

The magazine of the
Institute of Sound and
Communications Engineers

December 2012

ISCE



**We're off to ISE, Amsterdam 29–31 January.
Visit us on stand no 7C235 in Hall 7**

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Introduction from our President

Terry Baldwin *ComplnstSCE*



At the AGM of our Institute, held in October at the Holiday Inn, Milton Keynes, we had a good cross section of members coming along.

Many items of interest were discussed, not least the fact that John Woodgate has withdrawn from the ISCE day-to-day matters, but will still offer his vast knowledge

to those who need it. The minutes of that meeting will show the appreciation given to him for all his work over past years to make what we are now.

To bring an element of humour to the meeting, who better than Tony Clayden! He interrupted me by saying "Mr. President, may I remind members that the 12th of December will be international microphone testing day" Silence. "Yes, it's testing day. One two, one two, one two". After a pause or two, everyone in the room collapsed with laughter. Thanks, Tony.

Congratulations to Ros for organising a great day. Jeff Vaudrey came up with a comment suggesting that it appears that manufacturers prefer to sell voice alarm systems to the fire industry who know very little about audio. "Why not give members the chance to quote". This is to be discussed at the next council meeting.

Plans for ISCEx2013 are well underway, and we hope you will all come along and support the event either as an exhibitor or to attend the seminars. The exhibition, which is celebrating its 10th anniversary, is on 5 March at Jurys Inn, Milton Keynes.

I wish you and your families the very best for the festive season and much success in 2013.

Terry ♦

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

Events diary

29–31 January 2013

ISE
Amsterdam, Holland

26–28 February 2013

BVE
London, UK

5 March 2013

ISCEx2013 (10th Anniversary)
Milton Keynes, UK

30 April – 1 May 2013

PLASA Focus
Leeds, UK

13–16 May 2013

IFSEC International
Birmingham, UK

12–13 June 2013

ABTT
London, UK

13–17 September 2013

IBC
Amsterdam, Holland

6–9 October 2013

PLASA
London, UK

23–24 October 2013

The Showman's Show
Newbury, UK

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Comments on articles and letters are invited.

Published by the
Institute of Sound
and Communications
Engineers Ltd

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Company limited by
guarantee and registered
in England no 3288938.

Registered Office:
3 Bramfield Road East,
Rayleigh, Essex SS6 8RG

VAT registration number:
GB 781 3372 24

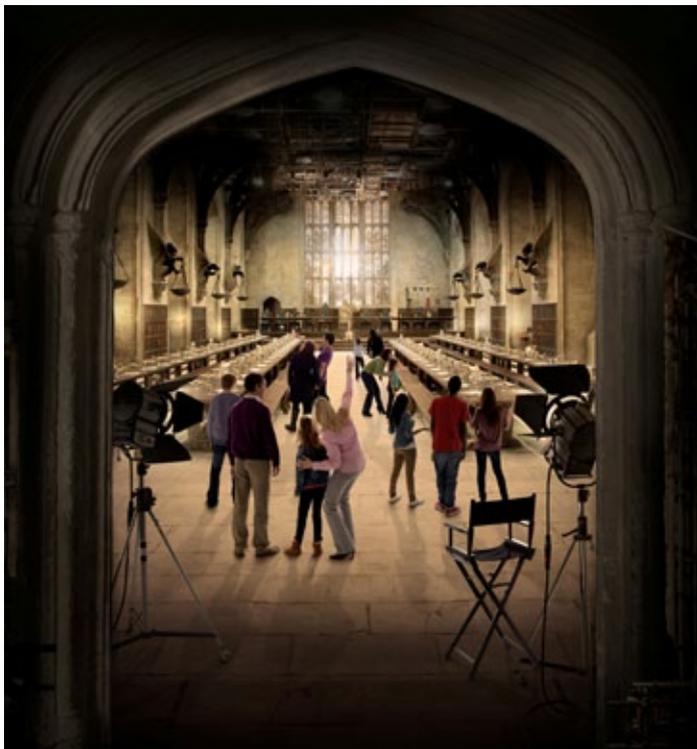
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Audio wizardry!

Signet's induction loops conjure up special effects on famous Harry Potter studio set



A collection of SigNET's powerful PDA-range induction loop amplifiers have been installed at the new Harry Potter set at Warner Bros studios.

The legendary set in Leavesden now plays host to the 'Harry Potter Studio Tour', a magical three-hour behind the scenes walk around the wonders of one of the most famous and successful film series of all time. Two of SigNET's PDA1000/2 and three PDA500/2 induction loop amplifiers are in operation to ensure that the tour, which includes the actual Great Hall of Hogwarts School and the treasures of Headmaster Dumbledore's office, is accessible to the hard of hearing.

Top audio-installation company, Clarity UK, employed some acoustic wizardry using designs drawn up by SigNET's induction loop expert,

Tremayne Crossley. SigNET's APSS Phase Shifter was utilized to combat overspill from the loop (so people with hearing aids outside a room cannot pick up conversation) and to ensure consistent coverage throughout the site thus avoiding those dreaded 'dead spots' (the areas directly above or below the loop cable where the signal suddenly drops to zero and cuts out sound altogether).

