ISCE

The magazine of the
Institute of Sound and
Communications Engineers

Autumn 2016

ISCE

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Introduction from our President

Phil Price *MInstSCE*

Welcome to our Autumn 2016 edition of the ISCE magazine. As I write this, we are still enjoying some fine summer weather (hoping it lasts a few more weeks).

By the time you receive this publication, ISCE will have just finished exhibiting at both the BPM/PRO show and PLASA London. We believe that participating in these events is important in order to further enhance the profile and awareness of our Institute. The next exhibition we will be present at is ISE Europe in Amsterdam from 7 to 10 February 2017. However I will be working at Security Essen in Germany between 27 and 30 September, so hopefully I may see some of you if this event is relevant to your work.

This then brings us along to our own ISCE exhibition and seminar programme – ISCEx 2017 which will take place again in the fabulous surroundings of Coombe Abbey near Coventry. Our networking dinner is in the evening of Tuesday 7 March, with the exhibition and seminars on Wednesday 8 March 2017. Please ensure you add these important dates to your diary. If you have not visited an ISCEx event in recent years, you will be pleasantly surprised and I am positive you will find the visit really worthwhile in order to meet the key manufacturers and distributors in our industry. It will also give you the chance to network with other members.

ISCE training events

As president, I would like to draw your attention to the training seminars that we are organising. Providing important information and training to our members and industry colleagues, is a key integral part of why the ISCE exists. I urge you to regularly check our website to see what courses have been arranged. Even if you think they are not relevant to you personally, then please make your colleagues aware.

In the meantime, I hope you enjoy the magazine. Remember, if you have any articles that are relevant to the ISCE, installation projects etc, that you are working on, please inform Ros at our office. ◆

Phil Price

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

Please send news or articles to **Ros**

Forthcoming events diary

6 October 2016
ISCE training: Introduction to Live Sound Engineering
High Leigh Conference Centre, Herts, UK

19–20 October 2016
The Showman's Show, Newbury Showground
Newbury, UK

3 November 2016
ISCE training: Voice Alarm System Fundamentals
Production Park, Leeds, UK

15–17 November 2016
IOA Reproduced Sound 2016
Holiday Inn, Southampton, UK

23 November 2016
Security & Fire Excellence Awards 2016
Hilton on Park Lane, London, UK

23 November 2016
ISCE training: Design & Installation of hearing loop systems
TecZone, Leighton Buzzard, Beds, UK

24 November 2016
ISCE training: Measurement & Certification of hearing loop systems
TecZone, Leighton Buzzard, Beds, UK

20–21 January 2017
PLASA Focus
SECC, Glasgow, UK

21–24 January 2017
NAMM
Anaheim Convention Center, Anaheim, USA

9–12 February 2017
Integrated Systems Europe (ISE)
RAI, Amsterdam, The Netherlands

7–8 March 2017
ISCEx2017
Coombe Abbey, Binfield, Nr Coventry, UK

BL Acoustics upgrades public address and voice alarm systems at the International Convention Centre

BL Acoustics have successfully completed the replacement of voice alarm and control systems at the International Convention Centre in Birmingham.

The 25-year-old Audix systems were replaced with Bosch Praesideo EN54 compliant systems communicating via a site-wide optical network installed by BLA. The control systems were replaced with a combination of Bosch hardware and custom BL Acoustics software.

The ICC boasts 10 meeting rooms and 10 conference halls, including its flagship Hall 1 auditorium and the larger Hall 3. The venue hosts around 400 events and welcomes around 300,000 delegates every year.

The voice alarm system at the ICC comprised of Tannoy Audix equipment already updated in 2005 with the replacement BL Acoustics/Barns V32 Control Matrix.

BL Acoustics have been maintaining the systems at the ICC for many years which helped us to acquire substantial site specific information which proved to be valuable throughout the complex installation. One of the major priorities for our client was to have absolute confidence in the supplier and that the systems could remain in full use during their replacement. The venue is an extremely busy one, meaning that downtime of the system would have been unacceptable.

Replacing the systems

The system consists of equipment installed at seven different locations throughout the site. The project involved multiple phases of installation, starting with installation of a new resilient loop in fire-rated fibre cable between each of the seven locations. A number of temporary satellite systems were built to provide a fully networked front-end which was initially configured to take over primary control of the existing Audix systems. The temporary but fully functional and networked front end provided the interfacing needed between the many existing control panels and the Audix system.

Once the system front-end had been successfully proven, each temporary rack could be upgraded to their permanent racks of equipment. This method of operating both existing and new systems concurrently meant that each equipment location could be upgraded and tested on a system-by-system basis without compromising the operation of the venue.

Microphone panels

The system has a multitude of inputs which had to be carried forward from the previous system. The different halls required different microphone and input options. These included input panels for the house managers, theatre stage controls and stage managers desks. BL Acoustics provided re-engineered panels which were custom built to fit their various locations. The panels cater for input and control of microphone announcements, show relay, auxiliary audio and audience recalls. The system also allows for pre-routed audio channels for direct patching of AV audio to zones within each hall.

Controlling and monitoring the system

BL Acoustics provided custom software for both engineering and operational functions of the system. It was important that the user interfaces were intuitive and built specifically to the requirements of the site. The interfaces were designed very much with the clients involvement to provide the most familiar and intuitive operation for such a large and complex site. The security control panel used touchscreen operation with a detailed rotating 3D graphical display of the ICC complex, on which zone selection and system activity could easily be shown.

Engineering software was also provided for technical staff to use. This allowed the staff to configure various PA routing prior to events and allowed control of audio processing for each configurable input. The system configuration and fault monitoring software was also written specifically to be informative and user friendly.

Loudspeakers

Choosing loudspeaker types was critical to the project with tight specifications to provide key criteria:

- EN54 compliance
- acoustic performance
- aesthetics
- programme windows

All loudspeakers were replaced to meet the latest EN54 standards; this involved designing the ceiling speakers to fit into the tight space allowed for the existing fire domes whilst also meeting the strict specifications.

Custom construction and close colour matching of speakers, mounting plates and brackets for each type of chosen speaker was needed.

Compact Bosch ceiling loudspeakers were utilised in most areas together with specially manufactured mounting trims.

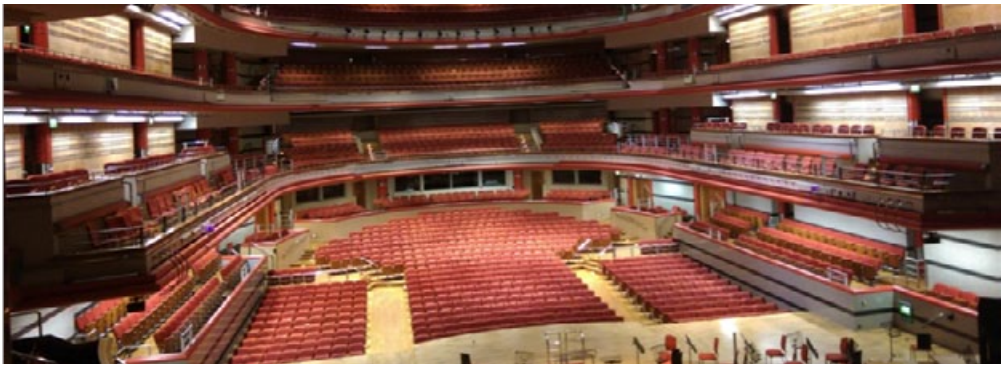
JBL fixed angle column loudspeakers were used within the mall to minimised spill and high power JBL 2-way cabinets were used at high level within Hall3.

