

Life after IFA 99

IFA 99 has been and gone and, like IFA 97 left us all with lots of promise and a feeling that, at last, DAB will roll-out on the consumer markets across Europe. However, it is difficult after the disappointment of IFA 97 not to feel sceptical and worry that another false launch has happened.

During IFA 97 I felt terribly positive about DAB and its impending success. My impressions were justified - many receivers were exhibited in 97 and the manufacturers made promises of receivers rolling out in O1 98. Having accepted shortly after IFA 97 that the roll-out was not going to be as smooth as I had expected I became hardened to the disappointment and, like with so many people, set IFA 99 as "the real launch". As in 1997, IFA 99 proved to be another fantastic, though bigger and better, display of DAB's readiness for the consumer market. I could not help but be impressed and feel optimistic about the progress of DAB as I passed round the exhibition and counted not less than 15 manufacturers displaying DAB products, including some new developments! It was reinforced in my mind that DAB has a life of its own and I left IFA thinking that this time we really were going to succeed.

My optimism was fuelled by reports from the President and the RSP (Roll-Out Support Programme) who had attended meetings with receiver manufacturers. The meetings had produced some very positive discussions which also confirmed that progress in the roll-out of DAB had moved on significantly during the past 2 years. The presence of Digital One (the national commercial multiplex operator in the UK who are launching services on 15th November 1999) in the meetings was a fantastic opportunity to show manufacturers such as Aiwa, Grundig, JVC, Kenwood, Pioneer, Sony etc. that the broadcasters are hard at work rolling out services. The exciting news coming out of these meetings was that virtually all the manufacturers confirmed they will launch new products during the course of the year 2000 and many of these will be integrated car radios and home receivers. Prices are expected to drop 30-40% to bring them below the DM 1,000 mark. Second generation chipsets will be available next year.

Another piece of good news was that the car manufacturers are becoming increasingly interested in DAB with some car manufacturers already in negotiations with receiver manufacturers. This kind of news is vital to the success of DAB.

Now, more than 2 months after IFA, the bickering between the broadcasters and the manufacturers has started again. Who is responsible for getting the receivers onto the shelves in retail outlets? In my mind, as long as the broadcasters have sufficient coverage and value-added programmes on air as they do in Sweden and the UK for example, the receiver manufacturers should be responsible for this.

Continued overleaf...

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Swap the DAB receiver for a microwave oven and the manufacturers would not expect anyone else to approach their usual retailers whom they have excellent contacts with to convince them to stock their goods. So why is it that the broadcasters such as the BBC, Swedish Radio, Digital One and others are having to organise roadshows and carry out marketing events aimed at the retailers on behalf of the manufacturers? This seems to me to be illogical. The broadcasters have never had direct contacts with the retail industry before and have therefore had to build up their database and contact list from scratch. To make any progress in this area would have taken the broadcasters twice as long as it would have taken the manufacturers with their already extensive knowledge of the retail industry.

Another major disagreement that ran during IFA and for the 2 months following IFA was the broadcasters' lack of willingness to carry trailers or advertise DAB on their FM and AM networks. The manufacturers, pointing their fingers at the broadcasters, said that until the broadcasters made the most of their very powerful advertising machine which is listened to by some 210 million European consumers every day¹, they would not roll-out DAB receivers in sufficient quantities and at reasonable prices. According to them, the broadcasters' refusal to do so showed a lack of commitment. On the other hand,

'Another piece of good news was that the car manufacturers are becoming increasingly interested in DAB with some car manufacturers already in negotiations with receiver manufacturers.' the broadcasters were adamant that until the prices of receivers came down they could not begin to inform the consumers about DAB as it would look like they were pushing consumers to fork out a lot of money to replace their perfectly good FM receivers. However, over the past couple of weeks, we have heard, here in the UK, DAB trailers on all the BBC's networks and those of Digital One whic h launched on 15th November. Again, the broadcasters are going out of their way to show their total commitment to DAB.

