ISCE

The magazine of the Institute of Sound and Communications Engineers

Autumn 2015

ISCE

Inside this issue

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ISCEx**2016**

www.isce.org.uk

Networking Dinner
Tue 8 March 2016 · 7pm

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

Why not book a table and invite your customers along. 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.

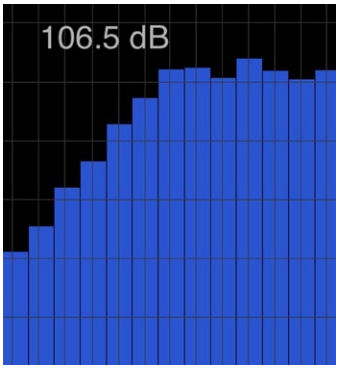
Starting at 7pm with pre-dinner drinks.

Exhibition and Seminar Day
Wed 9 March 2016 · 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

Join us at ISCEx**2016**

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Warwickshire CV3 2AB

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Introduction from our President

Anthony Smith *MInstSCE*

Welcome to the jam-packed Autumn edition of the magazine.

In this edition, we have a diverse collection of articles, from installation reviews, to all important healthcare issues from our past-president Terry.

Continuing our expansion of training courses, we have a new sound system measuring techniques course from Peter Mapp, as well as a proposal from John Woodgate for a standard for talker training, and a brief update on the last changes to BS5839 part 8.

ISCE (well, Ros) has been attending BPM/PRO, gaining new members and supporting members to swell the ranks, bringing me nicely to plugging ISCEx 2016 to be held, once again, at Coombe Abbey on 8 & 9 March and a quick reminder to our members that there is an early bird offer for exhibitors (please contact Ros for more details) until the end of September, so hurry to take advantage.

Well that's it from me. Enjoy the magazine and remember any technical articles, product launches or case studies are gratefully received by Ros, as the Winter magazine is prepared.

Anthony Smith ◆

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

Please send news or articles to **Ros**

Forthcoming events diary

4–6 October 2015
PLASA
ExCel, London, UK

8 October 2015
ISCE training – sound measurement techniques
Hemel Hempstead, Herts, UK

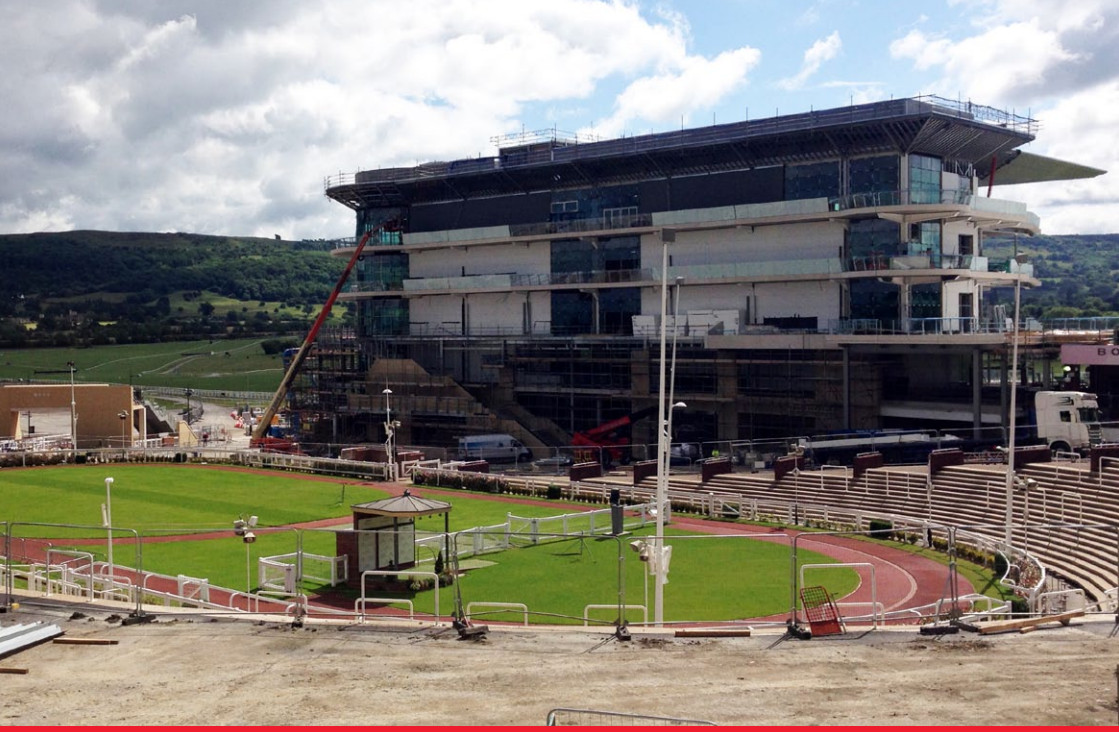
10–12 November 2015
IOA Reproduced Sound
Fire Service College, Moreton-in-Marsh, Gloucestershire, UK

