

Eureka!

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REACHING OUT TO THE WORLD DMB COMMUNITY

Eureka 147 across Europe and the World; A Truly Multi-standard Platform

We enter 2008 on a positive note with the majority of European countries now agreeing that the way forward for digital radio is to use the Eureka 147 Family of Standards. This is something all of us connected with WorldDMB can be proud of, and now we have to work together to make the transition to digital radio happen quickly and successfully. European broadcasters are telling us they have a variety of different ideas for digital content and are finding the range of options offered by the Eureka 147 family fulfils their vision of the future of digital radio and mobile TV within their particular countries. Whether the choice is DAB, DAB+ or DMB, the transition to digital has never been more assured.

Denmark, for example, achieves the highest home penetration of digital radio in Europe using "standard" DAB, whereas Australia and Malta intend to use only DAB+. Switzerland looks set to use both DAB and DAB+ for radio and Italy may use DAB+ and DMB to provide radio and mobile TV services. At the end of 2007 the French Minister for Culture and Communication signed the decree which confirms France will use the DMB standard to broadcast radio programmes with video-centric content. Korea's focus is naturally on DMB for mobile TV and DAB for radio, as is the current

implementation in China, although both countries may introduce future variations and improvements to suit their individual needs. The UK uses DAB for radio and is testing DMB for mobile TV, whilst Germany is likely to add DAB+ as a way to reduce entry costs to encompass many more private broadcasters, complementing its existing DAB and DMB services. In every case, WorldDMB has been active in advising, assisting and supporting its members in each country, drawing on the expertise available from its worldwide network of contacts.

Under the umbrella of WorldDMB we act as both guardians to the technical standards and developer and author of all its additions and changes. The common ground remains the "Family of Standards" created by the European Eureka 147 project, which includes DAB, DAB+ and DMB together with the various extensions including EPG, Intellitext, Journaline, Slideshow, Broadcast Web Site, etc.

2007 was another successful year of developments for this highly flexible and adaptable DAB standard, and it remains probably the only broadcasting standard which can support such a variety of functions and new applications demanded by consumers and broadcasters. There was signif-

icant growth in the number of digital radio and mobile TV receivers in the market during 2007 and this growth will continue in 2008.

New innovative receiver products in development in 2008 will also lead to the faster take up of digital radio and mobile TV across the globe. For radio it is a very exciting time, and with an increase in the variety and types of receivers now in the market, consumers are experiencing new ways in which to "listen" to radio. Content will also expand beyond the pioneering audio services to include new multimedia applications and interactivity that will forever change the image of radio as we know it today.

2008 will be a busy year for WorldDMB and together with the Project Office staff we will be working with our colleagues in France, Germany, Korea, China, Australia and in many other countries to expand the reach of the Eureka family of standards. I look forward to meeting as many members as possible throughout the year.

Quentin Howard
President, WorldDMB Forum

Read about DMB's success in China on page 5



Find out about the latest products on pages 8-9



The DAB in car market takes a step forward, read page 3



How soon can French listeners expect to hear digital radio?

On 5th December 2007 the French Minister for Culture and Communication, Christine Albanel, signed the decrees that officially launched digital radio in France. The decrees stated that the DRM standard would replace today's AM wavebands and the T-DMB standard would be used in Band III and L-band. The decree retains the DVB-H standard for personal mobile television terminals and the DVB-SH standard for mixed terrestrial/satellite systems.

The Minister expressed the wish to make December 2008 "the Christmas of digital radio." Even though 2008 will be the official year that digital radio launches in France, digital radio has been in existence in France for many years. Besides testing Digital Audio Broadcasting (DAB) in the 1990s and into the 2000s other new mediums of radio have also evolved in the country. The number of French people who listen to radio live on the Internet has steadily increased. At the same time, Internet pre-recorded broadcasts have become so popular that, in 2007, over 5 million French people were downloading and listening to pod casts. Finally, new

Web-radios are continuing to emerge even though the number of listeners is still limited, these are however, "laboratories" for the future of terrestrial digital radio.

DMB digital radio will roll-out in France in various stages;

As soon as the "Conseil Supérieur de l'Audiovisuel" (CSA) determines the network parameters, according to the available frequencies for the broadcasting standards, and decides the rules about how many services each multiplex can carry, they will publish a list of frequencies that will be subjected to a call for tenders. This call for tenders will be in the spring of 2008. The CSA will then collect the submissions and allocate the frequencies according to interest.

It is important to underline that all frequencies will not be immediately available (as part of these frequencies are currently used for the analogue broadcasting of Canal+ until 2011). At the start, the multiplexes will be focused in cities, in order to optimize the coverage of the French population. The

initial objective will be to achieve 50% population coverage with a limited number of transmission locations.

Technical work is in progress between French radio broadcasters and manufacturers to define the main features to be incorporated in the different types of digital radio receivers (radio alarm clocks, MP3 Players, car radios, mobile phones...) in order to produce receivers that are compatible with the Eureka 147 family of standards.

