

Eureka!

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REACHING OUT TO THE WORLD DMB COMMUNITY

Convergence or Divergence?

Consumers are experiencing media convergence with profound consequences on their lives. The traditional experience of one type of media being consumed on a device which was specific or unique to that media has been disappearing for some time to the extent that we can view television content, for example, on almost anything including a TV, games console, MP4 player or a computer. The effect this is having on broadcasters, indeed the media and communications industry in general, is also profound. At one level, broadcasters must now create even richer types of media. Video now includes metadata such as text, subtitles, and interactive content, and even radio is starting to have pictures. Newspapers exist on-line as well as on paper, and music is available almost everywhere.

What the consumer sees as content convergence is driving an expectation that any content can be received on any device. For broadcasters this can be a headache because they now have to distribute their content via several platforms to be sure to reach the consumer wherever or however he or she wishes to experience it. In other words, for the broadcaster, convergence also means divergence. In the consumer electronics market, manufacturers are producing every possible kind of device and combinations. Games consoles are increasingly taking on a computer's features and the mobile phone is fast becoming the defacto diary organiser, music jukebox and web browser.

Despite the growth over the last decade of digital and interactive media, radio remains a central part of consumers' lives and in many countries it is still growing, enjoying more hours of listening each week and increasing commercial revenues. This is in contrast to certain other media trends which are often downwards, including TV viewing and newspaper circulation. Their decline can be traced to the rise of the Internet, yet radio seems to be largely unaffected by the world wide web revolution. So radio is undoubtedly a powerful medium which consumers trust and want to use. Our responsibility to consumers is to ensure they can receive radio almost anywhere and on as many of their devices as possible. Our responsibility to broadcasters is to provide a future proof platform capable of delivering even richer content whilst remaining cost effective in reaching millions of consumers and inexpensive electronic devices.

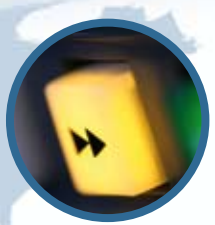
2008 is proving to be a year of unprecedented growth for the Eureka 147 family of standards. As China prepares for the Beijing Olympic Games this summer, the number of domestic Chinese DAB/DMB devices has risen quickly. There are well over 50 different manufacturers producing mobile phones, in-car devices and personal media players for the Chinese market. DAB licenses have been extended to many large cities across the country with Beijing Jolon leading the way with multichannel and multimedia coverage for the Olympic Games.

Developments in France, which plans to launch DMB digital radio services later this year, are proof that the DAB based family of services offer the brightest future for radio broadcasters in not only Asia but also Europe. German public and commercial broadcasters together with government regulators have come together to agree that the Eureka 147 family of standards, which also includes DAB+, is the way forwards and 2009 should see a major relaunch of digital radio across all the federal states. The United Kingdom recently announced that over seven million DAB devices have been sold in the country, and listening to radio via DAB is now second only to analogue, and way ahead of listening via the internet. 82% of portable kitchen radios sold in the UK and 71% of personal stereos sold are DAB. This continued growth is proof of the success of DAB and the importance of radio in the multimedia world.

Convergence for some means divergence for others, which can mean a confusing time for broadcasters who need a reliable and proven digital radio technology together with the assurance of the widest possible range of consumer products to reach listeners everywhere. The DAB/DAB+/DMB family offers broadcasters the safest way forward and will enable radio to remain as enduring and popular as ever.

Quentin Howard
President, WorldDMB Forum

Read about the first DAB+ launch on page 4



Learn how Korea sold over 10 million DMB receivers on page 7



See the latest receivers on page 9-10



Plans for a German DAB Re-Launch

The future of radio in Germany is set to become a reality. Key representatives of media authorities and administrations, broadcasters, network operators, receiver manufacturers and other organizations agree that radio in Germany will go digital.

Even though is public wide acceptance and satisfaction of analogue FM radio, this conventional media has severe limitations. Some traditional broadcasters have sufficient high power frequencies available, however, there are no resources left for any new programmes or extension of the current coverage area. For example the two nationwide public programmes of Deutschlandradio can be received only by 53 % of the population, even on an FM network of more than 300 transmitters. The reason is that most of the FM transmitters have a relatively low coordinated power, which is due to the lack of available free FM-frequencies in the overcrowded FM-spectrum. Therefore, this FM network may be the most expensive in the world. As a conclusion, only digital radio will allow an extension of radio services to include nationwide service coverage across Germany.

The new frequency plan of RRC-06 and the decision in Germany to use all of the VHF Band II for digital radio, will allow for sufficient frequencies to become available in the future to set-up digital radio and multimedia services for nationwide, regional and local coverage. This diverse offering of radio services is typical for the radio landscape in Germany and therefore no broadband system like DVB-H or DVB-T is suitable to cover the different requirements of all national and regional commercial and public broadcasters. With partially more than seven DAB frequencies in the VHF-

Band III the different requirements of DAB and DMB services can be met in the future. One DAB frequency in Germany is planned for a large nationwide SFN, which will allow continuous reception of digital radio from north to south stretching over more than 1000 km. For the reception of this nationwide multiplex no programme search is necessary at any changed location, which will be a key advantage for mobile listeners in particular. Other DAB frequencies are currently planned for regional and local services. The availability of sufficient DAB frequencies, with much higher transmitter powers compared to the experience during the past 12 years, will aid the restart of digital radio by allowing a variety of services and better indoor coverage, which should entice more listeners to switch from analogue to digital.

