

# Eureka!

Reaching out to the WorldDMB Community



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## Digital radio – on the money

### *A study on how digital radio can make and save big money*

There are an increasing number of voices in the international radio industry calling for guidance on good practice, advice on implementation of digital radio and examples of financially viable business models. In light of this, WorldDMB commissioned research to address all of these factors.

This research will be launched at Radiodays Europe (15-16 March 2012, Barcelona). The complex decision making process for migration to digital radio will be addressed during the presentation of the Business Case Scenarios Report which will examine countries with both new and developed digital radio eco-systems. These case studies will demonstrate the financial gains and reduced running costs offered by DAB/DAB+ and DMB. It will look also at issues around regulation and competition.

The commissioned report sets a precedent for the radio industry; nowhere else is the argument for migration to a digital platform made so clearly. What WorldDMB see as one of the greatest benefits of the research is the possibility for commercial broadcasters to easily adopt, adapt and implement elements of the Business Case Scenarios Report to meet their own specific requirements.



# The case for switching to digital radio has been made; the proof is evidenced by the successful business models seen around the world



Jørn Jensen – WorldDMB President

*“2012 will be the year in which WorldDMB provides a vision of a successful digital future”*

The growth of the DAB family of standards and encouraging their adoption and roll-out remains at the forefront of my activities as President of WorldDMB. Adopted by over 40 countries, with thousands of models of DAB/ DAB+ and DMB receivers on the market and listened to by millions, the standards have become the choice for Europe and much of Asia Pacific.

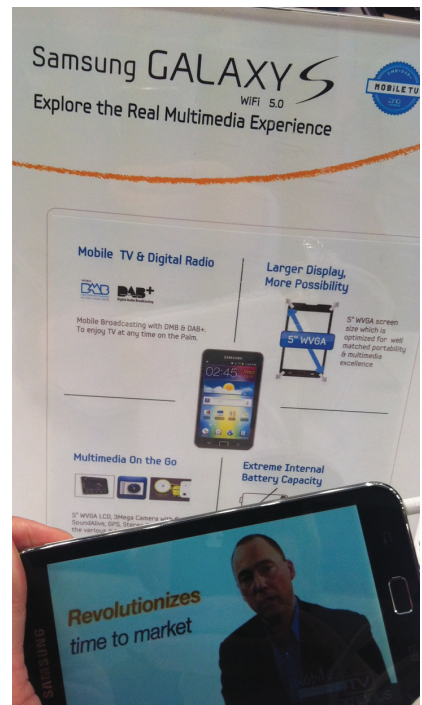
Even as we continue to observe the positive aftermath of the German launch, it is undeniable that some hesitation still remains within some quarters of the radio industry. Therefore, 2012 will be the year in which WorldDMB provides a vision of a successful digital future. Through the successfully applied and proven international business models covered in the commissioned report, I hope the evidence will speak for itself and encourage countries to migrate to digital radio using the DAB family of standards.

I also see 2012 as the year in which the automotive sector en-masse establishes digital radio as part of their consumer offering. This combined with a heavier focus on research and development of next-generation chips which combine the DAB family of standards with other technologies will see the deployment of the next generation of hybrid radios available to the mass consumer market in the near future.



The new generation of chips will be smaller and more energy efficient and as a result we can expect to see the inclusion of these in more mobile and tablet devices. Only a few weeks ago at Mobile World Congress (27 February – 1 March, Barcelona) Samsung Electronics Co., Ltd announced digital radio integration in the Samsung GALAXY S WiFi 5.0. This new product will be available to the consumer from April 2012 in Germany, the Netherlands, UK, Switzerland, Norway and South Africa.

Overall, the outlook for 2012 is very positive at all levels of the digital radio value chain. The Project Office are increasingly receiving more enquiries from countries looking to migrate to digital and I foresee another very busy year for both the Project Office and WorldDMB members as they continue in their campaign for bringing digital radio to the consumer market.



Jørn Jensen, WorldDMB President

# Key focus areas for the Project Office in 2012

## The focus in the coming months will be on several key areas:

- Disseminating the research of the Business Case Scenarios Report
- Growth of WorldDMB membership and increased support of existing member needs
- Increased activities in key markets through tailored events and workshops

WorldDMB realises that our members are the most important assets in driving the global growth and adoption of the DAB family of standards. As a result, the Project Office have brought on board a new part-time Membership Manager, Rebecca Keene, who will be in touch with our members directly and will act as the main point of contact for all existing and new membership enquiries.

