summit, but also listen to the podcast.

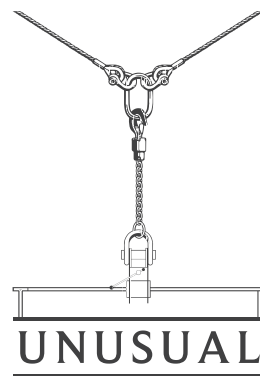
LEARN STAGE LIGHTING PODCAST

After I thought I'd finished this article, I decided to search the internet for stage lighting podcasts. Lo and behold, I came across another called the *Learn Stage Lighting Podcast*. It's hosted by Nashville-based David Henry, and, as the name implies, it covers the basics of lighting small bands, churches, DJ gigs, and theatrical lighting. The podcast dates back to 2018, and there are currently 85 episodes spanning everything from the parts of a lighting system, lighting positions, controllers, DMX, and more, plus lots of episodes with questions and answers. I only had a chance to listen to parts of a couple of them and I think it's a great resource for newbies and the more experienced alike.

Industry-related podcasts seem to be on the rise. At the recent NAMM Show in Anaheim, there were at least two groups podcasting on the show floor, and I suspect there will be more of them in the near future. In an industry where technology is always changing, current information can be hard to come by. If you have a ravenous appetite for learning, then there's no better combination than a steady diet of industry trade magazines (let's face it, podcasts have no pictures or illustrations!) and some great podcasts. I've learned a lot from both. I'm pretty sure no one is getting rich by producing them, and, as Leo Laporte often says, they're really more of a labour of love than a labour of financial windfall. So, I hope that enough people will love hosting them so that we, the industry, can continue to benefit from listening to them. ✕



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Louise Stickland charts the history of Colour Sound Experiment, one of the most enduring rental companies in the UK . . .

Colour Sound Experiment, one of the UK's most successful independent lighting and visual rental specialists, recently celebrated 30 years of operation, enterprise and innovative thinking. During 2019, the company supplied lighting, video, rigging and crew to over 50 festivals in the UK and Europe and worked with touring artists including Loyle Carner, Richard Ashcroft, David Gray, Jess Glynne, Underworld, The Vaccines, Giggs and Skunk Anansie. But it's not just rock and rave keeping Colour Sound busy - recent events supplied by the company at home and abroad have included the Varsity Trip in the French Alps and the iconic Sheikh Jaber Al-Ahmad Cultural Centre in Kuwait. This work is bolstered by conferences such as the International London Tattoo Convention, art installations including *The Nest* in Waltham Forest, and some exciting corporate projects which keep the Colour Sound kit on the road every day of the year.

Based in London's Park Royal, Colour Sound operates out of a series of large, interconnected warehouses. There are 32 full-time employees headed by the person who started it all, Haydn Cruickshank - universally known as H - an astute businessman and a hands-on lighting designer, who is still as enthusiastic and committed to the industry and the company as the day he started it in all 1989.

HUMBLE BEGINNINGS

Having always possessed a technical brain, H first became fascinated by the wonderful world of visuals and the power and dramatic effect they could have on people whilst the world was waking up to rave parties and psychoactive drugs.

He got into lighting and projection whilst studying for his A-levels, purchasing some slide projectors and Optikinetics Solar effects projectors - the bedrock of '80s rave visuals. While the whole spirit and alt culture of garage and house music was kicking off in the UK, H started lighting his friends' psychedelic rock band, Electric Sardines from Outer Space.

For one gig only, they changed their name to The Colour Sound Experiment, after which H agreed with them to appropriate this for his nascent business, which started growing organically as word got around that he was the go-to man for 'funky lighting'.

He soon landed a slot providing lighting and visuals for local rave Asyalike, and secured his first permanent lighting installation at a rock club in Crewe. Any money made from working the light show was ploughed straight back into new kit, a philosophy that H has followed throughout Colour Sound's business trajectory.

The late '80s and early '90s were the heady heydays of the free party movement and the burgeoning warehouse scene, when you had to be 'in the know' to find the best parties.

There was often no alcohol to be found, but lots of great music and friendly people, and the visuals went a long way to creating some truly special events and moments for attendees. "It was an interesting time, a bit edgy, and a place where you could be completely creative, have fun and get paid to do it," remembers H. Being in the thick of the underground rave scene at the time was no doubt exhilarating; there was money to be



Photo: Louise Stickland

← Opposite page: The Colour Sound Experiments team

① The company supplied LED screens, cameras, PPU and crew to Madness's most recent tour

made and it gave rise to some serious entrepreneurship and financial enterprise that saw the launch of several successful businesses and people who became future industry leaders.

RAVE ON

Forging his own path into the industry meant H wasn't weighed down by the existing practices of other lighting companies operating at the time, which meant he was free to experiment with new ideas and products to create his looks.

18 months in, H relocated the business to London to capitalise on all the activity. The nature of the events and the music scene Colour Sound served dictated the equipment the company invested in. At a time when many major rental companies considered moving mirror lights a bit "too disco" to stock, Colour Sound purchased its first Claypaky Golden Scans - the luminaire that, along with the notorious Optikinetics Strobe Flower, became synonymous with classic rave visuals. This canny equipment investment, coupled with specific manufacturers largely controlling the market by lease-only deals for tours,

proved a big break for Colour Sound Experiment. It allowed H to build up a large network of contacts and introduce the fixtures to new, larger audiences who had never seen anything like it. "At that stage, we could rock up almost any place in the country with four Golden Scans, some strobes and a few other lights, and people would be blown away with the effects," explains H.