In the long term up to eight multiplexes in VHF and two in L-band can be used for radio and multimedia services including TV-like services. The network planning for television via DVB-T in Germany and DVB-H aims to achieve service coverage of 90-95 % roof top reception. However only around 50 % of the population will be able to receive the services using portable indoor receivers. This indoor reception will only be available in highly populated areas and therefore portable TVs in rural areas will lack in door coverage even in the long term. In these locations, supplementary DMB services based on the digital radio networks with coverage of even more than 95 % of the area for portable and mobile reception could be a reasonable expansion of the present DVB-T network. This would allow much higher service coverage, as it is a requirement for digital radio services in the future.

Based on the excellent technical conditions of DAB based services with the possibility for higher power networks and the demands from the broadcasting side Germany has a truly historical chance for a new launch of high efficiency and attractive digital radio services which will have local, regional and national multiplexes. This has been aided by the close co-operation between private and public broadcasters, the media authorities and both the receivers and car industries. A general survey on the requests and plans for digital radio was carried out by the media authorities for private broadcasters ("Call-for Interest"). The results show a large demand for digital radio in Germany. In summary 27 commercial broadcasters declared their intentions for regional and nationwide digital radio services. Other private broadcasters have also announced their interests in digital radio. Owing to the new audio coding standards of DAB+ and DMB, the transmission costs for broadcasters can be reduced by a factor of at least two. It is planned that by autumn 2009 (in time for IFA), at least three multiplexes will be offered in some major areas across the country.

In looking forward towards a successful relaunch in 2009 a kick-off meeting is already scheduled for setting up a project office for the restart of digital radio, where all active and interested partners will take part. This project office will coordinate all the activities around the relaunch of digital radio in Germany.

By Chris Weck, Deutschlandradio

Italy turns on Digital Radio

On May 28th 2008 a DAB+/DMB digital radio multiplex was put on air in the Venetia region. This is the first step for a large roll out of digital radio in Italy, which plans to see one of the most important commercial multiplex broadcast in Europe in terms of the number of integrated services; sixteen DAB+ services and one DMB visual radio service. A second 'Aeranti-Corallo2'

multiplex will be broadcast within the next few days.

Marco Rossignoli, from Aeranti Corallo stated "The new techniques used for digital radio, DAB+ and DMB visual radio, allow a higher number of services to be broadcast than ever before. Therefore, DAB+ and DMB visual radio are the best

means for radio broadcasters to secure their transition from analogue to digital. In fact, all the analogue programs in Italy (RAI, 1000 private regional radios and 15 national commercial radios) can be digitally broadcast, in fair conditions, on VHF Band III."

A sudden but conscious step forward for the digital future of Hungary

DAB trials in Hungary began around the same time as the first official experiments and multiplexes for digital radio were set up throughout Europe in late 1995. Despite this, the first Media Act was approved in Hungary a year later supporting plural media for both radio and TV.

Nonetheless, supporters for digital radio formed the Digital Radio Group and supported DAB tests/trials in the country. A temporary license for Band III, Block 13A was issued for these trial services. In 2005 the Digital Radio Group carried out a study focusing on marketing, regulatory and technical strategic issues as minimum requirements for successful deployment of digital radio in Hungary. Definite plans for a transition to digital as defined by the EU obligation were unfortunately blocked by insufficient media regulation. However, as a result of conscience preparation and participation at the Geneva 2006 Conference, Hungary gained a good position to start digital radio. Decisions around broadcast telecommunication activities and regulation of political media issues were successfully separated in legislation, and after a nationwide debate a new act was accepted and released in 2007 to regulate the digital transition.

As a result of the new statutes and, with political backing, earlier this year

the National Communications Authority placed a call for tender to begin the process of DTV and DAB. Parallel but independent processes for awarding the 12 year licences for 5 digital television and 1 digital radio multiplex and transmitter network will take place.

In preparation for the future of digital radio, Antenna Hungaria (TDF owned service provider) began a DMB based audio test at the end of 2007. In early 2008 Magyar Radio, the public broadcaster, set up a DAB mixed multiplex trial using state of the art equipment lent by RadioScape and Harris test transmitters, which were provided by Antenna Hungaria. The purpose of the latest trial was to present the advantages of DAB+ to the key decision makers while at the same time convincing investors that the DAB platform is unique in the fact that it can provide several multimedia applications in one multiplex.

The test ensemble contained four audio services: two programs from Magyar Radio both MPEG2 and MPEG4/AAC encoded with PAD DLS and a T-DMB live video stream. Mobile outdoor measurements were carried out by regulatory and technical experts, who compared the robustness of the two standards as well as band efficiency using the different coding algorithms.

From February 2008 to the middle of April 2008 a second trial was arranged using head-end equipment from Factum Electronics. The audio content of the ensemble remained the same but the data services were extended to include TPEG and experimental EPG services.

