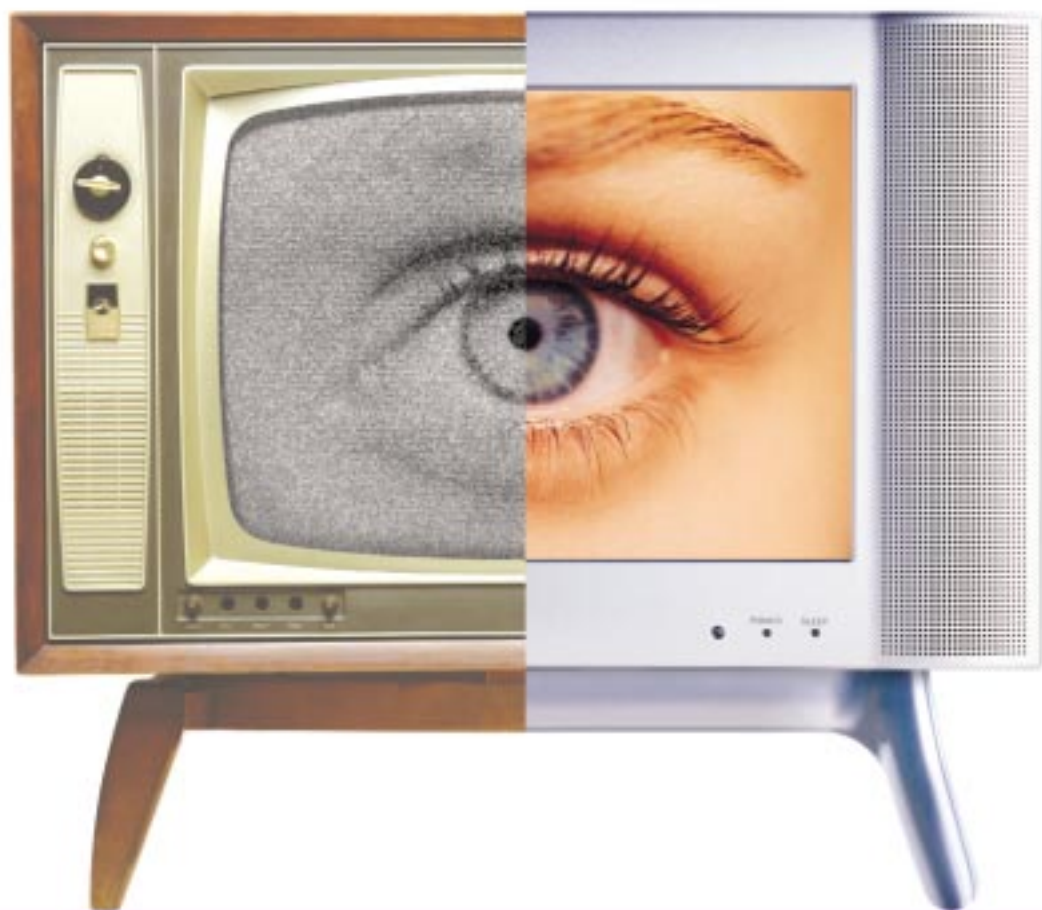




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Introduction from the President



Dr Roger Blakeway FIEE, FSCTE



THIS YEAR the Society celebrates its Diamond Anniversary; an opportunity to reflect on all those things that have kept the Society

going for 60 years through some difficult times, both for the Society and the Cable Industry in general. This booklet follows on from a similar publication produced for our Golden Anniversary with sections containing historical reflections of the Society and the Society's Journal. Dan Smart as ongoing Editor, continues his record of how the Journal has changed over the years, adapting to new technology and market requirements whilst still remaining a much respected publication.

In our 50th year booklet, the 'History of the Society' was provided by the late Tom Hall MBE. It was with regret and great sadness that we recorded the death of Tom in May of 2002 at the grand age of 89. He died just a few months short of his 90th birthday and a celebration dinner in his honour planned by the Society that he loved dearly, an occasion that he would have enjoyed in his own inimitable way. It falls to me, therefore, to add the last ten years to Tom's original contribution to bring it up to date. In doing so, I am conscious of the personal debt that I owe to Tom; he was responsible for my early involvement in the Society, for my election to the Executive

Committee and for encouragement and support in my role as President. I feel somewhat inadequate in trying to follow in the footsteps of someone who was involved in the Industry for 74 years and I intend, therefore, to retain as much of Tom's original material as possible.

Whilst in our 60th year it would be easy to devote the whole of this booklet to reminiscing

about the past, the fact that we are here to celebrate our Diamond Anniversary shows that the Society is alive and well, viable and vibrant. For the remainder of this Introduction, therefore, I will concentrate on the Society now and its aspirations and challenges for the future.

Part of the reason for the success of the Society has been its ability to adapt to changes within the Industry. This has been particularly true over the past few years with the rapid advance of technology coupled with a

slowdown in growth of the subscriber base. The period of consolidation of small Cable Operators into large MSOs has reduced the number of engineers and, especially, technicians in the Industry as one by one the large MSOs spent all their funds in acquisition and became operationally bankrupt. Many of our members from the middle 90's are no longer in the Industry, a great loss of skills and experience. Membership numbers have been difficult to maintain in such an environment.

The advent of broadband data delivery and the explosion of the Internet has meant that there has





been a need for the Society to broaden its outlook to encompass all the skills that are required to design, construct and operate a modern telecommunications network. It has also had to be responsive in the critical areas of education and training. Large MSOs tend to bring much of their training in-house and we have had to seek additional new markets for our training courses such as Romania and Pakistan as well as expanding the content to take new technology into account.

It is with some satisfaction that, in an environment where MSOs are particularly sensitive to allowing their staff to attend external events, our technical lectures have remained well attended. We have tried to broaden the audience for these lectures both regionally (not very successful) and internationally with SCTE days in Belgium and the Netherlands, culminating with the setting up of a Benelux Committee. We now have an active group of members in Benelux with their own biannual lecture meetings; one in Spring and one held at IBC in September.

In my introduction to the 50th year booklet I noted that "this September sees our first appearance at IBC in Amsterdam in an attempt to increase our membership overseas. The Society is a sponsor for IBC and has a seat on the Management Committee, the aim is to secure more exposure of cable and to raise our profile in the world of broadcasting". Although I was certain that IBC would be a great vehicle for propagating knowledge of the SCTE, I little realised at the time that IBC would eventually become a major source of income for the Society. We are now one of the six organisations that run IBC through a Partnership Board and participate in a share of the proceeds of running the World's major electronic media event.

As part of our 50th year celebrations we tried to expand the social side of the Society. Over the past ten years we have organised boat trips on the Thames from Henley, Maidenhead and the Embankment. We have recently begun to organise

“...the Society must be ready to educate, inform and support its members as the future unfolds”

SCTE Golf days and all our lectures are now followed by a cocktail reception to give members and guests the opportunity to network. We have continued to organise our Gala Awards Dinner, always at a unique and prestigious location; actually 'unique' is not quite correct since this year our Diamond Anniversary Dinner will return yet again to Woburn Abbey, which has proved to be one of our most popular venues. We are fortunate that

we have had generous sponsorship from many of our Patron Members and this allows us to maintain the ticket prices at affordable levels even for such a magnificent venue. Acknowledgements of their participation appear in this booklet.

In closing the Introduction to the 50th year booklet I said, "What then of the future, the next 50 years? It would be extremely foolish to believe that we can predict, in any detail, how technology will change our industry over the next ten years, let alone the next 50. The lesson of the past is one of change and adaptability. The cable engineer of the future will need to learn many new skills and the Society must be ready to educate, inform and support its members as the future unfolds. Will there be a future for cable? I firmly believe that it still provides the one 'renewable bandwidth' communications medium and, as such, will always be the heart of any comprehensive communications network."

I really cannot think of much to add to that, except to say that as far as the Society is concerned, success is due to the dedication and efforts of the Executive Committee, a group of engineers giving freely of their valuable time believing that the SCTE has a major contribution to make to the Industry, a great administration team at the SCTE Office led by Beverley Allgood and of course YOU the membership. Please continue to support YOUR Society and maybe we can look forward to the 75th celebrations.

Origin and development of the SCTE



Building on Tom Hall's 1995 history of the SCTE, Dr Roger Blakeway charts the progress of the Society and the Industry over the last ten years

THIS BRIEF HISTORY of the Society is largely based on the reminiscences of the late Tom Hall MBE. Tom was a founding member, the Society's Secretary for some 40 years and then a Director of the Society until his untimely demise at the age of 89 in 2002. His original article in the 50th year brochure, reproduced here almost in its entirety, outlined the early years of the Industry, the formation of the SCTE and charted its progress to 1995. I have merely added comment to Tom's original manuscript and included details of developments in the last ten years.

**Tom Hall MBE CEng, FIEE, FSCTE
1912-2002**

It would be remiss of me in presenting Tom's thoughts not to give you a little of the background of a man who was so pivotal in the Society's history:

Tom was a self made man, leaving school at 14 and attending night classes to teach himself about radio communications. Tom Hall's involvement, in what was to become the cable telecommunications industry, started in 1928 when he began working part-time for a radio relay company. This led, in 1933, to his appointment as an engineer for a group of radio relays in the Midlands. Tom was ultimately to become the owner of the system and at the beginning of World War II he was appointed Southern Area Secretary of the recently formed Relay Services Association

(RSA), which was to become the Cable Communications Association (CCA).

Following the gradual introduction of technical meetings at Southern Area RSA meetings, there was interest in forming a separate technical organisation and, as a result, the Society of Relay Engineers was formed in September 1945.

Tom was a founding member of the Executive Committee and in 1947, following the death of its first Secretary, he was appointed as successor. He continued in this office until, approaching his 80th birthday, he 'retired' and was appointed Director of the Society of Cable Telecommunication Engineers as the Society had, by then, been renamed. For much of his time as Secretary, the cable communications industry was relatively static with little new investment and the Society would not have survived without Tom's dedication to it. This included ensuring the continued publication of the journal now entitled *Cable Telecommunication Engineering*.

In 1990 Tom became a Member of the Order of the British Empire in recognition of his outstanding work in fostering the status of the cable engineering industry and in particular the standing of the individual engineers working within it. In 2001, at the Annual Dinner at Woburn Abbey, the Society presented him with an inaugural award for outstanding services to the cable communications industry. This award, named the Tom Hall Award, will continue as an



Tom Hall after receiving his MBE in 1990



The cover of a brochure (c.1928) promoting GEC's single-programme radio relay service at Coventry, offering at least 12 hours uninterrupted broadcasting a day for 1s 6d per week and with no installation charge.

annual award in honour of a great man.

