

# Digital Audio Broadcasting

## – On the way

D. Witherow  
Special Adviser, BBC DAB  
President, EuroDab Forum

*With the EuroDab Forum now renamed the WorldDAB Forum, the Author reports on the progress of DAB implementation to date, and offers a pointer to the future prospects for Eureka-147 DAB.*

### 1. Introduction

DAB – as developed by the Eureka-147 Consortium – is now into its implementation phase and the next couple of years will be significant ones for its initial entry into the market-place.

The European DAB Forum (*EuroDab* for short) was founded about a year ago to bring all the interested parties together, to help take the process forward. With less than a year to go before the launch of consumer DAB receivers, this article assesses our progress to date – based on targets set by EuroDab in October 1995 – and draws some conclusions as to the future prospects for DAB.

### 2. Towards a world-wide role

One measure of progress is the way the Forum has grown during its first year. It now has some 120 member organizations from all sectors of the broadcasting world:

- receiver, IC, transmitter and other electronic equipment manufacturers;
- public and private broadcasters from more than 20 countries;
- satellite interests;
- regulatory bodies;
- international organizations;
- the national DAB platforms of a dozen nations.

The membership has also spread geographically beyond western Europe (see *Fig. 1*) where the technology was originally developed. With DAB activity taking place in countries as far apart as China, South Africa, India, Australia, Poland and Canada, the Forum has begun to take on a world role. In recognition of this, it is intended to rename EuroDab “the World DAB Forum” (*WorldDAB* for short) – a proposal which was warmly supported by the recent Second General Assembly of EuroDab. While, constitutionally, a ballot of the whole membership is required to effect the change, it is expected that *WorldDAB* is what the Forum will be called from early 1997 (see Page 9).

### 3. A working forum

From the outset, the EuroDab Steering Board, with the support of the members as a whole, set

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The DAB logo has been registered by a member of the Eureka-147 DAB consortium.

out to ensure that the Forum would be more than just a “talking shop” (though I do not underestimate its importance as a way to meet colleagues, exchange ideas, make contacts, and even to provide some mutual encouragement and support). We knew there would be much to do to take the technology from the laboratory stage to the operational stage and thence on to the commercial stage.

Four main working groups, or Modules, were formed, each with its own objectives and special tasks:

- *Module One* to cover services and equipment and to try to harmonize the response to the issues emerging from those two big areas;
- *Module Two* to look at regulatory and spectrum aspects;
- *Module Three* to deal with questions of market research and promotion;
- *Module Four* to look at satellite-delivered DAB.

In all cases, the idea was to avoid re-inventing the wheel, and to work as appropriate with other bodies such as the Eureka-147 Project and the EBU.

#### 4. Overall objective and key targets

The overall objective for the first two years, as set by the Steering Board, was given both clarity and point by being focused on a particular event – the Internationale Funkausstellung (IFA) in Berlin.

Figure 1  
National flags of countries represented in the EuroDab Forum.



That overall objective is:

*“To create the optimum conditions in Europe and other parts of the world” (and here we had Canada particularly in mind) “for the successful consumer launch of DAB in the Autumn of 1997, and for its growth and progress after that”.*

And in order that we could properly assess progress towards that overall goal, we detailed a number of specific targets as set out below. By monitoring our progress against them, we are better able to determine where problems may be arising and where greater effort may be required. My assessment follows each of the key targets, as given in the rest of this *Section*.

##### a) Operational services in at least eight countries in Europe, reaching a potential audience of at least 100 million people

To my mind, the distinction between *operational* and other descriptions – like *introductory* or *pilot* – is becoming blurred. What is important is the conviction that the services will continue: there will be no going back. On that basis, I am confident that we shall exceed the target figure of 100 million people.

A dozen European countries now have some kind of serious DAB activity under way, and several have already committed, or can be expected to commit soon, to on-going services – among them Germany, the United Kingdom, Norway, Sweden, Denmark, the Netherlands and Poland. France has also taken a major step forward recently with the announcement that five-year provisional licences would be awarded soon for three L-band (1.5 GHz) multiplexes in the greater Paris area. All this activity represents a very large investment in equipment: it would be interesting, for instance, to count up the number of DAB transmitters which will be operating by the end of 1997.

##### b) An integrated international marketing strategy, informed by the right sort of market research

EuroDab has launched by far the most extensive market research project ever carried out in relation to DAB. This will involve 750 face-to-face interviews in each of seven European countries, and will cover matters such as:

- current use of radio and the levels of satisfaction;
- interest in potential DAB services and features;
- readiness to pay for receivers and for possible conditional access services.



Figure 2  
BBC DAB stand at  
the International  
Motor Show,  
Birmingham  
(October 96).