Various DAB+ and DMB receivers from PURE, iRiver, Intempo, Cowon, Bluetinum and REVO were used. The trials proved successful in both cases but also revealed shortages of special functionalities in the new receivers such as displaying the special Hungarian character set, however this is part of the standard.

A call for the digital radio multiplex and network tender was released at the end of March 2008. The two applicants were Antenna Hungaria and Magyar Radio, who have bid independently. The announcement of the result is expected in early to mid summer 2008. The winner will begin services covering the Budapest area before the end of 2008 and deploy network coverage of up to 94% of the population by the end of 2011.

The content of the tender material was not published but it is expected that the winner will implement DAB+.

By Suto Laslo, Radio Hungaria

WorldDMB highlights the importance of Radio in Brussels

WorldDMB welcomed over 70 participants during its *Maximizing Radio and Mobile TV in the Digital Age Seminar*, which was held in Brussels in early April 2008. The main topic on the agenda was the successful digitisation of radio. Quentin Howard, President of WorldDMB, asked the European Commission to find a way to actively encourage its other European broadcast technologies, such as DAB technologies which are already delivering a future for digital radio and allowing broadcasters to meet the challenges of taking radio from a purely sound medium

into one of rich multimedia mobile content.

Further debates on the role of the European Commission in spectrum planning were discussed amongst the panellists, who had representation from the EC, the European Parliament, regulators and broadcasters. Attendees from various sectors across the media industry were able to hear first hand from European broadcasters that the Eureka 147 family of standards were the most attractive as they allow broadcasters to enter the new multimedia era and create innova-



tive content for the consumer. Countries such as France and Germany plan major DAB based digital radio re-launches in the next 18 months.

Malta Launches DAB+

Earlier this month Digital Radio came closer to reality in Malta. Digi B Network Ltd. won the rights to the country's DAB Spectrum in March 2006 following a transparent auction process held by the Maltese Communications Authority. Digi B Network is currently licensed to provide T-DAB services on Block 6A, 6C, 12A and LP.

Intermittent trials started on Block 6A and are scheduled to last until October 2008, at which time DAB will officially launch.

As this is a new service Digi B Network had more freedom in choosing the preferred format for DAB. Following the ratification by ETSI of DAB+, the decision was taken to adopt this standard. They concluded that the benefits of DAB+ outweighed all problems associated with adopting the new technology. In fact, Digi B Network is proud to be associated with the first nationwide roll out of the latest DAB+ multiplex. DAB+ will allow

more services per multiplex, increase the quality and introduce some of the exciting data features of DAB. With DAB+, FM stations can participate without negating the platform of its most valuable asset, i.e. new and exclusive content.

Radio is very popular in Malta, as any survey will show. DAB based services are an opportunity for new investment in the industry, and any new investment is always good news for radio. Additional content will be available on the platform, including some rebroadcasts, such as the BBC World Service, Voice of America, Rai Stereo 1, 2 and 3 and XFM (London). DAB services will prove to be a unique opportunity for existing stations to extend their brands, whilst new brands will definitely crop up. At least 15 new stations broadcasting specialized content and exclusive to the DAB platform will make their appearance in the coming months.

Malta only has a population of 400,000, but any retailer will realize that once their customers become aware of new local content unavailable on their FM Radios, they are looking at a potential million FM radios waiting to be replaced by their DAB based counterparts. Added to this are another 200,000 in car FM radios waiting for a DAB adaptor to be installed. Digi B Network plans to introduce DMB mobile TV services in early 2009.

80% of the FM stations including the Public Broadcasting Services will be participating in the trial. Itelco have supplied the transmission equipment and Factum has supported the DAB+ headend equipment. EPG, PAD and Slideshows will be available in the trials.

By Sergio D'Amico,
Digi B Network

Sweden Looks to the Future

For the second year in a row, members of the Swedish radio industry gathered to discuss the current situation and future of radio. This was done as part of a seminar that was organized by media operator, Teracom AB. Participation was overwhelming as the chairman of the Swedish Radio academy, Christer Jungeryd, gave a warm welcome to the large audience representing all interested parties from the radio industry, including regulators and retailers.

Presently in Sweden, the public service broadcaster Swedish Radio is the only broadcaster that has a permanent license to transmit digital radio. Current transmissions of DAB-radio cover 35% of the Swedish population. At present, Sweden awaits a number of political decisions that will influence the prerequisites for the future of digital radio broadcasting. One of the major issues has been issuing permanent licenses for the commercial and non-profit broadcasters to start transmissions of DAB/DAB+.

However, before this happens, it is now possible for the Swedish broadcasters to get some experience in the field of digital broadcasting. Teracom AB announced that they will open their network for any interested

party that wishes to start test transmissions of digital radio using DAB/DAB+. During a two-week period, the largest commercial radio network, MTG Radio AB, decided to test digital broadcasting of some of its most popular channels, RIX FM and Lugna Favoriter, in the Stockholm area.

