

The magazine of the  
Institute of Sound and  
Communications Engineers

**Autumn 2018**

**ISCE**



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Comments on articles and letters are invited.

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**Manager, Secretariat  
contact details**

Ros Wigmore  
ISCE  
PO Box 7966  
Reading RG6 7WY

**t:** 0118 954 2175  
**e:** [ros@isce.org.uk](mailto:ros@isce.org.uk)  
**w:** [www.isce.org.uk](http://www.isce.org.uk)

Company limited by  
guarantee and registered  
in England no 3288938.

Registered Office:  
Clarence Street Chambers,  
32 Clarence Street,  
Southend-On-Sea,  
Essex SS1 1BD

Design and production

**DAGC**

**t:** 0118 958 2334  
**e:** [info@dagc.co.uk](mailto:info@dagc.co.uk)  
**w:** [www.dagc.co.uk](http://www.dagc.co.uk)

# Introduction from our President



Welcome to our Autumn 2018 edition of the ISCE magazine.

The Institute exhibited at the recent PLASA London show at Olympia and it was so good to meet both new potential members and of course, many existing members.

I know Ros and Colleen enjoyed seeing you and Helen did an excellent presentation on the ISCE Sound Engineer ECS card scheme.

In my Summer report, I talked about the new Apple IOS App for any members who use an iPhone and/or iPad called 'Wild Apricot for Members'. Well, an Android version is now available too.

You can use this for direct phoning or messaging and also to register for ISCE events. We still urge you to make your profile public to get the best out of the ISCE Register of Members.



As you will read in the magazine, the new branded ISCE logos are ready for you to download from the members' area of the website and stationery is being updated as and when stocks run low.

Thinking ahead, arrangements are well under way with ISCEx 2019, and we already have commitment from over 25 exhibitors. With a maximum of 35 pitches, it is important that exhibitors book quickly and of course, everyone is invited to the networking dinner, but again, places are limited. The special rate for accommodation at Coombe Abbey is withdrawn after 1 February, so book now to avoid disappointment. We are in the final stages of confirming our three seminars and these will be announced shortly.

I hope you enjoy the articles that Ros has put together. We are always keen to receive a wide variety of news, so please ask your marketing department to add Ros to their press release circulation list. ♦

**Phil Price FlntSCE**



We welcome your contributions to the magazine with editorial and advertising.

Please send news or articles to **Ros**

## Events Diary

**8 November 2018**  
**ISCE ECS H&S Assessment**  
Greater Manchester, UK

**27–29 November 2018**  
**Reproduced Sound**  
Bristol, UK

**20–22 January 2019**  
**Intersec 2019**  
Dubai

**5–8 February 2019**  
**ISE, Amsterdam**  
Netherlands

**26–27 February 2019**  
**Event Production Show**  
London, UK

**5 March 2019**  
**ISCEx AGM and**  
**Networking Dinner**  
Coombe Abbey, Nr Coventry, UK

**6 March 2019**  
**ISCEx Exhibition and**  
**Seminar Day**  
Coombe Abbey, Nr Coventry, UK  
**2–5 April 2019**  
**Prolight+Sound**  
Frankfurt, Germany

# PRODUCTION FUTURE'S

## 2018 LINE UP

7 November, Production Park, Wakefield

### MAIN STAGE



TALKS



HOG FACTOR

WITH SPECIAL GUEST AND TPI AWARD WINNER ED SHEERAN'S SHOW DESIGNER MARK CUNNIFFE

BEYONCE AND JAY-Z OTR II TOUR  
SET FOCUS WITH BRILLIANT STAGES

ROYAL BLOOD'S LIGHTING  
DESIGNER SAM O'RIORDAN

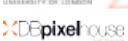
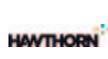
### ARENA

ADJ ADLIB AED AVOLITES BACKSTAGE ACADEMY BEAT THE STREET BIMM BOX CLEVER CASES  
BRILLIANT STAGES BRIT SCHOOL CHAMSYS CHAUVET PROFESSIONAL CONFETTI  
CREATIVE TECHNOLOGY DB PIXELHOUSE DIGICO DISGUISE ETC FLIGHTCASE WAREHOUSE  
GOTO LIVE GREEN HIPPO HAWTHORN HIGH END SYSTEMS IMPACT PRODUCTION SERVICES  
INTERFACIO ISCE JUST LITE LIPA LOADCELL RENTAL NEG EARTH LIGHTS PEARCE HIRE  
PHILIPS VARI\*LITE PRODUCTION PARK ROCKPOOL CATERING ROSE BRUFORD COLLEGE  
SENNHEISER THE ROYAL CENTRAL SCHOOL OF SPEECH AND DRAMA TAIT TPI MAGAZINE  
TRUCKINGBY BRIAN YEARDLEY UNIVERSITY OF SOUTH WALES UNIVERSITY OF DERBY WHITE LIGHT

### BACKSTAGE

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DEMOS ROCKPOOL TOUR CATERING BEAT THE STREET BUS TRUCKINGBY BRIAN YEARDLEY TRUCK  
WIN SENNHEISER HEADPHONES GIVEAWAYS

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## ISCE's new branding

As part of our exciting new branding exercise, we are now able to offer our members and supporting members the chance to download the new style of logo. These can be found on the ISCE website within the members' only area.