Colour Sound grew rapidly, but modestly. H kept his head down and worked hard on the frontline to build solid foundations with a small group of individuals he trusted and who shared his core values.

They soon landed an installation at The Rocket in Holloway Road, another go-to London venue for '90s club kids as the party scene moved on to hosted club nights and the free party movement was pretty much eradicated by the passing of the Criminal Justice and Public Order Act 1994, which cracked down on unlicensed gatherings.

MEGADOG

In the early '90s, H became involved in lighting the travelling psychedelic dance

*"At that stage,
we could rock up
almost any place
in the country with
four Golden Scans,
some strobes and
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and people would be
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- Haydn Cruickshank



Photo: Matthew Button

- ↑ Colour Sound provided 74 AquaBeam moving lights for *The Nest*
- Underworld at Lolla Berlin 2019 - H has lit the group for 27 years

music extravaganza Megadog, renowned for its ambitious visual and sonic designs, and for taking the concept of a 'club night' technical production to new levels and in to larger venues. Megadog toured to numerous international festivals and 'broke' several bands and artists of the time, including Dreadzone, Eat Static, System 7 and electro gurus Orbital and Underworld, music innovators still going strong today and still being lit by Colour Sound.

Colour Sound supplied and designed lights for over 300 Megadog shows and H, the company and those he was working with, all underwent some life-changing moments over a few years. "It was a fantastic experience; it gave me many ideas and I learnt a massive amount about lighting and the kit. Above all, it gave us an 'in' to the worlds of touring and festivals," he says.

Colour Sound has been active at Reading Festival since 1993 - back when that and Glastonbury were the main choices for festival fans and the 'Dance Tent' was still an embryonic concept.

When the free party movement disintegrated, it germinated the seeds of many independently-spirited festivals that started to grow and flourish through the '90s and '00s. This, in turn, provided more opportunities for creative lighting and a thriving business based on boutique culture and fun, all of which needed good, friendly crews and inventive technical productions.

That festival market is still a major one for Colour Sound. In addition to over 10,000 premium lights and 800sq.m of video for the main stages, H has invested heavily in 'infrastructure lighting' to illuminate everything from trees and foliage, to lakes and other environmental elements, concessions, walkways and performance areas.

"It's been important to me . . . to maintain our core business as a backbone, but to keep moving forward and remain dynamic . . ."

- Haydn Cruickshank



Photo: Philipp Gladsome

The end of the '90s saw an explosion in the experiential event market. With still only a few other rental companies offering moving lights, Colour Sound was ideally-placed to bring a distinctive style of lighting and ambience to high-profile tech company and communications brand activations. Meanwhile, the touring side of the business grew of its own volition, starting with the rave/electronic scene and expanding to other genres including rock, rap and grime artists.

LED-ING THE WAY

H's enthusiasm for staying ahead of visual trends saw Colour Sound become one of the earliest adopters of LED screen technology as a lighting company, a process that started in 2008. Following serious research, the company started getting its own proprietary screen made in China. After establishing a workable quality control process with a factory in Shenzhen, the strategy proved a big advantage in offering 'visuals' packages rather than just lighting.

It also simplified the equation for production managers and clients to come to one entity for all things visual and enabled Colour Sound to be competitive with its pricing. All this was achieved before the relatively recent arrival of quality off-the-shelf LED screen products that companies now buy in to.

It's no great surprise to hear that H loves lasers, which is another area of substantial investment, together with a selection of other SFX, to ensure the company maintains a diverse range of visual products and skilled crews who are competent and imaginative in using all of them.

He comments: "It's been important to me - personally as well as business-wise - to maintain our core business as a backbone, but to keep moving forward and remain dynamic, thinking of new, interesting and different ideas and ways we can - going forward - elevate our service and standards for everyone's benefit."

A close-up, high-contrast photograph of a man wearing a dark fedora and a white dress shirt with a dark tie. He is looking down, and his face is partially in shadow. A thin green line runs diagonally across the image from the top left to the bottom right. A small, beige, subminiature lavalier microphone is visible in his ear.

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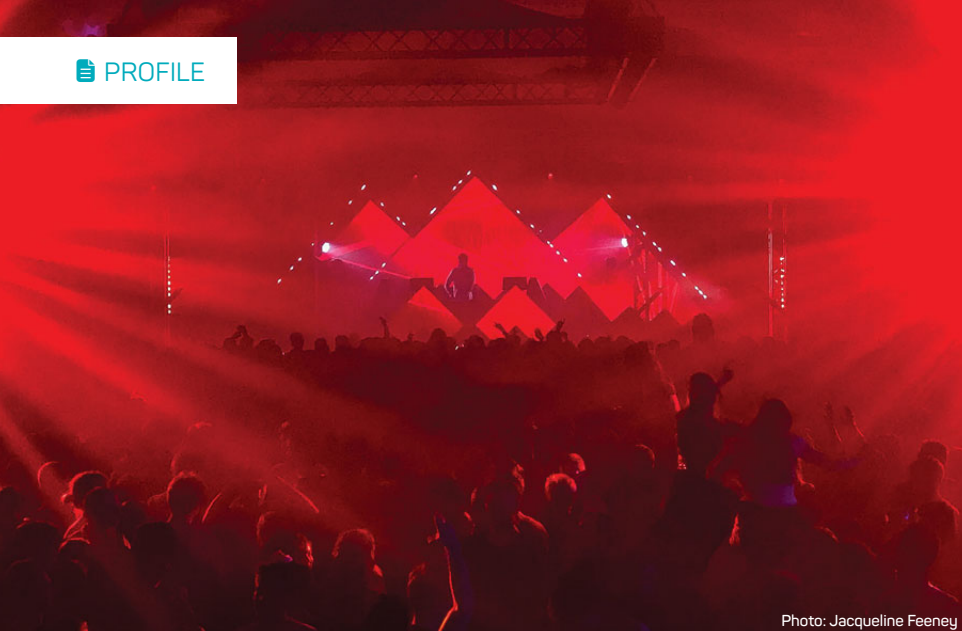


Photo: Jacqueline Feeney

"Anyone with the money or backing can buy good equipment now, so winning jobs and making impressions often comes down to people . . ."

