

The magazine of the
Institute of Sound and
Communications Engineers

June 2014

ISCE



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PSNEUROPE

Introduction from our President

Anthony Smith *MInstSCE*



Where has this year gone? It seems like only last week we had ISCEEx and the follow up magazine. Now it's June and FIREX has passed us by.

Ros was at the show for the three days on the ISCE stand, where we had a great response to membership,

thanks Ros for all your efforts.

I presented two seminars on the Tuesday to outline the ISCE certification initiative, one to engineers on the benefits of having "responsible person" training via the ISCE and one to end users and FM companies regarding the ISCE backed certificates, and the benefit of knowing the person who issued the certificate has been trained by the ISCE.

The show was also attended by supporting members including Baldwin Boxall with their hostelry hospitality; TOA, Eaton (formerly Cooper Fire), DNH, C-TEC (Signet) and ASL.

The move from Birmingham to London appears to have been a success, certainly for my new venture Vox Ignis; and we are back next year after a very successful show. It was good to see all the members and colleagues that attended.

Moving on from Firex, the level of interest in the certification schemes from UK and overseas has been incredible, and we will be planning the roll out of these schemes after the next Council meeting in July.

Enjoy the rest of the magazine and remember all contributions to the editorial team are welcomed. Also, ISCE is on LinkedIn with on-the-fly news, so sign up to follow for the latest information and news.

Anthony Smith ♦

We welcome your contributions to the magazine with editorial and advertising. Please send news or articles to Ros

Events diary

9 September 2014
Introduction to sound
ISCE training course
Watford, UK

10 September 2014
Designing for speech intelligibility using the speech transmission index
ISCE training course
Watford, UK

11–15 September 2014
IBC 2014
RAI, Amsterdam, Netherlands

13–15 September 2014
BPM/PRO
NEC, Birmingham, UK

5–8 October 2014
PLASA
ExCel, London, UK

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Comments on articles and letters are invited.

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Published by the
Institute of Sound
and Communications
Engineers Ltd

VAT registration number:
GB 781 3372 24

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guarantee and registered
in England no 3288938.

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Ampetronic recognised for export growth with Queen's Award for Enterprise win



Ampetronic is celebrating being named a winner of the Queen's Award for Enterprise – the UK's highest accolade for business success.

The award is for International Trade, in recognition of achieving sustained high export growth in the company's sector of hearing assistance. Ampetronic, based in Newark, Nottinghamshire, is the world's leading manufacturer of hearing loop products, having doubled its export sales in the last three years, and continuing to grow rapidly overseas.

The company's hearing loop products help millions of people around the world, allowing people with hearing loss to communicate easily in difficult noisy environments and to access audio services (such as the soundtrack in a cinema) wirelessly via their hearing aid or a receiver.

Most people who are unaffected by hearing loss are unaware of the many Hearing Loops that they encounter on a daily basis because the unobtrusive technology is normally hidden from view and doesn't transmit an audible signal. However anyone with

a hearing aid or receiver can pick up an audio signal from a loop system, wherever they see the internationally recognised 'ear symbol' – at bank teller windows, supermarket checkout desks and theatre entrances, for example. Looking out for these signs, it often surprises people just how commonplace hearing loop systems really are, and what a significant benefit they can create for hearing aid users.

Ampetronic first started to design and manufacture hearing loop systems (also known as audio frequency induction loops) over 25 years ago. Over this time, Ampetronic's systems have become a common part of life for those with hearing loss within the UK, and in recent years the technology has been adopted globally, driven by legislative change, user demand and market education.

Ampetronic was established in 1986 by the late Leon Pieters, an experienced engineer and lay preacher who recognised the potential of what was then an amateur solution for delivering good quality sound to the ageing population within churches. The company created professional quality,

commercial solutions that made hearing accessibility available much more broadly, and opening up new possibilities for helping those with hearing loss. Since that time the company has been responsible for a wide array of innovations and technical advances, as well as contributing to international standards and legislation to support good quality hearing accessibility around the world.

As the business has grown and become increasingly global it has also become a family business, with the firm now managed by Leon's son, Julian.