The survey will obtain separate responses for car and in-home use of radio. This large project, which is being helped by some financial assistance from the European Union, will not replace the market research being carried out as part of national DAB pilots. But it will provide a strategic overview of what is likely to drive the take-up of DAB in different markets, and thus help in the formulation of marketing plans as we approach the consumer launch of DAB in the second half of 1997. Module Three, which is overseeing this project, has already begun working on a strategy for the promotion of DAB in 1997, particularly at the Berlin IFA, working with the German DAB platform and with the Eureka-147 Project.

*c) High awareness of DAB, both among the general public and within particular interest groups through events, exhibitions, demonstrations, conferences, media coverage and other means*

Clearly we have not yet created high awareness among the general public. And that indeed is right at this stage. It is no good arousing enthusiasm and then making people frustrated when they go out to buy a receiver and find that none is

available. So the accent at the moment has to be on the special interest groups, within the broadcasting industry itself and among all those who have the power to influence DAB's progress.

These groups include:

- specialist and general journalists;
- politicians, regulators and administrators;
- European Union institutions;
- other international bodies.

As we continue the effort to make DAB a true world standard, we shall also need to focus more on people and organizations outside Europe.

*d) A range of receivers on the market, at prices comparable with other consumer electronic products at the same stage of entry into the market*

We know the first part of this target will be accomplished, because at least ten manufacturers have expressed their intention to demonstrate consumer receivers at Berlin (although it is less clear when these will actually be marketed). A huge amount of work is being done by many dedicated individuals in the technical departments of the receiver and associated industries.





Figure 3  
BBC DAB demon-  
stration and test  
vehicle (October 96)

However, we are now reaching the point where crucial decisions have to be taken about product development and pricing – and about marketing. And with the initial effort very much on car DAB, it is as yet unclear how quickly we can expect other types of consumer receivers. I hope that manufacturers will move without delay to serve the home market and at prices within the grasp of “ordinary” consumers. DAB brings significant benefits for them, too. Some recent market research in the UK showed that people were prepared to contemplate a very hefty premium for portable DAB sets – a figure of around four times what they would expect to pay for a current analogue portable.

*e) Common transmission systems, and receivers with common basic features and functionality*

This very extensive area of work has been a productive one for EuroDab, working through Module One and its various specialist sub-groups. It has been a good demonstration of one of the great values of EuroDab – the way in which the interested parties are sitting down together and working towards the best solutions.

One important step was a consensus on the types of services and the types of features which should be included in the first generation of DAB car receivers. That particular approach is now being extended to hi-fi, PC and then portable receivers. Ad hoc committees within the Module are looking at particular areas, such as conditional access and data services. One is always wary of using

the word *unique*, but I for one am not aware of another example where the different sides of the industry are sitting down together in quite this way, to ensure that there is a full understanding of the issues and a joint approach to resolving them.

*f) Progress towards user-friendly consumer sets, allowing easy access to the different services and features*

This is – as we all recognize – a target of very considerable importance, and one which brings up issues of great complexity. Frankly, it is clear to me that we have a long way to go. But at least it is exercising many people in all the relevant parts of the broadcasting industry.

In order to provide a co-ordinating mechanism, as well as to encourage relevant research, EuroDab has put forward a proposal to the European Commission for some funding for a so-called HUMIDAB project – the human/machine interface in relation to DAB. Audience research tells us that many people find radios too complicated at present, yet DAB – with its additional services (data as well as audio) – will add to the potential complexity. There will be a lot of demand for user-friendliness.

*g) Retailers to be fully informed and motivated to sell DAB products*

Again, 1997 is the critical year for this target, as we approach the time when products will become available. But we must start well before the launch to educate the retail trade, and to get them interested in the new business opportunities that DAB will offer.

We should learn from the experience of RDS, where not only were manufacturers slow to market and promote it, but outlets – whether in car audio shops or in car manufacturers’ showrooms – have often been ill-informed as to how RDS works and how it can be used. The result is that RDS remains a mystery to many, or is seen merely as a means of getting traffic announcements. Much of the work to inform dealers will need to be done nationally, because each market place will be different. But EuroDab will have a part to play in sharing the experience and in providing supporting material.

*h) An attractive range of audio and data services which are specific to DAB*

It is generally accepted that improvements in audio quality and a more robust signal will not by themselves be sufficient to sell DAB. It follows that

0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
BBC Radio 1																	
BBC Radio 2																	
BBC Radio 3																	
BBC Radio 4																	
BBC Radio 5																	
			5L					5L Sport+						5L Sport ++			
			Comedy														
Parl.			Parliament														
World Service																	W.S.
Xtra				Xtra						UK Top 40							Xtra
	BBC Country						Opera							BBC Jazz			
			Country														
	BBC Now		Wthr.														
						Weather				BBC Now							

Table 1  
BBC DAB pilots during the Radio Festival in Birmingham (July 96).

there will need to be something additional, something special, in the way of services and products to persuade people to part with their money. But there is less agreement on what are likely to be the most successful additional “goodies”, and – rightly at this stage – we are seeing various ideas being tried out in the different pilot projects.

