

# Eureka!

Reaching out to the WorldDMB Community

## Issue 14

- 4** Germany: On the road to a digital future
- 8** Asia Pacific Region
- 10** Latest Receivers



## Eureka 147 – The mass market ready broadcasting standard of choice

Today we see hundreds of Eureka 147 compatible receivers available on the international market. With over half a billion consumers tuning into the many diverse radio programmes transmitted every day, it is evident that digital radio has become an integral part of daily life for millions of people worldwide. With the DAB, DAB+ technologies firmly established in numerous countries and under trial in many more, it is not surprising that these standards are increasingly viewed as the only reliable mass market ready terrestrial digital radio specification of choice by a growing number of countries - the most recent being Germany, who launched its first national DAB+ multiplex in August this year.

In an increasingly digitalised world the Eureka 147 technologies meet all stakeholder requirements. Digitally media-aware consumers have access to enhanced new interactive functionalities which are already available on other media entertainment consoles. Broadcasters benefit by being able to engage more directly with their audiences and reap the rewards of a richer consumer content offering while the enhanced monetisation opportunities bring new benefits which go along with this.

These benefits along with many more have already been acknowledged by the likes of Norway, the UK and Australia and recently Germany; making it clear that the argument for adopting the standard has grown as we are increasingly seeing the international radio market agree on *the* digital radio standard of the future for the modern digital age.



# Working together for the future sustainability of the radio industry



Working towards a harmonised, pan-European digital radio market

At WorldDMB we are delighted to be witnessing a period of transition towards a more progressive and internationally cohesive digital radio industry. With the German market beginning the roll-out of its national DAB+ broadcast, the momentum towards establishing the Eureka 147 standards as the only viable digital radio technologies has been soundly reinforced.

The strong message of support coming from countries rolling-out and trialling the technology as well as the enhanced consumer offerings, coverage and reception which have resulted in increased consumer demand, have all contributed towards encouraging both large and small manufacturers to produce receivers for the growing DAB/DAB+/DMB global consumer market. Importantly this momentum for meeting the needs of the listener has permeated also the car industry which is increasingly adopting DAB and DAB+ as the broadcasting standard of choice. This cross-industry

support will have huge repercussions on the future adoption of the Eureka 147 standards on a European and international level as it demonstrates that there is substantial consumer demand for the extra functionality and new content, and also that the wider radio and manufacturing industry is fully supportive of these efficient, mobile and mass-market ready broadcasting technologies.

It is vital that we harness the momentum and support for the adoption of the Eureka standards shown by industry and consumers to ensure that the technology is successfully established in countries and regions that are in the early stages of planning digitilisation of radio. We urge policy makers, ministers, network operators, broadcasters and manufacturers to co-ordinate and focus their efforts to ensure the long term sustainability of the radio industry. The industry needs to communicate clearly to their national administrations the need for a clear road map for the transition to



digital radio. From the WorldDMB forum perspective, there is a need for a harmonised, pan-European digital radio market so that countries in the early stages of digitilisation can move radio broadcasting into the modern age with ease and clear guidance.



# The WorldDMB Project Office



Project Director – Bernie O'Neill

The last few months for the WorldDMB Project Office have been very busy with numerous events attended, meetings held and new staff coming on board. This period has seen the Eureka 147 standard go from strength-to-strength with positive news coming out of the Asian Pacific market where Australia is currently planning extension of its DAB+ networks, Indonesia announcing DAB+ as its broadcasting standard of choice and

Hong Kong preparing for the launch of its own DAB+ multiplexes later this year (see page 8 for more information).

The positive news coming out of the Asian Pacific market, combined with the recent launch of DAB+ in Germany has caused the Project Office to pause and take a step back to review how WorldDMB is better able to support and provide the tools to ensure a smooth transition for those yet

to adopt this advanced market ready radio technology.

Looking back at previous country roll-outs we are able to see a pattern emerge of key factors that contribute to a successful digital radio launch, which is the theme of this issue of Eureka. These steps include ensuring cross industry collaboration, coordination and market preparation via strategic marketing and PR activities. Germany has followed all these key steps and we now watch with anticipation the completion of a successful country-wide digital radio roll-out and the enhanced benefits that German listeners will enjoy.

*Bernie*

*Bernie O'Neill,*  
Project Director



## Exciting times for the future of radio

With more and more countries adopting the Eureka standard and with many more countries reviewing the future of their own radio industry it is vital that we all learn from countries that have previously adopted and

rolled out digital radio. In the light of the German digital radio launch it is vital that we examine the processes behind making a country digital radio roll-out a success so that these valuable lessons can be used to assist

and guide others who are looking towards making their own digital radio future a reality.