Acoustic performance

The central mall, along with the larger halls, were modelled in detail for their acoustic performance using CATT acoustic software. The mall was of particular interest due to its length in excess of 100m and its highly reverberant construction. The model proved the performance of our choice of JBL column loudspeaker, was such that no additional acoustic treatment was required.

We consistently met or exceeded our STIpa target with a measurement of 0.60 STIpa in most areas. ◆

www.blacoustics.com



IHLMA
International Hearing Loop Manufacturers Association

IHLMA welcomes ISCE

We are delighted to welcome ISCE as an Honorary Associate member of The International Hearing Loop Manufacturers Association (IHLMA).

Formed in 2014, IHLMA is an international association of manufacturers that acts as a single voice for communicating with the many influencing parties and organisations who play a role in providing high quality hearing access.

IHLMA aims

- To be the credible voice of the industry to governments and their agencies, legislators, standards agencies, advocacy organisations, specifiers and other interested parties
- To provide information to facilitate the promotion of hearing loop technologies and their applications
- To collect and present statistics on hearing assistance and hearing loop technologies
- To act as a technical resource centre to provide commentary, guidance and advice on technical, regulatory and legal aspects of Hearing Loops
- To define high quality standards and best-practice for the hearing loop and assistive listening industries, including a code-of-practice for its members
- To provide a forum for the sharing of non-competitive information across manufacturers.

The association provides support and guidance to anyone interested in hearing loop systems.

Examples of our previous work include working with the European Telecommunications Standards Institute (ETSI) to create a new standard for hearing loop technology for demonstrating compliance with the EU Radio Equipment Directive. Our members are active in all the hearing loop-related international technical standards.

IHLMA members are excited for this new opportunity to gain a stronger voice, and we welcome any companies or individuals who would like to work alongside us.

A manufacturer of hearing loops can become a member for £600 per annum and anyone associated with hearing loops can become an Associate member for £300 per annum.

Members are able to contribute and have access to expert technical advice on hearing loop technology and on the ever-changing social and regulatory environment in which we all operate. They are able to contribute to the creation and revision of relevant standards, and part of the only industry body lobbying regulators and governments for the provision of quality hearing loop facilities so that they can be of real benefit to users of hearing aids and cochlear implants.

Application forms are available from the IHLMA website **www.ihlma.org.uk** or contact **admin@ihlma.org** ◆

ISCEx**2017**

www.isce.org.uk

Networking Dinner

Tue 7 March 2017 · 7pm

ISCE will be hosting a networking dinner in the elegant dining suite of Coombe Abbey on the eve of the exhibition.

Guests can enjoy a fine-dining experience and mingle with the good company of industry friends and colleagues, as well as being introduced to some new business contacts.

Starting at 7pm with pre-dinner drinks.

Exhibition and Seminar Day

Wed 8 March 2017 · 9.30am–4.30pm

Mix with the best in the business

At the most relevent event in the sound industry calendar, you will meet the people that matter most to your business, with informative seminars led by industry experts, running alongside the exhibition.

Free entrance to the exhibition and seminars.

ISCE

The Institute of Sound and Communications Engineers

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Warwickshire CV3 2AB

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Join us at ISCEx**2017**

Mary Rose Museum re-opens with floor to ceiling viewing

On 19 July 2016, the Mary Rose Museum re-opened with a full uninterrupted view, after a £5.4m revamp. Since being raised from the Solent in 1982, the Mary Rose, Henry VIII's flagship, has undergone 34 years of conservation and can now be viewed through floor-to ceiling windows and an air-locked viewing balcony at the purpose built museum in Portsmouth Historic Dockyard.

The Mary Rose, a Tudor warship built for the English navy of King Henry VIII in 1510 was in service for 34 years and sank in 1545. Rediscovered in 1971 the wreck of the Mary Rose was raised in 1982 and towed into her home port in Portsmouth, England into a covered dry dock to begin conservation. And so began more than 34 years of conservation work, where for over 30 years 'she' was sprayed with fresh water and wax to displace all the water in the timber cells so they would never collapse. A permanent museum building was constructed over the ship and in 2013 the sprays were finally turned off. The ship was controlled air dried over the next three years and on 20 July 2016 'she' was revealed to the public to allow them a completely clear and uninterrupted view.

Originally opening doors to visitors in May 2013 the Museum has been closed from public view since November 2015 while the latest development works, to allow full height viewing of the ship from three separate viewing angles, were undertaken. The new look Mary Rose Museum now provides stunning panoramic views of the ship from all nine galleries through floor to ceiling glazing on the lower and main decks. On the upper deck, visitors enter the Weston Ship Hall via an airlock and are separated from the ship only by a glass balcony.

This phase of work includes the introduction of an audio-visual installation to enhance interpretation and visitor experiences, for which a creative team led by exhibition designers Real Studios were brought in to tell the story of the ship's crew going about their daily routines both at war and peace.

More than sixty short scenes were filmed and produced by Graham English & Company and projection mapped by Sysco AV into the relevant cabins on the ship's hull. Together with lighting design from Adam Grater of DHA Designs and an ▸

accompanying atmospheric soundscape produced by Peter Key Sound Design & Production, the ship is brought to life for the visitor at intervals throughout the day.

Tasked with providing a discreet, and unobtrusive audio solution, Peter Key chose to enhance the existing sound installation of overhead loudspeakers in the two enclosed viewing walkways – the main and lower decks. With the ship now in full view Peter Key said, "I felt that sound should not all be heard from above but should also appear to play from in front of the visitor in line with the projected images".

"This meant we needed to excite individual glass panels of the viewing corridor for the entire length. This was quite a tall order, not only was the laminated glass more than 25mm thick, but the solution had to be invisible, so that it did not obscure the view of the Mary Rose", continues Peter Key.

"I discussed the project with Sound Directions for their expertise in this area and the recommendation was to use MSE Audio's SolidDrive SD1g surface exciters. Extensive tests proved that such a mass of glass could be excited by a relatively small transducer device to provide good quality and distortion free audio. The small form factor and clean cylindrical lines of the devices enabled them to blend into the glazed environment", added Peter Key.

Robert Lapraik, Deputy Chief Executive for the Mary Rose Museum added, "We are delighted that the combination of sound and projection not only brings the ship to life, but also re-establishes the relationship between the ship and the thousands of real objects in the context gallery walkways".

Stanislas Boivin-Champeaux , Managing Director for Sound Directions also said, "The SolidDrive SD1 surface exciters provide a very discreet solution for visitor attractions including museums, as they provide excellent quality audio whilst being almost invisible, particularly when glass surfaces are used for encasing the exhibit".

In total four of the SolidDrive SD1g surface exciters were installed along each deck level over a distance of forty metres, each SD1g driven by a separate audio channel of a SolidDrive SD-250 Mini Amplifier. Audio reflections from the opposite side of the corridor, behind the visitors viewing area, which was also glazed as part of the original museum design means the spread of sound is much wider along the corridor than might otherwise be the case, which results in the use of less exciters and amplifier channels than might otherwise be required.