25 November 2015
Security & Fire Excellence Awards 2015
London Hilton on Park Lane, UK

9–12 February 2016
ISE
RAI, Amsterdam, NL

8–9 March 2016
ISCEx2016
Coombe Abbey, nr Coventry, UK

21–23 June 2016
Firex
ExCel, London, UK



GBE to use Baldwin Boxall at Cheltenham Racecourse

The Jockey Club's £45m redevelopment of its flagship Racecourse at Cheltenham is fully underway with many of the areas complete outside of the main grandstand. The re-development will increase capacity and provide state-of-the-art facilities and includes the demolition of the current royal box, which was built in 1952, and 55 other boxes built in the 1920s and 1930s.

Part of the re-development programme included within GBE's scope of works is the installation of the new PA/VA system, disabled refuge and WC alarms throughout the grandstand and new royal and private boxes.

The Jockey Club's objective is to have a PA/VA system that provides state-of-the-art evacuation messages throughout the venue and sound reinforcement for the comprehensive AV system. The technically demanding specification involved GBE performing extensive acoustic surveying and sampling to provide an accurate design suitable to meet the requirements. One of the key challenges was to design a PA/VA system that could integrate with the AV equipment to provide sound reinforcement to the large number of different zones within the new building. In addition the works are being undertaken whilst the racecourse is still functioning which calls for well-organised programming and disciplined working.

On completion of the design GBE decided to specify Baldwin Boxall's VIGIL2 PA/VA system. As a Gold Status Customer, GBE has been working with Baldwin Boxall for over 10 years and was confident the equipment, which they manufacture, would achieve the high level of technicality and quality needed. As GBE Business Development Manager Paul Walsh said "The level of service we receive from Baldwin Boxall from sales through to service including their technical information is industry leading. We have absolute confidence in using them on a high profile project like Cheltenham Racecourse."

In addition to the high level of service, Baldwin Boxall enabled GBE to add value during the tender process; for the Disabled Refuge and WC alarms GBE has also specified the Baldwin Boxall Omnicare system. Works are due to be completed during the Summer of 2015.

www.baldwinboxall.co.uk ◆

"Did she say the next Tube station is Istanbul?"
The need for talker training

John Woodgate *HonFInstSCE*

"That's what it sounded like, but it's actually Shepherds Bush". I suppose most ISCE members have had the experience of a totally incomprehensible announcement, in a train or aircraft, on a station or even in an airport. The cause is even more obvious if another announcement over the same sound system is completely clear.

Long years ago there was a radio act, one Harry Hemsley, who had a troupe of imaginary children to whom he gave voices. The highlight was always the youngest, Horace, who was totally unintelligible, so Harry had to ask his slightly older sister to translate, The catch-phrase was 'What did Horace say, Winnie?', which became very popular. Many years later, an Australian academic wrote a high-selling little book 'Let's talk Strine' (introducing that word to the language), with such gems as 'Alava large plaida prawns and a pyannamara source'. Much more recently, the word 'mondegreen' appeared in our language, as a result of garbling a Scots song:

...They ha' kilt the Earl o'Murray
and Lady Mondegreen.'

If you've got a month to spare, do a Web search for 'mondegreen'.

Our departed colleague Steve Jones was a particular advocate of the need to train talkers, but was frustrated in attempts to get anything written in standards. (I write 'talkers' to clearly distinguish from (loud)speakers.) Peter Mapp is also a strong advocate. I therefore tried recently to get something into IEC 60268-16 (on speech intelligibility) but it was ruled 'off-topic', so at best only a very brief mention may be included in the next revision.

However, there is wide agreement that a sound system with an excellent STI of more than 0.8 can easily be rendered unintelligible by a talker with poor articulation, perhaps accompanied by a word-rate of 250 per minute. So what can be done about it? Speech-training is widely available for actors, politicians, court-room lawyers and broadcast presenters, but it is not cheap and will not attract budget unless there is an incentive. The sort of incentive that our industry sector can generate is a standard.