### Tips for a successful digital radio country roll-out

- The simultaneous roll out of digital radio by all major radio broadcasters in each market – with support from regulators and government.
- Broadcasters providing new and compelling content.
- A carefully constructed communication and public relations strategy to actually tell and excite listeners about the new services.
- Ensure there is a range of affordable receivers readily available in the market.
- A variety of retail outlets to stock the new receivers.
- Most importantly that all industry stakeholders from broadcasters to network operators, regulators and manufacturers, retailers and government work in collaboration and coordinate efforts towards one common goal, bringing radio into the modern digital age.
- With countries such as Germany, Denmark, Italy, Norway, Belgium, Switzerland, Spain, UK, Netherlands, Czech Republic, Australia, Indonesia, Hong Kong, and many more working towards a digital radio future, an international consensus on the future of digital radio needs to be established.

by *Joan Warner*, CEO, Commercial Radio Australia

# Germany: On the road to a digital future

## *Collaboration, coordination and preparation*

On the 1st of August 2011 Germany broadcast digital radio services on their first ever digital nationwide multiplex.

Fourteen new stations from a football programme, to rock, pop, classical, talk and Christian radio can now be heard across Germany and with the national multiplex being shared between both public and private broadcasters it is expected that the new stations on air will increase in number in the very near future.

In addition to new content being made available in this huge European radio market, the consumer now also has access to enhanced functionality on the many new digital radio models available on the high street and from on-line stores. With the onset of colour touch-screen radios, broadcasters are now able to offer consumers new interactive functionality such as programme data, album cover art, and targeted

advertising, letting the German radio industry better meet the requirements of a digitally aware and demanding audience.

And with space set aside for nationwide data services including traffic and travel information the new digital radio market can expect full support from the German automotive industry as well.

The German radio industry reached this momentous occasion by working together in a remarkable manner. The whole industry worked in a spirit of coordination and co-operation, not only amongst the broadcasting industry, but also by the support received from the Government, the sixteen regulators, the automotive industry and many more to take digital radio forward. A 360 degree co-operation has been key to the success of not only the launch but also, it is hoped, the up-take of digital radio by the German consumers in the future.

### **Steps taken prior to the launch**

- The German Digital Radio project office (Deutschland Digital Radio) was created to co-ordinate the efforts of all stakeholders on the national multiplex, the public broadcasters (ARD) and Deutschland Radio.
- Five Working Groups were created to guide all areas of digital radio development and rollout. Areas covered include: Networks, Products, Marketing and Advertising, Traffic & Travel and Automotive.
- The network operator, Media Broadcast, has provided regular and clear information on the roll out schedule and coverage to consumers wanting to know if they are in a coverage area. 27 transmitters are on-air in the first stage covering all major cities and autobahns (motorways) and plans for coverage of up to 99% in some areas are due by 2014.
- A consumer on-air marketing campaign between broadcasters, manufacturers and retailers has been launched to inform the public and retail staff working in high street shops about the advantages of purchasing a digital radio.

**With all relevant radio industry stakeholders collaborating to bring about the launch of DAB+, 40 million Germans now have the ability to tune into new digital radio services.**



27 transmitters are on-air in the first stage

### **How the German market has brought radio into the digital age**

- Broadcasters joined together to inform and educate the consumer market about new on-air content so that manufacturers were able to provide the right products to the market at the right price.
- Kommission zur Ermittlung des Finanzbedarfs der Rundfunkanstalten, the German public broadcaster funding body (KEF) and the German government assigned funding to launch digital radio and for regulation.
- The German Automotive Associations (VDA, ADAC) and the German manufacturers Association (ZVEI) have been consulted and have shown their support for digital radio development.

# DAB+ in Australia

Digital radio celebrates two years on air in Australia with the announcement that more than half a million DAB+ digital radios have been sold and there are nearly 1 million people\* (940,000) listening to stations on digital radio.

High power permanent DAB+ digital radio services commenced in the major metropolitan markets of Sydney, Melbourne, Brisbane, Adelaide and Perth in August 2009. Low power regional DAB+ trials began in late 2010 in Canberra and Darwin. Up to 20 new DAB+ only stations are on air in each market, offering dance music, comedy, chill out, unsigned new music, sport, country and jazz. In addition, in the past two years, 13 extra short-term "pop-up" or event focused stations have been created including an emergency information station during Australia's flood and cyclone disasters.

7.6% of listening to radio is now via a DAB+ digital radio device in the five state metropolitan capitals with Time Spent Listening (TSL) to radio via a DAB+ digital radio device also continuing to grow, reaching 11 hours and 28 minutes, outstripping TSL to radio via the internet which is at 5 hours and 40 minutes.

Commercial Radio Australia chief executive officer, Joan Warner said: "The most recent digital radio sales and listening figures have been achieved in a challenging retail environment and show the commercial radio industry's ongoing digital radio awareness campaign has been able to cut through."

There are now more than 100 different models of DAB+ radios on sale in Australia across 800 retail and online stores produced by 30 different receiver manufacturers.

