



2008 NAB Radio Show Engineering Program

This year's NAB Radio Show Engineering Program September 17 – 19 in Austin, Texas focuses on advances in radio technology, new ways to generate potential revenue from AM towers, plus optimizing FM signal coverage with boosters. The engineering sessions are presented in a workshop-type environment where you will have ample time to ask questions and interact with experts and your industry peers.

For busy radio engineers, the NAB Radio Show is an excellent way to advance your technical education and maintain your edge in an increasingly competitive business. The highlights of this year's program follow.

Wednesday, September 17

8:00 – 9:00 a.m.

Renting AM Towers to Non-Broadcasters

Gary Cavell – Cavell, Mertz & Associates



The growth of cellular radio systems and other mobile communications technologies is creating worldwide demand for tower space. Many broadcasters overlook the AM tower as a valuable source of additional revenue. This presentation for managers and engineers alike provides practical, easily understood insight into the game of renting space on your AM station's directional or non-directional tower. Topics include liability issues, leasing "gotchas", planning for shared use, understanding each other's needs, FCC considerations, and (simplified) technical issues.

9:00 – 10:00 a.m.

Psycho Acoustics: Is Jim Loupas Crazy When He Says Branding with Sound will Make your Radio Station More Successful?

James Loupas, James Loupas Associates



In today's ultra-competitive market, branding with sound is a potent weapon in the radio broadcaster's arsenal. Processing is part of it, but not all of it. Come learn the five ways you can make your sound a unique brand in your market. Questions and comments are always a part of this exercise.

10:00 – 11:00 a.m.

FM Boosters – Opportunities and Challenges

Stan Salek, Senior Engineer, Hammett & Edison

FM boosters have been in regular use for about 20 years. Over that time, many systems have been designed and constructed, with some notable successes, but also a number of disappointments. The key has been to adequately isolate the FM booster signal from that of the main station operating on the same channel in areas of population to be served. This workshop will cover the technical elements needed for successful implementation of FM booster transmitting facilities. Examples of both successes and failures will be presented, along with consideration of performance expectations when FM boosters are designed for IBOC digital radio compatibility.

11:00 a.m. – 12:00 p.m.

Advances In Remote Control Technology

Tony Peterle, Technical Support Manager, Audemat



Broadcasting is in the midst of a digital revolution. Advanced technology is spreading rapidly throughout the industry, from all-digital television to HD radio to audio over IP to advanced all-digital audio processing and RF test and measurement equipment. One area that has lagged somewhat behind the technological tidal wave is remote facility control, but that is now beginning to change. This workshop presentation explores the new technology being applied to remote facility control.

1:30 – 3:30 p.m.

NRSC Meetings



The NRSC has been setting standards and investigating new technologies for radio for over 20 years. Don't miss this opportunity to participate in these important industry meetings. You do not need to be a member of the NRSC to attend.

Thursday, September 18, 2008

8:00 – 9:00 a.m.

Next Generation IP-based Audio

Tag Borland, President, Logitek



Network aware professional audio equipment has a poor record of interoperability. Even if different models have the ability to communicate, the complex setup and varying parameter choices by manufacturers effectively isolate one model of equipment from another. This is reminiscent of the early days of networking in the computer industry.

Recently available protocols allow multicasting systems, like digital mixers, to automatically find and select the many settings required for network communication to work. Consoles can now find other audio equipment, negotiate communication methods and receive a list of available sources just by turning on the power. Some user groups have started requiring a minimum set of protocols in the networked equipment they buy. Now is the time to start planning for the coming change.

9:00 – 10:00 a.m.

High Bandwidth Capacity RF STL/TSL Connectivity

Jim Moody, Senior Consultant, James Moody Associates

Larry Miller, Senior Partner, Schwartz, Woods & Miller



This session will examine and present possible solutions for high bandwidth studio-to-transmitter, studio-to-studio and transmitter-to-transmitter connectivity problems. Modern broadcast data connections such as T1, DS3, OC3, and 100baseT Ethernet were not even contemplated when the FCC drafted the rules that govern STL connectivity. Those rules have not evolved with the demands of technology, and broadcasters are now faced with a connectivity dilemma that often dictates looking beyond Part 74 to Part 101 of the FCC rules.

10:00 a.m. – 12:0 p.m.

HD Radio™ Measurements Workshop

David Maxson, Managing Partner, Broadcast Signal Lab



HD Radio technology and its implementation require an understanding of measurements techniques not familiar to most radio engineers. Some of what will be covered in this special workshop includes: the HD Radio signal and spectrum, the HD Radio Mask evolution, the current state of the rules, what is PSD and measuring PSD.