Today, Ampetronic employs over 35 people in its headquarters in Newark, Nottinghamshire, recently relocating to provide facilities for the continuing rapid international growth it anticipates. It operates with partnerships in over 20 countries, delivering solutions from the smallest village hall through to flagship international projects such as the spectacular new Vienna University in Austria or the new Nissan taxis that are replacing the iconic yellow cabs in New York.

On learning about winning the award Managing Director Julian Pieters said "It is a great honour for

Ampetronic, its staff and representatives around the world to be given the Queen's Award. This is recognition for the many years spent working with hard of hearing organisations, standards bodies, legislators, and providing awareness and education to everyone involved in hearing accessibility. Tackling a global market as a small business is a challenging task; however we are proud to be leading our sector around the world as a small British manufacturer, recognised globally for delivering excellence in hearing assistance."

Winners of The Queen's Awards receive the award at a presentation by one of the Queen's representatives at the company's headquarters, as well as receiving an invitation to attend a special reception at Buckingham Palace. The Award is granted for a five-year period, reflecting the judges' confidence in the sustainable business generated by the winning businesses. ♦

www.ampetronic.com

The d&b GB Education program 2014. Free seminars and workshops.

Electroacoustics seminar

Discover how loudspeakers interact with their environment and achieve intelligible sound to every listener.

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Get familiarized with the d&b product range; loudspeaker characteristics, amplifiers and application.

Remote network workshop

Learn how to create and control a network from your laptop.

Line array workshop

Grasp Line array theory and master the d&b ArrayCalc software for system specifics.

For dates and registration go to www.dbaudio.com/education

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Show Hire provide PA solutions for this summer's International Horse Trials



Specialist sports and live events company, Show Hire is one of Europe's leading public address and communications hire companies and this summer has made a significant investment in new outdoor public address equipment from UK AV Distributor CIE-Group, trialling and testing the new system for the first time at this year's International Horse Trials at Badminton, Chatsworth and Burley.

As the contracted PA provider for the UK's largest outdoor event, The Farnborough Air Show, Show Hire was keen to ensure that, for the air show's 100th Anniversary event this year, the public address system would provide the best performance possible.

Specified and supplied by CIE-Group, this new, high performance, improved efficiency outdoor public address system for these major international outdoor events consisted of over 200 music horn loudspeakers driven by the new Inter-M DPA1200S 100v line power amplifiers.

Having previously used a full 19" rack of equipment, Show Hire's newly acquired DPA1200s amps provide power efficient amplification to the large scale 100v loudspeaker lines whilst significantly reducing the size, weight and power required – ideal for outdoor applications and the need to transport the system hundreds of miles between venues over the year.

Show Hire Managing Director, Nick Chubb explained, "We're here trialling new products we bought from CIE – specifically the music horns we're starting to use to do the Farnborough Air Show – and the sound is brilliant. We're also using a lot of Atlas Sound CJ-46 Horns on the cross country course as we have to cover 5000 metres of cross country run."

Nick added, "We're also using the new Inter-M DPA1200 amplifiers instead of having to rack six or seven amplifiers together. We can now have just two of the new InterM compact amplifiers which are extremely light, so we don't have to carry rack mount equipment around at all times. The power requirement is a lot less, so power generators in green field sites such as this can be a lot smaller, which saves us money, fuel, time and transport."

The Badminton, Chatsworth and Burley International Horse Trial events have proven to be a fantastic 'test bed' for the new system, with visitor numbers in excess of 30,000 people per weekend with the sound reported to be 'brilliant'.

Nick continued "CIE Group always look after us, whatever our requirements. They are always keen to help and always happy to site visit. They offer next day delivery and if ever there's a problem it's sorted quickly – basically it's a one-stop package for everything."

The Farnborough Air Show 2014 takes place on 19 and 20 July and Show Hire and CIE-Group continue to test and develop the system to provide the best audio possible for the show. ♦

www.cie-group.com



NSR – an active part of the logistics team for Sport Relief 2014

NSR was proud to, once again, be a part of the massive logistics team of suppliers that ensured Sport Relief 2014 was a resounding success. Working alongside Limelight Sports the NSR team travelled the length and breadth of the country to achieve this.