## A Facilitative Regulatory Framework

The switch on of digital radio in Australia was a culmination of seven years work with the Federal Government, the Australian Communications and Media Authority (ACMA), commercial broadcasters, and public broadcasters the ABC and SBS, together with retailers and manufacturers of digital radios to ensure a comprehensive and coordinated switch on of a compelling new way of listening to radio.

After extensive negotiation, the Australian Federal Government policy provided:

- 128 kbps of free spectrum for incumbent analogue broadcasters.
- No new entrants for six years.
- First option for broadcasters to own & operate multiplex.
- No restriction on use of spectrum or format.
- Financial assistance for regional commercial broadcasters.

The outlay for digital infrastructure was funded by the broadcasters who are able to share operating and site costs. At the end of 2010, the Minister for Broadband, Communications and the Digital Economy directed the regulator Australian Communications and Media Authority (ACMA) to allocate 14MHz VHF Band III for the rollout of digital radio into regional areas.

## Technical Solutions

CRA has built the highest powered digital radio transmission system in the world. An On Channel Repeater (OCR) solution was developed to eliminate a small number of black spots and results show significant improvement in in-building reception. A process is now underway to develop an OCR rollout plan for the five launch cities in identified black spot areas that will benefit from a boost to the DAB+ signal. The trial and development of this OCR is a world first and the technology and expertise developed in Australia can be used world-wide.

Two key groups were established early in the planning of the digital radio rollout: the Digital Technical Advisory Committee (DTAC), made up of technical representatives from across public and commercial broadcasters and the Retailer, Broadcaster and Manufacturer Advisory Group - including key retailers, manufacturers and broadcasters in a forum where marketing, advertising, training and broadcaster support was discussed.

## Marketing Awareness

The success of any new product is reliant on an effective awareness campaign. Broadcasters in Australia have invested more AUS\$25 million dollars on marketing digital radio. It started with a carefully targeted public relations campaign during the lead up to switch on.

The Digital Radio Plus logo and website was launched well before switch on

to help establish the brand, and [www.digitalradioplus.com.au](http://www.digitalradioplus.com.au) became the information gateway for all digital radio information. At this website the Australian radio listeners can enter their postcode to see if they can receive digital radio in their area and details of where to buy a digital radio. It's also where they can listen to all the digital stations online. This site also includes training tools for retailers and the latest news on digital radio.

A national listener event called Radio United held in August 2009 heralded the arrival of digital radio with rival breakfast presenters from public and commercial radio stations broadcasting live side by side in central city locations in each of the five metropolitan cities. Thousands of listeners gathered at each site and the arrival of digital radio was broadcast on every commercial and public radio station, reported in all major newspapers and featured on breakfast and prime time television news.

## Continued awareness

Research shows that digital radio awareness in Australia is currently at 78% and the industry marketing initiatives continue with:

- Digital Radio Plus radio ad campaigns across 42 commercial stations on high rotation – switched to a retail focus around Father's Day, Mother's Day and Christmas.
- Demonstration kiosks at major retail shopping centres, providing radios for shoppers to try before they buy.
- Ambassador program – key radio presenters tell listeners on air about their digital radio listening experience.
- Automotive Workshops – four automotive workshops have been held to inform the motor industry of coverage maps, technical testing, new products and progress on the regional rollout.

**Australia's drive to increase digital radio listening continues, planning the regional rollout and sharing expertise in population centres outside of Australia in the Asia Pacific to drive the adoption DAB+.**

by *Joan Warner*, CEO, Commercial Radio Australia



# Norway – an advanced digital radio eco-system

Norway successfully adopted the Eureka 147 family of standards and has now set a date for FM switch off.

The reason digital radio has been such an outstanding success in Norway is not only due to the manner in which the broadcasters and government have worked together, but is also down to the fact that all radio industry stakeholders felt that radio was more than simply an outlet for entertainment and could see the immense opportunities offered by digital radio. It was also very clear that unless a move to digital was taken, radio would fall behind other forms of media entertainment.

## The right technology choice

The Eureka 147 technology enabled the Norwegian government and broadcasters to bring their radio industry into the modern digital age and enabled them to provide the Norwegian public with greater on-air content especially on a national level. With 8 out of 10 Norwegians listening to radio every day digital radio is a means of cementing a number of diverse cultural identities - and with FM bandwidth full to capacity, the adoption of DAB/DAB+ and DMB enabled newer multi-channel programming opportunities. In addition to benefiting the consumer, the radio industry was able to see that the economic incentives to switch to digital made financial sense - the lower distribution costs offered by the technology in the long term reinforced the fact that the move to digital was the intelligent long term strategy.

After a series of successful trials the Parliament issued a white paper called "Broadcasting and the Daily Press" (1997) in which it highlighted DAB as the optimum broadcasting standard of choice for Norway. The paper also highlighted that in essence the expansion of DAB networks would be financed by increasing rent paid by broadcasters to network operators.

