

The BBC Stand at IBC 84



BBC Engineer wins top IBC Award

Dr Geoffrey Phillips, Head of Radio Frequency Group at Research Department has been presented with the first ever mc Award in recognition of his internationally acclaimed work over thirty years in fostering the efficient use of the radio spectrum.

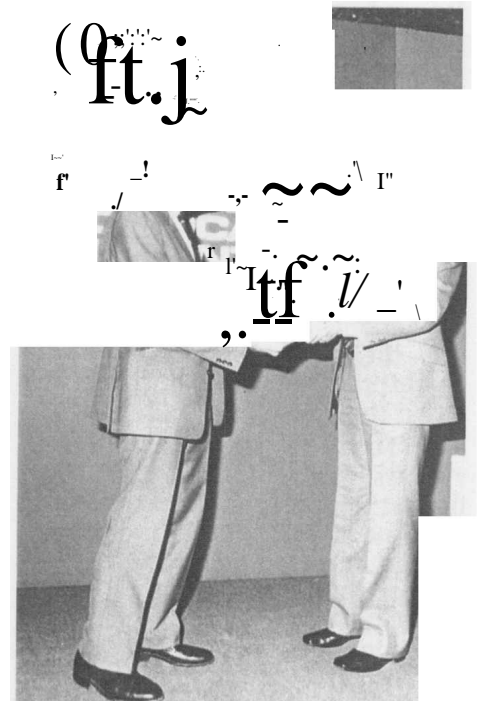
The IBC Award was initiated to mark the 10th International Broadcasting Convention. It will be presented at each IBC in recognition of an outstanding contribution over any period of time by a person, or a group of people to broadcasting research, design, development, manufacture, operational practice and management, which has not already been recognised by the presentation of another award.

The presentation of the award, together with a cheque for £2,500, was made by John Tucker, Chairman of the IBC Management Committee before a large gathering of delegates, exhibitors and

guests at the IBC 84 reception in Brighton, on 22 September. In accepting the award, Geoffrey Phillips paid tribute to his colleagues, both inside and outside the BBC, who had contributed to the many international meetings that he had attended.

Thirteen UK and overseas nominations for the award were received by the IBC Awards Panel under the chairmanship of Dr G B Townsend MBE. The final adjudication was made by an international panel of fifteen IBC corresponding members from twelve countries, resulting in a considerable majority for Dr Phillips.

Designed by John Tribe, a graphic designer at London Weekend Television, the award is in engraved glass form using the classic Greek Golden Section to symbolise the marriage between technology and artistic creation in broadcasting.



Geoffrey Phillips (left) receives the IBC Award from John Tucker.

Editorial

How pleasing it is to report on page one that a BBC Engineer, Geoff Phillips from Research Department, should be the first recipient of the IBC Award. Details of the Award winner, which can be likened to an Oscar for engineering, were kept a closely guarded secret until the announcement was made. When one considers the likely contenders, not only from UK Industry and broadcasters, but also from similar organisations world-wide, the prestige of the Award can be seen in its true light. How fitting also, that it should be presented shortly prior to Geoff's retirement when he will be able to reflect that his dedication to his work did not go unnoticed. Congratulations, Geoff, from all of your colleagues in BBC Engineering.

Whilst on the subject of IBC, details of which fill most of the pages of this edition, may I publicly thank all those who contributed to the event. From the cheerful handymen and others at Kingswood who helped erect the "acoustic cabin" before the exhibition started, to the engineers and technicians who helped install the equipment and made it work, to the authors of papers who exposed their work to public scrutiny, and to the many other departments who supported our efforts by lending equipment or know-how, thank you all. Without your help and understanding the Convention would not have been the undoubted success that it was. 405-line television

I have written before in this column about the impending departure from the broadcasting spectrum of the 405-line television service. One of the problems faced was that of how many people were actually dependent on these transmitters for their television, and would therefore be deprived of the service when they closed.

To try to assess the number of viewers was a difficult task, since no distinction is made between the 405-line and 625-line monochrome licence. The television trade, both dealers and manufacturers, could only speculate on the number of 405-line receivers that were still in use regularly, and our own figures based on public complaints were likely to be 6 dB out either way!

Thus the decision was taken

to caption all of the 405-line main transmitters in turn, inviting viewers who could not pick up BBC 2 (and thus uhf television) to write to the BBC for help and advice. This was implemented from September 1983 to May 1984.

The results of the captioning are quite interesting since they provoked only 960 enquiries, which on further investigation revealed only 278 households who were outside the reach of uhf transmitters.

