Eureka!
Reaching out to the WorldDMB Community

March 2011

WORLD DAB

Issue 13

DAB: Greener radio

DAB digital radio is easy to use, offers greater choice, more interactivity - and it's greener than FM!

The population of the world reached 1 billion people by 1800; in 1922 there were 2 billion and over 6 billion by 2000. It is estimated that the population will swell to over 9 billion by 2050. That's a lot of people, and a lot of products that they use. There's no doubt that every person on the planet needs to think about 'going green'.

The digital radio industry is also thinking about how to reduce energy consumption, which in turn can be passed on to the consumer. After all, not only is less power consumption good for the environment - it also lowers your electricity bill.

Digital radio sets in the market today are far more energy efficient than earlier models. Did you know that a typical DAB kitchen radio consumes a fifth less power than an 11W energy saving light bulb? In fact, listening to a typical DAB radio all day long consumes less power than boiling a kettle for a cup of tea!

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Address from Jørn Jensen, WorldDMB President


Jørn Jensen

I would like to welcome you to the first Eureka! of 2011.

I was elected President of the WorldDMB Forum by the General Assembly in October 2009, and feel privileged to represent our membership of over 80 companies across the world. WorldDMB is "the" global forum for the DAB family of standards. We have a wealth of information amongst our 700+individuals within our company membership, from every sector of the international digital broadcasting industry, and it has been a pleasure to meet so many of you in 2009 and 2010. I look forward to meeting many more of you this coming year as we travel to events and conferences from New Delhi to South Korea to Tromsø! 2010 was a fantastic year for the DAB family, with much encouraging news and positive activity from individual markets, as our Project Director Bernie O'Neill outlines on Page 4. The membership of the WorldDMB Forum grew by 15 new members last year alone, despite the economic situation.
I believe that in order to continue the successful roll out of DAB/DAB+ and DMB we need to understand three key points. Firstly, it is vital that change comes from within, and we need to ensure that more broadcasters understand that, quite simply, the future is digital. Secondly, and in line with the first point, double distribution on both analogue and digital platforms is a heavy financial burden to these broadcasters. We must strive to ensure that thought and effort is put into a considered plan of digital switch over to reduce this burden and ensure that the platform can be financially viable. And lastly, DAB, DAB+ and DMB are robust, mature and, crucially , mass market- ready technologies. There is no alternative technology now that can match them for one-to-many digital terrestrial broadcast. There is no future technology just around the corner which will be a replacement within a realistic timescale. We have the perfect solution for radio which is already launched around the world, offers a possibility of a harmonised international market, and gives the consumer greater choice, higher quality and access to the lowest cost radios.
I urge you to join with WorldDMB and make 2011 a year of action and success for DAB, DAB+ and DMB!

DAB. Greener radio

continued from front cover

An Energy Saving Recommended accredited PURE digital radio uses on average around 5 times less energy than listening to the radio through a laptop, 20 times less energy than listening through a desktop computer and 40 times less energy than listening to the radio through a TV with a Freeview set-top box. PURE has 15 energy saving recommended radios.
Listening to the radio through the internet (GPRS/3G/WLAN) consumes a lot of electricity. A DMB/DAB/DAB+ chip uses 25-60mW (milliwatts)of electricity. A WLAN/GPRS/3G chip uses 1-7W (Watts). That means that DMB/DAB/DAB+ chipsets use between 0.36% and 6% of an IP chip - 0.36% is one two-hundred-and-eightieth (1/280)!
In other words, the DAB family is a greener and much more environmentally friendly technology. And it makes batteries last longer.

Batteries

The battery consumption of modern digital radios is significantly better than older models. In some cases, fewer batteries are needed to run a digital radio than an analogue one.

An average listener listens to radio around 20.5 hours a week which equates to 1066 hours a year. If the listening is via a radio running from batteries, a radio that takes 6 C cell batteries would typically need replacement batteries 30 times in that year which would cost around £330. A PURE ChargePAK (rechargeable battery pack) costs £29.99 which offers a saving of over £300 a year, and will in fact last much longer than that.
Solar powered sets are now available and are becoming increasingly popular as a consumer choice.

Transmission power

DAB technology can transmit around a dozen stations with one signal, so it only needs one set of transmission equipment. This leads to smaller transmitter buildings, less manufacturing, lower transport costs, less packaging, and less fuel.
A single DAB program can be transmitted at 1/25th the power of an FM program. In a country the size of Sweden, for example, this saves enough energy to power 7,500 apartments for a full year.
In Switzerland, the ERP (Effective Radiated Power) of an FM network is 1200 kW, whereas the ERP of a DAB+ network is 300kW, while in Norway, the power consumption per main transmitter is 14kW/1 channel for FM, which is equal to 14kW per channel; and for DAB it is 8kW/10 channels – or 0.8kW per channel.

