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IN THIS ISSUE:

Final Plans for NASB Annual Meeting
Special DRM Tests for NASB Annual Meeting
News from VT Communications
News From the DRM Consortium
News Release From Radio Free Asia
DRM at the Winter SWL Fest
Letters to the NASB
Quotes from Q1 2007 Issue of the *AIB Channel*

Final Plans for NASB Annual Meeting

The 2007 annual meeting of the NASB is almost upon us. It will take place together with the annual meeting of the USA DRM Group on May 10 and 11 at the HCJB Global Technology Center in Elkhart, Indiana.

Several speakers will be from HCJB itself, including Charlie Jacobson, who will talk about various DRM receivers that he has been testing. Herb Jacobson will talk about how to convert existing shortwave transmitters to DRM digital modulation. Brent Weeks of HCJB's Quito office will give an update on the mission's operations in Ecuador, including the DRM tests that are being conducted. John Brewer from HCJB Asia Pacific will talk about radio planting in Indonesia and about a DRM mediumwave station that is planned for that country.

Other speakers on the agenda include Rev. Allan McGuirl from Galcom International in Canada, who will talk about the fixed-frequency radio receivers that his company manufactures. Galcom has a new two-frequency shortwave receiver, and they are working on a new digital shortwave transmitter as well.

Volker Behling of T-Systems in Germany will give a presentation about his company, which relays many international shortwave services in both analogue and DRM. Dr. Kim Elliott of the Voice of America will explain "Why Shortwave Still Matters" in the world today, and George Ross of NASB member Trans World Radio will talk about their shortwave station KTWR on the Pacific island of Guam. Adrian Peterson of Adventist World Radio will give a presentation

about the world's oldest radio and QSL cards from 1901 to 1945. Andrey Nekrasov of NASB associate member Beth Shalom Center Radio will present two DVDs about his stations in Moscow and New York.

During the two days of meetings, there will also be tours of the HCJB Global Technology Center itself, and of LeSEA Broadcasting headquarters in nearby South Bend, Indiana. Northern Indiana is Amish country, and the Friday May 11 conference dinner will be at an Amish village near Elkhart. The Thursday and Friday dinners will both be sponsored by Continental Electronics, TCI International, Thomson Broadcast and WMLK Radio. Lunches on both days are being provided by HCJB, and coffee breaks are being sponsored by Comet North America.

If you would like to attend the NASB annual meetings, registration is free of charge. Participants pay their own travel and hotel expenses. If you'd like more information, e-mail us at info@wrmi.net

Special DRM Tests for NASB Annual Meeting

In conjunction with the annual meetings of the NASB and the USA DRM Group in Elkhart, Indiana May 10 and 11, at least three stations will be carrying out special DRM test transmissions, with the following schedules:

CBC Radio-Canada in Sackville, New Brunswick will broadcast 12 days of DRM transmissions with programming by NASB members from May 1 to 12 at 2200-2230 UTC on 9800 kHz at 268 degrees azimuth.

HCJB in Quito, Ecuador will be testing in DRM daily from April 30-May 26 on the following schedule:

1500 - 0100 UTC 15680 kHz at 355 degrees with 4 KW
0100 - 0400 UTC 9915 kHz at 355 degrees with 4 KW

And Vatican Radio will do two special trans-Atlantic DRM tests during the meeting on May 10 and 11 at 2000-2100 UTC with music and announcements about the meeting on 15525 kHz.

Our thanks to CBC, HCJB and Vatican Radio for arranging these special DRM transmissions.

News from NASB Associate Member VT Communications

VT Communications and BBC to celebrate 10 year anniversary

In April 2007 VT Communications will celebrate their 10 year contract with the BBC World Service. The relationship has gone from strength to strength as VT Communications continues to enjoy a close working relationship with the BBC World Service. Heavy investment in infrastructure and facilities will allow us to continue to deliver BBC programmes across the globe.