Finally, owners of DMB receivers can already listen to 55 digital radio stations in the Paris region thanks to the experimental broadcasts on several multiplexes on Band III and L-band. This experiment was set up by the "Groupement pour la Radio Numerique" (Digital Radio Group), whose objective is to facilitate the CSA's launch of the call for tenders for the digital broadcasting frequencies.

Alain Masse, Radio France

DAB/DMB a reality in the Netherlands

Last year on the 20th of December the State Secretary of the Ministry of Economic Affairs, Frank Heemskert, who is responsible for the licensing of the radio spectrum, informed the Dutch parliament of the government plans to hand out DAB licenses in mid 2008. In early 2006 the Dutch parliament asked for more time to be given in order to consider other alternatives to DAB. However, a new improved upgrade, DAB+, has since been introduced into the European market, and Heemskert believes that now is the right time to issue DAB licenses.

The DAB licenses will be handed out via an auction within the next six months. Two national coverage licenses in Band III and one national coverage in the L-Band will be issued by the government. The L-Band license is nationwide but contains 117 individual allotments, which give a

combined onetime nationwide coverage. All the three licenses can be obtained by one organisation. The only restriction is that each individual allotment must contain a minimum of six radio programmes. The remaining capacity can be used for other (multimedia) broadcasting services. The House of Representatives brought in two amendments to the governmental proposal. First, to allocate more bandwidth to radio on the multiplexes and second, to exclude KPN from the auction process.

A majority of the Dutch Parliament support these amendments. The Secretary of the Ministry of Economic Affairs will respond to these two amendments by the end of January. It is expected that the amount of radio stations will remain the same per Multiplex (6 radio stations per multiplex) and the exclusion of KPN will be limited.

KPN is currently allowed to obtain one multiplex. Following this response by the Secretary, the DAB auction will go ahead.

After many years of waiting, testing, 'piloting and fighting, a commercial launch of DAB/DMB in The Netherlands is finally in sight! The commercial success of DAB/DMB in The Netherlands is now in the hands of the innovative Dutch Multiplex operators together with the support of the receiver manufacturers. Lets join forces to make of DAB/DMB a huge success in The Netherlands!

Willem Toerink
Centre for Excellence of Digital
Broadcast BV

More digital radio for the Vikings

In early December 2007 the DAB networks in Norway reached 80% population coverage. The number of receivers in the market has also increased 30% during 2007, giving a household penetration of 13.4%. During the last months of the year large areas with very limited radio offerings on FM received for the first time DAB-coverage. These areas now have more than twice the number of channels on DAB compared to FM. Several places where the FM reception between fjords and mountains is hampered by weak signals and shadows are able to receive very good DAB recep-

tion. In these areas a minimum of fourteen channels are distributed via the two national multiplexes, one of them carrying regional programs. Several digital only channels are provided by NRK and P4. Among the latest launched channels are NRK Super, a 24 hour children's channel, NRK Gull filled with good radio moments from NRK's huge archive, and P4 Bandit, playing non stop rock.

The media authorities are just about to call for applicants to fill already available capacity with more radio offerings. "The 80% coverage combined with

the increased marketing activities from retailers, last year's sales figures and the increased content on offer from the broadcasters already clearly indicates that this digital added value will push receiver penetration significantly higher during the next months and years," says Hans Petter Danielsen, chairman of the Digital Radio Group in Norway.

Hans Petter Danielsen
P4 Radio

Pure moves the DAB in car market forward

PURE has got together with Digital One to present the world's first in-car DAB digital radio that doesn't require complicated installation.

The PURE Highway is a complete adaptor solution for the car that allows the user to listen to DAB digital radio on the car's existing FM audio system. It is also possible to connect an iPod or MP3 player and listen to favourite tracks through the car stereo.



Paul Smith, general manager of PURE says: "although over 5.5 million DAB radios have been sold in the UK, less than 2% of these are for the car. Five years ago, PURE created a market from scratch with the EVOKE-1 and we firmly believe that Highway will impact the in-car DAB market in the same way."

"The reasons for this belief are simple just like Highway.", continues Smith, "Extremely easy to fit, powered from

the car's lighter socket and attached to the windscreen with a supplied flexible mount, just like a portable satellite navigation system, Highway answers all the problems found with other in-car DAB upgrades."

Quentin Howard, CEO Digital One says: "Digital One and PURE have cooperated closely over the years, bringing together the insights of a digital broadcaster with the expertise of a leading manufacturer. We worked together on the first mainstream sub £100 digital radio and now car radios are the next big opportunity for manufacturers and radio stations. Both PURE and Digital One are expecting that Highway will be another breakthrough product, jump-starting the in-car digital radio market."

Digital One was involved in the specification of Highway and will be promoting the product on air. Highway has four preloaded presets for Digital One stations (Virgin Radio, talkSPORT, Planet Rock, theJazz) as well as in-box promotion for the stations.

Despite being easy to use, Highway is also rich in features. PURE's ReVu™ technology enables listeners to pause and rewind live DAB radio so they never miss a track title or traffic news update.

A discreet DAB aerial is affixed to the



windscreen to supply the DAB signal and Highway then sends the audio to the car's radio on an FM frequency which is picked up just like a normal radio station.