The Project Office also understands that the prospect of switching to a digital platform can be daunting as it is undeniably a complex process. In my role as Project Director it is vital that WorldDMB identifies where this support can be provided to ensure all those seeking to migrate to a digital platform are fully informed of all the issues involved in the process. A series of



Bernie O'Neill, WorldDMB Project Director setting the scene on the international digital radio landscape at Le Radio Paris, 2012

workshops and events during the year will demonstrate how best to implement and utilise digital radio as a successful medium, and how to generate new forms of revenue while saving millions in broadcasting costs.

The commissioned Business Case Scenarios Report is the start of a much greater drive by the Project Office to meet the needs of the wider digital radio industry. Our members and the industry should expect to see much more of the same coming out of the WorldDMB Project Office in the near future.

Bernie

Bernie O'Neill, Project Director



Rebecca Keene joins WorldDMB

## New Membership Manager joins the WorldDMB Project Office

Born and raised in Southern California, Rebecca Keene obtained her Bachelor's degree at the University of California Santa Barbara before moving to the UK to complete a Masters degree in Marketing & Innovation. She has worked in the radio industry for over three years at RadioCentre, the UK's trade body for commercial radio. She looks forward to developing a close working relationship with each of WorldDMB's members and to improving the membership experience as a facilitator and go-to person. She will be particularly focused on attracting new members to WorldDMB.

# A strong case for the switch to digital



Finally, there are some compelling examples of how the industry must collaborate in order to achieve a successful market launch. Countries with developed digital radio eco-systems provide useful case studies on how strong cross-industry collaboration helps enable the development of a cohesive rollout strategy.

## IP and Hybrid radio

There is a section of this report which addresses the limitations and risks of relying on analogue and IP and ignoring digital broadcast radio.

The growth and adoption of the DAB family of standards over the past few years has been extensive. The majority of the radio industry are keen proponents for bringing the medium of radio into the digital age. However, some hesitation still remains. Some commercial broadcasters in certain markets view the migration to digital radio as a threat. A fear of increased competition, and increased running costs, by some commercial broadcasters has led to certain countries' efforts for digitalisation of radio being delayed.

In response the WorldDMB Business Case Scenarios Report studies the business rationale for digital broadcast radio. It provides radio stakeholders with an international overview of where

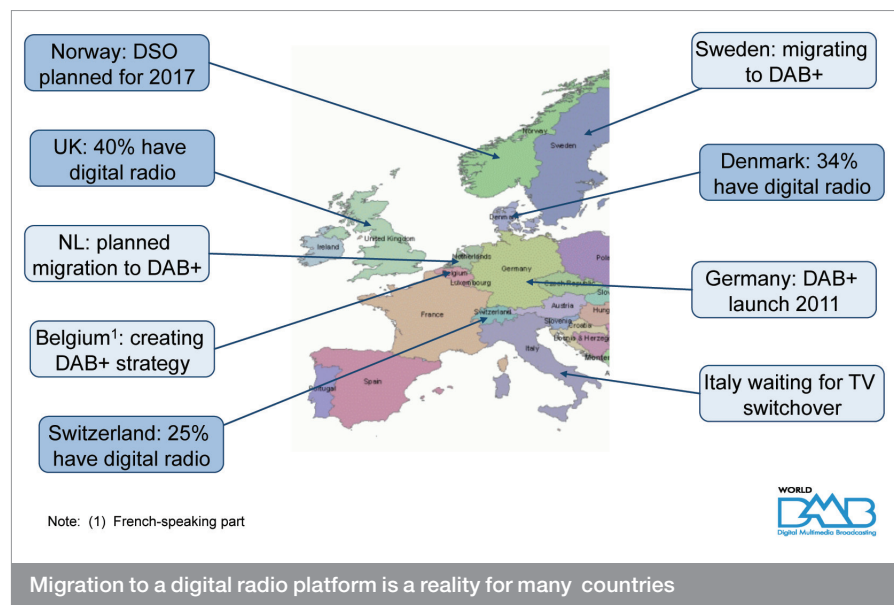
it has been successfully adopted and outlines the benefits digital radio brings to both listener and broadcaster. It describes specific ways to manage and offset costs, illustrating how frequency planning and regulatory initiatives can have a considerable impact. It also examines other factors which are vital to ensuring a successful launch.

