

May 9, 2011



Radio TechCheck



The Weekly NAB Newsletter for Radio Broadcast Engineers

NAB Broadcast Engineering Conference Sessions Now Online

This year's NAB Broadcast Engineering Conference (BEC), held from April 9 – 14, 2011 in Las Vegas, Nev. as part of the 2011 NAB Show, was jam-packed with interesting technical presentations and lively panel discussions. Even though the conference is now over, a large portion of the content presented is available in the NAB BEC Proceedings (available online at the [NAB Store](#)), as well as online from the [NAB Online Learning Center](#). Online content includes an audio recording of the presentation synchronized with the PowerPoint slides used (sample screen capture at right shows user interface). Listed below are all of the sessions from the BEC and within each session, which presentations are available either online and/or in the Proceedings.



To use the Online Learning Center, here are some helpful tips:

- Access to the online content must be purchased (details provided below) starting at \$249 (price depends upon your registration status at the 2011 NAB Show). Once you have paid, you have access to all of the conference sessions available.
- A number of *complimentary* presentations are accessible from the Online Learning Center home page. Selecting a complimentary session will immediately take you to the user interface so you can experience how the presentations have been captured for online access (you must LOGIN to access these complimentary sessions – see below).
- If you previously purchased access to the Online Learning Center as part of your 2011 NAB Show package (only available with the SMART PASS), you should have already received an email that contains your username and password. Use those to login to the Online Learning Center. (If you did not receive this email you may contact the Online Learning Center for assistance by sending an email to support@cmcg.com.)
- For new subscribers, look for “Login/Create Account” on the left-hand side of the home page, click on this link, and set up an account (no charge to do so). Then, use the “Login/Create Account” link to login, which is the first step to either accessing sessions (if you have already purchased access, or to access complimentary sessions) or purchasing access.
- To purchase the BEC sessions, first select the link “2011 Broadcast Engineering Conference” which is on the right-hand side of the page under “2011 Recordings.” This will bring up a list of the 109 presentations that are

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available. Click the “BUY NOW” button on any presentation and select the appropriate package, based upon your registration status at the 2011 NAB Show. This will place your Online Access package into the “cart” where you can complete your transaction. Again, note that once purchased, this will give you access to all of the content available in the Online Learning Center which includes the BEC, the Broadcast Management Conference, Telecom Access Networks conference, Post Production World and the Telepresence/Pro AV sessions.

- Once you have purchased access to the sessions, click on “My Content” on the left side of the screen (under “My account”). You will then see an alphabetical list of the available presentations which can be sorted based upon the pull-down menus at the top of the window. Once you have located the presentation you wish to view, click on the AUDIO icon under “Watch Now” to start playback.

Saturday, April 9, 2011

SBE Ennes Workshop – Infrastructure: Keeping It Going in Challenging Times

Moderators: Frederick Baumgartner, SBE Education Committee, Tom Mikkelsen

broadcast engineer and project management executive

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
Tutorial: Infrastructure 101 Ronald Eligator, principal, Acoustic Dimensions Arthur Metzler, managing principal, AMA Consulting Engineers, P.C., Stuart Reynolds, Central U.S. senior manager, Diversified Systems Neil Tucker, Principal, designrepublic	✓	
Broadcast Engineering in Modern Economic Times; Bankruptcy and the Reorganization of Broadcast Facilities Chris Imlay, partner, Booth, Freret, Imlay & Tepper, P.C.	✓	
Keeping It Going in the Real World John Bisset, business development executive, Tieline Technology	✓	
Monitoring and Control for Broadcast Infrastructure Brad Strommen, project manager, Comcast Entertainment Group	✓	
IT Infrastructure and the Accidental Administrator Brad Gilmer, president, Gilmer & Associates, Inc.	✓	
Improved Tower Management by Understanding the Three C's of Structural Failure: Causes, Cost and Cures David Davies, consulting engineer to ERI	✓	
KREX - The Real World of Disaster Recovery Skip Erickson, Harris Professional Services	✓	
Transitioning to IPv6 Wayne Pecena, director of engineering, Texas A&M University	✓	