The tables have turned and we are all looking at the receiver manufacturers again.

Unfortunately, I am not a fortune teller and I do not know what will happen over the next 6 to 12 months. I do hope, however, that for all of those who have invested huge resources to make DAB a technical and commercial success that the manufacturers now take note - the broadcasters are committed, the networks are in place and coverage is good in many countries. The only thing missing is reasonably priced receivers in all major retail outlets and a good marketing campaign from the manufacturers to convince and tempt the consumer into acquiring a DAB receiver. Although WorldDAB can facilitate the roll-out and bring people together to speed up the process it is not able to replace the invaluable efforts which organisations can carry out on a national basis. As Michael McEwen. President of the World DAB Forum, indicated at the 5th WorldDAB General Assembly that took place in Rome at the end of October, we only have one real chance to launch a product like DAB and that opportunity is here now. All parties must join forces to create the right conditions for a successful launch.

Julie Unsworth

¹ Figure taken from "Radio in Europe - An information paper by the World DAB Forum" which was published in September 1998 (document WorldDAB 123)

ORITRON



The IFA discovery was the Hong Kong based receiver manufacturer Oritron. The product is expected to go on sale in the UK shortly.



JVC displayed their receiver on the WorldDAB stand. The receiver is already available all over Europe but JVC also announced that they are currently planning their product lineup for next year.



Grundig announced their Digital Radio plans for 2000 during a meeting

with the WorldDAB roll-out support programme. The German manufacturer plans to launch several HiFi tuners as well as an integrated DAB car radio Q1 next year. During the meeting, Mr Gerd Günther, General Manager Marketing Sound, confirmed that during a recent meeting, Grundig's Board members expressed their clear commitment to DAB.



A symbolic image of the progress in radio technology over the past century!

Highlights from IFA...



The first VDO D'Ayton (the new brand name for Mannesmann VDO) went on display during IFA. The receiver was presented as a combined navigation system with DAB as an added option.



Kenwood - one of the first manufacturers to launch market ready DAB products in July 1998 is planning a new product range for 2000.

Sony's DAB car radio is already available on the consumer market and they also took advantage of IFA to show a prototype DAB Hi-Fi tuner.



Pioneer, DAB market leaders in Canada and many European

countries, told Michael McEwen, President of the World DAB Forum, that they were committed to playing a leading role in Digital Radio well into the next century.



TechniSat, the German manufacturer, unveiled a prototype car receiver

which will be launched in 2000 at a very competitive price.

Robert Bosch Multimedia GmbH showed the first ever prototype of a palmtop organiser and a DABreceiver The palmtop receiver carries **Robert Bosch's new 2nd Generation** DAB chipset which was also on display on their stand. The low power consumption of the 2nd generation chipset along with the increased data capabilities offered by a palmtop-type receiver are ideal to target the portable DAB market.



Some dancers on the **Deutsche Telekom Stand which was** also host to the LA Lakers Basketball team and their cheerleaders - a sign that consumers have many things to look at during IFA as well as DAB.

Digital One launches national multiplex in the UK



Digital One, the national commercial digital radio multiplex operator in the United Kingdom, launched their network on 15th November. The DAB network covers some 65% of the UK population - about the same area that is covered by the BBC's digital radio services - and is expected to increase to 85% by 2002.

The Digital One multiplex features the three existing national analogue services - Classic FM, Talk Radio and Virgin Radio as well as seven brand-new services. For Virgin and Talk, transmitting via DAB is a quantum leap as their national distribution so far has been limited to AM.

In mid-November, two new services were launched: Planet Rock and the teenage chart channel Core. Five more digital radio channels will go on air at the rate of one a month from December on. The new services include Capital UK, an adult contemporary programme, a Plays, Books and Comedy channel, Talk Sport and Rolling News.

Together with the BBC's five existing and various new services, more than 15 digital radio channels can be received nationwide in the UK from next year on. Additionally, the Radio Authority, the UK's regulator, is advertising 26 local multiplexes at the rate of one per month, which will add another 7-10 services for each area.