VT Communications begins broadcasting for leading international broadcaster, Deutsche Welle (DW)

From January 2007, VT Communications has broadcast 90 hours of programme content daily for Deutsche Welle (DW), one of the world's leading international broadcasters. The transmission agreement was signed in August 2006 by Eric Bettermann (General Director at DW) and Simon Tarrant (Executive Director at VT Group), and includes the provision of analogue, as well as digital short wave services for the next five years.

The majority of DW services are coming from VT Communications' UK sites - Woofferton, Rampisham and Skelton. By the end of April 2007, three new transmitters will be installed at Woofferton, and this facility will also become the central downlink and distribution hub for DW programmes, while Skelton will see one new DRM-capable transmitter installed by the end of July 2007. VT Communications is delivering a high degree of reliability under its Service Level Agreement with DW, and look forward to increasing transmission to over 150 hours daily, in due course.

News from the DRM Consortium

I am Fanny Podworny and I was born in the small French town of Arras, close to Lille. During my business studies, I moved to Germany and to Ireland where I studied and completed some internships. Before joining DRM, I was working for France Telecom Mobile Satellite Communications (Bonn, Germany) as International Marketing & Communications Assistant. I am working now with Anne Fechner, DRM Project Director and Laszlo Torok, DRM Business Development Manager, and I will support them in different topics (from marketing to finance and press).

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The DRM Consortium welcomes the new TN 1000 transmitter of Hitachi Kokusai for the 26MHz Band

Las Vegas, Nevada – Long time DRM consortium member, Hitachi Kokusai Electric will introduce and publicly present at the NAB show in Las Vegas a brand new transmitter, named TN 1000 for use in the "26 MHz" Band broadcast transmissions in the Digital Radio Mondiale ® system.

The DRM Consortium, as a developer of the Digital Radio Mondiale ® system welcomes the introduction of the new device, which is expected to facilitate a smooth transmission to the possibilities of local digital radio broadcasts in the "26 MHz" band. The DRM consortium recognises the importance of the broadcasting service band from 25 670–26 100 kHz (called the "26 MHz band"), which is rarely used for traditional long range cross-border reception broadcasts. Recent tests conducted for DRM transmissions in this band proved that this broadcasting method will, in time, provide many administrations with another means to serve its citizens with high quality radio broadcasts, and also the possibility for private local commercial radios to broadcast their local programmes.

Hitachi Kokusai Electric's new TN-1000 transmitter is operating with 300W output on "26MHz" band, which is appropriate for DRM transmissions, and it is optimal for local broadcasts that use a comparatively narrow-band for covering one city.

At their booth in the NAB show, Hitachi Kokusai Electric will show live demonstrations of DRM broadcast using the new TN-1000 device offering all the necessary information for broadcasters and network providers interested in broadcasting in the "26 MHz" band. Hitachi Kokusai welcomes all interested companies and individuals at their booth in the Central Hall at Las Vegas Convention Centre, booth nr. C5017. Basic features of the new device will also be presented each day of the show from 16th to 18th of April during the seminar sessions of the DRM Consortium in the North Hall of LVCC, booth nr. N7706 (hosted by Continental Electronics).

The DRM Consortium welcomes a strategic step in the development of DRM capable receiver devices

STMicroelectronics (NYSE: STM), (a leader in technologies for digital radio) and Fraunhofer Institute for Integrated Circuits IIS recently announced the signing of an agreement to jointly develop a dedicated low-power Application Specific Integrated Circuit (ASIC) for Digital Radio Mondiale ® (DRMTM) applications such as fixed and portable radios, car receivers, software receivers, and Personal Digital Assistants (PDAs). Allowing listeners to set their radio programmes using station names or IDs, the ASIC will offer excellent audio quality and integration of sound with data and text.

As the developer of the acknowledged Digital Radio Mondiale ® system, the DRM consortium wishes to express its warmest welcome to this strategically important initiative from key members of the receiver research and manufacturing industry.

During the last ten years, with contributions from all members, the Consortium successfully developed, implemented and made available world-wide the Digital Radio Mondiale ® system. DRM is, today, the only non-proprietary, digital radio system for short-wave, medium-wave/AM and long-wave with the ability to use existing frequencies and bandwidth across the globe. It has near-FM quality sound that offers a dramatic improvement over analogue AM. The technical developments have reached the point, where the system is ready; it has been successfully tested and many broadcasters have already opted for the introduction of their digital programmes.