Peter Key concludes, "I am very impressed with the audio quality from such a small and compact unit. It provides another layer of loudspeaker playback to enable a truly immersive soundscape to be created within the viewing galleries". ◆

www.sounddirections.co.uk

Integrated PA/VA

Unified Emergency Communication Solutions

Safe Buildings – Public Address and Voice Alarm

EN 54 certified Solutions for safe and controlled Evacuation

Introducing EvaQ EN 54 certified public address and voice alarm from Commend. For over 40 years Commend has provided cutting edge solutions for mission critical communications. Now we bring that expertise to PA/VA. The EvaQ system is fully integrated to our comprehensive range of solutions from Intercom and PA to Security Management software. Thus providing a one stop shop for your Security and Emergency communication needs.

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F: +44 (0)1279 814 735
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ISCE INSTALLATION LABELS

Installed by ISCE member:
Company Name
www.companyname.co.uk
01234 5678912
www.isce.org.uk
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The Institute of Sound and Communications Engineers

Installed by ISCE member:
Installer Name *MInstSCE*
Company Name
www.companyname.co.uk
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ISCE
The Institute of Sound and Communications Engineers

We are delighted to re-launch the installation label scheme for our members after negotiating some competitive prices with a new provider. The installation labels can be ordered by Fellows, Members, Senior Technicians or Technican Members as well as supporting members of the ISCE and can be applied to all equipment on installed system for which they have technical responsibility.

Further information and an order form can be found on the Members' Area of the website.

ISCE
The Institute of Sound and Communications Engineers

Self-adhesive installation labels
Order form
Laminated permanent adhesive labels, 50 mm x 25 mm (supplied on a roll)

Date of order

Invoice to
Contact name
Organisation
Address
Town
County
Postcode
Country
Tel no
Email

Deliver to (if different)
Contact name
Organisation
Address
Town
County
Postcode
Country
Tel no
Email

Details to be shown on label
Name* and designatory letters
Website or other contact details (max 90 letters)
* The company name may be included below the name of the qualified member, or alone if the qualified member is employed by a Supporting Member company.

Select quantity required

Quantity	Cost	VAT	Total	
1,000	£165.00	£33.00	£198.00	
2,000	£195.00	£39.00	£234.00	

All prices are subject to VAT, but include postage.
Delivery is approximately 21 working days from date of order.

Who can use the labels and how
ISCE installation Labels can be purchased by individuals, proprietors or directors who are Fellows, Members, Senior Technicians or Technician Members of the ISCE and can be applied to all equipment on installed systems for which they have technical responsibility, and not otherwise. The ISCE designatory letters shall be appended to the name.

Please return this form
Email info@isce.org.uk
Or by post
ISCE, PO Box 7366
Reading, Berkshire RG6 7WY
United Kingdom

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REPRODUCED SOUND 2016

SOUND WITH PICTURES

Time is of the essence

Reproduced Sound (RS) takes place in November 2016 in Southampton, home to not one but two universities involved in acoustics teaching and research. Dates for the diary are Tuesday 15 to Thursday 17 November, with two full days of papers and presentations on the Wednesday and Thursday and a workshop on virtual audio on the Tuesday evening. The conference venue and hotel will be the Holiday Inn, right on the Southampton waterfront.

Keith Holland, RS chairman, said: "We are again keeping with the ever popular residential format familiar with RS conferences, which encourages valuable and sociable networking between attendees. We have taken RS to Manchester in the past, which resulted in excellent contributions from Salford and Manchester Universities, among others, and this time we are hoping for something similar from the Institute of Sound and Vibration Research (ISVR) and from Southampton Solent. The Holiday Inn is also in a stunning location, overlooking the Solent, and Southampton is convenient to reach by road, rail or plane from London and elsewhere."

"The programme includes a wide variety of interesting papers, from practitioners, consultants and academics, along with a number of workshops and demos. We are particularly delighted to welcome back Mark Dodd, a one-time regular at the conference, returning this year to receive the Peter Barnett Award, which recognises excellence in electro-acoustics. Mark will present on Developments in wide band transducers and transducer arrays with single source characteristics, which I suspect will bring up the headline issue of timing!

"The papers cover many aspects of sound reinforcement, 3D auralisation, speech intelligibility, sound for cinema/TV, PAVA systems, transducers and measurement systems. There will be opportunities to visit both Southampton Solent (Thursday evening) and the ISVR (Friday morning).

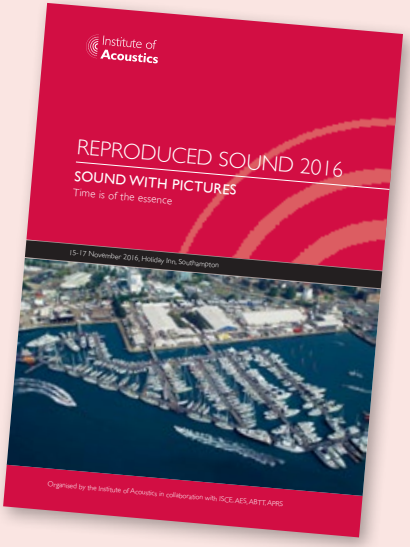
Since its inception Reproduced Sound, which is organised by the Institute of Acoustics' Electro-Acoustics Group, has become renowned for bringing together some of the friendliest and most knowledgeable sound specialists in the world.

Keith added: "Reproduced Sound conferences have always represented the cutting edge of modern audio and acoustics in an informal environment where attendees freely mingle and welcome the sharing of insight and information.

"Over the years they've become firmly established as a 'must attend' event for many people from a wide background in acoustics and audio sectors, from acoustic scientists to audio system designers, and from consulting engineers to venue operators, to name just a few, and this year's conference promises to be one of the best yet.

"Once bitten, most of us come back year after year, to refresh our friendships and inspire our minds." ◆

www.reproducedsound.co.uk



Making waves – acoustics for sound engineers

On 15 September, Tony Stacey MInstSCE, presented the **Making waves – acoustics for sound engineers** ISCE training course in Leeds. The feedback from the delegates was excellent and our thanks to Production Park for providing an ideal setting at their facility in Wakefield.

Look out for more ISCE training courses coming soon. ◆

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Introduction to live sound engineering

Presenter: Brian Hillson AMInstSCE

6 October 2016

High Leigh Conference Centre, Hoddesdon, Herts

www.cct.org.uk

Member £180
Non-member £225

Three or more persons from the same company: 10% off each individual fee

All fees exclude VAT

CPD MEMBER
The CPD Certification Service

A practical seminar covering the fundamentals of mixing and operating a sound system in live situations. Demonstrations of both analogue and digital desks and an opportunity to see and hear multiple live mixes of music sources in real time.

Most sound engineers who operate mixing consoles in concerts, conferences and festivals have learned their trade by hard graft and experience rather than formal training.

Even many of those who have studied music technology, acoustics or theatre have not had specific training to prepare them for the real world challenges of delivering live sound in differing venues and fast changing situations.

This course is designed to bring learning opportunities to aspiring engineers and musicians wanting to work in live sound, or, experienced engineers who will benefit from good advice and practical teaching.