## Close collaboration with the consumer electronics trade

To oversee the smooth roll-out of digital radio a Digital Radio Working Group was established (1999-2000). This group initiated information campaigns on radio to inform listeners about the many

advantages of digital radio and worked closely with consumer electronics trade and other relevant stakeholders.

## FM switch off date

In 2005, the Minister for Culture established a task force composed of broadcasters, manufacturers and regulators who were to advise the government on the digital radio roll-out. They concluded DAB should be the chosen technology, that a date should be fixed for FM switch off and that DAB licenses should be long-term. These findings informed the white paper 'Broadcasting in a Digital Future' released by the government, in which parameters were set, such as 50% of households must possess a digital receiver and that consumers should receive full national coverage and added value content before a switch off date could be set.

In 2007 DAB coverage reached 80% and consumers had access to real added value radio services through new content on-air. Work continued on raising the general promotion of digital radio technology, adding new services to air and providing a transparent pricing model for operating costs by establishing Digitalradio Norway as an operator of at least one of the muxes. This greatly benefitted radio stations and demonstrated to the authorities a readiness to switch to digital.

Working with the media has continued to be an element of rolling-out digital radio with Digitalradio Norway (DRN) focusing heavily on PR activities. During the initial stage of launching and rolling-out digital radio in Norway a PR consultancy was used to combat negativity in the press which proved to be a good investment.

In addition to a PR drive, DRN also focused on creating relationships with politicians which helped broadcasters' efforts to secure a switchover plan in the form of the publication of a new white paper. However one issue still needed to be addressed from the previous white paper, the need to improve the number of commercial stations transmitting on DAB. A concerted effort led to the launch of four additional commercial stations on DAB, which met the stipulation for extra value for the consumer as the 18 DAB channels now offered a greater selection than FM could anywhere in the country.



A date has now been set for FM switch off

## 'Yes to radio' campaign

To promote the new services to both consumers and politicians the largest campaign for digital radio in Norway was launched: 'Yes to radio' in the summer of 2010. The campaign was written about in over 400 articles, and raised the issue of digital radio high up the political agenda. Not all articles were positive, but many of the negative responses came from the media themselves and did not represent the perception of the general public.

This year in February 2011 the white paper 'Digitisation of the Radio Medium' was published. It contained details of the plan to switch to digital broadcast, and set conditions for the switchover agreeable to the radio industry.

## Progress of DMB

In 2009 three broadcasters, Norwegian Broadcasting Corporation (NRK), TV 2 and Modern Times Group/Viasat, launched mobile television via DMB through the joint venture company Norwegian Mobile TV Corporation (NMTV). 6 TV channels are being broadcast in the greater Oslo area, adding to the more than 20 radio stations via DAB/DAB+. There is also development on the combination between mobile TV/digital radio and additional services via the internet.

by Jarle Ruud, Digitalradio Norge

# UK – working towards a digital radio future

The UK was one of the very earliest adopters of the Eureka 147 standards in 2002, and many important developments have taken place since then.

In the UK, 26.9% of radio listening takes place via digital platforms (70% of this is via DAB, 20% DTV, and 10% internet). Currently, 38.2% of UK homes have a digital radio, up from 33% a year ago (RAJAR Q2 2011). To date, a cumulative total of 13 million digital radios have been sold in the UK (GfK).

No digital radio switchover date has yet been set by the UK Government. Government has set two criteria for a digital radio switchover: that digital listening reaches 50% of all radio listening; that coverage for national services must be comparable to FM, and local DAB coverage reaches 90% of the population and major roads.

The Government-Industry Digital Radio Action Plan, launched in July 2010 by Ed Vaizey, Minister for Culture, Communications and Creative Industries, has provided a focal point for digital radio in the UK. This important document provides a framework within which broadcasters, manufacturers, retailers and the consumer can shape future radio policy in the UK, with a timing plan for the actions required for a Government decision. As part of the Digital Radio Action Plan, a series of working groups have been established addressing issues such as coverage planning, consumer communications and receiver specifications. Work is also underway to develop a government owned Digital Radio Certification Mark which will be licensed to minimum specification –compliant products and vehicle installation services.



Recent listening figures have highlighted positive momentum in digital listening and Digital Radio UK expect an announcement from Government on switchover in 2013.

An agreement between broadcasters and Government about the funding principles for local DAB build-out (currently at 60-70%) is under discussion. There is further detailed work still to do and it is anticipated that this process will be completed in later in 2011.

Manufacturers are constantly broadening and strengthening their digital radio product ranges, including an increasing number of hybrid sets and additional features such as pause, rewind and record. They support the consistent messaging and marketing of digital radio in UK retailers. In partnership with broadcasters, manufacturers are continuing their work to create a more interactive and visually rich radio experience for consumers.

