2017 Broadcasters Clinic

**Upper Midwest SBE
Regional Meeting
October 10-12, 2017
Madison Marriott West**

All sessions and activities are in the Superior Room unless otherwise noted.

TUESDAY OCT. 10

7:45 A.M.
REGISTRATION & CONTINENTAL BREAKFAST

8:50 A.M.
OPENING REMARKS

9 A.M.
AM BROADCAST FACILITIES

BEN DAWSON, HATFIELD & DAWSON CONSULTING ENGINEERS, LLC This session will discuss possibilities for cost-effective changes in the AM plant; the cost-effectiveness of diplexing or tri-plexing; how to plan for facilities changes like frequency swaps or turning off a potential restricting station; what AM revitalization technical changes might arise; and how to configure your antenna to allow a moment method proof and when you should avoid one even if legally permissible.

9:45 A.M.
VIRTUAL RADIO: REAL APPLICATIONS

BILL BENNETT, LAWO, INC. IT's influence on radio broadcasters is strong, and awareness of hardware virtualization and the "glass cockpit" is growing fast. We'll look at what you can do today, and where things may go in the future, exploring the ways broadcasters can reap operational and monetary gains from IT's R&D investment.

10:30 A.M.
BREAK

10:45 A.M.
MAKING METADATA MATTER

DON BACKUS, ROHDE & SCHWARZ Metadata is "data about data," but smart broadcasters know it's so much more than that: It's information listeners want and use; it's material that engages audiences, enhances the radio experience and benefits advertisers; and, it's ultimately a way of turning data into dollars. We'll discuss the technical side of delivering and monitoring metadata and how you can help develop a winning strategy for your stations to make metadata a revenue center that matters.

11:30 A.M.
THE AUTOMOTIVE DASHBOARD INITIATIVE

DAVID LAYER, SENIOR DIRECTOR, ADVANCED ENGINEERING, NAB The automobile dashboard has historically been a stronghold for the AM/FM radio receiver, but 21st century technology is providing consumers with more and more dashboard options. A big part of this change is driven by the ever-greater availability of mobile broadband services and the ubiquitous smartphone. Despite this, radio listening remains the dominant form of audio entertainment. In this presentation, Layer will offer a survey of the most popular digital dashboard technologies and discuss how radio broadcasters can use these to their best advantage. He will also consider the linkage between the growth of so-called "hybrid radio" services in smartphones (which use both wireless broadband and over-the-air signals) and how this can translate into increased listenership in vehicles.

12:15 P.M. - 1 P.M.
LUNCH
GENEVA/MENDOTA ROOMS

1:15 P.M.
VIRTUAL TALKSHOW AND SPORTS PRODUCTION

KIRK HARNACK & JOE TALBOT, THE TELOS ALLIANCE

Convenient connections create compelling content. Telecom technologies like SIP/VoIP are becoming more ubiquitous and less mysterious. Along with fast Internet and VPNs, they not only enable flexible workflows, they enable alternatives to single-studio or expensive remote solutions. This presentation demonstrates some clever implementations in-use now, as well as previews strategies and techniques for achieving efficient and effective talkshow and other radio production workflows.

2 P.M.
HD RADIO: HOW TO IMPROVE LISTENER EXPERIENCE WITH PROPER TIME/LEVEL ALIGNMENT

MIKE PAPPAS, ORBAN

Since the first generation of HD Radio systems were installed back in 2004 maintaining diversity delay time alignment between the analog FM and the HD radio digital signal has been a challenge that continues to this day. System drift is still an issue and directly impacts the user experience. So what are the best practices to monitor and correct this issue? How best to implement them? What to look out for?

2:45 P.M.
BREAK

3 P.M.
HD SINGLE FREQUENCY NETWORKING

JEFF WELTON, NAUTEL

This presentation won Best Engineering Paper for the NAB show. It discusses a practical case study using HD single frequency networking to seamlessly set up on channel coverage boosters with no interference zone. The presentation goes into both the theory involved in developing a solution and the practical implementation of the solution.

