



NASB NEWSLETTER

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May 2005

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## **Report on 2005 USA DRM Group Meeting**

May 5, 2005

Radio Free Asia-Washington, DC

*After conducting a tour of Radio Free Asia for those who had never been there before, Hal Creech welcomed everyone to RFA, and explained that the fact that this meeting is being held at RFA in no way implies that RFA or the U.S. Government endorse DRM.*

*Jeff White, USA DRM Chairman, explained that he had laryngitis, so others -- including Don Messer -- would be helping him conduct the meeting today.*

*Don Messer noted that some journalists may attend this meeting, and he asked for their cooperation in not printing confidential information, so as to promote the freest possible discussion and interchange among participants. There were a total of about 25 persons in attendance.*

### **Recent DRM Developments**

Don Messer, currently with the IBB and Chairman of DRM's Technical Committee, spoke about some very recent developments at DRM. He talked about the plan to conduct tests of DRM in Mexico and Brazil. In Mexico, 26 MHz DRM transmissions will be tested by public broadcasters with about 200 watts, stereo and mono, in both 10 and 20 kHz channels, plus single frequency networks. On mediumwave, the private broadcasters will be testing DRM, both simulcasts and independent broadcasts. Brazil is not as far ahead with the testing as Mexico, but in Brazil there will also be tests of traditional shortwave to cover the entire country, either from transmitters inside Brazil or from DRM transmissions from Ecuador, Chile and/or French Guiana. Don explained that medium wave DRM simulcast tests are being conducted in New Zealand, and that in Germany, Deutsche Welle has just completed a single frequency network into Germany from two stations in Portugal and Germany, transmitting to Germany on the same frequency.

Success with DRM in Mexico and Brazil could lead to success with DRM in the United States, Don said. He talked about the possibility of using 26 MHz frequencies in the U.S. in DRM mode for local broadcasting (and maybe even sky wave broadcasting) with low power (10 watts to 1 kilowatt) to cover small areas such as universities and towns. This could open up some new possibilities for local radio services where there are presently no frequencies available in the AM and FM bands. Don explained the FCC's recent rules changes which now permit DRM modulation by shortwave stations in the United States that are transmitting abroad. Don said that DRM receivers will be available by the end of 2005. Don explained that the 26 MHz area is basically the 11-meter WARC allocations for international broadcasting, and that this band is not used by the traditional HF broadcasters. There would still be a need to coordinate through the HFCC -- but it would be a formality, and the idea is that a local broadcaster would always use the same frequency assignment, much like in the FM band. The FCC would need to approve this concept, but would not be involved with the HFCC coordination. It was noted that Continental Electronics obtained FCC permission to operate a 26 MHz DRM transmission during a DRM meeting for one week last August, and this was very successful. A similar test was run by RIZ Transmitters in Mexico City during the 2005 HFCC Conference in February.

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### **International Broadcasters Committee Report**

*Mike Adams, chairman of US DRM's International Broadcasters Committee, was unable to attend this meeting, but he sent the following written report, which was read by Don Messer.*

### **Report for DRM-USA Group International Broadcasters**

International broadcasters need to keep a close eye on the roll-out of DRM now as we enter the true commercial launch phase of DRM.

Even if we are concerned about North America, South America, Asia or other markets in the world, we need to keep an eye on Europe as this is where it will all start. In September, 2005

we will see the Commercial launch of DRM in Europe and the first truly consumer DRM radio should be out by the end of the year.

One thing that has pushed the receiver development forward has been the number of radio stations on the air. We need to plan seriously and realistically now to get stations on the air in the Americas and Asia as the next continents that have the potential to introduce DRM.

Broadcasts on air in the USA have been from foreign broadcasters up until now. We'd like to thank both Radio Netherlands and Radio Canada INTL for their broadcasts to North America. RNW is taking a short break to reorganize their DRM infrastructure, so RCI is the only station on the air to the Americas. We were pleased to have HCJB-Ecuador and CVI-Chile as well as TDF from Guyana all on the air for the first time for the DRM symposium in Dallas.

We need to get more stations on the air in the U.S. and to the U.S.! What can your station do?

1. Rent air time to get started in DRM. There are many stations that can be hired to broadcast DRM into the USA and Canada. Besides RCI, you can also talk to TDF, VT Merlin (and RNW when they get back on the air). If you are unsure of your participation in DRM and don't want to invest in equipment, then it makes sense to join together with others in a bouquet like RCI operates.
2. Arrange an equipment demonstration at your station. Many of the DRM equipment makers are happy to arrange a demonstration at your station to help you get on the air. This is how CVI in Chile got on the air – they borrowed an exciter with an understanding to buy it if they were satisfied. They were one of the new stations that got on the air and were received in Dallas at the symposium. The test was a great success and they have gone on to purchase the equipment.

It is also worth thinking about when DRM will really start in other continents. After Europe we will probably see DRM launch in Asia as well as the Americas. Based on a survey of Broadcasters in Asia, there are several who will be prepared to launch in 2006, so I hope we see a start in Asia in 2006. It is up to us if we see a strong push in the Americas in 2005/2006 or not. Let's put our best effort into it and see what happens!

Mike Adams, Far East Broadcasting Co.  
May 5, 2005

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Gary McAvin of WMLK Radio expressed his opinion that there should be some kind of overall DRM guide which explains to analog shortwave broadcasters the costs and benefits of DRM, and exactly how to go about implementing DRM transmissions. Don Messer and Adil Mina (the latter of Continental Electronics) explained that most of this information can be found in the DRM Broadcasters User Manual (BUM). Adil said that all NASB members should have a copy of the BUM. It is available for downloading from the DRM Consortium website

([www.drm.org](http://www.drm.org)), and the DRM office in Germany also has copies available in hard copy or on CD-ROM. Don asked Jeff White to coordinate with Anne Fechner at the DRM office in Germany to make sure that all NASB members who do not currently have copies of the BUM get one.