PURE Twilight – uses energy efficient LED technology

The PURE One Mini portable digital radio can be used with the rechargeable ChargePAK

What can be done with old FM receivers?

Not all analogue radios will have to be disposed of. In many cases, radio is embedded into another device, such as a CD player or stereo system, and those devices won't be disposed of as they are used for other purposes.
As markets come closer to digital switchover, it is expected that more converters which will enable analogue sets to receive digital signals (which are already available today) will come onto the market for high-end stereo systems etc.
The UK and Norwegian digital radio markets have started schemes to ensure that electrical appliances at the end of their life are reused or recycled, minimising the environmental impact. Government directives (such as the WEEE Directive in the UK) are encouraged, and aim to encourage everyone to reuse, recycle and recover electrical equipment – including radios.

Background Radiation

A test measuring background radiation showed clear results that a passive DAB/DAB+ receiver does not generate the sort of electromagnetic field that streaming to a wireless device does. Unlike listening to FM or DAB/DAB+ radio, streaming via a Wi-Fi or 3G connection uses a return channel, meaning that the receiver also acts as a transmitter.

For further reading please see link below or contact the WorldDMB Project Office.
http://www.garfors.com/2011/01/dab-vs-fm-on-power-consumption.html

2011 – Focus on rollout


Project Director – Bernie O'Neill

Thank you to all for welcoming me into the WorldDMB family! I am delighted to join the Project Office at this exciting time as support for DAB as the digital standard of choice for radio broadcasting continues to grow.

2011 is shaping up to be a highly successful year for WorldDMB with Norway recently announcing FM switch off by 2017, UK with a target switch off date of 2015, all digital receivers in France digitally enabled by 2013 and in-car radios by 2015, and Germany recently announcing the launch of DAB+ national radio licences in 2011(see page 6 for detailed information on the German market). Our Asia Pacific update on page 8 gives detailed information on the rollout of the standard across the Asia Pacific region with an expansion of DAB services becoming available in China, Vietnam, Malaysia and Hong Kong. We have clearly entered a period of transition from FM to digital broadcasting.

With this growing trend towards adoption of the DAB family of standards, WorldDMB has emerged as 'the' point of reference and resources related to rollout, market development, technical and regulatory issues. WorldDMB members embody an incredibly valuable range of industry experience, knowledge, business cases and best practice. The Project Office's role is to facilitate the extension of that body of knowledge and make it available to countries and industry players as they make the transition from analogue to digital.

All of this means that 2011 sees the WorldDMB Project Office increase its focus on marketing, PR and lobbying activities (read more about the recent WorldDMB workshop on Best Case Commercial Radio Stations on page 7) while continuing its core work of maintaining the integrity of the digital standards. We will continue to build on the progress made in Germany, France, Italy, and in the Asia Pacific region, as well as continued lobbying at EC level and further development of the automotive and mobile industries. Through a focused portfolio of activities WorldDMB will increase its impact on industry development and provide real value to its members.

I look forward to meeting with you soon and to a collaborative and productive 2011!

The WorldDMB Project Office

Bernie O'Neill – Project Director.

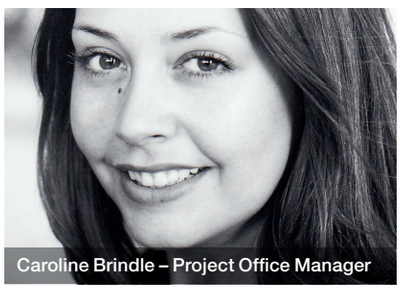
As Project Director Bernie has overall responsibility for the direction and day-to-day management of WorldDMB's international activities as well as development and implementation of the Forum's strategy. Bernie is an experienced industry association professional who has worked in the areas of marketing and communications, sponsorship development, membership management, association governance and management of stakeholder relations. She brings to WorldDMB her experience in organising and participating in global industry fora and events and speaks fluent French and Spanish. Bernie says: 'It's a very exciting time to have joined WorldDMB – we are seeing increased momentum and activity as digital radio switchover moves from debate to reality, and with several countries legislating a timeframe for migration'.

Caroline Seville – Marketing Manager.

Caroline Seville joins WorldDMB Forum as Marketing Manager. She is responsible for the management of marketing, communications and public relations efforts, events and oversight of the corporate image and brand identify of WorldDMB. Caroline brings marketing and business development experience from the commercial, arts and not-for-profit sectors. Directly before joining WorldDMB she worked for a leading UK membership organisation where she oversaw corporate rebranding, rebuilding the website, implementation of a membership growth strategy and the introduction of an online membership scheme. Caroline says: 'It is a privilege to direct WorldDMB Forum's marketing efforts and to work with members to help realise the future of digital and multimedia broadcasting'.

