



## Radio at the 2009 International CES

Once again the new year began with the annual International Consumer Electronics Show (CES) taking place in Las Vegas, Nev ([www.cesweb.org](http://www.cesweb.org)). This year's show, which ran from January 8-11, 2009, offered a spectacular display of new technologies and new devices spanning two convention centers and numerous off-site venues. Some of the radio-related highlights of this year's show are summarized below.

**HD Radio Exhibit** – the HD Radio exhibit was located in the Central Hall of the Las Vegas Convention Center (LVCC; in previous years this exhibit was in the North Hall). A display of over 40 different HD Radio receivers constituted the bulk of the exhibit, but two of the biggest draws were the new navigation receivers (see below) and a prototype portable MP3 player/HD Radio receiver utilizing the latest low-power HD Radio integrated circuits. Other advanced receiver features being demonstrated in the booth were iTunes tagging and conditional access.



Shown visiting the HD Radio booth in the photo are NAB President and CEO David Rehr (far right) greeting Geoff Mendenhall, VP Transmission Research and Technology, Harris Broadcast Communications, with Talmage Ball, VP Engineering at Bonneville International Corp., and iBiquity President and CEO Robert Struble. An online video of the HD Radio exhibit is available at [www.graveline.com/video/](http://www.graveline.com/video/).

### HD Radio Navigation Devices



– a number of personal navigation devices (PNDs) which utilize real-time traffic information broadcast over the Advanced Application Services (AAS) data channel of the HD Radio system were at the show, including devices by Cydle, Dual (in photo, at left), and KRI (on the right in photo to the left). The Dual receiver, model XNAV43HD, supports reception of Clear Channel Total Traffic Network and Inrix real-time traffic information via Clear Channel HD Radio stations. Just prior to the CES, Clear Channel announced that real time traffic services over HD Radio are live and operational in 50 markets (for more information read the Clear Channel press release available online at [www.clearchannel.com/Radio/PressRelease.aspx?PressReleaseID=2352](http://www.clearchannel.com/Radio/PressRelease.aspx?PressReleaseID=2352)). The Broadcaster Traffic Consortium, founded in 2008 by Beasley Broadcast Group, Bonneville International Corporation, Cox Radio, Inc., Emmis Communications Corp., Entercom Communications Corp, Greater Media, NPR and Radio One, currently providing real-time traffic in 50 metropolitan markets using Radio Data

System (RDS) technology, also plans to initiate HD Radio-based traffic information broadcasts in 2009.

Other highlights of the Dual XNAV43HD include a 4.3-inch touch screen; text-to-speech functionality; multimedia support; and a suggested retail price of \$279.99. The Dual XNAV43HD is expected to be available by summer 2009. Not shown in the photo is the Cycle T43 PND which is similar in appearance to the Dual PND. Both the Dual and the Cycle PNDs support reception of HD Radio audio channels, including multicast channels. More information on the Cycle device is available on the Cycle Web page at [www.cycle.com/product\\_T43.asp](http://www.cycle.com/product_T43.asp).

**iTunes Tagging Using RDS** – Pioneer Electronics introduced two automotive receivers which are the first radios to support iTunes tagging using both HD Radio and RDS (FM subcarrier) signals. Models DEH-P710BT and DEH-P7100BT include built-in Bluetooth and USB direct control for an iPod. For analog FM broadcasts which include iTunes tagging information in the RDS data subcarrier, users can “tag” a song from the broadcast and have its metadata saved to an iPod. Users can then plug the iPod into a computer to see a list of tagged items (in iTunes) for purchase. When connected to a Pioneer HD Radio adapter, the unit can also tag songs using iTunes tagging information transmitted in the HD Radio data channel. Expected to be available this spring, the DEH-P710BT and DEH-P7100BT will list at \$360 and \$340, respectively. For additional information, visit the Pioneer Web site at [www.pioneerelectronics.com/PUSA/Products/CarAudioVideo/Source/CD-Players/Premier/DEH-P710BT](http://www.pioneerelectronics.com/PUSA/Products/CarAudioVideo/Source/CD-Players/Premier/DEH-P710BT).

**World's First iTunes Tagging for FM Radio**

Have you ever heard a great song on the radio, but couldn't remember what it was called or who sang it when you went to go look for it later? Now you don't have to worry about missing out on great music. Pioneer offers a World's First, iTunes Tagging for FM radio (using RDS data). And for you digital radio fans, we've also made this feature available for HD Radio (with the GEX-P20HD).

Press and hold center button when you hear music that you want to keep.