Sunday, April 10, 2011

The Future of Television Broadcasting

Chairperson: James Kutzner, chief engineer, Public Broadcasting Service

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
Non-Real-Time Delivery of Broadcast Services Rich Chernock, CTO, Triveni Digital	✓	
Live Sports Production of 22.2 Multi-Channel Sound for Super Hi-Vision TV Tsuyoshi Hinata, Japan Broadcasting Corporation (NHK)	✓	✓
Captioning for Next Generation Broadcasting Sam Pemberton, chief executive officer, Softel	✓	✓

DVB Second Generation Standards: Commercial and Technical Drivers Peter Siebert, executive director, DVB Project Office	✓	✓
Current Status and Future Prospects of Initiatives for Disaster Prevention Information Dissemination in Data Broadcasting Norio Sasaki, Japan Broadcasting Corporation (NHK)	✓	✓

Sunday, April 10, 2011

The Future of Radio Broadcasting

Chairperson: Dom Bordonaro, chief engineer, Cox Radio Inc.

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
Next Generation of Radio Content Collection and Delivery Tools Pierre Robidoux, senior engineer, CBC/Radio-Canada	✓	✓
Media on the Move: From Applets to Craplets Andrew Janitschek, program & operations support, Radio Free Asia	✓	✓
Migrating Radio Call-in Talk Shows to Wideband Audio Tom Hartnett, technical director, Comrex	✓	✓
Adding Visual Communications to Radio Broadcasts John Antanaitis, VP product marketing, Polycom Beth Tepper, SVP, Premiere Radio Networks	✓	
The Impact of Consumer Devices on Radio Content Development and Engineering Dwight Douglas and Diana Stokely, RCS	✓	✓

Sunday, April 10, 2011

Implementing Mobile TV

Chairperson: Brett Jenkins, vice president of technology, ION Media Networks

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
Mobile DTV Implementation: A Status Report Jerry Whitaker, VP, Advanced Television Systems Committee	✓	
Update on ATSC M/H Field Testing Dennis Wallace, managing partner, Meintel, Sgrignoli & Wallace	✓	
ATSC Mobile DTV Gap Fillers, Repeaters and Translators Jay Adrick, broadcast systems technologist, Harris Joe Seccia, project engineer for TV transmission Products, Harris	✓	
Updating the STL for Mobile DTV Operations S. Merrill Weiss, president, Merrill Weiss Group LLC	✓	✓
Distributed Antenna Repeater Systems for Mobile TV Broadcast Daniel Barton, director of engineering, ALIVE Telecom	✓	
Non-Obvious Considerations for Adding Mobile DTV to a Broadcast Station Richard Chernock, CTO, Triveni Digital	✓	
The Promise of Mobile DTV Aldo Cugnini, Co-Founder, Vimionix Louis Libin, president, Broad Comm, Inc.	✓	✓
Experimental Relation Between Signal Power and Service Level for Mobile DTV Francisco Peres, engineer, Globo TV Network	✓	✓

Sunday, April 10, 2011

Improving HD Radio

Chairperson: Steve Fluker, director of engineering, Cox Radio, Orlando

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
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PAPR and Asymmetrical Sidebands Field Results: HD Radio Coverage Technologies John Holt, director of engineering and operations, WAMU 88.5 FM John Kean, senior technologist, National Public Radio Hal Kneller, market development manager, Nautel	✓	✓
A Standardized Method for Radio Program Service Data Distribution Dan Mansergh, director of engineering, KQED Public Radio Bruce Wahl, senior solutions architect, NPR Distribution	✓	
New Developments in Master FM Antenna Systems Keith Pelletier, director, engineering, Dielectric Communications	✓	✓
Decision Points and Implementation Considerations for Elevated HD Radio Power Brian Lindemann, VP RF engineering, BE	✓	
Using the IBOC Quality Metric to Optimize the Transmission System for FM HD Radio Reception Brian Walker, research engineer, Nautel	✓	✓
FM Transmitter Cooling Technologies and Tradeoffs Gary Liebisch, eastern region sales manager, Nautel	✓	✓