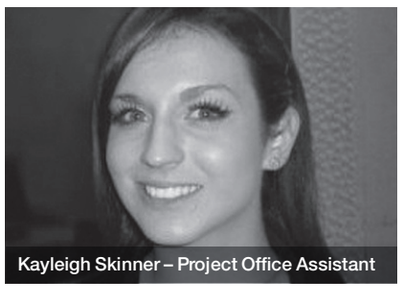

Caroline Seville – Marketing Manager

Caroline Brindle – Project Office Manager.


Caroline Brindle – Project Office Manager

Caroline has been with WorldDMB for two and a half years, starting initially as Membership Liaison Officer, and now holding the role of Project Office Manager. Caroline is responsible for the management of the Project Office, including overseeing and attending the WorldDMB Committees, and ensuring day to day business and interaction with members is smoothly implemented. She develops member benefits and communication, in order to serve the members best and assists the Project Director with developing strategy. Caroline also produces the Eureka newsletter and oversees management of the WDMB website. She says "There have been many changes in the world of DAB in the last few years, but 2010 had a real sense of forward momentum and activity – we're all looking forward to what 2011 brings."

Kayleigh Skinner – Project Office Assistant


Kayleigh Skinner – Project Office Assistant

Kayleigh joined WorldDMB in November 2010, and is already a main point of contact for many of our members. Kayleigh organises the WDMB Committees, and assists with various events, workshops and travel itineraries. She is the focal point for all initial membership queries and is responsible for the administrative management of the WDMB website. Kayleigh says "I enjoy being in contact with so many of our members from across the globe, and am looking forward to meeting many more members in 2011."

High radio activity at the EBU during the Radio week.

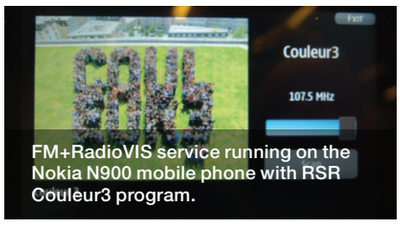
Bernie O'Neill addressing EBU

The EBU Digital Radio Week 2011 took place in Geneva from 14 – 18 February. It was the second year of the Radio Week, which brings together radio organizations working on standardization and promotion of Digital Radio in a wide sense: Digital Radio Mondiale, IMDA, RadioDNS and WorldDMB. These four organizations are also represented by the European Digital Radio Forum (EDRF), a group created last year by the EBU to enable discussion, exchange and possible common actions.

Workshops

This year there were also two "hands on" technical workshops intended for engineers or developers. The first was the Open Software Defined Radio workshop with Communication Research Center Canada (CRC) where participants learned how to setup their own DAB/DAB+ transmission using the free open tools developed by CRC. The second workshop was hosted by RadioDNS and enabled participants to learn how to use free, openly available RadioDNS tools to produce basic hybrid radio applications. Using the EBU Technical RadioDNS/RadioVIS server, three EBU member broadcasters were able to create a basic visualization service for their stations. This experimental service created by EBU Technical lab is intended to offer a boot solution for broadcasters and to break the common "chicken-and-egg" situation between receiver manufacturers and broadcasters, by having more broadcasters ready with the system.


Participants from TELEKO (Czech Republic) producing a L band DAB transmission using CRC mmb Tools on their laptop and a Universal Software Radio Peripheral (USRP, black box in the front).



FM+RadioVIS service running on the Nokia N900 mobile phone with RSR Couleur3 program.

Organisation meetings

The EBU also hosted meetings from the following organisations: the DRM Technical Committee, the RadioDNS 2nd General Assembly (RadioDNS celebrated its first birthday at the Digital Radio Week!) where the new steering board was elected, and the IMDA held their Technical Committee, Task Forces and Steering Board meetings. The WorldDMB Technical Committee took place on Thursday, and proved to be a very productive meeting where, amongst other work commissioned, a new taskforce was created to produce best practices for digital radio service following.


European Digital Radio Forum meeting

EDRF: European Digital Radio Forum

The presidents and other representatives from the four organisations of the EDRF met to discuss further actions. In particular, there was an action approved to undertake 'soft' lobbying at a European level to promote radio's future, and ensure that radio as a media is considered in the agenda of member state administrations. The EDRF also met with Mr Philippe Lefebvre from the European Commission in this regard.

