

The magazine of the
Institute of Sound and
Communications Engineers
September 2010

ISCE



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Introduction from our President

Terry Baldwin *ComplnstSCE*



Gosh, it's the September edition already!

Ros works as hard as ever and whilst you might think ISCE Council does all the work, it's often her guidance and

common sense that prevails. Thank you Ros.

That of course takes nothing away from your Council members, who meet formally four times a year discussing, often at length, various topics that might affect our members. These might include standards, frequently set by remote committees but without taking into account 'fringe' trades such as rental companies or ProSound. Council don't assume they're always right, but they certainly do fight your cause.

What are you doing on Wednesday 17 November 2010? Well, it's Institute Day which includes the Warren-Barnett Memorial Lecture and our AGM. This year we are holding it in Cardiff at the St David's Hotel (see page 3).

Council decided that in recognition of The Institute of Acoustics' event 'Reproduced Sound' (see page 4), and the fact that our past President, the late David Hopkins came from Wales, then we would organise a dinner in his memory with all proceeds going to his favourite charity – The Beechwood Cancer Care Centre.

Rooms have been arranged at St David's Hotel and the Future Inn and should you wish to book (very advisable) then please do so through Eventfixers on 0845 0500884 quoting 'ISCE Cardiff'.

So often, our events are held in Watford. During my various travels I hear "Why not elsewhere?", so here goes. We look forward to a strong contingent coming from The West Country and, of course, the stalwarts from elsewhere. It should be a great day, so please pop it into your diary and if you are staying over, please book as soon as possible.

We welcome your contribution to the magazine.
Please send news or articles to Ros

Events Diary

10–14 September 2010

IBC2010
The Netherlands

12–15 September 2010

PLASA 2010
London, UK

4–7 October 2010

AES 129
USA

11–13 November 2010

Monaco International
Clubbing Show
Monaco

17 November 2010

ISCE Institute Day
Cardiff, UK

18–19 November 2010

IOA Reproduced Sound
Cardiff, UK

1 March 2011

ISCEx2011
Watford, UK

Comments and or opinions expressed by the editor, contributors and in letters are personal, and may not necessarily reflect the policy of the Council of the Institute of Sound and Communications Engineers

Published by the
Institute of Sound
and Communications
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guarantee and registered
in England no 3288938.

Registered Office:
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Rayleigh, Essex SS6 8RG

VAT registration number:
GB 781 3372 24

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What price quality of life?

Stephen Gilbert *TechInstSCE*, Kernow Installations Ltd



I have been running my own sound engineering business in the South-West since 1985. A small part of my business deals with the hire of sound equipment but the company's main activity is the installation and servicing of commercial and professional sound systems and audio-visual equipment. Over the years I have built up a solid client-base ranging from churches, holiday parks, pubs, clubs, hotels and many more. I also carry out sub-contract work for various national companies as their 'local' engineer.

Originally based in Falmouth, I relocated to Launceston in 2004 on the Devon/Cornwall border to be more central to my clients in both counties and this improved position, just off the arterial A30, has ensured that business has continued to thrive throughout the recession.

It's also a great place to live, tucked in between Dartmoor and Bodmin Moor and 20 minutes to the beach.

I chose to downsize when I moved to Launceston. Although I have several engineers around the two counties that I can call upon when necessary, I decided to work mainly on my own and from home, (I have a separate unit on my property). The last six years have been continually busy and although I have chosen not to expand the business, which would

require taking on full time employees, it has given me an impressive income particularly for this area.

There is huge potential for growth if I were so inclined with more than 80% of my business coming from repeat work or referrals. I have a presence in the Yellow Pages and Yell.com but my website is almost invisible and requires major development. Yet as there are so few competitors in the commercial/professional sound business in this area a more intense marketing campaign has not been needed to sustain a lucrative income.

Whilst the beauty of Devon and Cornwall are not unique, the two counties offer a superb quality of life for adults and children alike, which is why so many people dream of retiring to the West Country. Work's work wherever you are in the country but the drive home here is often uplifting and if the surf's up you might want to stop off on the way!

So if it's so great, why am I considering selling up? Because I have lived in Cornwall almost all of my life and have decided (as part of my mid-life crisis) to do something else whilst I am still (just) young enough. So what price quality of life? Give me a call and I'll tell you!

