

ENNES REGIONAL WORKSHOP

NASHVILLE REGISTRATION

January 10, 2006 • Millennium Maxwell House Hotel

Preregistration strongly encouraged

Please copy this form for multiple registrations

SBE Member Rate: \$35

Non-Member Rate: \$45

Price includes continental breakfast, lunch, breaks.

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I plan to attend:

Choose one: Radio Sessions Television Sessions

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Society of Broadcast Engineers
Nashville Ennes Workshop
9247 N. Meridian St., Ste. 305
Indianapolis, IN 46260

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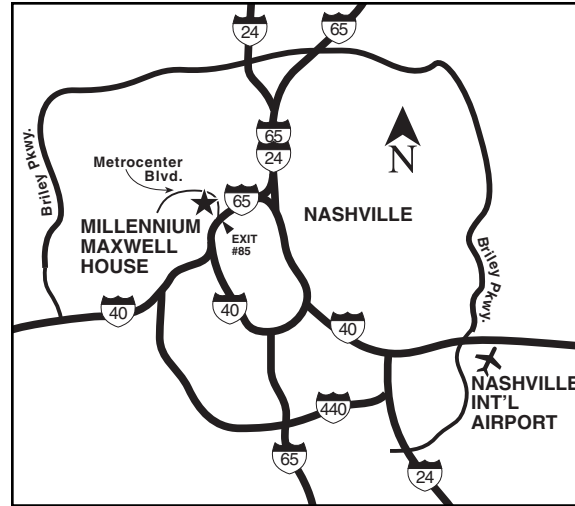
MILLENNIUM MAXWELL HOUSE

2025 MetroCenter Blvd., Nashville, TN 37228

Phone: (615) 259-4343, Reservations: (866) 866-8086

Special Rate: \$95, plus tax; mention you are with the SBE/TAB event.

Hotel features: two restaurants, indoor whirlpool, sauna, fitness center, complimentary newspaper (M-F), free parking.

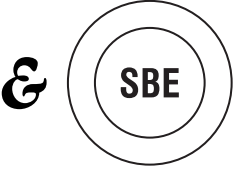
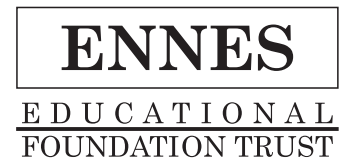


FOR MORE INFORMATION on the Ennes Educational Foundation Trust and/or the Society of Broadcast Engineers, please visit the SBE website at www.sbe.org or e-mail John Poray at jporay@sbe.org.

The Ennes Educational Foundation Trust wishes to thank Nashville Chapter 103 for hosting; Fred Baumgartner, CPBE, CBNT, for moderating, and the Tennessee Association of Broadcasters for their efforts to present this workshop.



Society of Broadcast Engineers
9247 North Meridian Street, Suite 305
Indianapolis, IN 46260



Present the

NASHVILLE ENNES WORKSHOP

**Continuing Education
for Radio & TV Engineers**

**Tuesday, January 10, 2006
7:50 AM to 5 PM**

*Millennium Maxwell House Hotel
Nashville, Tenn.*

**HELD IN COOPERATION WITH:
SBE CHAPTER 103
& THE TENNESSEE ASSOCIATION
OF BROADCASTERS**

Society of Broadcast Engineers
9247 North Meridian Street, Suite 305
Indianapolis, IN 46260
(317) 846-9000
www.sbe.org

REGISTRATION**7:15 TO 7:50 AM****OPENING REMARKS****7:50 TO 8 AM**

Moderator: Fred Baumgartner, CPBE, CBNT, Ennes Trustee, Director Broadcast Engineering, MediaFLO USA Inc.

RADIO SESSIONS**SESSION 1-R 8 TO 8:45 AM****Cost-Effective Implementation of HD Radio Transmission**

Speaker: Alan White, Broadcast Product Engineer, Continental Electronics Corporation

The enhanced user experience now available with HD Radio™ technology (also known as IBOC) is not without challenges. More stringent requirements on transmission equipment have led to the development of a variety of methods of implementing IBOC technology, often requiring new transmission equipment. This session will address IBOC in general, methods of broadcasting both the analog and digital signal and, in particular, the most cost-effective configurations for implementation.

SESSION 2-R 8:45 TO 9:30 AM**New Content Storage Schemes for HD Radio**

Speaker: Jake Wyatt, Sales Engineer, Prophet Systems Innovations

While the process of digitizing and storing content is not new, the ways available to accomplish these tasks have changed in the last 10 years. What are the best ways to store compressed and uncompressed audio? Will I need to store multiple versions of certain content types? How can I expand my storage capacity without disruption of service? Do I need an enterprise class storage system, and how would I implement and manage one? This session will provide answers to these questions, as well as review some of the exciting new storage system architectures available to the HD broadcaster.

SESSION 3-R 9:30 TO 10:15 AM**Spectral Re-growth in Analog Transmitters**

Speaker: Bob Surette, Shively Labs

As more and more stations implement IBOC transmission, spectral re-growth in analog transmitters is becoming a problem. So far the problem has been seen in High Level Combining, Mid Level Combining and to some degree in back feeding of a multi station combined system. This paper will talk about how the problem is manifesting itself, what the root cause is and what is being done to correct the problem.

BREAK 10:15 TO 10:30 AM**SESSION 4-R 10:30 AM TO NOON****The Truth about Audio Cable**

Speaker: Steve Lampen, Technology Specialist, Multimedia Products, Belden Electronics Division

What can we measure in wire and cable and what can't we? This session divides what's important in the construction of audio cable and what makes a difference in performance, including resistance, capacitance, inductance, impedance, skin effect, copper purity, directionality and many other parameters. It also addresses high-end home audio and professional audio installations.