Digital One is a joint venture of the UK's largest private radio group GWR and network operator NTL. Digital One's partner marketing programme is cooperating closely with a number of manufacturers and retailers all across the UK. During IFA '99, Digital One participated in a number of high-level meetings with DAB manufacturers organized by the WorldDAB Roll-Out Support Programme.

Andreas Maurer

RCS launches SmartRadio - Asia's first Digital Radio Service

On 19 November, radio listeners in Singapore were able to enjoy for the first time ever crystal-clear, interference-free reception as RCS launched SmartRadio, Asia's first Digital Radio service.

Listeners with digital radio receivers in Singapore will now be able to enjoy clear, uninterrupted transmissions of their favourite RCS stations at home or on the roads. Initially consumers will be able to tune in to their favourite channels such as y.e.s. 933, NewsRadio 938, Class 95 and Symphony 92. There is also a new Showcase Channel, featuring popular programmes from select RCS stations and listeners will also be able to receive the latest news and information in a trial service relaying Bloomberg Radio "live" from New York.

SmartRadio will also offer data services such as headline news, traffic and weather updates as well as giving listeners information on the current seat availability for movie screenings at Golden Village cinemas.

In total, RCS will be investing some \$ 20 million over the next few years to develop more innovative services for consumers.

In Singapore the Future of Radio is here.

Digital Radio is boosted at UK Motor Show

BBC and Digital One present plans for a long-term marketing and research collaboration.

At this year's London Motor Show - the UK's most important automobile exhibition - Digital Radio was featured prominently at a joint stand of the BBC and Digital One.

The two national DAB providers have joined forces to give Digital Radio in the United Kingdom a big boost.

At the Digital Radio stand in the Earls Court Exhibition Centre in Central London, all DAB car radios and hifi tuners that are currently available were featured. Experts from the BBC and Digital One explained the new technology to thousands of interested visitors and Digital One introduced for the first time the new Digital Radio services that went on air in mid-November to the public.

Inset: Visitors at the Earls Court exhibition centers interested in Digital Radio could even make a bargain.



The 'Car HiFi World' part of the Motor Show, where the Digital Radio stand was located, also featured individual manufacturers' stands like Blaupunkt, Kenwood, Visteon and VDO Dayton who all had their DAB receivers on display.

For the BBC and Digital One, this was the first in a series of events where the two DAB pioneers jointly presented their services setting a trend that they will continue over the next years. The co-operation also includes joint marketing and research activities as well as joint promotional literature for consumers and retailers which will carry both brand names.

Digital One Chief Executive Quentin Howard said: "Digital One and the BBC share a similar view of how the Digital Radio market will evolve, especially in the early years. Together we are responsible for national digital radio. And together we make for a very powerful partnership, combining the public service strengths of the BBC with the commercial experience and freedom of Digital One."

Glyn Jones, Project Director of BBC Digital Radio stressed the importance of such a collaboration as a role model for other countries across Europe. "Both Digital One and the BBC recognise that this is a time for co-operation to help deliver the substantial benefits of digital radio to UK customers. Working together on a range of marketing initiatives will help each of us to attract more attention and have greater impact."

Andreas Maurer

A new Virus from the Alps

Digital Radio takes off in Switzerland

Swiss public broadcaster SRG-SSR launched their operational DAB service in the Bern-Interlaken region on 14th October. The multiplex carries 8 services, including programmes from the other Swiss language regions and the new youth channel 'Virus'.

In November, a second network was launched in the Zurich area, and Geneva and Basel will follow early next year. The networks in the major urban areas and along major road connections will be extended in 2002, after a review of the roll-out situation by SRG. If they are happy with the situation at that point they will extend the networks to full area coverage by 2006.

SRG received Switzerland's first Digital Radio license from the regulatory authority BAKOM/OFCOM in February this year. This included permission to operate the network and to launch the new youth channel.