Tel: 01566 785440

Email: info@publicaddress.co.uk



ISCE

The Institute of Sound and
Communications Engineers

Wednesday 17 November
The Roald Dahl Suite
St David's Hotel & Spa
Havannah Street
Cardiff, Wales
CF10 5SD

INSTITUTE DAY 2010

We have a really special day planned for you when the ISCE host their annual Institute Day at the prestigious St David's Hotel in Cardiff this year

Warren-Barnett memorial lecture

Thinking outside the box

Presented by Peter Mapp FInstSCE

Peter Mapp is renowned for his unique, light-hearted and relaxed style of lecturing – especially when giving keynote talks. The Warren-Barnett memorial lecture, entitled *Thinking outside the box* could be construed in a number of ways and in Peter's hands it probably will be!

One of the themes of the lecture will consider what happens to sound when it leaves a loudspeaker and begins its journey on the way to the listeners' ears. The sound that we hear is a result of the properties of the loudspeaker, the space that it is in and the response of our ears and the complex acoustic and psychoacoustic inter-reaction that occurs. With the aid of a doll's house, a nuclear submarine, an itinerant vicar with a penchant for

hats and a singing hippopotamus, as well as a host of demonstrations, Peter aims to unravel the acoustic process and show why sound systems sound the way they do. Furthermore, rumour has it that he may also be demonstrating how *not* to design systems and the problems that can occur. Don't miss this unique and special event.

The day starts with a hot-topic discussion to warm you up for Peter's lecture, followed by the formalities of the AGM.

The dinner will be an evening of fun and laughter as we dedicate this year's gathering to the memory of our former President, the late Antony David Hopkins. With Dai Vaughan as our MC and an open mic for you to share your anecdotes, there will be every opportunity to do your party piece.

World-class venue for **Reproduced Sound 2010**

 Institute of
Acoustics



The Institute of Acoustics' Reproduced Sound conference moves to a new venue this year when it opens at the Wales Millennium Centre, Cardiff, on 18 November.

Now in its 26th year, Reproduced Sound 2010 aims to represent the cutting edge of modern audio and acoustics in an informal environment that allows consultants, manufacturers, contractors and end users to mingle and share insights and information.

This year's theme will be Performing Arts Venues: Balancing the Design and will include a keynote paper from Jonathan Adams, architect of the Wales Millennium Centre, as well as technical tours of the venue.

The two-day event will also see the presentation of the Institute's prestigious Peter Barnett Memorial Award to distinguished American acoustical scientist Dr Leo Beranek in recognition of his "enormous

contribution to the field of electro-acoustics, especially in relation to loudspeakers intelligibility and signal processing". Now aged 95, he is internationally known as an acoustician specialising in concert hall, theatre and opera house design, and his books on the subject have long been recognised as classics of their kind.

Opened by the Queen in 2004, the Wales Millennium Centre, which has spectacular views over Cardiff Bay, has already established itself as a world-class arts and cultural destination.

For more information, visit www.reproducedsound.co.uk or contact the Institute of Acoustics on (phone) +44(0)1727 848195 or (email) ioa@ioa.org.uk, 77A St Peter's Street, St Albans, Hertfordshire AL1 3BN

What is an Affiliate Member?

John Woodgate *FlntSCE*

If you invent a better mousetrap, the world will not beat a path to your door, because no-one will know about it. So, either you have to get out there and sell it (probably not very skilfully), or you hire a salesman, who may be pants at inventing mousetraps but could sell sand to Saudi Arabia. When your business then expands, you will need a website, a brochure, a business plan so you can borrow money, which means you need a sales forecast and a product plan ... you are into marketing.

It is for this reason that ISCE recognises that most technical people would be unemployed if they were not supported by other people, who market, sell, and manufacture those beloved brain-children that the technical people have developed. The Affiliate Member grade, with its designatory letters AMInstSCE, is specifically intended to honour the contribution to the welfare of technical members made by those who are not engaged in technical activities, whether or not they did use technical skills in the past. The Membership Regulations describe 'Affiliate Member' as a senior grade; it is the appropriate grade for managing directors, directors and senior managers in financial, marketing or sales and manufacturing functions, managers of technical functions whose role is predominantly administrative rather than technical, and other senior non-technical persons.

Council is keen to encourage managers, especially of Supporting Member companies, to apply for Affiliate Member grade, so that the Institute can be seen to acknowledge their individual contribution to the industry.