In most locations listeners can not only receive the FM stations they love, but

can also listen to around 20 additional digital-only stations. In the last year, new national digital stations have been launched: Smooth UK, Jazz FM, Absolute 80s and 90s launched on the DAB network; the Capital and Kiss Networks are now available nationally (80% on digital); BBC launched Radio 4 Extra in April this year, which has now become the UK's most listened-to digital-only station. In the run-up to and during the Olympics in 2012 the BBC will launch a new digital-only station, BBC Radio 5 Live Olympics Extra, to cover all aspects of the games.

As part of their national coverage plans, the BBC is on course to build out to 93% national DAB digital radio coverage (by population) by the end of 2011. This includes building 39 new transmitters in 2011. The BBC is planning to build out to FM equivalence over the coming years.

Digital Radio UK continues to work with industry to communicate the benefits of digital radio to consumers, using well-known 'voices for radio', and by creating consistently branded point of sale materials for consumer electronics retailers.

For more information please visit [getdigitalradiouk.com](http://getdigitalradiouk.com). If you have any questions, please email: [Laurence.harrison@digitalradiouk.com](mailto:Laurence.harrison@digitalradiouk.com).

by *Laurence Harrison*, Digital Radio UK





# Asia Pacific Region

Many countries in the Asia Pacific region are making decisions about their digital radio future. In October Commercial Radio Australia is hosting a group of public and commercial broadcasters from Indonesia on a digital radio study tour.

CRA has hosted a number of study tours over the last two years to provide broadcasters from other countries with the opportunity to see DAB+ digital radio successfully functioning and meet with those people directly involved in the industry.

Commercial Radio Australia chief executive officer, Joan Warner said: "DAB+ digital radio technology is expanding its reach as an international standard and Australian commercial and public broadcasters have the knowledge and experience to share with our Asia Pacific colleagues.

## International fellowship exchange

In another initiative within the region, CRA has announced a two week international fellowship between CRA and Singapore's premier radio network, MediaCorp. The winner of this year's Brian White Award at the annual Australian Commercial Radio Awards (ACRAs) will receive flights, accommodation and a two week fellowship placement at Singapore's premier broadcasting organisation MediaCorp.

MediaCorp is the leading radio broadcaster in Singapore operating 13 FM stations, which broadcast in four different languages offering news, sports, information, music and entertainment for a variety of cultural backgrounds.

The CRA and MediaCorp arrangement also allows for a MediaCorp nominated



DAB+ is expanding its reach

candidate from Singapore to spend two weeks at an Australian Commercial Radio station. MediaCorp and Commercial Radio Australia will determine the type of station and area of work depending on the candidate.

## Push Radio

Push Radio is a groundbreaking application that will allow podcasts to be sent via the DAB+ broadcast band directly to a listener's radio without the need to connect to the internet, providing another way for broadcasters to reach their audience.

The technology, developed by Jolon Digital Media Broadcasting Co. Ltd will send an audio file via DAB+ broadcast directly to a DAB+ digital radio receiver instead of requiring the listener to connect their iPod or MP3 player to the internet to receive programming. CRA and Jolon continue the development of Push Radio. Beijing Jolon are upgrading their latest generation receivers to support DAB+. A trial of Push Radio is being planned for Brisbane in August/September 2011.

## Hong Kong

Broadcasting of 18 channels in DAB+ will begin in Hong Kong in November 2011. Frontier Silicon announced the addition of a Chinese user interface option to its range of digital radio platforms.

Public broadcaster, Radio Television Hong Kong (RTHK) along with three new licensees; Metro Broadcast Corporation Limited, Phoenix U Radio Limited and Digital Broadcasting corporation Hong Kong Limited, will invest nearly HK\$1 billion for the first six years and will provide 24 hour DAB+ services in Hong Kong.

The announcement by Frontier Silicon means users will be able to navigate through station names, radio menus and view text in the Chinese language.

## Malaysia

RTM have started a trial of DAB+ digital radio and the Commercial Radio Malaysia group of private broadcasters are in discussions with the regulator about policy framework for the adoption of this digital radio platform and the start of a trial.

## Singapore

Singapore has had DAB digital radio on air for many years and the leading broadcaster MediaCorp and Redifussion continue to support the standard and are investigating an upgrade path to DAB+ which will retain their access to VHF Band III spectrum.

## South Korea

Following ETRI's investigation of various digital radio platforms, a major decision is expected regarding the adoption of a digital radio technology for South Korean broadcasters. Given the potential to software upgrade the extensive investment in existing DAB/TDMB handsets to DAB+/TDMB to allow more capacity on the multiplex for additional radio or video services adoption of DAB+ would be a low cost upgrade path. This would prevent audiences needing to use two separate devices, one for mobile digital TV and another for an HD radio, DRM+ or ISDB-T platform. These services would potentially share with analogue radio in a hybrid mode or switching off the analogue before the digital services could be fully deployed.