The DAB license is initially valid until 2002 at which time SRG's general broadcasting license will be reviewed. BAKOM has announced that it is likely that in 2003 commercial broadcasters will also be licensed and asssigned a 'locomotive function' to SRG for the launch of Digital Radio.

The SRG ensembles also include the channels SwissJazz, SwissPop and Musigwälle which can not be received on analogue as well the cultural service DRS2 which currently has very poor reception on FM.

SRG has announced that it will create additional DAB capacities in the coming years on VHF channels 10-12 and if possible between 230 and 240 MHz, both for their own services and commercial ones.

SRG have invested about 10 per cent of their

Digital Radio budget in marketing activities, including fairs and exhibitions, collaborating with manufacturers and the new SRG newsletter 'DAB update'.

Contact: SRG SSR idée suisse, Giacomettistrasse 3. CH-3000 Berne 15, Tel. +33 31 350-9751

Below: SRG have launched their first networks in the Bern and Zurich areas. The Swiss public broadcaster wants to achieve full area coverage in 2006.



First local multiplex licenses in the UK awarded

• Capital Gold

• Capital Gold

• Capital Gold

• Magic AM

• Magic

• Clyde 2

• Magic

• Xfm

• Lite

• 96.3 Qfm

• Kiss 100

• Trax FM

• Kiss FM

The UK radio regulator, the Radio Authority, has awarded the first 7 licenses for local digital radio multiplexes in the United Kingdom. The Authority licensed operators in Birmingham, Manchester, Glasgow, Greater London, South Yorkshire, Tyne&Wear and recently in Cardiff and Newport.

Three licenses were awarded to CE Digital Limited, a joint venture of UK radio companies Capital Radio and Emap Radio, the others went to Score Digital Ltd., Emap Digital Radio Ltd., Score Digital Radio Ltd. and Capital Radio Digital Ltd.

The Radio Authority is advertising a total of 26 local multiplexes all over the UK at the rate of one per month until the end of next year.

The first local networks are expected to be launched in May 2000. The licenses are valid for 12 years from the beginning of services. The multiplex operators must also carry the local BBC radio stations.

- Birmingham
- Manchester
- Glasgow • Greater London I
- South Yorksire
- Tvne & Wear
- Cardiff/Newport
- CE Digital Ltd.
- CE Digital Ltd.
- SCORE Digital Ltd. • CE Digital Ltd.
- Emap Digital
- Radio Ltd.
- Emap Digital Radio Ltd.
- Capital Radio Digital Ltd.
- BRB
- Key 103
- Clyde 1
- Hallam FM
- Red Dragon FM

- News Direct
- Kiss
- Classic Gold • Adult
- **Contemporary**
- Dance Music
- Classic
 - Rock&Sport
 - Sunrise Radio
 - Xfm
 - Classic Gold
 - Cool
 - Xfm
 - BBC Radio WM
 - Xfm
 - Cutting Country
 - Sunrise Radio
 - Adult *Contemporary*
 - Continuous
- Country
 - BBC Radio Wales
 - BBC GMR
 - BBC Radio

Scotland

- LBC • BBC Radio
- Sheffield • Talk Radio
- BBC Radio Cymru
- Hot adult *contemporary*
- BBC Radio Newcastle

Launch: May 2000 Launch: May 2000 Launch: May 2000 Launch: May 2000 Launch: Oct 2000 at latest Launch: Nov 2000 at latest Launch: Oct 2000

WorldDAB Newsletter

• Magic • Asian Sound

• 70s & 80s Rock

• Xfm • Magic

• Asian Service

- Xfm
- Xfm • Dance Radio

- Metro
 - Kiss
 - Kiss FM

- Capital FM

Chinese characters

The Eureka 147 DAB system is designed not only to deliver brilliant sound quality but also some textual information to be displayed on the receiver screen. To-date, the design of the system has been concentrated on the European market and Latin, Greek and Cyrillic alphabet characters have been considered for the display. As the Eureka system is becoming a de facto world-wide standard and is increasingly attractive for markets beyond Europe, a need arose to complement these characters with the various pictographic characters, such as the Chinese, Japanese, Korean and other characters used by alphabets from around the world. All known characters are included in the international UTF standard.

