EN INF

AUTUMN 1990 *No.* 42

IBC 90
Farewell to Brighton

At mc 90 we saw evidence of the continuing development of HDTV -on both the Japanese I I25-line and Eureka 1250-line systems. However, also on display was a computer simulation of one of the HDTV systems being proposed for adoption in the United States. The proposal is based on an all-digital system in which the HDTV signal is data-compressed from about 1000 to 30 Mbit/ s or even lower. The data can then be transmitted direct to the home via satellite or even via terrestrial channels. Conventional 525/625-line tv could also be transmitted by this system at about one quarter of the HDTV data rate. A satellite channel could therefore carry HDTV, or multiple 525/625 signals, or possibly a combination of both. This is an exciting proposal of which I am sure we will hear more in the future.

Another major topic was the enhancement of present-day television - Germany's *PAL Plus* and the UK's *Enhanced PAL*. The aim of this work is to give the PAL / Secam viewer the option of watching in wide screen format with increased resolution - a sort of halfway house to full HDTV. The tricky bit is to find a way of doing this without impairing the normal 625-line picture.

In the studio, the development of all solid-state and digital equipment continues apace. The CCD has virtually displaced the tube in 525/625 cameras, with developments now being concentrated on improving the performance of the sensor itself. Of particular interest was the 1f2-inch digital video cassette recorder (known as Dx or D3) which -has been chosen in principle by the BBC for use in Television Centre's new Post Production areas.

We must now say goodbye to Brighton - where the sky, the sea and the wind always seemed to put on an impressive display for me. The Convention has outgrown Brighton, during its ten year residency, resulting in an acute shortage of exhibition space and a lack of hotel accommodation. From 1992 onwards, it will be held at the RAI - a purpose-built exhibition centre with modern conference facilities, located some 3km from Amsterdam.

Henry Price
HEID

The BBC's exhibits at *IBC 90* are described *on pages 14-17.*

MRM

Dark clouds hanging over Brighton in September! The IBC moves to a new venue in Amsterdam from 1992.

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ENGINF

Edited, designed and typeset by EIO, Room 707A, HWH. Tel: LBH 4316

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The closing date for stories to be included in our next issue is Friday the 16th of November.

Mike Meyer

TRANSMITTER NEWS

The following services opened or changed between 23rd June and 28th September:

Television

Great Torrington	Devon
Haverfordwest	Dyfed
Kinross	Tayside
Lydden	Kent
Millthrop	Cumbria
North Hessary Tor	Devon
Rookhope	Durham

FM Radio

Chippenham	Wiltshire
Salisbury	Wiltshire

Radio 1 FM

Belmont	Lincolnshire

On August 3rd, the Radio I FM service from Black Mountain, near Belfast, changed frequency from 96.0 to 99.7 MHz.

Radio 2 FM

Radio 2 became an FM-only service on the 27th of August, with the birth of Radio 5.

Radio 4 FM

Black Mountain	Belfast

Radio 5 MW

Radio 5 was launched on August 27th, using what was previously Radio 2's medium-wave network - 693 and 909 kHz (plus 990 kHz in West Wales).

Local Radio

A new FM relay for *BBC Hereford and* Worcester opened at Kidderminster on August 1st.

LICENCE AGREEMENTS

Four licence agreements have been struck since the last edition of *Eng Inf* was published.

As Simon Wegerif reported in Issue 41, Design & Equipment Department has implemented an Interface for the AES/EBU serial digital audio transmission standard on a single integrated circuit. Called AESIC, this device is manufactured by LSI Logic (UK) at their Foots Cray facility.

The BBC has now licensed two companies the rights to sell AESIC to third parties, and to offer technical support for the device and advise on how to integrate it into equipment designs. These companies are *Mogul Electronics* of Sevenoaks, and *Newbridge* Microsystems of Ontario.

Bill Fletcher, who is one of the AESIC design team, presented a paper on the device at the International Broadcasting Convention in Brighton during September. In addition, the BBC stand at IBC90 included a display showing the main features of the development, alongside three new designs which incorporate AESIC as a key component. Running concurrently to IBC was the AES Show in Los Angeles, where Newbridge formally launched the device onto the American market.

Both of the other licences are to *Eddystone Radio* of Birmingham, for the FL5/8A Band 11 Combining Filter and PS2/272 .Stabilised Power Supplier. These latest acquisitions increase yet again the range of Band II-related items available from this company.

Further details on any of the above, or on other aspects of licensing, can be sought from the Liaison Engineer on Avenue House ext 375.

Peter Jefferson
D&ED Liaison Engineer

ENTERPRISES

Cardcast combats credit card fraud

A major new service called *Cardcast* has been launched to reduce credit card fraud dramatically - currently estimated to cost over £100 million a year. This new service gives retailers instant access to a constantly updated list of invalid card numbers, using data that is broadcast alongside normal BBC Television transmissions.

Cardcastis ajoint venture between BBC Enterprises, Electronic Data Exchange Service Ltd (EDES), and Registrator Industries Ltd.

