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Radio TechCheck



The Weekly NAB Newsletter for Radio Broadcast Engineers

HD Radio in Smartphone Introduced at 2012 NAB Show

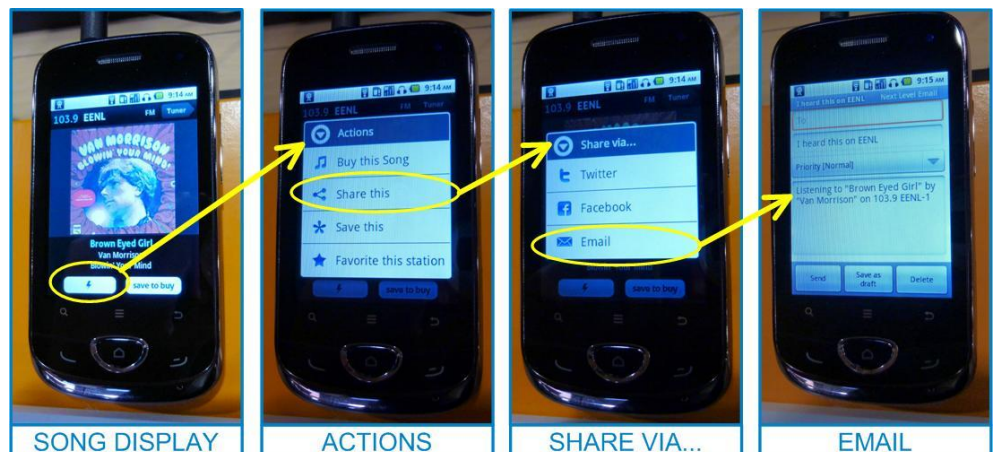
The [2012 NAB Show](#), held last week in Las Vegas, Nev., brought the broadcasting industry together like no other event can, offering attendees a glimpse of numerous exciting and groundbreaking technology developments. One of the highlights of this year's show was the rollout of HD Radio in smartphone technology, announced at a jam-packed press conference (see photo at right) in the HD Radio booth on the show floor on Monday April 16. Speakers at this press conference included NAB EVP and CTO Kevin Gage, iBiquity President and CEO Bob Struble, Emmis Communications President and CEO Jeff Smulyan, and Emmis Interactive Co-President Rey Mena.



This technology is the result of an NAB Labs project (started in 2011 under the NAB FASTROAD technology advocacy program) with the project team of Emmis Interactive, iBiquity Digital Corporation and Intel, and project management by BIA/Kelsey. Created in 2012, NAB Labs is an NAB program that provides a platform for innovation, a venue for forging partnerships and testing new technology, and educational events to create awareness about over-the-air radio and television technology initiatives.

Key pieces of the HD Radio smartphone “ecosystem” developed under this project were on display in the HD Radio booth all week in a live demonstration, including an Android smartphone with an embedded HD Radio receiver “chip” (by Intel), an HD Radio Android “app” (developed by Emmis Interactive) running on the smartphone, and the Emmis Interactive TagStation broadcast content insertion system. TagStation supports Artist Experience (the iBiquity-developed approach for broadcasting album art and station logo images to HD Radio receivers) and in addition, it can now deliver an enhanced HD Radio ad experience which leverages the power of the HD Radio data capability with a smartphone's data channel to deliver truly interactive advertising that features a variety of ad units including: couponing, geo-mapping, SMS texting integration, rich media, and many other advanced ad capabilities.

Many of the interactive features provided by this HD Radio on smartphone technology were being demonstrated in the booth and are depicted in the smartphone screenshot sequences included here. The first sequence shows how a user can share information about a song being received on the phone's embedded HD Radio receiver chip. The leftmost screenshot in this sequence shows the receiver “home page,” including an Artist Experience album art image as well as the song title and artist Program Associated Data (PAD), all being delivered to the device using the data portion of the HD Radio signal.



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When the “action button” (highlighted by the yellow circle in the leftmost screenshot) is touched, various actions are made available, including the ability to share information about the song being listened to via Twitter, Facebook or email. The final screenshot in the sequence shows the email message which is automatically composed for this song, ready for sending to the recipient of the user’s choice.

Shown in the second sequence are some interactive features that can be associated with an advertisement using the HD Radio in smartphone receiver and the Emmis Interactive TagStation. A Home Depot ad image is shown in the leftmost



image in the sequence along with the action button (highlighted by the yellow circle). This ad image is synchronized with the audio portion of the ad being broadcast over the HD Radio signal and is delivered using the HD Radio data channel in a manner similar to that used to deliver album art. In the second screenshot, the various action options for this ad are shown, and the third, fourth and fifth screenshots show the results for selecting QR code, view map and visit website, respectively.