We need a standard that specifies the content of a training course and, most important, how to assess the trainees at the end of the course. That just might consist of a sort of inversion of a subjective intelligibility test of a space or a sound system. The trainee could articulate a set of carefully-designed phrases or passages of text and a representative panel of listeners would record what they hear. The listeners would need to be audiologically screened, so some would be otologically normal and others would have impairments and use hearing aids (correctly adjusted). This is just one approach; there are several others.

So how do we get a standard? We have to identify which standards committee would be responsible and in this case it seems to be ISO/TC159. We don't at present have any contacts there, but we are investigating through the BSI 'mirror' committee PH/9. We would need to write a New Work proposal, but at least that's a bit easier than getting new work started in BSI. We have already secured initial support from USA, and we may get more from other countries.

Naturally, ISCE members will have opportunities (plural) to contribute and comment, but we are not expecting a mad rush. Meanwhile, precipitation in the Iberian peninsula is largely confined to the champaign. ◆

Time for an upgrade

Stephen Gilbert *TechInstSCE*
Kernow Installations Limited

Having installed the original sound system into Probus Parish Church in Cornwall some fifteen years ago, it was flattering that when the PCC wanted to give it an upgrade, they came back to us.

The minor upgrade involved replacing the wireless microphone systems with TOA 5000 series systems including a YW4500 remote antenna to increase operating range. Opting for the superior WT5800 receiver allows for the YW4500 to be shared using a BNC link.

A couple of music input points at the front and rear of the church were also included as well as the re-installation of the main equipment into an oak rack cabinet which tidied up the wiring. I can personally recommend Studio Racks, (www.studioracks.co.uk) for any timber veneer racking that you need. A well-priced wide range and really prompt service.

Finally, the insertion of a 31-band graphic equaliser ensured improved audio quality and output level without any risk of feedback. The client was as equally delighted as the first time we had visited so hopefully we'll see them again in another fifteen years.

www.publicaddress.co.uk ◆

Clever Acoustics range now has a 3-year warranty

Following the success of our Clever Acoustics product range in its first two years, combined with unsurpassedreliability and support from our manufacturing facility, we are now proud to offer an amazing 3 Year Warranty on our entire range of public address solutions.

Installers and consumers can now have the confidence to use this range without any concerns over reliability and quality, knowing full manufacturer support is available in the unlikely event it may be needed. This 3 Year Warranty, which is valid from date of purchase proves our commitment to the quality of our products and gives you complete peace of mind in your choice to purchase and install the Clever Acoustics brand.

Please note: The 3-year warranty is only valid on Clever Acoustics products purchased on or after 01/07/2015. All standard returns procedures apply.

www.cleveracoustics.co.uk ◆

Male cancer – awareness, diagnosis and treatment

Terry Baldwin *HonCompInstSCE* and **Bernard Bibby** *FInstSCE*

As immediate past Pressie, I thought I might just help Ros fill this quarter's journal.

Ok, as Pressie at the time, and working within the industry, I did manage to visit many, many customers who became very good friends.

I say this because they knew the illness I had and helped me tolerate it.

I had (and have) prostate cancer.

People say that you die with it and not of it. We'll see!

I don't really know the percentage of men in our industry, but let me speak to them. (Ladies don't have prostates, but bless them; they have other bits and pieces which affect them too).

So lads, if during the night you frequently need to get up for a pee, then get yourself checked out by your GP. Similarly, if you rush to the loo only to find you can't go, then again, a trip to your GP for a PSA (prostate specific antigen) test. Nothing to it.

Just remember, the earlier the better.

On a slightly different note but closely allied, I met up with Bernard Bibby recently, and he told me all about his charity work. He started way back … Oh let him tell you himself!

Thanks Terry for the intro. Well as Terry said, as an old ISCE Fellow who has got involved with a male charity, I would very much like to take this opportunity to raise a very important and personal health issue with you all. Now lads and I would like to apologise to the ladies who may read this inclusion if the language is very boy orientated. But, you men are a pain when it comes to dealing with bits of your body, especially those bits close to your person, your crown jewels.

Some of you will remember the chocolate advert with the sound track of 'Nuts oh hazel nuts' well how much do you know about your nuts (testicles) and how very, very important they are to you maintaining your prowess and manhood.

On average 90% of your testosterone is generated within the testis, so you will see that keeping tabs on those critters is very, very important to you, your ongoing health and any relationships you may have. Ladies this is your opportunity to switch into nagging mode and please do it for their own health sake, they need it, yes?