Get more details and book your place now

Training Courses

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The Institute of Sound and Communications Engineers

www.isce.org.uk

Voice alarm system fundamentals

Presenter: Bob Howard MInstSCE

3 November 2016

Production Park, Leeds

www.productionpark.co.uk

Non-member £225
Member £180

Three or more persons from the same company: 10% off each individual fee

All fees exclude VAT

CPD MEMBER
The CPD Certification Service

An engineer's introduction to the requirements of BS5839-8:2013 detailing the requirements for the design, installation, commissioning and maintenance of voice alarm systems, along with practical advice and examples

Voice alarm systems form the sounder circuits for a fire detection system, not just an expensive public address system. For them to operate in the intended manner, saving lives, they must be designed and installed correctly. This course deals with the concepts involved, standards requirements, equipment and the duties of those during the implementation. It also deals with associated areas such as fire panel interfacing, audibility, intelligibility and the 'prescriptive method' of speaker placements.

Get more details and book your place now

Training Courses

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The Institute of Sound and Communications Engineers

www.isce.org.uk

Design and installation of hearing loop systems (HLS)

23 November 2016

TecZone, Leighton Buzzard

www.leisuretec.co.uk

Non-member £225
Member £180

Three or more persons from the same company: 10% off each individual fee

All fees exclude VAT

CPD MEMBER
The CPD Certification Service

Presenter:
Peter Roe MInstSCE

Learn the best way to design and install a correctly working HLS, ensuring compliance with appropriate Standards and Regulatory requirements (including BS7594, Equality Act, IEC/EN60118–4)

Whilst induction loop systems are now mandatory for many premises, a large proportion are badly designed, poorly installed, and rarely maintained. By attending this course you can learn the correct way to design and install HLS, and importantly, be aware of the many potential pitfalls and how to avoid them. All candidates will receive a certificate upon completion. Candidates who pass the course and are members of the ISCE, will meet the criteria to join the ISCE Approved Hearing Loop Assessment Scheme.

Get more details and book your place now

Training Courses

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ISCE

The Institute of Sound and Communications Engineers

www.isce.org.uk

Measurement and certification of hearing loop systems (HLS) and the implications of IEC/EN 60118–4:2006

24 November 2016

TecZone, Leighton Buzzard

www.leisuretec.co.uk

Non-member £225
Member £180

Three or more persons from the same company: 10% off each individual fee

All fees exclude VAT

CPD MEMBER
The CPD Certification Service

Presenter:
Peter Roe MInstSCE

Learn the latest and correct techniques for measuring HLS, how to meet the requirements of IEC/EN 60118–4, and gain a good understanding of *what* we should be measuring, *where* to measure and *why*

With a major revision to IEC/EN 60118–4 which includes significant changes to the measurement criteria for HLS, this course will provide you with essential theoretical understanding of the important measurement issues, together with an afternoon, hands-on, practical session to try out your measurement techniques. All candidates will receive a certificate upon completion. Candidates who pass the course and are members of the ISCE, will meet the criteria to join the ISCE Approved Hearing Loop Assessment Scheme.

Get more details and book your place now

Training Courses

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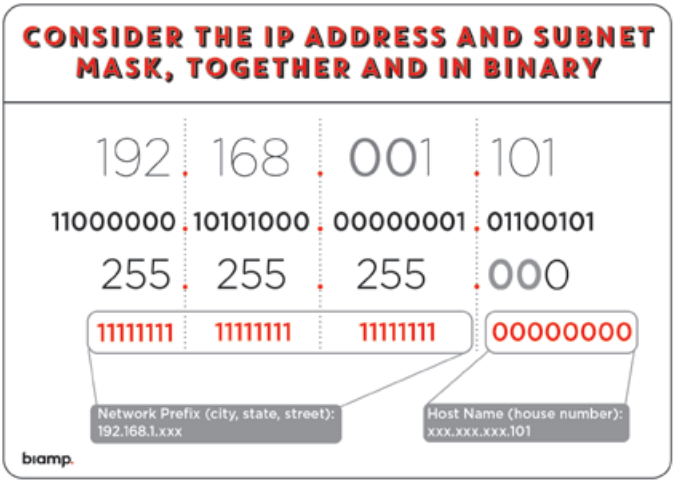


Networking for AV professionals

By Martin Bonsoir

In the early days of AV networking, engineers both novice and experienced were making the jump to computer-controlled AV equipment. My new laptop, making me feel 10ft tall, was a lumpen thing, with a serial port as standard and Ethernet on a PCMCIA expansion card. But what a world it opened up!

It seemed everyone wanted to learn about these powerful new tools, these devices with few controls and strange connectors. At the start of one training session, a self-professed 'old analogue guy' turned to me and said: "OK, I accept that AV systems will henceforth be controlled by glorified electronic typewriters. Let's see how it's done". How we marveled as we drag-and-dropped an entire rack of outboard into a single box. Even more impressive were the developments in media transport and system control. A whole lot could be achieved over a cable costing peanuts, and with a scalability we had never seen.

A decade or so later, ethernet has become an indispensable technology in every little corner of our industry, and the modern AV engineer needs solid IT skills. There are a multitude of standards in the networking world (no need for me to retell the old 'standards' joke). Fortunately in AV it is enough to know about ethernet and internet protocol.

Ethernet is governed by the Institute of Electrical and Electronics Engineers (IEEE). Ethernet's hardware is defined by their standards, as are the low-level software protocols managing the interactions across it. The hardware and protocols are often referred to as layers 1 and 2 respectively (see tip 3).

Internet Protocol (IP) is the primary software standard relevant at the next level of networking, layer 3, and is governed by the Internet Engineering Task Force (IETF). As well as making it easier for software applications to communicate across networks, IP addresses help facilitate larger and more complex networks. Including, unsurprisingly, the Internet itself.

So, without further ado, here are my top ten networking tips for the AV professional.

Understand how IP addressing works

IP addresses are the soft-coded network addresses, which can be allocated and changed as resources dictate. Much like real addresses, IP addresses contain 'how to get there' information, and the key lies in how they are divided by the subnet mask into two portions: host (name) and network (location). If you change just the subnet mask, its corresponding IP address will represent a completely different name and location. Only by referring to the subnet mask ▸

can you understand how two given IP addresses might communicate. Like Laurel and Hardy, each depends on the other for context. Learning how will take a little time, but your perseverance will pay dividends in confidence.

This article refers to IP version 4 (IPv4) addresses only. The 4.3 billion possible IPv4 addresses were exhausted in 2011, leading to IPv6 addresses. We can ignore IPv6 for now, because in AV we usually use IETF-defined private IPv4 addresses, eg 192.168.xxx.xxx.

Behind every good IP address, lies a good MAC address

The media access control (MAC) address is the globally unique 'name' of a device, and every networked device has at least one. Hard-coded in manufacturing they are not easy to change, much like your birth name. MACs are crucial at the ethernet level, but not usually our concern.

How the 7-layer OSI model can help you

A passing familiarity with this conceptual model, particularly layers 1, 2 and 3, will give you a framework of huge value. To it you can attach terms like ethernet, NIC, switch, router, MAC, IP, and more, and better understand how they work together. It also provides context for AV transport protocols: how each must be considered, utilized, controlled, and supported.

Buy an RJ45 crimping tool that you will never use

Ethernet's most common infrastructure is 8-core category 5e or category 6 cable, terminated with RJ45 connectors. Pre-made CAT5e/CAT6 cables are cheap and reliable, while making your own is time-consuming and the results are often unsatisfactory. A crimping tool can save the day, but a failure could cost your reputation. Only 'roll your own' when your job depends on it.