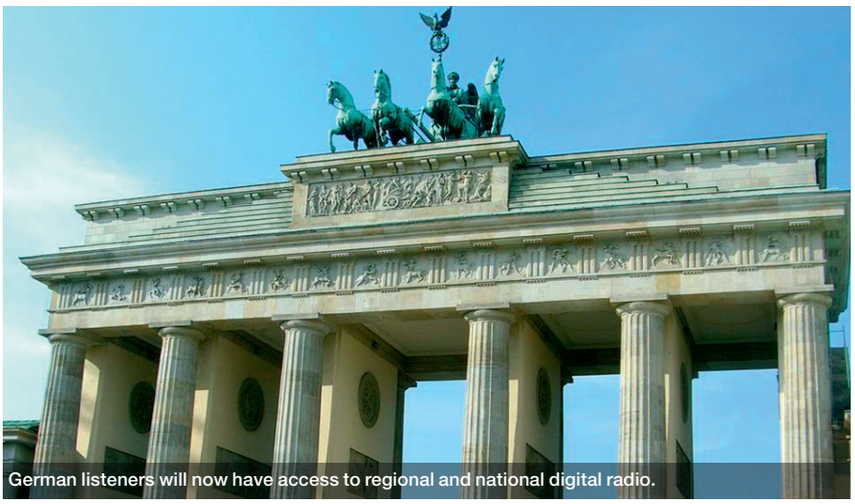
The Radio Summit

In the middle of the week, the Radio Summit was the public event, with over 120 attendees. This very successful day offered delegates presentations on digital radio business cases, technical developments and updates with news and deployment status of the different digital radio systems.

All presentations and recordings can be found on:
http://tech.ebu.ch/events/digitalradio11

Mathias Coinchon, **EBU.**

Germany looks to the future with DAB+



German listeners will now have access to regional and national digital radio.

In December 2010 the broadcasters joining the national DAB+ multiplex in Germany signed the contracts to start rolling out digital radio. These contracts were signed by the network operator Media Broadcast, the public broadcaster Deutschlandradio and six commercial broadcasters. In signing these contracts the fund for the development or migration of regional networks to DAB+ were also released, meaning German listeners will now have access to regional digital radio and to national digital radio.

The next stage of the process will see the networks being rolled out and the start of a marketing campaign to raise awareness amongst retailers and consumers. The 'kick-off' meeting to decide on how to move forward was held in February 2011 at the Federal Ministry of Telecommunications (BMWi) and was attended by Ministry officials, commercial radio broadcasters, public broadcasters, the car industry, the Media Authority (regulator) and other key players in the market.

At this meeting these different players came together to show their support for digital radio and to discuss next steps. The key theme throughout the meeting was that this was the time for digital radio in Germany.

Mr. Gundlich from the Federal Ministry said "There is a window of opportunity for digital radio and in order to meet this we must see a co-ordinated approach from all players".

Mr Helmut Bauer who represents the commercial broadcasters also emphasised, "Focused activity is needed by the industry throughout 2011".

The Federal Minister first gave details of the Telecommunications Law which is currently being drafted. This Law will include a date for the mandatory inclusion in all receivers of digital radio. It also sets out a potential date for migration to digital which is believed to be at the end of the current FM license period. This Law will be passed later in 2011.

Mr Thomas Wächter, Media Broadcast, outlined the plans for the roll out of the nationwide multiplex. In the first phase 27 sites will be constructed covering the major cities with 40% population coverage. Completion of this first phase is due on 1 August 2011 and, as noted by those who attended, all activities should be undertaken with this date in mind. Further phases will see up to 90% population coverage achieved with a view to completing this by 2014/2015.

Mr Bauer, who has been instrumental in moving the national multiplex negotiations forward, gave a presentation focusing on the importance of digital radio for the German radio market. He informed the audience that there were three remaining spaces on the multiplex and tenders for these spaces were sent out early in January. This tender process is now complete and four applicants have applied for these final three spaces. A decision will be made during March on who will be the final recipients of licenses through a beauty contest process. Mr Bauer also informed the audience that a company has been set up, Deutschland Digital Radio (DDR), to co-ordinate the efforts of the companies who are part of the national multiplex.

Presentations were then given by each of the commercial broadcasters who currently have space allocated on the national multiplex. Each company outlined their goals in joining the race to go digital. The majority highlighted the benefits DAB+ has over analogue especially in terms of data, multimedia and applications which all contribute to a richer radio experience. There was also a feeling that digital radio was another platform on which radio stations can distinguish themselves and therefore they need to be there first.

This was a meeting very much to show that the radio market is 100% behind the developments in Germany. Companies showing support included WDR, BLM, Sony, Dual, Kenwood, Revo, Pure, the German automotive association VDA, the marketing organisation MCDT, Fraunhofer IIS and Frontier Silicon. All of these companies agreed that working together was the key to a successful launch of digital radio in Germany.

Other areas which were also highlighted of importance were a speedy network roll-out, raising consumer awareness, market penetration of the right receivers at the right price and support from the international digital radio market.

The final part of the meeting focused on the next steps which need to be taken in Germany. Andreas Schneider, Sony, gave a presentation which included information on the five Working Groups which are being set up to co-ordinate the work to make digital radio a success. Each Working Group has a specific task which will move the market forward, the Groups are: Receivers, Data and Traffic Information, Broadcast Network Expansion, Marketing and Advertising. The different supporters of digital radio were asked to sign up for these groups and their work will commence in the next couple of weeks with start up meetings planned for March.