Highway can even be taken out of the car at the end of a journey and used as a personal DAB radio with headphones.

If the FM signal transmitted by Highway is disrupted, a quick press of the quickSCAN button means Highway automatically skips to the next free FM slot and the user simply needs to retune their car stereo. New features can even be added via USB as they become available.

Highway is available now at £69.99 (SRP). Please log onto www.pure.com for more information.

Colin Crawford
Pure Digital

Consumers go crazy for DAB in Denmark

The Danes are crazy about DAB Digital Radio! Independent Research Company Zapera asked 2,000 Danes between the ages of 15 and 63 about their opinion on DAB. The survey showed that 38% have access to a DAB radio at home and 18% have more than one DAB radio at home. These new figures make Denmark one of the most successful countries to roll out DAB Digital Radio.

With respect to content 84% of the participants in the survey were satisfied with the content on Danish DAB and 48% were extremely satisfied with the programming.

"The Danes want high quality content. They want channels with a clear profile: 'you know, what you get!' There is no doubt about the future for DAB in Denmark, we will be introducing channels which are focused on special content which you cannot get on FM. This will make DAB even more interesting to the listeners compared with FM", said DAB Denmark Chairman, Paul Samsøe. He stresses that the positive

development will continue as outdoor coverage in Denmark reaches 90%+ and indoor coverage reaches 80%+ - both will be as close to 100% as possible during 2008. The survey shows, that 52% are satisfied with the reception of DAB in their local area and 28% are very satisfied (in total 80% satisfaction).

87% of all Danes with a DAB radio in their homes say that the sound quality on DAB is better than on FM or the same as FM. These figures are similar to figures released in Norway and UK earlier this year.

Paul Samsøe said that, "There have been discussions on the sound quality on DAB, now a huge majority of the listeners in UK, Norway and Denmark say that the sound quality is satisfactory. With these discussions in mind, we are happy with these figures".

Price and quality are the two key points when Danes decide which DAB radio they are going to buy for Christmas. On a scale of importance firstly they look for sound quality, price, design and then

functions on the radio (EPG).

The number of Danes who have not yet bought a DAB radio do not want to buy the cheapest DAB radio; 51% will buy a radio priced between GBP 49,99 and 99,99, 15% expect to spend more than GBP 99,00 and 23% expect to spend less than GBP 49,99 on a new DAB radio.

"The falling price of DAB radios during 2007, combined with the fact that high quality DAB radios have now been reduced from GBP 99,99 to GBP 49,99-69,99. This has seen an increase in the quality of DAB radios being sold in the Danish market. We are seeing that this fall in price is having an important influence on the choices our costumers do make", said Paul Samsøe.

Most DAB radios are sold in the run up to Christmas and this year is no exception, 49% of the participants in the survey without a DAB radio say they are going to buy one in the very near future.

Christian Kjeldsen, DAB Denmark

Digital Radio in Germany

Various rumours have recently flooded the industry that the introduction of Digital Radio in Germany could fail. These are based largely on the recent announcement from the KEF (Kommission zur Ermittlung des Finanzbedarfes), which is the body that decides on the licence fee for public broadcasters in Germany.

On January 22nd, the KEF did not allocate the full requested 140 Mio.€ to the public broadcasters for the roll out of digital radio. In fact, it was decided that the public broadcaster ARD would receive 45 Mio.€ for the roll out of digital radio and Deutschlandradio would receive 19.5 Mio.€ for the same purpose. In addition 32 Mio.€ will be allocated to the public broadcasters for the roll-out of terrestrial multimedia services. This means that a total of 97 Mio.€ has been awarded to the public broadcasters for terrestrial digital radio and multimedia services.

The criticism of the commission focused on the poor results regarding the market success achieved by the public broadcasters throughout the past few years, when the KEF allotted more than 180 Mio.€ for DAB digital radio. However, the commission missed a clear commitment of public broadcasters and a convincing plan to (re-)

launch Digital Radio in Germany using the DAB family of standards. Herbert Tillmann, chairperson of the production commission and technology commission states: "ARD, Deutschlandradio and the Private broadcasters are committed to arranging a successful new start of digital radio in 2009. The KEF's recommendation should not leave behind a complete technological mess, solutions are being developed now and there is active participation of the public service broadcasters."

The broadcasters are now required to submit a proposal to the KEF for how they will use the funds by mid 2008. This proposal for digital radio is currently being drafted by a working group of the joint digitalisation initiative of the federal and regional governments in Germany, the so-called "Forum Digitale Medien (FDM)". Since September 2007 this working group "radio" is headed by Dr. Stephan Ory, the General Manger of the association of private radio broadcasters (APR) in Germany. This group meets every four weeks and drafted a (re-) launch plan, which will be finalized and published in the 2nd quarter 2008.

In a recent press release issued from ARD, the main barriers that previously hindered the success of DAB in Germany are stated

as being overcome. "With the successful conclusion of the international radio conference in Geneva 2006, considerably more frequencies are available for terrestrial digital radio. In addition modern audio codecs permit even more efficient use of these frequencies... the restrictions of the transmitting power, that previously impaired in door reception have now been lifted."