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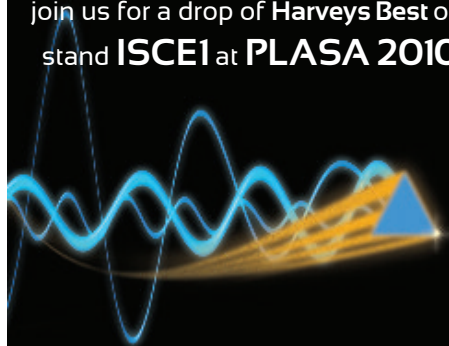
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join us for a drop of Harveys Best on:
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LEADING THE WAY TO SAFETY

ISCE Pavilion at PLASA 2010

12–15 September 2010, Earls Court

The ISCE Pavilion, designed for members of the Institute of Sound and Communications Engineers, are delighted to welcome the following exhibitors this year:

Baldwin Boxall Communications Ltd (Stand no ISCE–1)

www.baldwinboxall.co.uk

Baldwin Boxall is introducing two new amplifiers at PLASA this year and will be demonstrating the Unitouch touchscreen paging station, the BVRD8 voice alarm control microphone, the BFM404 fireman's microphone and the popular Omnicare EVC system.

Two new D-class amplifiers the BV125D (dual 125 watt) and BV225 (225 watt) will be introduced at the show. These new units are more cost-effective and, together with the BV050Q (quad 50 watt) amplifier, the range provides a complete solution from the smallest to the largest voice alarm system.

A visit to Baldwin Boxall's Plug & Socket stand at PLASA is well worth the effort because, in addition to all the products on display, the staff will be happy to serve you a cool glass of Harvey's ale!

DNH Worldwide (Stand no ISCE–3)

www.dnh.co.uk

DNH is the world's leading manufacturer of loudspeakers for installation in commercial and industrial applications. With offices in Norway, Germany, Korea, USA and UK, DNH is a truly global brand.

DNH has always been at the forefront of loudspeaker innovation. The world's first Ex approved loudspeaker, the original music horn, sound-shock proof horns for military applications and the world's only self-contained underwater loudspeaker are developments of the DNH development laboratories.

With EN54-24 soon to be law, DNH will again be designing products to meet this rigorous standard.

Voice alarm design de-myth-defied

Monday 13 September 10.00am–10.40am
Whitehall Room, Earls Court

The ISCE seminar will be presented by Anthony Smith MInstSCE, Managing Director of Current Thinking. The session will accurately portray the new EN54-16 and BS5839pt8 Standards from a system designer's point of view.

To book your place, visit
www.plasashow.com/education/monday/

Current Thinking (Stand no ISCE–4)

www.current-thinking.com

Current Thinking will be showing their assistive listening products, from the ever popular induction loops to the new infra red system, along-side our disabled refuge and fire telephone system 'VoCALL' and our new range of EN54-16 microphones for the 'audio logistics' voice alarm range.

iKON AVS Ltd (Stand no ISCE–5)

www.ikonavs.com

iKON AVS specialise in the design and manufacture of audio-visual control and connectivity products offering complete solutions, ranging from standard wall plates to integrated controllers and touch screens mainly for the education and commercial sectors. Clients include the NHS, University of Ulster, Manchester United FC and Salford University – and iKON AVS are preferred suppliers of distributors and installers across Europe.

The new SC-Amp is ideal for small and medium size rooms. It combines projector control, a power amplifier and convenient laptop connection points, in a robust metal panel. Featuring automatic shut-down to save power and panel lock-out to prevent unauthorised use, the amplifier can also be used on its own when the projector isn't required.

Cost is an important consideration in difficult economic times so iKON AVS offer a wide range of products to suit different budgets without compromising quality. Value for money solutions are supported by first class technical advice and exemplary customer service.

Clever Little Box (Stand no ISCE-9)

www.cleverlittlebox.com

From digital media stores and in-wall amplifiers, to zone selectors and programmable timer units, CIE-Group's Clever Little Box series are a carefully thought out range of problem solving installation accessories for the professional audio and AV installer.

CIE Group (Stand no ISCE-10)

www.cie-group.com

CIE Group are, once again, very pleased to be associated with and be part of the ISCE Pavilion at PLASA 2010 and will be showcasing products from four of its key manufacture partners, this will include the new MA series digital mixer amplifiers from Inter-M, exciting 3D digital signage screens and media units (that don't need any special 3D glasses!) from Magnetics, the complete CIE range of Clever Little Box problem solvers for the audio and AV markets as well as the comprehensive range of microphones from UK manufacturer Clockaudio.