Said Giles Palmer of Clarity: "By taking the signal from the studio's in-house audio system, the APSS produces two signals 90 degrees out of phase with each other. These signals are fed into two identical loop amplifiers, which are, in turn, connected to two loops laid out in a special overlapping pattern. As a result, the magnetic field is

evenly spread within the covered area but the strength falls off much more quickly than normal outside the loop thus minimising overspill."

When it came to installing induction loop cable in the Great Hall, Clarity needed to take into consideration the effects of the genuine York-stone floor.

Explains Giles: "Normally flooring does not pose a problem when installing induction loop cable but the heavy stone in the Great Hall complicated matters as it threatened to crush the cable. The solution was to specify a specially tough cable and house it within three layers of insulating material."

For more information, contact SigNET on 0844 800 1625 or visit www.sig-net-ac.co.uk ♦

Portrait of a Member

Louise Swallow *MInstSCE*



This is the second in our new series when we 'introduce' recently admitted members to the ISCE and try to learn a little more about them. The subject in this issue is Louise Swallow, chosen partly because there are surprisingly few ladies in our industry. I wonder why

that is, and maybe this question together with some of the comments Louise makes, will prompt letters to the Editor. Louise responded very readily and most helpfully to our interview at long distance starting with the comment "I am a proud born and raised Beverley girl from East Yorkshire".

I grew up on my parent's farm taking a 'hands on' interest in whatever was going on around me, often asking questions on the tasks being undertaken, and possibly I now think, being more of a hindrance than a help. I enjoyed trying to repair things when they broke down. At the age of 11, using a soldering iron and some electrical tape, I wired up some speakers I'd found to install a better sound system in my bedroom. I was shy at the local schools which I attended and 'probably flew under the radar'.

Subsequently, I was sponsored by SigNET AC to attend Sunderland College on day release for 4 years where I gained my HNC in Electrical and Electronic Engineering. I have now been with SigNET for 7 years, working my way up in the company where I am now the Manufacture Cell Leader responsible for the running of the production department. Prior to this, I gained experience in production technical support, testing, faultfinding and customer returns.

I was asked if I had any views on being a woman in a male dominated industry. Personally, I have never encountered any problems, possibly because I have always worked where men are in the majority. Gender has never been an issue to me. I think the main factor is to have confidence in your ability, give respect, and then you earn respect. Actually, it still amuses me just

how gentlemanly guys can be when I join their group. The swearing stops; the guys become P.C. polite; and you can tell what they're thinking before they speak. I am not easily offended and have at times been known to use unladylike language. I do admit to checking new members listed in the ISCE magazine in the hope there are new female members to swell the ranks a bit.

I now live on the Durham coast having moved to the North East with my partner over 10 years ago. My partner describes me as a 'bit of an old man' as I love to potter around the garden. Dogs are a great feature of my life. Walking them on the beach guarantees relaxation after work. I am also a bookworm, sometimes reading 3 books at a time. We don't hit the clubbing scene very often, preferring to share a meal with a bottle or three of good wine with friends and family.

I joined the Institute where I know Andy Scott, Tremayne Crossley and Howard Kelly, after attending an AFILS Design & Installation Course, [Ed: Thanks Doug], starting as temporary member before upgrading to a full member. I recently arranged for my colleague, Raion Karan to attend the same course as this was so beneficial to me. I feel the ISCE offers great support and advice between members and am proud to promote the Institute to others in the industry. I would like to see the ISCE publicise the industry more to a younger generation and in particular to young women. In comparison to boys, there are not many girls continuing their further education with physics and engineering. We need more positive role models to educate and encourage the next generation of engineers. I think more education is required to highlight the opportunities of a career through engineering and manufacturing.

On behalf of the Institute, I cordially welcome Louise to our ranks, and hope that in the fullness of time, we will have the pleasure of counting more ladies amongst our numbers.

Michael Leaver *ComplnStSCE*
Past President ♦



We were delighted to welcome Roland Hemming MInstSCE, as our guest speaker for the Warren-Barnett Memorial Lecture at this year's Institute Day. His lecture delved into the complexities of managing the installation of audio systems at some of the country's largest venues; The Millennium Dome and the London Olympics. Judging by the number of questions asked by the audience, and the feedback received afterwards, it was clearly a huge success.

After lunch, there was an opportunity for members to raise questions and the hot topic discussions got underway, which included discussions on optimising Google search engines, the history of PA and the idea of a Contractors Association.





President, Terry Baldwin ComplnstSCE led the AGM and explained the set up of the Institute and some proposed changes to help streamline the ISCE. Immediate Past President, Bryan Robinson FlnstSCE reported on the finances.



At the end of the AGM, Terry Baldwin presented Ken Hollands of Univox Audio with his supporting membership certificate and engraved plaque.