The ORCHID charity is run out of St. Bartholomew's Hospital London and was set up from the collaboration between a patient and a consultant. The name ORCHID comes from the Greeks who thought that our testicles look a bit like orchid bulbs.

You can make a donation to me via the ISCE or directly to the charity in London.

I am also looking for company members to take on board the charity and with our help arrange as many and varied events as possible to raise much, much needed cash.

As Terry has pointed out, early intervention by getting checked out by your GP is paramount, and don't worry if your GP is female and young enough to be your daughter or grand-daughter, they are totally professional and are there to inspect, advise and help with whatever the next stage may be.

I have checked with the Charity and they, quite rightly, have asked me to add that urinary symptoms are also common to non-cancerous conditions. A PSA test should always be accompanied by a full hands on examination by your GP. So contact your GP, let them know in advance what it is all about and just lay back relax and as they say, think of England – no not the football team.

You might be thinking have I been and had my pride and joy manipulated? Yes, on more than one occasion and to date all is working well.

The charity has a number of informative booklets that will be sent to you on request.

Charity contact details:

ORCHID
St. Bartholomew's Hospital
London EC1A 7BE

T. 0103 465 5766
Email info@orchid-cancer.org.uk
Web www.orchid-cancer.org.uk

Your help and support is needed so that ORCHID can help and support you whenever needed. ◆

PRO 2015 flourishes with dynamic feature-rich format

Once again satisfying the needs of the industry, PRO 2015 was a successful show that saw big-name exhibitors, new feature areas and an expansive educational programme draw in a broad range of visitors from the performance and venue technology industry. Following this hugely positive second outing, organiser Marked Events will take exhibitor and visitor feedback into careful consideration as planning begins for PRO's third show in 2016.

Earlier this month, PRO made a much-anticipated return to the NEC in Birmingham following its successful debut in 2014. This year the combined visitor figures for PRO and BPM – the DJ and electronic music production event that is collocated with PRO – totalled over 9500. PRO attracted 4079 dedicated visitors as well as additional visitor traffic crossing over from BPM's 5594-strong audience, which included venue owners and managers, event organisers, and music industry professionals, as well as students studying performance or music-related courses.

The chance to engage with visitors out on the show floor was a highlight for NEXO, whose joint stand with Yamaha proved popular with attendees. Sales Manager, Gareth Collyer reiterated: "PRO was rather a landmark show for us, the first time that NEXO and Yamaha have exhibited together. We saw an encouraging number of high-quality prospects and many well-known industry faces, including most of the top-flight audio rental companies . All in all, we think this is shaping up to become the premium UK show."

While large numbers of visitors enjoyed speaking to brand representatives out on the exhibition floor, the 2015 show also included an expanded PRO Audio Demo Space and extended PRO Sessions learning programme. The latter of which played host to two ISCE seminars that were very well attended. Thanks go to Brian Hillson AMInstSCE, who gave a magnificent presentation on behalf of ISCE on "An Introduction to Sound Engineering" and "Houses of Worship and business opportunities".

Looking to the future of PRO, Show Director Mark Walsh said: "It is an exciting journey we are on, and in an industry that is changing quickly it is important that the events we deliver reflect that. We are very pleased with the growth of PRO from our launch show last year to 2015's significant event." ◆

Tewkesbury Abbey steers towards RCF'S VSA digital columns

Sound Advice carries out complete audio upgrade as mediaeval meets post-modern

Back in 2010, when the medieval Tewkesbury Abbey was considering the installation of a new LED environmental lighting system it simultaneously saw the opportunity to rectify the problems it had been having with its sound system — which was becoming unreliable and lacking in intelligibility — and at the same time take advantage of the new cabling infrastructure.

The contract went out to tender, and from the five companies originally approached, Jon Hunnisett's Sound Advice PA Installation, specialists in houses of worship, provided the successful bid. He based his proposal around an RCF VSA (Vertical Steerable Array) solution, having seen it successfully deployed in other famous heritage buildings such as St. Mark's Basilica in Venice.

VSA would need to be sensitively installed in Tewkesbury's Grade I-listed visitor attraction under the watchful eye of the DAC (Diocesan Advisory Committee) since it dates back to Norman times. In fact The Abbey Church of St Mary the Virgin (to use its correct name), is the second largest parish church in the country and a former Benedictine monastery. Founded in 1087 by nobleman Robert FitzHamon, building of the present Abbey did not start until 1102 and was eventually consecrated in 1121.