During the seminar, various groups met and were given the opportunity to discuss the many issues. For example, regulators and politicians were able to listen to and speak with Peter Davies, Director of Radio and Multimedia at Ofcom. Mr. Davies explained how much further the U.K. has come in its efforts to develop digital radio. One of the major reasons is Ofcom's incentive in terms of issuing permanent licenses, thus giving broadcasters the long-term conditions they need to provide more content and affordable receivers to the listeners.

Christian Kjeldsen, from DAB Denmark, gave an overview of the Danish developments. Regarding costs, he said that the transmission of digital radio in Denmark was only half that of analogue transmissions. According to Kjeldsen, the main reasons behind the successful development in Denmark are exclusive content, the increased number of channels and excellent



coverage. He received thundering applause with his emotional declaration in response to the sluggishness that many people experience regarding the development of digital radio in Sweden. "Don't make more reports in Sweden; instead you should take some decisions!" he said.

Lennart Ivarsson, Head of Communications at Teracom, rounded off the seminar. He thanked all participants for a very interesting afternoon. He said that he was confident we would reach a better situation for digital radio in Sweden this year. However, in order to achieve this, we all need to cooperate in a good way. He was also glad to see that the Swedish regulators took part in the seminar. He welcomed them as part of the community responsible for a fruitful development of digital radio in Sweden.

By Lotta Darlin, Teracom

Australia: DAB+ Full Speed Ahead

We are already into the second quarter of 2008 and the planning for the roll-out of digital radio in Australia is underway. We are in talks with retailers and manufacturers in an effort to have a range of products on the shelves for pre-Christmas sales in 2008.

Joint Venture Companies have now been formed to apply for the licences to operate the commercial digital multiplexes in each city. The tender process for transmission infrastructure is well advanced with results of the processes soon to be communicated. The rollout of digital radio in Australia will be a carefully staged and coordinated process raising awareness and generating listener interest and excitement on air before and after the actual switch on dates in 2009. DAB+ will be capable of delivering a range of new features to listeners and advertisers. In a world-first the Australian radio industry has conducted test broadcasts of slideshow-style animation – using a progression of still images. Products and logos are able now, using DAB+, to have this added dimension on screen-equipped DAB+ radios.

The world's leading supplier of circuits for digital radios is adding DAB+ (the upgraded version of Eureka 147 - DAB) to its most widely used digital radio module. This means receivers containing the new chip can be sold in markets broadcasting

in DAB+ as well as markets broadcasting in traditional DAB with little or no added cost to the manufacturers, yet enabling them to sell the receivers in all DAB+ and DAB markets. Frontier Silicon provides circuits and modules for major brands such as Samsung, Sharp, Sony, Bang & Olufsen, Grundig, Hitachi, JVC, Philips, Sanyo and many others.

Imagine a radio that not only tells you where the traffic problem is - it instantly explains the best way to get around it! New technology – delivered via DAB+ - could result in intelligent traffic solutions, which take into account traffic flow, road works, accidents etc. There's even scope in the future for advice on parking availability and petrol prices. Digital Radio Australia has recently reached agreement with Sentinel Content on a joint demonstration of traffic and mobile content.

Australian commercial radio's highly successful on-air brand campaign will be converted in the capital cities rolling out digital radio to an awareness raising campaign. The on-air brand campaign has successfully promoted the strengths of commercial radio. The campaign has involved a leading comedian interviewing various 'experts' and the spots are broadcast regularly each day on every commercial radio station in Australia. They have become well recognised. The



current campaign highlights the benefits of combining radio and online advertising - "Radio + Online – We Just Click".

A number of manufacturers and retailers have been in discussions with the industry regarding the possibility of a pre-Christmas build-up to the start of digital radio in Australia. Brands such as Grundig, TEAC, Sanyo, Sangean, Sony, iRiver, Pure, Bush, Ministry of Sound and Revo are being actively encouraged by the radio industry and retailers to be in the market place delivering a range of products. Those products could include everything from clock radios to MP3 devices, along with adaptor kits for iPods and car radios. An adaptor to deliver DAB+ to mobile phones is also being developed.

By Joan Warner,
Commercial Radio Australia

WorldDMB Welcomes Yu Sun as the new Project Manager, Asia Pacific

Ms Yu Sun is responsible for projects in the Asia Pacific Region. Previously working with the Shanghai government as a project manager, she has worked on many international projects between China and Britain. As a native Chinese, she also employs her knowledge and experience to help bridge business and cultural divides through effective communication.

Yu Sun holds a Masters degree in Media and Communication from the University of London, UK and a Bachelor's degree in Business Management from Shanghai Jiao Tong University, China.



Ghana Launches a new Frontier for DAB/DMB

Television viewing just got better in Ghana, with the launch of Africa's first mobile phone-enabled television content viewing service, FonTv on 14th May 2008. VDL provided the complete head end system that allows these TV programs to be broadcast on the national transmitting network.

The service is based on T-DMB (Terrestrial Digital Multimedia Broadcasting) technology that allows high-quality television viewing on phones, laptops and other digital receivers. In Ghana it is operated by Black Star TV, which has just completed nearly a year of trials before launching full commercial operations countrywide. Ghana joins South Korea, Germany, Britain, China, India and France, where T-DMB technology has been successfully introduced.