Broadcasters who are interested in learning about the capabilities of the TagStation broadcast content insertion system can visit the Emmis Interactive [website](#).

Some of the other exciting HD Radio-related announcements at the Show included the following:

- iBiquity announced that Chevrolet, GMC and Buick will be the first American automotive brands to offer the HD Radio “Artist Experience” feature standard on the new Traverse, Acadia and Enclave crossover utility vehicles. Also, information about the rollout of HD Radio in Mexico was revealed. Several of Mexico’s most important radio broadcasters have officially started transmissions with HD Radio technology. Stations from Grupo Radio Imagen, Insituto Mexicano de la Radio and Universidad Iberoamericana are among the first to broadcast, and other major groups will gradually join in Mexico City and the rest of the country. Additionally, the new Web page www.hdradio.mx has launched, created specifically for the Mexican market.

- In a paper at the [2012 NAB Broadcast Engineering Conference \(BEC\)](#), Electronics Research Inc. described a new device – a “high efficiency FM analog/IBOC diplexer” – that promises to allow FM IBOC broadcasters who are using the high power combiner method of IBOC signal generation to more easily and cost effectively increase their digital power above -20 dBc. This is an exciting development because until now, the high power combiner facilities have faced more significant modifications in attempting to take advantage of the FCC’s higher digital power authorization. The BEC paper is included in the *2012 NAB Broadcast Engineering Conference Proceedings*, which will be available online from the [NAB Store](#) soon. More information on this new ERI device is also available on the [ERI Web site](#).

Broadcaster	Freq.	Class	Format
Imagen	95.1	HDI	Radio Hablada
RMX	95.5	HDI	Musica Ingles y Español
Ibero	95.9	HDI	Musica Contemporanea
Opus	94.5	HDI	Musica Clasica
Reporte	95.1	HDI	Radio Hablada
Radio Latina	98.5	HDI	Musica Popular
Reactor	105.7	HDI	
Horizonte	107.9	HDI	Musica de Jazz

IEEE Broadcast Technology Society Issues Call for Papers

A Call for Papers has been issued for the 2012 IEEE Broadcast Symposium, to be held October 17-19, 2012, in Alexandria, Va. The Symposium Committee seeks timely and relevant technical papers relating to all aspects of broadcast technology, in particular on the following topics:



- Digital radio and television systems: terrestrial, cable, satellite, Internet, wireless
- Mobile DTV systems (all aspects, both transmission and reception)
- Technical issues associated with the termination of analog television broadcasting
- Transmission, propagation, reception, re-distribution of broadcast signals
- AM, FM, and TV transmitter and antenna systems
- Tests and measurements
- Cable and satellite interconnection with terrestrial broadcasters
- Transport stream issues – ancillary services
- Unlicensed device operation in TV white spaces
- Advanced technologies and systems for emerging broadcasting applications
- DTV and IBOC reception issues and new technologies
- ATSC and other broadcast standards developments
- Broadcast spectrum issues – re-packing, sharing

The submission deadline for abstracts is May 15, 2012. Visit http://bts.ieee.org/images/files/2012_IEEE_BS_Call_for_papers.pdf for additional information. This Symposium is produced by the [IEEE Broadcast Technology Society](#).

This advertisement is for NAB member benefits. It features a light blue background with the text "Announcing the Newest NAB Member Benefit" in a large, dark font. Below this, there is a circular logo with the letter "A" and the text "Agility Recovery Prepare to Survive". To the right of the logo, the text "Disaster Recovery · Space · Connectivity · Power" is displayed in a smaller font.

This advertisement is for AXIS PRO insurance. It has a dark blue background. On the left, the text "AXIS PRO" is written in large, bold, white letters, with "PROFESSIONAL · MEDIA · TECHNOLOGY" in smaller white letters below it. To the right, the text "Protect against the devastating impact of lawsuits with AXIS PRO, the leader in media liability insurance." is written in white.

This advertisement is for the NAB Engineering Handbook. It has a grey background. At the top, the word "ADVERTISEMENTS" is written in white. Below this, the text "NAB Engineering Handbook" is written in a large, bold, orange font. Underneath, a quote in white text reads: "A big thumper of an engineering resource...written by a list of veritable engineering all-stars." followed by "- Radio World Online". To the left of the quote is an image of the handbook's cover. To the right is the NAB STORE logo, which includes the text "NAB STORE Publications · Research". At the bottom right, there is a black button with the text "BUY NOW!" in white.