A man of varied tastes and interests, his love of the ballet was perhaps paramount. Friends remember him as a person who was interested in everything, but above all in people. He delighted in attending conferences, exhibitions, lecture meetings, anywhere where he could meet old and new friends. Until shortly before his death Tom would regularly travel down from his home in the Midlands to attend the Society's Executive Committee meetings in London.

In 1995 Tom wrote:

“Cable television in Britain, now expanding to include telephony and other communication services, evolved from Radio Relay, and the SCTE came into being as a result of my early involvement with the Relay Services Association. Nothing remarkable about my pioneer activity, just that I was in the right place at the right time and with the right contacts.

Radio Relay, with just a switch and a loud-speaker in the home, was very successful in the UK and parts of Europe, notably Holland and Belgium, in the late twenties and the thirties. It's difficult to understand why Radio Relay was so successful in the Netherlands, a country with Hilversum, Europe's most powerful transmitter and hardly a

hill to obstruct signals. Satisfactory reception was possible everywhere with the proverbial bent pin and lump of sugar. Maybe it was the expectation that transmissions from neighbouring countries would become available.

The prospect of programmes from other countries had no relevance to the growth of Radio Relay in the UK – except possibly for the pop music with English disc jockeys from Radio Luxembourg on Sundays in the mid thirties, as an alternative to John Reith's dismal offering on the BBC transmissions.

Most of us in England have difficulty in understanding our own language spoken north of the border, so have little hope of deciphering anything from Europe! No, the attraction of Radio Relay was that it was a cheaper and superior alternative to the radio receiver with its HT and grid bias batteries that only gave peak performance when relatively new, and the lead/acid accumulators for LT supply that needed regular recharging.

The only people regretting the passing of the home accumulator era were the manufacturers, the garage owners that often buckled the plates by rapid charging, and the army of youths ferrying them to customers on carrier cycles on a weekly exchange basis.



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Early relay associations

The first organisation to represent operators was the Wireless Relay Services Association formed in Burnley in 1931. Burnley was well-known in Relay circles, not only because it was the home of JG Coates Ltd, principal suppliers of material for network construction, but eventually because it was served by no less than 14 different operating companies.

Before being forced to amalgamate, some operators connected subscribers to the nearest network, regardless of ownership. This early group was succeeded by the Relay Services Association Ltd, that was in existence when I first joined the industry full-time in May 1933, after part-time involvement since 1928.

Oswald B Kellett was the President and Harry Noble, who later presented the Noble Cup to inaugurate the industry golf competitions, was Vice-President.

Major H MacCallum, who was to play an active part in the formation of the Society of Relay Engineers that became the SCTE, was Hon Secretary of the Southern Committee.

A prominent member was AW Maton who started a relay system at Hythe, near Southampton in 1924 and, despite other claims, is generally regarded as being the original pioneer of radio relay.

On May 24, 1933 an Extraordinary General Meeting of this Association was called to discuss the formation of a new nationwide body that eventually came into being in 1934 as the Relay Services Association of Great Britain (RSA) with Capt J Russell Pickering as Secretary. Former Home Secretary (1919/22), The Rt Hon Edward Shortt PC, KG was President.

Russell Pickering was an accountant, residing and in practice at Tunbridge Wells, but used offices at 23 Bedford Row, WC1 as a London address for the RSA. He was credited with being Secretary of more companies than anyone else in Britain, mostly in the entertainment field, including the Royal Opera House company and Bertram Mills Circus. Visits to his flat in the Opera House building, enabled me to get backstage to indulge my love of ballet. My last wartime recollection of the Opera House was attending a tea dance in 1939 with relay colleagues including Bryan Groom of Galashiels Relay Ltd who pioneered Radio Relay in Scotland.

The new RSA

The newly formed Relay Services Association of Great Britain rapidly became representative of the Industry with most operating companies in membership, although the largest company, Broadcast Relay Service Ltd (Rediffusion) withheld support for a while. Area Committees with representatives on the Central Council enabled members to keep in touch with events and to influence decision-making. The most influential was the southern area, because it included London where the major companies had their head offices and consequently provided lots of senior executives, disproportionate to the number of subscribers in the territory.

Southern Area Secretary at the outbreak of World War II in 1939 was RR Goding of Wireless-on-Tap Ltd. He relinquished office on taking up his commission as Wing Commander in the RAF and I was appointed his successor. An uncomfortable rail journey in an unheated train and negotiating unfamiliar ground in the blackout brought me to Goldsmiths College where Rupert Goding was temporarily based, for handover of RSA cashbooks and records.

My principal memory of the occasion is of seeing an officer using the polished top of a grand piano as a platform to address his squad. An early indication of the rapidly changing value of worldly possessions and of the destruction that was to follow.

Russell Pickering was a very effective Secretary to the RSA but administration was left to his very able 'right-hand man', Eileen Duffett. During the war years Eileen and her assistant moved from Tunbridge Wells to Northampton, close to my home, and conducted RSA affairs from the offices of Northampton Wireless Relay. I became more involved, especially with such little publishing activity that was possible.

As Chairman of the RSA Supplies Committee for a while during this period I was involved with difficult negotiations with Government departments, and was also charged with stocking small supplies of scarce materials for allocation in emergencies occurring throughout the Southern Area. Manpower was as important as materials to cope with damaged networks, and I maintained a Register of members able to assist when required.

Difficulty in maintaining relay services with limited manpower and materials during the war years, and the need for interchange of information on new developments in the immediate post-war period, resulted in the gradual introduction of



A Wallace Maton, who owned the first licensed radio relay station.



Major MacCallum



Tom Hall MBE, founder and Director of the Society, reminisces about the early years of the Industry, outlines the foundation of the SCTE and charts its progress to the present



Alden Evans ACIS

technical discussions at Southern Area RSA meetings in London. Members' engineers were invited to join meetings after the regular business had been disposed of.

Interest aroused by these discussions pointed to the need for a separate technical organisation, and I discussed the idea with a former colleague, AR (Arthur) Almond and with FSG (Fraser) Scott, Major H MacCallum, JW (John) Field and AS (Aubrey) Whitenstall, all active RSA members.

FSG Scott was chief engineer with British Relay Wireless at the time, and arranged accommodation at BRW's head office in Aldwych for exploratory meetings aimed at creating an organisation to be known as the Society of Relay Engineers, and eventually for the inaugural meeting.

Invitations to attend these meetings and to apply for membership were issued from my office in Kettering.

Inaugural Meeting of the Society

The birth of the Society was fully reported in a six-page feature in the September 1945 issue of the Relay Association Journal as follows:

Society of Relay Engineers *There was a large gathering at the Inaugural Meeting of the Society of Relay Engineers, held in the Conference Room, Aldwych House, Aldwych, London WC2, on Tuesday 18th September 1945.*

Mr FSG Scott of British Relay Wireless Ltd was unanimously elected to the Chair, and among those present were: Messrs JW Field, WS Akeroyd, H Milner, SB Reeder, F Haigh, CD Lindsay, WE Filby, EJ Shillibeer, W Krebs, Wing-Commander FG Ferrier, B Gipson, A Whitenstall, MHC Lewis, TH Hall, Major H MacCallum, RJ Bates, AH Moore, AE Jackson, LC Field, FWG Dean, A Randle, W Riche, L Moss, TFW Lincoln, CR Gerrard, H Hamey, HA Smith, EPR Allen, Bryan Groom and AR Almond.

The Report of the Formation Committee was given very careful consideration and the Constitution, after being duly amended, was unanimously adopted and is appended hereto.

The Founder Members of the Society are (in alphabetic order): Edwin Paul Reeve Allen, Arthur Rupert Almond, Wilfred Stubley Akeroyd, Ronald J Bates, Wing-Commander FG Ferrier, John William Field, Leslie Charles Field, William Edward Filby, Bert Gipson, Bryan Groom, Frederick Haigh, Thomas H Hall, Harold Hamey, MHC Lewis, Thomas FW Lincoln, Major Humphrey S MacCallum, Harry Milner, Arthur H Moore, Leonard Robert Moss, Sydney Bottomley Reeder, Fraser Stanhope Greville Scott, Herbert Arthur Smith, Aubrey S Whitenstall.

Then followed a list of the Officers, Committees and the entire text of the Constitution of the Society.

The Officers

The first Officers were prominent figures in the industry at that time: FSG Scott was chief engineer at British Relay Wireless Ltd, the principal company supporting the formation of the Society. He later joined AR Almond to promote carrier-frequency wire broadcasting, first introduced at Rugby in November 1946.

Systems at Rugby and elsewhere were operated by Multi-Broadcast (Engineering) Ltd under the first carrier-frequency licence ever to be issued by the GPO. They were technically satisfactory but were not successful commercially, largely because an electricity supply was required at every subscriber point for operation of the pre-tuned receiver, and so few homes in areas with potential subscribers had this luxury. Arthur Almond left the industry to join his family shoe manufacturing business, but I never knew what happened to Fraser Scott.

Major MacCallum was one of the most colourful men in the industry and a close personal friend. Although widely known as Major Mac he was actually Lt. Commander MacCallum. At 19 he volunteered for the Boer War and served in Paget's Horse as a trooper. He volunteered for the First World War and reached the rank of Major, and volunteered for the Second World War and became a Lieutenant Commander. He was also involved with the RFC and later the RAF, so had the unique distinction of serving in all three forces.

At one time with the Marconi Company Major Mac was involved in discussions with the Post Office leading to consent to broadcast for a limited period in the evenings on a restricted waveband, and to the erection of a wireless telephone station at the top of Marconi House, W1. This station, licensed as 2L0, eventually became the London Broadcasting Station of the BBC, the British Broadcasting Company, which later became the British Broadcasting Corporation as we know it today. Contrary to popular belief the station was never at Savoy Hill. It was transferred from Marconi House to the roof of Selfridges and later to Brookmans Park.

Major Mac started a radio relay service at Basingstoke in 1930 and was a keen supporter of the first Wireless Relay Services Association and its successors. He was a colleague of Captain

PP (Peter) Eckersley, an advocate of wire broadcasting who was with the Marconi Co in pre-BBC days, and became the BBC's first chief engineer.