Perhaps this was to be expected when one hears the story of the senior citizen in Croydon who had been in hospital when the captioning started. Seeing the caption when she returned home she asked her friend next door what it meant; the friend, who was watching on 625-lines, said that there must be a fault with the set since she had not seen anything. The tv dealer was duly called to repair the faulty set. By this time the captioning had been removed, so the poor old lady suspected Murphy's Law (the fault never persists when you try to fix it). Fortunately the tv dealer recognised the symptoms, and sold the lady a new (625-line) television.

If this story has been repeated throughout the UK it is hardly surprising that the figures are so low.

Anniversaries

The past few months have seen three anniversaries. The Droitwich transmitter station celebrated 50 years with a special dinner on the 6th September, and nearby in Bristol a special 50th anniversary exhibition opened the following week. More recently Northern Ireland has celebrated 60 years of broadcasting to the Province with two concurrent exhibitions in the Belfast Arts Council Gallery and Ulster Museum, followed by smaller exhibitions in Enniskillen and Derry. Congratulations.

Alan Lafferty

Licence

Agreements

The BBC has signed a licence agreement with two British companies, Spendor Audio Systems Ltd., and Swisstone Electronics Ltd., which allows them to manufacture the

medium size, high quality, LS5j9 studio monitoring loudspeaker described elsewhere in Eng 1nL. The agreement will enable these two companies to market the loudspeaker worldwide.

The Band 11 power amplifier bays AM14j51 and AM14j54, and associated transmitter drive equipment have been licensed to SPT Communications, and Rank Cintel have signed a licence agreement for the Digiscan shot change detector RP3j511.

On show at Woodlands

The following manufacturers will be exhibiting in conference room 1 at Woodlands on the dates shown. Further details can be obtained from Bob Simmons ITPS Room A2047, Woodlands:

7 Nov	Olson Electronics (Power Distribution)
8 Nov	Hameg
14 Nov	Highland Electronics
21 Nov	Technical Projects Ltd.,
27 Nov	Barco
28 Nov	Coutant Ltd.,
5 Dec	Schroff (UK) Ltd.,
11 j 12 Dec	Hayden Labs Ltd.,
16 Jan 85	Rittal Ltd.,
23 Jan 85	R.S. Components Ltd.,

Transmitters Opened

The following uhf transmitters have opened since July:

Llanengan	Gwynedd
Llangernyw	Clwyd
Newnham	Kent
Parkend	Glos
Trefilan	Dyfed
Ynys-Pennal	Dyfed

The following vhf transmitters have opened or changed:

Holme Moss	W.Yorks
Douglas	I.O.Man

The following Local Radio transmitters have opened or changed:

Duxhurst	R.Sussex
Holme Moss	Rs. Leeds, Manchester and Sheffield
Mendip	R.Bristol
Rusthall	R.Kent



**TENTH
INTERNATIONAL
BROADCASTING
CONVENTION**

**BRIGHTON
21-25 September 1984**

September saw the tenth International Broadcasting Convention, once again held in Brighton. The BBC was well represented, with engineers presenting nineteen papers on topics ranging from DBS to digital systems. In the accompanying exhibition, Research and Design Departments displayed some of the latest, and complex, engineering technology. Their exhibits are described more fully elsewhere in Eng Inf.

Other exhibitors had much to offer on their stands, although most visitors would agree that the four and a half days of the Convention was too short to absorb all of the new ideas and equipment. The highlight of the show must be the demonstrations of high definition television (hdtv). Those clever young men from Sony chose the Grand Hotel, Brighton as the location for their demonstration. In the Metropole, besides the BBC exhibit, Ikegami had an hdtv camera and monitor with a 5:3 format that looked very good on their slow-moving demonstration scenes. Barco were showing a similarly formatted monitor with a static picture. The monitor retails at about £22,000 and can be made available if you can wait nine months for delivery.

On the British Aerospace stand was a useful demonstration showing the effects of the weather, receiving antenna size, and head amplifier gain on signals for DBS reception. They favour a 60 cm diameter antenna, but, except at beam-centre, this looked rather



A quieter moment on the BBC stand at IBC.

noisy. Thorn EMI were displaying pictures from the SKY satellite music channel. They explained that the poor picture quality was due to the satellite receiving dish being on the promenade, and an unequalised 500 m cable connecting the signal to the stand. They also suggested that this was why the sound signal was distorted, and had a poor stereo image.

It was interesting to see BBC originated equipment on commercial companies stands. Rank Cintel with "Slide File", GEC-McMichael with the "ACE" standards converter and "clock logo", VG Electronics with the "Zone Plate Generator", and many more.