- Haydn Cruickshank



↑ From top: Haydn 'H' Cruickshank, managing director
Terri Cruickshank, quality controller
Gemma Bates, business manager
Alex Ryan, production coordinator

↑ → Key recent projects include:
2018's Varsity Trip snowsports event (top); You Me At Six at Brixton Academy (above, right) and Good Charlotte (facing page)



Photo: Lindsay Cave

PEOPLE POWER

H is the company's sole owner and director. With several staff and many of Colour Sound's regular freelancers having worked together long-term, people and personal relationships are another factor at the core of Colour Sound's success.

Creating a culture of value and inclusion with a strong sense of community and commitment has always underlined the company's commercial and team-building philosophies. "People are massively important," says H. "Anyone with the money or backing can buy good equipment now, so winning jobs and making impressions often comes down to people, personalities, experience, their creativity and attitude."

Key people in the Colour Sound story include lighting designer Jonny Gaskell - one of the first people to join H when the company moved to London. When they met in 1992, H offered Gaskell his first opportunity in lighting and, as his lighting career has blossomed - with Manic Street Preachers, Rudimental, Richard Ashcroft and David Gray among many design credits - Gaskell has maintained his connection to Colour Sound, using them as a lighting and video provider whenever possible.

Dave 'Fletch' Fletcher and H met while Fletch was the house electrician at Leicester University

and was "hugely helpful and interested". Also known for his acerbic wit, Fletch joined the company in 2010 and worked touring and as a project manager. More recently, he's gone freelance, working constantly on the road for Colour Sound for the last two years on a variety of music tours and corporate shows. Meanwhile, Steve Marley joined Colour Sound the following year, having carved out a strong career with over 30 years' experience in the industry.

Alex Ryan, a rising star PM at Colour Sound, arrived five years ago aged 17 on a work experience initiative from Elstree University Technical College (UTC). He has now worked his way to the core of the business.

H is dedicated to developing new talent, and Ryan's arrival at Colour Sound was part of a regular work placement embracing the Science of Art and the Art of Science with Elstree UTC as a ground-breaking learning environment for 14 to 19 year-olds by offering students a practical introduction to the world of lighting festivals, concert tours and live events.

"I'm a great believer in providing an environment in which people with the right skills and attitude can excel," says H, "and Alex got it immediately - how things work, the importance of communication, client relationships and

a commitment to working hard and believing in what we are doing. His energy and enthusiasm have rubbed off on everyone in a positive way."

Gemma Bates joined the team in 2016 to provide general office support. With a background in events and hospitality and then local government, her efficient management style has been instrumental in ensuring the team is 'on message'. Since joining Colour Sound, Bates has evolved the role to business manager, giving H another perspective off which to bounce ideas and pushing forward the nuts and bolts of the company, from accounts, to HR, marketing and logistics. Meanwhile, H's wife, Terri Cruickshank, is also active in the management team as quality controller.

Listing key personnel, H also give a nod to some of the top crew chiefs regularly running the company's tours and events - they include: Jon Ricketts, Sam 'Kenny' Kenyon, John 'Afghan' Lahiffe, James Hind and Sam Akinwale, all of whom are "great collaborators and Colour Sound ambassadors". And there are many more who have influenced the company over time: Jasper Johns of Fruit Salad Lights, himself instrumental in Colour Sound maintaining its good connections with the psychedelic rock world; plus a winde

range of LDs, both established and up-and-coming.

SMOKE AND REAR-VIEW MIRRORS

With Colour Sound remaining proudly independent, H lives and breathes the company now, just as he did 30 years ago, with the same level of passion, energy and commitment. He still actively tours and designs lighting for Underworld - an act he has an impressive 27-year client relationship with. That milestone was recently celebrated at a gig at Wembley Arena, where Colour Sound provided lighting, video, lasers, rigging and automation.

With business booming for Colour Sound, H doesn't get much time off, but

he does have another passion - drift car driving and racing. A competition driver in the British Drift Championships for the Gentleman's Drift Club team (named and noted for their good manners on and off the track), he actively engages in competitions and presentation demos. He has drift cars in the UK and Japan and has just finished building his 2020 season 'beast' - a Toyota Chaser JZX100, a premium drift car body with a fully custom engine that dynos at over 100bhp. That scene bears some resemblance with live events, as H notes in conclusion: "It's a friendly, noisy, environment with loads of smoke, so it feels very familiar!" ☒

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Photo: Lindsay Cave



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News from the TSP conference | By Wayne Howell

"The TSP does great work and we need more people to join. I've been involved for around 20 years and there's always been more work than people..."



I've just returned from the Technical Standards Programme (TSP) conference in California and am currently sat on a train headed for the PLASA-organised Plugfest in Lille, France. The event is sold-out and we look forward to three days of compatibility testing, code tweaking, technology talks and the inevitable animated discussions over a few beers. I will report on Plugfest next month; for now, it's news from California...