Institute of Sound and Communications Engineers (Stand no ISCE-11)

www.isce.org.uk

The ISCE is the UK's professional body for sound system designers, professional installers and consultants. Our members are bound by a code of conduct and promote the highest technical standards. Membership, in technically assessed and non-technical grades, is open to all in the sound industry.

Forthcoming events include Institute Day on 17 November in Cardiff and our annual exhibition, ISCEx2011 is booked for March 2011. We look forward to seeing you at PLASA.

Institute of Acoustics (Stand no ISCE-12)

www.ioa.org.uk

The Institute of Acoustics is the UK's professional body for those working in acoustics, noise and vibration. It is a nominated body of the Engineering Council, offering registration at Chartered and Incorporated Engineer levels.

The Institute has some 3000 members from a rich diversity of backgrounds, with engineers, scientists, educators, lawyers, occupational hygienists, architects and environmental health officers among their number.

Clockaudio (Stand no ISCE-13)

www.clockaudio.com

UK microphone developers, Clockaudio, will be demonstrating their wide range of professional installation microphones at this year's show.

Inter-M (Stand no ISCE-14)

www.inter-m.uk.com

This year's PLASA Show will see the official launch of Inter-M's brand new MA series professional amplifiers.

Using energy efficient D class amplifier technology, the latest generation of Inter-M's installation mixer amplifiers are smaller, lighter, more feature-full and have been stylishly redesigned for today's more demanding professional audio installation and AV sectors.

The MA-200 series is ideal for user-manageable, zoned PA and background music in retail, education, corporate and church installations.

The new MA-106 is a highly compact unit and provides both power output and features beyond the expectations of a unit so small.

See the new MA series and Inter-M's full product range at PLASA 2010 on our stand.



RCF Commercial Audio & Installed Sound (Stand no ISCE-15)

www.rcfaudio.co.uk

This year, RCF will showcase its 'Commercial Audio & Installed Sound Division' as part of the ISCE Pavilion.

We will be showing our DXT 7000 Voice Alarm System which, by the end of this year, will be EN54 Compliant. RCF will also preview the new totally digital DXT 9000 VA System, which is being designed to EN54 Norms. Also on show will be the VSA 2050 Digital Steerable Column Speaker which is also designed to EN60849 Norms.

From our Installed Sound Systems we will display the Acustica P Series Weatherproof Speaker Systems which offer various horn dispersion models to IP55 Standard.

Penton UK Ltd (Stand no ISCE-16)

www.pentonuk.co.uk

Penton are returning to PLASA 2010 this year as part of an initiative to offer information and education to all in our sector. This initiative will include two seminars on Monday 13 September relating to the European standard EN54 for voice alarm/evacuation equipment and systems.

Penton have taken the step to embrace EN54-24 and will have a full range of 32 certified speakers ready for the April 2011 deadline using Intertek testing & certification one of the notified bodies available under the CPD. Penton will be able to offer a full range of loudspeakers that are individual certified, fit for purpose and manufactured to a high standard of quality. This will ensure the best possible protection of life in the event of an incident employing the use of our certified product.

Penton would welcome the opportunity to see you on our stand to discuss how this is going to affect your business and to see how, by working together, we can all make this transition.

Bosch Security Systems (Stand no ISCE-17)

www.boschsecurity.co.uk

Bosch – leaders in clear communication products. From a simple public address system to an extensive, multi-zone voice evacuation system, it's worth taking a look at Bosch's wide range of versatile, innovative solutions: A diverse range of amplifiers and background music sources, voice evacuation systems compatible with UK, and EN standards and a wide array of loudspeakers to complement your system.

Developing reliable products, that are easy to use, are keystones of our research and development philosophy. We pride ourselves on providing our customers with peace of mind – helping them to deliver high levels of customer satisfaction.