NSR supplied full PA systems for the running and cycling events in London at the Queen Elizabeth Olympic Park where the team was based just outside the Olympic Velodrome, Olympic Stadium and the Aquatics Centre. The kit list was extensive and included 250m of speaker coverage for the PA system at the start line and 190m at the finish line of the London Mile running event.

In addition full PA systems were installed for the live entertainment stages including the main stage and three other performance areas in the Mile and Cycle public areas where everyone was welcome and people of all ages could join in the fun.

Meanwhile, two other NSR teams travelled north; one to Manchester and the other over the Scottish border to Glasgow to set up PA systems for the start and finish lines of the cycling events at the Old Trafford Stadium in Manchester and the Sir Chris Hoy Velodrome in Glasgow.

It was a long weekend for everyone involved but well worth the effort for such a great cause. ♦

www.nsrcommunications.co.uk



Profile of a new member

Mark Scaife *BSc(Hons) CEng MInstSCE MIOA*

Head of Acoustics Middle East

WSP

www.wspgroup.com

How did you get into acoustics?

Well, it all started when I first heard Tour De France by Kraftwerk and I wanted to know how it was made. I then got a Casio SK1 sampler when I was about 13 with money saved from doing a paper round, with which I used to experiment with samples and loops. I also helped do the sound production for a school production of *The Wizard of Oz*, where we used a Korg MS20 and an effects processor to create the effect of the wizard behind the curtain.

From there, I did a loudspeaker measurement based project as part of A Level physics and decided to take up audio and acoustics at degree level.

Where did you do your training?

I studied Audio Technology at the University of Salford from 1994 to 1998 which had a year out placement with a consultancy called Hann Tucker Associates in Woking.

I quite enjoyed the work with HTA and learnt a lot of practical skills, so decided to pursue consultancy as a career.

Do you have a most memorable experience in your career?

Acoustic consultancy gets you into some interesting places and I am sure if you ask anyone they will have many interesting stories.

I have been in the Conservative Party HQ, an enormous house in Kensington Palace Gardens, disused railway stations in South Manchester at 3am and remote desert power stations explaining what I am doing to guards with automatic weapons (that makes you feel a long way from home).

I would say the most memorable was being suspended from a crane 60m plus from the ground in a cage outside Wembley Stadium while Metallica played inside. I was working for the developer who was building an apartment block in an empty plot next to the stadium and we needed to know the levels during concerts at penthouse level in order to design the facade. Very scary.

What made you move to Dubai?

An opportunity arose and the UK market seemed to be in decline, so we decided to go for it. Little did we know the Dubai market would decline even more after 3 months of arriving.

Describe your lifestyle while living in Dubai?

Dubai has two seasons: hot and very hot.

The winters are wonderful. Temperatures in the mid-20s low humidity; perfect for being outdoors on the beach. I like to get out into the mountains hiking.

The summers are awful. Really awful.

Temperatures between 40 and 50 and very humid. Leaving the house is like walking into an oven.

It isn't as glamorous as the Daily Mail makes out.

There definitely are very wealthy people here living the life and driving sports cars, but I'm not one of them.

What projects have you been working on?

Since moving to the Middle East I have been working on a Palace in Abu Dhabi, a new railway network for Qatar, New York University and a few large shopping malls. The thing that strikes you when you work in the Middle East is the scale of the projects and time scales. All clients want their project to be the biggest and they want it now.

Designing a Palace for the head of a country is a pretty scary prospect. Get it right and you will be flavour of the month. Get it wrong...

We are currently re-designing a voice alarm system in a large shopping mall in Dubai. It's a really

challenging project; the acoustic conditions are poor (long reverberation times and high ambient noise levels). The existing system has been added to a number of times (there are a number of speakers that are not connected!) and there are no as built drawings. So between the acoustics, AV and electrical engineers, we are having to work out how the existing system works, what can be kept and what needs to be replaced.

How does the different culture in Dubai affect the way you do business?

Haggling is a way of life. Everything is up for negotiation; sometimes it feels like you are haggling about design criteria!