As fully paid up members, you have authorisation to use these logos on your emails, website, business stationery. So go ahead, and display them with pride.



*Committed to  
Technical Excellence*



*Promoting  
Technical Excellence*





# ASL championing apprentices since 2012

**ISCE** Supporting Member and UK Manufacturer ASL, located in Lewes, East Sussex has been recruiting apprentices since early 2012 via the UK Apprenticeship Service. Working with local training provider Sigta Training, ASL currently employs five apprentices, four in engineering and one in business and administration.

An apprenticeship is a genuine job, combining practical training while working with study. Apprenticeships can run for up to four years and include on the job and off the job training and are available at Intermediate, Advanced, Higher and Degree levels. Apprenticeships are available in a wide variety of subjects including electronics, mechanical engineering, building services, welding and fabrication, electrical engineering, sheet metal work, plant maintenance, business administration and many more.

A full list of available apprenticeships can be found on the GOV.UK website. At any one time there are between 12–20,000 apprenticeship vacancies online.

Applicants can search the GOV.UK website using keywords to find the apprenticeship they are looking for.

Once accepted for a position, a training provider, Sigta Training in the example of ASL, has a key role to play in providing off-the-job training, assessing progress towards achieving qualification and providing support during an apprenticeship.

Annette Brown, HR for ASL said: “We currently have five apprentices within the team at ASL. Apprentices have to work hard to succeed, juggling their studies while working, and they have to produce a portfolio of evidence to support their learning.”

“There is no guarantee that apprentices will be offered full-time employment once they complete their apprenticeship, but I am happy to report that Sigta Training has been an excellent apprenticeship partner to work with and all ASL apprentices have been offered full-time employment with the company” said Annette. ▶

Jason Dann said:, “You definitely gain a lot of knowledge and hands-on experience working within a company in the industry. I currently run project management for a rail network, where we are removing old public address systems and installing new ones in more than one hundred train stations. ASL has been very good to me, I informed the company that I wanted to be managing projects and they drafted a route for me to get there and gain all this experience.”

Gemma Eastwood said: “My apprenticeship has been really good for me and has allowed me to progress from receptionist and general administration duties to a sales support role. I now provide sales quotations for customers, customer support and deal with telephone enquiries from customers and I really enjoy the variety my role offers.”

David Worth, employed as an Engineering Apprentice in the Qualification Team at ASL is midway through his apprenticeship. He started out working as a CAD engineer at ASL studying in Electrical Engineering. He hopes to achieve an Advanced / Level 3 Diploma and will spend his final year amassing evidence and experience to meet his qualification.

“My apprenticeship with ASL has allowed me to develop my skillset and I now carry out lots of test work for equipment before it is despatched to site. The company has been really important in helping me achieve my development and growth objectives and provides lots of opportunities for me to stretch my legs in my role, particularly if I compare my experiences with those offered to my peers completing apprenticeships in other companies.”

George Workman, a CAD apprentice with ASL, joined the team in 2018 after finishing his A-levels and studying a BTEC in Engineering at college. “Since starting at ASL I have had to learn a lot of software packages, I’ve learned animation, 3D modelling and acoustic design and it’s been really nice to get into detailed use of the software.”

“The training at ASL has been excellent, 90% of my electrical knowledge has been gained here and I’m now responsible for rack build schematics for projects, as well as the electrical schematics, working to EN54 standards. It’s challenging, intense but at the same time really great for my own personal development.”

David Underwood, Sigta Training, adds: “We have a great track record matching apprentices with high quality companies offering apprenticeships in a wide range of engineering, manufacturing and business administration courses.”

“We choose to work with excellent companies willing to engage in real career development and opportunities for young people. We visit apprentices regularly during their apprenticeship to monitor, review and assist their development and ensure they are being treated well and remunerated accordingly.”