Are we analysing or merely testing?

There is a world of difference between a cable tester and a cable analyser, and network cable must meet strictly defined performance characteristics. A cable tester checks only whether the eight wires are unbroken. The sophisticated cable analyzer tests whether the eight wires are working together to meet specification, thus proving it for use in an ethernet network. Invest in one of these if you pull and terminate your own cables – they are well worth their hefty price-tag.

Learn to love the red-tape

Saving test results to file is perhaps a cable analyser's best trick. Never be afraid to request these results. Whether for CAT5e/6 or fiber-optic, any decent cabling contactor will gladly provide documented proof of their workmanship.

Treat your network hardware like your AV equipment

Choose it well: know the features you want, and remember you get what you pay for.
Use it well: familiarise yourself with the user interface, and how to implement key features.

Divide and conquer

Virtual local area networks (VLANs) should be the first feature you learn to implement. They have a multitude of applications, and not least is separating media transporting devices from system control devices.

Would you leave your front door open?

Security should be considered in any installation. From simply locking the rack-room to advanced security management, the lengths you go to will depend on circumstance. It is not simply about malicious attacks – consider the person who asks, "what does this button do?". The casual intruder, probably just looking to charge a phone, could wreak havoc.

Further networking

Talk amongst your friends, acquaintances and colleagues (see what I did there?). We can all learn from each other's successes and failures, and some of these tips are pure gold.

As an AV engineer, who enjoys setting up an AV system, it can sometimes feel frustrating when your work appears to be 50% IT. An understanding of networking's fundamentals can make the difference between losing half a day before you have even powered up the projector, or a quick and easy setup that leaves you free to concentrate on the fun stuff. ◆

Sensitivity specifications for neck loops

J M Woodgate *BSc(Eng) C.Eng MIET SMIEEE FAES HonFInstSCE, Honorary Associate IHLMA*

Introduction

A neck loop is a personal induction loop about 230 mm in diameter, intended to be used with a static or hand-held source of audio signals and transmit them magnetically to the user's one or two hearing aids equipped with telecoils.

Until recently, there was no standard method for measuring the sensitivity of a neck loop in terms of the input voltage required to produce a magnetic field strength of 400 mA/m at the ear of the user. This has been remedied by the publication of EN 62489-1:2010 + Amendment 1:2015. However, the committee decided it would be premature, since the method of measurement had only just been standardized, to follow up with even recommendations for sensitivity.

The situation in the field is reported (especially in the USA) to be unsatisfactory; many neck loops seem not to produce sufficient magnetic field strength. Of course, the reports rarely say what the source of signals was. Nevertheless, there is clearly a need to study the subject, both to improve the field situation and to follow up with a further amendment of the standard to specify, or recommend, sensitivity.

Relations to existing standards

The original treatment of electrical values at the interface between an amplifier and headphones was in IEC 60268-15, later replaced by IEC/EN 61938:1996 and then the 2013 edition. For static audio sources, the recommendation is a source voltage of 5 V and a source resistance of 120 Ω; this was found to produce reasonably constant sound pressure levels for headphones of impedance 8 Ω to 2000 Ω. In the 2013 edition an attempt was made towards consistency with the controversial EN 50332-2, which is intended to address the incidence of hearing damage caused by listening to music through headphones at high sound levels for long periods. This attempt is unfortunately technically unsatisfactory and needs replacing (work is in progress).

The EN itself is not notified under the Low Voltage Directive, but it is normatively referenced in IEC/EN 60065, 60950-1 and 62368-1, so products as described effectively have to conform. However, products intended for hearing assistance are not within the definition in the scope of the EN:

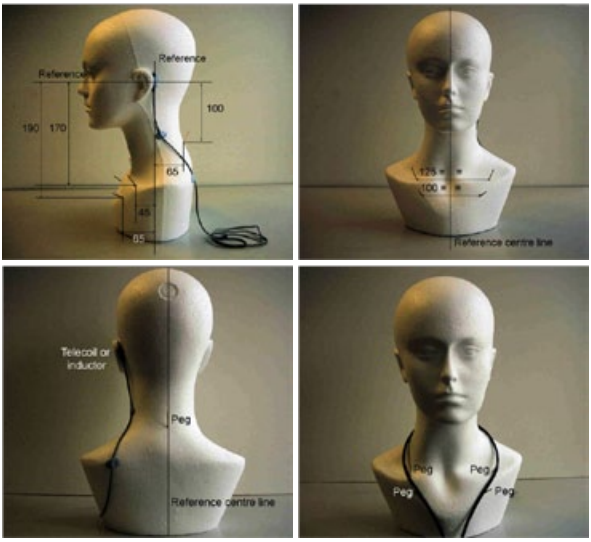
> **portable audio equipment**
> battery operated binaural small audio equipment used with earphone, which is intended to be mainly used for listening to the music outdoors. D.C, operated players with separate a.c. adapter are included
>
> **Note** Players with loudspeakers and equipment with one-ear earphone are excluded: however this does not mean that only the devices covered by this standard may cause hearing impairment. Only the big difference in daily use decreases the risk caused by home equipment even at higher listening level

(Unfortunately, this, too, is less than satisfactory, but the authors of this document were resistant to advice.)

Manufacturers of these products seem to be using a source resistance of 50 Ω, irrespective of the battery voltage, but the standard requires that no more than 150 mV can be developed across a 32 Ω load, and that limits the source voltage, with 50 Ω series resistance, to 384 mV, which is about 1.1 V peak-to-peak, implying a battery voltage of at least 1.5 V. The 150 mV is supposed to be measured unweighted, with a meter complying with Class 1 of the withdrawn standard EN 60804 and an averaging time of at least 30 s. EN 60804 has been replaced (in two stages) by EN 61672-1:2013, in which 'unweighted' means 'Z-weighting'.

The required magnetic field strength of 400 mA/m is measured with an averaging time of 125 ms (or with a peak programme meter which gives very nearly the same result on programme signals but not on noise signals). The 150 mV is measured with the 'simulated programme signal', a noise signal with a specified spectrum. If this is produced by a good noise generator that does not suffer from 'hiccups' (changes in average output lasting tens of seconds or more), there is no difference between the 125 ms average voltage and the 30 s (or more) average voltage. In fact, there seems to be no need to measure for 30 s or more.

Note This would not be true if the test signal were speech or music; the 'simulated programme signal' simulates only the long-term spectrum (averaged over tens of seconds at least). It does not simulate the variation of the envelope of amplitude with time, or the amplitude-probability distribution, of programme signals.



Neck loop measurement jig (IEC/EN 62489-1)

Measurement of the magnetic field strength

The method of measurement specified in IEC/EN 62489-1 is easy to implement if a field strength meter has, or is modified to have, an external telecoil. The measurement jig is shown in the pictures, but it is not very suitable for production-line testing. For this, a measured loop can be placed around a close-fitting circular former. The voltage that was measured during the standard test is applied. The magnetic field strength can then be measured at any convenient point, such as the centre of the circle, and used as the reference for testing other loops.

Note It might be sufficient in production to measure the DC resistance of a simple passive loop without a transformer.

Designs of neck loops

General

Different designs are optimal for different audio sources. The principles are:

- to avoid, if possible, an amplifier or a transformer. (The latter can be costly but clearly requires less attention than a battery-powered amplifier.);
- to minimize the number of turns of a multi-turn l oop (whether passive or active).