Getting paid is very difficult. Someone I know was trying to get a debt paid and he was offered three white tigers instead of the money.

Shouting in design meetings is also normal.

What has been the most rewarding thing about living and working in Dubai?

We have had three children in Dubai and I am immensely proud of them.

We also work at a dog shelter (www.k9friends.com) which rehomes abandoned, injured and rescued dogs.

Dubai is a truly multi-cultural society and I love that. You get to work with and socialise with people from all around the world.

In 6 years of working in the Middle East I have worked on a wider range of projects than in the previous 10 years in the UK.

Why is it important for you to be a member of ISCE?

I see the membership of the ISCE as giving clients here confidence that they are dealing with an experienced individual and hopefully it will give me access to learning opportunities.

What would you like to see the ISCE doing?

I would like to see conferences arranged in collaboration with other institutes (such as the IOA) and some CPD Webinars. One of the disadvantages of working in the Middle East is the absence of quality CPD for specialist engineering consultants. ♦



Music to her ears!

ISCE member, Tremayne Crossley TechInstSCE of SigNET (AC) Ltd, hit headlines all over the world last week when he posted online a magical and very moving video of his close friend, Jo Milne, listening to music for the first time in 39 years.

Jo was born deaf but can now hear music after receiving cochlear implants. At Jo's request, Tremayne created a special playlist of songs for her to listen to, a selection of which were played on the Memory Tapes slot on Lauren Laverne's BBC 6 radio show. The video Tremayne posted on YouTube of Jo listening to speech for the first time (filmed by Jo's mum) <https://www.youtube.com/watch?v=lyDdVJ81xs>, subsequently went viral, attracting the attention of journalists worldwide.

Explains Tremayne: "I first met Jo when she was dating a good friend of mine, I didn't know she was profoundly deaf at the time because she was dancing! She uses the vibrations through the floor to get the tempo and then copies other people. She's a totally mint dancer.

"Jo has never been able to hear voices or music, she just gets what can only be described as white noise through her hearing aids. She lip reads really well and talks with a Geordie accent, she has to ask people to repeat what I say though as I have a Southern accent and she has trouble understanding it.

"It was heart-breaking when her eyesight started to worsen due to a condition called Usher Syndrome, and although she is okay around the house or pub she has to use Matt the guide dog to get around now. NONE of this has ever stopped her being brilliant fun and a beautiful person. She has mentored so many deaf blind people and is an inspiration to everyone who knows her.

"Jo recently had a bilateral cochlear implant in an attempt to restore her hearing, this is being gradually switched on over five sessions.

"The volume has to be increased slowly to allow the brain to adjust to the new information coming from the ears. Jo told me about a guy who went grey over a one-month period due to the shock of hearing how noisy the world actually is.

"It was with this in mind that Jo asked me to put a playlist of songs together, songs that I thought she needed to hear or that would form an 'introduction to music' playlist.

"I said it would be an absolute privilege but when I sat down to start I realised how monumentally difficult it would be, and what a responsibility. I decided I needed to set some parameters for myself, so I rejected everything from before her birth (which got rid of anything classical or deciding what Beatles tunes to use) and restricted myself to one tune from each year of her life.

"This was still hard as I could have filled a disc for each year. I tried not to choose anything too niche-y and stick to well-known songs that I loved or thought were important, hence, you've got Soft Cell and not Flux of Pink Indians."

Last year Jo's mentoring work, fundraising and positivity saw her shortlisted from 20,000 nominations for the Pride of Britain Awards. Anyone with Usher Syndrome in the Newcastle or North East area or who knows someone with the condition and would like support can contact Jo at Jo.Milne@sense.org.uk ♦



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9 September 2014

Jurys Inn, Watford

Non-member £195

Member £175

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

All fees exclude VAT

Introduction to sound

Presenter:

Tony Stacey MInstSCE

**Learn how to have a better
understanding of what
happens to sound after it
leaves the loudspeakers.**



People interested in this course will want to better understand how sound behaves but not necessarily the mathematics behind it. The course begins by answering the question 'What is sound?' and goes on to explain, in a visual way where possible, the various phenomena of sound. At the end of the course, attendees will have gained a good understanding of how sound behaves and hopefully be inspired to delve deeper into the world of sound and communications engineering. This course focuses on everyday examples, rather than on heavy mathematics.