Apprenticeships are returning to favour, certainly as far as the apprentices at ASL are concerned. It appears this is an increasing trend with young people as they recognise they can access careers of their choosing whilst potentially ‘earning and learning’ at the same time. The apprentices at ASL are very optimistic about their futures. ♦

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# 2018 PLASA Show



**PLASA** 2018, which took place on 16–18 September, was the busiest and most vibrant show since it moved to London Olympia in 2016. It saw a 4% increase in visitors with a palpable atmosphere that was reminiscent of its popular Earls Court days. The show welcomed a stream of exhibitors and attendees from around the world, primed to explore the leading edge of live entertainment technology.

The expo also confirmed its importance for networking and trade, with 63% of visitors being final decision makers or specifiers, and a quarter being business owners, managers and directors.

Leisuretec's marketing manager Charlie Hendon, said: "The atmosphere's been lively and exciting with plenty of opportunities to establish new business relationships and socialise with existing clients."

## Major comeback for audio

The show reported a 17% increase in audio exhibitors on last year. Immersive audio was high on the agenda, with the show seeing the return of L-Acoustics as an exhibitor after several years of absence. The French manufacturer showcased its L-ISA Immersive Hyperreal Sound technology. Elsewhere,

d&b audiotechnik demonstrated its Soundscape technology, and Out Board highlighted its spatial reinforcement and immersive platform TiMax.

First time exhibitor Holoplot, creator of the Orion sound system, took home a PLASA Award for Innovation and also hosted two seminar sessions exploring the application of wave field synthesis for 3D sound and challenging environments.

Yamaha and Nexco recreated a Japanese garden theme on its stand as it showcased its latest audio solutions. Chris Irvine, Yamaha's product manager, said: "Rather than bringing loads of gear we built an aesthetically pleasing stand and chose a few key products – the legacy PM5D digital mixing console which is out of production, and the modern, cutting edge PM7. This has allowed us to engage with visitors regarding which products they have used over the years."

The audio demo rooms were busy throughout the show, where KV2 Audio, OHM, Aura Audio, Shermann and RCF all demonstrated their products. Pro audio enthusiasts could also see the latest from the likes of Bose, Adam Hall, Adamson and Peavey across the show floor. ▶

Meanwhile, at the SSE Audio Group stand, visitors could experience mixing desks from Allen & Heath (dLive S5000), Avid (Venue I S6L) and DiGiCo (SD5). Drawing lots of attention was the custom range of microphones created by Sennheiser and Rebel, which was inspired by Star Wars characters. SSE sales director Alex Penn said: “We’re enjoying a good amount of footfall meeting with lots of engineers and freelancers who are visiting off the back of a busy working weekend.”

Next year’s show will take place at London Olympia from 15–17 September 2019. ♦





## NEXO'S audience with the Pope in Dublin

In the hands of Sound Design Ireland, NEXO's STM Series modular line array scored a high-profile success for the Festival of Families event in Dublin, addressed by the Pope himself.

The Festival of Families at Dublin's iconic Croke Park Stadium gathered an audience of more than 80,000 for a multi-cultural, multi-entertainment spectacular with a cast of 2,000 performers, featuring many of Ireland's most famous live performers, including Daniel O'Donnell, Patrick Bergin and the Riverdance company.

Sound Design, led by John Vickers, has a long history of using NEXO loudspeakers. The relationship between the two companies was consolidated in 2015-16, when Sound Design was appointed as distributor for Eire, and made its first investment in the STM Series. With expert knowledge and confidence in the modular line array design, Vickers was able

to bid successfully for the audio production of the prestigious Festival of Families, scaling up his own STM inventory with sub-hires from the pan-European network of users.

"We'd watched many other companies doing Croke Park," said Vickers, "and we knew that STM Series was the ideal system for the venue. We were confident that we would be able to nail it and that it would sound outstanding. Logistically, it was simple to bring in additional cabinets from our friends at VDB PA in Belgium, and Sound of Music in the UK. I really believe that this is the way for all of us to go forward with rental, bringing in what is needed for the job rather than having inventory sitting around expensively in the warehouse."

For the main event, Sound Design specified the front-of-house PA with L/R arrays of 18 sets of STM M46 main + B112 bass modules plus ▶



3x M28 downfill modules. These were flanked by separate sub arrays of 15x S118 subbass cabinets per side, supplemented by an additional 14x groundstacked S118s per side, running in cardioid mode. With a wide stage positioned at one end of one of the widest stadiums in Europe, the necessary side arrays used 18x STM M28s on each wing.

“We were impressed with the lack of colouration from the rear of the system,” said Vickers. “The noise levels outside the stadium were substantially lower than with other systems, which meant we could run it during the day without upsetting the heavily residential neighbourhood. We used 28 supplementary S118 subs on the ground, and by running these in cardioid mode, we could drastically reduce the subbass on stage.”