JW (John) Field was an associate of JF Powell, founder of Broadcast Relay Service Ltd that became Rediffusion, and his son-in-law, JWC Robinson who founded Relay Exchanges Ltd and Rentaset, and eventually became Chairman of the combined Radio Rentals and Thorn EMI cable and rental companies. John Field left Mr Powell's operation in Clacton to establish his own chain of radio relay companies in the Medway towns and after World War II became involved with Arthur Almond's carrier-frequency schemes, using the title Multi-Broadcast Ltd for some of his companies. He eventually sold his relay interests to JWC Robinson's Relay Exchanges Ltd and joined the board of that group. His financial expertise was of great help to the Society and he arranged for his Company Secretary, Leslie V Scambler FCA, to act as Honorary Auditor to the SRE from April 1949 to March 1965.

Secretary

Major Russell Pickering, MBE gave invaluable help in drafting the Constitution of the Society and dealing with all necessary formalities prior to its formation and it was everyone's wish that he be appointed Secretary. His very able assistant, Miss Eileen Duffett, attended all our meetings and carried out administrative work at and after the inaugural meeting. Major Pickering died in April 1947 and Miss Duffett was unable to continue, partly due to health problems arising from overwork but mainly because she planned to marry.

I had not intended to become involved with administrative work for the SRE, other than as a member of the Executive Committee and its sub-committees. I had heavy commitments with my own growing relay businesses and was already devoting much time and effort to RSA activities as Secretary of the Southern Area and member of the National Council and a number of its sub-committees. I was also closely involved with activities of the British Institution of Radio Engineers, now merged with the IEE.

I was however persuaded to take on the SRE work and my appointment as Secretary was announced at a lecture meeting at the Royal Society of Arts, John Adam Street, London WC2 on 7 October 1947. I continued in office and provided accommodation for the Society's activities until, approaching my 80th birthday,



A Northern section of the Society was formed in 1974. Ken Marchant, Stanley Bell, John Pixton and Viv Lewis are seen with Tom Hall at an early Northern Lecture Meeting at Oldham College of Technology.

I thought the time had come to step aside. My suggestion that Beverley Allgood should succeed me, as this would coincide with changes in her own situation as Secretary of other organisations, and enable the Society to have headquarters in London, was approved and has worked extremely well as I never doubted it would.

Relationship with RSA

The Relay Services Association (RSA) that became the Cable Television Association (CTA) and latterly the Cable Communications Association (CCA), encouraged the formation of the SRE and has been supportive throughout the years.

The Relay Association journal reported regularly our proceedings and published promotional articles and announcements of future lecture meetings were made at the National Council meetings and at area meetings throughout the country.

From its inception the RSA had recognised that its members were often faced with technical problems on which the Association ought to be able to give advice, and by the autumn of 1949 decided to approach the Society for help. As a



February 26th 1952: SRE members visiting the relay station of Britain's first cable TV system at Gloucester, then owned by Link Sound & Vision Services Ltd and later acquired by British Relay Wireless Ltd. Signals from Sutton Coldfield at Chosen Hill were beamed by a parabolic VHF antenna to an amplifying station in the city and then to subscribers on a 10MHz carrier. Subscribers could have either four sound programmes or three sound programmes and television.

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result agreement was reached for the Society to be consulted on appropriate problems submitted by Association members. The agreement was initially for a trial period, but continued until the Association needed to establish its own Technical Committee to which the SRE was invited to appoint delegates.

The Association's first full-time Secretary, Mr R Morton Mitchell, resigned early in 1949 and was succeeded by Mr Halden Evans ACIS, who was particularly helpful to the Society in its early years. He became a close personal friend, and stayed at my home in the Midlands en route to Scotland whenever he visited RSA President, Sir Fitzroy Maclean, Bt, CBE, MP, at his home on Loch Fyne, Argyllshire.

Services to members

It was originally planned to hold two lecture meetings in London each year, in spring and autumn. These were staged at various prestigious venues including the Royal Society of Arts in John Adam Street WC2, the Gaumont British Theatre in Wardour Street W1, the EMI Institute in Pembroke Square W2, BICC's London headquarters at 21 Bloomsbury Street WC1, the Connaught Rooms, Great Queen Street WC2, Mercury House in Theobald's Road WC1 and the IBA headquarters at 70 Brompton Road SW3 until agreement was finally reached for the use of the Faraday Room and occasionally the 630-seat main Lecture Theatre at the IEE in Savoy Place. Much of our early activity was centred on the Savoy Hotel. Our first lecturers were entertained to lunch there by members of the Executive Committee and I remember one very special occasion with the great Carroll Gibbons at the grand piano. Cost considerations compelled us to move to Simpsons in the Strand, still a prestigious venue, and we dined there for many years. These lunches have never been at the Society's expense, the cost being shared between Executive Committee members, although in recent years Scotty Flink then with Gilbert Engineering has generously hosted many of them.

Growing membership brought a need for lecture meetings in the provinces and a first venture was at the Engineers' Club in Manchester. This led to regular repeats of London lectures in the north, mainly at Oldham College where the principal made us very welcome. Visits to relay installations and to manufacturers' plants and laboratories became a regular feature, but there were no purely social events until the Executive Committee arranged a superb dinner at Meriden, near to my home, in May 1993 to mark my

retirement as Secretary and Editor of publications. A lovely gesture that I much appreciated.

Publications

Proceedings at Lecture Meetings have always been published, and verbatim reports of discussion were included until recent years when the cost of a competent reporter became prohibitive.

The original publication was titled *Proceedings of the Society of Relay Engineers* and the first issue formed part of the Relay Association Journal dated August 1946, with reprints available for SRE Members. The second issue was published in April 1947 in the same style as the previous reprints, but by the third issue in January 1948 a style was adopted that was to continue for 23 years.

January 1971 saw the introduction of a new-style A4 publication titled *The Relay Engineer* containing articles and news items, and after only four issues (in January 1973) the title became *Cable Television Engineering*, to match the Society's change of name.

By the autumn of 1989 it became apparent that the Society could no longer finance production of the Journal and agreement was reached with an American publisher for it to be incorporated in *International Cable*, a monthly high circulation magazine.

Publication returned to the UK with the first 1992 issue, again quarterly and only available to SCTE members and supporters. There have been changes in layout since, to make the Journal a thoroughly modern publication.

The Society's publications form a unique history of technical achievement in the communications field. Dan Smart who has now succeeded me as Editor refers to this in an article in this issue.

Editing and producing the Journal for some 47 years was the most enjoyable part of my long involvement with our Industry. It brought me the opportunity to meet so many interesting people,



Lionel Mudd



Delegates from the US and UK SCTEs meet in London in 1989 to discuss the formation of an International SCTE.



and to travel throughout the UK and to many European countries.

Liaison with American SCTE

The American SCTE came into being in June 1969, when the UK Society was approaching its 25th anniversary, and held its first General Meeting in conjunction with an NCTA Convention in San Francisco. Its first full-time office was opened in Washington DC in 1977 with Judy Baer, the first full-time staff member, as Executive Director.

Judy phoned me regularly for exchange of information, until she left to marry in 1983, but we never met. Steve Cox made contact with me when he became Executive Vice-President but it was not until Bill Riker took charge in October 1984 that a meaningful relationship began. Ron Hranac, then President of the US SCTE, came to my home early in 1989 to 'build bridges' between our two Societies as he so rightly summed up the event.

1989: Bill Riker, President of the US SCTE (right) presents Tom Hall with a plaque to recognise his founding of the world's first SCTE. Ron Hranac, who visited Tom in the UK early in 1989 to establish relations between the two Societies, is on the left.



Scotty Flink of Gilbert Engineering arranged for me to visit the NCTA show at Anaheim in December of that year and to meet virtually everybody in the Industry. This, and many subsequent visits to US shows made possible by Gilbert Engineering, Times Fiber, Magnavox and by Paul Levine's publishing company, brought a close relationship between the US and UK SCTEs and resulted in Ron Hranac and Bill Riker becoming Honorary Fellows of the UK Society. I was awarded a handsome plaque (at a ceremony in Orlando, Florida) in recognition of founding the UK SCTE and became first non-American to be admitted to membership of the prestigious US Cable Television Pioneers Club. Formation of the International SCTE, bringing together the UK, US and Canadian Societies, followed.

A last thought

Having been involved with radio experiments since before public broadcasting services began, from cat's whisker reception with headphones to the present inter-active multi-programme TV plus telephony services, I look back to assess what has

been achieved. Principally I find it sad that so much technical expertise is devoted to dissemination of so much trivia, but have to accept that little of it is aimed at my age group.

My fervent hope is that the SCTE will do everything that is financially practical to maintain the high standards that those of us forming the Society so long ago envisaged. Our idea of an elite body to which admission was then a privilege may not now be entirely practical, but the original aims should be kept in mind. ”

Tom Hall 1995

The continuing story...

Having the task of sorting through SCTE archives after Tom's demise, writes Roger Blakeway, I was struck by how the dry written word in minutes and letters was brought to life by Tom's account given above. What also struck me was the elite nature of the early years (Officers, gentlemen and other ranks) and perhaps with that, the source of some criticism that we still receive today. Despite being my mentor and strongest supporter during my time served as President, the one area that Tom and I always disagreed upon was the broadening of membership to include Technicians. The idea of an 'elite body', to use Tom's own words, does not sit well with modern society and certainly the SCTE needed to broaden its catchment area in the '90s if it was to be financially sound and meet the challenge of a sustainable future. In the early to late '90s Technician Membership and training courses contributed significantly to the financial soundness of the Society. However, back to the narrative...

The Broadband Revolution

Until the 1980's Cable TV was essentially delivered by multiple twisted pair or by 'narrowband' coaxial systems. Both delivery options left room for only a few channels and indeed there was not much need for many more since the content didn't exist. The advent of Broadband Cable had its beginnings with the Annan Report on The Future of Broadcasting in 1974. The CTA, with Society input, made an important submission to the Annan Committee on the capability and potential of cable television. It was not until 1984, however, that the first Broadband Licences were issued following a further government enquiry set up by Margaret Thatcher and chaired by Lord Hunt in 1982. Whilst welcoming the availability of the new franchised area concept, with protection against competition from rivals, including British

Telecom, many felt that the concept was fundamentally flawed. The government held the view that the development of new technology for Cable Television would be a significant boost for the economy and biased the licences so that 'Interactive Cable Television Networks' were preferred and indeed given longer licence terms than traditional 'tree and branch' systems. In reality, very few additional jobs are, or were, created in technology in what is essentially a service industry and the main benefit to the economy would come from the construction work and later the production of content, customer service operations etc. In addition, despite the Hunt Report having noted the positive financial effect on cable operators in other countries from the availability of 'blue' movies, the government felt that their role as 'moral guardians of the nation' precluded any loosening of the current rules.