The TSP is run by ESTA and is the standards-making organisation for the entertainment industry. Each year there are four TSP conferences, two are aligned with USITT and NAMM tradeshows, the others are in Dallas and occasionally New York.

It's sad that even in an organisation where much of the effort is given as people's free time, petty politics is alive and well. The California conference is attached to the NAMM Show, which is, in many ways, an unlikely partner, being 99% audio with a tiny lighting section; meanwhile the TSP is dominated by lighting and rigging. The NAMM attachment started around three years back when the management of ESTA and the Las Vegas-based LDI show had a spectacular falling out. Toys were thrown out of prams and the long-standing TSP conference in Vegas ended.

A lot of the people involved with the TSP are hoping that the powers-that-be will kiss and make up, allowing the LDI conference to re-emerge. That said, the NAMM Show is putting a lot of effort into building the lighting part of the show - I was involved in the seminar programme, which was very well attended.

Notwithstanding silly politics, the TSP does great work and we need more people to join. I've been involved for around 20 years and there's always been more work than people. If you have time to get involved - please do join up. It's a great team of people and the work is rewarding. OK, so what's been happening in California...

RDM

The RDM (E1.20) standard is in the process of being updated to include a number of new features and improvements. Perhaps most significant is the addition of high-resolution handshaking, which will allow faster and more reliable use of RDM over radio networks. It also has a number of updates that set the stage for the new RDMnet protocol. The RDM task group is in the process of reviewing the hundred comments received in the second public review.

What does that mean? The task group works on either writing or updating a given standard. In the case of RDM, it's an update. When they feel they have a good draft, they ask their supervising committee to send it out to public review. This is a formal process where all members of the TSP can comment on any aspect of the draft. When the public review period ends, the chair of the task group is responsible for ensuring that the task group reviews every comment (called comment resolution) and provides a written reason on why it was accepted or rejected. This very formal process of peer review is mandated by ANSI and is an absolute requirement in order that

the document can become an ANSI standard.

The RDM task group aims to have comment resolution complete in time for the July meeting. The RDM Task Group is co-chaired by myself and Scott Blair of Megapixel VR.

RDMNET

RDMnet (E1.33) is the sister protocol to sACN (E1.31). Its primary purpose is to allow RDM data to be transported over a network. The standard is published, but a few trivial errors have been found in the document and preparation of an errata document is in progress. The RDMnet Task Group is co-chaired by Sam Kearney of ETC and Scott Blair of Megapixel VR.

FIRMWARE UPLOAD

The Firmware Upload (E1.37-4) Task Group is working on a mechanism within RDM that will allow updating of fixture firmware via RDM. The draft is in comment resolution and it's hoped that the standard will be completed this year. The Firmware Upload Task Group is chaired by Peter Willis of Howard Eaton Lighting.

NEXTGEN STUDY GROUP

The NextGen study group is arguably the most forward-looking programme at the TSP. It was set up to answer what the next generation of lighting control would require. The study group has three sub-groups:

Colour - The way that we control colour of light remains, for the most part, the same as back in the Stone Age. So often a colour is selected by mixing RGB faders; this only works if all the luminaires are identical and so has no hope of allowing effective colour selection across manufacturers. The DALI DT8 protocol has attempted to address this, but still has some significant limitations which the Colour study group will research. What is the best way to transfer colour information? How should a luminaire handle a colour that is outside its gamut? What happens when a luminaire can generate a given colour with numerous different additive mixes? How to relate additive and subtractive colours?

Lamp libraries - Lamp libraries or personalities are the method by which a controller understands the capabilities of a luminaire. If colour communication is in the Stone Age, lamp libraries are arguably just entering the Bronze Age! There's minimal cross-manufacturer compatibility and all the data tends to be centred around the relationship between a luminaire and DMX512 channels. This is understandable as on a day-to-day basis, that's what's needed. But this is the thinking of today, and it's unintentionally building in technological limitations. Often colour is defined as a 24-bit RGB value of arbitrary units.

Pan & Tilt is often a random angle-range spread between the limits of a DMX512 channel.

We will need a greater emphasis on encoding real world units that engender interoperability. This study group will research these issues and many others.

Transport - Protocols such as

Wayne Howell is the CEO of Artistic Licence, the lighting controls company that he founded in 1988. Wayne invented Art-Net and is actively involved in the ESTA technical standards programme.



*People
and Products
Connecting the World
of Entertainment*

DMX512, RDM, Art-Net and sACN are designed to transport lighting data in one form or another. These protocols are highly likely to be with us for the next decade, but when they need replacement, what will the criteria be? A key point that I took from the industry research is that the majority believe that Ethernet will be the long-term successor to DMX512, but that everyone wants the 'loop through' that comes with DMX512. With current technology that isn't a viable proposition, but the IEEE is working on a new system, called 802.3cg, which will allow loop through Ethernet. 802.3cg is in part driven by the needs of the automotive industry - which turns out to have similar needs to lighting. These are some of the issues that the transport group will be researching . . .

DMX512: RP FOR COMPLIANCE & INTEROPERABILITY

This task group is writing the new recommended practice (RP). An RP has the same weight as a standard, but is aimed at explaining how a standard should be implemented and interpreted, whereas the standard document is solely focussed on defining the technical detail.

Over the years since DMX512 was invented, there have been numerous compatibility problems. The problems have primarily been due to product developers not reading the detail in the standard. But also, standards inevitably have ambiguities and sometimes errors, which is why there are revisions.