On the floor of the stadium, four delay towers each carried 12x STM M28s, powered by a NEXO Universal Amp Rack. All elements of the PA were under NeMo remote control.

The Festival of Families was the first show to benefit fully from Croke Park’s new ability to tie event PA into the stadium’s fixed PA to provide coverage for all the uppermost tiers of the stadium. More than 150 NEXO GEO S12-ST line array cabinets are spread throughout the stadium’s overhang roof, permanently installed this summer by Mongey Communications as part of a major upgrade to the stadium’s technical facilities. In fact, the installation deadline was brought forward by stadium owners, the Gaelic Athletics Association, specifically to handle the Papal visit.

With an orchestra, choirs, playback and numerous microphones to accommodate, the Festival of Families was a complex show. The music was submixed by Paul Keegan, before being routed to a Yamaha RIVAGE PM7 digital console for the final mix in the hands of John Vickers. The signal routing

backbone for the entire show was run from the PM7. Every input and output coming to and from FOH was routed through a Yamaha TWINLANe network, working seamlessly with Dante, using RPi0622 and Rio3224-D I/O racks. This provided up to 400 channels between stage and FoH, with incredibly low latency at a native 96khz, 32-bit sampling rate.

On stage, Sound Design deployed its new GEO M10 mid-size line array as side fill. 12x NEXO 45°N-12 cabinets were used as stage monitors. Monitors were mixed by Paul Moore and JC Campbell, an all-NEXO line-up of PS15 cabinets alongside the 45°N-12 line monitors on stage. Sound Design radio techs Sinead Conlan and Alannah Hayes managed 60 channels of Sennheiser 2000 and 3000 Series radio microphones.

Key to the success of the day was the three-man engineering support team from NEXO, sent in by NEXO to contribute their expertise to that of the Sound Design crew. Val Gilbert, Nicholas Poirteaud and Robin Shamsnejad proved their value as the set-up window for the event production shrank from three days to just over a day.

Delivered by Tyrone Productions, the Festival event was broadcast through Ireland live on RTE, and distributed to a worldwide audience of several million people. ♦

[www.nexo.fr](http://www.nexo.fr)

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Looking back to 1979, when one million Irish people gathered at Dublin’s Phoenix Park for Pope John Paul II visit, ISCE member Peter Walker MInstSCE of sound specialists NSR Communications, remembers with pride their own company’s involvement in the event: “It was mammoth. The main PA system involved towers of speakers stacked on the frames of six cranes. Cables, laid in pipes underground in trenches dug by the army, fed through to a control room at the back of the altar. There was virtually no transmission.

“We had an acoustic expert, the late Hayden Warren, past President of ISCE, who was responsible for everything being designed to ensure there was no echo and no delay and he did everything with a slide rule, no electric gizmos, all done by measuring. The team of eight tweaked the sound set-up right up to the last minute, to account for wind direction. Long days would end with a drink in the Hole in the Wall pub before heading back to their digs and doing it all again the next day.” ♦



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## Brian Latham

20 December 1947 – 21 June 2018

Electronic Audio Systems Ltd

Long-serving member, Fellow and Council Member of ISCE

Brian's career in the sound industry, covering a period of over 30 years from the time he gave up his 'job for life' with the GPO as a telephone engineer, included roles involving sales, marketing, management, installation and maintenance of a vast range of professional audio equipment and latterly the inclusion of digital OHP installation and operation.

His interest was sparked in his teenage years, when he, along with many others of the same generation, was a member of what used to be called a 'group' (now a 'band'!) playing as rhythm guitarist – when he had the opportunity to fiddle with his amp – and taking part in the early years of the Brighton Festival (although he was a son of Hove, actually), where he played his guitar on the back of a lorry!

In the early days, our Sundays were regularly interrupted by hairy groups arriving to pick up sound equipment from our dining room, where he operated a part-time company, aptly named Sound Advice. Over the years he developed a reputation for reliability,

capability and dependability – all of which qualities he exercised in each area of his life, whether it be family, church, business or friendship.

In 2011 Brian took over the reins of EAS from Eric Sawkins, and developed the business to the point where he was winning contracts for some prestigious events, and managed the installation of sound systems in a variety of venues, many of which were churches, where he developed good relations with local vicars and church wardens, mainly in the south of the country and often in a rural setting.