Measurement shows that a magnetic field strength of about 750 mA·turns is required to produce 400 mA/m on the IEC/EN 62489-1 jig. The exact value depends on the size and flexibility of the loop. For assistive listening, battery-operated devices are mostly used, so energy efficiency is important. That suggests using a Class-D amplifier to drive the loop, but this raises so many possibilities that no general analysis is likely to be useful.

For analogue drive, it is clear that the most energy-efficient loop has minimal resistance, so needs to be current-driven, using a current-drive amplifier, not, obviously, a series resistor. But few ALDs (Assistive Listening Devices) have current-drive amplifiers; they are optimized for headphones, so a loop should 'look like' headphones. For background information on headphone specifications, see Annex A.

A neck loop with many turns might have inadequate bandwidth, in the sense that the inductive reactance at 5 kHz exceeds the total resistance of the loop plus the source resistance of the amplifier feeding it. This is usually an issue only if an attempt is made to use voltage drive and rely on the resistance of the loop wire alone to keep the current independent of frequency.

ALD using one 9 V PP3 primary battery

Such batteries are available in a range of different technologies and capacities (usually expressed in mA·h). Primary batteries mostly have 550 mA·h, ▸

and re-chargeables now have around 200 mA·h, up from the original 110 mA·h. For optimum life, long-term average discharge currents should be around 10 % of the current cited in the capacity, so 55 mA and 20 mA. These are 'long-term average' currents, so relate to a magnetic field strength of 100 mA/m.

To see what this means in practice, we can consider an LM386 audio amplifier, which works down to an end-of-life battery voltage of 6 V, when it delivers 4 V peak-to-peak, or 1.4 V RMS, across an 8 Ω load. The current is thus 175 mA, so to get 750 mA·turns we need 4.3 turns, say 5 turns. With a durable wire size, the loop resistance is almost negligible, so we need an 8.2 Ω series resistor. A new battery gives 6 V peak-to-peak, 2.1 V RMS and a current of nearly 260 mA, which gives a maximum magnetic field strength of 1300 mA/m, 4.8 dB more than necessary, but not excessively so. Under these conditions, the average battery current is 44 mA, so primary battery life is good, and the intermittent use of a rechargeable is not ruled out. However, a 16 ohm loop is more suitable for a rechargeable battery. It needs 10 or 11 turns, because the magnetic coupling between turns is not perfect, so the inductance, and therefore the field strength, does not rise precisely as the square of the number of turns.

ALD using two 1.5 V cells

There is rather a limited choice of audio amplifiers that operate with a 2 V supply, end-of-life for a 3 V battery supply. One such is the LM4910, and even this is not guaranteed to work with less than a 2.2 V supply. With a 3 V supply, it gives 35 mW into a 32 Ω load, ie 1.06 V and 33 mA. This requires a loop of more than 750/33 = 23 turns ('more than' because the magnetic coupling between turns is not perfect). It also gives 40 mW into a 16 Ω load, i.e. 0.8 V and 50 mA. This requires a loop of more than 15 turns.

Amplifier for use with audio sources complying with EN 50332-2

The above sort of amplifier is also suitable for feeding a loop from the maximum permitted 150 mV output of 'portable audio equipment' within the scope of EN 55032-2. For 1.06 V output, the amplifier voltage gain is set to 7.1, which is well within its capability, as it has 80 dB open-loop gain.

Impact on IEC/EN 62489-1

This study can lead to sensitivity specifications for passive neck loops in a new amendment for IEC/EN 62489-2. Four types can be specified:

Type 1

Suitable for audio sources powered by mains or one primary 9 V battery.

DC resistance 8 Ω ±5 %

Maximum input voltage for 400 mA/m on the IEC/EN 62489-1 jig 1.4 V

Note (advisory) Number of turns 5 or 6, depending on the wire size and the loop construction

Type 2

Suitable for audio sources powered by one primary or rechargeable 9 V battery.

DC resistance 16 Ω ±5 %

Maximum input voltage for 400 mA/m on the IEC/EN 62489-1 jig 1.4 V

Number of turns 11 to 13, depending on the wire size and the loop construction

Note (advisory) Number of turns 11 to 13, depending on the wire size and the loop construction

Type 3

Suitable for audio sources powered by two primary 1.5 V cells.

DC resistance 32 Ω ±5 %

Maximum input voltage for 400 mA/m on the IEC/EN 62489-1 jig 1.06 V

Note (advisory) Number of turns 23 to 26, depending on the wire size and the loop construction

Type 4

Neck loops with transformer or amplifier

Input DC resistance ≥32 Ω

Maximum input voltage for 400 mA/m on the IEC/EN 62489-1 jig 1.06 V ◆

www.jmwa.demon.co.uk

CIE's HDBaseTEAM 'massif' charity cycle challenge 2016

AV distributor CIE are at it again, as its HDBaseTEAM charity cycle team embark on another truly 'Massif' marathon cycle challenge. This September, the CIE team will cycle 500 miles through France in just three days. Much of the route will be following the 2016 Tour de France stages 3, 4 and 5, beginning at the Channel port of Saint-Malo, through Normandy to the Loire Valley, before rising towards the Massif Central and finishing at Clermont-Ferrand.

The team, which is made up of CIE Directors and members of the AV sales and technical support team, will take on their ninth annual challenge this year in an endeavour to hit their 2016 fundraising target of £7000. The money raised will support Cancer Research, the British Heart Foundation and local charity the Saving Lives Helipad Appeal, based in CIE's HQ town of Nottingham. To date, the CIE HDBaseTEAM has raised in excess of £25,000 which has been distributed to various charities.

The HDBaseTEAM are sponsored by UK AV signal distribution brand CYP, with the team name giving a nod towards the vast range of HDBaseT products launched by CYP over the past two years. This will be CYP's fourth year of sponsorship and Sales Manager Gareth Rolls is an enthusiastic supporter; "It gives us great pride at CYP to sponsor the CIE team once again. The dedication and commitment to fundraising and the promotion of the charities of which they are passionate about, is truly awe-inspiring. Everyone here at CYP will be following the teams' progress and willing them on through the arduous three day ride. We encourage everyone in the AV industry and beyond to pledge their support by donating to this fantastic cause and help the team continue to change lives for the better." The CIE HDBaseTeam will leave the UK on Wednesday 28 September, cycling from Saint-Malo in the early hours of Thursday 29 with the aim of reaching Clermont-Ferrand on 1 October. To support this epic challenge, please donate online at www.justgiving.com/HDBTeam. You can also follow the team on twitter @ciegroup. ◆

www.cie-group.com

Phil Price (left) with Tremayne Crossley – and RCF voice alarm equipment

RCF UK appoints SigNET as UK specialist voice alarm distributor

RCF UK has announced the appointment of SigNET (AC) Ltd, leaders in life safety audio communication (voice alarms), as its Specialist Distributor in the United Kingdom for the DXT 3000 Emergency Evacuation System.

In addition to the Italian manufacturer's EN 54-16 certified DXT 3000, SigNET will also be able to offer sales of RCF's associated EN 54 certified Voice Alarm products into the Fire Alarm and Security Systems market within the UK.

The DXT 3000 system integrates amplification, control, routing, line monitoring and power supply in a compact, wall-mounted cabinet for single- or multi-zone applications. A wall-mounted emergency microphone and controller are also available, as is a desk-mounted paging microphone.