Jon Hunnisett's company has worked on many projects with RCF — aside from installing column speakers in houses of worship they have fitted many of their conference systems in commercial meeting rooms and chambers. "They are a great company to deal with — we always get excellent support, including the technical expertise in Italy to back us up," he said.

In this case the back-up came from the project manager Francesco Venturi from RCF's in-house division, who provided the measurements and analyses. This gave the project team the acoustic background in which to design their series of VSA2050, VSA1250 and VSA850 columns in a six zone system incorporating the main Nave, Quire and Lady Chapel.

In another zone — the Ambulatory walkway which runs around the perimeter behind the altar — these were supplemented by eight passive CS6940, powered by a pair of RCF UP8504 quad channel power amps, a column speaker the installer has used on many occasions in the past (and which features in Westminster Abbey).

Hunnisett continues, "This time around I didn't want a large number of distributed speakers with separate delays so much as minimal equipment that would provide a lot of options with more versatile delay and EQ options. I had heard VSA and knew it would tick all the boxes while still hitting the price points."

And so in addition to the high directivity CS6940, he specified a total of six of RCF's flagship VSA2050 powered and steerable vertical array columns (four for the nave and two for the high altar), five VSA1250 (for the Choir, the Font and Lady Chapel) and a pair of VSA850, which sit under a pair of the larger VSA's either side of the aisle at the front of the nave. While the VSA2050s handle the long throw focus over a ▸

20-metre distance, the VSA850's cover the near-field. The two VSA1250, installed on pillars facing the Font, provide independent local coverage for specific services.

The Diocesan Committee were already aware of the power and flexibility of the preset beam patterns, as the Sound Advice team had earlier provided a VSA demonstration to the entire Abbey church committee. "We put one speaker up and they were enormously impressed," Jon Hunnisett remembers. "As a result, the Faculty immediately approved [the investment].

"The trick was to use the loudspeakers in conjunction with the excellent natural acoustics of the space to amplify the sound, rather than try to overpower the reverberation."

So what attributes make this multi-amplified RCF series, in which each VSA2050 contains 20 x 3.5in RCF neodymium full range transducers and 20 x Class D 50W digital amps, so impressive? The principle is based on the power of the DSP's which process the audio signal sent to each speaker for controlling its vertical acoustic dispersion. This enables it to address the audio signal to the listening area, rather than scattering acoustic energy to ceilings and empty floors, creating unwanted reflections that would affect speech intelligibility in buildings with high reverberation time, such as churches. This speaker offers vertical coverage selectable within 10°-30°, with steering angle selectable within 0°-40°, and frequency response 100Hz-18KHz with best steerable directivity control between 150Hz-6kHz.

The values measured at the end of commissioning by the RCF team, using the latest analysis software, make interesting reading. STI average values were recorded at: 0.57 (Nave), 0.59 (Choir), 0.56 (Lady Chapel, Ambulatory), with a 40dB background noise correction factor enabled. At the same time, the RT60 average value over different measurements on octave bands revealed 4.85 secs (125Hz), 4.63 secs (250Hz), 4.44 secs (500Hz), 4.18 secs (1KHz), 3.36 secs (2KHz), 2.08 secs (4KHz) and 0.94 secs (8KHz).

The decision had already been taken to leave the speakers in factory finish white, rather than apply a custom stone finish that would see them disappear into the stone columns on which they were mounted, but the same was not true of the cable runs — on 12-metre drops from the Triforium above — as these have been painted to blend invisibly into the background.

Yet these physical demands were nothing compared to the challenges of providing highly sophisticated control that could nevertheless be managed intuitively from a remote Crestron interactive touch tablet. Even clergy in a mediaeval abbey are still expected to sign up to the iPad/remote tablet generation.

With all the control housed in a remote 32U rack, the architecture is based around three Symetrix DSP Radius digital 12 x 8 matrix devices, giving 36 input channels (including CD player and recorder) feeding 24 output channels; it is this that issues relay commands via the processor.

Jon Hunnisett explains the rationale. "There was not a manual slider available which would meet the requirement and so we spent ten days programming each of the zones so that the matrix could be controlled over wi-fi, with individual input control and volume control for the outputs."

For the speaker coverage it could scarcely be simpler as graphic representations of each zone appear on the tablet, clearly showing masked areas that can be selected for sound coverage, depending on the service rota. “For example,” says Hunnisett, “for the Lady Chapel the remote touch screen would tell the DSP to access certain outputs as required. Behind the scenes a lot of programming has taken place to achieve this.”