The early pioneers, such as Westminster Cable, East London Cable and others trying to provide 'switched star' interactive networks were shackled with sorting out basic technology problems with associated high equipment costs as well as the unseen issues of civil construction in an urban environment. The problem was compounded by the government's withdrawal of capital allowances and it is not surprising that the initial thrust petered out and cable languished in the latter half of the '80s with investors bailing out, seeing no obvious return on their money for many years to come. This was not helped by a low penetration rate due in large to the paucity of content in the days before BSkyB.

Nonetheless, the period had its interesting moments. I was personally involved with the Westminster Cable franchise and remember well the first demonstrations of Video on Demand, supplied by a BT system of Philips Laser Disk Players arranged in a carousel around a selection of video disks and a giant 'pick and place' arm. The whole assembly looked like a giant jukebox and was about four metres in diameter; several of these occupied a very large room. The performance, however, whilst sometimes temperamental, was impressive with the remote user having full control of 'his' laser player once his chosen disk had been loaded; all the 'trick' functions, such as still, fast forward and reverse boasted by modern VOD suppliers were available and the quality exceptional. Like quite a lot of early concepts, it failed not because of technical problems but because content was not freely available.

One of my own favourite moments with Westminster Cable was jumping into a cab and

shouting "10 Downing Street please". Having fixed a connector problem on the distribution amplifier in Number 10, I was retuning the TV set in Sir Bernard Ingram's press office and listening to him grumble about the 'rubbish' on TV when a tap on the shoulder and a "could you have a look at our TV in the flat please" sent me scurrying after Margaret herself up several flights of stairs carrying a large spectrum analyser on my back (I later found that there was a lift but she never used it). Luckily the initial connector problem had already fixed the Iron Lady's problem and I retired pleased, but exhausted, with a cameo tale to tell.

The situation for UK Cable changed significantly in the early '90s. The government had noted the lack of investment and changed the rules to allow foreign investors to own franchises. They also saw that economy of scale would apply and therefore released many more franchise licences with no limitation on the number any one company could hold. I was involved with Videotron, a Canadian MSO, who, having proved itself in Southampton, was successful in obtaining several licences for London. Together with subsequent acquisitions of Greenwich, City Centre and Ealing Cable, Videotron amassed over two million potential homes in one contiguous franchised area, spanning South and West London, and was one of the first to start construction on a massive scale. They were also the first to deploy DFB lasers within a cable network for broadband distribution and changed the traditional 'tree and branch' architecture to 'tree and bush'. Videotron were also the first operator to provide multiple view options, interactive video gaming and downloadable videotext and games, all now taken for granted in the digital universe but this was 13 years ago and on an analogue system.

By 1995 the construction of Broadband Britain was in full swing having had a further impetus from the Duopoly Review in 1992 which allowed Cable Franchises not just to 'connect' to the two existing Telecommunication Operators, BT and Mercury, ie provide the local loop, but also to switch their own traffic. This obviously attracted additional investment funds from the USA with the 'Baby Bells' like Nynex, US West and South Western Bell and Bell Canada being significant players. It was in this era that Cable suffered from severe negative public relations. If it wasn't the delays and mess caused by the construction work then it was damage to trees. In addition I will remember a massive flood extending to several streets and many million pounds worth of compensation caused by a Videotron contractor



The optimistic estimates of the cost of automated cable laying soon proved false and hand digging was the norm. The sheer volume of work gave Cable a bad name.

The Diamond



yielded by the earth after millions of years of heat and pressure, is the ideal symbol to commemorate 60 years of diligent work, performance under pressure and dedicated perseverance that the SCTE and its members have provided to our industry.

Scientific-Atlanta is proud of its association with the SCTE and pleased to offer congratulations on the 60th anniversary of its foundation.



managing to spike a 16 inch water main that was in the 'wrong place' on the Water Utility map. During this period the CCA, led by Richard Woollam, was very proactive in trying to improve the image of Cable.

By the late '90s, many of the MSOs had significant build under their belts and were predicting going 'operating cash positive' in the near future. This of course meant that the franchises were at last becoming real potential money spinners and the time had come for a further round of acquisitions and mergers 'to optimise the economies of scale'. Videotron was one of the first to sell-out in 1997 and I remember the negotiations and due diligence that we went through with potential buyers like Deutsch Telecom, STET (the Italian Telco) and Bell CableMedia. Apparently there were also high-level talks, secret and unknown to us in the due-diligence team, with ntl. We were all somewhat surprised, therefore, when a deal was announced that involved Cable & Wireless funding the buyout of Videotron by Bell CableMedia and at the same time merging them with Nynex and Mercury Communications to form Cable & Wireless Communications. ntl were also surprised since they believed that they had already 'done a deal' with Videotron and a multi-million pound law suit was threatened. Within a couple of years, however, this proved a little irrelevant since in 1999 ntl bought-out Cable and Wireless Communications to form the largest group in the UK.

Similar mergers and acquisitions were happening to Telewest to leave them as the 'other' MSO in the UK.

One sad by-product of this was that, with only two major players left, the CCA was no longer thought to be needed as a co-ordinating and lobbying body for the Industry and was dissolved in 1999. Those of us who were in at the beginning of the broadband revolution will remember fondly the evening soirees in the '80s held at the CCA Frith Street office (above the Gay Club!) and hosted by Nick Mellersh. These evening get-togethers were a great opportunity to meet fellow operators and swap experiences. Later, as the CCA grew and eventually moved to new offices in Artillery Row, these meetings devolved into Marketing and Engineering groups, the latter co-ordinated by Alan Mitchell, following on from the chairmanship of Alan Burke. Often attended by Chief Engineers, these meetings were invaluable in sorting out problems that were common to all. The liaison aspects together with the network-

ing opportunities were a significant loss when the CCA closed since, although specific liaison between the remaining MSOs obviously carried on, this was a more general forum for exchanging ideas. In many ways the introduction of an early evening cocktail reception following the SCTE full day lectures replaced the networking aspects of the CCA meetings with echoes of the early times at Frith Street and the SCTE Dinner became the Industry's gala night of the year.

Along with the dissolution of the CCA went the sale of the London Cable Show ECC at Olympia. For many years, since its small beginnings at the Gloucester Hotel in 1987, the annual exhibition was a highlight of the Cable year and the accompanying Gala Nights and World Cable Dinners will be remembered for many years to come. Sharon Chapman masterminded the event from its inception and was a good friend to the Society during this period, ensuring that we had free stand space as well as tickets for the events. Without the backing of a trade association and with the contraction of the UK market, the show only lasted a further two years after it was sold.

At the same time that the UK was being carved up between ntl and Telewest, across Europe, with de-regulation of the Telecommunications' market either actual or promised, there was a mad scramble by UPC, ntl and others bidding to grab significant slices of the market. In hindsight, financial analysts will tell you that the prices paid were well above any sensible valuation and almost without exception left the MSOs in financial straits. They had large empires but little capital left to do the major reorganisation necessary to take advantage of the economies of scale, and none to commit to new build and upgrading of some of the old networks they had acquired. It took some four years to turn this situation round through chapter 11, debt re-structuring and re-financing all at a time when Broadband Cable had yet another 'window of opportunity' to annihilate the incumbent Telco broadband data



At the 2002 Annual Dinner Beverley Allgood, National Secretary, receives a thank-you bouquet from the Society for organising yet another successful event.



The final ECC show at Olympia in 2002, the empty aisles foretold the final demise.



From left to right, John Sheridan, CEO Encom Cable; Sir David English, Chairman of Associated Newspapers and Louis Brunel, MD Videotron and Chairman of the London Interconnect, with a Tower of London Beefeater celebrating the launch of London's 'Channel One' on the London Interconnect.

offerings by ADSL. Unfortunately, with the potential market left open to them, the Telcos have invested heavily and xDSL technology has advanced considerably to a stage where even rural deployment will soon become viable.

The Digital Revolution and Broadband Data

It was not really until the mid '90s that the idea that digital transmission might be the way forward for Television. I use the word Television since at that time the Internet was still a 'geeks' hobby and electronic mail was still in its infancy. A great deal of work by the IBA (later the ITC) at Winchester had shown that TV signals could not only be digitised but the resulting bit stream could be compressed by coding and predictive algorithms to a few megabits per second. Using multiple state modulation techniques, from QPSK to 64QAM, several of these TV programmes could be transmitted on one satellite transponder or traditional 8MHz TV broadcast channel. In 1996 the BBC began trials of a digital broadcast service but it was not until 1998 that the full 'On-Digital' service was launched on the terrestrial broadcast network to be beaten by a few weeks by a satellite service from BSkyB on the new ASTRA satellites.

Inside cable companies, the digital concept was being talked about as early as 1995. At that time, from a commercial perspective, there seemed no good reason for Cable to go digital since we had 'enough' channels and certainly more than the terrestrial and even satellite competition. However, terrestrial TV needed many more channels to compete with satellite and cable and BSkyB could not ignore the threat of a digital terrestrial offering as well as seeing significant reduction in transponder costs. In the end it was as much the mutual threat position that terrestrial and satellite adopted in their race to be first that spurred Cable into the digital era.

There was a major problem, however, in that the cost of digital headend equipment was exorbitant. In the pre-merger age, operators would have needed digital headends in each of their geographical areas. In discussing the problem with Peter Howard, the Marketing Director at Videotron, I suggested that one solution, at least for Greater London, was a joint venture between ourselves, Telewest, Bell CableMedia and Nynex to build one digital headend and distribute the service via the London Interconnect, a 'dark fibre' ring that Videotron had instigated to allow London operators to pass traffic to each other and allow cross franchise business links. Peter discussed this with his opposite numbers in the other operators and eventually a project group, the 'New Horizons Project' was set up under

the loose umbrella of the CCA.