Visit us to see our fully EN54-16 compliant Praesideo digital voice alarm system, along with our compliant speakers, and our new range of active vari-directional array loudspeakers

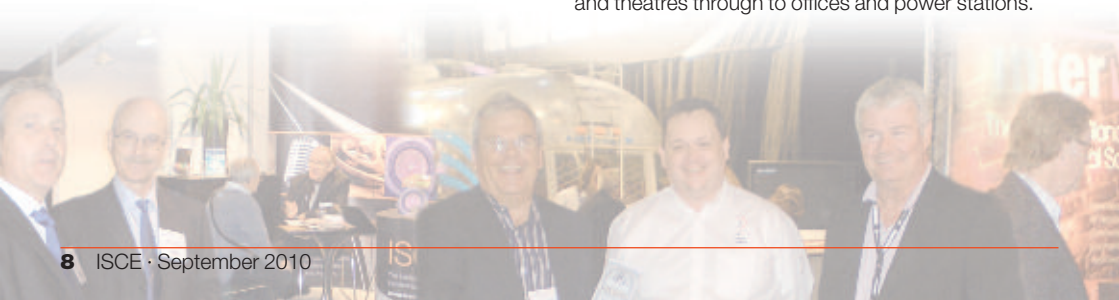
Ateis UK Ltd (Stand no ISCE-18)

www.ateis.co.uk

The Ateis brand of voice alarm and networked DSP products is reaching an ever widening audience with major projects from the Singapore Metro to the ExCeL Centre and Kings Cross station in London. Ateis UK will be exhibiting it's full range of voice alarm products including the DIVA compact system, the IDA8 scalable networked system, the ECS teleconferencing device and the exciting UAPG2 will be showing why it's become Ateis's hottest selling item in the UK.

The DIVA is Ateis's entry level voice alarm offering. Although pitched at a cost-effective pricepoint, it offers all the facilities of its larger brethren. Now with the expander slave unit, the DIVA can address 128 zones in an easy to wire, easy to configure style.

The UAPG2 is Ateis's swiss army knife PA solution and is finding its way into applications from churches and theatres through to offices and power stations.



ISCE Pavilion at PLASA 2010

12–15 September 2010, Earls Court



Proposed ISCE training courses

The ISCE Training Committee are pleased to present our provisional dates for 2010–11.

If you would like to register your interest with Ros, for any of the training courses listed below, she will confirm the venue and set a firm date.

27–28 October 2010

Basic training for sound system installers and technicians

24 November 2010

Basic training for sound system sales engineers

25 January 2011

Loudspeakers and room acoustics

22 February 2011

Emergency voice communication systems

10 March 2011

EN54 for voice alarm systems explained

22 March 2011

Design and installation of induction loop systems

26 April 2011

AFILS measurement and certification to IEC/EN 60811-4:2006

17 May 2011

Infra-red and fm systems

Please let Ros know if you have a requirement for other courses you would like us to include.



New ISCE training vouchers

Increasing legislation, customer requests, and British/European Standard requirements for 'competent persons' has made the need for formal training, and crucially certification thereof, ever more important.

The Training Committee are therefore pleased to launch a new ISCE training voucher scheme, whereby you can now buy small blocks of training vouchers in advance at a significant discount. These can be used for any of your employees, or even as promotions or 'thank you' gifts to your customers. Vouchers can be purchased in blocks of five, each valid for one day's training against any of the ISCE's own training courses, at the following discounts:

Non-supporting members: 10%

Supporting Members: 25%

ISCE training courses are currently being planned in a wide variety of subjects, both audio and

business development, so now is the ideal time to purchase vouchers at a discount. Our one-day courses cost £145 + VAT, already far cheaper than most external organisations.

With the changes to the Employment Law Act, applying to all workers from 6 April 2011, employees will now have the right to request time off for relevant study or training, which will improve the effectiveness of workers in their jobs, and contribute to improved business performance and productivity.

Whilst, there is no limit on the amount of time employees can request, and employers do not have to pay for training or for the time an employee spends training, employers should clearly use this as a further way of employee development.

Guidance for employers is available at www.businesslink.gov.uk/timetotrain and employees' guidance is at www.direct.gov.uk/timetotrain

ISCE information cards

We have, yet again, taken on board a suggestion from one of our members and produced some smart new information cards for our members to use when going about their daily business.

The card is dual purpose; one side to promote your membership of the ISCE to your clients and one side to promote the ISCE to potential members. It is credit card size and can fit conveniently into your wallet. The gloss front really shows off the vivid graphics and the matt back gives you the opportunity to write a brief note or personal contact details.

Of course, we will continue to use our general brochures to give more detailed information about the Institute, but this small, encapsulated card, presented in pristine condition, will give you that professional edge when meeting and greeting old and new contacts.

We have ordered a limited supply to gauge your reaction and if you would like to receive some, please see Ros on the ISCE stand at PLASA, or make a request by email.

The Institute of Sound and Communications Engineers

The UK professional body for sound system designers, professional installers and consultants.