INSTITUTE DAY 2012 25.10.12

ISCEx2013

TENTH ANNIVERSARY

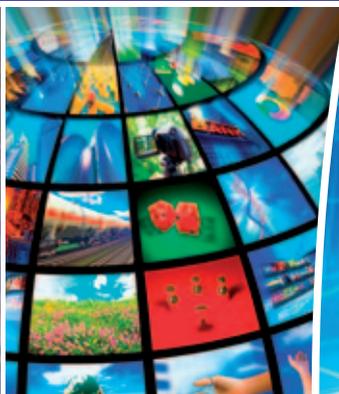
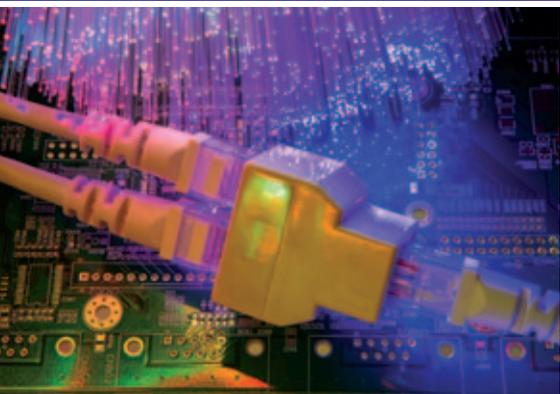
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10am

Digital video**Understanding new integrated solutions for digital AV switching and distribution****Jim Fitton, Senior Consultant Manager, Extron Electronics Europe**

In the future, audio contractors will need to learn and adapt as digital video becomes part of the overall audio visual contract.

With AV integration in mind, you will need to understand digital signal types, design fundamentals and implementation practices. This seminar will look at the problems that help you deliver, and guide you through, DVI, HDMI and display port transmission technologies. It will elaborate on EDID management and HDCP key management and cover the impact of digital video on AV system design today. Strategies needed to successfully navigate through to A and V integration will be covered.

11am

Operating low voltage generators**Mark Coles, Technical Regulations Manager, The Institute of Engineering and Technology**

The presentation will cover the operation of low voltage generators for entertainment related purposes. When using low voltage generators, it is necessary to be aware of extraneous and exposed conductive parts of other electrical systems so that the system can be designed and operated safely. Earthing arrangements and the use of earth electrodes will be examined in addition to the use of RCDs. The sizing of protective conductors, for earthing and bonding will also be discussed and the definitions of portable and mobile generators, the requirements of the law, BS 7671 and BS 7909 will be included.

2.15pm

Waveform integrity**The white paper based on the creation of pure sound****Davies Roberts MInstSCE, Managing Director, Flare Audio Ltd**

Loudspeakers should provide 'as pure a sound as possible', to enable an unaltered reproduction of the sound created by the musician.

The white paper explains how most loudspeaker designs damage sound through resonance and internal reflection within the cabinet. It also describes how manufacturers have traditionally compensated for this, particularly in the last two decades, by the use of digital correction techniques using DSP. This seminar will cover details of the white paper and the Waveform integrity testing. The audience will be invited to give their comments.

Read the white paper at tinyurl.com/c78x6sw

3.30pm

AVB for Professional AV**Stephen Patterson, Regional Manager, Biamp Systems**

AVB is not just a new protocol for audio over ethernet. It allows audio and video to be sent over ethernet cables at the same time as data information – and it is not proprietary. This allows it to be integrated with an IT network, making considerable savings on cabling costs. From the client's point of view, 'what's not to like?' The signs are that AVB could be set for wide spread adoption. This seminar will explore how AVB works and examines the pros and cons.

Bill Preedy *MInstSCE*

29 November 1919 – 27 October 2012

Dennis Terrett *FInstSCE*



It is with a very sad heart that I have to report the death of Bill Preedy who died on 27 October 2012, just short of his ninety-third birthday. He was born November 1919 and although baptised Ernest Alfred Henry William Preedy was generally known as Bill. His parents were theatre performers and sadly his mother died as he was born; not a good start to life.

As a school boy, Bill had a lively mind, which resulted in a number of patents at that time. From Battersea Grammar School Bill joined the big world and his first employment was with the International Broadcasting Company circa 1935. He worked in the recording studio where recordings were made for transmission to overseas countries at an appropriate time. The recordings were made on soft materials such as wax and needed very careful handling. He told me of one such recording that had taken a long time for the content to be correct, only for the senior gentleman present to lean over it and his false teeth to exit his open mouth onto the disc and destroy their labours.

Bill joined the RAFVR (similar to the territorials) prior to the war, with the express purpose of learning to fly. Soon after that he was at RAF North Weald for some training, when the outbreak of war occurred. It was also there that the first RAF death in wartime was recorded and Bill was one of the RAF mourning party. It was all in a hurry and they could only find six rifles on the station, which were fired rather like 'Dads' Army', not simultaneously as would be done with some practice. The deceased Faulton Harrup was a tall man, well over six feet and when the coffin was lowered it would not fit the hole, which had to be dug a bit longer, with the relatives and official representatives looking on. It all made a lasting impression on him.

During the 1939/45 war he was an engineer working for Tannoy and was mainly involved with the military establishments where the 'Tannoy' was a vital link in their communications. There were various innovations, including the means of quickly finding cable faults and also the large amount of power

to drive the loudspeakers such, that a lost power amplifier was not a lost loudspeaker zone. Paralleled amplifiers answered the call.

A little later Bill was called up and was in the RAF as a trainee air gunner. Soon after that Guy R Fountain (GRF) the founder and owner of Tannoy was under pressure to deal with the supply and maintenance of systems for the military sites, as well as the numerous factories, shipping etc. He therefore desperately wanted some of his key people back from the services to deal with it. Bill was one of them and it was quickly done. At the time he had taken a bit of unauthorised absence and on his return was told that they had been looking for him. They never found out that he was off camp. He was back in Civy Street in almost no time, which probably saved his life; the expected life span of an air gunner was very short and almost half bomber air crew lost their lives. Back with Tannoy he was very much involved with the airfields and the scramble equipment needed to get the aircraft into the air quickly, as well as the general alarm announcements. Does that sound familiar?