Monday, April 11, 2011

Cloud-based Technologies for Broadcast

Chairperson: Greg DePriest, VP, technology policy, NBC Universal

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEEDINGS
Planning for the Cloud – Essential Concepts and Applications for the Media Facility Al Kovalick, strategist and fellow, Avid	✓	
Does Cloud Matter? Or, Is There a Cloud in Your Future? John Hoehn, IBM Media and Entertainment	✓	✓
Cloud-based Graphics Creation Offers Broadcasters Lofty Rewards William Hendler, chief technology officer, Chyron Todd Martin, vice president, Strategic Partnerships and Profess, Chyron	✓	

Monday, April 11, 2011

TV Loudness and Lipsync

Chairperson: E. Lanny Nass, director of spectrum management, CBS Corporation

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEEDINGS
Fingerprinting for Solving A/V Synchronization Issues Jean-Claude Krelic, sales specialist, Miranda Technologies	✓	
ITU-R BS. 1770 Revisited Thomas Lund, HD development manager, TC Electronic A/S	✓	✓
Taming TV Audio Loudness Martin Winsemius, sustaining engineering mgr., Wohler Technologies	✓	✓

Monday, April 11, 2011

IEEE BTS Tutorial on 3D TV: Content, Systems and Visual Perception

Chairpersons: William Hayes, director of engineering, Iowa Public Television

Yiyan Wu, principal research scientist, Communications Research Centre

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEEDINGS
3D TV: Benefits from Human Visual Perception Studies James Tam, Communications Research Centre Canada	✓	
3D TV Transmission Formats and Coding Anthony Vetro, MPEG	✓	

3D Display Technology for Home and for Cinema David Bancroft, consultant in technology, Bancroft Technical Consulting	✓	
3D Television System Based on Spatial Imaging Method for Future Broadcasting Dr. Takayuki Ito, deputy director-general, NHK	✓	
Terrestrial 3DTV Broadcasting Trial in Korea Namho Hur, ETRI	✓	

Monday, April 11, 2011

Mission Critical IT for Broadcast

Chairperson: Greg DePriest, VP, technology policy, NBC Universal

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
XML, WSDL, SOAP, SOA and the REST: Acronyms Explained Plainly Paul Turner, VP, broadcast market development, Omneon	✓	✓
Wireless HD Secure Streaming Media Application and Case Study Joseph Gaucher, CTO and EVP, Haivision Network Video	✓	✓
10 Gigabit Networking for Audio and Video Applications Stephen Lampen, multimedia technology manager, Belden	✓	✓
Transferring Audio over an Imperfect IP Network John Lindsay, R&D manager, APT	✓	✓
When Simple Isn't that Simple: Using SNMP in Broadcast Facility Control Tony Peterle, technical support mgr., WorldCast Systems Inc.	✓	✓
Building Redundancy and Resilience into IP Based Broadcast Networks Ian Trow, director of broadcast solutions, Harmonic Inc	✓	✓
Techniques for Integrating Audio Over IP (AoIP) with Program Automation Bryan Jones, western regional sales mgr., BE	✓	
Real-time Professional Broadcast Signals Over IP Networks Leigh Whitcomb, principal engineer, Harris Corporation	✓	✓

Tuesday, April 12, 2011

Radio Engineering Forum

Chairperson: Glynn Walden, senior VP engineering, CBS Radio

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
AM Directional Antenna Pattern Performance Improvement Using Power Dissipation within the Phasing and Coupling System Ronald Rackley, partner, du Treil, Lundin & Rackley, Inc.	✓	✓
Antenna Base Region Geometry and Voltage Sampling Techniques for Moment Method a.m. Directional Antenna Proofs Benjamin Dawson, president, Hatfield & Dawson Consulting Engineers	✓	✓
Test and Evaluation of an a.m. Directional Antenna Tower Base Voltage Sampling System and MOM Proof Methodology for the WAOK Radio Array Utilizing a Mix of Guyed and Self-Supported Towers Tom King, president, Kintronic Labs, Inc.		✓
Permitting Overview KRKO-AM, 50kW Upgrade and New Transmitter Facility Andrew Skotdal, president & GM, KRKO-AM	✓	✓
Building an AM Array on a Landfill - Environmental Obstacles to be Considered Gary Smith, director of engineering, Bonneville Phoenix	✓	

Tuesday, April 12, 2011

The Impact of Innovative Technologies

Chairperson: Louis Libin, president, Broad Comm, Inc.