The report will offer broadcasters an opportunity to discover more about how digital radio can help build brands, how to launch new services and to deepen the listener's engagement. It also takes a close look at how digital radio can expand and increase revenue, citing real examples of current digital brands which are doing exactly that in Germany, Switzerland, Australia, the UK, Hong Kong and in many more.

Hybrid technology (broadcast and IP in the same device) is rapidly becoming commonplace, and some broadcasters consider IP a viable option. IP has a part to play by allowing targeted information and advertising to be shared to the listener, and allowing for niche programming. However, one cannot overlook the fact that there needs to be a terrestrial digital broadcast connection as the 'backbone', of hybrid radio to enable robust, free to air services to millions of listeners.

With the momentum and impetus driving the digital broadcast industry forward the research will provide valuable, evidence based research which can support and inspire commercial broadcasters internationally as they switch over to digital radio.

The research will be launched at Radiodays Europe (15-16 March 2012, Barcelona)



# The second phase of roll-out commences in Germany

## Overview

- Over 130 DAB+ receivers are now available to the German consumer
- The German digital radio campaign was supported by the manufacturers PURE, NOXON and digital national station Absolute radio
- A live postcode checker is available online for consumers to see what services are on air: [www.digitalradio.de](http://www.digitalradio.de)

The activities and processes observed by the German radio industry are setting a precedent for the key factors that are fundamental to a successful roll out of digital radio. The German market is a strong voice for pushing for a pan-European digital radio strategy. Germany continue to focus their efforts on key factors such as cross industry collaboration, marketing, providing new and high-quality content and most importantly, selling receivers to ensure a successful and healthy digital radio future.

The journey towards a fully digitalised radio industry has reached its second stage. During 2012 the second phase of the network roll out for the national multiplex (currently at 27 transmitters covering nearly 40 million households) will be increased.

Ongoing work continues by the national roll-out body, Deutschland Radio in their support for the digital migration, with heavy emphasis on promotion. Deutschland Radio released an extensive number of news items

## Next steps

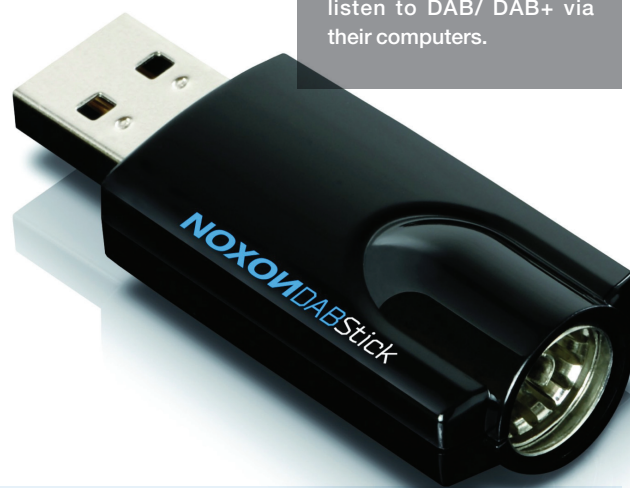
- **Organisational support of project office**
- **Extended marketing activities**
  - Workshops for retailers
  - Information package for schools
- **Extension of the coverage area**
- **New regional commercial programmes on DAB+**
- **Pan-European digital radio strategy**
  - Switch-over plan from FM to DAB+
    - Because of better efficiency
  - Obligatory digital receivers



[www.dradio.de](http://www.dradio.de)  
Rundfunk- und Informationstechnik
DABplus Germany
Deutschlandradio 17

which included news stories on new receivers, devices, the automotive sector, cross industry collaboration, announcements for new tenders and calls for inclusion of local commercial broadcasters on shared multiplexes. Simultaneously the regional ARD 'Bundeslander' public radio broadcasters ensured that their stations were going digital and stations on the national multiplex advertised new programmes such as (Antenna Bayern/SWR) to children's stations (Radio TEDDY in Hessen), and provided information on which stores were stocking digital radios.

The Noxon DAB/DAB+ USB stick retails at 24.99 Euros and is a popular product on the German market. It enables consumers to listen to DAB/ DAB+ via their computers.