Most of the New Horizons work took place in 1996 and the group produced a report to CTOs in February of 1997 aiming for a digital launch in October of that year which would have been well before the terrestrial and satellite competition. It became very clear around the report time that a lot of politicking had been going on in the background at high level within the operators and their shareholders and any decision based upon the group's technical recommendations would be eclipsed by commercial deals. The result was a decision forced by Nynex to use their headend at Bromley to house the London digital headend and their preferred supplier of both headend equipment and digital set-top boxes. In the final analysis this proved a costly mistake and by the time the first mergers had taken place in late 1997, the Cable & Wireless group decided to start again, using Anderson

Consulting to analyse the requirement, produce a system design, equipment specification requirements and oversee procurement and implementation. Telewest had already decided to go their own way, using in-house resources to design their system, but later decided to adopt the same STB specification and also use Andersons to design their headend. The net result of all this was a two year delay in launching digital cable during which time BSkyB had amassed significant new customers.

On the positive side, the two-year delay allowed for significant improvements in digital equipment performance and reduction in production costs. It was also apparent by 1999 that the Internet revolution was upon us and the carriage of two-way data on the digital networks was an essential element in the design of the network architecture. Thus it was that the new Millennium was marked by an explosion of cable modem based broadband services as the now cash-strapped MSOs tried to extract maximum revenue from existing network rather than any investment in new build. A knock on-effect of this was that Video On Demand (VOD) services, ready to launch in 2000, were also starved of capital investment and it had taken a further five years for the MSOs to recover their position and finally announce roll-out of VOD.

Standards Development and the rise of EuroDcsis

The SCTE has been involved with standards for the Cable Industry for most of its 60 years. With the start of broadband cable in the early '80s the Society was represented on the British Standards Institute (BSi) Committee that produced the BS6513 series of standards, the Industry's bible for over a decade. By the start of the '90s there was a move to harmonise standards over the European



Union. The development work on cable standards moved to Brussels under the auspices of CENELEC and much of the early work was contributed by SCTE members Russell Eberhardt, Dan Smart and the late David Kent; during most of this period the UK National Cable Standards Committee at BSi was chaired by Ray Seacombe. During the latter part of the '90s and into this century the Society has been represented by Dave Keeley, David Woollard, Chris Eccles, John van Brien and Richard Harris amongst others, with myself taking over from Ray Seacombe.

We are currently in another period of change as world trade drives a harmonisation process outside of European boundaries. Development is slowly being transferred to the world standards body IEC and its standards maintenance teams, again with strong SCTE representation. The 'final' concept is that there will exist a common hierarchy of standards; as an example the world standards for cable networks will be issued by IEC in the IEC60728 series; CENELEC will issue a European version (a subset modified only as necessary to comply with EU mandates) as the EN60728 series and finally BSi will issue a UK working version as BS EN60728 which will be identical under EU regulations to the CENELEC version.

With the changes taking place at IEC and CENELEC level, the role of BSi has changed and there is no longer an active Cable Standards Committee in the physical sense. I now chair a virtual committee and any new standards work emanating from either IEC or CENELEC, whether at a draft committee stage or a final version for publication, are circulated to 'interested' parties such as ntl, Telewest, Ofcom, the CAI, BSkyB and suppliers for comment. Responses are correlated and passed through BSi as a National Committee recommendation to IEC or CENELEC. With the disappearance of the CCA, the Society is now the only body representing the Industry in these two forums.

The other major standards development programmes in the last decade have been DVB and EuroDocsis, the two becoming intertwined in 1999 with much irritation and frustration to both sides (some might say open warfare!). DVB was set up in 1993 as a fast track system to produce common European Digital Video Broadcasting standards. With buy-in from all major manufacturers and MSOs it became the major influence in defining the modern digital world although not a standards body in itself. It produced specifications which either ETSI or CENELEC would then rubber stamp and issue as standards, the first ones appearing as early as 1995.

DVB addressed the issues specific to Cable and

produced a specification for return path traffic related to interactive TV applications (DVB-RC). With the explosion of the Internet and the need for bi-directional data transmission on cable networks, DVB decided to expand the specification to cover cable modems. In the USA work had also been continuing under CableLabs (actually then the MCNS group) to try to provide a common standard to replace the myriad of different modems already being deployed. Early deployment in the UK by ntl used MCNS modems for economic reasons (the size of the US market place drove down production prices) and since DVB-RC development was still in its infancy and product not readily available. In the DVB forum, however, ntl strongly supported DVB-RC both for STB return path data and for cable modems with stated intent of withdrawing the MCNS modems when DVB-RC ones became freely available. Cable & Wireless took the same view on choosing to deploy the most widely available and cheapest MCNS (now called Docsis) modem solution but saw no reason why they should not exist in parallel to DVB STBs but with a common return path specification. Such a view was an anathema to the committed DVB technical group and for my sins, as the representative of Cable & Wireless at the DVB board meetings, I had the unpleasant task of informing them that we would be deploying Docsis solutions for the long term on our networks. DVB decided that they would not consider any change to DVB-RC to provide compatibility or inter-working with Docsis and with the backing of ECCA would proceed with the 'Euromodem'.

An alternative strategy was required and my position in the popularity stakes was further diminished when, together with Richard Catchpole of Nortel, (who did most of the documentation work) and Andy Mullens of Motorola we fought to get a European version of Docsis (EuroDocsis), accepted as an appendix to the ITU-T J112 specification and then to convince ETSI through the Joint Technical Committee for Broadcast to proceed with developing EuroDocsis as part of the cable modem standard alongside the DVB-RC revisions. We had little support from the DTI or Ofcom in this fight but by July 1999 we had succeeded in getting agreement for parallel development of the two standards. It was at this time that I left Cable & Wireless and the work was taken over by David Woollard who was successful in pushing through the work to completion, together with involvement with the TOCOF (Telecom Over Cable Operator Forum) working group which later developed into TcomLabs. It is interesting that following the absorption of Cable & Wireless into ntl, a strategic technical review decision was made to commit to



EuroDocsis and withdraw from the DVB-RC solution. Even DVB became more placatory when it was obvious that EuroDocsis would succeed and liaison now exists between CableLabs and DVB on current and future work such as EuroPacketcable.

The Society embraces the Web

Like most organisations, the late '90s saw the SCTE debating the need for an online presence and discussing what form that presence should take. At the time, there was very little understanding of what was involved in building a website and getting it displayed on the Internet, so the Society was very fortunate that Alan Whitlock, then the SCTE Treasurer, volunteered his son's services to build and publish the first SCTE site. With limited resources, it was proposed that the site should be updated every three months and be, primarily, a guide to what the SCTE was for the benefit of non-members. In these early days, the biggest task facing the Webmaster was getting material to add to the site because the infrequent revisions meant that members of the Executive Committee were never sure if material, such as lecture meeting details, would be added to the site while still relevant.

After a couple of years, Alan's son moved on to university and was no longer able to work on the site. It was then taken over by a work colleague of the President's who was given the latitude to work on the site during quiet times in the office. By 2002, two things had become clear. First that voluntary effort based on the availability of free time was not a successful way to run the site, and, secondly, that an up to date online presence was essential as both a service to members and a tool for recruitment promotion. The present Webmaster, John Robertson, took over the management of the site during the spring of 2002. At this time, discussions were already in hand to change the design of the website to bring it into a combined 'brand identity' with the new, portable exhibition stand which had been acquired. The original idea, of having this site built by a commercial web design company, was dropped in favour of having the site built by the Webmaster.

The new site, which used strong colours and curved graphic backgrounds, was launched at the end of August 2002. For the first time, the site was divided into two sections; one for members and the other to provide information to prospective members. Also, forms were added to the site enabling non-members to complete application forms online, but the most important change made, at this time, was the addition of all the technical information published in the Members' Handbook as well as extensive details of all relevant

standards and the latest work of the standards bodies. This area of the site rapidly became the most popular place for visitors.

Site updates were now being made on an 'as required' basis so that details of things like forthcoming lecture meetings could be added as soon as they became available. A picture gallery was added to enable photographs of SCTE events to be seen by everyone. By now, around several hundred people per week were visiting the site.

Website design has, so far, moved at a very rapid rate and, in 2004, it was decided that a further rebuild was required. The new site, featuring softer colours and a more orderly layout, was launched in May. The technical content was fully reviewed and updated and continues to be the most successful area of the site, although it is clear that more and more people are using the site as their first point of contact for staying in touch with what the SCTE has available for its members. With that in mind, site updates are now made as quickly as possible. There is nothing worse than a website whose 'Coming Soon' section has events months in the past.

The expansion of SCTE membership in countries in Europe, east and west, and parts of Asia, makes it clear that member services will need to be, increasingly, delivered by the website. This will save costs as well as ensuring that members, wherever they are, feel that their membership is worthwhile.

At the time of writing, we are just about to begin trialling password protection of the members' area. Once operational, this will enable us to look at new ways of communicating with society members which, to date have not been generally available. This area will also be used to publish an electronic archive of all the Society's Journals from Volume 1 Issue 1 right up to the current edition. We are also looking at online payment for things like subscriptions, non-member lecture booking fees and purchases from the SCTE shop.

Further into the future, it is hoped to have a closed discussion forum to enable members to exchange information and assist their peers. Such a forum will require close monitoring but should help to build the community of members to ensure that SCTE membership is an obvious benefit to anyone in cable telecommunication engineering.

The SCTE and IBC, a venture into Europe

It would be a serious omission in a history of the Society not to mention the relationship between the SCTE and IBC, the convention held annually in Amsterdam. When I first took the role of President in 1992, I inherited a financial situation that was decidedly shaky. The expansion of the member base was seen as a priority by the Executive



The post-lecture cocktail reception provides an ideal opportunity for networking with colleagues.

Committee and the introduction of the Technician grade and SCTE training courses were part of the strategy. We also saw that membership outside of the UK and traditional 'ex-pat' areas was an opportunity but we had very limited funds to explore the market in Europe. Luckily my employer, Videotron, was a strong supporter of the Society and this enabled me to accept invitations to chair Cable Sessions at both the first IBC to be held in Amsterdam (following a move from Brighton) and also the Montreux Convention to get the SCTE name noticed outside the UK. Following the IBC event I provided to the conference organisers what I thought was a constructive critique about the lack of cablecontent in a show in a country that had a cable penetration of 92 per cent. Potentially a foolish action, since as always happens in these cases I found myself dragged onto the IBC Conference Committee with the specific task of looking after the Cable sessions.

In 1995, as part of the 50th year celebrations, I organised a full SCTE branded day at IBC and my opposite number in the US SCTE, Bill Riker, came over to chair one of the sessions. We also took advantage of a 'free' booth, which Bill helped to man together with Beverley Allgood. Bill enjoyed the visit although not impressed by the two foot long smoked eel he was served at an evening party hosted by the old ntl. He was even less impressed when he found it wrapped in a napkin inside his briefcase the next morning but, since he was leaving that day, he overcame the problem by leaving it in his bed for the maid to discover!