PRESENTATION	ONLINE	BEC
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	LEARNING CENTER	PROCEED- INGS
The Impact of Innovative Technologies: Trial to Scale Mark Johnson, product manager, Harris Corporation	✓	✓
Development of High Performance Video Codec for Super Hi-Vision Yoshiaki Shishikui, senior research engineer, NHK	✓	✓
Single Frequency Network Experiences in NYC Ted Karam, director of engineering, Thomson Broadcast	✓	
Embedded TV: Creating a New Digital Ecosystem for Broadcasters Jeremy Edmonds, sr. dir., ActiveVideo Networks	✓	✓
Innovative Technology – Solving the Large Data Problem David Southwell, CVO, Obsidian Strategics	✓	
A Study and Comparison of Efficiency Enhancement Techniques for RF Power Amplifiers Geoffrey Mendenhall, VP, Harris Corporation	✓	✓

Tuesday, April 12, 2011

Radio Engineering Forum II

Chairperson: Glynn Walden, senior VP engineering, CBS Radio

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
Monitoring and Control Systems for Broadcast Transmitting Sites Kerry Cozad, Sr. VP, broadcast engineering, Dielectric Communications	✓	
Quality Radio Engineering on a Tight Budget Randy Woods, director of engineering, Z88.3 Radio	✓	
Field Trials of Digital Radio Technologies: DAB, DAB+, T-DMB Audio, HD-Radio and DRM+ Yong-Tae Lee, principal researcher, ETRI	✓	✓
Performance Analysis and Field Measurements with the Digital Radio Broadcasting Standard DRM+ Jens Schroeder, dr., RF Mondiale	✓	✓
Automation Strategies for Sharing Resources and Talent Ray Miklius, vice president studio operations, Broadcast Electronics	✓	
Get the MOST Out of Your Tower: Effectively Using Design Codes to Your Advantage Dave Davies, consulting engineer to ERI, ERI, Inc	✓	
Full Duplex for Your RPU adds IFB Bill Ruck, broadcast engineer	✓	✓
Bend Radius Stephen Lampen, multimedia technology manager, Belden	✓	✓
A New Approach to Solid-State High-Power FM Amplifiers Tim Anderson, manager strategic mkt. and prod. dev., Harris Corp. George Cabrera, principal engineer, Harris Corp.	✓	✓

Tuesday, April 12, 2011

Operational Efficiencies for Television

Chairperson: Jeff Andrew, VP, engineering and operations, Fox Television DC

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
Advanced Compression Workflow for Multi-Stream Networks Are Olafsen, compression solutions director, Thomson Video Networks	✓	✓
Managing the Proliferation of File Based Content Delivery: A Blessing in Disguise Joseph Addalia, director of technology projects, Hearst Television, Inc. Bob Coleman, VP engineering, Masstech Group, Inc.	✓	
Hybrid Routers: The Evolution Has Begun Sara Kudrle, sr. software engineer, Miranda Technologies	✓	

ASI STL Links Joel Wilhite, solution marketing manager, Harmonic, Inc.	✓	
Broadcasting and Streaming Live and File-Based Video to Multiple Platforms over IP Networks Bob Hildeman, CEO, Streambox, Inc.	✓	✓
Design Considerations for Station Group Centralization Rich Hill, principal consultant, National TeleConsultants, Inc.	✓	
The Impact of File-based Newsgathering Becoming a Reality Ben McLeod, managing director, Vislink News & Entertainment	✓	
Centralcasting: The Future of Over-The-Air Television is Here Jarred Kennedy, senior vice president, Encompass Digital Media, Inc.	✓	
Compressing the Schedule: The Project Team Approach to Broadcast Facility Design and Construction John Gering, managing partner, HLW International LLP Keith Hanadel, broadcast design director, HLW International LLP	✓	