Other highlights from his career include:

- Provision of AV services and safety systems to Government departments and UK Parliament for various live and broadcast events
- Design consultancy for a variety of major venues, including London 2012 Aquatic Centre and Velodrome, WCCC Edgbaston and Co-Op HQ in Manchester ▶



- Supply of technicians for large-scale simultaneous interpretation events throughout Europe
- Technical Manager at large, central London conference venue
- Managing Director of Klotz UK Ltd. Supplying bulk and pre-made cable systems from music shops to innovative fibre optic system at (the original) Wembley Stadium
- Sales/Systems Engineer/Representative for major audio brands, including BeyerDynamic, Sennheiser, Neumann, Nagra Kudelski, Electro Voice, Crown, Altec Lansing, Dynacord, Denon, Avalon and West Penn Wire

He loved the work and took pride in providing a good, reliable service, involving quality equipment and systems. His passion for ensuring that audio systems performed as they should, in providing clear voice and music reproduction, was handed down to our son, Andrew, from as early as the 1980s, who is keen to oversee and support EAS where possible. We have undertaken a detailed inventory of EAS stock, ranging from speakers, mics and amplifiers, through cables and headphones, to sockets, switches and connectors. We would be delighted to hear from anyone who may wish to purchase anything from the list. Anyone interested should contact Andrew by email at [dpasound@gmail.com](mailto:dpasound@gmail.com)

Away from his working life, Brian was a longstanding supporter of OneSound, the branch of the Methodist Church relating to the nurturing of young people's musical talents, be they instrumental or vocal. Formerly, the organisation was known as the MAYC Orchestra and Singers, and it was with them that we travelled to Ireland on tour. The organisation was very dear to Brian's heart, and our family and friends attending his memorial service and funeral raised £1,000 for OneSound, to set up the 'Brian Fund', for access by members who need financial support for attending rehearsal weekends etc.

As far as family life was concerned, Brian provided a loving, protective and supportive environment as father to our children. He adored being 'Gramps' to our five grandchildren, here and in the US. On Father's Day 2019, Andrew and Charlie will be taking part in the BHF London to Brighton Bike Ride (54 miles) 4 life for Macmillan Cancer Support. If you would like to make a donation, please follow the link: [www.justgiving.com/fundraising/Andrew-Charlie-Latham](https://www.justgiving.com/fundraising/Andrew-Charlie-Latham).

During Brian's working life, he made sure to spend time at home and we were fortunate enough to enjoy several trips away together, making special happy memories. His sudden death in June this year came as a dreadful shock, and we all miss him terribly every day. ♦

**Pauline Latham**  
**October 2018**

# Digitavia choose SoundTube IP Dante® speakers for Deliveroo



Having recently moved into new UK headquarters for its 700+ employees in Cannon Street, London, Deliveroo called upon the expertise of AV integrator Digitavia for its AV solutions.

This is, after all, no ordinary workplace, combining the latest in tech to deliver high-performance and user-friendly technology experiences for staff in boardrooms, meeting rooms and agile open plan workspaces.

There is no end to the technology deployed at Deliveroo by Digitavia, as an example each department has its own screen to display content of its choosing from live TV to presentations. A considered approach has been adopted for connectivity and control enabling Deliveroo staff to easily make content changes to screens in their departments.

A zonal audio approach was requested by Deliveroo which was achieved dividing the space into nine separate audio zones, using a bespoke virtual control panel to provide user control with audio being

delivered to newly-installed IP Dante loudspeakers from SoundTube.

“Deliveroo staff have the option of routing the main audio feed from the Town Hall area of the building out to these zones, resulting in a large voice reinforcement system for companywide meetings,” said Mike Windebank from Digitavia. “We have created a bespoke virtual control panel, logged into via IP, to give user control over the zones and what’s played.”

SoundTube’s Dante enabled IP loudspeaker series provide the convenience of Dante control and management, enabling 40 watts of audio and power to be delivered via a single cat 5/6 cable. Each loudspeaker is individually addressable and self-monitoring. Set up and management is achieved via software so zoning and control is achieved very easily without the need to re-wire.

“Digitavia recently deployed Soundtube IP Dante loudspeakers in one of the first projects in the UK to utilise the new loudspeakers from SoundTube ▶

with on-board Dante,” said Stanislas Boivin-Champeaux, Managing Director for Sound Directions, the Chessington based UK distributor for SoundTube. “With the current trend of open-plan, agile workspaces, the SoundTube IP Dante loudspeakers provide simple, elegant and fully flexible solutions, offering limitless numbers of audio zones, using existing Cat 5 or 6 infrastructure they reduce installation costs/time and are powered over PoE using the correct switches.

“Using Dante, the SoundTube loudspeakers offer individual level control, individual equalisation and allow recall of presets, without the need to create complex networks,” said Boivin-Champeaux.

