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The Weekly NAB Newsletter for Radio Broadcast Engineers

Radio Data System (RDS) Update

Many (if not most) FM radio broadcasters in the U.S. transmit the Radio Data System (RDS) digital subcarrier along with their audio signal and by doing so, provide their listeners with a variety of information, predominantly song title and artist, and traffic information to specialized navigation devices (see the April 13, 2009 issue of *Radio TechCheck* for additional background information on RDS). There are two industry-sponsored organizations that focus on RDS – the National Radio Systems Committee (NRSC, www.nrscstandards.org) here in the U.S., and in Europe, the RDS Forum (www.rds.org.uk/rds98/rds98.htm). Both organizations have been very active lately and given below is a summary of some of these recent activities.

UECP specification update published – the RDS Forum has recently made available online an updated version of their *SPB 490 Universal Encoder Communication Protocol (UECP) Specification* (Version 7.05/February 2010). This document, first published in 1994, helps manufacturers of RDS system components (for example, RDS encoders and network servers) achieve interoperability by harmonizing various RDS encoder communication protocols.

The UECP specification describes a universal layered protocol, based on ISO/OSI recommendations, which encompasses all current RDS features described in the most recent version of the RDS Standard (IEC/EN 62106 Ed.2 :2009-07). The model and protocol provided by the UECP specification provides a template upon which new RDS system components may be based. An encoder or network server does not need to implement all the features described, but any feature implemented should be made in accordance with the UECP specification.

UECP messages are categorized into various groups including: RDS message commands, transparent data commands, paging commands, clock setting and control, RDS adjustment and control, control and set-up commands, bi-directional commands (*i.e.*, remote configuration commands) and specific message commands. In the latter category, manufacturer specific commands are possible using a manufacturer ID, which can be obtained from the RDS Forum. The UECP specification is available free of charge on the RDS Forum Web page at www.rds.org.uk/rds98/ebuuecpspecification.htm.

RDS Forum topics of interest – the RDS Forum held its most recent meeting on June 14-15, 2010, in Glion/Montreux, Switzerland. This annual two-day meeting provides members an opportunity to assess the current status of RDS usage and implementation, and work to expand the capabilities of the system, keeping it as relevant and useful for broadcasters and listeners as possible. Two current topics being discussed within the RDS Forum include:

- *RadioText+ :* one of the most recent features to be added to RDS, RadioText+ makes it possible for receivers to parse and identify text information sent over RDS using the RadioText feature. The recent implementation of "RDS tagging" by such devices as the Apple iPod Nano (see photo) utilizes RadioText+ features, and the RDS Forum is encouraging application developers to make use of this powerful new feature. An RDS Forum presentation entitled "Progress on RT+ Implementation" is available for download at www.rds.org.uk/rds98/pdf/rdsForum_RTPlus%20progress_100427_8.pdf.
- *Extending AF to digital radio:* a popular feature of RDS with government-sponsored and public broadcasting radio network is Alternative Frequencies (AF), whereby a station using RDS can

transmit a list of radio station frequencies (either AM or FM band) upon which the same programming may be found. The RDS Forum recognizes that with the worldwide implementation of digital radio systems now underway, it would be desirable for the AF feature to support listing of digital radio frequencies where the same programming may be found, as well. This is an issue in particular for countries that are using so-called "new band" digital radio systems where the frequencies in use fall outside of the AM and FM bands.

A presentation on these and other topics currently of interest within the RDS Forum is available from the RDS Forum website at www.rds.org.uk/rds98/pdf/rdsforum_study%20topics_100425_3.pdf. Also, an article by the leaders of the RDS Forum, Dietmar Kopitz, Johnny Beerling and Bev Marks, entitled "FM Radio with RDS Will Have a Long Future," was featured in the April 2010 International Edition of the newspaper *Radio World*, and is available online at www.rwonline.com/article/98568.

NRSC activities – the Radio Broadcast Data System (RBDS) Subcommittee of the NRSC is currently working on two RDS projects, an updating of the NRSC version of the RDS Standard (called NRSC-4) and development of an RDS usage guideline document. This Subcommittee was formed in the early 1990's to develop the U.S. version of the RDS Standard, originally called the RBDS Standard so as to distinguish it from its European counterpart. The RBDS Standard was first adopted in 1993 and has been updated twice since then, in 1998 and most recently in 2005 when its designation was changed to NRSC-4-A so as to conform to the NRSC Standards naming convention.

This latest updating of the Standard, and the development of the RDS usage guideline, are taking place within the Subcommittee's RDS Usage Working Group (RUWG), chaired by Steve Davis, Senior Vice President, Engineering and Capital Management with Clear Channel Broadcasting. The Subcommittee is currently under the leadership of Barry Thomas, VP of Engineering, Radio with Lincoln Financial Media. While the RUWG is doing the "nuts and bolts" work on these documents, it will ultimately be up to the Subcommittee to consider these documents for adoption.

The next meeting of the RBDS Subcommittee will be held on Wednesday, September 29, 2010 in Washington, DC, in conjunction with The Radio Show (September 29 – October 1, 2010, www.radioshowweb.com). For additional information on the NRSC including a membership application, visit the NRSC's Web page at www.nrscstandards.org.

Mark your Calendars!
The 60th Annual IEEE Broadcast Symposium
Westin Hotel • Alexandria, Va.
October 20-22, 2010

The 60th Annual IEEE Broadcast Symposium will feature a full and varied technical program with a day of tutorials dealing with ATSC Mobile and IBOC issues along with presentations from around the world on important and significant new developments in radio engineering, ATSC Systems and DTV Transmission issues. A panel on spectrum issues related to the FCC's Broadband Plan will feature experts from the broadcast industry and government.

Luncheon keynote speakers include Jim Martin, Director ISR Programs, Office of the Deputy Under Secretary of Defense and James E. O'Neal, broadcast historian and technology editor for New Bay Media's *TV Technology*. The Welcome and Manufacturer's Receptions provide an excellent opportunity for attendees to meet, mix, and discuss contemporary broadcast engineering issues.

The symposium will be attended by broadcast engineers, consultants, equipment manufacturers, government regulators, and educators. The Broadcast Symposium offers Continuing Education Units (CEU) for attending technical sessions. Registration and Technical Program information for the IEEE Broadcast Symposium can be found at: http://www.ieee.org/organizations/society/bt/.