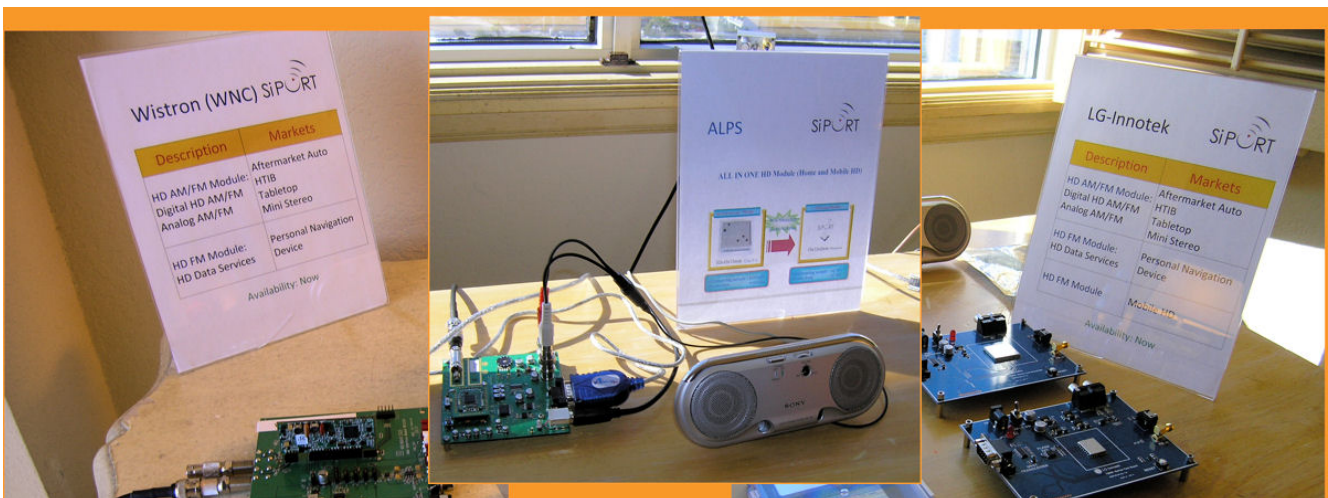
The song's meta data is automatically saved to your iPod.

Connect the iPod to a computer to see a list of your tagged items in iTunes. Purchase songs or albums if you desire.

Notes: iTunes Tagging supports purchase of music from iTunes Store, but is not for downloading music directly via headunit. iTunes Tagging for HD Radio requires GEX-P20HD.

Available on DEH-P7100BT and DEH-P710BT

**Low-power HD Radio Modules** – IC developer SiPort (Santa Clara, CA, [www.siport.com](http://www.siport.com)) was displaying HD Radio receiver modules from three different vendors which utilize the SiPort HD Radio receiver chipset. These modules, by Wistron, Alps, and LG-Innotek, were shown on hardware development circuit boards in the SiPort suite at the Las Vegas Hilton (see photo below). These low-power ICs (as well as those made by Samsung) are making it possible for manufacturers to develop smaller, more portable HD Radio receivers.





**Accessible radio technology** – for the second year in a row, efforts at developing radio services that are more accessible for visually and hearing impaired listeners were highlighted at the CES. The “Wonder Vision Awards,” presented by Stevie Wonder, the Sendero Group (a company focusing on accessible navigation products) and the National Federation of the Blind were presented to four organizations for their HD Radio technology-related efforts: to National Public Radio (NPR) for their accessible digital radio broadcast services initiative; to iBiquity Digital Corporation for support of accessible digital radio technology; to DICE Electronics for making the first accessible digital

radio reading service receiver (a prototype of the DICE iTR-100A is shown in the photo); and, to NDS for the conditional access technology that supports the copyright exemption for reading service content. The user interface of the iTR-100A utilizes voice prompts and audible feedback to simplify the operation and can support HD Radio-based radio reading services. For more information about the Wonder Vision awards, visit the Vision Free Web site at [www.senderogroup.com/VisionFree/awards.htm](http://www.senderogroup.com/VisionFree/awards.htm).

**Internet Car Radio** – Blaupunkt and miRoamer (Doncaster, Australia, [www.miroamer.com](http://www.miroamer.com)) had on display in the North Hall of the LVCC “the world’s first Internet car radio” (see photo). Blaupunkt plans to build OEM automotive receivers that will connect to cell phones using Bluetooth, then establish a connection to the Internet using the cell phone’s data channel. Once connected to the Internet, the iRoamer software in the receiver will access the iRoamer online portal, allowing the user to select from thousands of audio streams virtually any audio stream that is available on the Internet. The user’s favorite stations and other personal preference information are set up using a personal computer with access to the miRoamer Internet portal. miRoamer representatives at the show indicated that as “WiMax” technology proliferates, new miRoamer-enabled Internet radios will support connecting to the Internet using WiMax, as well.