Wednesday, April 14, 2010

Implementing Regulatory Issues for Engineers

Chairperson: Skip Pizzi, director, digital strategies, NAB

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
Next-Generation EAS: The Final Stretch James Barnett, chief, Public Safety and Homeland Security Bureau, FCC Mark OBrien, executive VP, SpectraRep Damon Penn, asst. administrator, NCP, FEMA Harold Price, president, Sage Alerting Systems, Inc. William Robertson, bus. dev. mgr., Digital Alert Systems Matthew Straeb, executive vice president, Global Security Systems, LLC Wade Witmer, FEMA IPAWS,	✓	
Lemons into Lemonade: Leveraging EAS/CAP into Your Revenue Stream William Robertson, Digital Alert Systems		✓
When the Inspector Comes Knocking Jim Dalke, contract engineer, Dalke Broadcast Services	✓	
FCC Broadband Plan – The Potential Impact on Television Broadcasting William Meintel, partner, Meintel Sgrignoli & Wallace	✓	
Transforming Closed Captioned Television Video into Closed Captioned Web Video (To comply with the 21st Century Communications and Video Accessibility Act) Giovanni Galvez, technical developer, CPC	✓	✓

Wednesday, April 13, 2011

3DTV

Chairperson: Graham Jones, consultant in Broadcast Systems

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
Quality Assurance Issues for 3D Television Jeremy Bennington, VP and general manager, Cheetah Technologies	✓	✓
General-Purpose 3D Video Signal Processing Paul Briscoe, manager of strategic engineering, Harris Corporation	✓	✓
3DTV and the Challenges for Traditional Terrestrial Broadcasters: Will It Be Possible to Combine HD, Mobile TV, Interactivity and The "New" 3D Services in a Single UHF Channel? Gustavo Marra, manager systems & applications, ATEME	✓	✓
Efficient Delivery of 3D-TV for Broadcast Systems David Clewer, Ericsson, Solution Area TV	✓	✓

3D Intensity Adjustment of a Stereo Content to Improve Quality of Experience Didier Doyen, research engineer, Technicolor R&D France	✓	✓
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Wednesday, April 13, 2011

Internet Enabled Radio and Television

Chairperson: Steve Davis, sr VP, engineering & capital management, Clear Channel Radio

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEEDINGS
Implementation Example for Use of Smooth Steaming and Adaptive Streaming Technology Mark Darlow, product line manager, Harris Corporation Peter Tanko, research developer, Harris Corporation	✓	
‡ An Advanced Hybrid Broadcast and Broadband System for Enhancing Broadcasting Services Akitsugu Baba, principal research engineer, NHK	✓	✓
Weather in a Multi-Channel, Multi-Screen World Terry Casey, VP, Media, Weather Central	✓	✓
Tapping into the Blu-ray Potential Petr Peterka, CTO, Verimatrix	✓	✓

‡ 2011 NAB BEC Proceedings BEST PAPER award winner

Wednesday, April 13, 2011

RDS Implementation

Chairperson: Steve Davis, sr. VP, engineering & capital management, Clear Channel Radio

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEEDINGS
Maximizing the Potential of RDS Bandwidth Tony Peterle, technical support manager, WorldCast Systems Inc	✓	✓
Understanding and Optimizing RDS for a New Generation of Receivers Alan Jurison, Citadel Broadcasting	✓	✓
The Latest RDS/HD Datacasting Trends and Developments Jim Roberts, product manager, Datacast Systems, TRE	✓	

Wednesday, April 13, 2011

Emergency Operations - Planning & Implementation

Chairperson: Jim Stagnitto, director of engineering, WNYC/WQXR Radio

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEEDINGS
Case Histories in Lightning Protection and Grounding David Brender, national program mgr., Copper Development Assn. Inc.	✓	✓
Cellular Wireless as a Video Streaming Transport: Making the "one-man-news-crew" a Reality for ENG Applications Cahit Akin, CEO, Mushroom Networks, Inc. Rene Cruz, CSO, Mushroom Networks, Inc.	✓	
Keeping the Lights On - Business Continuity Planning for the 21st Century Keith Graham, director, AZCAR USA, Inc.	✓	
Proactive Transmitter Service and Support Strategies Kevin Rodgers, director, customer service, Nautel	✓	✓
Master FM Antenna at the Empire State Building Joe Giardina, DSI RF Systems		✓

Implementation of N+1 Technology for Improved Cost Efficiency while Maintaining Service Integrity Wendell Lonergan, Nautel	✓	✓
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Thursday, April 14, 2014