“This flexibility fits exactly with the brief from Deliveroo and enabled Digitavia to provide an entirely flexible and future-proof solution that is scalable, should it be required to expand in the future.” ♦

[www.sounddirections.co.uk](http://www.sounddirections.co.uk)

## Freelance copywriters required

**LightSoundJournal**, a leading company in the professional entertainment online publishing field (6 languages for 6 magazines across the world) is looking for freelance copywriters, able to produce technical articles on audio, video and light products (event reports, tour reports, case studies).

### Essential requirements

- English mother-tongue
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### Please email CV directly to

Aldo Chiappini  
Editor-in-chief  
ZioGiorgio Network

[redazione@ziogiorgio.it](mailto:redazione@ziogiorgio.it)  
[www.lightsoundjournal.com](http://www.lightsoundjournal.com)

# 2B Heard leaves London guests astonished with Astro Spatial Audio demo days



**2B** Heard and Astro Spatial Audio demonstrate true object based immersive audio with just five loudspeakers at London's Hackney Empire

The historic Hackney Empire recently made for a stunning location for three days of ground-breaking demonstrations of 3D sound by Astro Spatial Audio this month, hosted by 2B Heard.

The event marked the first full UK demonstrations of Astro Spatial Audio's uniquely powerful immersive audio solution. A guest list of industry VIPs responded, with more than 50 industry influencers gathering to experience not one but two full demos designed to illustrate Astro Spatial Audio's extraordinary scalability.

For the first demonstration, the stage of the Hackney Empire was ringed with 16 pole-mounted K-array Kayman KY102 line array columns configured for

wide coverage plus eight overhead Domino KF210 enclosures and four Thunder-KMT218 double 18-inch subwoofers.

Guests were invited to stroll freely around the stage as they experienced perfectly phase-free, seamless 3D audio courtesy of a single 3RU Astro Spatial Audio SARA II Rendering Engine, calculating the position of each audio object in real time. In addition, with just two microphones positioned above the stage, attendees experienced the SARA II's interactive room acoustics module, transforming the Hackney Empire into entirely different acoustic space with the press of a single button.

Finally, having demonstrated what Astro Spatial Audio can achieve with an extensive loudspeaker set-up, the audience was moved into the theatre's main auditorium, where the same fully immersive, seamless performance was repeated with just five K-array ▶

Firenze KH7 speakers and two Firenze KS8 subwoofers. Guests reacted with a mixture of delight and astonishment.

“Some people assume that immersive audio means filling a venue with speakers, and of course you can achieve more resolution that way, but it’s possible to achieve incredible results with a much more traditional system,” said 2B Heard’s Dave Wooster. “Because Astro Spatial Audio is object based, it’s completely scalable from one venue to the next with nothing more than the coordinates of a loudspeaker set-up.

“At the Hackney Empire, with a single SARA II, we switched from a set-up with 28 speakers to a basic left-centre-right configuration with two rear channels, and we did it at the touch of a button. That’s the kind of solution that professionals can take seriously.”

“The three days of demonstrations hosted by our solutions partner 2B Heard were a tremendous success and far exceeded our expectations,” said Astro Spatial Audio Managing Director Bjorn Van Munster. “We were honoured that so many influential guests attended and had the opportunity to experience true object based 3D audio.” ♦

[www.2b-heard.com](http://www.2b-heard.com)



# Developments in assistive listening

## Ampetronic explains the technologies

In many countries around the world, legislation has been put in place stating that assistive listening devices are now legally required in any public place where it is important that those who experience hearing loss are given the same opportunity to hear messages, speakers, or any other sound as clearly as anyone else. Examples of this legislation can be found in national building codes and anti-discrimination laws such as the UK Equality 2010, Americans with Disabilities Act 2008 and Australia's Disability Discrimination Act.

There are a number of technologies used to provide assistive listening to those who experience hearing loss, including hearing loops, infrared transmitters and receivers, radio frequency systems and more recently Wi-Fi connected devices, such as smartphones.

Hearing loops are well-established, making sound from performances and presentations accessible to those using the 'T' setting on their hearing aid. A hearing loop system transmits an audio signal directly into a hearing aid via a magnetic field, greatly reducing background noise, competing sounds, reverberation and other acoustic distortions that reduce clarity of sound.

Hearing loops can be beneficial in a wide range of environments, from large venues such as theatres and conference facilities, to one-to-one communications such as ticket counters and meeting rooms. They are the only effective solution to assist hearing aid users in transport environments, in vehicles, terminals and stations.