Training Courses

CIE-Group celebrate 50 years with 550 mile cycle ride across France in just 3 days



This year's CIE-Group cycle teams include: Steve Collin (Group Sales Director) Martin Featherstone (CYP Product Manager) Chris Edwards (Marketing Director) Lauren Bamford (AV Account Manager) Kevin Sherwood (Sales Director) Andrew Short (Senior Technical Support) Brent Hill (Account Manager)

Celebrating its 50th Anniversary year in the professional AV industry, leading UK AV distributors CIE-Group will mark the occasion in September with their biggest charity challenge ever, as they enter 3 teams to take on a 550 mile cycle challenge across France in just 3 days.

The teams – made up of CIE-Group Directors and members of the AV sales and technical support staff – will cycle from St Malo in the North of France to Bordeaux in the South, covering more than 550 miles in the saddle.

This will be the 7th year that CIE-Group staff have taken on a charity cycle challenge, having so far raised in excess of £13,000 for Cancer Research, The British Heart Foundation and local children's charity Derby Kids' Camp.

All 3 Teams – riding under the guise of 'HDBaseTeam' – are sponsored by UK AV Signal Distribution brand CYP, with the team name offering a nod towards the vast range of HDBaseT products launched by CYP over the past two years.

This will be the second year of sponsorship from CYP and CYP Sales Manager Gareth Rolls is a particularly enthusiastic supporter; "It gives us great pride at CYP to sponsor the CIE-Group team for their 50th Anniversary cycle challenge. The dedication and commitment to fundraising and promoting

the charities that they are passionate about is truly awe-inspiring. Everyone here at CYP will be following the teams' progress and willing them on through the three day arduous 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 three HDBaseTeams will leave the UK on Wednesday 25th September, cycling from St Malo in the early hours of Thursday 26th and aiming to reach Bordeaux in the rather later hours of Saturday 28th.

Cycle team Captain (and CIE's Group Sales Director), Steve Collin explains "Reaching our 50th Anniversary is a huge milestone for CIE-Group and it is important to the Company and the staff to mark the occasion with an event we can all be proud of for many more years to come. "Our three chosen charities have been there for many staff members over the Company's years and we want to make a huge effort to show our gratitude."

Cycle Team member and CIE-Group Marketing Director, Chris Edwards, has a very personal attachment to the Company's adopted local charity Derby Kids' Camp; "For the past 14 years I have been volunteering for the Charity which provides free holidays to many of the local area's most disadvantaged young children. Over the years, I have had the pleasure to work with thousands of young children to provide them with what is most likely the first holiday they have ever experienced."

Chairman of the charity, Chris added "The support of the CIE-Group cycle team over the past 7 years has been hugely important to our charity, with their fundraising efforts so far having fully funded more than 70 children's holidays. With the efforts of the cycle team this year we look forward to that number being more than 100 children having the CIE cyclists to thank for an amazing experience and a happy memory they will never forget."

CIE's HDBaseTeam urge all readers, customers, friends and colleagues to please 'Give a little to help a lot' this year simply by texting HDBT50, £5 to 70070 or by donating online at www.justgiving.com/HDBaseTeam-2014 ♦

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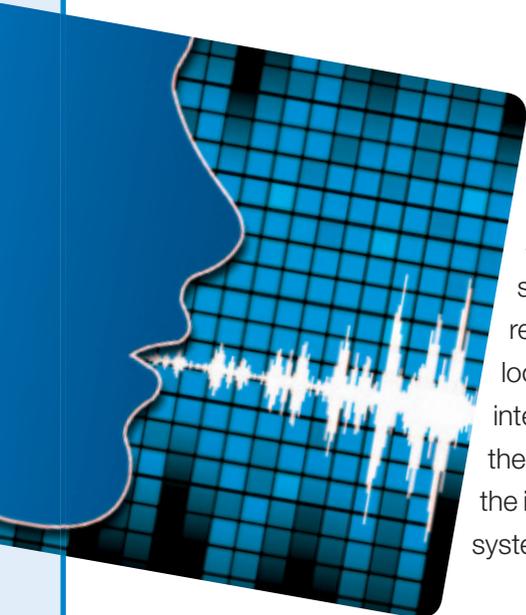
Designing for speech intelligibility