This was an exciting first meeting which gave the industry the opportunity of seeing for the first time the support for digital radio in Germany from the radio industry and for setting in motion the plans for the launch on 1 August 2011.

It was confirmed on the 23rd February 2011 by BMWi, the Federal Ministry in Germany, that the funds for public broadcasters to develop the regional and national DAB+ networks have been approved for release by the KEF. The KEF is the German body that distributes the proceeds of the licence fee among the public-service broadcasters. The nationwide DAB+ multiplex will launch on 1st August 2011.

WorldDMB focuses on auotomotive

In most markets, on average half of all radio listening is done in cars

In most markets, on average half of all radio listening is done in cars - so the car industry remains a major target for the digital radio industry. With this in mind WorldDMB is continuing its work with the car industry to ensure frequent updates and a closer communication regarding digital radio continues.

Two years ago WorldDMB started its Car Manufacturers Task Force which brought together all members with an interest in the automotive market. This Task Force looked at the most suitable way to build relationships with car manufacturers and equipment suppliers. To start this dialogue WorldDMB contacted the major automotive manufacturer associations in two countries: the VDA in Germany and the SMMT in the UK. Meetings with both organisations provided WorldDMB with invaluable contacts within the car industry and also formed the basis for what was to become one of WorldDMB's most successful events. These meetings resulted in a strong consensus that the car industry and the broadcasting industry needed to spend more time together. On both sides there was a need for more information on technology, future strategies, coverage, receiver functionality, content and information on market development. So in the spring of 2009 the first WorldDMB Car Manufacturers Workshop was hosted by Robert Bosch in Hildesheim, Germany. There was a high attendance list with delegates including Audi, Blaupunkt, BBC, BMW, Clarion, Continental, Daimler, DR Denmark, Delphi, Denso, Ford, Fubu, Fujitsu, Global Radio, Harman/Becker, ITIS, Jaguar/Landrover, Mitsubishi, NRK, PSA Peugeot Citroën, PURE digital, Radio France, Renault, Sveriges Radio, Skoda, TomTom, Toyota and many more.

The success of this event in bringing together the industries was followed up in 2010 with the second WorldDMB Car Manufactures Workshop hosted by ST Microelectronics in Munich, Germany. This was another highly successful event, with twice as many attendees, and which built on the momentum and information exchanged in the first event of the series. These WorldDMB Car Manufacturer events are now recognised by the car industry as vital for information exchange between the digital broadcasting and automotive industries. WorldDMB is currently in the planning stages for the 3rd Car Manufacturer Event, which will be held in Japan in Q2/3 with a view to increasing cooperation and communication with the car industry there. We will send all the necessary information out to our members in due course. For more details please contact the Project Office.

Seminar on "Best Case Commercial Radio Stations"

On 2nd March there was a workshop in Paris held by the WorldDMB Marketing Committee and kindly hosted by Continental. The Marketing Committee has recently amended its remit and is now open to non-members. This change was effected in order to add increased value to the MC members, and the Committee now operates as a networking body, with a core objective of sharing best practice within the industry.


Delegates in Paris heard about successful commercial stations

As mentioned by Presdent Jørn Jensen in his address on Page 2, a vital factor in the success of digital radio is commercial broadcasters seeing a viable and financially successful business model for broadcasting DAB, DAB+ and DMB. WorldDMB recognises the need to reach out to commercial broadcasters and offer support and information – and the Marketing Committee seminar in Paris was a successful starting point.

The seminar started the evening before with an "apero" drinks reception in the 16th eme. Over 40 delegates attended the workshop the day after and heard about successful examples of commercial stations from presenters from across the world including Germany (Regiocast), Sweden (Teracom and Radio Intelligence), Switzerland (MX Labs), UK (Absolute Radio and Global Radio), Norway (P4), Australia (CRA), Nik Goodman Media (presenting on various European stations) and Ireland (Digital Radio Ltd).

This very informative day was indicative of the value of sharing best practice on commercial stations, and we would like to thank everyone who attended and presented.

WorldDMB will continue to support, encourage and assist commercial broadcasters – please contact caroline.brindle@worlddab.org if you would like more information on this.

Continental®

Asia Pacific updates

Hong Kong – three commercial licences soon be issued

China

Chinese DMB Operator, GTM, will provide the DMB and CMMB services during the Asia Games in Guangzhou, the biggest province in China, later this year. GTM also plan to order 50,000 DMB receivers the Asia Games.

Beijing Jolon, the biggest local broadcaster in Beijing has launch 'Push Radio' based on DAB in 2010 in Beijing. Beijing Jolon broadcast 30 hours - or 25 program channels every day through Push Radio. 16 Audio programs are broadcast 15 times per day and downloaded onto receivers. Value added services such as news, data and slideshow have been provided into the Push Radio services

In Nov 2010, Beijing Jolon and Commercial Radio Australia signed an agreement to development 'Push Radio' applications based on DAB+.