## Other news stories

### RNT Lyon Trial

In April this year VDL, a French network provider, launched the RNT Lyon digital radio demonstration. This project brings together 15 commercial and community radio stations broadcasting in digital on one multiplex with content reflecting the diverse and rich landscape of French radio from rock and pop to African and Christian programming.

The RNT Lyon trial is an important step forwards for the development of digital radio in France as from the start, it has focused on consumer demand and has used a proven model usually applied to full country roll-outs. It initially saw the launch of a consumer website with details of digital stations on air and the receivers available in store. This was combined with close co-operation between a number of

key radio industry stakeholders: the digital radio receiver manufacturer PURE worked with local retailers to ensure products were available for the launch; retailers and broadcasters coordinated efforts by ensuring in-store point of sale promotions were available whilst on-air campaigns were broadcast. These campaigns were compiled not only by VDL but also by the broadcasters participating in the trial and the advertisements aired on both analogue and digital stations to raise awareness of the benefits of digital radio to a wider audience.

In addition to cross-industry promotion the project also saw event based activity used to great effect. The cornerstone to the successful launch of the project was undoubtedly the press conference which brought together national and regional journalists who used the press launch to generate even wider public awareness of the trial. Besides the extra attention generated

by the press conference, two events were held in central Lyon which were promoted on-air and via social media. These events saw DJs from digital radio stations interact directly with the public and this combined with receiver give-aways ensured that one of the key slogans of the trial - 'La Radio Numérique c'est fantastique!' was made memorable to those that mattered –the listeners of Lyon.

Further promotional events for the project are planned for the end of this year and the success of the project will be measured through a research project. However attendance at the public events, feedback on social media sites and receivers sold in shops indicate that the digital radio revolution in Lyon has started.



## Sweden: Licenses For Commercial Digital Radio To Be Issued

### ***DAB+ is the preferred technology and the licensing process is expected to start in autumn 2011.***

The Swedish Authority for Radio and Television has now decided on a strategy for licensing of digital commercial radio has been formed together with the Post and Telecom Agency following a public consultation. It states that the terrestrial network is an important distribution platform for radio and that digitalisation is needed to further develop the platform.

Public and commercial broadcasters backed by liberal party Folkpartiet have advocated for digital radio in major newspapers using words as "The existing FM network is full". The next strategic step for the radio is digitalisation. "All major broadcasters have stated their support for DAB+ and that they could expand the network rapidly across the country. "By introducing digital radio, we could, in a matter of 12 to 18 months, have around 20-40 new channels on air nationwide. Listeners across the country could then easily access commercial channels only Stockholmers have today, as well as public-service channels currently only accessed via the Internet" they wrote.

#### **Success criteria**

In the public consultation, broadcasters and network operator Teracom believe

that there are several requirements that must be met in order for digital radio to be successful. A broad range of channels is a must, with new digital services alongside today's popular analogue formats.

The launch of commercial digital radio broadcasting must also be coordinated with equivalent plans from the public broadcaster, Swedish Radio. Reductions in commercial radio's analogue license fees associated with digital initiatives, would further welcome the digital opportunity.

#### **Key features of the digital strategy:**

- The licenses will be decided in the form of a beauty contest, no auction. There will be only a smaller administrative fee for application and annual use of spectrum.
- The technology T-DAB and compatible technology should be used and DAB+ could further be specified in the license conditions.
- The entire broadcast space that the government has dedicated to digital commercial radio, two multiplexers in band III, each divided in 34 regions, will be included in the licensing process.
- It will be possible to seek licenses for both national and regional broadcasts. How many such permits granted and the breakdown between national and regional licenses will be determined after an overall

assessment of the applications received in each region.

- There will be no requirements in the license for an average minimum or maximum bit rate per service. Each applicant should state their capacity needs per service knowing that the starting point of licensing is that each transmitter can accommodate max 16 services @72 kbit/s each.
- The license holders shall cooperate in technical matters including choice of network operator. Coverage requirements may be imposed to ensure that the digital broadcasts reach a certain proportion of the population within the broadcasting area.

Digital radio is much more frequency efficient and cost-effective than analogue radio and will bring a much broader range of services to households all across Sweden. It is now up to commercial broadcasters to make investments in a digital future, knowing it is the only way to launch new nationwide services. If it turns out that the commercial interest is low, "the question of another use of the spectrum may be appropriate" writes the Post and Telecom Agency in their views on the digital strategy.

by *Per Gunnarsson Borga*, Teracom AB

# DAB in Cars

## BMW M5

The new BMW M5 is the fifth-generation model of BMW's high-performance model goes on sale in November.