The key points of the current proposal by the broadcasters include:

- Terrestrial distribution will be the main distribution channel for digital radio.
- The VHF-frequency range offers the most suitable conditions to achieve 100% area coverage, which is mandatory for radio distribution.
- The DAB family is the preferred technology as it offers good multiplex size and flexibility for regional and local coverage.
- The Digital Radio launch in 2009 will be based on a "big bang"-scenario:
 - At least 3 multiplexes in every region;
 - One of these multiplexes will be nationwide, offering explicitly new and exclusive content as there are currently no nationwide radio services available on FM.

Thomas Waechter, T-Systems

Over 80,000 DMB receivers sold in Beijing in just 1 year!

Commercial DAB/DMB services have been on air in four provinces or cities throughout China following governmental approval by SARFT, the Chinese regulator. As the host nation of the 2008 Beijing Olympic Games, China is keen to show the world how technologically advanced the country has become. The Beijing operator, Beijing Jolon Digital Media Broadcasting Co., Ltd (Beijing Jolon) forecasts 1 million DMB receivers in the market by the Olympic Games. To date over 80,000 such devices have already been sold in just under one year.

Beijing Jolon has been the key industrial driver for the quick roll out of DAB/DMB in China. In November 2006, ten digital audio programs and two mobile video programs were launched. The services have since been increased to 16 DAB digital radio services and 6 DMB services using a free-to-air business model. By the first quarter of 2008, 4 more transmitter sites will be completed which will allow for 86% coverage of the city. By June 2008, Beijing Jolon will offer 20 DAB, 6 DMB and 3 Data programmes. In fact, Beijing will be the first city in the world to broadcast the Olympic Games via DAB/DMB to international visitors.

Other DAB/DMB operators, including Guangdong Mobile Television Media Co., Ltd. (GTM), have been cooperating with Beijing Jolon to work with worldwide and



domestic providers of chips, modules and receivers in order to produce DAB/DMB receivers specifically for the Chinese market. Currently the DMB products that are available in the Chinese market include: USBs, Personal Multimedia Players (PMP), MP4s, GPS Navigators and mobile phones. These devices can be found in more than 300 electronic retailers. The retailer price of DMB products ranges from USD 60 to USD 550. The number of receivers will continue to grow swiftly after Chinese New Year.

DMB has created new opportunities for Chinese manufactures, who are now are leading the way forward in terms of DMB receivers in the Beijing market. These companies include: BBEF, Aigo, and CEC.

Although China uses a different frequency range from DAB/DMB in Europe, most of the DAB/DMB receivers can be used in Europe as the Chinese manufacturers have included both rasters.

GTM is also working on the promotion of DMB sales after their recent launch. Currently about 15 major retailer chains have signed agreements with GTM. DMB products are available in 500 retailers in the Guangdong province. GTM's mobile TV service uses a subscription model and it is forecast that 0.3 million receivers will be sold in the region by the Olympic Games in summer 2008.

Ming Huming, Beijing Jolon

Radio Henan Awarded China's 5th DAB License

The Chinese Regulator of radio, SARFT, recently issued a 5th DAB license in the country. The license was awarded to Radio Henan in October 2007. The previous four licenses were given to Beijing Jolon, Shanghai OPG, Guangdong GTM and Dailian Tiantu.

Radio Henan is a popular radio broadcaster in midland China. After acquiring the DAB license, Radio Henan has built 3 new studios for DAB digital broadcasting and currently is in the

process of purchasing equipment and building more transmitters to ensure excellent network coverage. The first DAB programmes will be rolled out in the capital city of Zhenzhou and expand to other larger cities in the province in the near future. Radio Henan plans to launch DAB multimedia services before the Chinese People's Congress, which will take place in March 2008. The 8 DAB programmes and 2 multimedia programmes will have unique content, which will be tailor made for mobile use. Other applications such

as emergency broadcasting and real time traffic information will be included in the offerings.

Currently there are over 60 DAB/DMB products manufactured in China. With more and more broadcasters and manufacturers becoming involved in DAB, the growth of digital broadcasting industry will continue to expand in the country and in foreign markets as well.

Singapore Plans for Mobile TV Services

Mobile phone users in Singapore may soon be able to watch TV programmes on their handsets by the end of this year. Heralding the next milestone in the nation's broadcast media landscape, the Media Development Authority of Singapore (MDA) is leading the drive to facilitate commercial deployment of mobile TV in Singapore. This is in line with Singapore's goal to develop into a global media city and a test-bedding hub for new media services.

MDA has earmarked the delivery of TV programmes to handsets as a promising new way to deliver value-added services to consumers. To pave the way for Singapore to be one of the first in Southeast Asia to roll out commercial mobile TV, the Authority has proposed a market-driven, light-touch and pro-enterprise regulatory framework and conducted a public consultation exercise from November 2007 to mid-January 2008 to solicit feedback on the proposed framework. The areas covered included technology standards, licensing framework, market structure issues and content and advertising regulation. Following this exercise, MDA will finalise its policy framework and award commercial licences.