Vietnam

VTV has been broadcasting T-DMB services on air in Ho Chi Minh City since Dec 2010 with 3 transmitters covering the city area.

VTV launched 2 TV channels and 1 Radio DAB service in Hanoi at the beginning of 2010 and by the end of 2010, VTV had increased their services to 6 TV channels and 1 Radio. There are currently 3 multiplexers in Hanoi.

ETRI has performed a T-DMB Total Solution integration test with VTV, Broadtech SC from 1st October to 7th October 2008 in Hanoi. T-DMB Total Solution has been developed by ETRI to provide a T-DMB pay service and includes CAS (Conditional Access System), MOS (Monitoring Operating System), CMS (Customer Management System), and BS (Billing System). VTV plans to draft a Memorandum Of Understanding with ETRI and launch a T-DMB commercial service in Hanoi in 2011.

At present, VTV is planning to apply for a new national licensee to carry out T-DMB services nationwide, which aims to cover 10 cities in Vietnam in the next 2 years.

VTV have partnered with XONE FM, a radio station with a target focus of young audiences, to provide digital radio content through T-DMB networks. VTV plan to launch self-branded mobile phone receivers at a retail price of approx $100 per unit.

VTV has been granted a 15 year digital broadcasting license in 2011 to provide T-DMB services and also plans to apply for a Telecom operator license in the near future in order to converge digital broadcasting and telecom services in Vietnam to provide more diverse services including data and traffic services.

Malaysia

Malaysia RTM is currently broadcasting a 2 year DAB+ demonstration, which was launched in 2009.

Hong Kong

In HK, the Government will soon issue DAB+ licences to three commercial operators - DBCHK (formerly Wave Media), Metro Broadcast and Phoenix U. The number of DAB+ channels is expected to be 7, 3, and 3 respectively. RTHK will be allocated 5 channels, hence the total on Mux 11C in VHF Band III is 18.

The four DAB+ industry stakeholders have formed an Industry Working Group, with a Technical Committee looking after detailed network implementation, and a Marketing Committee planning marketing and promotional activities. DBCHK is planning to pilot-launch its DAB+ services from 3 hill-top sites (Mt. Gough, Beacon Hill and Golden Hill) from March 2011. The other 3 players are expected to commence their services after the rest of the primary network is completed by Q4, 2011 when the official DAB+ launch is expected to occur. Network implementation under the Technical Committee of the Consortium incurs two major tenders, one for network consultancy (including computer-based network coverage studies) and another for network construction. The former has already been awarded and the latter is being prepared for issue shortly. The primary network will use the 7 existing FM hilltop sites, for expediency. Additional gap-fillers will be implemented later.

The DAB+ network capital costs will be shared among the four players based on their respective channel allocations whilst RTHK will operate and maintain the network on behalf of the Consortium.

DAB in Cars

Astra ES Tech

Vauxhall has introduced a new trim level, ES Tech. The ES Tech comes as standard with sat-nav, a seven-speaker CD player with iPod input, Bluetooth, a DAB radio, 17-inch alloy wheels and air-conditioning. And that's on top of the standard equipment already found in most Astra models, such as curtain airbags, ESP, daytime running lights, cruise control and steering wheel-mounted audio controls.

Astra ES Tech

New VW Passat

The new Volkswagen Passat is available in a choice of three trim levels: S, SE and Sport.

New VW Passat

The entry-level S trim has been upgraded with a standard iPod connector and multifunction steering wheel. SE gains an eight-speaker stereo with DAB digital radio, Bluetooth, and driver fatigue detection system.

The Sport includes touch-screen satellite navigation system as standard. Six airbags, stability control and anti-whiplash front headrests are included right across the range. VW is claiming significantly improved refinement in the new Passat.

Ford C-MAX

Ford's new C-MAX and Grand C-MAX are packed with standard 'infotainment' features to keep the family connected, including Digital Audio Broadcast (DAB) tuner and next-generation audio and navigation systems. C-MAX and Grand C-MAX are the first vehicles within the Ford range to have DAB as standard on all models.

The new 5-seat C-MAX and 7-seat Grand C-MAX are the perfect combination of innovation, style and flexibility. Available in two trim levels (Zetec and Titanium). Standard equipment includes 16" alloys, air-conditioning, a Thatcham alarm, Bluetooth and USB connectivity with voice control.

Ford C-Max

Receivers for DAB, DAB+ and DMB

Sony XDR-S16DBP

This Sony digital clock radio comes with stereo speakers and DAB+/DAB(Band-III)/FM functions. The XDR-S16DBP features wooden box design, a thin glossy piano black top panel holds a two-line LCD screen where you can navigate through menus and options. Including 20 station presets (10 DAB, 10 FM), stereo speakers, 16 × 2 lines character dot display, wooden Box design, easy to use simple operation and AC operation (AC adaptor supplied). Commercially available now, from approx €146.