At the recent Le Radio event in France (5-7 February 2012, Paris) it was announced that broadcasters, in the long term, will **save an estimated 66% on transmission costs per programme** with digital radio. It was also announced that three years after switch over it is expected that the cost savings made will cancel out the cost of simulcasting for 12 years with the **average saving of 40 million Euros per year on distribution costs.**

*Dr Chris Weck, Technical Director, Deutschlandradio*

# Calls for digitalisation of the French radio industry gathers momentum

- It is expected that 20 further trials will go on-air across France in 2012 showing the commitment of broadcasters in France to move radio into the digital age.
- Amongst the supporters of digital radio is Syndicat Professionnel des Radios et Televisions Independants (SIRTI), who represent independent regional and multi-city broadcasters and comprises of 140 radio stations. They are campaigning for the rights of their members who see going digital as a means for growth in a market where FM frequencies have now been filled.
- Rachid Arhab, Digital Radio Specialist Advisor at the French regulator the CSA has also been vocal in his support for radio going digital. At this year's Le Radio conference he called for digital radio to be launched before the end of 2012.
- Even the once negative voices of Les Echos and Le Figaro, the larger national print media, are starting to ask why France is not tackling the digital radio issue.

The desire to discover more about digital radio and move to a digital platform by the majority of the French radio industry was evident at the Le Radio conference. Digital radio was firmly on the agenda and during the



conference session dedicated to digital radio, Rachid Arhab confirmed the CSA's request to the French Ministry of Industry to include DAB+ in the technical standard for France. The level of interest and support for digital radio was notably high amongst delegates with both the WorldDMB workshop and the conference session dedicated to digital radio both filled to capacity. A highlight of the conference session was the promotional video for the newly launched trial RNT Nantes which gave a fun look at the reasons to go digital.

Le Radio conference organiser, Philippe Chapot reinforced the overall message

coming from the majority of the French radio industry saying that "France wishes to commit to adding DAB+ to its technical standard, a move that will show Frances desire to bringing radio into the digital future, enabling the industry to compete with other digital forms of media entertainment by providing more functionality, interactivity and choice for the consumer."

The WorldDMB Project Office will continue in its support of the French radio industry as they work for the adoption and migration to DAB+.



The first trial on-air, RNT Lyon project covers the Lyon area and provides

listeners with 15 new stations. This trial launched in April 2011 and included a consumer website with information on the new services on air, coverage information and which retailers were stocking receivers. After a successful launch it was confirmed that the trial would be extended and that 14 new broadcasters were due to join a second multiplex. For full information on this trial go to [www.rntlyon.com](http://www.rntlyon.com)



The second trial covered Marseille and three

surrounding villages with 12 new services. PURE, a leading receiver manufacturer, is supporting the trial and has worked with retailers at a national and local level to ensure receivers are available and that local sales staff understand the benefits of digital radio. [www.raje.fr](http://www.raje.fr)



The most recent trial covers the Loire-atlantique region of

Nantes. The launch was attended by officials from the CSA and the regional authorities of Nantes. Local broadcasters from Nantes joining this trial also showed their support alongside the national partners on this trial. Notably Continental and the car manufacturer PSA Peugeot Citroen have also been supportive of the trial. For further information on this trial go to [www.rntnantes.fr](http://www.rntnantes.fr)

## Poland DAB+ trial to be launched

National public broadcaster, Polskie Radio, together with four regional public radio stations (Radio Wroclaw, Radio Gdansk, Radio Poznan and Radio dla Ciebie), are preparing the launch of a DAB+ public multiplex. It is hoped that this will be broadcast in the four cities where the Euro 2012 football matches will be played - Warsaw, Wroclaw, Gdansk and Poznan.

A tender will soon be announced to find an infrastructure provider to transmit the DAB+ public multiplex. The criteria for the tender were specified by the Polish regulator, the Office of Electronic



Communications. It is thought that high power will be used for broadcast (10 to 20 kW ERP in Wroclaw, Gdansk and Raszyn, and 1 to 2 kW in the city of Poznan and Warsaw). The winner of the tender will confirm the power through a combination of the output power of transmitters and gains of the antenna systems used at the specific transmitting site.

Poland has been very active in its drive for digital radio and will be hosting a conference: NOW RADIO! at which WorldDMB will be presenting its research for commercial broadcasters.

**NOW RADIO! Can radio remain analogue in a digital world?**  
Wroclaw, Poland, 10-11 May 2012

## Regulatory Spectrum Committee update on the battle of the frequencies

Two important things happened within the last few weeks of February.

- **15 February:** The European Parliament approved the first Radio Spectrum Policy Program.
- **17 February:** World Radio communication Conference 2012 of International Telecommunication Union (ITU) was finished and the final acts were adopted.