In the early days of post war meetings there were questions and some answers about the performance of public address when used for emergency communications and Bill raised the question of determining the level of intelligibility. I think that it was the first time that a number of otherwise thinking people focused their thoughts on the real issue of amplified speech. The rest, is as they say, 'history'.

Bill Preedy was the sales director for Tannoy and was castigated by GRF for going to Holland in the early stages of a new oil refinery. The trip was to negotiate and carry out a practical appraisal of audio communications, an entirely new form of its kind. Because of Bill's previous dealings with the client BP, they were interested to hear about the latest safety communication systems. He hopped on the first plane, which took off at about seven in the morning. GRF upon returning that very morning from his Majorca Palace (Bill's description of GRF's Majorca home) wanted Bill to prepare a report, as usual to show what a clever boy GRF was (again Bill's wording). On finding that Bill was missing from the office, he brain stormed and dictated one of his infamous memos. It insisted that in future Bill was not to venture outside a three mile radius of the Tannoy office without his written permission.

Sometime later Bill received a hot enquiry from GECOS (General Electric Company Over Seas) regarding a meeting in Tehran in the company of GECOS and with the Iranian Authorities. Not looking to his left or right Bill took off and arrived in Tehran at one o'clock in the early morning. He sent a post card with a picture of the Caspian Sea to GRF with, profuse apologies for not contacting him before taking further action. Bill never heard anything further from GRF about it. The negotiations were a success and a contract was placed with Tannoy to provide the sound system for a new large stadium in Tehran, Iran. It was to hold 100,000 seated spectators and be ready for the 1970 celebrations marking 2500 years of civilisation and then for the 'Asian Games' in 1974, with the rest of the site to Olympic standards, equipped by Tannoy.

He had many tales of those early years and his time with Tannoy, where he stayed for over forty years, finally becoming General Manager after the purchase by Harman International.

During my Tannoy days from 1951, I was privileged to work with Bill and later when I formed my Company 'Avalon', his enthusiasm was still ringing in my ears; I pushed those early concepts further in the continuation of paralleled power amplifiers and to introduce DC loudspeaker line fault monitoring.

The industry owes a great deal to Bill; in fact he was the father of Voice Alarm as we came to know it. He was a kind, intelligent and humorous man with a sharp wit that all could have been an asset as a lawyer. I recommend a read of 'The Tannoy Story' book that has a potted history of the early years including Bill. Bill's wife and only son died a little while ago and so there is no immediate family. He will be missed, but certainly not forgotten.

"I knew Bill very well and am saddened by his passing. Bill was instrumental to a number of actions and activities now enjoyed by us all".

Terry Baldwin *ComplInstSCE*, President ♦

Peter Mapp and John Woodgate receive prestigious 'IEC 1906 Award'

On 1 November Peter Mapp and John Woodgate were awarded the IEC's (International Electrotechnical Commission) '1906 award' at a presentation in London. The 1906 award honours IEC experts whose work is fundamental to the IEC and also recognises exceptional and recent achievement for a project or other specific contribution to the IEC. Peter received his award for his work as an expert and for producing the latest revision of IEC60268-16 (Speech Transmission Index standard) and John in recognition of his role as Expert and General Maintenance Manager in the IEC 60268 series of standards. John Woodgate's citation also noted with 'special appreciation the well conceived language he provides in helping to ensure that IEC standards are clearly understandable'. ♦



Peter Mapp receiving award from Geoff Young – President of BEC

Changes to ISCE closed mail list

At the last ISCE Council meeting held on 4 December 2012, it was decided that the ISCE closed mail list will gradually be replaced by an online forum based system that is open to all members. This change will not take place immediately and members of the existing list will be informed well in advance when the change is to take place, probably around the time that subscriptions become due in 2013.

All existing members of the closed mail list will be migrated automatically unless they decide to opt out in advance. Those members who are not on the closed mail group system will be given the opportunity to subscribe.

If any members have any comments or suggestions relating to this change, please send them by email to ros@isce.org.uk as soon as possible. ♦

The advantages of the forum should be:

- 1 Technical subjects will be open to viewing by the public thereby improving the online exposure of the ISCE and promoting its technical competence. The public will not be allowed to post messages.
- 2 All ISCE members will be able to use and post to the forum with no additional subscription.
- 3 Improved online administrative interfaces for users with better threading of subjects.
- 4 Registered users (members) will have the facility to publish a short bio describing their skills and interests.
- 5 Search engines will be allowed to scan published technical content and include the forum posts in their results. Hopefully this will help promote membership of the ISCE.