PURE Oasis Flow

The Oasis Flow is a rechargeable internet-connected radio that can withstand the rigours of outdoor life thanks to its rugged weatherproof case, cast aluminium framework and rubber seals. Oasis Flow combines digital radio and FM reception with a Wi-Fi connection. Commercially available from approx €250

Sony XDR-C706DBP

The Sony XDR-C706DBP DAB+ is a digital clock radio. The left half of the front panel features a blue-on-black LCD screen that shows the time. On the right side of the front panel sits the 6cm, 0.4 Watt mono speaker. The rear of the Sony XDR-C706DBP DAB+ clock radio has a glossy white finish, while the top panel houses the navigational controls. It can store up to 20 radio station presets: 10 for FM stations and 10 for digital stations. Available commercially from approx at €109

Parabola DAB/FM radio

The Parabola is an easy to use DAB/FM radio comes with buttons above the display to change functions and the clear LCD screen shows the menu settings, radio station details and clock. It has an integral handle to carry from any room to another. The dual alarm clock offers the choice to wake up with the radio or alarm, 20 station presets provides quick favourite station selection with manual or auto tuning. Commercially available from approx €59

Geneva Sound System Model S

The Geneva Sound System Model S DAB+ is an upgraded version of the Model S with digital radio. It comes complete with a motorised iPod dock, remote control and alarm clock, a digital radio tuner and the ability to tune into a station by name rather than frequency. Retailing from approx €589

Quest Retro1

This retro designed radio can receive DAB broadcasts in Europe and other countries that support the digital standard. Using battery-power it will play music for up to 15 hours. The radio also includes a dock for an iPhone or iPod and an LCD screen and retails for approx €118.

Samsung Wave II (SHW-M210S)

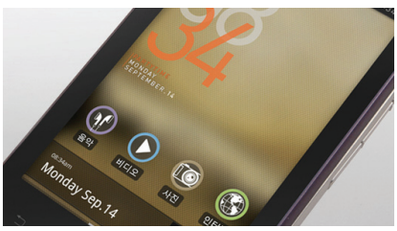
The Wave II (SHW-M210S) has been launched for the South Korean market and will be available via SKT. The phone features a 3.7-inch Super Clear LCD, 1GHz CPU, T-DMB, 5MP camera with LED flash, HD video recording and playback, DivX support, Wi-Fi, Bluetooth 3.0, microSD card slot, Social Hub and more. Samsung will also provide variety of local-centric apps in their Samsung Apps app store. Available in Korea, priced approximately at €463.

KT TAKE 2 KM-S120

The Take S KM-S120 comes with a 3.5" WVGA (800×480) screen, a 3Mpix Camera with AF, 2GB of internal memory, DMB, GPS, MicroSD, Bluetooth 2.1+EDR in just 117x58x11.4mm and for 117.7g. The Take 2 KM-S120 replaces the TAKE EV-S100 and is available in Korea. Price unknown.

Cowon 3D Plenue

The 3D Plenue is Cowon's latest 3.7" WVGA AMOLED PMP that runs on Android 2.1. Available in 8, 16 or 32GB versions with HDMI out, USB, WiFi, Bluetooth and a T-DMB TV tuner, the 3D Plenue also comes with native support of HD (1080p) contents. The 3D Plenue supports a number of file types including AVI, WMV, ASF, MP4, MKV, MPG, DAT, TS, TP, TRP, 3GP, DivX, Xvid, H.264, WMV, 7/8/9, MPEG 1, MP3, WMA, OGG, PCM and FLAC. Price unknown.



enNAVI HD

The enNAVI HD, from enNavi Korea has a 1.2Ghz CPU and 256MB of RAM with a 7" full HD screen (1920 x 1080 400cd/m2) PND running Windows CE 6.0 with Hardware video decoding and made to be your ultimate GPS. The enNAVI HD also includes a T-DMB Digital TV Tuner, Bluetooth, USB OTG, FM Radio, FM Transmitter, SD Card reader and 128MB of internal memory. Available in Korea, from approximately €189.

Professional Equipment

VDL's D-VAUDAX

D-VAUDAX VDL's Ensemble Multiplexer for DAB, DAB+ and DMB is popular with customers due to its all-in-one capabilities, ease-of-use and Linux operating system reliability. The latest multiplexer software release (1.2.34) features two new configuration options that provide an increased choice of input/output connectivity and remote Service Provider management.

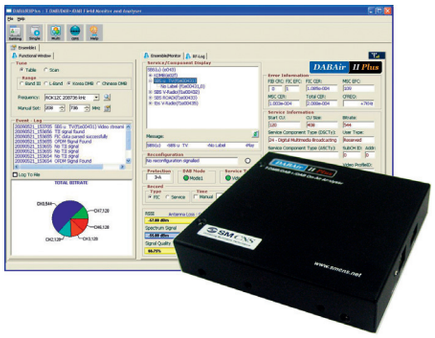
EDI (Encapsulation of DAB Interfaces) is now supported for inputs and outputs. EDI inputs can be single of multiple audio, mobile TV and data services. For re-transmission of programmes from other ensembles, service drop-and-insert is supported for both ETI and EDI inputs. Customers can also specify any combination of ETI and EDI outputs to provide maximum flexibility for distribution redundancy, as well as compatibility with existing ETI recording, monitoring and analysis equipment.