Using the speech
transmission index

Presenter:

Tony Stacey MInstSCE

**Learn the factors that affect
and limit the speech
intelligibility in a space
and how they can be
overcome or controlled.**



This course takes a look at the relevant British and European standards for speech intelligibility for voice alarm systems and gives an interpretation of their requirements. As well as taking a detailed look into the factors affecting speech intelligibility and how they can be controlled, the course introduces methods for verifying the intelligibility performance of a voice alarm system once it has been installed or upgraded.

Training Courses



FIREX International

FIRE PREVENTION, DETECTION & PROTECTION

17–19 June, ExCel, London, UK

FIREX International is the leading event for professionals involved in fire protection, prevention and detection. ISCE exhibited at the show for the first time and contributed to the educational seminar programme. We were delighted to be a part of the exhibition, alongside some of our supporting members shown here.



Said Andrew Foster, C-TEC's Managing Director: "Firex 2014 was very successful for C-TEC. There was a great deal of interest shown in our new range of UL-listed professional induction loop amplifiers specifically designed for the American and Canadian market, our new DLR range of phased-shifting amplifiers and our new-look PDA200E 120m2 wall-mounting induction loop amplifier."

Anthony Smith went live on screens around the FIREX exhibition hall, letting attendees know about ISCE and their proposed certification scheme for engineers.



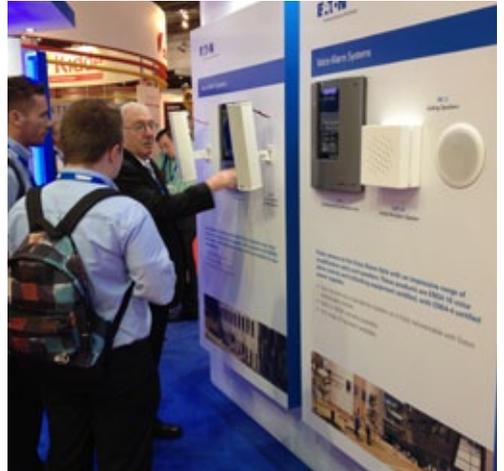


"With the move to Excel it was great to see many new faces amongst the regulars at Firex. Yet again another great show for Baldwin Boxall. We would like to thank all visitors to the Plug and Socket who gave so generously to RAFT."

Nick Baldwin AMInstSCE, Baldwin Boxall Communications Ltd.



"Firex 2014 has been a great success for ASL. We have been pleased to see many existing and potential new customers. We've been launching our V2000 amplifiers here and the reception has been great. I think that the relocation to ExCel has been a good shot in the arm for the show. Without calculating exactly, I suspect there are more audio companies here than at PLASA".
Neil Voce MInstSCE, Application Solutions Ltd.



DNH Worldwide exhibited their EN54 range of speakers and were particularly pleased to show their new MC-50T stylish curved cabinet speaker.



Obituary

Leon Pieters *HonFInstSCE*



In early June this year the sound and communications industry lost one of its most influential pioneers, Leon Pieters, founder of Ampetronic, who passed away after a long illness.

I first met Leon at a SCIF exhibition in the late 1980's when we were both manning our respective organisation's stands; me with Millbank Electronics and Leon with his recently launched Ampetronic.

Leon being Leon, he spent some considerable time telling me why his company's hearing loop (AFILS) products were superior to mine because his used constant-current amplification. Of course, he was right. And now virtually every hearing loop installation is driven by a constant-current amplifier.

This is just one example of the positive influence Leon had on our industry. Perhaps a little history might help explain why.

Leon was born in Antwerp, Belgium in 1933 and grew up in horrific conditions during the Nazi occupation of his country. He told me that he was one of the relatively few people to see Nazi 'kamikaze' V4 piloted bomb aircraft (and survive).