However, we also recognise that without modern, affordable and easy-to-access receiver devices the benefits of the DRM system can not be exploited by those for whom the system was basically developed: the listeners. This is why we consider the agreement between STMicroelectronics and Fraunhofer IIS a major step of strategic importance in getting DRM capable receivers in the market place.

The creation of this new ASIC chipset will open possibilities for many receiver manufacturers to create new and exciting radio sets, which can be enjoyed by millions of radio listeners through the world.

"We are pleased that these DRM members have agreed to combine their complementary competencies to develop products that help drive new innovations in technology," said Peter Senger, Chairman of the Digital Radio Mondiale Consortium. DRM's capabilities for both audio and data will give new life to the traditional radio market, opening up the world of wide-area datacasting of news, weather, traffic, and other information, as well as high-quality audio broadcasting."

Given the increasing market interest towards DRM radio, the Consortium encourages its receiver manufacturer members, to focus on their research and development activity for digital radio sets including portable, non-portable and mobile/car radios. The DRM consortium also welcomes the efforts to develop multi-standard and multi-band digital radio sets capable of DRM, as well. Dual standard sets make it possible for listeners to easily reach and access their favourite radio programme, on whatever frequency and technology it comes.

The French Government selects DRM as the sole standard for digitizing the AM frequency

Paris –The French Authorities have chosen the DRM standard (Digital Radio Mondiale) to reawaken interest in the AM band (short-wave, medium-wave and long-wave). The Industry Minister, Mr. François Loos, indicated this choice during his speech in Radio France on last March 13th.

The Minister in particular declared that after the success of the TNT, the radio should also enter into the digital era. Digitalization will make it possible to provide better sound quality and improve listening comfort, for example by providing the possibility of pausing a programme. According to François Loos, "from now on the mechanics are in place to provide digital radio to the French within one year."

The Minister's message is a strong signal to the industrialists of the sector, the manufacturers of station reception equipment and to the car radio's manufacturers who from now on are all at the forefront of a new market that will bring technological innovations and new uses to the consumers.

The DRM Consortium is very pleased with the French decision and will continue to facilitate the launch of digital radio in France. It will continue to support all possible synergies between the standards so that future digital receivers, at an affordable price, will offer the widest possible choice to listeners.

Thus France is today one of the countries driving for the success of digital radio in Europe and in the rest of the world.

News release from Radio Free Asia:

The Broadcasting Board of Governors and Freedom House invite you to a conference on 21st Century Threats to Media Freedom

May 1, 2007 8:30 a.m. -- 1:30 p.m.

Rayburn House Office Building Washington, DC

At the Winter SWL Fest, DRM digital shortwave worked, except when it didn't

Commentary by Dr. Kim Andrew Elliott

The Winter SWL Fest is the world's largest annual gathering of shortwave listeners and other radio listening enthusiasts. While the Fest is a celebration of 75 years of analog shortwave broadcasting, the event is also a showcase for the new media of international broadcasting.

An exhibit of Digital Radio Mondiale, the new technology for digital transmission below 30 MHz, has been held at the Fest since 2003. This exhibit features DRM-capable receivers picking up actual DRM transmissions.

At this year's SWL Fest, March 8 to 10 near Philadelphia, the DRM exhibit expanded to include other forms of digital radio: 1) wi-fi internet radio appliances and 2) HD Radio (IBOC), the U.S. domestic digital radio system.

The DRM exhibit

No standalone receiver was available in the North American market in time for this year's DRM display. We used instead 1) a Ten-Tec RX-320D "black box" HF receiver, 2) a Kenwood TS-2000 amateur transceiver, and 3) a Yaesu FT-847 amateur transceiver. All three units were connected to personal computers with DRM software installed. The Kenwood and Yaesu transceivers had been modified to provide the necessary 12 kHz IF output. A large doublet antenna was installed on the roof of the hotel where the SWL Fest was held.