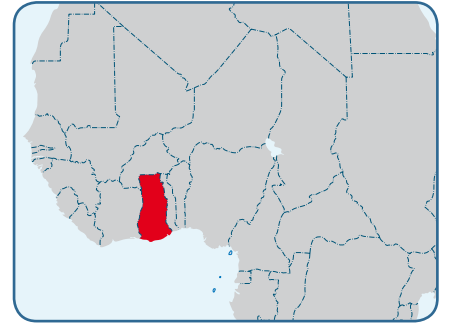
Mr. D.H. Kim, Managing Director of Black Star TV, said the company was happy to introduce the new service in Ghana as it seeks to penetrate the African market, explaining that the introduction of the 'valuable service' to offer an alternative to Ghanaian lifestyles was ample testimony to the company's confidence in Ghana's ICT sector and the great opportunities it offers.

The Deputy Director General of the National Communications Authority (NCA), Mr. Joshua Peprah, who described the FonTv service as 'innovative and

interesting', said the Ghana Government plans a common platform to promote its ICT agenda, including the full exploitation of digital media broadcasting and the NCA will continue its spectrum planning to ensure that by 2015 broadcasters have the opportunities to serve different markets with clarity where one company can have a news channel, a sports channel, a movie channel and a music channel, among others.

Mr. Yoofi Grant, Chairman of Onetouch (mobile telephone service provider from Ghana Telecom), collaborators of Black Star TV in bringing FonTv to Ghana, said the mobile phone has become indispensable and it is only natural that service providers ensure more innovative products for consumers are available, adding that with the launch of the FonTv, consumers can now watch their favourite programmes virtually out of their pockets. He announced Onetouch would provide two months' free subscription for the first 1000 consumers to purchase the product.

The Korean Ambassador to Ghana, H.E. Keyei Chul Wi, expressed the hope that the introduction of the new products would help position Ghana as a real force and leader in Africa's ICT evolution and further strengthen the economic and political ties between Ghana and South Korea.



Deputy Minister for Communications, Mr. Fredrick Opare Ansah, said the ministry was encouraged that the gradual improvement in the State's communications infrastructure is now permitting the introduction of emerging value added services for the convenience of Ghanaians and he commended the management of Black Star TV for expanding the frontiers of mobile communications in Ghana.

Mr. Yannick André-Masse, CEO of VDL, said: "We are really pleased and excited with these first projects in Ghana and also in Africa. Of course, it demonstrates our leadership in the head end equipment for digital radio; but also, through this unique cooperation between players from three continents, Africa, Asia and Europe, it shows that we are right and successful when promoting the DAB family of standards as the best way to deliver multimedia content to mobile receivers."

Beijing Jolon Prepares DAB/DMB for Olympic Games Coverage

On 19th March 2008 in Beijing China, WorldDMB and Beijing Jolon co-hosted a joint press conference to promote the DAB family of standards. Over 150 members of press from the technology sector, lifestyle magazines and online publications were able to learn about the coverage plans for mobile TV and digital radio using DAB/DMB for the Olympic Games. Mr Qin Xuegang, CEO of Beijing Jolon, told the audience that there are currently 15 DAB and six DMB services on air. These services are free to air

and by June 2008 it is expected that will increase to 20 DAB, six DMB and three data services. The coverage area will also expand in the coming months to 86% in Beijing to ensure excellent coverage of all Olympic venues within the capital city.

Attendees were also able to test over 80 different DAB and DMB receivers, which were demonstrated at the event. Receivers included MP3/MP4 players, traditional radio devices, in car screen-

based devices and mobile phones. The vast range of devices also highlighted the speed of developments by the Chinese receiver manufacturers and this emphasised the prospects for DAB and DMB consumer device rollout in China. Further discussion around receivers included the developments in interoperable, multi standard receivers, which can receive both DAB/DMB as well as the Chinese domestic standard, CMMB.

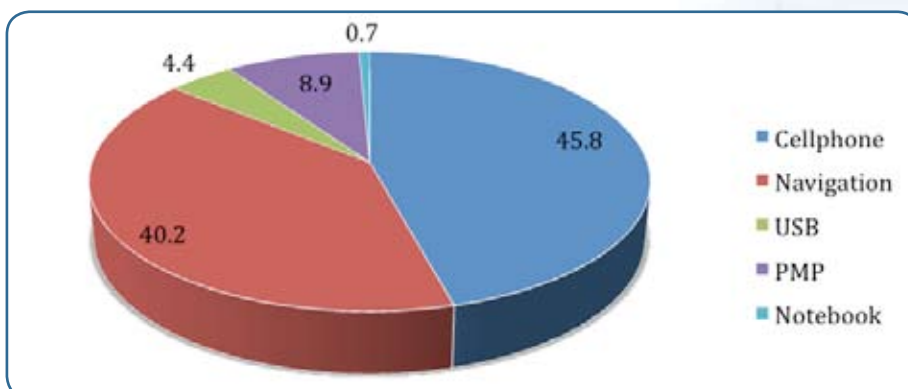
Korea Celebrates Sale of 10 Million DMB Receivers

RAPA (Korea Radio Promotion Association) announced that the number of DMB receivers reached around 10,270,000 by the end of March 2008. Since Korea launched its commercial service of T-DMB in the Seoul metropolitan area in December 2005, it has taken only two years and four months to hit the 10 million receiver mark. Surprisingly, this is the same as the number of households in Korea, which means that every family owns at least one T-DMB receiver. This is a unique and amazing achievement for mobile TV and has yet to have been achieved by any other new media industry thus far.