Today's technologies are spectrum hungry, and with an increasing number vying for larger allocation of radio waves, the battle for the frequencies has intensified. The main reason for this is that only a small range of radio frequencies are suited for today's mobile broadband technologies. Spectrum about 1 GHz allows wide radio channels, propagation on long distance and penetration into buildings, all with lower power, meaning lower costs or transmission.

Those seeking to increase their allotted spectrum are the mobile phone industry, handset manufacturers and service providers. As a result all EU member states are now obliged to allocate the 800 MHz band (so called "digital dividend", 790-862 MHz) for mobile broadband according to the Radio

Spectrum Policy Program. National spectrum administrations on the highest global forum forgot the ITU principles of not only coordinating use of spectrum by users but also protecting existing users from interferences from newcomers. As a result of the decision made by the ITU all EU member states are now obliged to allocate the 800 MHz band (so called "digital dividend", 790-862 MHz) for mobile broadband according to the Radio Spectrum Policy Program. It has also been determined that band 694-790 MHz should be allocated to mobile service from 2015.

The problem lies in the fact that the relevant spectrum is currently in use by TV broadcasting and associated applications like radio microphones and video links. Therefore the question lies in where terrestrial TV will be allocated. TV has already been allocated in the Band III according to the Geneva 2006 Agreement. And now the whole issue becomes acutely relevant to digital radio.

Are we sure that our spectrum allocation will remain safe?

**Radim Soukenka**  
Consultant for WorldDMB on  
Regulatory and Spectrum issues



For information on joining the  
Regulatory and Spectrum  
Committee please email  
[kayleigh.skinner@worlddab.org](mailto:kayleigh.skinner@worlddab.org)

# New Service Following specifications to be submitted to ETSI

Service Following allows cross-referencing to other modes of reception of the same programme, such as AM, FM, and other DAB ensembles. Receivers allowing this function will automatically switch to other modes of reception if the current one becomes unavailable (e.g. when leaving the coverage area).

Guidelines for Service Following were seen to be outdated by the WorldDMB Technical Committee. As a result a task force headed by Klaus Probst, SRG SSR was set up to oversee the process of compiling a new document of recommended rules for correct operation. Other representatives involved in the task force were Arqiva, Audi, BBC, Bosch, Continental, Fraunhofer, Frontier Silicon, Global Radio, IRT, J&K Car Electronics, and PURE.

This document aimed to give a better definition of what is mandatory, what is optional, what broadcasters must do and also what receivers must do, and was based on real cases submitted by the members of the Technical Committee.

*“...based on real case studies submitted by the members of the Technical Committee.”*

Over 40 members of WorldDMB attended the 40th Technical Committee meeting which was held during the EBU digital radio week.



#### Key deliverables of the document included:

- a set of key service following use cases which cover likely scenarios in many territories
- a clear definition of how DAB to DAB and DAB to FM-RDS service following should be signalled by service providers
- a clear definition of how receivers should react to service following signalling information
- a clear definition of the capabilities a receiver shall have in order to provide effective service following behaviour
- a clear definition of the limitations and deficiencies of under provision of signalling or receiver functionalities and behaviour

A draft document redefining these parameters was approved during the February Technical Committee meeting. Subject to the approval of the WorldDMB Steering Board, the document will then be submitted to ETSI for release as a technical specification.

The WorldDMB Technical Committee is chaired by Lindsay Cornell. To join this committee contact the Project Office.

## Announcements Workshop



Live DAB+ transmissions with 100 W ERP were demonstrated for the Digital Radio Summit at the EBU Radio Week, at the European Broadcasting Union headquarters in Geneva.

In January, SRG SSR hosted an 'Announcements Workshop' to clarify the behaviour and functionality of DAB announcements.

The announcement feature allows a listener to choose to be interrupted by short audio announcements of specific and relevant topics such as news, traffic and weather. This workshop reviewed three input documents and discussed the issues contained within them and other issues that developed during the day. Subjects

covered included broadcasters' intentions, signalling audio coder for announcements, announcement switching signalling, and tunnel systems. Other items on the agenda were RDS TA and TP equivalence, controlling announcement switching from DAB to FM and OE announcements.

Members should go to [http://members.worlddab.org/committees/technical\\_committee](http://members.worlddab.org/committees/technical_committee) or contact [kayleigh.skinner@worlddab.org](mailto:kayleigh.skinner@worlddab.org) for more information.



