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NPR: Committed To The Future

HD Radio will expand service and satisfy listeners

By Ken Mills

As you may or may not know, one of the key attributes of the new digital HD Radio technology is the ability for radio stations to broadcast content on up to three channels simultaneously. As the broadcast industry at large plans ahead for this radio revolution, the public-radio community is also busy preparing for the transition.

Noncommercial HD Radio multicasting will be especially good for Triple A music enthusiasts. Triple A is one of five program streams that will be launched by National Public Radio later this year for member stations to air on new supplementary audio channels.

Most public radio stations plan to build HD Radio channels that multicast the kinds of programming that currently works with listeners and contributors. The goal is to increase the menu of terrestrial, noncommercial programming choices for listeners. Triple A programming is top-of-mind as this process unfolds.

NPR's Leadership For HD Radio

It is important to note that public radio, and NPR in particular, has played a significant role in the development of HD Radio as we will know it in the U.S. According to NPR VP/Engineering & Operations **Mike Starling**, the network has been pushing for multicasting on new digital channels since the late 1980s. When the U.S. radio industry chose "in-band, on-channel" as the way to create the new digital radio service, NPR saw the potential to "multiplex" its services.

In January 2003 NPR launched the Tomorrow Radio initiative, supported by the Corporation for Public Broadcasting and equipment manufacturers Harris Corporation and Kenwood. Tomorrow Radio was tested in the Los Angeles area using the facilities of KKJZ/Long Beach, CA, formerly KLON.

KKJZ's experimental digital signal was divided into two channels—a simulcast of the station's Jazz format and a channel airing public-radio news programming. Tomorrow Radio testing also took place at KALW/San Francisco, WETA/Washington and WNYC/New York.

The Tomorrow Radio tests conclusively showed that both digital audio channels had the fidelity and coverage to serve listeners. Tomorrow Radio's methods and philosophy were embraced by HD Radio developer iBiquity.

In 2004 the FCC authorized experimental digital broadcasts using the Tomorrow Radio multicasting system. The test results convinced commercial broadcasters and radio-receiver manufacturers that NPR's multicast system works. Tomorrow Radio's technology is now part of HD Radio, the standard for U.S. digital terrestrial radio broadcasting.

A Multicasting Case Study

Charlotte is currently a test market for public radio's HD Radio multicasting service. In April of this year local NPR News station WFAE de-

buted three HD Radio multicast services: a simulcast of the main channel, called WFAE Digital One; and two SAC channels, called WFAE Digital Two and WFAE Digital Three.

WFAE Digital Two airs the BBC World Service for now, and WFAE Digital Three is currently a placeholder for future SAC programming.

Looking across the dial in Charlotte, WFAE faces interesting competitive choices for the programming on WFAE Digital Two and WFAE Digital Three. Choosing classical music would put WFAE in competition with public radio station WDAV. Jazz music would compete with public radio station WSNF. Triple A on WFAE Digital Three would affect WNCW/Spindale, NC, a public radio outlet that serves Charlotte with a translator at 100.3.



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WFAE GM **Roger Sarow** says his digital strategy is to enhance the value of his total package of stations by giving listeners and supporters more good reasons to stay with WFAE.

Long-term programming for Digital Two and Digital Three is under review at this point. "Right now our weekly digital cume is probably one listener — me," Sarow says. "The only HD Radio receiver I know of is in our station."

But that may soon change.

Receivers Are On The Way

WFAE is one of six NPR stations set to do real-world testing of HD Radio receivers. Other stations participating in the test are WOSU/Columbus, OH; WUSF/Tampa; WNYC; WBEZ/Chicago; and KVOD/Denver.

Several manufacturers are bringing HD Radio sets to the market this year. Kenwood, JVC, Yamaha, Polk Audio, Alpine, Sanyo and Panasonic are promoting receivers and tuners for between \$250 and \$500.

Receiver prices are already getting lower. Startup company Radiosophy, which specializes in digital radio and multicasting, is now courting public-radio managers with a \$249 offer on a receiver.

At some future date all U.S. radio stations will switch to digital broadcasts, but analog broadcasting is expected to continue for several years, so this revolution is going to be a slow one. In addition to all the programming anticipation and planning, there is the financial aspect of the process—not only the cost of getting the right equipment to broadcast in digital, but also that of developing content in-house or acquiring it.

NPR plans to charge stations \$2,000 per year for each programming stream in the initial years of HD Radio service. The network is covering the additional cost of providing the five channels

through its general fund. "We consider this to be an investment in the future of public radio," Starling says.