The iPad also contains an app for the Sennheiser Evolution G3 300 Series radio mics so that the control panel will show whether any of the five lapel mics are muted or not, as well as the status of the rechargeable batteries. These radios are joined by two condenser microphones for the lectern and pulpit, hardwired to the equipment rack.

An audio feed is also sent to the new induction loop system, but as RCF’s Phil Price notes: “Some people may be reluctant to use aids, even though they may be hard of hearing — but now they can hear every word of the sermon. Another interesting fact about the new sound reinforcement system is that if there is choral music at low level the sound appears to come from the choir itself rather than from the speakers.”

At the end of it all, mediaeval abbeys were never built to host music — such as CD’s for weddings and baptisms — and were hardly built with slide rule precision. At the survey stage Jon Hunnisett realised that the pillars down the nave tilted slightly, and he had to decide whether to follow the line of the pillars with the steerable columns or take a true vertical approach (which he eventually opted for, with the aid of a laser leveller).

He could scarcely be happier with the implementation. “The new set-up offers two-way interactivity and with all the DSP pre-programmed, and the beam steering computer optimised by the RCF specialists, anyone who can tap a button can now use this.”

www.rcfaudio.co.uk ◆

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Sound measurement techniques

Measuring acoustics, noise and sound system acoustic performance

8 October 2015

Hemel Hempstead
Methodist Church
Northridge Way HP1 2AU

Non-member £225
Member £180

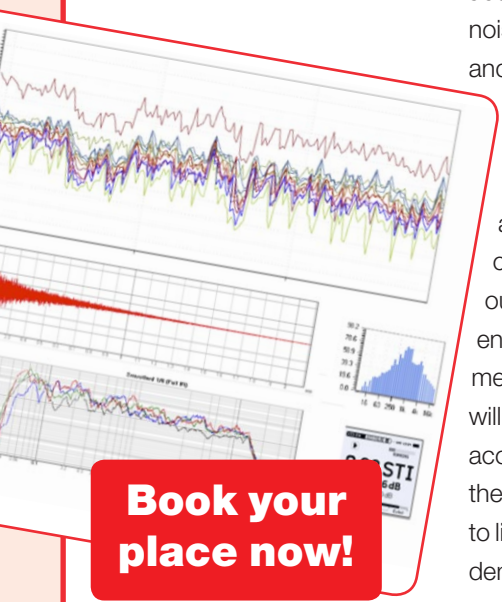
Three or more persons from the same company: 10% off each individual fee

All fees exclude VAT

Presenter:
Peter Mapp FInstSCE

Learn how to measure the acoustic parameters that affect sound system performance and design

The course covers the measurement of essential acoustic design parameters such as background noise level and reverberation time. Understand noise and acoustic measurement terminology and which frequency weighting and sound level meter integration time settings to use. Learn how to measure the STI intelligibility performance of a sound system and the typical site issues that can affect or even invalidate the readings. Carry out, 'hands on' practical measurements in a real environment and see how measurement errors and meter calibration can affect the results. Peter Mapp will take you on a step by step journey through the acoustic measurement minefield – not only explaining the terminology and technology but bringing this to life with a series of live practical measurement demonstrations and over 30 years of measurement and sound system design experience.



Book your place now!

Training Courses

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ISCE

The Institute of Sound and Communications Engineers

www.isce.org.uk

Sound measurement techniques

Measuring acoustics, noise and sound system acoustic performance

You will learn

- How sound level meters work and which measurement parameters and settings to use
- Noise measurement terminology: A and C weighting curves, fast, slow integration times and Leq measurements
- Octave, 1/3 octave and narrow band frequency resolutions and their uses
- What 'real time' analysers can and cannot do
- How to make Impulse response measurements and what these can tell you
- How to make reverberation time measurements and estimate reverberation times
- How rooms can affect sound and how to determine and quantify such effects
- Direct and reverberant soundfield analysis
- Critical distance and its importance in sound system measurement
- Room modes
- Sound distribution
- System polarity measurements
- How to make speech transmission index measurements & verify the intelligibility performance of a sound system
- Measuring the frequency response of a sound system
- Use of acoustic measurement apps and devices.

Who should attend

Everyone involved in the installation and testing of sound systems or voice alarm systems.

Live demonstrations and hands-on experience

The course will include live demonstrations and a hands-on session where participants get to make their own measurements. A number of sound level meters and analysers will be provided. Attendees are also encouraged to bring their own sound level meters and measurement apps.

Book your place now!