The RP for Compliance and Interoperability (E1.68) will have two core sections:

- Interoperability: a detailed analysis of the many things that can go wrong, and how to avoid them.
- Compliance: extensive tests that should be carried out to prove DMX512 compliance.

A preliminary draft document exists and progress will continue this year. The Compliance task group is co-chaired by myself and Javid Butler.

OBJECT TRANSFORM PROTOCOL

The Object Transform Protocol (E1.59) is developing a standard for a communication protocol that can report, in realtime, the motion of objects on stage. A simple example of this would be a spotlight tracking an actor standing on a stage rotate. E1.59 will allow automation of that task.

The task group recently took the decision to rewrite some of the core protocol in order to make it stand free, rather than have compatibility with the older ACN (Architecture for Control Networks) standard. In my opinion, this was an excellent decision - the E1.31 sACN standard did not do this, which led to an unnecessary level of complexity and wasted network bandwidth. The task group is co-chaired by Dan Murfin of the National Theatre and Maya Nigrosh of Sonos.

NEXT UP . . .

As mentioned earlier, I am heading out to the PLASA Plugfest in Lille. From next year, we plan to alternate the locations between Gatwick in the UK and Lille in France. If you are involved in development, support or technical sales of lighting controls, this event is for you - tickets always sell fast, so keep watch for the announcement for Gatwick in 2021. ✖



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ON TEST

Shure TwinPlex

Simon Allen reviews Shure's PLASA Award for Innovation-winning subminiature omnidirectional lavaliers and headsets . . .



ABOUT THE EXPERT SIMON ALLEN

Simon Allen is an internationally recognised freelance engineer/producer and pro audio professional with over a decade of experience. Working mostly in music, his reputation as a FOH and studio mix engineer continues to reach new heights.

✉ simona@lsionline.com

Shure has been developing microphones for over 90 years, yet it hasn't really offered a top-tier lavalier microphone before. Until now . . .

Marking a substantial release for Shure is TwinPlex, the company's premium subminiature lavalier microphone. While researching for this review, I was fortunate enough to speak with Tuomo George-Tolonen, Shure's Western Europe senior director of pro audio, and Shure Incorporated senior product manager John Born about this major release. Not only did I learn a lot about TwinPlex, but it was clear from our conversation just how much consideration and detail had gone into designing the product. Shure markets this new range of subminiatures as "the next stage in sound" and it was easy to see why. Here, I will cover our insightful conversations as well as my own findings with this tiny but mighty little mic . . .

THE CHALLENGE

I reviewed Axient Digital in LSi September 2018, where I highlighted how much research and

development Shure had put behind its high-end wireless solution. It appears that this story repeats itself when looking at the company's latest lavalier microphone.

According to Born, it has taken over seven years to develop TwinPlex. Without pointing any fingers, I hate seeing a new product or solution arriving on the market before development has been properly concluded. Due to the nature of business, sometimes it's the second revision of a product that is truly ready. Thankfully, with the backing of Shure, TwinPlex appears to have been through the mill quite a bit already.

Shure is on record saying that this is "the most complex condenser mic" it's ever built. In fact, George-Tolonen explains that the company has even built a new facility dedicated to developing and manufacturing TwinPlex. "Every process had to be invented to make the product possible," he says. And it's easy to see why, especially when you're pitching against likes of DPA, Sanken, and Countryman.

Born explains that there are three core features behind TwinPlex - sound quality, durability and



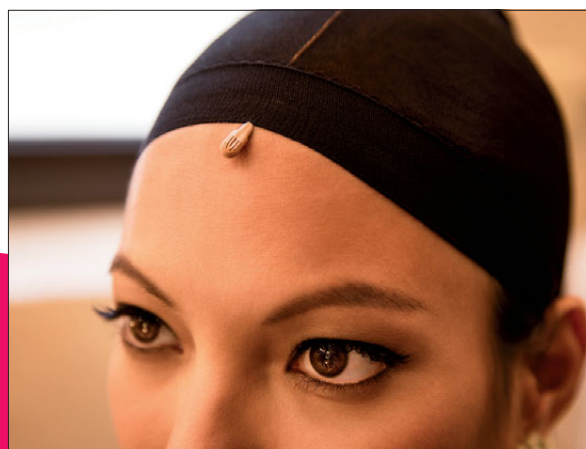
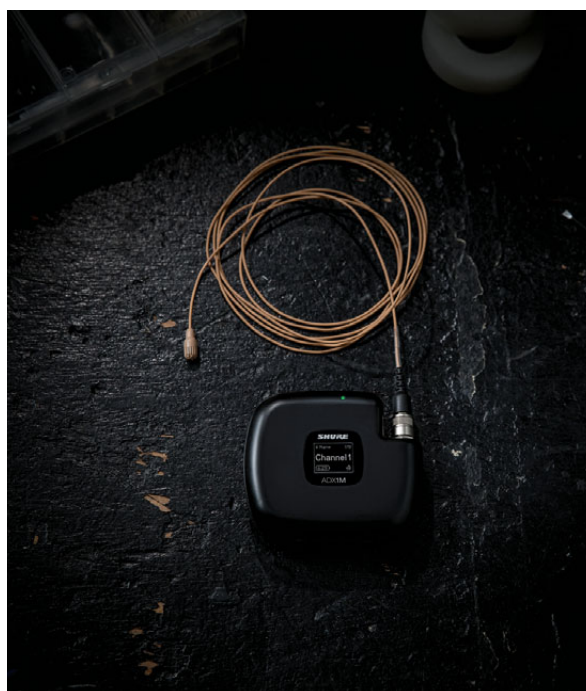
"Whether you work in live, broadcast, theatre, film, conference or houses of worship, Shure has worked long and hard to cover all scenarios . . ."