The transceivers generally provided better DRM reception than the Ten-Tec. The RX-320D, however, costs only \$400 and thus is one of the least expensive receivers with DRM capability. Its IF audio output appears to be set at a level too high to operate well with the DRM software. We improved this by using an attenuating adapter into the microphone input of the laptop PC. The RX-320D performance was improved even more by using a Soundblaster Extigy external

sound card, with the microphone gain turned all the way down.

In addition to the DRM transmissions already in regular operation, we arranged for special transmissions during the time of the Fest. We were especially interested in attempting trans-Atlantic DRM reception — realizing that transoceanic distances are probably beyond the expected capabilities of DRM shortwave.

Vatican Radio. Vatican Radio added special transmissions at 1300-1400 UTC on 15460 kHz. On 9 March at 1300 UTC, we were able to see the data ID for Vatican Radio on the computer screen, but we could not hear the audio. After a telephone conversation with Vatican Radio engineers, the modulation mode was reduced from 64-QAM to 16-QAM. With this adjustment, the Vatican Radio audio signal became audible. It remained audible for the rest of the transmission on 9 March and throughout the hour on 10 March. Audio degraded to the "echo" sound, but only on a few occasions. At one point during the program, selections of opera were played: opera never sounded so good on shortwave. This was the first sustained trans-Atlantic reception of DRM at the SWL Fest.

VT Communications. VT in the U.K. offered the Fest special DRM transmissions at 0000-0400 UTC on 6155 kHz. These were from Rampisham, at 33 kW. In general, we were not successful in maintaining an audio signal on this transmission, although the data ID was usually visible. At one point, we sustained audio for twenty minutes. It was not possible for VT to reduce the bitrate to improve the chances of sustaining the audio. In contrast to Vatican Radio, the VT signal had to follow a more northerly azimuth to reach our receivers, and the 49 meter band is particularly crowded at this time of the day.

HCJB (Ecuador). HCJB transmitted from Quito, Ecuador, to the fest using only four kilowatts. At first, audio reception was usually unsuccessful. After frequency changes (to 15200 kHz during the day, and 9800 kHz at night) and a lowering of the bitrate, DRM audio reception was consistent. However, the bitrate was 9.8 kbs (or thereabouts), producing a telephone grade audio. But given the modest power output, the DRM reception from HCJB was impressive.

TDF (France). We monitored the TDF DRM transmissions of Radio France International from Montsinéry, French Guiana, from 1200 to 2000 on 17875 kHz. Audio reception was usually successful. The TDF relay of Radio Netherlands on 15425 at 2200-2300 UTC was flawless.

Radio Canada International. RCI transmitted various programs from its Sackville, New Brunswick, site during the day on 9800 kHz. These were usually audible, although there were periods when the audio dropped out. Transmissions from Sackville's northerly location sometimes suffer from poor propagation. The RCI relay of China Radio International at 0100-0200 UTC on 6080 kHz was completely audible.

DW Sines. We were not able to hear the audio from the Deutsche Welle DRM transmission via Sines, Portugal, on 3995 kHz (beamed to Europe), but we did see the data ID.

Assessment of DRM reception. Our DRM listening was mostly successful. However, audio dropped out on enough occasions that the non-enthusiast shortwave listener would likely be frustrated.

Very careful frequency management will be necessary to make DRM work on shortwave circuits over medium to long distances. This might be aided by remote monitoring stations that automatically receive the DRM transmission and send signal information back to the transmitter via the internet. If the audio signal drops out, the transmitter would adjust the QAM and/or bitrate levels until audio is achieved. A frequency change might even be implemented. This could automatically trigger a frequency change in a "smart" receiver, or at least place a text message on the receiver display announcing that a frequency change is imminent.

While we were listening to HD (IBOC) radios that were part of the exhibit, we noticed that when the station dropped below a certain signal level, the radio would revert to the analog mode, thus retaining the station's audio. This is an attractive feature. I am not advocating an IBOC system for shortwave, but if the DRM transmitter and receiver can automatically switch to analog under the worst reception conditions, this might maintain audio where it would otherwise be lost.