2:00 – 3:30 p.m.

The Embedded Exporter Technical Panel



Moderator: David Layer, Director, Advanced Engineering, NAB

Panelists: Dan Dickey, Vice President, Engineering, Continental Electronics Corp.
Scott Martin, Head of Data Systems, Nautel Limited
Ted Lantz, HD Radio Product Manager, Broadcast Electronics
Tim Anderson, FM/Digital Radio Product Line Manager, Harris Corporation, Broadcast Communications Division

HD Radio transmission equipment has recently advanced to the next level with the unveiling in April of the "Embedded Exporter." HD Radio stations use the Exporter to combine multicast audio channels and advanced data services along with a station's main audio channel into a format suitable for transmission. In this session, the differences between the previous generation of Exporter equipment and the new Embedded Exporter will be explained, with a focus on how this new technology promises enhanced reliability and a greater feature set while at the same time substantially lowering the cost of upgrading to HD Radio technology.

Friday, September 19, 2008

8:00 -10:00 a.m.

High-Power IBOC Technical Panel



Moderator: Geoff Mendenhall, Vice President, Transmission Research and Technology, Harris Corporation - Broadcast Communications Division

Panelists: Jeff Detweiler, Director, Broadcast Business Development, iBiquity Digital Corporation
Dan Dickey, Vice President, Engineering, Continental Electronics Corp.
Ted Lantz, HD Radio Product Manager,

Gary Liebisch, Eastern U.S. Regional Sales Manager, Nautel, Ltd.
Milford Smith, Vice President, Radio Engineering, Greater Media, Inc.
Mike Starling, Vice President, Engineering, National Public Radio

In June a group of radio broadcasters asked the FCC to allow FM broadcasters, at their option, to increase the power in the digital portion of their hybrid IBOC signals by up to 10 dB. In this session a panel of technical experts will discuss this proposal, explaining the potential impact on existing facilities as well as how to best design new facilities for higher-power operation.

10:00 - 11:00 a.m.

The HD Radio™ EPG Project



Moderator: Rick Ducey, Chief Strategy Officer, BIA Financial Network

Panelists: David Maxson, Partner, Broadcast Signal Lab, LLP
Nick Banks, Development Director, Unique Interactive
Joseph D'Angelo, Vice President, Advanced Services, iBiquity Digital Corporation

One of the advanced features supported by the HD Radio system is transmission of an Electronic Program Guide (EPG), an interactive on-screen guide to scheduled broadcast programming. NAB, through its FASTROAD (Flexible Advanced Services for Television & Radio On All Devices) technology advocacy program, has a team of technical experts from BIA Financial Network, Inc., Broadcast Signal Lab, and Unique Interactive working with iBiquity to develop the business requirements, system architecture and specifications of an EPG suited to the HD Radio market for local broadcasters. The EPG project team will discuss their plans and progress to-date.

Additional information on registration, housing and other events at the the 2008 NAB Radio Show is available on the [NAB Radio Show Web site](#).



**NAB AM Antenna
Computer Modeling Seminar
November 20-21, 2008
NAB Headquarters
Washington, DC**

Don't miss this opportunity for broadcast engineers to learn the basics needed to utilize modeling software such as MININEC and nodal analysis for designing performance-optimized AM directional antenna phasing and coupling systems and proving the performance of directional antenna patterns.

You will learn about:

- Moment Method Modeling Basics
- DA Proofing Using Moment Method Modeling
- Overcoming Limitations of Using Field Strength Measurements for DA Proofs
- State of the Art in Phasing System Design Nodal Analysis of AM DA Phasing and Coupling Systems
- Pattern Design Considerations for Optimum Performance

AM antenna experts Ron Rackley and Ben Dawson, along with antenna modeling software specialist Jerry Westberg, will lead the seminar demonstrating how moment method modeling makes analysis of actual tower current distributions possible and how a model can be used to proof an array provided the proper criteria are considered. All instructors are well known in the radio industry as experts in the field of directional antenna design and maintenance. Their decades of experience offer station engineers an opportunity to learn techniques, tips and tricks that can be immediately useful.

Seminar fee: \$395.00 (NAB members) and \$495.00 (non-members). For more information on the curriculum, how to register or housing go to [AM DA Seminar](#) on the NAB Web site or call Sharon Devine at (202)-429-5338. Register now for the NAB AM Antenna Computer Modeling Seminar!