Examples of existing applications for hearing loop systems:

### **Point-of-service**

Counters, intercoms and entry-phones, drive-throughs, help points

### **Work**

Meeting rooms, video conference facilities, desks and offices

### **Education**

Lecture halls, classrooms

### **Safety**

Public address systems, voice alarm systems, help points

### **Transport Systems**

Airports, stations and transport networks, elevators, help points, car park access points

### **Vehicles**

Taxis and private cars, minibuses, coaches, trains, trams and boats

### **Venues**

Theatres, cinemas and concert halls, stadia and sports venues, places of worship, conference and lecture halls ▶

Despite the variety of assistive solutions, not all of them are appropriate for all environments. The table below shows a comparison between assistive listening technologies.

Based on their longevity, quality and consistency of signal, coverage capabilities and ability to control signal overspill, hearing loop drivers, such as the C Series networkable hearing loop driver from Ampetronic, remain the gold standard technology for providing assistive listening to those using a hearing aid.

The next generation of hearing loop drivers include simple digital interfaces, highly energy efficient Class-D amplifiers with low heat dissipation providing low running and maintenance costs, and networking with browser interface for remote reporting, adjustment, active status monitoring and remote fault reporting via email or Telnet.

The technology may have been around for a long time, but with all the advantages hearing loops offer it is highly likely that they will remain the technology of choice for some time to come. ♦

[www.ampetronic.co](http://www.ampetronic.co)

	Hearing Loop	Infrared	RF	Wi-Fi
Direct to hearing aid (no additional receivers)	✓	X	X	X
Can be used independently without having to ask a member of staff for a device	✓	X	X	✓
Suitable for transient use between areas	✓	X	X	?
Comparative cost of initial outlay	High	Average	Average	Low
Expected device lifetime	10–15 years	1–2 years	1–2 years	n/a
Overspill control possible to reduce crossover between discrete areas or improve confidentiality	✓	✓	X	X
User not required to bring their own device (e.g. smart phone)	✓	✓	✓	X
Low latency reducing delays in sound source to recipient	✓	✓	✓	X
Doesn't require building modification	X	✓	✓	✓
No licensing required	✓	✓	X	✓
Doesn't require line of sight	✓	X	✓	✓



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**Acoustics**

## RCF GROUP announces the acquisition of EAW

**RCF** Group, one of the fastest growing group in the Pro Audio market recently announced that it is acquiring Eastern Acoustics Works (EAW), an iconic company in the history of Install and Touring sound headquartered in Whitinsville, MA from LOUD Audio LLC, a portfolio company of Transom Capital Group.

RCF Group, with headquarters in Reggio Emilia and Bologna and subsidiaries in USA and Europe, operates under the companies RCF and AEB Industriale (dB Technologies) and is now adding EAW company to further become an international leader in designing, producing and selling products and systems for professional audio and public address installations.

“Since their early days, the two companies have been very close with RCF supplying professional drivers to EAW. Both brands successfully expanded around the world and their histories were often linked. Finally, we can look at a bright future together. Even though

EAW will remain a totally independent company, being part of our group will provide EAW with the necessary investments and focus for a fast and solid growth. We are very proud to have EAW with us” said Arturo Vicari, CEO of RCF Group.

TJ Smith, President of EAW said: “For those who love EAW, it is difficult to imagine a better scenario. From the first moment this possibility started to materialise it has been clear that joining forces with RCF Group is a great opportunity for EAW. This transaction is a true recognition of what the brand represents, its potential, as well as the team we have built over recent years. With gratitude to the long list of those that built EAW over its 40-year history, we look forward to the exciting time in front of us.” ♦

[www.rcf.it](http://www.rcf.it)

[www.eaw.com](http://www.eaw.com)