LUNCH - INCLUDED! NOON TO 1:30 PM**SESSION 5-R 1:30 TO 2:15 PM****Distinct 5.1 Surround Audio**

Speaker: Kirk Harnack, U.S. Director of Sales, Telos/Omnia/Axia

Surround is the "killer app" for HDEFM broadcasting. More and more people are becoming convinced that FM radio has the potential to take a major step forward with this technology. There are currently four proposed methods for surround broadcasting, which can be divided into two categories: the three matrix systems and the MPEG spatial system. This session will point out critical technical issues that broadcasters must be aware of as they consider surround, lest they degrade and damage their FM-stereo service.

SESSION 6-R 2:15 TO 3:15 PM**Broadcast Management for Broadcast Engineers**

Speaker: Terrence M. Baun, CPBE, AMD, CBNT, President, Criterion Broadcast Services

This session will examine the relationships between senior management and engineering, uncover points of conflict and agreement and promote and reinforce management skills. The importance of engineering time management skills, cost-saving initiatives and a "larger view" of station goals are emphasized, as is the necessity for a cooperative interdepartmental attitude in promoting a positive workplace experience. Examples of engineering and senior management assessments of each other's roles will be provided in a discussion period at the end.

BREAK**SESSION 7 - "Top Ten" FCC Violations**

Speaker: Terrence M. Baun, CPBE, AMD, CBNT, President, Criterion Broadcast Services

The Alternative Broadcast Inspection Program (ABIP), a joint project of the FCC and state broadcast associations nationwide, offers the opportunity for stations to be inspected by FCC-trained engineers in an informal and relaxed environment. When analyzing station performance following these inspections, a compliance pattern emerges which can be useful in assessing any station's ability to pass a "real" FCC inspection. This session will list and discuss the most common violations Baun has found in performing more than 500 such ABIP inspections over the past 12 years. Among hot button issues to be discussed are chief operator requirements, station logging, EAS, tower regulations, occupied bandwidth measurements and some engineering Public File issues. Time will be allotted for questions and discussion.

SESSION 8 - FCC Presentation

Speaker: FCC Representative TBA

This session will give an overview of FCC enforcement and how it relates to broadcasting. The session will end with a Q&A time.

TELEVISION SESSIONS**SESSION 1-T 8 TO 8:45 AM****Measuring the 8-VSB Signal**

Speaker: Ketan Bhaidasa, Modulation Sciences, Inc.

With the advent of DTV, broadcast engineers have to relearn and acquaint themselves with the underlying technology that makes DTV broadcast possible. Many technical issues must be converted into performance metrics for easy monitoring and measurement of the DTV signal. This session introduces the data and signal processing blocks used to make an 8-VSB signal, which is used for terrestrial broadcast in North America.

SESSION 2-T 8:45 TO 9:30 AM**Passive RF Systems & Mask Filters for Television Transmitters**

Speaker: Scott Burgess, Senior RF Engineer, Electronics Research Inc.

This session will outline the function of passive RF systems. It will explain the reason waveguide and coaxial components are used for various channels / power levels and the key relationships between channel, insertion loss and surface area required for cool operation. It will explain the need for inter-modulation filters and the difference between filters for analog and digital transmitters. Different approaches for dealing with the constraints of high power design will be examined, as will various approaches to channel combiners.

SESSION 3-T 9:30 TO 10:15 AM**ATSC Update: The Status of DTV**

Speaker: Mark Richer, President, Advanced Television Systems Committee

This session provides an overview of current activities within the ATSC and what they mean to the television industry. Among the subjects covered will be: status of the DTV transition; new transmission concepts, including distributed transmission and E-VSB; interactive television (it's ACAP, and it's here); ENG transmission/communications work currently underway, and PSIP and PMCP.

BREAK 10:15 TO 10:30 AM**SESSION 4-T 10:30 AM TO NOON****DTV Transport System Overview & The Practical Side of PSIP**

Speaker: Rich Chernock, Director of Technology, Triveni Digital, Inc.

The transition to DTV has resulted in a major change in the base technology for television stations. The first part of this session will examine the fundamentals of DTV transport, video encoding and audio encoding, including the practical aspects of how it all connects together. The second part of this session will offer a brief background on PSIP and then focus on the practical side of PSIP implementation: How PSIP generators fit into the DTV station architecture, how information flows in and out of the PSIP generator, what information is needed for PSIP (including sources) and PSIP solutions for "interesting" configurations (such as centralcasting and remote transmitters/multiplexors).

LUNCH - INCLUDED! NOON TO 1:30 PM**SESSION 5-T 1:30 TO 2:15 PM****PMCP - Enabling Truly Dynamic PSIP**

Speaker: Chris Lemon, Harris Broadcast

PSIP must accurately reflect what you broadcast. But how do you accomplish this? The data required is in your systems, and PMCP can help you get it into your ATSC transport stream. This session will examine where the data is and how to use PMCP to access it. It will look at the opportunities that dynamic PSIP present to you and implementation issues to consider. It will also review current systems and how to leverage them.

SESSION 6-T 2:15 TO 3:15 PM**Managing the DTV Closed Caption Transition**

Speaker: Phil McLaughlin, President, EEG Enterprises, Inc.

This session emphasizes the challenges presented by DTV closed captioning, a new required program element. An overview of existing standards, distribution methods and content creation techniques will be given. Examples of broadcast plant architectures will be presented and discussed. Topics will include live creation, upconversion, down-conversion, regeneration of upstream content and monitoring.

BREAK 3:15 TO 3:30 PM**SESSION 7-T 3:30 TO 4:30 PM****4:30 TO 5 PM**