Using *Cardcast,* a retailer simply swipes a customer's credit or debit card through a card reader or EPOS terminal to carry out automatically an instantaneous check, thus allowing the transaction to be either approved or prohibited. *Cardcast* delivers this service to the point of sale using the BBC's Datacast service, which transmits data using the BBC 1 and 2 tv transmitter network - similar technology is used for the Ceefax teletext service. With Datacast, an unlimited number of retail Cardcastterminals can be updated simultaneously within a fraction of a second.

"In recent times, the growth of *credit card fraud has reached alarming proportions."* said Gerry Clark, Sales and Marketing Manager of BBC Datacast. *"This is because criminals frequently take advantage* of *the poor communications that generally exist between retailers and credit card issuers, which means that lost, stolen* or *over-limit cards are often used fraudulently* for *long periods after they have been identified. Cardcast now gives retailers instant access to an up-to-the-second database* of *invalid cards, thanks to this novel use* of *broadcast technology."*

John Spink, Managing Director of EDES, said: "Our *role in the Cardcast joint venture company is to collate and manage the database* of *card numbers. Already, card issuers are showing tremendous interest in the concept, which will result in reduced losses* from *fraud and increased business capacity."*

The third partner in the joint venture is Registrator Industries. Their Director, Mike Hendry commented: *"As manufacturers* of *Datacast receivers and retail equipment,* we *will be providing customer systems* for *Cardcast.* Trials are already taking place to demonstrate the service, and retailers have been quick to realise the benefits of lower costs and faster transaction times with potentially increased business. Customers will also appreciate *Cardcast,* as queues should be shorter and card usage made easier."

ACED Guide to Acoustic Practice

The second edition of ACED's *Guide to Acoustic Practice* was published earlier this year. Prepared by Keith Rose, ACED's Acoustic Architect, it is an extensively modified and improved version of the 1980 'Guide'. The new edition is described here by Bob Walker.

Keith Rose.

The new *Guide to Acoustic Practice* contains 144 pages of text and graphical information relating to the acoustic design and construction of all types of areas within a broadcasting centre. Its principal objective is as a vehicle for ensuring a common approach to common problems; it aims to ensure that adequate standards are achieved, without the costs of duplicated design effort.

Much of the background to acoustic design is given but, because it originated as a set of standard details for Clerks of Works, it is heavily biased towards the practical aspects of building design and construction, and shows many standard details for building elements. The current BBC acoustic standards for noise levels, sound insulation and internal acoustics are given in full and some of their origins, justifications and inter-relationships are discussed in detail.

The first of the principal subdivisions relates to Noise. It covers planning, environmental noise, building services, OB vehicles and technical equipment. The second relates to Sound Insulation and includes details of structures such as walls, floors, ceilings, staircases as well as the sound insulation aspects of building services. Both of these sections relate as much to the Health and Safety requirements for non-broadcasting areas as they do to acoustically-sensitive studios and control rooms, although of course the absolute standards are different.

The third main section deals with the internal design of studios, control rooms, and other critical areas. It contains a large amount of detail about the acoustic aspects of the basic structures and the many different types of additional acoustic material which is generally used in such rooms.

The Guide is intended principally for use as a design reference by architects and as a working handbook by site-supervisors. Because it covers subjects as diverse as 'Guidelines on Sound Control Room Layouts' and 'The Acoustic Effect of Studio Furniture', it is as relevant to the technical installation as it is to the architectural and structural designs.

Published by ACED, the *Guide to Acoustic Practice* (ISBN 0 563 36079 8) is available externally at a price of £30.00. Internal purchases, including personal copies for staff, are available at a discounted price of £20.00. For further details and order forms, please contact John Winfield, Business Manager, ACED, Room 510, Henry Wood House.

Bob Walker
AI Head of Sound Section
Research Department

TELEVISION SCENERY
Modular steel system

Traditionally, television scenery has been constructed from timber and plywood panels supported by scaffolding. Multi-level constructions have involved rather more complex structures, again constructed mainly from timber. In order to reduce the costs of set construction and to provide greater flexibility, the television service is now using purpose-made steel frames, rather like a giant Meccano system. It is made by RMD Construction Equipment and was specified by Structural Engineer, John Aitken, of ACED.

The RMD system is totally modular and is based on 6-way node-connectors which join mini-slim columns to mini-slim beams: add plywood decking and lightweight flattage (wall panels, doors, windows, etc) and you have all the ingredients for a free-standing television set structure. Bracing is installed using either rapid tie rods, as rigid cross members, or webbing straps similar to those used to secure loads on HGVs. The columns and bracing can readily be relocated to suit particular camera shot angles.

The hospital programme *Casualty* is a familiar example of the RMDsystem in use (at a warehouse in Bristol). However, it has found use in a wide range of other programmes such as Dr *Who, Election Special* and *The Old Bailey*. Recently, a complete 4-storey house was built for television using the RMD system, including courtyards with cars, fountains and a basement. This would have been very complex and expensive to construct using traditional methods and materials.

Partof the Casualtyset underconstruction.