RCF's International Sales Manager for Voice Evacuation Systems and Commercial Audio/Installed Sound Phil Price said, "SigNET is well known for its AFILS hearing loop systems but also has a strong track record supplying Fire Alarm and Voice Alarm systems, which gives a considerable advantage in this strategic market. SigNET will offer full trade distribution and excellent technical support facilities for RCF in the UK."

SigNET's Sales Manager, Tremayne Crossley, confirmed this and added, "SigNET has considerable experience in supplying and supporting Voice Alarm systems ranging from shops with a single evacuation zone through to airports with more than 200 zones. We are very excited that this, combined with the innovative design and competitive pricing of the DXT 3000, will allow us to provide the Fire Alarm market with a simple, effective, fully-compliant voice alarm solution." ◆

www.rcfaudio.co.uk

BPM | PRO 2016

This year's show, which took place from 11–13 September at the Genting Arena, NEC, boasted a solid two days of visitors with a further day focused on the trade visitor, building a strong foundation for the future of the brand new BPM | PRO format.

The reaction from visitors and exhibitors alike was extremely positive; many feeling very much at home in a venue which was fit for purpose. With a social space for DJ & Studio, a full-height arena for professional lighting and special effects, and individual rooms for sound demonstrations, the move from a traditional exhibition space into this new venue has proved a big success.

An exceptional audience of end user DJs, music producers, lighting designers, sound technicians and venue owners flocked to the show, providing the best brands from around the world with the opportunity to show off their new products to a plethora of visitors.

Mark Walsh, Marked Events Director and co-founder of BPM | PRO said: "We have made a lot of changes this year, and they appear to have all paid off! The new venue has been the absolute right choice for our industry, not only is the space fresh and exciting it is also surrounded by plenty of hotels, bars and restaurants which allows the show atmosphere to continue on through the evenings. I am extremely thankful to all those exhibitors who have supported the show over the past ten years and especially to those who took a chance on us again this year. Myself and my team are already excitedly working on the 2017 event, where we will build on the positives from this year and listen to feedback, from both visitors and exhibitors, to create an even bigger and better BPM | PRO for 2017."

Trade sponsors Lesiuretec ran live demonstrations on the Avolites Quartz Console throughout the show. Charlie Henden from Leisuretec said: "There was a great vibe, new faces and overall a fantastic opportunity to socialise with customers and suppliers. You can be sure to see Leisuretec exhibiting at the show next year."

ISCE would like to thank Jason Williams MInstSCE, who represented our Institute with his seminar: *Delivering exceptional audio with digital infra-red technology*.

BPM | PRO will return to the Genting Arena, NEC, in 2017, dates to be announced soon. ◆

PLASA 2016

Taking place 18-20 September at Olympia, London, audio was higher on the agenda at this year's PLASA Show with an increase in representation from manufacturers, whether exhibiting in their own right, or in partnership with their dealers and distributors.

With the first day of the show completed, there is a definite air of optimism around Olympia, particularly from the audio fraternity. We talked to some returning exhibitors and some first timers to see exactly what it is that is making this such a positive experience for them.

"PLASA needs people from the audio industry to get behind it," says SFL managing director Tom Jeffery, a first time exhibitor at PLASA and their presence has been prompted by their appointment as a d&b audiotechnik sales partner. "We're going through a change in our industry. PLASA needed to adapt and I think that process has started. We've known PLASA's new managing director Peter Heath for a long time through Roland and it's great to have that fresh blood coming in.

"I think the venue change is great. I like the fact that it has natural daylight and I like being upstairs. We came away from the exhibition having had some great conversations with existing customers and with people we didn't already know".

SSE's Alex Penn feels that PLASA being in London is important for them because it is a key market for the company.

"It's probably the area in the UK where we see the most opportunity for us to increase our market share," he says. "From a customer perspective, it's much better to be speaking to service companies such as SSE Audio Group/Wigwam. That way they're liaising directly with the people that will be supplying them with both products and services. As we represent a range of different manufacturers, we're perfectly placed to do that."

ISCE would like to thank John Woodgate HonFInstSCE, who represented our Institute with his seminar: New Safety Standard – revolution not evolution.

PLASA will return to Olympia on 17–19 September in 2017. ◆

Media Vision continues growth in Europe by launching local presence in the UK

Media Vision's new operations in the UK will ensure that customers can experience a quick response time, accessibility to equipment and local support.

Jason Williams, based in the London, has been appointed as Media Vision's director of sales for the UK and Ireland. He will be leading the company's regional expansion.

Bringing over 26 years of audiovisual engineering and consulting experience, William's expertise lies in the delivery of conference technologies and multimedia solutions across a number of vertical markets in the public and private sectors.

Jason will be working to qualify a number of integrators and consultants as Media Vision partners who will be fully supported with onsite product training, systems design expertise, and a wide range of solutions offering unique capabilities and flexibility for installations. "One of the product lines that I am most excited to showcase is the TAIDEN 5300 Digital Infrared Discussion System, particularly for corporate boardrooms, VTC and combinable spaces" says Williams. "This is a great non-RF solution to our ongoing issues in the UK with interference and congestion on the 2.4 GHz and 5 GHz ISM wi-fi bands." ◆

Leisuretec plaque presentation

ISCE President, Phil Price with Leisuretec's Managing Director, Mike Henden

Managing complaints procedure

Our Hearing Loop System (HLS) Design and Measurement courses have successfully accredited dozens of engineers to date. However, Council has been made aware of two instances where the quality of work by ISCE-accredited HLS engineers has failed to meet the customer's satisfaction or the ISCE's standards and which required investigation and remedial work.

These experiences have highlighted the need for a clear, fair and formal process for managing complaints against ISCE-accredited HLS engineers for the protection of the ISCE's reputation and to limit the Institute's liability.

Council has now approved such a process and a 'swimlanes' flowchart has been created to communicate the requirements on all parties; Complainant, ISCE Secretariat, ISCE Council, the Council-appointed Independent Investigation Engineer, the Engineer in question (against whom the complaint has been made), and (if needed) the Council-appointed Independent Assessment Engineer.

All existing and future ISCE-accredited HLS engineers will be asked to confirm their acceptance of this process as a condition of their details being held on the ISCE database of accredited engineers.

Copies of the process can be found on the Members' Only page of the ISCE website.

Council will be monitoring the effectiveness of this process to ensure it remains clear and fair, and intend to use it as the basis for managing complaints in relation to future accreditation schemes operated by the ISCE. ◆

Tax relief on membership subscriptions

Did you know that member subscriptions are usually tax-deductable, effectively reducing the cost by 20% (basic rate taxpayer) or 40% (higher rate taxpayer). The ISCE is on the list of HMRC professional bodies and learned societies with tax-deductible fees. This means that you can claim tax relief on your annual ISCE membership subscription provided:

- you must have membership to do your job or it's helpful for your work
- you have paid the subscription yourself.

You should keep a record of the membership subscriptions you have paid and you can make a claim within four years of the end of the tax year in which you paid a subscription. You should claim tax relief using a Self Assessment tax return (if you already complete one) or apply using HMRC Form P87 (Income Tax: tax relief for expenses of employment) which can be downloaded from the HMRC website: www.gov.uk/government/publications/income-tax-tax-relief-for-expenses-of-employment-p87. The HMRC will usually make any adjustments needed through your tax code for the current tax year. ◆

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Clarity in Pendragon Multi-Sensory Centre

The Pendragon Multi-Sensory Centre in Northallerton, a specialist centre charged with making real differences to the lives of those with physical, mental and emotional difficulties, opened its doors for the first time on 4 July 2016.