Members are bound by a code of conduct and promote the highest technical standards

www.isce.org.uk
+44 (0)118 954 2175

Membership of ISCE

Membership, in technically assessed and non-technical grades, is open to all in the sound industry

Benefits of membership include

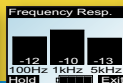
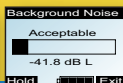
- ◀ free technical advice and information
- ◀ training courses
- ◀ conferences and seminars
- ◀ free publications
- ◀ mailing list and website with members-only pages
- ◀ participation in standards work

ISCE
The Institute of Sound and Communications Engineers

DO YOUR INDUCTION LOOP INSTALLATIONS COMPLY WITH CURRENT BRITISH STANDARDS?

Introducing the new Fosmeter Pro Induction Loop Test Kit. Trading at just £205.00, it includes everything you need to ensure your audio-frequency induction loop systems comply with the updated requirements of BS EN 60118-4, including:-

- ▶ An intuitive handheld test meter with digital display and simple to follow test menus.
- ▶ Functions for testing background noise, magnetic field strength and frequency response.
- ▶ Loop listening circuitry allowing subjective listening tests to be carried out using the 32 Ohm headphones supplied.
- ▶ An MP3 player pre-loaded with all the sine wave tones, music and speech tracks you need to do the tests.
- ▶ A protective carrying pouch, easy to follow instructions and blank AFILS test certificates.



All test results are clearly graphed on the Fosmeter Pro's digital display in the form of easy to understand bar charts.

0844 800 1625

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info@signet-ac.com

www.signet-ac.com



Rex Birtley *ComplnstSCE*

1929–2010



Rex became a member of the original APAE (pre-ISCE) Council in late 1950s as a trader, representing Leicester. He ran a multi-talented company in Aylestone Road called Sound-Light International, providing public address equipment, electric power distribution, display lighting, stage lighting, stage flats and display panels. He provided event organisers with a one stop shop service; delivering, installing and operating. His creative skills provided a service, years ahead of the rest of the industry.

When the APAE's annual exhibition re-started in 1962, it was on a small scale of a one day lunch with exhibitors stands on tables around the edge of the ballroom of the King's Head Hotel, Harrow on the Hill. Rex made suggestions to the Council of APAE, that he could improve the standard of show and each year the displays become more complex.

In 1965, the 'Golden Jubilee of PA', the show became INTERNATIONAL with flags of the nations taking part on the front of the hotel and on the green outside.

The spacious garage became the catering facility during the day and annual dinner venue in the evening. We even had control trailers in the garage with a display of veteran PA equipment. The very tolerant hotel manager allowed us to completely transform his hotel. Broadcasts were carried out on radios to locations around the world.

In 1967, the exhibition was extended to three days. The last King's Head Exhibition was in 1969 when the exhibition moved to Camden Town Hall, in Euston Road opposite St Pancras Station.

Once we moved to central London, the regulations for exhibition stand fitting became much more closely controlled and Rex became less involved in the APAE shows.

The Manchester symposiums started as a meeting, and grew into an exhibition as well, thanks to Drinkle & Mann – the local organisers, and Rex's team.

1969 Rex became President of APAE. He thought the President should go out and meet the members, so the APAE office, at Northolt Road, South Harrow, set up a President's Regional Tour. Hotels were booked and invitations sent out. During three months, Rex, as President and Ron Walker, then assistant Honorary Secretary, visited Coventry, Cheltenham, Leeds, Darlington, Manchester and Liverpool.

Making a living out of the public address industry, was difficult in those days. He wanted to hear members' views. One of APAE's key benefits to members was some guidance on prices to charge for hire jobs, and equipment charges for dry hire work. When Alex J Walker died in December 1968 he was in the middle of writing an article for the Journal on price charges for 1970. The journal died with him.

Rex had spells of very poor health, and we are sad to lose our respected friend and former APAE President.

His business continues to be run by his son, Tim and Rex's long time partner, Marion.

Ron Walker *ComplnstSCE*

Mick Williams *MInstSCE*

1951–2010



It was with great sadness and complete shock when we heard of the sudden passing of our friend and colleague Mick Williams, in the early hours of Sunday morning 8 August.

Mick had been unwell particularly in the last week and he was at home which, frankly for Mick, was unusual.

Mick's life evolved around the professional and commercial audio industry. He started his working life as an apprentice at Marconi in Chelmsford, Essex. This start gave him the basics in electronics knowledge and a solid grounding in wiring equipment racks etc. During the mid-seventies, he was working with Trusound in Witham – at the time an important manufacturer in the public address market.