"The rollout of mobile TV has begun to gain momentum across the world. Countries

such as Italy, Japan and South Korea have started to offer commercial mobile TV services while Hong Kong, Indonesia and Malaysia are currently conducting trials," said Ms Ling Pek Ling, MDA's Director of Media Policy. "With this global development in the broadcast industry as well as strong interest shown by the local media players, it is timely for Singapore to put in place a clear policy framework that will drive investment and innovation and enable mobile TV service providers to offer attractive services to consumers."

In attracting more players and services into the Singapore market, as well as encourage innovation and competition, MDA is prepared to award up to four mobile TV multiplex licenses. This is targeted to happen in the second half of 2008.

With one of the highest per-thousand mobile phone penetration rates in the world, mobile TV services potentially offer lucrative opportunities for the media business in Singapore. According to the Singapore Department of Statistics in 2006, the nation has 1,034 subscriptions for every population of 1,000¹.

Importantly, mobile TV deployment will further accelerate the pace of digital media deployment in Singapore as it follows the successful roll-out of TV Mobile on public transport in

2001; the commercialisation of cable and free-to-air high-definition television (HDTV) services – the first country in Southeast-Asia; as well as Internet Protocol TV (IPTV) services in 2007.

Mobile broadcasting trials are being conducted by three local mobile broadcast companies – Innoxius Technologies, GoMobile and PGK Media. The competition is expected to heat up as one of Singapore's leading Telco operators, M1, prepares the launch of its mobile TV service trial with the nation's largest broadcaster, MediaCorp, expected to begin in June 2008. This new service allows consumers to watch TV programmes on their mobile phones.

Current global developments have highlighted the tremendous potential in the delivery of content to mobile devices, to further revolutionise the broadcast media industry. According to the European Commission's 2007 report, Strengthening the Internal Market for Mobile TV, global mobile TV adoption is forecasted to increase to more than 200 million viewers by 2011. Additionally, the Multimedia Search Group estimated that the global mobile TV market will exceed US\$24 billion worldwide by 2011, of which US\$5 billion will come from China or the Far East.

This bodes well for a nation whose media industry is viewed as a key driver of the Singapore economy. In the PricewaterhouseCoopers report entitled, Global Entertainment and Media Outlook: 2005-2009, analysts forecasted that the media and entertainment industry in Singapore is expected to grow at a compounded basis of 6.5 percent. With one of the highest mobile phone densities in the world, the deployment of commercial mobile TV services will further fuel its growth and propel Singapore towards its Global Media City vision.

Media Development Authority,
Singapore



DAB on air in Kuwait



Arabian Construction Company, ACC, a leading telecom & RF system integrator won in July 2006, a public tender to provide and install the first DAB system in the Middle East. ACC supplied and installed, in cooperation with Electrosys of Italy, the Kuwait Ministry of Information (Kuwait Radio), a DAB transmitting system in passive stand-by configuration as the core part of a turnkey solution featuring encoders and multiplexers, antenna system, supervisory system, and numerous DAB receivers. European companies such as VDL also provided assistance.

The Kuwait DAB system is distributed over two locations. Both the Service providing and Ensemble providing equip-

ment are located at the Kuwait Ministry of Information. The DAB Ensemble is then converted to an optical signal and transmitted through a 12 core fiber (1.2 km) to the transmitters. However, the DAB transmitting system (which includes the antenna system and DAB exciters with single board COFDM encoders) were installed at the Kuwait Liberation tower, at a height of 190 meters above sea level. The transmitting system consists of a 2KW transmitter and a standby 500 W transmitter each with its own exciter. A control/monitor unit provides auto and manual switching between the main and standby transmitters.

The DAB system was officially commissioned in February 2007 and operates in

the VHF Band III (174 – 220 MHz). 11B is the frequency that has been used (216.8 MHz). ACC., along with Electrosys and VDL provided the needed technical and operational training to make DAB in Kuwait a reality.

Currently, the system is operated by Radio Kuwait and there is a multiplex of 8 radio channels being broadcast. Content ranges from temporary music, in both English and Arabic to older more traditional music.

Saed Khawli,
Arabian Construction Company

Indonesia, the forerunner in South East Asia

Indonesia has shown great interest in using DMB for Mobile TV and has been progressing faster than any other country in the South East Asian region. Telco operators are expecting that Mobile TV will allow them to differentiate their overall mobile service positioning and help generate new revenue streams. Similarly, content providers and TV broadcasters are planning to use Mobile TV to open up new channel distribution platforms, with targeted content and new advertising schemes. Both PT Media Nusantara Citra (MNC) and DMB-N were granted frequencies and licenses for Mobile TV in Jakarta.

MNC is the largest and only integrated media company in Indonesia. They have been running DMB trials in Jakarta since 2006, with 1 DAB audio and 1 DMB video service using Band-III frequencies. MNC, at the same time, is also the operator of DVB-H. Mobile TV using DVB-H will be marketed as an expensive service, as a result of the increased investment in the network. DVB-H offerings will include around 15 Pay TV channels. However, DMB Mobile TV will be marketed as an affordable product which will be targeted at the mass market. Services will be on a subscription basis but will cost much less than the DVB-H services.