The new multi-sensory centre is owned and operated by the Pendragon Community Trust, formed by a group of parents and carers together with other compassionate and committed professionals. Their aim is to fill the gap in day service provision for people with learning and profound disabilities, by providing a stimulating range of therapeutic and developmental activities.

Fundraising for the Pendragon Centre began more than twelve years ago and on opening day Chairman of the Pendragon Community Trust, David Kerfoot said: "It's been an emotional day, it has been hard to keep back the tears at times. So many people have helped to bring the Pendragon Centre to where it is, It's all paid for, now all we have to do is raise the money to keep it going. The need is so great - the Centre fulfils a really important role".

The Centre is dominated by a double height sensory area that combines stunning sound and light effects with specialist equipment such as bubble tubes, a ball pool and soft slide. The design and fit-out of the Centre was split between special needs company Mike Ayres Design and Clarity in Sound, Light and Vision Ltd, experts in the provision of sensory environments for education.

"Designs for the Pendragon Centre began almost two years ago", commented Stuart Graham, Managing Director for Clarity. "We'd worked with Mark Hildred, an independent Sensory Consultant on a number of other projects and we were honoured when he approached us to make a proposal for this amazing Centre".

"After a number of consultation meetings our technical team commenced working on-site in March 2016 for approximately three weeks, returning in June just a few weeks prior to the opening, to fine-tune, commission and handover the system", added Graham.

"Alongside the projection, lighting and AV systems, we used a Cloud DCM-1 digital zone mixer to control the audio across seven separate zones within the centre including the atrium, sensory, reception and studio areas".

A Cloud PM-8SA paging microphone is included within the system design, allowing each audio zone to be paged individually, currently across all seven zones. Capacity exists within the current configuration for an additional outside zone of audio and paging to be added in the future, if required.

A number of audio sources including CD/media player and internet audio via a local PC are selectable in each zone via Cloud CDR-1 remote volume/selection panels and local Cloud LE-1 remote wall input plates allow the connection of additional audio sources in the atrium, reception, sensory and quiet rooms.

Audio from the digital zone-mixer is distributed to a Cloud CX-A850 eight channel amplifier fitted with 100V output transformers which in turn is connected to number of Bose Freespace 3 satellite and bass loudspeaker in the atrium and a number of Bose Freespace 16 loudspeakers in other zones.

"The Cloud DCM-1 gives us the flexibility to provide localised remote control and input facilities positioned exactly where they are needed as well as a portable device, ie iPad control option, which the staff at the centre are very happy with, as the learning curve is reduced due to familiarity with the device", summarised Graham.

In addition to the audio system Clarity in Sound, Light and Vision Ltd also installed a comprehensive LED wall and ceiling colour wash system using a number of Chauvet HEX12 LED lighting Pars and a number of Pulsar colour changing LED hanging spheres. The lighting fixtures were fitted to a bespoke truss support system, pre-wired with DMX lighting outputs and power sockets whilst a Panasonic 730Z 7,000 lumen projector with remote controlled short throw lens was also installed to provide moving projection images and light on a 3m wide surface.

Mark Mildred said "What stood out about the proposal from Clarity was the way they addressed the whole site audio requirements, rather than just the sensory spaces. The Cloud system has provided much greater flexibility than we thought would be possible within the budget we had available. The Centre staff can easily route audio and control volumes locally with the minimum of training, providing many more opportunities for the use of sound across the centre." ◆

www.cloud.co.uk

Standards update

Andy Scott *FInstSCE*

EN 303 348 – induction loop systems intended to assist the hearing impaired in the frequency range 10 Hz to 9 kHz

This has to be written to enable induction loop amplifiers and receivers to continue to be CE marked and placed on the market after the Radio Equipment Directive comes into force in June 2017.

There were some comments from the German equivalent of Ofcom.

These are nearly all resolved and It is in the final stages of editing.

EN54-24 – (voice alarm) loudspeakers

CEN TC72 WG23 has finished reviewing the comments and will start working on the requirements and test clauses at the next meeting in November.

EN 54-16 – voice alarm control and indicating equipment

CEN TC72 WG23 has set up a task group to work on the comments which is making good progress and will meet again in November.

EN 50849 – sound systems for emergency purposes that are not part of a fire alarm system

This has been finished and is out for final vote.

BS5839-8 – voice alarm system installation etc

Once the revision of BS 5839-1 is complete, this standard will be reviewed to see if any changes are needed.

BS 7827 – sound systems at sports grounds

This is being revised. Convenor of the panel is Roland Hemming aided by a team of esteemed consultants.

Most importantly the name of the standard is likely to change to something like *Sound Systems for Large Venues*. This is to reflect the fact that the same issues often arise in large conference centres, airports, stations as well as stadiums and arenas.

The team have already identified about 15 areas that will be improved and clarified. We aim to shorten the standard. Furthermore we plan to more fully explain when and how the standard is used in the context of BS 5839-8, EN 54-16 and 24, BS 6259 and prEN 50849.

A very rough working draft has been created and the committee plan to divide up into task groups and then review the work.

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. ◆

ISCE MEMBER -GET-A- MEMBER SCHEME

£10 for any new member successfully introduced

The success of the ISCE depends very much on the size of its membership. The greater the membership, the more subscription funding is available, and the more we can do for you.

We all know someone who will benefit from the membership of our developing Institute. All you need to do is persuade your colleagues and contacts to apply to join the Institute and we will do the rest.

Your efforts will be rewarded with a £10 voucher (John Lewis or Marks and Spencer) per member successfully introduced. The voucher will be sent on the annual subscription date (normally April).

You may already know a specialist within a local council, a large organisation, a college or even a theatre. The more we can spread our influence, the greater will be the return, so everyone will want their installation or service carried out by an ISCE member.

Perhaps one of our most successful initiatives has been the Supporting Member scheme. If you know of a reputable company that would benefit from being a Supporting Member, then please send us the company name and the contact details of the Chief Executive, or the ultimate decision maker and we will get in touch with them. Once again, your efforts will be rewarded in the same way as for the MGM scheme.

If each member recruits just one new person, we instantly double our membership

New Members September 2016

Member

Andrew Larcombe
BL Acoustics Ltd

Graduate

Alberto Fueyo Gallego
AMS Acoustics Ltd

Technician

Dean Corrigan
Contacta Systems Ltd

James Graves
Contacta Systems Ltd

Brendon McDonald
Contacta Systems Ltd

Steve Rees
Contacta Systems Ltd

Karl Wakeman
Contacta Systems Ltd

Senior Technician

Adam Florio
AV Systems Ltd

James Jardine
Contacta Systems Ltd

Paul Mann
Contacta Systems Ltd

Tim Mills
Contacta Systems Ltd

Harish Patel
Contacta Systems Ltd

David Weightman
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We wish to thank Ray Bridger for his generous donation to the ISCE after his many years of membership and wish him well in his retirement. Also our thanks to David Tyas FInstSCE for donating a plasma screen and stand for us to use at future ISCE events. ◆

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