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### **DRM Demo at Winter SWL Fest 2005**

After a pizza and pasta lunch sponsored by Continental Electronics, TCI and Thales, Dr. Kim Andrew Elliott, an audience research analyst at the Voice of America, gave a presentation about his experiences demonstrating DRM reception at the Winter Shortwave Listeners Festival in Kulpsville, Pennsylvania. He said that different receivers have been used over the last three years at the Fest. This year they bought a Ten Tec RX-320D for the demonstration, then raffled it off at the end of the event.

The Ten Tec must be used in conjunction with a PC, and Kim noted candidly that it can be quite complicated to get all of the equipment to work properly at these demonstrations. Perhaps because of propagation conditions, the only DRM signal that they were able to receive was from Sackville, Canada, where they did hear the TDP Radio program on Saturday, followed by the Voice of the NASB with a broadcast of HCJB's DX Party Line which contained special greetings to the Winterfest participants.

Next year Kim hopes to be able to demonstrate the new self-contained DRM receivers (i.e. those which don't need to be connected to a PC), and they hope that more DRM broadcasters will be willing to do special transmissions for the Fest during daylight hours. Kim said that complete details about the 2006 Winter SWL Fest will be available at the website [www.swlfest.com](http://www.swlfest.com). He said that Mark Fine's website ([www.fineware-sw1.com](http://www.fineware-sw1.com)) has lots of good tips for listening to DRM, and his own website ([www.kimandrewelliott.com](http://www.kimandrewelliott.com)) includes general news and developments related to DRM.

Some general discussion, questions and answers followed. Don Messer said that the target price for the two to four new models of DRM receivers that should be available by December of this year is 100-150 euros. He said that a few large companies are currently involved in developing DRM receivers, but he said that small manufacturers may indeed get DRM off the ground. Adil Mina of Continental Electronics said that Texas Instruments is developing a DRM chipset, but they are reluctant to give out any information about it at the moment due to competition. The mobile phone industry is interested in the possibility of producing cellular telephones that receive DRM radio.

Adil said that DRM has not been promoted much in the United States until now; the main

promotion has been in other parts of the world. “We know that receivers are a key issue,” he said. He said that the United States will be using another digital system, IBOC, on FM for sure. Adil said that “Shortwave will die without DRM. Analog shortwave transmitter sales are way down. DRM is a savior for shortwave.” He went on to say that DRM will give current U.S. shortwave stations tremendous benefits. “There are groups interested in broadcasting on shortwave to the U.S.,” he pointed out. He mentioned a plan by Ron Wilensky of TCI antennas that would permit a station to cover all of the United States in DRM with just five shortwave transmitters.

On the other hand, Graham Mytton of VT Merlin Communications voiced the opinion that we will have to continue with analog shortwave broadcasting for a long time to come.

Ralph Brandi was one of three well-known shortwave listeners and leaders of the NASWA (North American Shortwave Association) club who attended the meeting. He explained that at his location in New Jersey, he has not been able to get good DRM shortwave reception from overseas stations -- just from Radio Canada’s site in Sackville. Adil Mina said he would organize some DRM tests especially for NASWA from overseas sites such as Kuwait.

Walt Ireland of the American Radio Relay League mentioned that his group is conducting DRM tests for digital amateur radio transmissions at its laboratory in California. Charlie Jacobson of HCJB said that low-power DRM could work with the amateur community on further tests.

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## **26 MHz DRM Tests in Croatia**

Darko Cvjetko of RIZ Transmitters in Croatia gave a very interesting PowerPoint presentation about his company’s DRM equipment and especially about a series of tests they are doing on 26 MHz in Zagreb, the Croatian capital. The exact frequency is 25.8 MHz, using a maximum of 200 watts of DRM power. The antenna is located on a mountain 610 meters above sea level and about 410 meters above the city of Zagreb. The transmitter is all in one 19-inch rack, which is 1.8 meters high. The antenna is a three-element yagi with vertical polarization.

The preliminary conclusions of the tests are that the entire city of Zagreb can be covered with 45 dB or more of field strength -- most of it with 50-60 dB -- using 100 watts of power and a 10 or 20 kHz bandwidth with this high antenna position.

Adil Mina of Continental said that it was very easy to get the 26 MHz permit for the short-term DRM transmissions from Dallas last November, but we need to be careful about the way of going about asking for permanent licenses for such transmissions from the FCC.

Graham Mytton pointed out that DRM removes the distinction between domestic and international broadcasting. “So,” he asked, “won’t shortwave become commercially attractive, and couldn’t there be a lot of competition for frequencies?”

Adil Mina answered Graham Mytton's question by saying that "Yes, commercial concerns are interested in shortwave. They read Radio World magazine. When receivers become available, then it will be really serious."

Don Messer said that Ron Wilensky's idea of covering the U.S. on shortwave below 26 MHz could cause a need for changes in shortwave regulations, referring to current U.S. restrictions on domestic shortwave broadcasting.

Gary McAvin asked if power consumption will be less with DRM than with current analog shortwave transmissions. Don Messer said that the ITU recommends using 7 dB less power than for an equivalent analog broadcast, which means roughly one-fifth the amount of power. He said that a DRM transmission using one-fifth the power of a current analog transmission should have a signal that is at least as good as the analog coverage. Don said it was his understanding that existing U.S. shortwave stations could now use DRM modulation for international broadcasting simply by notifying the FCC that these transmissions will be in DRM mode, with no need for new licensing requirements. Roger Stubbe of HCJB asked what the official nomenclature is for DRM modulation type. No one present knew for sure.

Tracy Wood, another of the NASWA representatives, asked if there has been any consideration given to establishing separate parts of the band spectrum for DRM transmissions. Don Messer said that there is no such separation contemplated in the ITU regulations, and he fought hard against it, since it will be to our detriment in the long run.

Adil Mina mentioned that BPL (Broadband over Power Lines) was approved last week by the Texas legislature, and he expressed a concern that this could cause serious interference to shortwave transmissions in general, and DRM transmissions in particular. Tracy Wood says that his study of the system has led him to the conclusion that BPL will not be economically viable in the long run. It has caused a lot of fear among shortwave listeners and broadcasters, but he doesn't think it will be used much.

In response to a question about the cost of DRM excitors, Adil Mina said that for small private shortwave broadcasters, the best thing may be to "Let the rich boys [including governments] buy the excitors now. The price will come down shortly."