# Asia Pacific Update

This year the activities of WorldDMB in the Asia Pacific region will be extensive, with the Project Office set to participate in a number of key industry events. At the beginning of March WorldDMB were Major Sponsors of the ABU Digital Broadcasting Symposium that took place in Kuala Lumpur from 6 -9 March. During the event WorldDMB gave a number of presentations, hosted a workshop on "How to successfully deploy DAB+ Digital Radio: A practical guide on getting started and where WorldDMB can help", held networking drinks and displayed the latest receivers at the WorldDMB exhibition stand. In addition to these activities, the Project Office met with members and stakeholders of the radio industry from across the Asia Pacific region who were interested in learning more about adopting the DAB family of standards.

In the next few months further activities will be ramped up with a scheduled car workshop in Japan planned for later this year. A workshop is also planned during KOBA and Broadcast Asia where the Business Case Scenarios Report will be presented. The WorldDMB Project Office will be on site during these events to ensure that the DAB family of standards is represented in a region where many countries are seeking digitalisation of their media industries.

We look forward to working with our members and industry stakeholders in the area to continue the growth and further adoption of DAB+/DMB within the Asia Pacific region.



WorldDMB exhibition stand at the ABU Digital Broadcasting Symposium 2012

## Summary of roll-out and adoption of the DAB+/DMB standards in Asia Pacific

Regarding the existing situation of the DAB+ standard in the region, Australia continues with its roll-out strategy with a focus on building regional coverage, further work on bringing the automotive industry on board and providing listeners with increased services on air. Coverage is currently at 60% of the population, or around 12 million people and recent official data relating to digital radio broadcasts in Australia was released by Commercial Radio Australia (CRA) and shows that there are 940,000 people listening to digital radio in the five state metropolitan capitals of Sydney, Melbourne, Brisbane, Perth and Adelaide and that 603,000 digital radios have been sold.

The launch of DAB+ in Hong Kong also continues to progress since it began in November 2011 when 18 channels in DAB+ on a 24 hour basis began broadcasting. The roll-out of DAB+ continues to be overseen by a consortium comprised of four stakeholders who together with its Technical Committee are looking after detailed network implementation.

The success of DAB+/DMB in the Asia Pacific region continues with the following countries continuing with either the adoption and roll-out of the standard or undertaking trials.

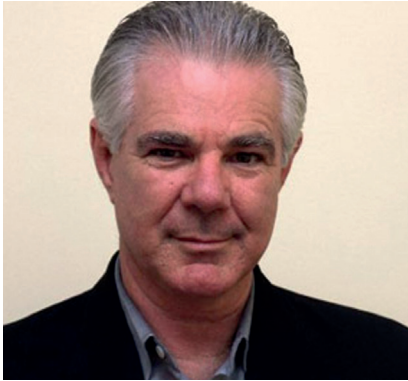
- Australia
- China
- Hong Kong
- South Korea
- Chinese Taipei
- Indonesia
- Malaysia
- New Zealand
- Vietnam



Simon Heung of the Hong Kong Digital Broadcasting Consortium, a champion of DAB+ speaking at WorldDMB's General Assembly 2011

Visit [www.worlddab.org](http://www.worlddab.org)  
for more information

# Obituary: Vale Russell Stendell 1949 - 2012



Russell Stendell, Head of Technology & Digital Planning for ABC Radio, died on Friday 10 February. Russell had struggled with cancer over the past nine months.

Russell was a very significant person in encouraging and supporting the ABC in the move to digital radio.

*"Russell's enthusiasm for digital radio and willingness to think about the future of Radio, not just the future of the ABC allowed the Commercial Radio industry and the public broadcasters to work closely on the planning phase which has been a key factor in Australia's success.*

*We are sad at the loss of a passionate DAB+ champion and told Russell before he died that we will continue the commitment to DAB+ in Australia with the innovation and drive that was so much a part of his life."*

**Joan Warner,**  
CEO, Commercial Radio Australia

Russell's career in the ABC spanned 35 years. He was appointed Head of Radio Development in 2000. He knew earlier than most that digital radio would be crucial to

the future of the medium. From the mid-1990s, utilising his particular blend of technical know-how and editorial passion, he drove ABC Radio through from nothing to a promising suite of well-founded digital services launched in August 2009.