### New Members Autumn 2018

#### Graduate

**William Cooper**  
Wigwam Acoustics Ltd

#### Technician

**Ben Calvert**  
Wigwam Acoustics Ltd

**Neil Chapman**  
London Production Group

**Kyle Durno**  
SSE Audio Group

**Jack Fovargue**  
BUK Solutions Ltd

**Nick Heidrick**  
BUK Solutions Ltd

**Arron Smith**  
Brighton Rock Productions Ltd

**Daniel Whymark**  
London Production Group

#### Senior Technician

**Dan Andrews**  
In The Field Audio

**Duncan Baines**  
In The Field Audio

**Benjamin Durack**  
**Roland Faux**  
Direct Audio Visual Ltd

**Michael Freund**  
Freelance

**Derren Gates**  
LMG

**Richard Hovarth**  
Aurora Sound and Visual Solutions

**Dylan Jones**  
JP Audio Visual

**Tommy Kwiatkowski**  
ProAudium

**Solomon St Luce**  
Deptford Green School

**Tim Mortimer**  
Wigwam Acoustics Ltd

**Greg Oliver**  
Sonic Live Acoustics Ltd

**Andrew Raby**  
VP Bastion

**Daniel Roberts**  
Roberts Audio Solutions Ltd

**Philippe Stevenson**  
Global Audio Visual Solutions

#### Member

**Randall Boenig**  
PTS Consulting

**Mark Hatfield**  
SSE Audio Group

**Graeme Littleford**  
Atkins, Acoustics Noise & Vibration

**Jon Mann**  
Trilogy Communications Ltd

**David McGuigan**  
Wigwam Acoustics Ltd

#### Affiliate Member

**Stephen Connolly**  
SSE Audio Group

#### Upgrade from Fellow

**Carl Heinlein –  
Honorary Fellow**  
**Anthony Walker –  
Honorary Fellow**

# Training update

## In-house training

Our training presenters have been hard at work, delivering a variety of in-house training sessions to a number of companies within the industry. If you have a number of staff who would benefit from one of our training courses, do get in touch with [colleen@isce.org.uk](mailto:colleen@isce.org.uk)



## ISCE Sound Engineer ECS card

As you already know ISCE have been approved by the Electrotechnical Certification Scheme (ECS) to issue and renew ISCE Sound Engineer ECS cards to existing and newly accredited members and has also been accredited as an ECS Health & Safety assessment centre,

The ECS card is fully compliant with all of the requirements of the CSCS scheme, including the centralised database and is designed to prevent accidents and promote safety and quality of work. It is often a requirement for maintenance engineers at venues and on building sites for all site workers to hold an appropriate ECS card and is compulsory for those working around electricity.

We will be running an ECS Health and Safety assessment session at Wigwam Acoustics in Heywood, Greater Manchester on 8 November and this is open to any of our members.

To book your assessment, click [here](#)

## Audio for AV Engineers

We are soon to launch our new training course, *Audio for AV Engineers*, presented by Roland Higham MInstSCE which will be held at d&b audiotechnik in Gloucestershire.

Participants will learn why sound is important and how to make it better: in short to match your A to your V. The course will look at the theory and practice of audio in the AV industry as well as discussing loudspeakers, microphones, amplifiers, analogue and digital signal transmission. It will also cover optimising sound systems for classrooms, meeting rooms, boardrooms and other environments.

This course is designed for anyone involved in the design, installation and operation of sound and video systems and will incorporate plenty of time for questions and discussion to suit your needs.

Find out more [here](#)



ISCE is a member of the CPD Certification Service and our training courses are CPD accredited. There are many benefits to Continuing Professional Development at all levels. From an individual, organisation or industry as a whole, CPD is essential to keep skills and knowledge up to date and helps you focus on how to become a more competent working professional.

# Standards update

By Andrew Scott *FInstSCE*

## EN 303 348

EN 303 348 : Induction loop drivers up to 25 amps in the range 10 Hz to 9 kHz has been reviewed by ETSI and is now waiting for the European Commission to decide whether it can be published in the Official Journal of the European Union as a way of showing conformity with the Radio Equipment Directive.

## EN 54-24

### (Voice alarm) Loudspeakers

CEN TC72 WG23 has learned that a new DIN standard on active loudspeakers has been published and is attempting to obtain an English translation to find out if it gives practical requirements and tests for the assessment of active loudspeakers that will be acceptable to industry.

## EN 54-16

### Voice alarm control and indicating equipment

CEN TC72 WG23's EN 54-16 task group has completed the revision of Clause 4 (Characteristics) and work is now concentrating on the annexes. Once these have been reviewed, the draft will be checked by WG23 and then clause 5 (tests) will be drafted.

## BS 5839-9

At the time of writing, a meeting of FSH/12/5 is due to take place and there are no topics relevant to voice alarms or emergency voice communication systems on the agenda.

## Disclaimer

This information is believed to be correct but it is not guaranteed and neither the ISCE nor its officers can accept any responsibility in respect of the contents or any events arising from use of the information contained within this article. ♦

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### ADSWorldwide

[www.ads-worldwide.com](http://www.ads-worldwide.com)

### AECOM

[www.aecom.com](http://www.aecom.com)

### Ampetronic Ltd

[www.ampetronic.co](http://www.ampetronic.co)

### Ampman Audio Services

[www.ampman.co.uk](http://www.ampman.co.uk)

### AMS Acoustics Ltd

[www.amsacoustics.co.uk](http://www.amsacoustics.co.uk)

### Application Solutions (Safety & Security) Ltd

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### Arup Acoustics

[www.arup.com/acoustics](http://www.arup.com/acoustics)

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