For those whose tastes run to real-ale, the Probel stand were demonstrating a "Glass Valley Mixer" mounted in a 4u crate and 19 inch rack. A 6800 micro-

processor had been programmed to produce operator-indicators of the source material, which turned out to be a choice of Wethereds, King and Barnes, Worthington E, or Ruddles. Application of a digital input to the appropriate button produced an analogue stream of the appropriate brew via an 'N' Type angled connector marked "CAMRA OUTPUT". Needless to say this exhibit attracted a lot of attention.

New waveform monitor

Since 1960 the BBC has used waveform monitors in vision and lighting control rooms to assist operational staff in the control of electronic cameras.

In any installation a number of waveform monitors are mounted in a rack together with picture monitors. To provide adequate visibility it is necessary that the monitors have a large display.

The original monitors were single channel instruments and when YRGB displays were introduced four monitors were required for a single camera.

A new large-screen display waveform monitor is under development which will provide four displays simultaneously on a single screen. The new monitor also includes a colour signal decoder to enable a composite input signal to be accepted.



Alan Lafferty (EID) explains the BBC policy on aerial purchasing to three Italian salesmen on the stand at IBC. Behind, two visitors critically examine the hdtv monitors.

Stereo *sound with television success*

The demonstrations of stereophonic sound with uhf terrestrial television were given in an acoustically treated cabin on the BBC stand, and illustrated recent work in this challenging area. Three broad aspects were covered in these demonstrations:

1. Excerpts from programmes produced by BBC Television as part of an exercise in the use of stereo sound with television production techniques.
2. A dual channel sound-in-syncs system developed by Designs Department to convey the stereo sound signal from the studio centre to the uhf transmitters.
3. An experimental digital system, devised by Research Department, to carry two high-quality sound channels on the existing television transmission System I.

Stereo Programme Excerpts

The relatively small size of a conventional television display compared with the width of a conventional stereo sound-stage poses special problems in the production of television programmes with stereo sound. Production techniques are being developed by BBC Television which help to overcome these and other difficulties, and the programme excerpts shown demonstrated the effectiveness of stereo sound with television for a variety of different kinds of programme.

Stereo Sound-in-Syncs

For more than a decade now, mono television sound has been distributed in the BBC network by a sound-in-syncs system in which pulses inserted into the television synchronising waveform convey the sound signal in digital form.

To provide for the needs of stereo sound with television, Designs Department is developing a two-channel sound-in-syncs system. This system also featured as a separate exhibit on the BBC stand, and is described elsewhere in Eng 1nL

Experimental Stereo with Terrestrial Television System Research Department has, for some

years, been investigating the feasibility of developing a method of adding stereo sound to existing television services. During the period when various analogue options were being considered, a number of opportunities were arising for the application of digital techniques to domestic equipment.

In particular, the intention to use digitally coded sound for DBS television leads naturally to the consideration of the possible adoption of digitally coded sound for terrestrial television.

A preliminary experimental digital stereo sound with uhf television system was therefore devised by Research Department and a thorough series of laboratory and field tests carried out. These have all yielded very encouraging results. In particular, field-tests conducted out of normal programme hours from the BBC-2 transmitter at Wenvoe in South Wales gave confidence about the performance of the system when the received signal is impaired by low field-strength or multipath propagation. And tests from the BBC-2 transmitter at Crystal Palace in London indicated that the experimental system is compatible with the widest range of domestic television receivers. (See Eng Inf No15&17).

Further details of the experimental system and these test were given in the paper entitled 'Experimental Digital Stereo Sound with Terrestrial Television' presented at the Convention by Bob Ely.



Throughout the period of the Convention, the experimental digital stereo sound with television system was on-air from the BBC-1 and BBC-2 transmitters at Rowridge on the Isle of Wight, and these signals were received off-air and decoded as part of the demonstration. Because of the experimental nature of the system, the stereo sound heard during the off-air part of the demonstration was music that was unrelated to the programme.

Work on the development of the experimental system continues and, in particular, discussions with the receiver industry, the IBA, and the Home Office are being conducted in order to achieve an agreed UK standard.

Stereo sound will also be available to the viewer by way of DBS, and some degree of commonality between the DBS and terrestrial specification is desirable in the interests of economy in the receiver. This points to a system based on the format of the data carried within the C-MAC/packet structure, with near-instantaneous companding and an overall bit rate of 728 kbit/s. The precise formulation is not essential to an assessment of the main features of the system, and the demonstration made use of the NICAM 3 system that was developed for point-to-point transmission and now forms an essential part of the two-channel sound-in-syncs system.

The stereo sound with television demonstration equipment inside the acoustic cabin.