Kate Dundas and Russell's colleagues at the ABC said "Russell was highly respected within the radio industry, for the depth of his knowledge and his dedication to the cause. He was very, very pleased to hear that digital radio listenership hit the million mark in early 2012.

Russell has left a profound mark on the ABC and the digital radio industry and will be deeply missed by his friends and colleagues. He leaves behind his wife Sophie Townsend and their daughters Claire and Anna, and our thoughts are with them."

## WorldDMB continues work with the international automotive industry

### WorldDMB Car Manufacturers Workshops

The next European WorldDMB Car Manufacturer's workshop which will be held in Germany in May 2012.

This year's event will once again give car manufacturers information on how to take digital radio to the consumer in each market. It will also offer the digital radio industry a chance to network with the car industry and to discuss options for new services to air.

This year there are also plans for a Car Manufacturers Workshop in Japan. Contact the WorldDMB Project Office for more information.

### NEW: WorldDMB Digital Radio in-Car E-Newsletter

WorldDMB has launched an E-Newsletter focusing on the car industry which will provide detailed and up-to-date information on the development of in-car digital radio around the world. Topics covered will include services on-air, traffic and travel services, and information on technological developments. If you would like to receive this newsletter or have any contributions for the next newsletter please contact the WorldDMB Project Office.

### Car news in brief...

- Toyota provides traffic and travel information using the DAB digital tuner alongside in-vehicle navigation systems using the TPEG standard - UK
- Lexus join Audi and BMW in offering DAB+ digital radio in its GS range – Australia
- Promotion at UK's leading in-car products retailer, Halfords, offers free DAB digital radio fittings – UK
- Norddeutscher Rundfunk has expanded its digital radio programming with a new music service 'NDR Music Plus' and traffic information – Germany
- DAB goes electric as Vauxhall offers DAB in its Ampera electric car now on sale – UK
- ARD and commercial broadcasters to launch new station in Q1 2012 giving traffic warnings to motorists – Germany



# DAB in cars

## VW Beetle 1.4 TSI



The new VW Beetle launches with a 103bhp 1.2-litre TSI turbo petrol and a 158bhp 1.4-litre TSI turbo petrol. Standard kit on the entry-level Beetle includes air conditioning, remote locking and DAB digital radio. Design adds 17-inch alloys, Bluetooth, iPod connectivity, front fog lights, alarm and stereo upgrade. Sport goes further with 18-inch alloys, tinted glass, cruise control, sports seats, parking sensors, dual zone air conditioning and gloss black trimmings.

## Mercedes SKL 250 CDI



SLK's petrol engines comprise two turbocharged 1.8s (badged 200 and 250) a 3.5-litre V6 (350) and a 5.5 V8 (55 AMG). There's also a 2.1-litre diesel (250 CDI). The two 1.8 petrols are available with a six-speed manual gearbox or an optional seven-speed auto; the others get the auto 'box as standard. The entry-level grade comes with alloys, Bluetooth, DAB radio and engine stop-start. AMG Sport versions add leather upholstery, a sporty bodykit, larger wheels and lower suspension, but they're significantly more expensive than the standard models.

## Audi 256hp a1 quattro



The A1 quattro features a multi-link rear suspension set-up to help improve handling. It also features 18-inch alloy wheels and

enlarged 312mm front brake discs, with a deeper front air dam, boot spoiler and chunkier rear bumper. Premium features such as DAB radio, sat-nav, 14-speaker BOSE surround sound stereo, Bluetooth connectivity, and a full leather interior with styling touches unique to the Quattro are also available.

## Highway 300Di



Highway 300Di provides outstanding DAB performance with an active aerial for best-in-class reception; direct input to your car radio for a stronger signal (via its aux-in or aerial input); and dual digital radio tuners. These two tuners enable Highway to provide a dynamic station list; while you listen to one station, Highway constantly monitors for new stations, keeping the station list perfectly up to date.

## Jaguar XF SE Business



Featuring a 2.2-litre diesel 163PS engine, the SE Business model adds satellite navigation with fully integrated seven-inch touch-screen control and hard-drive based mapping to the XF's standard specification including intelligent start/stop technology, a 400W sound system with DAB digital radio, leather and suedecloth seats and bi-xenon headlights.

## Lexus GS



Entry-level SE specification cars come well equipped as standard, with a full leather interior, 17-inch alloy wheels, automatic bi-xenon headlights, rain-sensing windscreen wipers, cruise control, keyless entry and a reversing camera. Equipment also includes dual-zone climate control, electric heated and cooled front seats, Bluetooth connectivity and a 12-speaker stereo with MP3-compatible CD player and DAB radio.