Task Force A of the Eureka 147 Consortium, chaired by Mr. Heiner Schepers (Bosch) has now defined a means to signal UTF-8 characters in DAB. UTF-8 is a transformation format to encode characters of the ISO 10646 character set (31-bit character set), which is widely used in other media (e.g. the Internet). Generally, the number of bytes needed to encode one character varies from one byte to five bytes. For example, US-ASCII characters need one byte per character and most European characters (non US-ASCII) need two bytes. Other characters (for example Chinese) generally need three bytes. In order to be able to carry the non-ASCII characters that require more than one byte per character, a new character-set code ('1111' = 'UTF-8') was added to the DAB Standard. However, some changes to the DAB Standard, although very minor, were necessary to ensure backwards compatibility.

Service labels in DAB have 16 bytes available (long form) for coding characters (resulting in a variable length service label). Thus, a service label may contain either 16 US-ASCII characters or 5 Chinese characters (plus one US-ASCII character). A short form service label (consisting of a maximum of 8 characters from the long form) can also be signalled.

The inclusion of UTF-8 coding is implemented in the third edition of the principal DAB standard ETS 300.401. This Standard is currently with ETSI being turned into a European Norm as are the Guidelines and Rules of Implementation and Operation which will be standardised as a Technical Specification.

The 5th WorldDAB General Assembly - a Roman success

The 5th WorldDAB General Assembly was hosted by Club DAB Italia and took place in the beautiful surroundings of the Palazzo Lancellotti in Rome. The Palazzo is a noble palace which was built at the end of the 16th Century from a design by Ferruccio da Volterra and is situated in the heart of Rome near the Piazza Navona. This exquisite edifice, which is well-known for its façade and for its portal with marble columns and balcony designed by the Domenichino was a memorable place to hold the first ever WorldDAB General Assembly which was hosted by private broadcasters.

The agenda was well supported by the Italian Government with presentations given by Minister Salvatore Cardinale from the Ministry of Communications, Senator Mr. Carlo Rognoni, Vice-President of the Italian Senate, Commissioner Giuseppe Sangiorgi from the Italian Communications Authority and Director Giuseppe Rao from the Information Society Forum of the Italian Government. All expressed their commitment to DAB and vowed to push it at European level to ensure that it gets rightful recognition on the European political agenda.

As well as a private visit to the Capella Sistina during the lunch break on the first day, the delegates were also able to listen to a very up-beat talk from the Secretary of State (delegated for Radios and TV) M.P. Mr.Vincenzo Vita.

The main business of the General Assembly was to renew the Statutes of the Word DAB Forum which had come to an end after 4 years of work and to elect the President, Vice-President, Treasurer and to appoint the Officers of the Steering Board who will all serve for the next two year mandate. Mr Michael McEwen was re-elected to serve as the President, Mr Paul Brown, Chief Executive and Chairman of CRCA was elected as Vice-President and Mr Karl Breithaupt, Deputy Director of Administration, SWR was elected as the Treasurer.

In order to better achieve the goals set out by WorldDAB, the General Assembly also agreed on a new structure for the Forum for the year 2000. The changes include:

Module A:

Technical, Services and Commercial Module (replaces Module 1) *Chairman:* Dr Hamed Amor, Thyssen Krupp *Vice-Chairman (Technical):* Dr Wolfram Titze, Robert Bosch *Vice-Chairman (Commercial):* Mr Quentin Howard, Digital One.