Mike Adams had proposed a DX contest for DRM listeners in North America, to try to hear as many DRM transmission sites as possible. Rich D'Angelo of NASWA said that he thought there would be interest in such a contest, and Jeff White promised to put him in contact with Mike Adams to arrange the details. Rich also said that they would be willing to include a regular or irregular DRM Report in the NASWA club bulletin, which Ralph Brandi coordinates. Someone pointed out that in the statistics on sales of the Merlin DRM software, the number one country for sales was Germany, and the United States was number 2, with a few hundred or so sold. So there should be a fair number of DRM listeners in the United States. It was pointed

out that a free version of the Dream DRM software is available at [drm.sourceforge.net](http://drm.sourceforge.net).

Tracy Wood indicated that he would be willing to work as a point person for coordination between the US DRM Group and the US shortwave listening community. Jeff White suggested that the NASB Newsletter, which contains a lot of material from US DRM, could be sent by e-mail to interested Dxers in North America.

*Please note: Darko Cvjetko's complete PowerPoint presentation about RIZ Transmitters and their 26 MHz DRM tests in Zagreb can be found at the NASB website ([www.shortwave.org](http://www.shortwave.org)).*

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## **NASB Annual Meeting**

May 6, 2005

Radio Free Asia - Washington, DC

*NASB President Doug Garlinger welcomed everyone (about 32 persons were in attendance) to the 2005 NASB Annual Meeting. He thanked Radio Free Asia for providing the meeting facilities, and made special mention of the NASB's hosting of the recent A05 HFCC Conference (High Frequency Coordinating Conference) in Mexico City, chaired by Jeff White.*

## **FCC Report**

The first presentation of the day was made by Tom Lucey of the FCC's International Bureau. He explained that Russia has agreed to join the G6 frequency planning group. June 1, 2005 is the deadline for receiving B05 proposed schedules from U.S. shortwave stations. Tom said that Iran had proposed hosting the B05 HFCC Conference in August, but the HFCC decided it could not accept the invitation (due to some political complications), so the exact venue of the event had not yet been announced.

[Later, on May 19th, the following announcement came from HFCC Chairman Oldrich Cip: "I am pleased to inform you that we have just received today a confirmation from Mr. Jose M. Huerta, Director of Engineering, Radio Nacional de Espana, in that they have decided to invite us to Valencia for the B05 HFCC/ASBU shortwave co-ordination conference. The Valencia Conference will be held from Monday, 22 August to Friday, 26 August 2005. A more detailed information on the Conference and accommodation facilities will be soon placed on the HFCC website ([www.hfcc.org](http://www.hfcc.org)). An HFCC/ASBU Steering Board meeting devoted mainly to the preparation of the B05 Conference will be held on 3 June 2005 here in Prague."]

Tom Lucey said that China has offered to host the A06 HFCC Conference, which will be a joint conference with the ABU (Asia-Pacific Broadcasting Union).

Tom was asked about notification requirements for U.S. shortwave stations that might be interested in transmitting in DRM, now that this has been approved by the FCC. Tom suggested that his colleague, Tom Polzin, could confirm whether it would be necessary to change a station's license to permit DRM modulation, or whether it would just be necessary to notify the FCC of DRM modulation when requesting frequency assignments. Michele Brosnan of Transformation Media said she had talked to Tom Polzin about this, and he said that no changes in the license would be necessary; just a notification of the frequency requirements.

Charlie Jacobson of HCJB asked if requests for low-power DRM tests on 26 MHz (i.e., lower than the 10 kilowatt minimum for DRM transmissions that the FCC recently announced) would be an issue. Tom commented that this would require a waiver of the minimum power requirement or an experimental license.

Adil Mina of Continental Electronics pointed out that it took his company less than a week to get the recent permit for 26 MHz DRM tests last November. He said the permit was valid for six months, and that a Washington attorney had charged them approximately \$1,500 for the paperwork.

Walt Ireland of the ARRL said that experimental licenses can be applied for from the FCC electronically on the Internet, and that they can be issued for up to three years.

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## **Intermedia**

Dr. Graham Mytton, representing VT Merlin Communications, presented Ms. Susan Gigli, Vice President of Intermedia, an organization based in Washington which has contracts to do audience research for the IBB and the BBC, among others.

Susan explained that one of the most popular methods of audience research at the moment is online research, even in remote areas of the world. Particularly young people, and those who are more technically savvy, have access to the Internet, even in remote areas. Questions can be hosted on someone's web server for very low cost. You can target special audiences this way. Online methods can be used for both qualitative and quantitative research. Results can be sent immediately to the client. Interactive surveys can be done, and online surveys reduce data entry error since the respondent is entering his or her own data. Anonymous information can be asked via online surveys.

There are still some limitations to online research, however. It is not representative of populations. Surveys cannot be too long -- about 15 to 20 minutes maximum. And those

conducting the surveys cannot see the respondents' body language, for example.

Don Messer of the IBB pointed out that many shortwave listeners live in rural areas and don't have access to the Internet. Susan said that rural surveys are still tough, and can be prohibitively expensive, although they do occasionally do these kinds of surveys. She said that the Internet is growing fast even outside of urban areas.

Anyone desiring more information about Intermedia may contact them at 1401 New York Avenue NW, 10<sup>th</sup> Floor, Washington, DC 20005. Their website is: [www.intermedia.org](http://www.intermedia.org).

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### **Shortwave Listeners Festival in Pennsylvania**

Gary McAvin of WMLK Radio attended the annual Winter Shortwave Listeners Festival in Kulpsville, Pennsylvania (near Philadelphia) in March of this year. As part of the NASB publicity campaign, several NASB member stations attended the event last year. That was not the case this year, although Gary did take the NASB display and some brochures to Kulpsville. At the NASB annual meeting, he showed some photos of the Kulpsville festival.

Gary said that the Winter SWL Fest organizers warmly welcomed him, and he believes that the NASB should consistently attend events of this type, even though there may be only a few hundred participants. There were fewer displays this year. The best part of the meeting, said Gary, were the forums, including a live DRM demonstration, presentations about scanning, pirate and clandestine radio, and a session on the decline and future of the Voice of America. "These forums tell us what we need to know about shortwave broadcasting," Gary said.