## Toyota Ice



Toyota Ice is focused on comfort, and adds DAB radio, air-conditioning, Bluetooth, USB connectivity and leather-and-Alcantara upholstery. Consumers also have the option of an 'Xtraprotected Pack', which adds rear parking sensors, mud flaps, carpet mats, rear bumper protection plate and side protection mouldings.

## Cambridge Chevrolet and Phoenix Chevrolet



Volt which will come with heated leather seats, Bluetooth with voice recognition and embedded phone, electronic keyless ignition with touch button start, 17-inch alloy wheels, ambient LED-based interior lighting, solar absorbing glass, DAB Digital Radio and six-speaker stereo system. Other specification highlights include fully programmable door locking, cruise control, air con, a 7-inch LCD screen with driver information centre, touch-sensitive controls on the centre console, a pedestrian alert system, rear camera and front and rear park assist and a leather-wrapped steering wheel.

**Vauxhall Ampera**



The entry-level Ampera comes with DAB radio, Cruise, Alloys and 7 inch touchscreen as standard. Move up a notch to the Ampera Positiv and you get LLeather, parking sensors and rear view camera.

**Vauxhall Tech Line trim**

A comprehensive kit list is included sat nav, with low P11D prices and attractive BIK tax charges. Other features on the Tech Line trim include DAB radio, Bluetooth, USB connectivity, 17-inch alloy wheels, and cruise control.

Motorists can also specify the sports tourer (estate) body style.



# New DAB Receivers

**Galaxy Style M M340S**



The new Galaxy Style M M340S, an Android smartphone with mid-range dual-core Cortex A9 processor at 1 GHz and other interesting features. The data sheet of the phone includes a WVGA touchscreen format 4.0-inch Super-AMOLED technology, 3.0 megapixel rear camera, Bluetooth 3.0, 4GB of memory and TouchWiz user interface. In the Korean version coming to market the Samsung M340S Galaxy M Style can also count on a DMB-T TV tuner.

**Bush handheld DAB Radio**



Bush has updated its personal DAB digital radio to bring you the PSDAB2004, finished in a clean, sleek-looking white plastic rubberised case. The Bush PSDAB2004 retains the operational characteristics of the PSDAB2003 model, stations and volume are selected using a central multidirectional rocker button. Other information and features can be accessed using four other buttons mounted either side of the main controls. DAB station and text information is carried on a dual-line backlit display. There's also a clock, battery level indicator and signal

strength meter above. A handy station hold feature avoids nasty results from accidental button-pressing while the Bush PSDAB2004 is in your pocket.

**Magicbox Atom**



The Magicbox atom offers the best of Scandanavian chic design in an array of mouth watering colours. Features of the Magicbox atom radio include: Volume control, DAB plus and DAB radio, FM radio, inverse backlit display, automatic and manual scan, radio text, headphone socket, high gloss finish, battery and mains power.

**Roberts RecordR**



Roberts Record R gives 'listening on demand' a whole new meaning! This clever radio actually lets you record DAB and uniquely FM radio onto an SD card, so you can record whatever you want and play it back whenever you like. It also features 'pause plus' and 'rewind' features, which allow you to pause / rewind for up to 60 minutes, ideal if your listening is interrupted. Complete with alarm that you can set to wake you to music from the radio or from your SD card.

**Oxx Digital Breeze and Flight**



The Breeze is the first of Oxx Digital's exciting new DAB+ Digital Radio offerings. The Breeze offers DAB+ Digital and FM radio and over 10 hours listening time when used with batteries, making it perfect for the home, office or on the road. Oxx Digital has also entered the stereo DAB+ iPhone Dock arena with the release of the Flight, its DAB+/DAB/FM Radio with iPhone/iPod Dock. The Oxx Digital Flight is suitable for use in many locations around the home including the lounge, kitchen and study, and even the bedroom where you can utilise its dual alarm clock features.

**Arcam Solo Mini Mono**



Building on the original Solo music system but in a smaller form factor, the Solo Mini provides premium performance in a discrete and stylish unit. The Solo Mini system features a CD player, radio tuner (FM/DAB or FM/AM) and iPod interface using the rDock or rLead. In addition a front panel USB input allows USB memory devices to be played (MP3 and WMA files supported).