DMBN is a joint company of the local broadcasters and ETRI, a Korean research institute, to implement mobile TV services in Indonesia. DMBN is now running trials in Jakarta and plan for further testing in Bandung, Medan and Surabaya for mobile TV and DAB services in the near future.

Both operators plan to launch Mobile TV services in Jakarta in the first quarter of 2008. It is expected that there will be a wide selection of mobile phones and other devices from South Korea.

Latest in the receiver market



Aigo DT5201

KH1400, DMB HSDPA (High-Speed Downlink Packet Access) with 2.2-inch LCD, Bluetooth, video calls, music player and optical sensor called 'Digital Eye'. The 'Time Machine' feature, allows users to watch DMB during phone calls. The KH1400 also offers PC-out function, 3.6Mbps transmission speed, 2M camera, external memory, electronic dictionary, subway map and portable disk. It retails for approx. \$550.

Boston Acoustics, Solo XT

Boston Acoustics the newest entry into the DAB market launched its Solo XT in time for Christmas 2007. The stylish design includes a rotating front panel, blue back lighting and the option to stand the radio vertically or horizontally. The snooze ring allows you to turn off the radio by touching anywhere on the front panel. Also a front grille which can also be bought in interchangeable colours: including: Glacier, Rosebud, Onyx, Pearl Gray, Caramel, Chocolate, Silver, and Chili Pepper. -Martin Lynch.

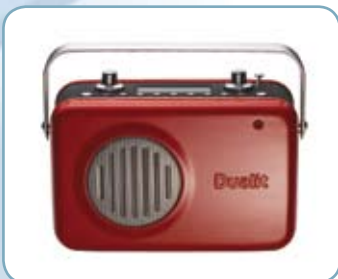


Bose, Wave

The Bose have put their considerable talents into producing the new Wave with DAB. The Wave incorporates DAB, AM/FM tuning, CD, CD-R/RW and MP3-CD in a compact HiFi unit. It has a slot loading CD player along with a credit-card sized remote control and uses the proprietary wave guide speaker technology. The sleek design is achieved by removing the usual buttons and the award winning design makes this a highly desirable product.

Roberts Robi

The Robi now allows iPod users to get their favorite DAB radio stations. Powered by the iPod no extra batteries are required this small add-on to the iPod has DAB/RDS with a favorite station mode, ice blue backlight display and a search and manual tuning. The Robi is compatible with the iPod and iPod nano and is mm 33 (w) x 53 (h) x 14 (d).



Dualit

Dualit kitchen radios now come in a range of colours: polished, cream, black and red. So for all you budding interior designers the Dualit can match your every whim. All the functions of the original Dualit are retained such as 5 presets for each mode, 4 inch speakers, kitchen timer, alarm with snooze and sleep, AUX IN, two year guarantee, large screen, internal NiMH rechargeable battery pack and much more.

Frontier's Revo Blik

This 'one box' digital radio device can receive DAB, DAB+, FM and Wif-Fi transmissions. Other features include a wide choice of radio stations with clear digital audio selected by station name, access to over 9,000 internet radio stations using Wi-Fi technology, wireless music stream from a PC or Mac, digital alarm clock with sleep & snooze, stereo headphone connector and an infra-red remote control. It is compatible with Real Media, MP3 and WMA, and you can plug your iPod into BLIK's M-Port to get a quality iPod® speaker system



Latest in the receiver market

Roberts MP-SOUND 41

The MP-SOUND 41 has a timer to remind listeners when their favourite programme is on. Other functions include: record up to 12 programmes at any one time and record up to eight hours directly onto SD card. This device also has PausePlus, MP3/WMA playback from SD card, RDS station name display and scrolling text, stereo playback of MP3/iPod via auxiliary input socket, line output and headphone sockets. Weighs 2kg, size (mm) 300(w) x 180(h) x 95(d). Available in a smart silver finish.



Intempo-Digital iDAB

A handy discreet add on for the iPod which allows one to receive digital radio on an iPod. It connects directly to the iPod ensuring easy use, and also can dock into an iPod Speaker system allowing the listener access to all those great DAB radio stations through an iPod docking station. The iDAB is available in granite black to match new iPod Nano and polished silver. It is compatible with all iPod family and all iPod docking stations, headphone jack, weighs 5g and size 40mm x 40mm x 10mm.

Intempo TRS-01 Claret

This portable slimline DAB/FM radio features 20 station presets, a headphone jack, both battery and mains operated, weighs 1.5 kg, Size 205mm (l) x 380 mm x (w) x 105 mm (h). Available in blue, silver, violet, claret and black.



Roberts RD-59 FM RDS/DAB

DAB/FM Wavebands, FM RDS station name display, 10 station pre-sets, automatic clock set, headphone socket, up/down tuning buttons, search/manual tuning, amber display backlight and menu display/selection of all major functions. Available in black or white.

LG-LB3300 The Rhapsody in Music

With 1GB of built in memory, which is expandable to 4GB, this slider phone has a LED lit touch wheel tech and boasts a 2 mega pixel camera as well as a 2 inch LCD. It has Bluetooth A2DP technology and can receive both DAB and DMB broadcasts. With dimensions of 103x48x14.7mm, it is available in black, red and white.