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### **ARRL Report**

Walt Ireland of the American Radio Relay League (ARRL, which is an amateur radio organization) spoke about the preparations for the 2007 World Radiocommunications Conference (WRC 07). He mentioned particularly agenda item 1.13, which deals with the need for additional spectrum for international broadcasters between 4 and 10 MHz. He said the group that is preparing the U.S. position on this issue (the IWG-4) has not made much progress yet, and he lamented that they have had no participation from the NASB yet. Walt has written the preliminary view, which is much the same as that of the NTIA -- that we continue to study the matter.

"But now," Walt said, "we have to make a U.S. proposal, and we need NASB participation. By not showing up you say to the FCC that you don't care." Walt emphasized that NASB stations currently use a number of out-of-band frequencies that are shared with fixed services.

He said that as a result of increased national security concerns, the military and other government agencies may stop the FCC from issuing out-of-band frequencies to us, in which case it will be extremely important to try to obtain additional spectrum space for HF broadcasting between 4 and 10 MHz.

Don Messer of the IBB commented that it's going to be more difficult to get a U.S. proposal for more spectrum for HF broadcasting to the upcoming WRC than it was the last time in 2003. He said the discussions will be dominated by Defense and Homeland Security interests, and private shortwave broadcasters cannot count on getting much help from the IBB this time.

On another issue, Broadcast over Power Lines (BPL, also known as Power Line Communications or PLC), Walt Ireland said, "The FCC has already rammed this down our throats, but we are still questioning it." He noted that NASB Attorney Ed Bailey did issue two sets of comments to the FCC expressing the Association's serious concerns about BPL and potential interference to shortwave broadcasters, but he said the FCC rulemaking (which essentially permits BPL use as long as it does not cause over a certain level of interference) was made without enough studies. The ARRL continues to carry out a number of studies. Walt said that besides BPL operations interfering with amateur radio operators, studies show that there is also the potential of amateur radio operators interfering with BPL.

Walt distributed two proposals from Israel and Japan regarding protection criteria of fixed service using frequencies below 30 MHz for interference caused by power line communication systems. Anyone who was not at the meeting and would like to receive a copy of these proposals from Israel and Japan should send an e-mail to NASB Assistant Secretary-Treasurer Jeff White ([radiomiami9@cs.com](mailto:radiomiami9@cs.com)) with your fax number or postal mailing address.

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### **RIZ Transmitters Company**

Mr. Darko Cvjetko, General Manager of RIZ Transmitters based in Zagreb, Croatia gave a brief PowerPoint presentation about his company and its latest DRM research.

Darko explained that Croatia has been an independent country for more than 1000 years. In his opinion, it is the most beautiful country in the world, with treasures such as the city of Dubrovnik on the Adriatic Sea. His company, RIZ, stands for "Radio Industry Zagreb," and it was founded shortly after World War II. It has over 40 years of experience in exporting transmitters to all parts of the world. RIZ produces transmitters from 100 watts up to 500 kilowatts, and they have their own DRM exciter design. They produce 300 kilowatt mobile transmitting centers. Currently they are doing DRM field tests in Zagreb on 25.8 MHz with 100 and 200 watts. Their preliminary conclusion is that the minimum field strength necessary for DRM to cover the city is 40 dB uV/m in B3 mode with 10 kHz. At the same time, RIZ is testing the various types of DRM receivers that are currently available.

Darko Cvjetko's complete PowerPoint presentation about RIZ Transmitters and their 26 MHz DRM tests in Zagreb can be found at the NASB website ([www.shortwave.org](http://www.shortwave.org)).

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## **IBB Update**

Dan Ferguson presented the annual update from the U.S. International Broadcasting Bureau (IBB). He noted that since last year's NASB meeting, John Wood and Dell Carson have retired from the IBB. Both of them had been regular attendees of this meeting. In addition, Don Messer and himself will also be retiring within the next few months. But there were still several IBB representatives present at the meeting, and they each presented themselves briefly.

"In general," Dan said, "shortwave is trending down at the IBB." He cited reductions and re-targeting of English language broadcasting. "We have very little shortwave to Eastern Europe, and none to Western Europe." Transmissions to Asia on shortwave are up, with the exception of English. The IBB has recently put three shortwave transmitters at its relay site in Kuwait, using four antennas -- all beamed to Asia.

Adil Mina asked if the IBB has decided to shut down its relay in Kavala, Greece -- a move which he said "would be very unwise." Dan Ferguson said that a number of rumors about that have been heard, but there has been no decision to close Kavala at this time.

Walter Borys of IBB Engineering Operations mentioned that he travels frequently to a lot of IBB relay stations. He said "The staff is aging at many of these stations, and young people are not interested in HF. Our personnel are managing FM and medium wave installations now. The business is clearly changing. There is less emphasis on shortwave. It's just a reality."

However, Dan Ferguson said not to count shortwave out yet. "It could come back again," he said, "just as it has come back before."

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## **DRM Developments**

Don Messer of the IBB, who is also the DRM Technical Committee Chairman, gave the NASB annual meeting an update on DRM developments.

First, the DRM Consortium has decided to expand DRM from AM and shortwave into FM as well. This could be very important, he said, in countries of Eastern Europe, which have an FM band from approximately 60-74 MHz, and worldwide from approximately 88-108 MHz. In the FM mode, DRM will be about 50-100 kHz wide. DRM can also be used for local broadcasting in the 26 MHz shortwave band. DRM only uses existing terrestrial bands.

Don pointed out that DRM is conducting tests in various countries that are not on the list of regular DRM transmissions. For example, he said that a single frequency network (SFN) is being tested in Germany. There are two stations -- one in Portugal and the other in Germany -- transmitting on the same frequency to an audience in Germany. "Synchronization is very important in this case," he said, "and it's working."