Mick had spent all his working life devoted to the commercial and professional audio industry starting back in the 1970s. Most people will remember Mick due to his 20 years at the helm of the service department for RCF UK, and during its other various guises. Mick was pivotal in the growth of RCF in the UK. His extensive practical knowledge of both electronics and acoustics, we believe, made him one of the 'elite' technical people within our industry. To many, he was a helpful voice at the other end of the phone and one who many knew would be able to solve most problems with any audio product.

Since 2004, our RCF Service Support moved to a 'third party model'. RCF offered Mick the opportunity to spearhead this. He formed his current company, Audio Workshop. Again, Mick's family were intrinsically involved, with Anne his wife carrying out the book-keeping and Claire, his elder daughter, dealing with 'after sales parts' in particular. In parallel to this service support, Mick was still engaged as RCF's Technical Manager – responsible for system designs and customer product support. Mick's extensive practical knowledge of RCF's product range was, frankly speaking, enormous. He was involved with our research and development team with advice and valuable field advice. His loss to RCF is immeasurable!

Mick was a fountain of knowledge, always ready to share with others and would listen to what the customer wanted and always find a way to solve the problem. Mick was also, to many, a true friend, a good listener and always willing to lend a hand.

Mick has been a great friend to me for many years and I know that he also made a number of personal friends within our industry and it is a complete understatement to say he will be missed.

Our heartfelt condolences go out to Mick's family; Anne, Claire, Ben and Elizabeth.

Phil Price *MInstSCE*

UK Sales Director of RCF

Sound system test, alignment, and certification part 2

Order of works

Steve Jones *FInstSCE*

Sound out loudspeakers

This is a check that all loudspeakers on every circuit are actually functioning. This test proves that the cabling and termination is correct and that the loudspeaker itself is functioning.

Note: In environments where the access to the loudspeaker is difficult, loudspeaker functionality should be checked prior to installation in order to alleviate embarrassing re-visiting of the loudspeaker installation.

Feed a sound source (not music, but tone or pink noise) and check that the correct loudspeakers are working on a circuit by circuit basis at a relatively low sound pressure level. This can be done by feeding the source directly into the amplifiers before connecting them to the routing and distribution part of the system. It can even be done using a single amplifier which is temporarily connected to the loudspeaker circuit.

Routing and zoning

Most systems of any size have multiple zones which can be selected to receive different sources, possibly simultaneously. Proving that the loudspeaker circuits serve the desired zone is in effect done when the circuits are sounded out as described above.

However it is still necessary to prove that all available sources can be routed to all relevant zones.

Feed a sound source at low level (not music, but tone or pink noise) into an input and route it to each zone on a zone by zone basis. Repeat for all other inputs.

In the case of a system which is capable of routing multiple sources to multiple diverse zones simultaneously, the systems engineer should use different sources at low level (mixture of tones and music and/or messages) and route them to appropriate zones. The sound engineer should then visit each acoustic space to check the validity of the routing.

It is very unusual that routing systems are wrong, but especially in these days of programmable signal processors, there can easily be slip-ups which go undetected until tested in reality.

Maximum level part 1

This is an alignment necessary if there is a primary signal control, such as a digital signal processor, which is responsible for protecting the loudspeakers under load by means such as limiting and/or compression.

Note: this also applies for systems where the protection is provided within the amplifier hardware and, obviously, the spirit of the wording, rather than the order of the wording should be applied.

With any gain control on/in the amplifiers set to full power, increase the gain on the DSP until the correct SPL is achieved in that area on those circuits (bearing in mind that the circuits are likely to be interleaved) according to the electro-acoustic specification.

This may require the interleaved circuits to be set for relative level prior to setting the maximum level. Set the compression and limiting to be capable of producing that level only as a maximum.

Relative level

This is an alignment necessary when there are multiple circuits in the same acoustic space. This may be simply a matter of interleaved circuits in a voice alarm system but in addition it could be because of time delay with respect to a focal point source.

With a feed level considerably below maximum but at a level which is probably 6 dB above ambient as a minimum, send a pink noise signal to a pair of adjacent areas. Measure the SPL in those areas and check that they are the same or adjust until they are. Progress on to the next adjacent area and repeat the measurement, having muted the previous area, until all acoustically linked areas have been covered.

Equalisation

This may be done in the same visit as relative level.