Will DRM be useful for long haul shortwave? The sole remaining advantage of shortwave in this modern multimedia age is that shortwave can deliver a signal under adverse conditions. Shortwave can overcome jamming better than satellites can overcome jamming, and better than websites can circumvent blockages. Shortwave can deliver a signal into a distant target country when a nearby relay is not available.

DRM is more sensitive to reductions in signal strength, and to the presence of interference. As such, DRM could eliminate the last remaining advantage of shortwave. Analog shortwave will always be needed as the failsafe for international communication.

Perhaps DRM makes better sense for local and regional applications, such as longwave, medium wave, and short-hop shortwave broadcasts. Radio New Zealand International is already an example, with its feeder transmissions to radio stations in the Pacific region. Radio Canada International might experiment with a transmitter in southern Ontario, using 2 or 3 MHz bands at night, and 5 or 6 MHz by day, for DRM early adopters in North America.

It would be good to see more use of text by DRM broadcasters, given that the text content often survives even when audio is lost. International broadcasters could fairly easily feed their news scripts into the DRM text transmission facility.

But the power and bandwidth required for DRM is probably overkill for text transmission. International broadcasters might also experiment with amateur radio's PSK-31 mode. Using only a narrow sliver of spectrum, PSK-31 text messages are usually receivable even under appalling reception conditions. Small receivers could be developed that could, for example, be affixed to hotel windows. They could receive news to be read in real time or stored for later reading.

We would also like to try side-by-side tests of DRM and analog transmissions, similar to the promotional audio samples showing the benefits of DRM. For example, is DRM that is reduced below 10 kilobits per second an improvement over analog using the same amount of electricity?

In these side-by-side comparisons, the analog side should include reduced carrier single

sideband transmissions. Using receivers with synchronous detection, this type of sideband transmission would eliminate selective fading and reduce interference. Analog receivers with synchronous detection might be easier to manufacture, and might have lower battery consumption, than those that can receive DRM.

Internet radio

In our digital radio display, we also displayed two wi-fi internet radios. One was the Slim Devices Squeezebox, which would not work with the hotel's wireless system. The other, the Acoustic Energy Wi-Fi Internet Radio, worked very well. On the AE, we listened to Vatican Radio at the same time we were listening to the same station via DRM shortwave.

Listeners at the Fest were impressed with how easily the AE could receive audio streams from VOA New Now, BBC World Service and the domestic BBC channels, Radio Prague, and many of the other 10,000 radio stations available through its menu. Now that internet radio can be listened to on a device that looks, feels, and operates like a radio, and is portable at least within range of a wi-fi node, it may have potential as a replacement for shortwave radio for the reception of foreign broadcasts. These devices could be especially interesting, and usable in cars, where "city wide" wi-fi will be available.

To be sure, internet radio requires a broadband connection, in a country where your favorite station is not blocked by the authorities. But a person who can afford the first generation of DRM receivers is more likely than the general population to afford a broadband connection. And if a station is blocked via the internet, then chances are its DRM signal would also be jammed.

In a time of local crisis, the internet can fail locally, due to overuse or to sabotage. In a time of global crisis, it can fail globally, for the same reasons. The world must return to shortwave for information.

We shortwave listeners who are experimenting with DRM want to continue to help push DRM to its greatest capability. However, because DRM shortwave will probably be easier to jam than analog shortwave, we continue to need analog shortwave for the proverbial rainy day.

Posted: 22 Mar 2007 on <http://www.kimandrewelliott.com/>

Letters to the NASB

Elliott writes: Greetings. Will DRM receivers be available soon in the US? Is this the future of SW?

Jeff White responds: Thank you for your questions sent to the NASB about DRM receivers and the future of shortwave radio.