Waveform integrity

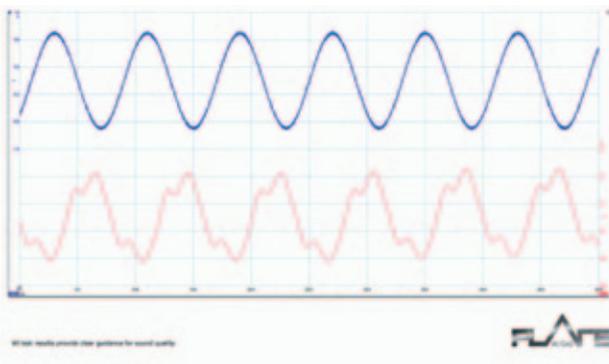
White paper calls for industry adoption of 'waveform integrity' test to demonstrate loudspeaker quality

The audio industry should test its products to a higher standard and publish the results in its sales material, according to a white paper released by loudspeaker manufacturer Flare Audio this month. The paper argues that a test currently used extensively by audio professionals to measure the sensitivity of loudspeakers does not tell the whole story about loudspeaker sound quality. It claims that a less well-known test, Waveform integrity (Wi), allows artists, audio professionals and the listener to compare the sound reproduction of different products much more effectively.

Flare Audio believes that loudspeakers should provide 'as pure a sound as possible', to enable an unaltered reproduction of the sound created by the musician. In its white paper, the company defines a sound as 'pure' if it loses none of its detail in the transmission from artist to listener in the process of audio reproduction.

The paper explains how most loudspeaker designs damage sound through resonance and internal reflection within the cabinet. It also describes how manufacturers have traditionally compensated for this, particularly in the last two decades, by the use of digital correction techniques using DSP.

A Waveform integrity test measures a sound wave at its point of origin and also as it emerges from the loudspeaker. The more closely the two waves resemble each other, the better the quality of sound reproduction. A Wi test is carried out with a dual channel oscilloscope (ideally, high resolution) and an RTA microphone. By adopting this test, purchasers will be able to initially judge the quality of a loudspeaker simply by comparing Wi measurements in marketing material, prior to hearing a product first hand.



"The Waveform integrity test is not intended to replace other testing methods," says Davies Roberts, Flare founder and author of the white paper. "It is designed to provide further information to the user in order to better evaluate the sound quality of a loudspeaker.

The paper concludes with the recommendation, "We believe that both the user and the industry will benefit from the application and disclosure of Waveform integrity tests. This white paper puts forward the case for European and International standards boards to raise the standard of disclosure to users by requiring that Waveform integrity test results be included in user information for every loudspeaker sold."

ISCE welcomes this further understanding of this possible new testing and Davies Roberts will be presenting further information at ISCEx2013 on 5 March.

The white paper: *Flare Audio: Waveform integrity testing* is available for download at tinyurl.com/c78x6sw ♦

Can you help Loop Eastbourne for the 3rd International Hearing Loop Conference in 2013?

The 3rd International Hearing Loop Conference is to be held in Eastbourne, East Sussex in early October 2013, and a 'looping Eastbourne' task group has been set up to raise awareness in the town of the need for excellent hearing loop facilities installed in time for the conference. Could your business help loop Eastbourne?

The task force includes Doug Edworthy *HonFInstSCE*, Hearing Link and other local disability care organisations, AFILS manufacturers, and representatives from Eastbourne Borough Council, supermarkets, banks, theatres, post offices, transport organisations, newspapers and hotels.

Activities are already underway to train hearing and hearing-impaired volunteers to assess existing AFILS and explain to venue owners the need for good assistive listening facilities that will draw-in more business for them. Awareness days are planned at local supermarkets to help hearing aid users to raise their own expectations, and how to complain productively if their expectations aren't met.

The result of all this will be a town of businesses and venues that are already 'sold' on the need for AFILS, and this presents an enormous opportunity for competent AFILS providers. Doug's involvement with the task-group has raised the visibility of the ISCE AFILS assessment scheme and the ISCE AFILS training courses, and so potential buyers will be looking for certified competent suppliers and installers to provide systems that meet the requirements of BS EN 60118-4: 2006.

Trained Hearing Link assessors will be doing random checks on the quality of installations.

If you work in the hearing loop field and you haven't yet achieved your AFILS certification, contact Ros to attend one of our courses.

If you'd like more information about the Looping Eastbourne project or the 3rd International Hearing Loop Conference, please contact Rhiannon Barker at Hearing Link (rhiannon.barker@hearinglink.org, 0300 111 1113). ♦



3rd International Hearing Loop Conference – call for papers

Eastbourne is hosting the 3rd International Hearing Loop Conference in October 2013. Doug Edworthy *HonInstSCE* is managing technical presentations for the conference and is inviting proposals for papers that will support the conference's main themes:

- a** How hearing loops have helped the hearing aid community
- b** How other countries can benefit from the UK experience, and avoid some of our mistakes
- c** How hearing-aid users can become the advocates for hearing loop provision and performance.

If you would like to present a paper on one or more of these themes, and aimed at a moderately technical audience that will also include many non-technical people – so the more entertaining the better – please send Doug a brief synopsis of your talk as soon as you can. Doug can be contacted at doug@edworthyaudio.com and on 01435 30195. ♦

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LEADING THE WAY TO SAFETY

Calculating loudspeaker line losses using LTspice and MiscEI

John Woodgate *HonFInstSCE*

Calculating loudspeaker line losses using LTspice and MiscEI

Calculating the line losses and the voltages at the loudspeakers can be quite a problem if the loudspeakers are in widely-separated clusters and the cables are no thicker than necessary. However, two of the free programs, Misc EL and LTspice, will do it for you.

There are several possible starting points, so I've chosen one that might well confront a consultant - analyse an existing installation.