Module B:

Legal and Regulatory Module (replaces Module 2) *Chairman:* Mr Goran Arvedahl, Teracom

European Affairs Committee

Chairman: Mr Michael Green, BBC. *Vice-Chairman:* Mr Sergio Natucci, AER

Modules 3 and 5 will be dissolved though work in the areas of Marketing and Editorial will continue through the Project Office and through the organisation of special conferences. The reason for this is that the current Module 3 is a structured group. The creative people needed for Modules 3 and 5 are usually not in a position to attend regular structured meetings. Therefore conferences were a better way of dealing with these issues and they will be organised by the Project Office.



Finland

In May 1999 YLE's national services were switched on and 10 DAB transmitters were set up in Finland covering about 10 million people or 40% of the population. This was shortly followed by their first regional services going on-air in June 1999 covering 1.2 million inhabitants which represents about 24% of the population.

Both national and regional licenses for the private sector will be announced shortly by the Ministry of Transport and Communication.

YLE, the public service broadcaster, is currently simulcasting all its analogue services but has also added the following new services:

- News channel
- 24 hour classical music channel
- Live broadcasts from Parliament
- A young adult lifestyle channel

These new services are also broadcast on the FM networks in some areas of Finland in order to promote the addedvalue of DAB. After a limited time these services will be switched off the analogue network forcing those who had benefitted from them to turn to DAB.

France

On October 15, 1999, Télédiffusion de France (TDF) started to broadcast DAB using the L-Band on the A10 motorway. This current phase of DAB coverage is a joint venture between TDF and Cofiroute the privately run motorway company. The coverage is part of the provisional licensing given by the French regulatory authority, the CSA and currently only covers the area around Poitiers. However, the DAB motorway network will be enlarged to cover the full section between Tours and Poitiers by the end of this year.

The Cofiroute programme includes data

services with general information such as up-dates on traffic conditions and local tourist information which will be of use to drivers.

Also new in France is a multiplex in operation in Lyon. The commercial multiplex is run by network operator La Voix du Lyon (VDL) and carries services from:

- Radio Espace
- Frequence Jazz
- Radio Campus
- WRN 1
- Rock FM
- La Voix des associations

Sweden

Having begun DAB services in September 1999, Teracom and Swedish Radio's networks now cover 85% of the population (approximately 6 million people) with national services and 35% of the population is covered with regional services in the Stockholm, Gothenburg, Malmoe and Lulea regions.

Although Swedish Radio is the only broadcasting company to hold a DAB license, a proposal from the Department of Culture is expected in January 2000 for commercial broadcasters.

Swedish Radio currently has 3 DAB-only channels and is considering a fourth. However, they do not expect to expand coverage until 2002 whilst they wait for receivers on the consumer market.

DAB test in Tallinn, Estonia begin in 2000

Report from the Baltic news agency BNS. On 21st September 1999 it was announced that the national broadcasting centre in Estonia will begin digital radio broadcasting using the Eureka 147 system in the Tallinn area early next year.

The Head of the Communications Department at the Roads and Communications Ministry, Edvard Saarma, said that the national broadcasting centre will conduct the tests to see how well the digital signal can be delivered in residential areas and what are the positive and negative sides of digital broadcasting.

A commission set up by the previous Estonian government presented to the then Roads and Communications Minister a concept paper for the development of digital broadcasting in Estonia but this activity was put on hold when there was a change of government. It is interesting to note that although DAB tests are beginning and the issues surrounding DAB implementation are being tackled, the national broadcasting centre hasn't had time to tackle issues surrounding digital broadcasting of television programmes yet. This must be one of the first examples of radio being put before television!

November 1999

The Per Erik Selemark Award for Services to DAB



Above: Michael McEwen, President of the World DAB Forum, congratulates Franc Kozamernik and Frans Westra for their work over the years

On the 22nd and 23rd October 1998, the 4th WorldDAB General Assembly was hosted by Swedish Radio and Teracom in Stockholm. Many WorldDAB members will remember the sight of Per Erik Selemark working extremely hard to ensure that the proceedings ran smoothly. Although Per Erik was looking pale and drawn not many people realised just how ill he was. His ability to struggle on with the task in hand in spite of his debilitating illness was typical of his determination and inner strength.