Our commitment to IBC must have impressed the powers that be and the SCTE was invited to sit on the Management Committee of IBC. At this time the whole of the IBC management structure was staffed by industry volunteers with the IEE providing the 'financing' of the event and staff from their exhibitions department to help with the operational aspects of running the show. In reality IBC had never made a loss and the 'financing' only involved banking the profits. IBC prospered in Amsterdam and in 1996, at the request of the majority of exhibitors, IBC moved from a biennial to an annual event. It soon became obvious that a lot more resource was needed to run the show and a more efficient structure was required. A small strategy team was set up by the President, John Wilson, consisting of David Woods from the EBU, Mike Martin representing the Broadcast Manufacturers organisation, the IABM and myself. The conclusions were not difficult to reach; IBC had become a multi-million pound business and needed to be run by a committed, full time operations team with control of its own finances. Within that simple statement, however, lay a raft of problems and potential booby

traps; how to maintain the ethic of IBC 'for the Industry by the Industry' whilst running it efficiently as a business, how to keep the large army of industry volunteers to man committees and provide ideas and, perhaps most importantly, how to move the financial control away from the IEE to make IBC independent.

It took a great deal of lobbying by John Wilson and the Vice President Mike Cox to bring the IEE to the table and many round-table meeting with representatives of the other organisations on the Management Committee before we finally agreed to set up a partnership to run IBC. Of significant importance to the SCTE was the agreement to share any profits between the Partners in a ratio defined by the number of representatives of each who had served on the Management Committee. Following agreement in 1997, the new Partnership Board set up IBC in its own offices at Aldwych House and recruited a full time staff to run operations. We retained many of the IEE exhibitions group who had worked on IBC and supplemented them as required to give exhibition planning and financial control. Since then IBC has grown significantly and now occupies the whole of the RAI Congress Centre in Amsterdam, some 40,000 square metres of exhibition space and 40,000+ attendees to the exhibition and conference.



Congratulations to the SCTE on its Diamond Anniversary



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Along with its partners, the IEE, IEEE, SMPTE, RTS and IABM the Society continues to play an active role in the strategic management of IBC. The continued success, even through 9/11, has meant a steady income to the Society and has enabled the Executive Committee to provide benefits to members over and above that which would be possible from subscriptions alone. In addition the Society is now well known and has a good reputation stretching across Europe and into new technology areas. It is a strange coincidence that Aldwych House, housing the current IBC offices, was also the setting for the inaugural meeting of the Society in 1945.

In parallel with the IBC initiatives, the Society, with the help of several Patron Members, also expanded its lecture programme to include European Lecture Days. The first was held in Kortrijk, Belgium and hosted by Barco. A strong UK presence, with Eurostar travel subsidised by Cotswold Communications, was unfortunately not matched by a large number of continental attendees. Nonetheless it proved a good opportunity to sit down after the meeting with invited representatives from MSOs and suppliers in Europe to discuss the formation of a new SCTE group, which would be run from continental Europe. The meeting appointed Chuck Carroll, then with Telenet and an ex-UK Executive Committee member, as the Chairman with the aim of forming a committee and organising further lecture meetings. This proved extremely difficult due to lack of support and Chuck changing jobs; in the interim the next Lecture in 2002 was organised in conjunction with Tratec and hosted by them at their Veenendaal offices. This time we relied on Tratec to use their mailing list to invite attendees and over 50 senior engineers enjoyed a full programme of lectures and an excellent lunch. At least we now knew that there was a need for such events but they did need to be organised locally.

In the meanwhile Chuck Carroll, now with Ish in Germany and not having sufficient time himself, had asked Rien Baan, a mutual contact and old friend of mine from Oak Research days, to see whether he could help set up a working committee. This culminated with a meeting in the Hague in April 2003 held at the Vecai offices, hosted by Job Vehrmeijer, Vecai's Technical Director and attended by Aart Verbree of CAI Westland, Herman Grooten of Gouda Cable, Rien and myself. I was impressed by the enthusiasm and thought that had gone into the preparation for the meeting and we agreed to go forward to form a Benelux SCTE group. This was to be chaired by Aart with Rien as Secretary and Job and Herman forming the rest of a small working committee; Jan van Gameren of Tratec was later

co-opted onto the committee. Herman Grooten, in addition to his role at Gouda Cable was also the sole remaining executive of a Dutch Engineers Society VDCAI, which had been inactive for some years. As part of the set-up process for the new Benelux SCTE group, Herman agreed to pay the first year's subscription for any of his existing members who wished to transfer. The first lecture organised by the group was held at IBC in September of that year with the excellent facilities being provided free by IBC. Over 80 people attended the session which was deemed a great success by all those attending. The following year, 2004, a spring lecture day hosted by Telenet in Brussels was followed by another at IBC in September, the latter attracting over 100 attendees.

Epilogue

At some stage one has to just stop writing (Hear! Hear! I seem to hear the cries). It is just amazing to me how rich a history we all share within the Cable Community. There are literally thousands of facts and interesting anecdotes that spring to mind from my short period (just 23 years) in the Industry and I could bore you to tears and wear out several keyboards if I had the energy and malice. I am also cognoscente that both Tom and I have been guilty of self-indulgence in picking out bits of history in which we were personally involved; I apologise, but it is in the nature of the beast to have a selective memory. Much of the history of the Society and the Cable Industry can be traced from perusing archive copies of the Journal. With this in mind I am currently producing PDF versions of all the published Journals from 1945 onwards. These will eventually appear in the closed, members' section of the website but I do intend to make them available in the second half of 2005 as a set of CD Roms covering the whole 60 years.

I will not be writing an update for the 75th Celebratory Booklet; I can only hope my successor will enjoy the task as much as I have.

Roger Blakeway 2005



Aart Verbree (left) and Rien Baan lead the discussion at the Benelux SCTE lecture held at IBC in September 2004.



The Journal through the years

Ten years on

Dan Smart,
Editor of Cable
Telecommunication
Engineering, looks
at the history of
the Society's
Journal from
1945 to 2005

DURING 1995 the Society celebrated the 50th anniversary of its creation and I was given the task of writing a short history of its publication which first appeared in 1946 under the august title *Proceedings of the Society of Relay Engineers*.

For the benefit of those members who were not in membership in 1995 I shall reproduce the main points of my contribution to the celebratory brochure that was then produced. My theme was the contribution that the Society's Journal has made to our Industry by reporting on the major advances in technology, through the medium of excellent, ground-breaking engineering articles contributed by experts in their fields.

From the beginning the Journal has been a vehicle for chronicling innovative ideas in this Industry we now call cable communications. In the feature I attempted to do justice to this pioneering work by highlighting articles which, at the time they appeared, were breaking new ground. They described new technologies or applications of new technologies in the cable-broadcasting medium. It can be assumed that, since the UK was at the forefront of these developments, the Journal often reported what must have been world 'firsts'.

Thus in 1995 I wrote:

“ In this feature I will attempt to do justice to this pioneering work by highlighting articles which, at the time they appeared, were breaking new ground. They described new technologies or first time applications of new

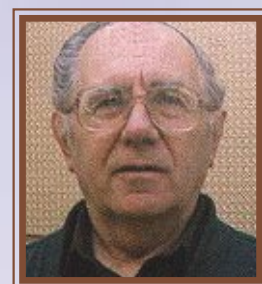
technologies to the cable broadcasting medium. It can be assumed that since the UK was at the forefront of these developments, the Journal often reported what must have been world 'firsts'. Distant echoes of today's proposals.

Radio

I will start with an article by AR Almond, which appeared in March 1947, entitled *Carrier frequency wire broadcasting*, based on work which had been taking place in the mid-30s, had been interrupted during the Second World War and was then being resumed. It describes the application of carrier frequencies to augment the capacity of audio distribution networks which had existed since before the war. These required a pair of wires for each programme and as radio broadcasting expanded this meant upgrading the networks. The article proposes therefore that radio frequencies be used to stack a number of programmes on each pair of wires. A system comprising four carriers, separated by 20kHz in the band 200-300kHz is described.

It is an example of a good idea that was somewhat ahead of its time. It did not succeed commercially because it required in-home equipment to amplify and detect the signals.

It must be remembered that the networks owed their existence to the fact that radio reception in those early days was not easy. Radio receivers contained valves, which needed to be heated, grid biased and HT powered. Since many houses were not connected to a domestic



Dan Smart FSCTE

Milestones in History..

Late one afternoon in 1905, Mr. Frederick Wells, the superintendent of the prolific Premier Mine in South Africa, was making a routine inspection trip through the mine when his attention was attracted by something reflecting the last slanting rays of the setting sun. Curious, he stopped for a closer look. He was eighteen feet below the surface of the earth, and the shiny object was on the steep wall of the mine a few feet above him. Mr. Wells quickly scaled the wall and extracted from the blueground what appeared to be a large diamond crystal. At first, he thought he was being fooled by a large piece of glass, but tests proved it to be the largest gem-quality diamond ever discovered. It weighed 3106 carats, or about 1 1/3 pounds. It was named after Sir Thomas

that eventful day. Many diamond experts believe that another piece, (possibly as large or even discovery, or was crushed in the mining prospect of finding the portion of the of numerous miners and prospectors. government, which presented it to King November 9th, 1907. It was insured for England. The King entrusted the Asscher's Diamond Co. in Excelsior and other large gems. The months. On February 10th, 1908, Mr. blade in a previously prepared V-with a heavy steel rod. The blade intact! The second time, it fell apart at the factory reported that Mr. Asscher same direction produced three principal nine major gems, 96 smaller brilliants. The nine larger stones remain either in the possession of the Royal Family. These present mountings are as follows: The weighs 530.20 carats. King Edward placed it in Crown Jewels, and it is now on display in the tower of cut stone mounted in the band of the Imperial State Crown, it is also in the Tower of London as part of the Crown Jewels. The Cullinan III is a pear-shaped diamond weighing 94.40 carats, and is in the finial of Queen Mary's Crown and can be worn with the IV as a pendant-brooch. Many of Queen Mary's portraits show her wearing these two stones, and Elizabeth II makes use of them the same way. The Cullinan IV, a band of Queen Mary's crown, but can also be Cullinan V is a triangular-pear cut weighing brooch for Queen Mary, to be worn replacement for the Koh-i-Noor. This to the new crown that was made for 1937.