For the past year, the Voice of Russia has been doing internal DRM broadcasting in Russian, plus other DRM transmissions to Europe. China has decided to test DRM for both internal and external use. Mexican authorities are very interested in testing DRM. Both public and private stations are involved in these tests. Some of the tests are on 26 MHz, which is like line-of-sight FM, and they can broadcast multiple languages within the 10 kHz channel. Brazil is interested in long-distance shortwave DRM to cover the entire country. The tests in Brazil and Mexico should be finished by the end of this year.

Don said that two or three consumer DRM receivers will be unveiled at an important electronic show in Berlin this fall. Starting in October, they will be available in European stores.

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### **International Radio Continues to Depend on Shortwave**

*"International Radio Continues to Depend on Shortwave" is the title of a presentation given by Dr. Graham Mytton, former BBC audience research officer and currently consultant to VT Merlin Communications, at the annual CIBAR (Conference of International Broadcasters Audience Research) in London in November of 2004. Graham's trip to the NASB annual meeting was sponsored by VT Merlin, and he gave a slightly revised version of his CIBAR presentation to the NASB. He stressed that the views expressed are his own personal opinions. What follows is the full text of Dr. Mytton's presentation, with the exception of a few graphs and explanations. A pdf version of this text (including the graphics) and the PowerPoint presentation that was shown at the NASB annual meeting can be found on the NASB website ([www.shortwave.org](http://www.shortwave.org)).*

**CIBAR Annual Conference, London November 2004**

**International Radio Continues to Depend on Shortwave**

*Graham Mytton*

**Reprinted and revised for the 2005 NASB conference in Washington DC May 6<sup>th</sup> 2005**

I have been coming to these annual audience research conferences for 20 years. I have not been to all of them, but one thing that I am sure I said at the first meeting and on several occasions since is one simple fact:

**Most listening to international radio broadcasting is on shortwave.**

This simple statement was true in 1985 when these annual meetings began and it is equally true today. The proportions may have changed. The proportion of people today tuning in to international radio services on shortwave may be smaller than it was twenty years ago, but of one thing I am fairly certain – shortwave listeners are still in the majority.

If this situation changes, if the numbers being reached by means other than shortwave or long-distance medium wave, which is more or less the same technology and delivery system, fall below half, it will not be the result of any changes in technological choice but will be the result either of the decisions of the international broadcasters themselves, or of changes in the domestic media scenes of countries where most listening to international broadcasting takes place. Or it could be a combination of these two factors. In other words, change will be caused mainly by factors other than technological.

Over the past 15 years each of the major international broadcasters have made decisions that are based on imagined trends at worst and at best on very partial evidence. They have made assumptions about the use and availability of shortwave for which there is little or no evidence. In some cases if there has been a decline in shortwave it has been as a result of decisions made by the major broadcasters, not something that preceded these decisions. 1

We know from the evidence of surveys over many years that levels of listening to international radio by direct means – that is, not via rebroadcasters on local stations - is negatively correlated with the degree of choice that listeners have. The more that the local media scene is deregulated or freed from restrictive controls, the more choice there then is, the less listening there is to international radio.

The point here is, I believe, that listening to alternative, foreign radio services is something that people do when they need to. For the most part, they stop or reduce their listening when they no longer have that need or when the need is less acute.

### **Nobody Listens to Shortwave: They Listen to Radio**

The next point to make is about the medium of shortwave itself. I am often asked, and have been repeatedly over the years, questions like “Where are shortwave listeners to be found?” or “Is shortwave listening in decline?” or “Are shortwave listeners migrating to FM?” There is nothing wrong with the questions, but they do reveal a way of thinking that needs to be challenged. There is in fact no such thing as a shortwave listener in the way that there is, for example an Internet user, aside from the very small number of dedicated DXer enthusiasts. Many people who use the shortwave bands on their sets every day— perhaps even most of them — do not know they are shortwave listeners. If you ask them if they listen to shortwave they may say “No,” and the same is true if you ask them if they have a shortwave set. They are no more familiar with these technical terms than most people are with, for example, the differences between VHF and UHF TV reception. How many of you know what frequency bands your terrestrial TV is received on where you live? If you do, it is only because you are extremely odd and unusual! Hardly anyone knows these things. Most of these who use shortwave to listen to some of the radio services they receive are unfamiliar with anything other than the place on the tuning dial where they can find this or that station.

For about the last 15 years the predictions of the demise of shortwave have been frequent and persistent. It is as if it has been taken as an obvious fact that there would be decline. If the assumption had been made for market reasons, this would perhaps be understandable, although one would hope that they based their assumptions on some real market data. But we hear reasons given as being to do with technological advance and innovation. But in fact changes in technology may not be the main driver with respect to what people choose to do, so far as radio is concerned.

And besides, FM is not a new technology. It has been around, even in parts of Africa and Asia, since the 1960s or even 1950s in some places. What is new is a change in the media environment not the technology. Where there were previously very widespread state monopolies in broadcasting, now we see thousands of private services on FM and some on AM in many parts of the world where previously there was only a single radio service provider. But the changes are not principally changes in technology. They are changes in market availability of radio services.

Assumptions have, I believe, been made in this way. Because shortwave is an old technology it must be on the way out. In a world of the Internet and cable and satellite TV, surely shortwave is going to be squeezed out. Or the assumption is made that given the fact that shortwave is

sometimes unreliable and often noisy, people are surely certain to choose something clearer and easier to listen to. This does of course happen, provided that the content available is what they want. But countless surveys will show that people often choose to listen to scratchy and difficult shortwave services in preference to or as additions to locally available services in good quality, provided that what is available on shortwave is what they are looking for. To give just one example, in the dying days of the Abacha dictatorship in Nigeria, when people in Kano had local FM state owned and run radio services easily accessible to them, they still listened in huge numbers to the BBC and other broadcasters in Hausa, all on shortwave. This was because they wanted what those services provided which were not being provided locally, no matter what the reception quality was like.

As I said, people don't look for different kinds of Hertz. Nobody listens to HF or shortwave, or come to that, FM or AM. They listen to radio programmes. They look for content. Technical quality always comes second to content.