On the outside, the M5 is all-but identical to the M5 concept car unveiled at the Shanghai motor show in April. The interior has a similarly sporty makeover. There are bespoke M Sport seats, unique metal trim, M5 badges and Merino leather upholstery. Standard kit includes a head-up display, DAB digital radio, four-zone climate control, xenon headlights and sat-nav.



BMW M5

## Mini Coupe

This is the fifth Mini model after the Hatch, Convertible, Clubman and Countryman. It hosts equipment including DAB digital radio, air conditioning, park distance



Mini Coupe

control, alloy wheels, 3-spoke sport leather steering wheel and sport stripes on the body work. A wide range of accessories and personalisation choices will also be available.

Available from October.

## Ford Focus Estate

The Ford Focus estate offers extra space and flexibility.

Compared to the five-door it is 20cm longer, has 10cm greater width between the wheel arches and a maximum load capacity of 1,502 litres (in two-seat mode). Additional standard equipment includes



Ford Focus Estate

Bluetooth and voice control, USB connection, DAB, Thatcham Category 1 alarm, aluminium roof rails, tonneau cover, driver lumbar adjust and torque vectoring control all as standard.

## SEAT Leon FR+

The SEAT Leon FR is now available with a 1.4 TSI 125PS engine with manual transmission or 2.0 litre TDI CR 140PS available with manual and DSG transmission.

The SEAT Leon FR+ also includes 18-inch 'Ibera' alloywheels; the SEAT Media System 2.2, including satellite-navigation with five-inch colour touchscreen and dynamic route guidance, DAB radio, Bluetooth audio streaming and SD card slot; Bluetooth phone connection; Bi-xenon headlights with AFS (Adaptive Front-lighting System) and front parking sensors.



SEAT Leon FR+

# Receivers for DAB, DAB+ and DMB

## NOXON DAB/DAB + USB Stick

NOXON has presented a USB stick, allowing the reception of DAB / DAB + programs on the PC. Plug in the NOXON DAB stick in a free USB port on a computer or notebook, install the enclosed software and enjoy the quality of digital radio. The software is developed in cooperation with the Fraunhofer Institute and designed especially for excellent DAB reception. Available now for €19.99.



## PURE Evoke Mio by Orla Kiely

Following Pure's first collaboration with designer Orla Kiely, a further update of the Evoke Mio radio featuring a new print has been introduced. Displaying a slate grey Abacus Flower print, along with a walnut-veneered cabinet, a mirror chromed handle and a cream-coloured

plastic fascia, the radio includes both DAB and FM tuners, along with an 3.5mm input for iPods and other MP3 players. As well as a mains power supply, the radio can be used with Pure's optional ChargePAK so that it can be moved around portably. Along with an OLED panel with automatic brightness adjustment, the new Pure Evoke Mio includes an alarm, kitchen timer and 30 presets. Available exclusively from John Lewis and Orla Kiely stores, United Kingdom from 10 August priced at approximately €171.



## Teac 'Mini Aurb' iPod Dock

The Teac 'Mini Aurb' iPod Dock is a more compact version of the original SR-100 model. It has a similar curved design, and is equipped with a DAB/FM radio as well as an iPod dock.

Users can select playlists, artists and albums using the remote. The 'Mini Aurb' also offers a composite video output on the back for connecting to a television. External analogue devices such as an MP3 or CD player can be connected via the stereo's RCA sockets. Available now in black/silver, grey/silver and red/silver finishes. Approximately €171.



## LASER DAB-DG200AM digital radio

Australia's LASER Corporation has released the DG200AM. The DG200 is a portable device (battery operated) and can also be plugged into the wall socket (240v). It contains



a 2 row LCD display which shows scrolling broadcast information such as station name, song title, and weather updates.

Users can also set up 20 of their favourite stations as presets.

Available in Australia from approximately A\$71.



**MAGICBOX TOWER 212059**

The Magicbox alarm clock allows you to both play and charge your iPhone and iPod. It also acts as DAB/FM radio. You can wake up to DAB, FM, your iPod or iPhone. It has a large, clear LCD display and a dual alarm so the sound can be different between weekdays and weekends. There are also bundled station presets and you can scan for available stations.

Available now for approximately €79



**PURE Twilight**

Twilight combines an energy efficient lamp featuring flexible lighting options with a digital and FM radio alarm clock.

Twilight's six LED lights use 5.4W and provide a whole range of lighting options from a warm glowing nightlight, dawn simulation and coloured mood lighting to a simple bright reading lamp.

Twilight is also a fully featured DAB digital and FM radio or you can plug in your iPod/MP3 player. You can set up to four alarms with optional dawn simulation, plug in USB accessories or charge your mobile using the PowerPort. Other features include a headphone socket, sleep timer, large autodimming LCD display, touch-sensitive controls and satin-touch finish.

Available commercially, at approximately €150.