So, we have a 100 V line amplifier feeding a ring-main as shown in the circuit diagram. (LTspice is an American program, so it uses zig-zag resistors by default, but a rectangle resistor is in the library.)

The data for the cables and loads are:

Amplifier to cluster 1: 95 m of 2.5 mm²

Cluster 1: total power 200 W

Cluster 1 to cluster 2: 65 m of 1.0 mm²

Cluster 2: total power 133 W

Cluster 2 to cluster 3: 125 m of 1.0 mm²

Cluster 3: total power 250 W

Cluster 3 to cluster 4: 100 m of 1.0mm²

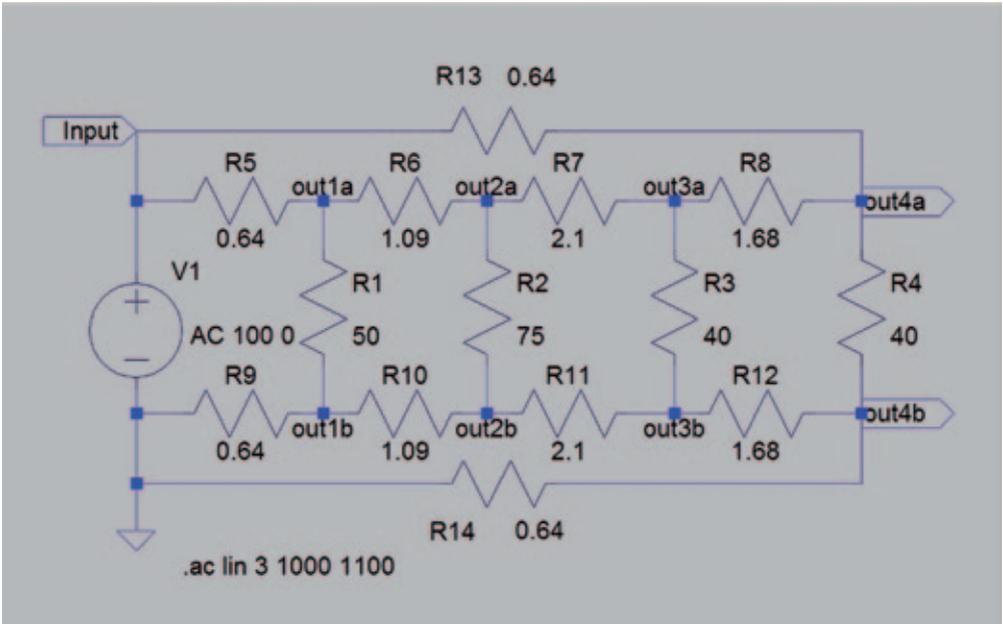
Cluster 4: total power 250 W

Cluster 4 to amplifier: 95 m of 2.5 mm².

NOTE – Never mind whether this is a good design or not; it shows the principles involved.

Now we can use the 'Wires' tab of Misc EL to calculate the resistances of the cables and, if we really need its help, it will also convert the power figures into resistances. The results are in the circuit diagram.

Loudspeaker distribution circuit (LTspice .asc file)



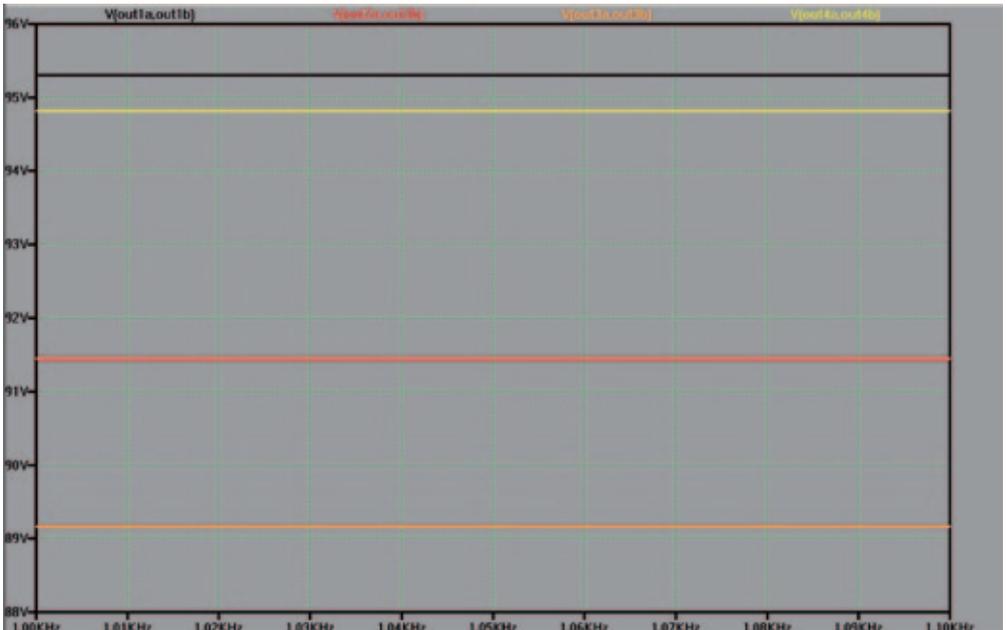
Now, we want to know the voltages across each cluster, and there are several ways of finding that in LTspice, but an easy way is to do a dummy frequency sweep; the response is bound to be flat because we only have resistors in the circuit. LTspice will plot the voltage differences and if the cursor is placed on a trace, a precise value is given in a bar at the bottom left of the screen. But it's quite easy to read them from the graph anyway.