Unfortunately this message has not been heard, or it has not been listened to, because I and others have said and written it often enough. Leading figures in broadcasting that ought to know better have said and done things that have not been based on realities. For example, Richard Sambrook, now Director of the BBC's Global News, and therefore in overall charge of the World Service, but speaking when in a senior position in BBC News 8 years ago at a conference in London, spoke of the "migration away from shortwave." When I pointed out to him that there was no such migration, he expressed astonishment. He admitted that he had said this not on the basis of any evidence, but just that he assumed it was true. There have been too many assumptions like this. The previous director of Deutsche Welle once spoke on similar lines when talking about the policy they had adopted of reducing shortwave services to, for example, Turkey. In fact, as research at the time showed, the only station to lose audiences over the period he was talking about was Deutsche Welle. I was convinced at that time that DW had lost listeners because it had cut back its availability on shortwave. And I don't need to go over the painful experience of Radio Canada International in too much detail. Between 1990 and 2000 it was subject to almost continual cuts and threats of cuts. Their audience declined sharply. Some used this fact to argue that listening to the station was in decline and that the cuts were an acknowledgement of that. In fact, decline was almost certainly mainly the result of the cuts. If the services had not been cut, and especially if there had not been the major reduction in shortwave delivery, RCI audiences may not have reduced at all. Here and elsewhere we have seen the enactment of self-fulfilling prophecies.

There is something very odd and rather ironic about the assumptions that have been made about shortwave. They came at the end of a period of massive investment in shortwave enhancement and improvement. In the BBC we had what we called the "Audibility Programme" that stretched from the early 1980s through into the early 1990s. Not only were all existing shortwave facilities greatly improved and strengthened, at Singapore, Cyprus, Oman and Ascension, as well as in the UK at Rampisham, Wooferton and Skelton, but also new sites were opened in Hong Kong, (later moved to Thailand), the Seychelles and most recently,

Oman.

Shortwave now became very good. Most major target areas were now reachable by a first hop service and with higher signal strengths than ever before and with much more efficient aerial arrays. And it was not only the BBC that made such improvements. RFI launched a huge investment programme focussing on improvements at their main transmitter site in Issoudun. VOA opened several new transmitter sites in Botswana, Sao Tomé, Morocco, and elsewhere. Deutsche Welle also made several new investments in Germany and, despite many difficulties, in Sri Lanka.

The results of many of these investments in new, more powerful and better focused shortwave could be seen in larger audience reach in several parts of the world, most notably in Africa where audiences for all major international broadcasters grew impressively during the 1990s. The investment in shortwave has been vindicated and justified. It was a period of huge success, especially in sub-Saharan Africa.

Why then was there this extraordinary volte-face [“about-face”] in the policies of the major broadcasters? Was it simply because as a result of changes in the regulatory environment in several countries, local FM relays and rebroadcasts became possible, and in order to fund these, cuts had to be made elsewhere? This was certainly the case at times, because I was present at some of the discussions in the BBC. But I always made it clear that FM could never be a replacement for shortwave, unless the local situation had changed so much that people in the entire target area had enough local choice and therefore no longer had any need to tune to shortwave. This is the case in Europe and parts of the former communist world. But the same cannot be said of Africa, or much of Asia.

I endorsed and supported the decision to stop broadcasting services in Portuguese and Finnish to Europe. It was also sensible to stop shortwave broadcasts in Polish, Czech, Greek and a few others. Indeed, I suggested that the need for these services to be continued at all was at least questionable. The BBC stopped broadcasting in Swedish, Norwegian, Dutch, Italian and Japanese. Perhaps other languages should also be closed in favour of new services in new languages to people in greater need.

### **FM is Not an Alternative to Shortwave. It's Different!**

FM, by its very nature, cannot be a simple replacement for shortwave. Its reach is very limited. I have just been in East Timor where both Radio Australia and RDP Portugal have a local FM relay in the capital Dili. Neither can be heard far outside the town, and not only because of the power of the transmitters. Dili is hemmed in by hills. Beyond these, you have to use shortwave to get either service. And to listen to the BBC or VOA or any other international broadcaster, East Timorese have to use shortwave wherever they are. And they do!

That is the first weakness of FM. Its reach is very limited, especially in hilly countries. There are five other serious weaknesses. The second is that it is subject to local regulation and approval and both are at risk at any time. And they are at risk from the very factors that make the ability to listen to alternative voices very important. The BBC and other broadcasters have had several problems with this; services have been opened then closed or restricted in both Congos, Nigeria, Ivory Coast, several former communist states and no doubt others. And this draws our attention to a grave risk inherent in over-dependence on FM. When FM services are cut because of a change in government or a change in the political atmosphere and resort has to be made to shortwave, how does the audience know where to find you? Has an adequate shortwave service been maintained, and more importantly, has it been fully publicised?

Even when restrictions are not imposed for political reasons when the government wants to restrict the flow of alternative news, it may be that the demands of the BBC, VOA, Deutsche Welle, RFI etc. have to take second place to the competing demands of potential commercial and other local broadcasters. The BBC is not on FM in more than a very small handful of European cities. This is not because of political restrictions but because the demands of local broadcasters tend, understandably, to take precedence. The BBC boasts of its FM coverage in many parts of the world. In fact it is very thinly spread.

Now for the third weakness: FM is often very unreliable. Breakdowns are common, as are problems with modulation and related technical difficulties. This is not because the medium is inherently faulty but because of weaknesses in local support services. The transmitters are not always properly or fully maintained. Shortwave is more reliable and, by the way, it is often as good as FM in terms of its received quality. My wife and I were on holiday not long ago at a beach hotel just north of Dar es Salaam in Tanzania. The BBC is available locally on FM. It is also available on shortwave from Seychelles. The quality of both is equally good. In several blindfold tests my wife was unable to tell which was which. The shortwave was there every day. The FM was not. If I lived in Dar es Salaam, as I did several years ago, I think I would always use shortwave. It is always there, always excellent and it provides a continuous service without breaks.

Moreover, and this is the fourth weakness: We could choose ourselves whether to listen to the Swahili or the English. Listening on FM, the decision was not mine to take. FM relays often switch between languages. Some carry the BBC, VOA, DW, RFI, etc. only for certain periods.