**NAD C 446 Digital Media Player**

NAD's C 446 Digital Media Player offers the latest technology in digital media networking, supporting all the popular digital formats -MP3, FLAC, WMA, WAV, and AAC. Aside from music stored on networked-devices, the C 446 seamlessly allows the listener to enjoy DAB/DAB+ radio, FM/AM, and Internet, with improved audio

quality. With 24bit/192kHz DAC audiophile quality and analogue audio circuitry, the music enthusiast is able to enjoy quality reproduction of their music collection. Available commercially now for €793.



**TAKE Janus KM-S200**

Powered by Google's Android 2.3 Gingerbread, the TAKE Janus KM-S200, 1 GB RAM, and a 4.3-inch qHD display. The Janus KM-S200 can record videos with 1080p HD resolution and capture stills up to 8 Megapixels resolution, and features a DMB-TV digital TV tuner, SRS WOW HD audio, and Sennheiser earbuds for a rich multimedia experience.

Also featuring a split-screen landscape orientation format, the KM-S200 allows users to manage tasks simultaneously, displaying two apps on two sides at once. Available in black, white, and dual-tone black and white.

Launch date unknown, will cost approximately €520.



**Navi Smart S**

Thinkware, a Korea based company, just announced the "Navi Smart S" a new Android 2.2 Portable Navigation System / Tablet for the Korean Market. This Navi Smart S comes with a 1GHz Cortex CPU, 512MB of RAM, a WVGA Multitouch screen, DMB, HDMI out, 8 or 16GB of internal memory, WiFi, Bluetooth and 3D Maps for navigation.

Available in Korea, €195 EUR (approx.)



**Professional Equipment**

EDI for the Harris® Platinum™ transmitter series. Harris has developed another innovation for the DAB market. Expanding

on Platinum™ - the popular, VHF series of liquid-cooled (VLX) and air-cooled (VAX) solid-state transmitters that incorporate the Harris® PowerSmart® technology and the Harris® Apex™ M2X multimedia exciter to provide unmatched performance, reliability, efficiency and quality – these transmitters now feature ETI over IP, know as an integrated EDI interface. The EDI signals are fed directly to the Platinum DAB transmitters, giving the customer the ability to use existing IP infrastructure, instead of having special E1 distribution networks for DAB and eliminating the hassle of control and monitoring from an external box and reducing costs for terrestrial network operators.

**SMCNS DABAir-SFN** a professional T-DMB/DAB+/DAB RF field test solution that can measure CIR (Channel Impulse Response) and Constellation value for SFN network planning and field measurement. This system has FPGA based Demodulator that provides a reliable SFN measurement feature on top of industry-proven comprehensive monitoring and analysis of T-DMB/DAB+/DAB services of the existing DABAir II Plus Service monitoring receiver. We can offer set top box type and 2U rack mount type platform for both fixed and field measurement environment. The set top box type model can be connected to a lap-top PC through USB interface and it provides great mobility for field testing.



**The DABAir-STB** set-top box is a pure hardware product ideal for any transportation applications enabling T-DMB TV and DAB+ digital radio presented on wide LCD TV for the bus, train, tram or other public transport. Just by turning on the vehicle engine, you can start the broadcasting automatically while easily controlling anything by remote control as well as easy and economical maintenance. DABAir-STB supports both Band-III and L-band. An embedded splitter inside the box achieves display on two LCD monitors without extra cabling or device connections.



**UBMT-P1** compact portable media player can bring you T-DMB mobile TV, DAB+/DAB digital radio, FM radio, multi-media player all-in-one ergonomic receiver device. Turn on mobile TV and stay tuned anywhere you have T-DMB/DAB+/DAB coverage or FM radio. Whether you want up-to-the-minute news or entertainment that travels with you while you're on the go, now you can surf your favorite shows on your mobile screen.

One of the UBMT-P1's leading features is its 13mm slim design, weighing only 120g with a 4.3 inch LCD screen. It's ultra-light to carry, and extremely comfortable to hold while you enjoy the wide screen.

A micro SD external memory slot allows large storage and the USB mini

cable lets you recharge the battery at your convenience.



**DIGIDIA's DAB/DAB+/DMB Test Products**

DIGIDIA recently introduced a new product line for DAB/DAB+/DMB test purposes. These products are the following:

**EasyCAPT:** Capture On-Air services and save them as ETI file for replay. EasyCAPT is a portable USB based RF receiver delivered with a PC software. Supports both Band III and L-Band.

**EasyDAB:** Generate live ETI files and save them as ETI files for replay. EasyDAB is a 1RU industrial PC with embedded encoders, data insertions and multiplexer to generate a live ETI signal to an optional RF modulator. Includes an ETI recorder and re-player.



**EasyPLAY:** Replay ETI files from EasyCAPT or EasyDAB or WorldDMB ETI libraries. EasyPLAY is a combination of an ETI player (1RU industrial PC) and a modulator with low power RF output (Band III or L-Band). Can be easily converted to an EasyDAB (software license).

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