options. Looking firstly at sound quality, we immediately consider the dual-diaphragm capsule referenced in the product name. I ask George-Tolonen if this was in any way similar to Shure's KSM9 handheld microphone that also sports a dual-diaphragm design; he explains that whilst they learnt some lessons developing the KSM9, this was an entirely new design for subminiature capsules. Although the transducer is only 5mm in size, the two diaphragms are arranged opposite each other on each side, with the PCB placed between the diaphragms to keep the length of the capsule as short as possible. It's easy to start to understand why TwinPlex has been such a design and manufacturing feat . . .

The team at Shure believe the benefits of the dual-diaphragms are significant in delivering what they are sure is their best-sounding lavalier mic yet. The two diaphragms increase the surface area to help deliver a better frequency response, apparently producing a much warmer and more natural low-end than a typical lavalier. Born remarks: "Because there is twice the surface area of other mics of this size, we get the lowest noise floor, the widest dynamic range, the biggest low frequency response, and exceptional consistency regardless of how the mic is placed." The layout of this omnidirectional capsule also seems to be key, meaning sound arriving from almost any angle is front-facing one of the diaphragms before the signals sum together. Therefore, the off-axis response should hopefully be very close to the on-axis, which I'll cover later . . .

Looking now at the second part to the product's name, we reach the all-important topic of any lavalier microphone - durability. Shure has tackled this matter with two key features.

Firstly, the cable has been sourced from the medical world and isn't comprised of the typical copper cores found in most audio cables, but two spiralling tinsels that maintain contact with a copper shield. These tinsels allow the cable to be more flexible and far less susceptible to breakages - apparently, it will only fail if the dual-ground and redundant cores break in the same place. To test the cables, Shure designed the Flexbot - a machine that stretches and twists the cables repeatedly in multiple places; it has featured at several tradeshow and is worth searching for on YouTube if you have missed it. Effectively, repeatedly flexing this new cable and comparing the results to competitor microphones has proven the resilience of the Shure product.



← TwinPlex

→ TwinPlex attached to the ADX1M micro
bodypack transmitter . . .
. . . and in use for a theatrical application

- The TL45 has the thinnest cable at only 1.1mm thick
- ↓ The lavalier microphones are available in white, tan, coco and black
- Opposite page: An exploded view of the dual-diaphragm capsule

This structure to the cable and the insulating material on the outside has also provided several other benefits. This medical-grade cable doesn't have much memory to it, nor does it kink or dry out easily. In reality, while you can coil or bend it, I found it very easy to straighten out again. Being so pliable really aids in setting up the microphone and keeping noise to a minimum, especially if needing to disguise it under clothing.

The other durability aspect that Shure has paid special attention to is sweat resistance. Again, the manufacturer put the TwinPlex through rigorous testing on another purpose-designed machine called the Sweatbox. This system placed different capsule designs on a heated moleskin pad to simulate a forehead, and then dripped artificial sweat on the capsules while measuring for a change in frequency response. By tweaking the shape and design of the cover over the capsule, the team believe they have managed to find the best way to prevent sweat entering and causing any damage to the sonic performance. In addition to the design, they also discovered that using a superhydrophobic nano coating has improved the performance by 10 times.

Lastly in the design challenge were the 'options'. "There are over 60 options to choose from," says Born. "We are confident we have every colour, sound, output and accessory you need to fit any application in any market." With four different colours of each model - from white, tan, coco and black as well as a multitude of accessories - attention to detail is apparent here, too. What's more, the cables and superhydrophobic nano coated capsules can even be painted to match any custom wardrobe.

THE RESULT

There are five main variants of TwinPlex, which, as mentioned, then each have a wide selection of accessories, colours and connector types available. However, all models from the TwinPlex range sport the same omnidirectional capsule design. There are four versions of the lavalier microphone and one headset.



First in the line-up is the lavalier TL45 (*inset*), which is unique in offering a cable diameter of only 1.1mm. Obviously this microphone is aimed at any application where the mic needs to be hidden, such as theatre or film. As it is predominantly going to be used as a wireless solution, it only comes with a LEMO connector from factory. It is designed to have a 'natural sound signature' according to Shure and will handle high SPL sources.

The other four models use slightly sturdier cable with a diameter of 1.6mm, which is hardly what you'd call 'thick'. I found this a much easier cable to manage, being less likely to tangle. Next in the line-up is the TL46, which is the high-sensitivity variant. This can be selected with LEMO or mTQG connectors from factory.

As mentioned before, all models come in a choice of four colour variants, with the exception of the headset which isn't available in white. After the TL46 is the TL47, which is probably the most all-round model in the line-up. Just as with the TL45, the TL47 has a low sensitivity and 'natural sound signature,' but offers the 1.6mm cable terminating in a much wider variety of connectors from factory, including LEMO, mTQG, MDot and standard XLR, or without any, which allows the customer to attach their own connector if working with other brands of wireless solutions.

The TL48 is similar to the TL47, except it's the only model that offers a "speech tailored sound signature". The casing of the capsule is also slightly different and comes with a selection of accessories for mounting the microphone under clothes. This model is obviously aimed at broadcast and film applications, especially outdoor film sets where a presence to the sound is often required.