As shown in the figure below, the DMB receiver market is strongly driven by two types of convergence devices such as mobile phones and car navigation systems. T-DMB receivers combined with mobile phones share almost half of the market and it is predicted that this number will continue to increase. Since the subways and major roads are very well covered, T-DMB became a mandatory feature of high-end mobile phones. By realizing the importance of mobile TV, mobile operators have

begun to aggressively push interactive services based on BIFS technology to create additional revenue using T-DMB. The second largest mobile operator in

Korea, however it only took less than a year to reach 400,000 receivers in the market. TPEG services in the country are based on a subscription service.



Korea, KTF, has recently begun active promotion of BIFS services.

Navigation systems supporting T-DMB are also playing a very important role in the mobile TV market as almost all navigation systems now support DMB. In addition TPEG services are becoming another attractive feature of DMB enabled navigation systems. Real-time traffic information via TPEG creates an optimum path for the user to avoid traffic congestion and save time. TPEG services were launched in early 2007 in

The T-DMB market in Korea shows no sign of slowdown. Earlier this year the coverage area was increased to include six other large cities across the country. Commercial services will soon be extended to nationwide coverage and broadcasters are considering increasing of the number of services and introducing more data services.

By Young-Kwon LIM and Kyu-Tae Yang, TTA

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ETS 300 401, 300 799 & EU147 compliant

Supports T1 and E1 input rates

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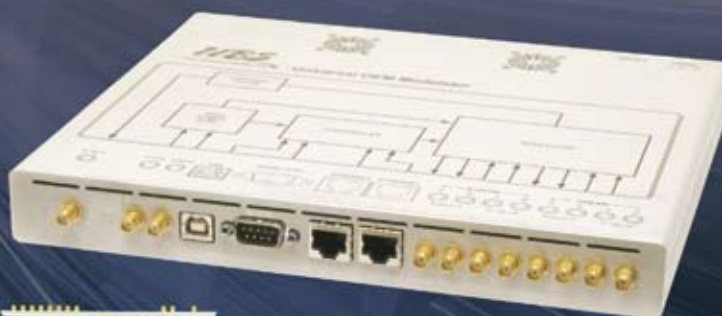
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Universal Modulator Board inside can be configured to support other broadcasting standards such as DVB-T/H, DTMB and CMMB

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Latest in the receiver market



Arcam - Solo Mini

Arcam's Solo Mini has an aluminium exterior and contains a CD player, DAB, FM, AM radio, and iPod and MP3 player integration plus USB port. It can be set to wake you up by CD, tuner or radio. The Solo Minis has a remote control, full IR and RS232 serial control and is available from approx. £650.

Cowon - N3

The Cowon N3 GPS navigation system has a 7" touch screen and as well as navigation, integrates real time traffic information service TPEG. It supports DMB and other features include 4W stereo speaker, SD card slots, FLASH, 128MB RAM, SIRF III GPS chip, Microsoft Windows CE 5.0 OS and a wide range of audio and video formats. The N3 costs approx. \$437.



E-Ten - Glofiish V900

E-Ten's Glofiish V900 mobile phone supports DAB, T-DMB, DVB-T and DVB-H with Windows Mobile 6 Professional. The 2.8" VGA touch screen LCD offers ease of use as do the HSDPA, GSM, Wi-Fi, Bluetooth and GPS. It is currently possible to pre-order the Glofiish V900 for approx. £395 (excl tax).

Hip Shing Electronics Ltd - DAB518+

The Hip Shing Electronics DAB518+ digital radio has DAB, DAB+ and FM. The DAB518+ has a clock and alarm function with LCD display. It is a portable radio and has a 3.5mm phone jack and built-in transformer. There is currently no RRP for this product.



LG-SH150A

LG's SH150A slider mobile phone has a 2.2-inch AMOLED display which is capable of showing 26-million colours. LG-SH150A's 7.2Mbps HSDPA cellular broadband, DMB-TV tuner, 2-megapixel camera and PC connectivity just adds to the variety of features offered. The SH150A is available in Korea on the CYON network for approx. \$400.

Magic Box Touch Handheld

The Magic Box Touch Handheld is a portable pocket DAB radio. It has 10 DAB and 30 FM presets available with backlit display and automatic scanning. This product is currently available for approx. £79.99



Philips - MCB204

The Philips MCB204 micro system is equipped with DAB, FM and CD. The MCB204 can also read MP3 and WMA directly from portable USB devices. It has 20 preset stations and includes a wake-up and sleep timer. This product is currently available for approx. £50.