PANTECH IM S240K

This latest mobile phone features a built-in DMB receiver, multi-media player, 1.3 mega pixel camera, 2.1" QVGA(240x320) TFT LCD, internal memory of 100MB, e-dictionary, document viewer, HSDPA connectivity as well as a facial recognition feature. With dimensions of 97x45x16.5mm and weighing 88g, it is available in grey and white.

CCBN WorldDMB pavillion stand 6.205



DIGIDIA is a company focusing its business on the digital broadcasting of media such as radio, TV or pure data. DIGIDIA is a key provider of products and services for the digital and terrestrial transmission of radio programs, following both the DRM/DRM+ and the DAB/DAB+/DMB (Eureka147) international standards.

DIGIDIA is a class B member of the DRM consortium and full member of the WorldDMB forum.

The DIGIDIA team has a proven international experience in the digital radio area and is therefore a privileged technical partner for any of its customer digital radio transmission projects (products supply, technical expertise, technical training courses, installations...).



onTimetek (OTT) is a leading company offering the total system of mobile TV and IPTV.

onTimetek provided the world's first DMB H/W encoder and interactive data service system for on-air service. onTimetek also has DMB terminals as well as total measurement system. In addition, our new products including low bit-rate encoder will absolutely enhance customers' business successfully. onTimetek will demonstrate their head-end Systems for TV & Radio as well as DMB products.



Future Waves is a cutting-edge receiver solutions provider and fabless manufacturer of components for digital communication and broadcast technologies. The company focus is in providing highly integrated, cost-effective and very low power Zero-IF, RF CMOS digital broadcasting receiver solutions customized for digital radios, mobile TV receiver, mobile phones, laptops, PMP, GPS and other hand-held devices. Future Waves has offices in the UK, Taiwan, Hong Kong, and Korea that engage in R&D as well as to provide sales and customer support.



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EXHIBITION & CONFERENCE

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Agent: IMAS Media & Exhibitions (Int'l) Limited Tel: +852-2787 3662/4727 Fax: +852-2787 4041 E-mail: wwg@imaschina.com

Upcoming events

February 4-7

CSTB, Moscow, Russia

February 11-14

3 GSM, Barcelona, Spain

March 4-9

CEBIT, Hannover, Germany

March 10-13

ABU Symposium, Kuala Lumpur, Malaysia

March 21-23

CCBN, Beijing, China

April 11-17

NAB, Las Vegas, USA

3GSM World Congress: DAB/DAB+/DMB

Barcelona, 11 – 14 February 2008 Exhibitor's Showing DAB/DAB+/DMB

Dolby 2.1B37 (2_1)

ETSI 2E47 (2_0)

Fraunhofer IIS 2F41 (2_0)

Imagination Technologies 2A05 (2_0)

Irdeto 2H33 (2_0)

Korean Pavilion 2.1F56 (2_1)

LG Electronics 8B192 (8)

Microsoft Corporation 1D19 (1_0)

NXP Semiconductors 8B110 (8)

Panasonic Europe 8B135 (8)

Pixtree 2.1F56 (2.0)

Iriver 2A10 (2_0)

Samsung 8A106 (8)

Siano 4.5H544 (4_5)

ST Microelectronics 3-1HS174 (3_1 Gallery)

Teracom 2F13 (2_0)

Texas Instruments 8A84 (8)

TTP PLC 1B39 (1_0)

With special thanks to Abertis and Arqiva for their help at this event.

DAB/DAB+/DMB Trials

Czech Republic

TELEKO, in cooperation with the public broadcaster, Czech Radio, has continued the Czech DAB+ trial in Pribram's region on channels 12D and LI. Signals cover over 50,000 of the cities population. Receiver manufactures such as iRiver, PURE and REVO has supported the trial with DAB+ receivers.

Italy

Italy was one of the first countries to launch a DAB+ trial in July 2007. Club DAB Italia now has six programmes on air using AAC and the EuroDAB consortium is also presently transmitting 3 channels with this new codec. The public service provider, RaiWay, and the commercial consortiums have already ordered DAB+ capable encoders. Both Club

DAB Italia and EuroDAB do not consider the launch of DAB+ a trial any more but already a broadcasting reality. As soon as reliable commercial receivers will be available more channels will be switched to the new codec. The L-band trial run by Club DAB Italia in Rome will have a mix of 5 DAB+ programmes and 2 DMB services.

Germany

The German regional public broadcaster (MDR) is currently running a DMB trial in the city of Leipzig. The offered services include specially produced TV channels such as sport, weather, culture and children's programmes. Digital Radio services are also included in this pilot project and these will be simulcasts of the two MDR stations.

New WorldDMB Members

Beijing Jolon

Beijing Jolon Digital Media Broadcasting Co., Ltd., which was founded by Radio Beijing Corporation (the sole subsidiary of Beijing Radio Station), was established in January 2005. Beijing Radio Station was awarded the exclusive DAB

broadcasting license from the Chinese regulator, SARFT, in Beijing. Beijing Jolon launched DAB multimedia services in Beijing in 2006 and the current offering includes 20 audio and 6 video programmes.