Training Courses

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Institute of Acoustics

REPRODUCED SOUND 2015
PLAYING WITH FIRE

Sound for art, entertainment and emergency purposes
10-12 November 2015

Sound for art, entertainment and emergency purposes will be the focus of this year's Reproduced Sound conference. It will be held at the Fire Service College, Moreton-in-Marsh, Gloucestershire from 10-12 November.

Keith Holland, RS chairman, said: "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 Siegfried Linkwitz to the conference to receive the Peter Barnett Award, and look forward to the return of John Watkinson who is speaking after the conference dinner. The papers cover many aspects of sound reinforcement, PAVA systems, sound quality, measurement, modelling and cinema sound and there will be an 'Anti-Workshop' on cautionary tales in sound reinforcement, where we anticipate a light-hearted discussion around particularly interesting examples of questionable practice presented by the expert panel!"

"The new venue marks a return to the ever popular residential format of many previous RS conferences, which helps to encourage networking between attendees. The Fire Service College is ideal for our conference; it is set in the stunning Cotswolds and is conveniently accessible from London, the Midlands and the South West."

Since its inception, Reproduced Sound has become renowned for bringing together some of the friendliest and most knowledgeable sound specialists in the world.

www.ioa.org.uk ◆

New Supporting Members

professionalsoundconsultancy

Professional Sound Consultancy Ltd. are experts in sound design; our core business is the design, installation and maintenance of voice alarm systems.

Our highly trained and experienced field engineering team provide nationwide coverage, looking after some of the largest, most prestigious sites in the UK.

All of our team are highly skilled engineers with foundation qualifications in electronics and engineering, ranging from HNC to MEng with many years of industry experience.

We strongly believe the 'life safety' aspect of voice alarm requires recognition. Work on these systems should be carried out by specialist companies and we would like to see the industry regulated to ensure standards are met on every installation.

ISCE supporting members represent some of the most influential companies in the industry and together we can promote change.

www.profsoundconsult.com ◆

ISCE
The Institute of Sound and Communications Engineers
Supporting Member
Committed to technical excellence

If you want to join a select group of companies who have chosen to encourage us in our efforts to improve technical standards and practices within the sound industry, contact Ros for an application form or go to **www.isce.org.uk/supporting-members/**

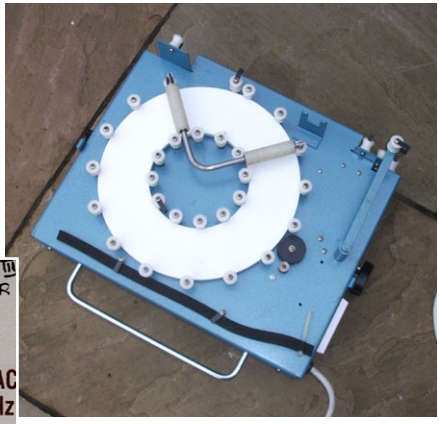
Hidden treasure in the attic

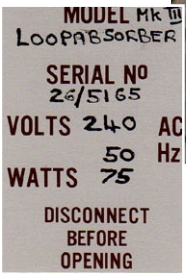
While rummaging in the attic recently, I stumbled across a 'new' and boxed loop absorber that must be around 30 years old. It is offered free on collection to anyone who would like it as a museum piece.

I couldn't help but laugh at the puzzling instruction on the box!

Harold Smart FInstSCE
harsmart@gmx.co.uk
Coventry

◆





ISCE update on BS5839pt8:2013

Anthony Smith *MInstSCE*

All ISCE members and supporting members dealing with Voice Alarm systems will have come across BS5839-8. This is the UK code of practice for the design, installation, commissioning and maintenance of voice alarm systems. In 2013 this code of practice was updated in keeping with modern technologies, but also to include two new sections, one on speaker placement, and one on system testing, both driven by ISCE members of FSH12/5 the BSI committee responsible for this standard.

Speaker placement

Previous editions of Part8 have left speaker placement very vague. This version offers proper guidance for simple systems. The new section 14.2 introduces the concept of ADAs (acoustically distinguishable areas) and the Prescriptive Placement Method taken from ISO7240-19. This allows audio zones to be broken down into smaller acoustically similar areas for the acoustic design, for example the foyer of a building may have a large area at a ceiling height of 3m and an Atrium at the front extending up five storeys. So while these are the same audio zone, the acoustics are totally different, the low ceiling section is a relatively simple ADA, while the atrium would need a detailed acoustic design.

This simple space can have the speakers laid out using the Prescriptive method described in part 8; so unidirectional devices are placed on centres of 6m, or bi-directional devices on 12m centres and no device more than 7.5m away from the listener.