Public Radio International, the other main distributor of public-radio programming, is not asking stations to pay any program fees beyond their PRI affiliation fee at this time. PRI says fees will be introduced when HD Radio receiver penetration reaches higher levels.

The Programming

NPR will provide 24/7 digital streams of Classical, Jazz and Triple A—formats that already have proven their value to noncomm listeners. NPR will also provide tighter, niche-oriented 24/7 digital streams of electronica and folk music, and it's exploring the creation of a News/Talk SAC program stream.

According to NPR Program & Acquisition Manager Eric Nuzum, NPR is working with content providers inside and outside public radio to create the SAC programming.

Interestingly, NPR recently announced it has acquired exclusive national distribution rights for WXPN/Philadelphia's *World Cafe*, the leading syndicated noncommercial Triple A program. The new relationship with *World Cafe* has increased speculation that NPR and WXPN are working together on an HD Radio Triple A channel.

Although Nuzum cannot confirm this, he anticipates that some of the NPR SAC channels will be nationally branded while others will be "seamlessly unbranded." Some channels will feature announcers while others will not. The amount of original programming will vary from 24/7 on some channels to eight-hour cycles on others.

Sarah Lutman, VP/Cultural Programming at American Public Media, Minnesota Public Radio's national distribution arm, says her company is studying the development of HD Radio multicasting to see where opportunities to expand the public-radio programming service appear. "We want to see who the early adapters are and how the programming is being used," she says.

Lutman points out that APM is already heavily invested in one programming service—C-24, a 24/7 classical music stream—that is ripe for expansion on digital channels. C-24 is co-owned by APM and PRI.

In addition to C-24, PRI has two continuous program streams available to stations—BBC World Service and BBC Mundo. BBC World Service has been particularly popular with stations because of its global reach and in-depth news coverage. BBC Mundo is a 24/7 stream of Spanish-language programming that includes news, sports, business and music shows.

HD Radio Multicasting

From The Listener's Perspective

- HD receivers will be capable of tuning in a station's analog channel and digital channels at the station's current frequency on the dial.
- When the listener tunes to a station, the receiver locks on to the analog frequency and blends it with the primary digital frequency. To hear a station's supplementary digital audio channels, the listener will hit the "seek" button for each supplementary channel.
- Push buttons can be set for exact channels, whether they are primary or supplementary services.

From The Station's Perspective

- Each FM station will have a digital frequency with 96 kilobits of bandwidth. Stations can use the bandwidth as they see fit.
- Most stations will multicast with 64 kilobits of bandwidth for their main program channel. This will leave two channels with 16 kilobits for supplementary digital audio.
- Some stations may multicast with 48 kilobits of bandwidth for their main program channel, making available three discrete 16-kilobit supplementary digital audio channels or a second channel using 48 kilobits of bandwidth.

PRI also offers a mix-and-match option for stations that wish to create their own local program stream for SAC with various music and talk shows. PRI plans to help stations create local breaks during peak listening dayparts.

Boosting The National Average

In many major markets public radio has had a difficult time adding new program streams. New HD Radio channels are seen as the best way to increase noncommercial programming circulation without having to purchase new frequencies.

In a study using Arbitron data, Station Resource Group—a management-planning group of 45 public-radio broadcasters—found that public radio's share of listening varies significantly from market to market. It is known that listenership to public radio is on the rise nationally, and improving certain markets could help boost the national average significantly.

In markets such as Chicago, Dallas and Miami there is only one NPR-affiliated station. A great deal of successful public-radio programming is not heard in these markets, hurting public radio's national share of listening.

Markets such as San Francisco; Seattle; Portland, OR; and Minneapolis have several successful public radio stations. Public-radio managers and programmers would like to repeat this success in other markets with new digital radio channels.

There are several reasons some markets have more public radio stations than others. The FCC has historically allowed new stations to be built on noncommercial FM frequencies—88.1 to 91.9—as they are applied for, without regard to the fact that several low-power stations could block construction of full-power stations. Chicago, for instance, has one full-market NPR station, WBEZ, because a hodgepodge of lower-power stations has filled the available FM spectrum.

In addition, religious broadcasters have been aggressively taking many of the remaining non-commercial frequencies, and cash-strapped public-radio organizations have often not had the money to compete for the purchase of existing frequencies when they become available.

So HD Radio may prove to be of significant value to the public radio sector beyond the obvious programming advantages. As Starling says, "Digital radio is the biggest innovation in radio since Armstrong invented FM in 1933."

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