Service Provider Profile Management enables individual service providers to remotely manage their allocated multiplex capacity directly on the Ensemble Multiplexer. This includes the ability for Service Providers to reconfigure and create reconfiguration schedules within their allocated encoders and multiplex capacity without any impact on other multiplex Service Providers. This new option simplifies multiplex management and avoids the need for service multiplexers.

VDL's DABAir-II Plus

DABAir-II Plus is a professional USB receiver for monitoring RF as well as DAB/DMB Audio, Video and Data services. Typical applications include quality of service and coverage checks for broadcasters, network providers and regulatory authorities. DABAir-II Plus also services as a flexible reference tool for receiver manufacturers.

The new FIC-Extractor application software provides low level FIC analysis at bit-stream level. The decoded Fast Information Blocks and associated Fast Information Groups can be displayed in three different views: Frame List, FIG List and FIG Database. All FIGs defined within the DAB-Standard (including announcements 0/18, 0/19 and service-linking 0/6) are implemented. All defined FIGs, including announcements, service linking, region ID are decoded. Statistical information is displayed for each received FIG, including the repetition rate.



Factum's DTC100

DTC100- IP to ETI/EDI - DTC100 provide a flexible and robust solution for transporting ETI and STI streams over IP networks, typically carrying DAB, DAB+ or DMB services.

DTC100 can convert between different physical interfaces for STI and ETI transport. The unit is compliant with WorldDMB standard EDI (Encapsulation of DAB Interfaces) in addition to FEP (Factum Encapsulation Protocol).

DTC100 allows for distribution over IP networks in a Single Frequency Network (SFN). Mixed networks with both IP links and legacy telecom (G.703/G.704) links are also supported.

Typical applications:

- Distribution to transmitters
- Contribution (point to point)
- Monitoring of DAB/DMB streams
- Converter between equipment that uses different physical interfaces.

EDI for the Harris® Platinum transmitter series

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 an integrated EDI interface. The EDI signals are fed directly to the Platinum DAB transmitters, eliminating hassle of control and monitoring from an external box and reducing costs for terrestrial network operators.

Radioscape's Tritum Audio

Since 1997, radioscape has been leading the field with IP based DAB equipment and systems. At IBC in 2010 it launched its most imaginative, innovative, intuitive, fully featured range of equipment to date – Tritium.

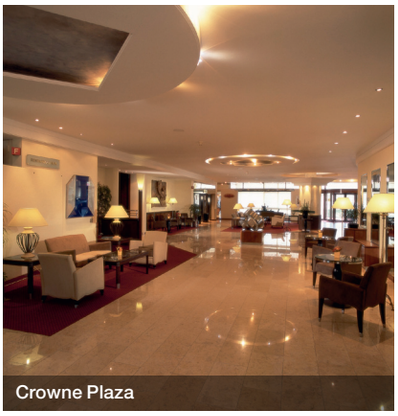
Designed to equip broadcasters with 3rd Generation Eureka 147 services and provide a full range of integrated, efficient, "Green" equipment to deliver the Digital Radio Services that they want across Audio, Data and Mobile TV applications in a commercially viable manner.

Tritium delivers the full range of equipment – Data Services Authoring, Encoding, Multiplex, Monitoring, Long Term Logging, even COFDM.

A total system based on radioscape's history and experience of delivering IP based DAB solutions.

General Assembly 2011

Zurich


Crowne Plaza

We are delighted to announce the WorldDMB 17th General Assembly will be held in Zurich, on Thursday 27th and Friday 28th October 2011. Our Swiss member SRG SSR are generously hosting this prestigious event which is traditionally the largest gathering of our members all year. The conference will be held in the Crowne Plaza, a modern, 4* hotel located in the vibrant Zurich-West region.

Zurich is the largest city in Switzerland and offers a wealth of museums, galleries, cultural attractions, and fine restaurants. There will be the traditional Gala Dinner on the evening of the 27th where the Per Erik Selemark Award for services to DAB will be presented.

Save the date in your calendar, and look out for more details on this exciting event!

SRG SSR

WorldDMB members

WorldDMB members benefit from

- obtaining valuable market information first
- information and networking
- promotional and marketing opportunities
- digital radio market start up and development
- strategic guidance on rollout
- exclusive access to our ETI library
- collaboration with car and mobile industries

For more information on how joining WorldDMB can help your company grow, please contact kayleigh.skinner@worlddab.org