Let me take the BBC DAB project as an example. When we started up our transmissions in September 1995, we carried in our national multiplex (we have the good fortune to have a complete multiplex at our disposal) not only simulcasts of our five national radio networks, but some additional sport plus Parliament and programmes from the BBC World Service.

Since then, we have been trying out various other formats; indeed there were 13 such pilots running during the Radio Festival in July 1996 (see *Table 1*). They included, for instance, a rolling weather programme, along with Top 40, Comedy, Country and Opera mini-services. We also started a new information service called BBC Now. And we included some data pilots; e.g. radio text to support our on-air audio programmes, and a version of our teletext service which could be down-loaded into a PC via a DAB receiver.

New pilots are being tried out in the coming months (including audio with still pictures): one of

the exciting things about working with DAB in the BBC has been the wealth of invention which producers have been demonstrating to date. And, in order to help us to formulate service proposals for the consumer launch in the UK, we are market-testing these ideas to see what is likely to carry the greatest appeal or particular interest to the users.

*i) Regulatory regimes which aid rather than hinder the development of DAB*

This target can be grouped together with the following one.

*j) Enough spectrum to accommodate all the local, national and international services which will be required*

These two targets – (i) and (j) – come naturally together, and are the province of Module Two of EuroDab. At this stage, we are in an information-gathering mode: finding out what regulatory regimes have been set up or are planned, and looking at the potential demand for spectrum. Once the necessary information has been gathered and analyzed, the Forum may be able to draw up some guidelines for the best practice as far as regulation is concerned (though recognizing of course that circumstances will differ), or may be in a position to lobby on spectrum matters. This is a big and important area which we disregard at our peril. There is a great deal more to be done,



Figure 4  
*"Le DAB, c'est formidable"*  
 Roland Faure (centre left), President of Club DAB France, greets President Chirac (centre right) at the Paris Motor Show in October 1996.  
 (Photo: Alain Foucha)

and the work will extend well beyond these initial two years.

*k) Progress towards a satellite DAB system which is compatible with the terrestrial one*

This is becoming an increasingly urgent issue. Eureka 147 was initially conceived as a system which would be appropriate for all methods of delivery: terrestrial, satellite and cable. There will be a need in some large countries (e.g. Canada, Australia and India) for terrestrial DAB to use in cities, and satellite-delivered DAB for wide-area coverage.

The WorldSpace satellite system is not the answer. We tried through Module Four to see wheth-

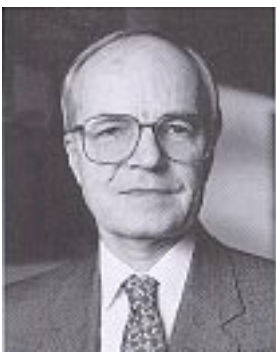
er this consortium might adopt a system based on Eureka-147 DAB but, for perfectly sound and understandable commercial reasons, that proved not to be possible. So WorldSpace will go ahead with its own proprietary system, but that will not remove the need for a satellite system which is compatible with Eureka-147 DAB used terrestrially. Module Four is addressing this issue.

**5. Conclusions**

The above brief survey is sufficient, I hope, to show where good progress is being made on the implementation of DAB, and where more effort is needed. Actually, effort is needed on all aspects relating to DAB implementation – usually at the same time, everywhere at once, and often by the same people!

There are still uncertainties, and not a few risks, for the companies which are now investing heavily in the future success of DAB. But for those who believe, as I do, that it represents the future of radio, there is enough evidence of forward movement to feel encouraged and even (dare I say it!) confident. The question now is not *whether* DAB happens, but *how quickly* and *how widely*.

Those working hard through the Forum – through national associations and within their own organizations – carry quite a load of responsibility as we take DAB towards the market place. The task is a huge one. But so are the opportunities, and so too are the potential rewards – not just financial, but the less-quantifiable ones that are concerned with providing consumers with greater choice and better services. What we have to work on, and with, is a marvellous new technology in Eureka-147 DAB. And when sometimes the task seems a bit too overwhelming, I like these days to remind myself of a recent remark by no less a personage than President Chirac of France: *"Le DAB, c'est formidable"*. And so it is.



**Mr David Witherow** trained as a journalist after taking a degree at Cambridge University in 1960. After three years with the Press Association, Britain's main domestic news agency, he joined the BBC in 1963 and held a number of senior editorial and managerial positions before retiring in 1994 as Deputy Managing Director of BBC World Service.

Since then, David Witherow has worked on a consultancy basis, concentrating on the implementation of Digital Audio Broadcasting (DAB). As Project Director of BBC DAB from January 1995 to June 1996, he was in charge of the start-up of the BBC's DAB services, and continues to act as Special Adviser on DAB to the BBC.

Mr Witherow is President of the European DAB Forum (EuroDab) which brings together more than 100 organizations in some 25 countries to work together on the introduction of digital radio. He chairs the Forum's Steering Board and also chairs the Promotions Committee of the UK National DAB forum.