Quite a lot of fairly intricate number-crunching has been replaced by mouse moves and clicks. If you don't like the result for Cluster 3, even though it's only 1 dB down, it's very easy to try some 'what if's?' to fix it with minimum re-cabling.

You can, of course, use LTspice for simulating quite complex active circuits, with bipolars and FETs of both sorts, even valves if you are so inclined. And Misc EI will help with those awkward component values that are not even close to a preferred value or what is in the stock cupboard.

Not only that, but you can add cable capacitances to the circuit and even include 'models' of the line transformers, with magnetizing and leakage inductance and winding resistances. The models can even include non-linear magnetization — saturation and hysteresis. LTspice will go as far as you want to, and then some! ♦

Loudspeaker distribution circuit results (LTspice .raw file)



DISCLAIMER

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Your Charities – at Christmas time?

Ron Walker, Charities Administrator

All issues of the ISCE Magazine have carried articles by me on behalf of the Trustees of the two industry registered charities. Despite the present hard times, these charities both need and deserve your support. Donations at the end of the year would be welcomed. We never know just when even the most careful of us might need that little extra for a life-threatening operation, a help with tuition fees for a talented youngster, or a short-term loan to deal with an unpredictable domestic crisis.

The Public Address Engineers

Benevolent Fund (216648), was set up in 1962. Any bone fide person engaged in the sound industry can apply for assistance, which will be vetted by a board of independent trustees.

The Alex J. Walker Memorial

Fund (262085), with a separate list of trustees and named after the founder of our predecessor organisation, the Association of Public Address Engineers (APAE) was established in 1969 to provide help with education and training in the industry. During the last few

years, money from this fund has been used to subsidise some of the training courses run by the ISCE which otherwise would be too expensive for members to attend.

Please earnestly consider making a donation, however modest. Where possible, please Gift Aid your donation, turning for example £100 into £125, courtesy of the Chancellor of the Exchequer. Please send your contribution to one of the Trustees, or Ros Wigmore at ISCE or by post to myself as Charities Administrator, Ron Walker, 132 High Street North, Stewkley, LU7 0EP. (Please nominate preferred charity, and if transferring funds by BACS ask Ron at ron@stewk.co.uk or phone 01525 240444

For further information, quote either of the above charity registered numbers on the Charity Commissioners website, or pick up further information at ISCEEx2013, where the trustees will also be glad to answer any questions. Donation buckets will be available for your donation. ♦

New Members

December 2012

Member

Richard Hills
Extrasolve

John Hiron
Technical Services (Shropshire) Ltd

Upgrade to Member

Davies Roberts
Flare Audio Ltd

Senior Technician

Paul Johnson
One Eye Design

Ken Kneale
Corlett Electrical Engineering

Darius Wheel
Action on Hearing Loss

Upgrade to Senior Technician

Russell Watts
TechX

Technician

Mike Belham
Truelight

Mark Cleator
Manx Sound

Paul Freeman
CPC

John Hughes
Richard King Systems

Gary Leverington
Action on Hearing Loss

Janine Rabiej
Action on Hearing Loss

Mark Smith
PAS Sound Engineering Ltd

Justin Walsh
J & C Joel Ltd

Temporary Member

Maxine Harris
Hi Kent

Naomi Lemar
Hi Kent

Raion Karan
SigNET (AC) Ltd

Student

James Perry

Vacancies

The ISCE invites applications from members to stand for election for two voluntary roles.

Members will vote on the new applicants at an EGM, scheduled for 12.30pm on 5 March at Jurys Inn, Milton Keynes (during ISCEEx2013).

President Elect

To shadow and support the current President, ultimately taking up office as President in October 2013 for a period of three years, at which time a new President Elect will be required.

Director

To join a team of Directors, who take overall responsibility to the membership and to the outside world for the financial and legal aspects of ISCE's business. Directors are elected for a period of three years after which they are eligible for re-election.

Please send your written application to Ros Wigmore by 1 January 2013.

Supporting Members

A K Barns Ltd, Cambs
www.soundplayback.com
Mr A Barns *MinstSCE*

ADS Worldwide, Manchester
www.ads-worldwide.com
Mr J Houldcroft *MinstSCE*

Alarm & Communication Systems Ltd, Tyne & Wear
www.alarmcommsys.co.uk
Mr M Jefferson

Ampetronic Ltd, Nottinghamshire
www.ampetronic.com
Mr J Pieters *MinstSCE*

AMS Acoustics Ltd, London
www.amsacoustics.co.uk
Ms H Goddard *FinstSCE*

Arup Acoustics, Manchester
www.arup.com/acoustics
Mr D Hiller

Audio-Technica Ltd, Leeds
www.audio-technica.com
Mr H Roberts

AVID Installation Solutions Ltd, Birmingham
www.avid-isl.com
Mr A Hayden

Baldwin Boxall Communications Ltd, East Sussex
www.baldwinboxall.co.uk
Mr T Baldwin *ComplnstSCE*

BL Acoustics Ltd, Essex
www.blacoustics.co.uk
Mr B Larcombe *MinstSCE*

Blaydon Communications Ltd, Tyne & Wear
www.blaydoncomms.co.uk
Mr P Dougherty *MinstSCE*