Cullinan, who opened the mine and was visiting on that the huge stone was only a fragment, and larger) either still exists and awaits process. The latter is very unlikely. The Cullinan has added zest to the activities The Cullinan was sold to the Transvaal Edward VII on his 66th birthday on \$1,250,000 when it was sent to cutting of the stone to the famous Amsterdam, which had cut the huge diamond was studied for Asscher placed the steel cleaver's shaped groove and tapped it once broke, but the diamond remained exactly as planned, and an employee had fainted. A second cleavage in the sections; these in turn would produce and 9.50 carats of unpolished pieces. British Crown Jewels or in the personal historically celebrated gems and their Cullinan I, also known as the Star of Africa, the Sovereign's Royal Sceptre as part of the London. The Cullinan II is a 317.40 carat cushion 63.60-carat cushion shape, was originally set in the worn as jewelry, as described above. The 18.80 carats, was originally mounted in a alternately in the circlet of her crown as a was after the Koh-i-Noor was removed Elizabeth (now the Queen Mother) in

In 1945 a group of engineers working the UK came together to share was called "The Society of Relay Society of Cable Television was adapted: "The Society of Cable broadening its scope at the same time to communications by the cable. In 2005 the Anniversary.



on cable television projects around knowledge. Originally the Society Engineers" then became "The Engineers". In 1994 a new name Telecommunication Engineers", embrace the entire world of Society celebrates its Diamond

In 1978 two enthusiastic young engineers, together with a dutch cable operator, started a new company "HF Transmissie Techniek Holland" which was soon renamed in "Tratec Holland". The company flourished and spread out its wings all over Europe. In an early stage the importance of having an international platform for sharing technical knowledge was recognized. Tratec became a patron member of the SCTE as she is until the present day.

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electricity supply, early radio receivers were battery powered, including an accumulator for the heaters. This had to be regularly taken to the local garage for recharging: in today's parlance, not a user-friendly service.

Networks which delivered audio directly into a loudspeaker were therefore extremely popular and successful, meeting that most important criterion: customers' needs.

Television

The existence of these audio networks was to prove an immense incentive to inventive people to come up with schemes for using them to distribute television. It is not surprising therefore to see an article, on exactly such a proposal, appear in September 1952, entitled *Television relay by wire* in which Eric Gargini, then working for EMI, describes a cable distribution system using HF carriers on balanced twisted pair feeder networks. It contains the first published account of the use of subscriber taps to make the subscriber loading negligible with respect to the cable loss and thus avoid the need for complete planning of the network.

The exact words are "the relay company, not knowing exactly how many subscribers to cater for, would not want an inflexible system, a system requiring planning of signal levels to every point" and "as subscribers came on the system, their connection would not disturb the signal level at the far points of the system by more than 2dB – a negligible amount".

The following years proved to be very prolific and articles such as *Distribution of television by wire* by RI Kinross of Rediffusion in May 1957 and *Television relay with particular reference to the BRW Mark II television relay equipment* by KA Russell of British Relay Wireless in September 1958, highlight the intense activity that was underway in two of the companies involved in the Industry.

It is interesting to note that between them, these two companies eventually operated networks connecting a total of well over one million subscribers with percentage penetration rates in the mid-50s.

It is also interesting to note that these very successful systems all operated in the frequency band 4-10MHz. This required that special receivers be used. They were, in fact, very simple TRF designs, thereby greatly enhancing their reliability. They were made and rented by the cable operators in very large numbers and can be considered, not just as the first 'cable ready' but in fact the first 'cable only' receivers.

Picture quality

The UK has always prided itself on the quality of its television broadcast service, not only in programme content but also in terms of the picture quality delivered to the customer. It was essential therefore, if cable television was to succeed in areas other than those with poor reception conditions, that the picture quality delivered to subscribers should be of the highest possible standard.

The UK Cable TV Industry was therefore a pioneer in the application of picture quality testing techniques to its networks. An article by BW Osborne, entitled *Picture quality control equipment for wired television*, which appeared in March 1961, typifies the efforts that were being made by cable operators to ensure that their networks delivered the best possible signal quality. In the article, the original work of Lewis and Macdiarmid is acknowledged, and the use of the sine squared pulse for K rating assessment is described.

Previously, achieving good picture quality was a matter of ensuring a flat frequency and a linear phase response. These measurements have never been easy to perform on networks. The pulse and bar testing technique is ideally suited to field measurements and has become universally accepted by the world standardisation bodies as the method to be used for picture quality evaluation on CATV networks. The article contains some original work on the visibility and K rating of long delay echoes as well as a thorough description of the application of transversal equalisers to correct pulse distortions.

It is noticeable how in all these early articles cable television, as we know it now, was invariably referred to as 'television relay'. The Industry from its early days was shackled by regulations from successive governments which forbade anything other than a broadcast relay operation.

Pay television

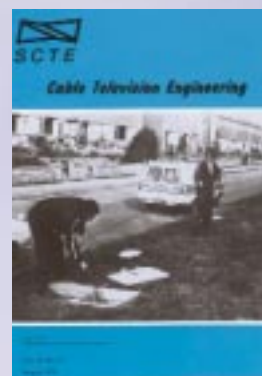
Continuous pressure and lobbying by the industry bodies gradually brought about some relaxation and in 1964 a limited number of trials of Pay TV schemes was allowed. These early experiments were reported in the Proceedings of the Society Vol.VI No.4 March 1964.

Audience measuring systems and anti-piracy considerations are all given thorough consideration. Once again, the technology was available but the heavy hand of government regulation made it impossible to exploit its potential.

Consequently, the trials were rather short-lived



Proceedings of the Society of Relay Engineers, first published in 1946.



CTE first published in 1973



CTE in the 1990s



as they were not followed by the necessary deregulation until some 20 years later.

The Relay Engineer

In 1971 the *Proceedings of the Society* was succeeded by *The Relay Engineer* and adopted an A4 format and distinctive blue top and bottom bands on its front cover. Only four issues were produced before it was succeeded in 1973, by *Cable Television Engineering*. The change of name was indicative of the changes underway at that time. The Industry was moving away from being just relayers of broadcast services.

Cable Television Engineering, CTE as it soon became known, retained the A4 format and cover appearance. At that time advertising began to be included to help defray the costs of publication of a very high-quality journal from the limited resources of a small Society.

Fibre optic

The introduction of fibre optic transmission into CATV has been without doubt the single most important event in the Industry. Its characteristics, in terms of bandwidth and attenuation, have helped upgrade existing networks and plan and install new networks with capacities and reach that were undreamed of previously.

CTE was on hand, in March 1976, to report on the opening of the world's first glass fibre circuit in day-to-day service to the public. As the reproduction of the front cover of the August 1976 issue shows, Rediffusion installed a fibre optic link to serve 34,000 customers in Hastings.

The technology and applications were described in a later issue of CTE (Vol.11 No. 2 April 1978) by Dr AE Cutler in his paper entitled *Optical fibres and their application to TV distribution* and by Eric Gargini in his paper entitled *Application of optical cable to a switched cable television system* where the dial-a-program system installed in Arnhem, Holland, is described.

We have moved somewhat from those early days when every single splice was a minor work of art.

Switched services

The dial-a-program system was the precursor of a number of systems using switching, controlled by the subscriber, for programme selection. It had long been apparent that, following deregulation, a continually increasing number of programmes was likely to be required. Experience in the USA indicated that the result was a never ending re-engineering of the cable networks. Since the

major proportion of the system infrastructure is in the final distribution network, it was apparent that any architecture which only required augmentation of the primary network to deal with increased programme capacity, was potentially very efficient.

A number of switched star systems were developed in which programme selection took place at the distribution nodes. This eliminated the need to upgrade the drop installation, since only one or two programmes were present on the drop at any given time, hence its bandwidth requirement was very limited.

This is another example of an excellent idea that was too far ahead of its time. Switching analogue TV signals was not easy or inexpensive. In today's, or perhaps tomorrow's, digital world switched services will be commonplace.

Extension of upper frequency limits

Over the years, the upper frequency limit of broadband distribution systems has been going steadily up: from early beginnings when systems went up to 230MHz to today's systems extending to 1GHz.

CTE published, in 1977, Ray Seacombe's article entitled *Two more octaves* which describes "the adaptation of a large VHF distribution system to operation at UHF". An upper frequency limit of 705MHz was reached.

In the spring of 1993 Ray published *A network for the 90s* in which he describes a large franchise network design for operation at up to 860MHz using a layered multi-star architecture.

Interactive services

Hardly a day goes by without some conference being organised or some publication being devoted to multi-media and interactive services. Transactional services such as teleshopping, telebanking and tele-almost anything, will allow us to shop, work, bet etc, without leaving home.

One could be forgiven for thinking that this brave new world will be the result of some brave new thinking. In fact, these ideas have been around for many years. CTE Vol.12 contains a number of classical articles on the subject.

In February 1983 Ken Quinton published *A high capacity cable TV proposal for the UK market* in which he lists the following potential services, additional to purely entertainment channels.

- Specialised subject channels:
eg news, education, religious programmes, health.
- Specialised audience channels:
eg for particular ethnic groups, for different



age groups – children, aged etc, for people with impaired hearing.

- Local channels:
eg local and national government information, what's on, consumer information, programmes by or about community groups.
- Other services:
fire and burglar alarms, control of heating systems, remote meter reading, shopping, banking, betting etc, opinion polling, video games, electronic mail/messaging, interactive computer-assisted learning, general videotext information, software supply to home computers, access to national and international communications, wideband business communications.

Similar lists appeared in a number of articles during the following years eg WK Ritchie, of British Telecom *An integrated services cable TV network* June 1984 and Rainer Kochan, of Fuba, *Interactive star switch system for CATV networks* in March 1985. They continue to appear to the present day.

Interestingly, all these articles equate interactive services with switched star systems. The problems of operating the necessary return path, in tree and branch systems, were acknowledged even then.

Telephony

Telephony now accounts for a very large part of the business of cable operators. Early articles on telephony do not exist because never in our wildest dreams did we consider that the monopoly of the GPO, as it was then, would ever be changed. However, when it did change, it again placed the UK at the forefront of a trend which is now worldwide.

The provision of telecommunication services over our new broadband networks has stimulated international interest and investment. The lessons that have been learnt here will not need to be re-learned in the USA and other countries as and when their deregulation programmes allow. As an often quoted cliché says, the UK has become the 'telecommunications laboratory of the world'.