Porsche - P-9123

Porsche have released their DAB, FM, AM wind up digital radio. It has an iPod dock, credit card size remote control with built-in torch. The P-9123 also has three 1.5 inch full range speakers. The RRP for this product will be approx. £480.



Latest in the receiver market

Roberts – Sound 37

The Sound 37 is a new DAB CD Stereo Clock Radio. It offers multiple alarms, MP3, WMA playback, CD Bookmark, search and manual tuning. The Sound 37 has 20 station presets, display dimmer and the option to wake up to buzzer, radio or CD. The Sound 37 retails for approx. £79.99.



Roberts Stream 202

Roberts' Stream 202 is a DAB, FM and Wi-fi radio. The Stream 202 has 15 station presets and two alarms which can be set to DAB, FM, Wi-fi or buzzer. It supports MP3, WMA, Real and has an auxiliary input socket for an iPod. The Stream 202 is also DAB+ upgradeable. This product is currently available for approx. £149.99.

Samsung - Q1-SSD

The Samsung Q1-SSD mobile PC looks like a PDA and weighs 734g. It has a NAND flash memory, seven-inch LCD, stereo speakers, 1GB of system RAM and 1-GHz Intel processor. It is currently available for approx. \$2000.



Sony - CMT-CPZ1DAB

Sony Micro HiFi CMT-CPZ1DAB has FM, AM RDS tuner with 30 DAB presets, a CD Player with MP3 and Atrac3 Playback, CD, CD-R, CD-RW, Playback Full logic cassette deck and Dynamic Sound Generator (DSGX). This product is currently available for approx. £200.

Sony – XDR-C705

The Sony XDR-C705 DAB clock radio incorporates an LCD screen with a variety of alarm settings. The alarm function can be set to everyday, weekends, week days and one off alarms for either a buzzer or DAB and FM. It has a front mounted mono speaker and is currently available for approx. £60.



Tongshi – DAB radio

The Tongshi DAB and DMB personal player is enabled for Band III and L-Band. It has English and Chinese functions on the MMI and a three key operation. The Tongshi has an LCD screen which shows 'Cartoon style' graphics and a battery life of 10 hours. This is currently no RRP for this product.

Dualit – Lite DAB Radio

The Dualit Lite is a DAB and FM kitchen radio, available in three colours polished chrome, black and cream. It has 20 presets, 10 DAB and 10 FM has a kitchen timer, alarm with snooze and sleep options and 6 watt, 3 inch, high performance speakers. The Lite is currently available for approx. £85.



Exhibiting Members During Broadcast Asia



Stand Number 8M2-08

Radioscape is a world leader in Digital Audio Broadcasting (DAB/DAB+), Digital Radio Mondial (DRM) and Digital Multimedia Broadcasting (DMB) for mobile TV. Its end-to-end systems knowledge is unique in having solutions across the range from broadcasting, monitoring to receiver technologies. Exhibiting at Broadcast Asia 2008, Radioscape will be demonstrating its advanced fusion hardware platform, which delivers a wide range of advantages to the entire broadcast chain around the world.



Stand Number 8M2-07

SomerData, specialists in DAB and DMB applications, are exhibiting our innovative range of monitoring and analysis products at Broadcast Asia 2008 – Stand 8M2-07.

The stand will showcase the world-wide launch of the new DABSTOR-Rx Service Monitoring Receiver, which enables users to remotely display multiple services simultaneously across a multicast network.



Stand Number 8M2-06

Factum Electronics AB is a world leader in the areas of DAB (Digital Audio Broadcasting), DAB+, DMB (Digital Multimedia Broadcasting) and NICAM, digital stereo sound for television broadcasting. Factum Electronics develops and sells system solutions for signal encoding, decoding and processing and serves professional broadcasting customers in more than 40 countries. Additionally Factum Electronics develops and sells middleware for receiver chip manufacturers and test and monitoring equipment.



Stand Number 8L2-12

CoreTrust, Inc. is a digital broadcasting solution provider specialized in developing CA & DRM technologies, which are the core technologies in the digital content and broadcast businesses. CoreTrust, Inc. will devote its enthusiasm, energy, and time to promote the businesses of broadcast industries and to grow up as the trusted partner of content providers and broadcast operators.



Stand Number 8M2-05

VDL is both a DAB/DMB/DAB+ equipment manufacturer and a digital radio network provider in France since 1998. Its competence and experience have enabled VDL to design a full range of equipment and services, including its multiplexer D-VAUDAX, the most referenced in the world. These innovative products will be demonstrated on BCA booth 8M2-05.



Stand Number 7N3-06

Broadcast Australia is at the leading edge of radio transmission services. We are preparing for the roll-out of DAB+ services in Australia in early 2009. Through our experience in trials, the WDMB DAB+ Task Force and various technical committees, we are leading the way with our AM, FM & SW customers in the transition to digital radio.

Visit us at Broadcast Asia
- Stand 7N3 - 06 or,
www.broadcastaustralia.com.au

Radio on the Move: The Quest for New Markets, Audiences, Platforms and Technology

The 4th RadioAsia will bring together leading radio media practitioners, communication specialists, policy makers, and academics from across the Asia-Pacific and beyond. Held in conjunction with BroadcastAsia 2008, this conference will bring together some 40-plus eminent speakers who specialise in various aspects of radio and commu-

nications. The conference will consist of two half-day workshops followed by a two and half day conference where leading radio experts will deliver papers and presentations.