The fifth weakness is a connected one, and it is the fact that many relays and rebroadcasts are out of the control of the originator. Programmes or services from the BBC, VOA, DW or RFE, etc. are carried by an independent broadcaster, at times chosen by that broadcaster. The listener cannot tune to the BBC, VOA, DW, RFI etc. as a distinct station when he or she chooses. The relationship of the broadcaster to the audience is completely different. There is no longer that close relationship whereby the listener is choosing the station that he or she wants to hear.

But the sixth and final weakness of the FM strategy is its greatest shortcoming. It is never available where it is most needed and by those for whom shortwave is literally a lifeline. Let us just think of Dhafur at present. There will be many caught up in that tragedy that have radio sets. If they are listening to anything at all, it will be on shortwave. There is nothing else available! I mentioned East Timor earlier. I talked to people there about what had happened during the crisis of 1999 when they voted for independence from Indonesia in the referendum and the Indonesian militia trashed 90% of the buildings in Dili and elsewhere. People fled into the hills and they listened to the BBC, the VOA, Radio Australia and others on shortwave. Several people told me that there is still an audience for these stations on shortwave throughout the country. I am coming back to this point later, but let it be noted at this point that East Timor has never been surveyed. It is as if these listeners do not exist!

Other examples are not difficult to think of. Aceh in western Sumatra, Sierra Leone, Liberia, Somalia, Burma, Palestine and Turkmenistan are just a few places where political crises or violence and instability or oppression make international radios services especially important. Then there are the vast areas not covered by FM in countries where such relays or services may be available in the capital or other cities. There is no point listing these. There are too many. But let us just take Nigeria. In Lagos, Abuja and Ibadan there are several new local FM broadcasters and some international broadcasters have been available on FM through some of these, although recently there have been regulatory difficulties affecting relays and rebroadcasters. But Nigeria is a large country and for most listeners, it is shortwave that is still the main means of listening. In some areas, there is only shortwave. I reported at the Stockholm CIBAR on a survey I did in Jigawa State, Nigeria in 2002. All radio listeners listened to radio on shortwave. No other service can be heard in the state. All radio is on shortwave. Jigawa is not exceptional. Much of rural Africa is like that to this day.

### **Travellers Use Shortwave: It Remains the Only Global and Portable Medium!**

I don't want you to think that my argument is all about people living at the margins, in areas of poverty or conflict. The strength of shortwave lies also in its ability to reach anywhere. That is another reason for the huge success of some international broadcasters: the fact that you can pick them up almost anywhere. It is especially the strength of the BBC – or rather it was. For most of its history the BBC was able proudly to boast that in English at least, it was available globally. Four years ago it used this fact to blow its own trumpet. It produced a set of postcards, which I rather treasure. Several celebrities and well known people were quoted on them saying how much they relied on the BBC when travelling. People as diverse as Paul McCartney, Richard Branson, Lennox Lewis, Judi Dench, Joan Armatrading, Benjamin Zephaniah, Eddie George, Sally Gunnell and Mary Robinson spoke of how important the World Service was to each of them, especially when travelling the globe. They all said these very nice things when the BBC was still globally available. I wonder what they would say today

when shortwave services have been withdrawn from Australasia and North America, the first time in the World Service history that the service has been officially unavailable in those areas. But this is not the only difficulty that they would now have! The BBC World Service is now reduced in its shortwave coverage in most areas and is now more difficult to find than it has ever been in recent history.

### **What Does Research Tell Us? We Don't Know! At Least, We Don't Know Enough!**

But you might ask, is this not supported by research? Is it not true that there is now less listening on shortwave? I don't know and neither does the BBC. You can easily find places and countries where there is now less listening to services on shortwave than there used to be. But in some cases this may have more to do with the reduction of services. But even if we discount that, there are still places where undoubtedly there has been a reduction in the use of shortwave.

Those places are well researched. The trouble is that many areas where shortwave is still vitally important are either under researched or not researched at all. The other worry I have is that we have taken the focus away from investigating the use of shortwave thoroughly and properly as we used to and as a result we are deluding ourselves.

As a result of the FM relays and rebroadcasts, the surveys that are now commissioned all try to cover those places. The surveys also, most of them at least, try to cover other towns and rural areas. But do they always do so proportionately? There are some worthy exceptions but for the most part, rural areas, especially the more remote rural areas are neglected entirely or covered only partially and incompletely.

But more seriously than this is the tendency now to underestimate shortwave access and use. We know that many people who regularly use shortwave do not know that they do. They are not familiar with what to them are obscure and unimportant technical details. That is why it was accepted practice in all surveys commissioned by the BBC and VOA for the interviewer to ask to inspect the respondents' sets. This has long ceased to be the universal practice. As a result there has, without any doubt, been a consequent reduction in the estimates of the numbers of shortwave households.

Even without the inspection of sets, there have been some very strange and unbelievable data about shortwave from recent surveys. How, for example, can shortwave ownership in China decline in 3 years from 33% of households in 1999 to 19% in 2002? And similarly, how can a decline in urban Angola from 91% in 2000 to 65% in 2003 be credible?

I wonder if the following is what is happening: We know that the expectations of interviewers influence the data that they collect. It is alarming but true. How much is the expectation that

shortwave is in decline influencing the very results that are being obtained? The assumption about shortwave may be infectious and may itself influence results. Perhaps the assumptions about shortwave are affecting the research even at the interviewer level.

The literature on quantitative survey methods warns us all that the expectations of the person doing the research can influence the results. This was proved experimentally in an exercise, which showed how the interviewers' prior expectations can have an influence on what data are recorded from an interview. The experiment was conducted during a research methods training course in Kenya. Participants from various African countries being trained in quantitative methodology were being shown the dangers of unwittingly influencing respondents' answers.

They were divided into three groups for a pilot study in a rural village. A key question they were to administer asked farmers to give reasons why they did not expand their agricultural activity.

Each group of interviewers was given identical instructions. Interviewers were told not to suggest answers and not to supply examples. However, before they started, the instructor casually mentioned three likely reasons that they might hear being given by the farmers who would be interviewed. These were mentioned separately to each group and a different reason was given to each!