It had been hoped that DRM receivers would be available in the United States long before now,

but unfortunately there have been a series of developmental delays that have set back the target date several times. For some time now, it has been possible to use certain shortwave receivers connected to a personal computer with special DRM software to listen to DRM transmissions. However, the goal is to have so-called "stand-alone" receivers that can pick up DRM signals without the need to connect them to PC's. Recently, a few of these types of radios have been released on the market in a small scale in Europe, even as modifications and improvements continue to be made. Prices so far have been hovering around the 200 to 300 euro range. It is likely that more and better DRM receivers will be available in Europe during the coming months, and they should be available in North America shortly after that. But no one is making any specific time predictions yet.

Is DRM the future of shortwave radio? Many shortwave broadcasters are convinced that it is. Others believe DRM and traditional analog shortwave will coexist for many years to come. And a few others think DRM will not be successful. As the old adage goes, time will tell. But there are many reasons to be optimistic about DRM. For one of the very latest accounts of DRM test reception in North America, I would refer you to the article elsewhere in this issue by Kim Andrew Elliott of the Voice of America. We can also recommend to you the DRM North America Yahoo discussion group at: <http://groups.yahoo.com/group/drmna/>.

For further updates, we would refer you to the USA DRM website, www.usdrm.com, and the worldwide DRM Consortium website, www.drm.org

Significant quotes from the Q1 2007 issue of *The Channel*, published by the Association for International Broadcasting:

"Radio is often the only link millions of Africans have with the outside world. In many cases, that link is through shortwave programmes transmitted by international broadcasters. Today, it is still very common to see young people walking down footpaths clutching cheap transistor radios and listening to the news from the big broadcasters, BBC and Radio France International. They're often listening to these services simply because it's the only radio signal they can receive! The state broadcasters of many African countries do not have the capacity to reach large swathes of their population, due to lack of infrastructure. The programming they do broadcast is often perceived as less than credible or objective." (*David Smith, a specialist in setting up radio stations in conflict zones and a Johannesburg-based media consultant*)

"It's not about one versus the other [shortwave vs. 'new media']. All methods of broadcasters communicating with their audience are valid. It's just that there are more of them available through different technologies but they all have their place. Some broadcasters want to encourage a more interactive discussion with their audience, whereas there are times when speed of reaching vast quantities of people many miles away is more important. For example, analogue shortwave has a place during times of disaster such as an earthquake, the tsunami, etc. And don't forget, millions of people around the globe have little or no access to sophisticated communication networks and rely heavily on shortwave to retrieve news and information in their chosen language every day." (*Nick Gilboy, Sales Manger, NASB associate member VT Communications*)

"In simple terms we believe the HF as a broadcast platform is here to stay. It has some very unique benefits that mean broadcasters can get on air, across international boundaries to reach a very large audience very quickly. It is tried and tested. There are over one billion receivers out there. Most international broadcasters recognise this. For example, the significant contract we have with Deutsche Welle is for a minimum of five years. Our contract with the BBC is until 2012.... We'll be keeping an eye on the market. And of course see how DRM develops -- our new transmitters are DRM capable and it is important to us to have such capability as and when DRM establishes itself as yet another potential platform for broadcasters to exploit." (*Brian Coombes, Director Broadcast for VT Communications*)

"Latin America's political scene has been undergoing a seismic shift in its orientation, with a resurgent left coming to power across the region. A tremor of a different type has been shaking up the way Latin Americans are communicating.... InterMedia, the Washington DC-based research company, has just completed a multi-country survey of audiences in Argentina, Bolivia, Colombia, Peru, Venezuela and Monterrey, Mexico. A focus of the research was how Latin Americans are using new technologies to acquire news and information, in addition to the more traditional ways, like television and radio.... Access to the Internet in Latin America has grown exponentially in recent years, and in a region where more than 60% of the population lives below the poverty line, the proliferation of cabinas públicas and other points of public Internet access have been key to this rise.... In the trend towards convergence, Latin Americans are increasingly accessing radio through the Internet. For instance, in Colombia, 4.9% of Internet users reported listening online in 2006, compared to just 2.6% in 2002.... If current trends continue, the Internet will prove to be the fulcrum on which other media applications and content turn. Traditional broadcasters will want to assure their content fits with the mechanics of this system if they are to leverage it for their own benefit." (*Article by Justin Holmes and Giovanna Monteverde*)

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