Finally, we have the headset variant, TH53. This offers the same low-sensitivity omnidirectional capsule and 1.6mm cable as the TL47, but mounted in a new lightweight headset frame. It can be purchased with either LEMO, mTQG or MDot connectors, or without any connector from factory.

I can see that Shure's new headset wire frame will please some, but perhaps not all users. The company has created a locking mechanism that sits behind the ear, so you can choose the correct length of the microphone boom as well as the angle. While this offers greater ease and accurate placement, some might find the locking screw too large from a visual point of view. I welcome the design, however, as it's so powerful to be able to place the mic exactly where you want it, even if the talent removes and replaces the headset.

As mentioned, there are a plethora of accessories to accompany all TwinPlex models, ranging from sticky pads, tie clips, changeable caps including a presence cap, wind/pop filters, and so on. The microphones also come in a really nice carry case with pockets to keep all accessories tidy and ready for use. Whether you work in live, broadcast, theatre, film, conference or houses of worship, Shure has worked long and hard with industry input to cover all scenarios and eventualities.

THE PERFORMANCE

I have managed to try out these new Shure offerings on the stage as well as in recording and filming-style scenarios. On the stage, I tested the lavalier and headset variants with consistent results - the dual-diaphragm design suits all approaches, and certainly enables a consistent result from TwinPlex that offers a fantastic starting point each time.

SHURE TWINPLEX TECH SPEC

FEATURES

- ▶ Weight with cable: 12g
- ▶ Microphone capsule: Dual diaphragm, pre-polarised condenser
- ▶ Frequency response: 20Hz-20kHz
- ▶ Output impedance: 100Ω
- ▶ Output clipping level: 3.0dBV, 1 kHz at 1% THD
- ▶ Mic current draw: 120-240µA
- ▶ Connectors: LEMO, MDot, mTQG, XLR, NC
- ▶ Dynamic range: 104dB-117.5dB
- ▶ Microphone bias: 5V DC



For filming and recording applications, TwinPlex certainly shines in offering a very clear and honest reproduction of the subject and your recording environment. The high-end is very detailed, but balanced well against a good depth to the sound. It could be described as not sounding like a lavalier microphone at all - the dual-diaphragms offer a sound more closely related to a larger diaphragm with a flatter response. I'm not sure if I'd call it flat, but natural does fit the bill. Here, the omnidirectional nature of the microphone is very smooth too, with off-axis use yielding just as effective results as on-axis.

On stage, the lavaliers deliver an honest reproduction of the subjects and their surroundings. I particularly appreciate the high dynamic range that these capsules can cope with, while also producing a detailed sound.

Coupled with Shure's Axient Digital system, this is certainly a solution that sits comfortably amongst the best on the market. Naturally, the level before feedback is always a concern here, and while an omnidirectional condenser lav might enable the microphone to pick up everything, you are at the mercy of their frequency response in order to reach a good level. Thankfully, TwinPlex's broad and natural sound is highly effective.

Finally - and perhaps most notably for LSi readers - we have the TH53 headset. For me, this is the standout variant of the range. I really like the new wire headset frame with its simple yet effective locking mechanism, as described earlier. Being able to repeatedly clamp the microphone in the correct position allows the wonderful dual-

diaphragm capsule to deliver a surprisingly warm and detailed response.

Attention to detail has been key in developing TwinPlex, and it shines throughout. Not only do these microphones sound great, but the build quality is exactly what you would expect from a high-tier product. It's the smaller details that make up so much of the TwinPlex experience. For example, having such a malleable cable helps in what can sometimes be a frustrating or embarrassing moment when placing the microphone on your talent. As the cable hangs nicely, it results in you using less tape and, crucially, the cable doesn't generate unwanted noise by rubbing on clothes or costumes. I couldn't test this scenario out for this review, but I am now curious to try TwinPlex on stringed instruments such as violins or cellos for some of the orchestras I work for. The capsules don't sound like they're only geared for voice, which speaks volumes...

CONCLUSION

Lavalier and headset microphones can be so disappointing or even frustrating to work with, especially for those backstage. Shure has approached the design of TwinPlex with a fresh slate and, as a result, has presented a truly innovative solution. Already in high demand, if you haven't tried one of these little mics yet, then it is surely only a matter of time before you do. This is a product that has benefitted from significant R&D and is certainly hitting the ground running. With a particular fondness for the headset variant, I look forward to using TwinPlex on a larger cast myself one day. ✖

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i ADVERTISERS INDEX

Absen	59	Doughty	95	Le Maitre	79	Riedel	67
Adam Hall	33	DTS	47	Lectrosonics	57	Robe	45
Agile Remote Cameras	71	Eaton / Zero 88	37	Leisuretec	IBC	ROE Visual	61
Alfa Systems	88	Elation	25	Link Srl	109	Schnick Schnack Systems	87
All Access	107	ER Productions	21	Look Solutions	15	SFL	31
ARRI	4	ETC	29	Lumen Radio	97	Showlight	77
Astera	8	Global Truss	85	Martin by Harman	OBC	Shure UK	105
Ayrton	11	Green Hippo	49	MDG	83	Stage Electrics	20
BishopSound	19	Harlequin	91	Modulo Pi	53	Sundrax	81
Bose	17	Harman	OBC	MTFX	9	Tronios BV	89
ChainMaster	7	Highlite	23	Nexus Dry Hire	19/95	Universal Pixels	75
Chauvet Professional	55	Indu-Electric	65	PLASA	41/51	Unusual Rigging	101
CLF Lighting	64	IPS	31	PLASA Leeds	63	Vari-Lite & Strand	27
Coda Audio	3	James Eade	88	Pro Tapes	18	Whirlwind	IFC
Colour Sound	99	Kvant Lasers	73	Prolight Concepts	43		
Digital Projection	39	L-Acoustics	5	RC4 Wireless	90		



in profile

Louise Stickland talks to lighting and visual designer, **Pablo Gutierrez**

"The key to lighting a good heavy metal/hard rock show is bringing out the intricacy of the music, which sometimes simply gets missed with 'power visuals'..."