To the first group the instructor suggested that the likely reasons that the farmers would give for not expanding agricultural activity was the shortage of land, labour and equipment.

To the second group, the instructor suggested that they would probably hear their respondent farmers say it was a lack of money, seed and fertiliser.

To the third group of interviewers he suggested that they would find their respondent farmers saying that it was the lack of roads and the distance from markets.

The interviewers selected, at random, a number of farmers. The most frequently stated set of constraints in the responses recorded corresponded with that mentioned casually by the instructor to each of the three groups! The interviewers, who had been given to expect that the problem was the shortage of land and labour, recorded this as the most common reason given by the farmers. Those who had been told to expect the lack of money, seed and fertiliser recorded this as the most common reason, and those who had expected transport difficulties recorded that this was the main constraint.

The "casual" remarks of the instructor had influenced the results. It may have been that despite the firm instructions, interviewers confronted by the difficulty of asking an awkward question of a stranger, actually helped the person to answer or interpreted

responses in the expected way.

Even when the interviewer scrupulously follows the rules and says nothing apart from reading the questionnaire verbatim, there is still a tendency for the interviewer's expectations to have an influence on the way responses are interpreted and recorded. There are two ways of minimising this bias. The wording of questions needs to be as neutral as possible to avoid giving the respondent the impression that certain answers are expected. Secondly, interviewers need to be thoroughly trained to maintain a self-critical awareness of the twin dangers of influencing interviewees, and of a subjective interpretation of responses.

This then is my thesis: Shortwave remains the main way in which most people continue to listen to international radio broadcasting. It will remain the case unless the major broadcasters continue their false assumptions about its decline and make that decline come true by their actions. I believe that the research that is being done is not sufficiently reflecting the realities of international radio listening. I believe that the obsession with performance in relatively easy to measure radio markets is blinding strategists to the wider realities in those many areas where research is difficult or where the societies involved are being seen as marginal or not a top priority – many of the most vulnerable and needy people in the world, who the international broadcasters have mostly served very well in the past. And I believe that a misguided obsession with the supposed rise of new technology has created an atmosphere in which the reality is ignored or understated.

John Tusa, director of the BBC World Service from 1986 to 1992, said during his tenure at Bush House that if the technology of shortwave were to have been invented or discovered today, people would be amazed by what it could do. It can reach anywhere from anywhere, without the need for phone lines, local permission, local regulation, expensive equipment or subscriptions. But it is old, it was invented and its properties discovered by Marconi 100 years ago. Therefore surely it must be past its “sell by date”! This is utter nonsense as we all know, but it is time for the big broadcasters to wake up before it is too late and they find that their listeners have deserted them, not because they don't want the product, but because they can no longer reliably find it.

I have amazed myself by not mentioning DRM until now! So I shall do so in closing. DRM has all the advantages of shortwave with none of the disadvantages. It is an essential facility for the future. But it will succeed only slowly, possibly very slowly. Most of those in the world who most need the services of international broadcasters are most likely to be the very last people to have DRM sets. Just as they are likely to be the last people to have the Internet, satellite reception, FM services and all the other much trumpeted new technologies that are said to be transforming our world. Analogue shortwave will remain for a very long time to come the bedrock of international radio service delivery. That remains true, unless the major broadcasters are foolish enough to ignore the facts of international radio audiences that I have outlined here.

<sup>1</sup> Graham Mytton “How Political and Social Circumstances Determine Listening to Foreign Radio Stations” in François Demers, Howard Aster and Elzbieta Olechowska, Challenges for

International Broadcasting, Québec: Les Presses Inter Universitaires, 1993, pp. 257-262. 2

<sup>2</sup> D.J. Casley and D.A. Lury, Data Collection in Developing Countries, Oxford: Clarendon Press, 1981, p.95

*And on that hopeful thought, the NASB delegates adjourned the morning session and enjoyed a Chinese lunch catered by one of the RFA staffers' favorite local restaurants. The meal was sponsored by Continental Electronics, TCI and Thales Broadcast and Multimedia.*

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## **New NASB Board and Officer Positions**

At the NASB Annual Meeting in Washington, members elected Elder Jacob O. Meyer of WMLK Radio to a second three-year term on the Board of Directors. According to NASB by-laws, Directors can serve up to two consecutive three-year terms, after which they have to go off the Board for at least a year.

Long-time Board member Ted Haney, representing FEBC, KNLS and HCJB, decided not to run for a second three-year term. In his place, the members elected Mike Adams of FEBC to a Board position. (See sidebar article about Mike Adams.)

Each year, two of the five or six Board members' terms end. The other four Board members at this time are Doug Garlinger, Paul Hunter of Word Broadcasting, Charles Caudill of KNLS and Dennis Dempsey of EWTN.

Immediately following the business meeting in Washington, the new Board of Directors met briefly. They re-elected Doug Garlinger as NASB President. Mike Adams was elected Vice President. Dan Elyea was re-elected Secretary-Treasurer, and Jeff White was elected Assistant Secretary-Treasurer.

### **Profile of Mike Adams, NASB's New Vice President**

Originally from the Seattle, Washington area, Mike started his career in radio as a technician with the United States Air Force. In 1984 he received a Bachelor of Science degree in Electrical Engineering (BSEE) from Washington State University.

He has worked as a broadcast engineer with NASB member Far East Broadcasting Company (FEBC) since 1987, spending 13 years at shortwave radio station KFBS on the Pacific island of Saipan. Over the years, that included work on transmitters, antennas, studios and Mike's favorite – AM radio remote broadcasts.

Currently Mike serves all FEBC stations (SW, AM & FM) as the Engineering coordinator for the International office in England.

Mike is certified by the SBE (Society of Broadcast Engineers) as a Professional Broadcast Engineer for 20 years experience in radio.

Since 2000, Mike has served as the National Association of Shortwave Broadcasters (NASB) representative to the DRM Consortium. He has been active as a broadcaster in DRM and coordinates broadcasts to special events. Along with Jeff White, Mike helped launch the DRM USA group and has spoken twice at the NASB annual meeting about DRM & SW.

**NASB Members:**

Adventist World Radio  
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