To help the Belgian resistance he and his family designed, produced and supplied covert radio sets that could be quickly dismantled into seemingly innocuous parts when houses were being searched by the occupiers.

After the war he studied electronics at the National Radio and Film Technology Institute (today NARAFI) in Brussels, a ground-breaking centre for broadcast engineering who admitted him aged just 15. On graduation he was recruited by Pye Ltd in Cambridge to work in their television division, later PYE TVT (the professional TV maker, not Pye consumer products).

For a young specialist engineer in a fast-growing, innovative industry, there were plenty of opportunities: he was responsible for broadcasting the 1953 coronation across Europe, and at 22 he was posted to Baghdad for a year to set up the first television station in the Middle East, producing programmes as well as overseeing the technology. He would recall meetings for tea with the king of Iraq; two years younger than Leon, British-educated and very interested in the new technology.

During the 1950s and 60s he was deeply involved in technical development of television at Pye, with numerous patents to his name, and, later, in cervical cancer screening technology. In 1975 he set up his own company, Operational Displays, later Tector, specialising in flight simulation and the creation of responsive graphics representing the outside world.

Of particular importance to his later approach to hearing loop technology was his work on TV tube deflection coils and the electronics to drive them. He once told me that the discoveries and experience gained from the work into controlling these inductive loads laid the foundations for his later work on constant-current amplification for hearing loops.

Leon founded Ampetronic in 1987 to manufacture high-quality hearing loop equipment and to further research hearing loop technology. Based on the objective evidence from his endeavours he promoted the real science behind constant-current amplification and the effect of, and compensation for, metal loss.

Visiting his company at their original site in Newark, Leon proudly showed me an early version of the software he'd been responsible for creating that simulated the fields from hearing loops. To my knowledge, this was the first time such a clear graphical representation could be produced of loop field distribution and, quite frankly, it blew me away!

As well as a pioneer in amplification technology, the understanding of metal loss and the computer simulation of hearing loop performance, he was a most passionate believer in providing equality

of access to services and was tireless in the development of legislation and, technical standards, serving on BSI and IEC (British and International) standards committees for the industry for many years, as well as contributing to legislation development around the world.

Ampetronic was taken over by his son Julian in 2006, and the business continues to grow and pioneer assistive listening, winning the prestigious Queen's Award for Enterprise in 2014.

In 2010 at the Institute Day in Cardiff Leon was awarded the ISCE's highest honour, Honorary Fellowship. A richly deserved honour.

Written by Doug Edworthy with additional material from Leon's family and John Woodgate. ♦

Audio Logic and Commercial Audio Solutions team up

Audio Logic, leading provider of pro audio sound equipment products has appointed Derbyshire-based Commercial Audio Solutions as a sub-distributor of its Ecler, Audac and Procab exclusive brands. A shared business ethos and an eye for a mutually advantageous forward move underpin this arrangement, which sees Audio Logic continue to develop and grow its business.

Commercial Audio Solutions is a long established supplier to the installation market and stocks a large range of prestigious world-wide brands as well as offering an in-house system-design service.

The addition of these Audio Logic brands increases further the scope of Commercial Audio's offer whilst at the same time extending Audio Logic's reach into new markets.

The brands in question are without doubt offering products of exceptional quality. Ecler continue to offer a quality product for just about every audio requirement imaginable and Procab remains the go-to provider of pre-made and bulk audio, video and data cabling solutions.

Andy Lewis of Audio Logic:

"Commercial Audio is exactly the sort of business we would wish to be positioned with. They are an intelligent group who have genuine regard for their customers and draw no distinction between the largest operators or the small-scale installer. We feel that the potential success of this arrangement therefore lie(s) not only in the greater reach afforded to us but equally in the way that Commercial Audio conducts its business."

Marc Ogier of Commercial Audio Solutions was clear: "Firstly, the brands in question are a great fit with the requirements of our broad customer base. We're always looking to meet customer needs as effectively and specifically as we can and the addition of these excellent products from Audio Logic's brands is going to add yet more choice and, it follows, more satisfied customers. In our discussions, it was quickly obvious that both companies set a great deal of store by acting with integrity and this common purpose made establishing the partnership very straightforward." ♦

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ISCE Training Courses continue to be a hit within the sound and communications industry

Delegates at the recent induction loop training course, presented by Doug Edworthy, were all impressed by the quality and standard of the course. The training pages on the ISCE website have been revised to give a better indication of what courses

we are planning to run. Make sure you register your interest in attending, so the training committee can take into account appropriate locations when planning the courses. ♦



Where do I put my induction loop?