Further DAB/DAB+/DMB Exhibitors:

Digidia 8/8G2-09

Dolby Laboratories

Future Waves 7/7E2-01

Harris 7/7E2-01

Kordia 7/7N3-10

Panasonic

Qualcomm 7/7E2-06

Broadcast Asia

WorldDMB presents

Technology Wars: Creating Clarity in a World of Confusion

Broadcast Asia Conference
19 June, 15:30
Conference Room 9A

This session will be a discussion on how broadcasters can best reach the consumer in the new multimedia era. There are currently various Mobile TV solutions in the market place, but is one really better than the other? We will explore the new opportunities multimedia solutions bring to broadcasters and discuss why some markets may benefit from one solution over another. A review of current commercial services will compare

consumer behaviour in Asia and Europe in an attempt to discover what the consumer really expects with mobile TV and digital multimedia content. Finally this session will examine how broadcasters can generate revenue from the new digital content.

The session will conclude with a panel discussion that will explore the various mobile TV standards across the globe. Representatives from the various standards including: CMMB, DAB/DMB, DVB-H and MediaFLO will take part in the discussions. The question of 'How to make money from Mobile TV?' will be a key a major area of focus on the panellists.



Broadcast Asia 2008
The 13th International Digital Multimedia & Entertainment Technology
Exhibition & Conference

For more information on Broadcast Asia
go to:
www.broadcast-asia.com

WorldDMB Website Re-launch

Don't forget to check out the re-launch of the WorldDMB website, which has even more information than ever before. Members of the Forum can benefit from the new member's section, which has detailed committee documents, a share

point, member networking opportunities and other key information only available to members. Country information is updated daily with news feeds. The product section is a great source to see what is available and new to the market.

DAB/DAB+/DMB Trials

Germany:

A DAB+ trial was launched on the 1st May 2008 in Saxon-Anhalt, Germany. It is estimated that this project will last until 2009. The pilot project is being run by the media authority, private programme organizers as well as various broadcasters and the Network operator, Media Broadcast. Rockland+ was launched as the first DAB plus station. The trial will gauge audio quality at different bitrates as well as reception tests.

Ireland:

A DAB trial was rolled out in Dublin and the North East in 2007 and coverage has recently been extended to Limerick and Cork. This means that now almost half the Irish population can receive digital radio services. As broadcasters continue to enhance the offering on digital it is expected that receiver sales numbers will also increase.

Upcoming events

29 August - 3 September
IFA, Germany

12-16 September
IBC, Amsterdam

16-17 October
MODIBEC National Event,
Beijing
Free for members

20-23 October
Le Radio, Paris

26-29 October
NAB Europe, London

29-31 October
Medientage,
Germany

3-4 November
WorldDMB General
Assembly, Beijing
Free for members

5-8 November
BIRTV, Beijing

18 November
MODIBEC,
Brussels

New WorldDMB Members

iSET Co., Ltd.

iSET Co., Ltd. Entered the data broadcasting solution business in May 2001. The company has been the market leader in Korea in developing different types of solutions such as EPG, PAD, EWS & TPEG related services. Currently the clients are mainly broadcasters in Korea and

the Asia Pacific area, and the market is being expanded across Europe. Also iSET is the first data solution developer in the world to succeed in the commercialization of TTI (Travel & Traffic Information) services. iSET provides consulting services for the data service business with the know-how from 8 years experience.

New Remote Monitoring DAB/DMB Receiver from SomerData

DABSTOR-Rx Service Monitoring Receiver

The new DABSTOR-Rx from monitoring specialists, SomerData, is a DAB/DMB receiver that provides access to multiple audio, video and data services for viewing on one or more remote workstations.

The 1U rack-mount unit is a dual-band DAB/DMB receiver that Publishes a Management Channel and multiple services to one or more locations running SomerData's DABSTOR Subscriber software, with viewers for audio, video and data services.

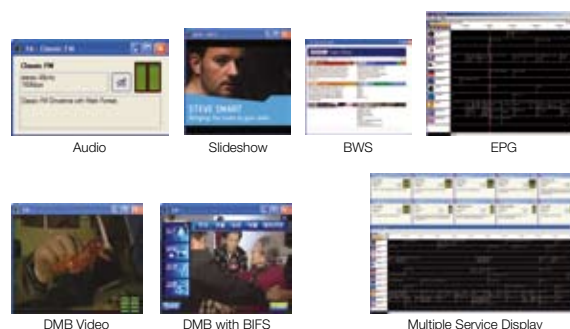
During 2008, SomerData will introduce options for endless-loop logging and Multi-service Monitoring/Analysis with alarms.

For more information, contact sales@somerdata.com or visit www.somerdata.com



DABSTOR-Rx
Receiver with multi-service
streaming Publisher

DABSTOR Subscriber Audio, Video and Data Service Viewers



Audio

Slideshow

BWS

EPG

DMB Video

DMB with BIFS

Multiple Service Display