This alignment is to adjust the response of the sound system to its acoustic environment with respect to the loudspeakers' ability to reproduce at all relevant frequencies.

Check the response using the real time analyser function on the meter and make any equalisation adjustments if necessary.

Note: for larger systems where the control of equalisation is made from a central location, the use of radios is often necessary.

Acoustically-similar spaces should be anticipated and the system engineer should be able to make the equalisation adjustments in advance to save time.

Output delay

Where areas are always served by a single source and they are in the same acoustic space as another set of loudspeakers, the closer loudspeaker circuit requires a delay at the output. This means that the sound from the distant loudspeaker arrives at the listener at the same time, or very shortly after, the sound from the nearer loudspeaker.

Note: If the two sounds arrive at very different times (differing by more than 35 ms) the sound will be unintelligible.

Delay is one of the most difficult adjustments to make and requires site quietness, considerable concentration and no interruptions.

There are meters which measure time delay. By comparing a reference signal, (which needs to be a 'chirp' or 'drum click') taken directly from the amplifier to the meter, with a signal from an individual loudspeaker, picked up by a microphone in the meter, the meter can then show the time delay. At a large site, the signal from the amplifier can be connected via a radio link.

The delay times measured on the meter for all loudspeakers audible at a given point can be reported back to the system engineer, who can then introduce the appropriate amount of delay for each individual circuit, so that the time differences between the sounds arriving at that given point are less than 40 ms. The time delay may optionally be shown on the meter (or adjusted on the signal processor), expressed in milliseconds, or feet or metres, where 1 metre approximately corresponds to 3 ms in time.

If this is not possible, the approximate distance should be measured off drawings and converted into a delay time (330 metres per second, or 1 foot per millisecond). A drum track should then be used as a source signal and by listening and changing the delay time back and forth the correct delay should be established. (N.B. This is a challenging task and not everyone is humanly capable of doing this, so don't be disappointed if you are not one of these.)

Note: Delay is usually a feature of a larger system. From experience, it is particularly important when setting delay using radios that the system engineer does not confirm the setting immediately after making the adjustment. This is because the sound engineer in the acoustic space will be concentrating hard on whether the sound is now correct, and the radio will destroy that concentration.

Source delay

Where areas are served by more than one source, the delay needs to be placed at the front end of the system and each source set for each location.

The same test methods apply as for output delay.

Maximum level Part 2

It is quite possible that the adjustments above have altered the overall maximum level available to be below that required in the specification. For this reason, spot checks should be made and adjustments made accordingly.

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Sound voluntary work

Brenda White

Former ISCE Secretariat

In the February issue of the ISCE magazine, I saw an advertisement for Calibre Audio Library, a UK charity for recorded audio books, looking for volunteers to help out in various ways. I gave them a ring. Michael Lewington put me in touch with Denise James, as my interest was to be a reader.

Two readings of my choice were required, one fiction, one non-fiction each lasting about ten minutes. I made my choices, set about recording them and put them in the post. After a couple of weeks an email came from Denise, saying they had enjoyed the readings and invited me to go along and meet them.

Their offices are based in Aylesbury, not too far for me to travel these days, where I received some training on their methods of recording.

Now trained, by John Adams, Recording Coordinator, and supplied with a specially set-up laptop computer and microphone at home, and given my first book for older children entitled *The Last Elf*, a translation from the Italian, I'm up and running!

Readers are asked to do three books a year, which doesn't sound a lot, but when you think about it, it takes much longer to read out loud than to read to yourself.

I'm enjoying my new voluntary job and feel the 'old brain' is getting used as well as putting something back into the community.


For those who don't know, Calibre Audio is a charity, formed in 1974 for anyone, including children, who can't read through partial or total lack of sight, dyslexia, or other disabilities.

Calibre Audio books are delivered and returned by post, free of charge.

Thank you Ros for putting the advertisement in the ISCE magazine.

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The EVC40 is a state-of-the-art fire telephone and disabled refuge emergency voice communication system. Protec has designed the EVC40 to cater for the existing fire telephone market, stadium stewards telephone and also to offer a solution to the requirements of the Disability Discrimination Act. It features a bespoke two wire audio and data bus which minimises the wiring required for the system, whilst maintaining full addressability and monitoring. The system is fully compliant to BS5839 Part 9.


The system is capable of driving up to 40 outstations per panel, and 4 panels can be networked together to give a total of 160 outstations.



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