CTE has responded to this new activity by publishing articles from experts in their field. In December 1991 we published the first of a three part article by Chuck Carroll of TeleWest entitled *Design and implementation of integrated CATV/telephony networks* which described in detail the overlaid telephony network that was deployed at that time, using PDH.

Subsequently, articles have appeared, which describe the more modern SDH transmission and its advantages. Vol. 16 No.1 in January 1993

contains one article by SP Ferguson of GPT entitled *SDH in cable telephony* and one by David Holt, of Northern Telecom, now Nortel, entitled *Synchronous digital hierarchy — what it means for new CATV networks*.

Cable Telecommunication Engineering

In September 1994, at the Annual General Meeting, the membership approved the Committee's recommendation that the Society should change its name to the Society of Cable Telecommunication Engineers. This move recognises the fact that telecommunications is now a large part of a cable franchise operation, both commercially and technically. It has also been the policy of the Society, for some time now, to enlist 'telecoms' people to serve on its committees. The change of name, happily, retains the same initials SCTE which have become so well established in our Industry.

Complementing the change in the Society's name its publication CTE has become *Cable Telecommunication Engineering*, also retaining the well known initials.

Digital television

Recent issues of CTE (Vol 17 No 3 & 4) ran two articles on the latest 'burning issues' in our industries. One, by Chuck Carroll, deals with methods of deploying digital TV transmission and other multimedia services, entitled *Hybrid fibre-coax networks for demand and interactive services*. Another one, by Gordon Kerr of BT Labs, deals with Video on Demand and is entitled *Developing video on demand – a review of the last decade*.

CTE now enjoys a reputation as the technical journal 'par excellence' and thanks to the publishing arrangements negotiated it has been able to expand its contents. Not only does it continue to publish technical papers of the highest quality but it also now contains items of news, cable statistics etc.

CTE will remain however, primarily the vehicle through which the Society will inform and serve its members. If, in the process, it attracts a far wider readership, that is a very welcome bonus. ”

CTE 1995-2005

In 2005, our Diamond Jubilee year, it is appropriate that I pursue the theme of my earlier contribution and report how the Society's Journal has carried on its tradition of being at the vanguard of technological developments. The quality of the articles published in CTE has been so high that it has been a thankless task to select the



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few that are highlighted in the following pages. My apologies to any author who feels he has been overlooked. Numbers have had to be curtailed otherwise this brochure would read like an index to CTE articles.

Digital Transmission of television and other subscriber services

From a twinkle in the eyes of research engineers to a fully established method of transmission in the space of so few years is a truly remarkable achievement.

Digital methods of transmission have now become the established norm due to their intrinsic robustness in coping with the inevitable impairments associated with extended cable distribution networks, as well as their ability to accommodate many more channels of communication within the bandwidth available to cable operators. This is in sharp contrast to cable television's early experience where the only way to increase the analogue programme capacity of a network was by extensive and expensive re-engineering of the systems to increase their available bandwidth.

Digital methods of television picture generation have enabled compression of the information contained in a television scene to limits previously unheard of. The result of these innovations has been an incredibly more efficient use of the available limited frequency spectrum. Bandwidth hungry services such as Video On Demand (VOD) are now deployed and the prospect of High Definition Television (HDTV) has moved a step closer. CTE has published some defining articles such as *Video on Demand: network and system issues* by Dr Roger Blakeway in December 2000, *Network and Access Architecture for On-Demand Cable Television* by Nimrod Ben-Natan in March 2002 and *Advanced optical and digital architectures for video-on-demand* by John Trail and Dawn Emms in June 2000.

As well as publishing these more theoretical articles, CTE has also reported on the field experience of deploying these digital transmission techniques in articles such as *Interactive digital cable systems – ntl system overview* by Dennis Greatbatch in June 2000, *Cable Return Path: the evolution to digital* by C J Appleton in March 2001 and *Cable 256QAM trial: Increasing the throughput* – C J Appleton, D Gray and D Greatbatch in June 2002.

These new technological developments have also meant that new methods of measurements of the digital signals involved in their origination and transmission have had to be developed. Articles on

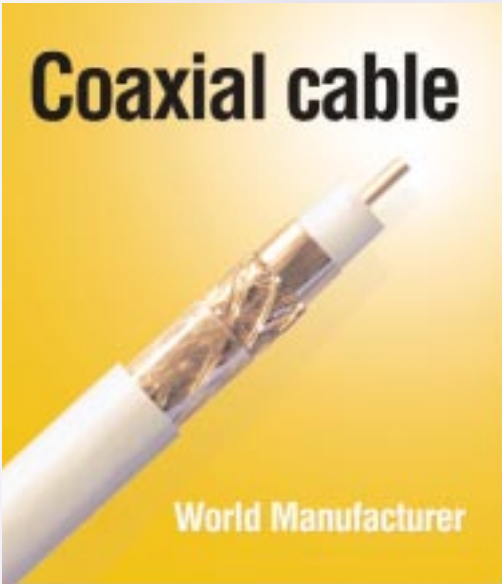
Bit Error Rates (BER) and Modulation Error Ratio (MER) such as *Measurement of digitally modulated RF signals* in December 1997 and *Four years of measuring digitally modulated RF signals : what have we learnt?* in December 2001, both by Chris Swires have done much to remove the mystique associated with digital signal measurements.

Convergence and broadband

Hand in hand with the development and deployment of digital transmission techniques has come the realisation that all the information contained in television, telephony and high speed data services such as the Internet can be converged before delivery to the subscriber's equipment. The concept of convergence of all the information contained in these various services has also brought about the need to make a broadband connection to the subscriber if the length of time taken to download the necessary data is not to be prohibitively long and thereby unattractive. Articles such as *Upgrading fibre-coax CATV networks for broadband interactive services* by Ton Koonen in June 2001 and *Ethernet to the home* by Reinaart Bryssinck, Martien Rjssemus and John van der Waal in March 2004 typify the variety of solutions to this issue.

Unavoidably the problem of legacy systems and networks has meant that the introduction of digital transmission techniques has had to be gradual and digital and analogue signals have had to co-exist on networks for some appreciable time. This has spawned a completely new set of problems associated with the interaction of these signals in both the downstream and return path of the networks. Articles such as *Interaction between analogue and digital distortions in a cable mixed*





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signal multiplex by M Ryba and J B Waltrich in June 2001, *Characterisation of common path distortions* by Dr Bharat Patel in June 1998 and *Two-way communications over HFC – the imperative for new passives* by Hemant Mardia in September 1996 exemplify the problems and also the early awareness of these issues.

Extending the bandwidth of networks

To cater for the proliferation of services that can be delivered to the customers, systems and networks need to be as bandwidth-efficient as possible. Techniques available to ensure that all the available bandwidth is efficiently made use of include making use of 'free spectrum' such as described in the article *Extending your digital bandwidth* by Victor Francis in June 2004 as well as deploying efficient signal modulation systems as described in their already referred to article *Cable 256QAM trial: Increasing the throughput* by C J Appleton, D Gray and D Greatbach in June 2002.

Fibre optic transmission – DWDM

Physical means of increasing the capacity of networks have relied mostly on the development and deployment of advanced 1550nm fibre optic products such as optical amplifiers and Dense Wave Division Multiplexing (DWDM) as exemplified in the following articles:

Advanced 1550nm technology for HFC broadcast video by Ravi Sastry in June 2003

Gigabit Ethernet-over-DWDM Transport Architectures for On-Demand Services by Fernando Armendola and Patrick Harshman in September 2002

Interacting at 1550 by John Allsopp in September 1998

Long distance 1550nm fibre optic CATV supertrunking – Dr Chris Bonang in December 1996.

Standards

Unlike the situation that has previously existed with analogue transmission and broadcast standards throughout the world, digital transmission has been accompanied by an unprecedented amount of international standardisation work to ensure interoperability, reliability and verifiable Quality of Service (QoS) goals. Articles such as *EuroDOCSIS 1.1. The Path to IPCablecom* by James Shea in March 2002, *Performance analysis of QoS over CATV networks* by Dr V Rangel and Dr R M Edwards, *An advanced CMTS receiver architecture for DOCSIS 1.x/2.0 cable*

access networks by F Buda, E Lemois and H Sari in March 2003 and *DOCSIS reliability = increased revenue* by Brady Volpe in September 2004 are typical examples of the profusion of articles on the subject of standards, reliability and QoS.

Crosstalk

The Society has always stood for improvement of the status of the engineering profession. The advent of large scale cable networks, both during their construction and then their operation, required that large numbers of new recruits to the Industry had to be trained by the cable operators. The Society produced and very successfully sold large numbers of training courses with the result that many new Technician Members swelled our ranks. It was felt that a publication, more in tune with their needs, was required and *Crosstalk* was launched, under the editorship of Graeme Young. Sadly most of these new technician members gradually ceased to renew their membership.

Recently therefore a decision was made to amalgamate the two publications, retaining the excellent 'fundamentals' element of *Crosstalk* within the *CTE* pages as well as providing more coverage of SCTE news. Most importantly, we retained Graeme's invaluable contributions, now as *CTE's* Deputy Editor. It is hoped that this new format and content mix will satisfy the need of our membership without diluting the appeal of *CTE* to a more general readership. The feedback so far has been very positive.

The future

It is difficult to improve on the sentiments of the closing paragraphs of the 1995 brochure:

"CTE enjoys a reputation as the technical Journal 'par excellence'. It continues to publish technical papers of the highest quality and will remain the vehicle through which the Society will inform and serve its members. If, in the process, it attracts a far wider readership, that is a very welcome bonus."

Publishing a high quality technical Journal imposes quite severe financial strain on the resources of a relatively small Society such as the SCTE. However, it is undoubtedly one of the most important benefits derived from membership of the Society as well as being its flagship at all important overseas industry events. This should ensure that, resources permitting, it will continue to thrive for many years to come.

Dan Smart 2005



CTE June 2001



CTE September 2004

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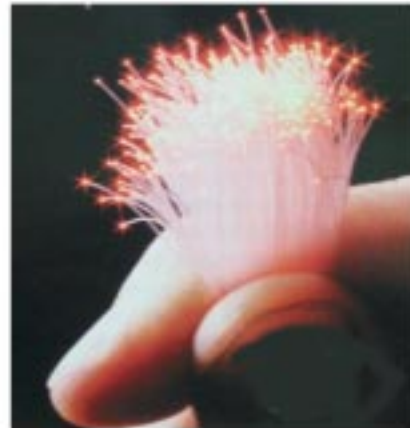
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