Pablo Gutierrez is a prolific Mexico City-based lighting and visual designer working internationally with a string of high-profile artists, including Gloria Trevi, Alejandra Guzmán, Fey, Yuri, Solange, Camilo, and Fischerspooner, to name just a few.

Gutierrez first became fascinated with the world of lighting and production when he was a teenager, having grown up in and around the theatre. His first job was multitasking at a theatre called Arcadia, doing everything from selling tickets to assisting the wardrobe department and learning about technical elements such as projection along the way.

Whilst still at school, Gutierrez worked at Mexico City's Palacio de Bellas Artes before attending university to study engineering and robotics. His mother had suggested communications as she knew he'd be good at it, but Gutierrez found maths and physics both easy and fascinating, so engineering it was...

Luckily for Gutierrez, his sister was good friends with a number of lighting designers and, through this connection, he found himself at a Harley Davidson event during the get-in period. Seeing the crew setting up the kit and lighting the set was the 'eureka' moment that led to him deciding that this was his vocation in life.

One of his sister's acquaintances was Daniel 'Gacela' Romera, one of the best-known LDs in Mexico at the time. He gave Gutierrez his phone number and the aspiring young LD called almost every day until Gacela helped him secure a job at rental company, Dinamica. This was in 2003, Gutierrez was about a year into his university course, but decided to quit and focus full-time on lighting and production as a career.

FROM THE GROUND UP

Dinamica gave Gutierrez a basic technical grounding in stage lighting and he threw himself into building a career, learning about power and electrics, trussing and hardware, different lights, dimmers and cabling. He worked on a variety of shows, and when the first Wholehog 3 console arrived in around 2004, he realised the importance of being

a good programmer and how that fuelled creativity.

Through honing his programming skills, Gutierrez soon got his first big break, working on TV music show *La Academia*. Gacela immediately saw Gutierrez's potential and asked him to partner in a new rental company venture, Gama Illumination, which they started with an investment in SGM moving lights and Hog consoles.

Gutierrez was 23 at the time, and his eclectic skill-set already included speed-programming, creatively lighting shows, driving/transport, consulting and warehouse managing. He was also still living with his mother that time, and laughs recalling how his bedroom became a state of anarchy, filled with power cables, welding kit, and lights in various stages of repair.

As Gacela won more work, Gutierrez had the opportunity to light shows himself. The first was on a beach with 24 PAR cans and he was understandably nervous, but the jobs soon started to get bigger and more complex and, as his skills and learning continued to expand, his confidence grew.

DISTINCTIVE AESTHETIC

To gain more experience, he offered his services free-of-charge for metal shows to local promoter Dilemma, but it wasn't long before Gutierrez was producing such impressive shows that everyone was happy to pay. Doors began to open in the music, fashion and experiential event worlds, and Gutierrez's shows became larger, more ambitious and challenging.

His first tour as an LD was with '00s pop-rock band Nikki Clan, followed by Finnish heavy metal singer-songwriter Tarja who had been impressed by his work with Nikki Clan.

Being into the music helped Gutierrez develop a distinctive aesthetic for lighting these artists that combined high drama with subtleties and details. "The key to lighting a good heavy metal/hard rock show is bringing out the intricacy of the music, which sometimes simply gets missed with 'power visuals'," he says.

Gutierrez began touring internationally

with Swedish melodic death-metal band Arch Enemy and many others. In between the bands and metal tours, he also lit theatre shows, enjoying the contrast between genres and the chance to switch between these diverse performance environments.

In 2012, he parted ways with Gacela and started his own technical and creative production company, Live Entertainment, in partnership with production/stage manager Soho Avila. This has also given him another outlet in addition to the designing, although he will often be the designer for shows and events for which Live Entertainment is the technical coordinator.

In turn, Live Entertainment has opened up the world of corporate events and brand activations to his lighting talents, and the company has become the distributor for Kvant Lasers in Mexico, underlining Gutierrez's commitment to new and evolving technology.

There's still a strong connection with Dilemma, with Live Entertainment often supplying full production for its shows, which range from K-pop to various rock genres.

In 2019, Gutierrez designed lighting for one of the most iconic and popular female Mexican singers of all time - Gloria Trevi - for her *La Diosa de la Noche* (*The Goddess of the Night*) tour in the US and Mexico. Trevi is the latest top female entertainer for whom he's created visual magic.

His love of music is clear in his work, and even after many years of full-on touring and running different shows, Gutierrez still enjoys the thrill of those 'goosebump moments' when an audience reacts to a lighting cue.

He never envisioned that he'd be travelling so much, but his charisma and outgoing personality have gained him friends worldwide.

In 2020, Gutierrez will be back on the road with Gloria Trevi as well as lighting a new production of Spanish jukebox musical *Hoy no me puedo levantar* at the Centro Cultural Teatro in CDMX and *School of Rock*, which will also premiere in Mexico. ✕

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