

December 13, 2010



# Radio TechCheck



The Weekly NAB Newsletter for Radio Broadcast Engineers

## Digital Radios for Cell Phones

There has been considerable discussion recently about the benefits of having radio receivers in cell phones. For the most part, these discussions have focused on inclusion of analog radio because analog radio integrated circuit (IC) technology has matured to the point where IC cost and size are easily accommodated by cell phones, and in fact many cell phones do incorporate analog radio (see the [September 27, 2010 issue](#) of *Radio TechCheck* for more information). A number of cell phone “add-on” digital radio receivers are now available (or will be soon) suggesting that digital radio IC technology is getting near the point where digital radio in cell phones may soon be practical.

Here in the U.S., two add-on devices from Gigaware (available for purchase at Radio Shack) will turn an iPod Touch or an iPhone into an HD Radio receiver (FM band only) complete with song tagging ability. The Gigaware 12-646 (available for about \$45) and 12-645 (costing about \$40) are shown in the photo at right. Both of these devices utilize the docking connector of the iPod Touch or iPhone, and require the use of an HD Radio “app” which is available for free from the iTunes App store. Also, both devices rely on the headset cord (not shown in photo) to function as an antenna for the receiver.



Screen shots of the HD Radio app are shown at right, as well. The leftmost screen shot illustrates the radio tuner “home page,” including a touch-screen “tuning wheel” as well as information on the station being listened to and any program associated information being broadcast as part of the HD Radio signal. Touching the gray bar with the call sign creates a “drop-down” list of multicast channels available on the station, if available, as shown in the screen shot at right. The “tag” button on the Gigaware devices will illuminate when the receiver detects that a station is broadcasting tagging information, allowing the listener to tag songs for later purchase at the iTunes store.



Enhancements to the Gigaware HD Radio app are anticipated in the near future which will support album art using the Artist Experience data broadcasting features implemented by iBiquity Digital Corporation earlier this year, as well as “multitasking” (Apple’s operating system enhancement allowing for multiple apps to run simultaneously) and interactive ads. For additional information on the Gigaware devices see the Radio Shack web page at <http://www.radioshack.com/product/index.jsp?productId=3734241&retainProdsInSession=1> (for the 12-646) or <http://www.radioshack.com/product/index.jsp?productId=3734240&retainProdsInSession=1> (for the 12-645).

Outside of the U.S., a digital radio cell phone add-on was recently announced by Nokia (Finland, [www.nokia.com](http://www.nokia.com)) that brings DAB digital radio to the Nokia N8, C7, E7, C6-01 and future Symbian^3 devices that offer the USB-To-Go function. Shown at right, the Nokia Digital Radio Headset is reportedly going to be available before the end of the year at a cost of approximately \$70.

As with the Gigaware devices, the Nokia device will utilize an app that can be downloaded from Nokia's Ovi store (at [store.ovi.com](http://store.ovi.com)). The Nokia Digital Radio Headset app will support reception of program associated data (*i.e.*, song title and artist) and any graphic images included in the digital radio signal, and will also support a "smart tuning" feature that will automatically choose the radio signal with the clearest reception in cases where a desired program exists on alternative frequencies (a common occurrence in DAB radio systems that utilize so-called "single frequency network" architectures). Additional information about the Nokia Digital Radio Headset DAB is available online at

[www.nokia.com/NOKIA\\_COM\\_1/Press/Materials/White\\_Papers/pdf\\_files/data\\_sheets\\_2010/Nokia\\_Digital\\_Radio\\_Headset\\_DAB\\_data\\_sheet.pdf](http://www.nokia.com/NOKIA_COM_1/Press/Materials/White_Papers/pdf_files/data_sheets_2010/Nokia_Digital_Radio_Headset_DAB_data_sheet.pdf).



## Nominate the Best!

NAB is currently accepting nominations for the 2011 NAB Engineering Achievement Awards. Established in 1959, the NAB Engineering Achievement Award is presented each year to an individual for their outstanding accomplishments in the broadcast industry. In 1991, NAB began giving awards separately for achievements in radio and television. The award winners will be recognized at the Technology Luncheon at NAB 2011 on April 13 in Las Vegas, Nev.

Additional information and nomination form is available at <http://www.nab.org/events/awards/entryRules.asp?id=1991>. The deadline for nominations is January 21, 2011.

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