Green Technology

Chairperson: Martin Stabbert, director of engineering, Citadel Broadcasting Company

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
Facility Planning R and R: Case Studies and Strategies for Maximizing Profit During a Recession and Recovery Robyne Hamilton, AAIA associate, Shen Milsom Wilke, LLC Bruce Lawson, principal, Lawson & Associates/Architects Christopher Pollock, senior associate, Shen Milsom Wilke, LLC	✓	
Studio Lighting – the Next 20 Years Ken Fisher, co-founder, Litepanels, Inc.	✓	
Dynamic Carrier Control Chuck Lakaytis, director of engineering, Alaska Public Broadcasting, Inc.	✓	
Going Green and Seeing Black: Mainstreaming Green Technology into Broadcast Engineering and Programming Moderator: Tom Vernon, president, Interactive Media Val Fishman, Bonneville Environmental Foundation (BEF) David Layer, Sr. director advanced engineer, NAB Michael Payne, engineering design manager, Broadcast Australia	✓	

Thursday, April 14, 2011

The Impact of Consumer Devices

Chairperson: Joe Snelson, VP of engineering, Meredith Broadcast Group

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
Time to Get Serious with Interactive TV Stuart Lipoff, president, IP Action Partners Inc.	✓	✓
The Evolution of the Gateway in the Connected Home Chris Kohler, senior director of engineering, Motorola	✓	

Thursday, April 14, 2011

Improving Mobile TV Reception

Chairperson: Joe Snelson, VP of engineering, Meredith Broadcast Group

PRESENTATION	ONLINE LEARNING CENTER	BEC PROCEED- INGS
Developing a Service Prediction Model for ATSC Mobile DTV William Meintel, partner, Meintel Sgrignoli & Wallace	✓	
New Advertisement Opportunities in Mobile Environments Carolina Novaes, project engineer, TV Globo	✓	✓

On May 12, Experience the NAB Show in a Virtual View



Join the NAB Show® on May 12, 2011 as it launches the first official online extension of the April convention in Virtual View. You can see product demonstrations you may have missed and continue or join the conversation from the April show — from the convenience of your home or office. This event is FREE to attend.

You can also see sessions you may have missed at the NAB Show in Las Vegas, as well as original content.

Feature presentations will include:

A One-on-One with Creator and Executive Producer of the "CSI" Franchise, Anthony E. Zuiker.

A discussion on cameras, production quality, and 3D with David Cohen, Associate Editor of Features, *Variety* and Sony's Chris Cookson, President, Sony Pictures Technologies and Alec Shapiro, SVP, Broadcast and Production.

There will also be more interactive sessions including:

- Interviews with Harris, Grass Valley and Harmonic executives,
- Recorded sessions from NAB Show,
- Video showcases and booth tours from the NAB Show floor, to include AJA Video, Canon, Dolby, Ensemble Designs, Grass Valley, Harris, and Ross Video,
- A behind-the-scenes look at the NAB Show and
- "Topic of the Hour" chats in the event Lounge.

NAB Show Virtual View is made possible through the valuable support of our [programming partners and sponsors](#).

For more details or to register, go to the [NAB Show Virtual View](#).

IEEE Broadcast Technology Society Extends Call for Papers Deadline



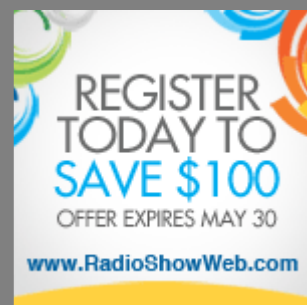
The deadline for the Call for Papers for the 2011 IEEE Broadcast Symposium has been extended to May 15, 2011. This year's Symposium will be held October 19-21, 2011, in Alexandria, Va. The Symposium Committee seeks timely and relevant technical papers relating to all aspects of broadcast technology, 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

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- AM, FM, and TV transmitter and antenna systems
- Tests and measurements
- Cable & 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 & IBOC reception issues and new technologies
- ATSC & other broadcast standards developments
- Broadcast spectrum issues – re-packing, sharing

See the [Call for Papers](#) for additional information. This Symposium is produced by the [IEEE Broadcast Technology Society](#).

Announcing the Newest
NAB Member Benefit