Less than 3 months after the General Assembly Per Erik passed away and I received many notes of condolence to pass onto his family from members of the World DAB Forum. I was surprised at how many people had not been aware, in spite of attending the General Assembly in Stockholm, that Per Erik was ill. This alone, in my mind, was a fitting tribute to Per Erik and exactly what he would have wanted.

In order to recognise Per Erik's tremendous contribution to the work of WorldDAB and DAB during his life, an award was created in his name. The 1st Per Erik Selemark Award for Services to DAB was given to Franc Kozamernik, WorldDAB Project Director, and Frans Westra, Chairman of Eureka 147 Consortium and WorldDAB Module 1. Both have contributed and committed enormously to the roll-out of DAB and the Per Erik Selemark Award was the perfect way to thank them and to remember our dear friend!

Julie Unsworth

New Members



La Voix du Lyon (VDL) received a license from the French regulatory authority (CSA) to broadcast a bouquet of DAB programmes in the Lyon area. This has made VDL the 3rd

DAB operator in France. Although the multiplex is mainly made up of local and community radios, VDL also carries World Radio Network which does not exist on the FM networks therefore offering a complementary service.

VDL is also working with local companies to provide data services. One example of this cooperation is with the Airport of Satolas in Lyon which provides VDL with information on aeroplane arrival and departure times. It is also working very closely with the radio stations on the multiplex to integrate Programme Associated Data. La Voix du Lyon is extremely keen to promote DAB in the Lyon area in collaboration with receiver manufacturers and the radio stations carried on the multiplex. It believes that trailers carried on FM networks are a simple way to inform the consumer about DAB.

During the "20émes Universités d'été de la Communication" VDL was granted a temporary license to broadcast on DAB and in FM in the Hourtin region and they worked in collaboration with Bosch, ITIS and IASTAR France to promote DAB. The programme was produced on the spot and broadcast simultaneously in DAB, FM and on the internet in real audio. 300 FM receivers were distributed free of charge and some DAB reception areas were set up for visitors to find out more about DAB and what was going on during the conference. Data services giving the days' radio and conference programme were shown and this initiative allowed visitors to familiarise themselves during the week with the DAB receivers.

Obituary to Christer Grewin

Mr Christer Grewin, Senior Research Engineer at Swedish Radio and vice-Chairman of the Eureka 147 Consortium died on 21st August 1999 at the age of 58 after a short illness.



Christer's impressive career saw him appointed by Swedish Radio as a sound engineer in 1962. His ability to solve audiorelated problems made him indispensable when it came to important sporting events such as the Olympic Games and World Championships and, in the mid seventies he worked for the Swedish International Development Agency in Tanzania. There he contributed to the modernisation of the radio station in Dar-es-Salam and he also helped train engineers in modern radio production techniques. Christer's outstanding teaching ability and his talent at explaining complicated technical matters led him to join Swedish Radio Staff Training in 1977 and in 1981 he was appointed head of Production Service at the newly formed Swedish National Radio.

1986 saw one of Christer's greatest professional achievements being publicly recognised when Swedish National Radio's system for subjective listening tests, which he had played a fundamental part in developing, was demonstrated at the AES Conference in Montreux. The system was made an international norm for listening tests and was later used for evaluating sound coding algorithms for DAB. In 1990 both Christer Grewin and his colleague Kjell Engström drew up the technological specifications for DSQ which also turned out to be an international standard.

Very early on Christer recognised that radio and television would become digital and pushed this line within SR as well as in international standardisation work thus earning him the name 'Mr DAB'. In 1996 Christer became the project leader of SR's technical DAB work and last May he received an AES Honourable distinction award for all the articles, speeches and talks he gave.

Christer's ability to objectively argue for what he believed in made him highly appreciated by all his colleagues and he is sorely missed by them and by his friends.



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