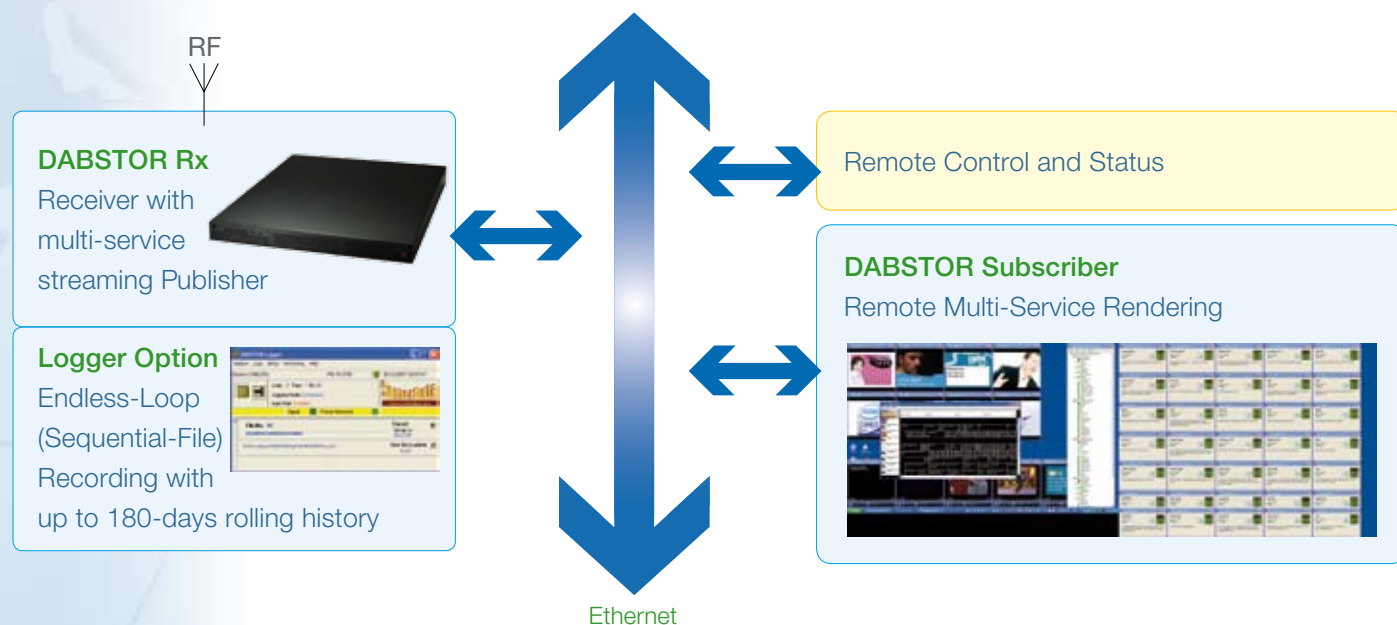
SomerData adds new Remote Monitoring Products to its DABSTOR Range

DABSTOR-Rx Service Monitoring Receiver

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

The 1U rack-mount chassis comprises a Band-III and L-Band DAB/DMB receiver, plus Publisher software that network streams the individual services to one or more remote locations running the DABSTOR Subscriber software.

Logger Application software (endless-loop recording) will be available for DABSTOR-Rx during 2008.



DABSTOR ETI Monitor Remote Publisher

The new Remote Publisher option for the SomerData DABSTOR ETI Monitor enables remotely located control centres to simultaneously render Audio, Video and Data services, via a network connection, using the DABSTOR Subscriber application.

DABSTOR ETI Monitor supports simultaneous monitoring of up to 4 ETI streams, plus off-line analysis from DABSTOR ETI recordings.

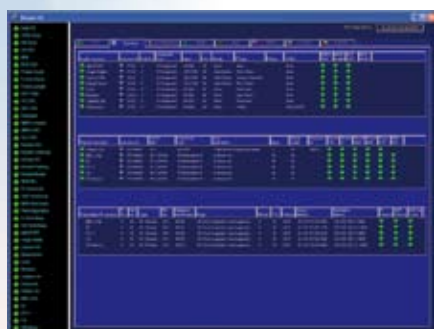
DABSTOR Remote Subscriber Application

The DABSTOR Subscriber receives a list of the available services and their current status via a management channel from a DABSTOR ETI Monitor, or DABSTOR-Rx Monitoring Receiver.

All services can be selected and the Subscriber desktop can be arranged in groups according to user preference using the service viewer's docking windows.

Subscriber desktops can be saved and loaded. The DABSTOR Subscriber supports the following service types.

- DAB Audio
- DAB+ Audio
- Broadcast Website (BWS)
- Slideshow (SLS)
- Electronic Programme Guide (EPG)
- T-DMB (Video and Visual Radio)
- Windows Media Video



DABSTOR ETI Monitor Application



DABSTOR Remote Subscriber Application – showing Audio, Slideshow, EPG and Video services