



HD Radio – An International Phenomenon

The AM and FM radio broadcasting bands are worldwide frequency allocations, so it's not surprising that countries all around the world are expressing interest in the in-band/on-channel (IBOC) digital radio technology pioneered by iBiquity Digital Corporation. Even countries that have previously begun implementation of "new-band" digital radio systems like Eureka-147 are now studying and testing the iBiquity HD Radio system as a possible augmentation to or perhaps replacement for existing digital radio systems.

Undoubtedly many of the key benefits of the HD Radio system that are attractive to U.S. broadcasters—no new spectrum, use of existing infrastructure, multicasting and datacasting capabilities—are also attractive overseas. iBiquity has been very proactive in working with other countries to determine exactly how the HD Radio system can be optimized for use in broadcasting environments that differ from those in the U.S., for example, in the frequency spacing used for allocating channels (many European countries use a 100 kHz spacing in the FM band instead of the 200 kHz spacing used in the U.S.).

In the list that follows, some of the details of how HD Radio technology is propagating worldwide are given (based on information provided by iBiquity). As was true in the U.S., the evaluation and possible selection of a digital radio technology by these countries is a multi-year process:

- **Argentina:** FM HD Radio technology was tested in 2004 with initial trials in Buenos Aires. Further testing of the technology began in early 2007;
- **Bosnia:** trial and tests of HD Radio technology have been conducted in Sarajevo;
- **Brazil:** since the first HD Radio station went on-the-air in September 2005, about 25 stations in Brazil have converted to this technology covering an aggregate population of over 30 million people. The Brazilian Alliance for Digital Radio, founded by broadcasters in 2006, continues to promote and support the deployment of HD Radio technology;
- **Canada:** the Canadian Broadcasting Corporation (CBC) has completed a comprehensive HD Radio test program (started in September 2006) from on-air transmission facilities in Toronto and Peterborough, Ontario. Results have been published, and Industry Canada (IC, the Canadian equivalent of the FCC) is now considering applications for experimental HD Radio authorizations for existing FM radio stations. IC has indicated that should these experiments prove successful, they will work with the public and private broadcasting industries to develop technical regulations to accommodate HD Radio broadcasting on a more permanent basis;



- **Chile:** HD Radio demonstrations have been conducted; Chile is also the home of Continental Lensa, the first HD Radio transmitter manufacturer in Latin America;
- **China:** the first HD Radio test station in China commenced broadcasting in late February 2008 at the China National Radio Headquarters in Beijing. Additionally, a multi-phase test program is planned by the State Administration of Radio, Film & Television (SARFT);
- **Colombia:** Caracol Radio began testing of the HD Radio technology in both the AM and FM bands in early 2008;
- **Czech Republic:** initial testing of the HD Radio system has been conducted in Prague;
- **Europe:** in September 2007 the European HD Radio Alliance (EHDRA) was formed by broadcasters and other interested groups to promote the adoption of HD Radio technology by European broadcasters, regulators and standards organizations;
- **Germany:** Radio Regenbogen began HD Radio operations on 102.8 MHz in Heidelberg on December 3, 2007 pursuant to government testing authority;
- **Indonesia:** both AM and FM HD Radio systems have been tested in Jakarta and Surabaya, respectively;
- **Jamaica:** Radio Jamaica began operating full time with both HD Radio AM and FM signals in the city of Kingston in 2008;
- **Mexico:** Mexico's Federal Telecommunications Commission (CoFeTel) announced in 2008 that it has authorized FM and AM radio stations within 200 miles of the U.S. border to begin transmitting HD Radio signals. Approximately 10 stations have commenced HD Radio transmissions in Mexico, including Grupo Imagen stations XHDL and XEDA in Mexico City (in June, 2008), and others have equipment on order;
- **New Zealand:** following successful testing on 106.1 MHz from the Skytower in Auckland, the Radio Broadcasters Association (RBA) initiated a comprehensive trial of HD Radio technology in December 2006;
- **Philippines:** the first HD Radio station in the Philippines began broadcasting on November 9, 2005 (and others followed). The Philippines officially adopted HD Radio technology at the end of 2007 and 11 stations were awarded "Early Adopter" awards at a November 2008 meeting of the Philippine Broadcaster Association, KBP;
- **Panama:** HD Radio on-air testing/demonstration started late in 2008 as Panama contemplates selecting a digital radio standard;
- **Poland:** an HD Radio trial was conducted in Warsaw in order to demonstrate the technology to local radio stations;
- **Romania:** an on-air HD Radio technology demonstration (including multicasting) was conducted for broadcasters and regulators in Baia Mare in October 2008 on an FM station owned by 2M Prima Telecom. The results of this test have paved the way for a six-month trial in the capital city Bucharest, expected to take place in 2009;
- **Switzerland:** FM HD Radio system testing sponsored by Radio Sunshine and Ruoss AG began in Lucerne in April 2006. HD Radio operations in Switzerland continue and are spotlighted each year during "HD Radio Days," an annual gathering in Lucerne of European broadcasters and manufacturers for the purpose of discussing the rollout of HD Radio technology in Europe;
- **Ukraine:** an FM HD Radio broadcast has been conducted in Kiev on two FM stations operated by the First Ukrainian Radio Group;
- **Vietnam:** in June 2008, the Radio Voice of Vietnam installed both AM and FM HD Radio transmitters in Hanoi for technology evaluation and testing, including the use of FM multicasting.

HD Radio technology demonstrations have also recently taken place in Australia, France, Nigeria, Russia and Thailand. For additional information visit the iBiquity Digital Corporation Web site at www.ibiquity.com.

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