John Woodgate *HonFInstSCE*

'It depends', of course, but that is no help. There are three sides to this question, making it nine times as difficult:

- How do I cover the required 'useful volume' (for an area coverage loop, this is basically a volume based on the area of, for example, seating, and extending from 1.2 m to 1.7 m above floor level)?
- How do I reduce the overspill into adjacent areas (side-to-side and up-and-down)?
- How do I install the loop at an acceptable cost while respecting the constraints posed by existing materials (such as floor coverings) and architectural considerations?

Very often, this appears like 'good, quick, cheap – pick any two', but it need not be.

The most important principle is that a trial loop is always justified, either by the trouble it discloses or the confidence it adduces.

Covering the volume

The first thing is not to try to cover more area than required, which a loop round the floor where it meets the walls may well do. The larger the loop, the more overspill it causes – sometimes this doesn't matter, other times it's crucial. Unless you are using floor-level loops with a dimension less than 5 m (for reasons that will appear below) you do not need to worry about the variation of field strength with listening height (height of ears above the loop), and the same applies if you have such a loop mounted at 3 m to 4 m above the floor, because the ears are approximately the same distances below it as they are above the floor.

The big problem with floor-level loops is metal in the floor – reinforcement bars in concrete. These 'suck out' the magnetic field towards the centre of a loop. At floor level, the initial solution is to split the loop into two or four (in the 'Windows' format) adjacent loops, thus making many more places close to a loop conductor. If that doesn't work, you need specialist advice. Don't be afraid to ask.

But don't forget walls and ceilings. At 3 m or above, the metal in the floor has absolutely no effect

(it doesn't have much effect half a metre above the floor, but a loop at that height is a trip-wire). And it may be much easier to install a loop on walls or ceiling rather than at floor level if there is fixed floor covering.

Also, don't totally rule out that 0.5 m above the floor. You can cope with doorways either by dropping the loop to floor level (preferred) or going up and over. But with up and over there is the risk that someone will put their hearing aid very close to the vertical conductor and experience an unexpected loud sound.

Sometimes, you have to install the loop a long way above (or even below) the ear level (e.g. if there is raked seating). In that case you must take into account the variation of field strength with height.

Reducing overspill

The principle here is – reduce the loop size.

This means using more than one loop to cover the base area, and their fields can interact to produce undesirable nulls (areas of weak field). Some nulls are of such small area that they hardly matter, but when people find them they tend to be annoyed by them, so they are best avoided. This may involve using two amplifiers and a phase-shifter, which may be built in to a dual amplifier.

Reducing the loop size works both side-to-side and up-and-down. More dramatic overspill reduction side-to-side can be obtained with more complicated loop layouts, but efficient solutions for up-and-down are more elusive.

Reducing installation cost

You may have to think out of the box. But before you pull up the carpet, think about the walls, especially if there is a dado rail at 3 m to 4 m height. If the ceiling does not contain a lot of metal, and there is no problem with upward overspill, it is another possible site. ♦

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Can you write an engineering note for the ISCE?

Our members have always valued the ISCE engineering notes that are published in the magazine and on our website, but we urgently need some more. We are keen to have a good mix of subjects in a variety of disciplines from the sound and communications industry.

Please get in touch with us with your suggestions.

As seen from a member's office window

How many Health & Safety offences can you count?

Send your replies to editor@isce.org.uk



Welcome to our new Supporting Member



Audio Logic are one of the industry's leading providers of pro audio sound equipment for professional audio visual and installation contractors. They pride themselves on their product range and exceptional customer service. ISCE's Secretariat, Ros Wigmore presented the engraved plaque and certificate to Audio Logic's Sales & Marketing Manager, Andy Lewis while at the PLASA Focus exhibition in Leeds. ♦



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