Audibility

New recommendations for audibility have been added to sub-clause 22.1. Effectively, 22.1.1 has been expanded into three sub-clause clauses to:

- Make it clear that, although the speech signal level should normally be at least 10dB above background level, if a space is very reverberant extra care may be needed. Guidance is available in BS EN 60268, Sound system equipment, Part 16: Objective rating of speech intelligibility by speech transmission index; for the measuring of speech intelligibility.
- Clarify that different background noise measurement methods should be used depending on whether extraneous noise is short or long duration;
- Give recommendations for the adjustment of automatic ambient noise level sensing systems.

Cables, wiring and other interconnections

The text of Clause 27, 'Cables, wiring and other interconnections', has been modified to enable the use of fire-resisting cables of smaller cross-sectional area of at least 0.5 mm2 in the case of multi-core or twisted pair cables.

Such cables should also conform to sub-clauses 27.6 or 27.7 to determine if standard or enhanced fire resistant cable is required. Data transmission cable should also conform to the draft European standard prEN 50289-4-16.

Radio-linked systems

The recommendations of clause 28 have been updated to take into account the new harmonised European standard EN 54-25, Components using radio links and system requirements. In particular, recommendations on equipment functions also covered in the European standard have been avoided However, although BS EN 54-25 permits the use of a single battery in each device, the recommendation for radio-linked components to be supplied from at least two independent power supplies has been maintained in the revised code of practice (28.2 refers).

Routine testing

Previously part 8 testing has been in line with the testing of bells and sounders, where different or pre-announcements cannot be made. The commentary to Clause 40, 'Routine maintenance', has been modified to include more guidance on system testing and a new item b) has been added to sub-clause 40.1. The revised code emphasises that pre and post-test announcements should be made in order to make it clear that testing is taking place.

The text of sub-clause 40.1 has also been modified to highlight the need to avoid using the emergency message for all routine testing because of the danger that regular occupants will become used to the message and ignore it in a real emergency. However, a recommendation to expose a number of staff and the public to the emergency message during weekly testing at intervals of not more than three months has been included.

This means that weekly testing of a break-glass through to full evacuate should still take place, but at say 6am Sunday morning when a building is least occupied, and not the 10am Tuesday slot, on the Tuesday the test message may be broadcast so people can report areas of low audibility, without hearing the evacuation message. At a random time every three months a "Fire Drill" should take place to test the evacuation strategy for the whole building.

Standby battery calculations

Annex C has been modified to avoid the assumption of an amplifier efficiency of 50% (class AB) and allow for the more common use of digital amplifiers. When BS 58398 was first written, most power amplifiers used class AB technology, which is less energy efficient. Modern amplifiers use class D technology because this is much more efficient under load. These amplifiers usually offer lighter construction, use less space and have lower standby power requirements. The equation given in Annex C for calculating I2, the total battery load current, now allows the system designer to enter the amplifier efficiency coefficient, if known. Where the exact efficiency of the power amplifiers is not known, it can be assumed to be 50% for a class AB, or between 80% and 90% for class D amplifiers.

Responsible person

The term 'responsible person' has been removed and replaced with references to 'premises management' to avoid confusion with the term defined in the legislation. A definition has been added as follows:

Premises management – 'Persons having day-to-day control of the premises, the fire and voice alarm systems and implementation of the fire procedures'.

Note: In large premises, a single person with specialist knowledge is often delegated the responsibility for the fire detection and fire alarm system and associated matters. In small premises, a person with specialist knowledge is unlikely to be present, but responsibility for the fire detection and fire alarm system can still be delegated to a specific 'delegated person'. ◆

Presenters needed for online TV channel

One of our supporting members, CIE Group, has asked the ISCE to seek out representatives who can confidently present to camera for their newly launched TV channel - HowToAV.tv.

The content for the presentations shall be unbiased and, importantly, non-sales based training and advice for the AV industry.

If you have what it takes and are interested to know more, please get in touch with Ros.

New Members September 2015

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AMS Acoustics

Senior Technician
David Vaughan
AV Strategies

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Chris Bailey
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Ben Jeater
EATON

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ISCE are looking for new training venues

We have been fortunate to have the support of the Shure Academy training centre in Waltham Abbey for a series of our training courses over the past year, but we are now looking for additional training venue solutions in the North, South and West of UK to make it easier for delegates to attend a course nearer to them.

If you have a suitable conference room that could be made available to the ISCE and are in an easy to access location, we would be delighted to hear from you.

Email ros@isce.org.uk

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