Bosch Security Systems, Middlesex
www.boschsecurity.co.uk
Mr P Ward *AMinstSCE*

Canford Audio Plc, Tyne & Wear
www.canford.co.uk
Mr P Vickers

CIE Group Ltd, Nottinghamshire
www.cie-group.com
Mr K Sherwood *MinstSCE*

Clarity UK Ltd, Essex
www.clarityuk.co.uk
Mr G Palmer *AMinstSCE*

Cloud Electronics Ltd, Sheffield
www.cloud.co.uk
Mr S Curtis

Commercial Audio Solutions Ltd, Derbyshire
www.commercialaudiosolutions.com
Mr W Mackie *AMinstSCE*

Communication Technology, East Sussex
www.communication-technology.co.uk
Mr L Pannett

Contacta Systems Ltd, Kent
www.contacta.co.uk
Mr R Dungan *MinstSCE*

Cooper Fulleon Ltd, Gwent
www.cooperfulleon.com
Mr R Chopper

Cooper Lighting & Safety Ltd, Doncaster
www.cooper-ls.com
Mr B Walder

CPC
www.cpc.co.uk
Mr P Freeman *TechnInstSCE*

C-TEC, Wigan
www.c-tec.co.uk
Mr A Green

CUK Ltd, Glasgow
www.cuk-audio.com
Mr S Thomson

Current Thinking Assistive Listening Ltd, Tyne & Wear
www.current-thinking.com
Mr S Binks

Delta Telecom Sound & Security Ltd, Stockport
www.deltatelecom.co.uk
Mr S Ratcliffe *TechnInstSCE*

DNH Worldwide Ltd, Milton Keynes
www.dnh.co.uk
Mr K Golds *AMinstSCE*

Duran-Audio UK Ltd, Cardiff
www.duran-audio.co.uk
Mr N Screen

Edworthy Audio Consulting, East Sussex
www.edworthyaudio.com
Mr D Edworthy *HonFinstSCE*

Electronic Audio Systems Ltd
www.electronicaudiosystems.co.uk
Mr B Latham *MinstSCE*

Fuzion Ltd, Surrey
www.fuzion.co.uk
Mr T Torlini

Gordon Morris Ltd, Somerset
www.gordonmorris.co.uk
Mr G Morris *MinstSCE*

Grainger Communications Ltd, Co. Tyrone
www.graingercommunication.com
Mr M Grainger *MinstSCE*

Mongey Communications, Co. Kildare
www.mongey.ie
Mr D Mongey

Nebula Audio Ltd, Worcestershire
www.nebulaaudio.co.uk
Dr D Tyas *FinstSCE*

Newtech Southern Ltd, Hampshire
www.newtechsouthern.co.uk
Mr A Bradshaw *TechnInstSCE*

Northern Light, Edinburgh
www.northernlight.co.uk
Mr J Allen

NSR Communications Ltd, Hertfordshire
www.nsrcommunications.co.uk
Mr P Walker

Peavey Electronics Ltd, Northants
www.peaveycommercialaudio.com
Mr J Kennedy

Penton UK Ltd, West Sussex
www.penton.org
Mr P Alberry-King *MinstSCE*

Principle Link, Huddersfield
www.principle-link.com
Mr R Cooke

Provoice, Lancashire
www.provoice.co.uk
Mr J Gilroy *MinstSCE*

RCF Audio, Essex
www.rcfaudio.co.uk
Mr P Price *MinstSCE*

R K Sound Engineering Ltd, St Albans
www.rksound.co.uk
Mr R Raper *MinstSCE*

Romers Electronics Ltd, Blackburn
www.romers.co.uk
Mr J Caton *MinstSCE*

RW Salt Communications Ltd, Manchester
www.rwsalt.co.uk
Mr C Buckley *AMinstSCE*

Sennheiser UK, High Wycombe
www.sennheiser.co.uk
Mr A March *MinstSCE*

Simcol Communications Ltd, Newport
www.simcol.biz
Ms C Hurditch

Shure Distribution UK, London
www.shuredistribution.co.uk
Mr T George-Tolonen

SigNET (AC) Ltd, Tyne & Wear
www.sigmet-ac.co.uk
Mr A Scott *FinstSCE*

Simpson Sound & Vision Ltd, Warwickshire
www.simpsonsoundandvision.com
Mr D Simpson *MinstSCE*

Solent Sound Systems Ltd, Southampton
www.solentsound.com
Mr R Gatehouse *MinstSCE*

Sound Directions Ltd, London
www.sounddirections.co.uk
Mr S Boivin-Champeaux

Sound Productions, Dublin
www.soundproductions.ie
Mr D McGlynn *MinstSCE*

TOA Corporation (UK) Ltd, Surbiton
www.toa.co.uk
Mr B Downing

Tyco Integrated Systems, Cambridge
www.tycoint.com
Mr K Blackwell

Univox Audio Ltd
www.univoxaudio.co.uk
Mr K Hollands

Vaughan Sound Installations Ltd
www.paigroup.com
Mr R Vaughan *MinstSCE*

For a sound job, always choose an ISCE member

ISCE

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

Our Register of Members can be found on www.isce.org.uk

For more information call **+44 (0)118 9542175** or email info@isce.org.uk

Keeping industry standards high