3:45 P.M.
TRANSPORT ROBUST AND SECURE FM COMPOSITE MULTIPLEX SIGNALS IN AN IP STL

DAVE AGNEW, GATESAIR MASON, OH

The emergence of high bandwidth IP network connections is an enabler for the transport of the FM composite multiplex (MPX) signal in a Studio-to-Transmitter Link (STL). This session will present use cases to illustrate differences between all analog, all digital, and dual domain FM MPX STLs and the tradeoffs they present with respect to compatibility and network bandwidth, scalability, and delay.

4:30 P.M.-7 P.M.
EXHIBITS OPEN—EXHIBITORS RECEPTION
WISCONSIN/MICHIGAN ROOMS

7 P.M.
NUTS & BOLTS SESSION: SNMP PLUGFEST

TONY PETERLE, WORLDCAST SYSTEMS, INC.

A wireless network will be setup in this session over which attendees can connect with their own personal laptops. Attendees will be provided a USB key containing the installer for the iReasoning MIB browser (a popular tool for SNMP exploration). Using many SNMP devices in the room attendees will learn how to use the MIB browser to connect to the devices, poll for information and exercise control with SET commands.

WEDNESDAY OCT. 11

7 A.M.
REGISTRATION & CONTINENTAL BREAKFAST
LOBBY

8:30 A.M.
REAL WORLD RESULTS FOR A SIGNAL MEASUREMENT DRONE

JOHN KEAN, CAVELL MERTZ & ASSOCIATES, INC..
Development of drones has proceeded quickly for video production in the broadcast industry. Applications for engineering study are beginning to catch up. Cavell Mertz & Associates developed the nation's first signal measurement drone for broadcast antenna systems and has been gathering substantial field experience with real-world antennas. This presentation will provide the results of studies for digital television stations and FM radio stations in both analog and digital mode, illustrated by charts and photographs.

9:15 A.M.
WEBRTC FOR BROADCASTERS

CHRIS CRUMP, COMREX
WebRTC technology is already dramatically changing the way we communicate with online retailers, and each other. Web browsers such as Google Chrome, Mozilla Firefox, Opera and, in the near future, Microsoft Edge and Safari, all have audio and video codecs built in. We will discuss the open source Opus algorithms, provide an overview of WebRTC and discuss ways of utilizing this transforming technology in a broadcast environment.

10 A.M.
WISCONSIN/MICHIGAN ROOMS
EXCLUSIVE EXHIBIT TIME

11 A.M.
WISCONSIN/MICHIGAN ROOMS
LUNCH ON EXHIBIT FLOOR

1:30 P.M.
THE SPECTRUM AUCTION REPACK

PATRICK MCFADDEN, ASSOCIATE GENERAL COUNSEL, NAB.
The auction is over but the Repack is just beginning. The NAB has been studying the process and polling members to identify bumps in the road before they become potholes. This session will reveal the data, reaction, and future efforts surrounding the Closing and Change Reassignment Public Notice. The majority of TV stations and many FM stations will be impacted in different ways.

2:15 P.M.
AN FCC UPDATE
DAVID OXENFORD, WILKINSON BARKER KNAUER LLP; MICHELLE VETTERKIND, WBA PRESIDENT

What is the FCC up to? How will it affect your station? Let's find out.

3 P.M.
BREAK

3:15 P.M.
WHY 0.01% DISTORTION SOMETIMES MATTERS AND 30% SOMETIMES DOESN'T

STEVE DOVE, WHEATSTONE
This session is a lighthearted romp through why some things sound the way they do, deflating some conventional wisdoms, and highlighting some surprising insights.

4 P.M.
12 GHZ CABLE

STEVE LAMPEN, BELDEN

When will copper fail us? When 4K and other high data rate services first appeared it seemed only fiber could handle the bandwidth. Now cable has been developed to handle the speed. This presents some installation and connection challenges. This session will cover cables and interconnection in the 12Ghz world and what is likely to be the technology for the next generation.

5:30 P.M.
DINNER

6 P.M.
SBE ALL CHAPTER MEETING AND PROGRAM: AUTOMATED VEHICLE TESTING

PETER RAFFERTY, WISCONSIN AV PROVING GROUNDS, UW-MADISON

Things at the Proving Grounds with automated vehicles (AVs) have been taking off since January. This session will generally introduce Automated Vehicles, briefly explain what they are and aren't, how they work (or don't work, yet), address common questions and allay common misconceptions. Ideally it will leave the audience with a better understanding of where we are and where we're headed.

EXHIBITORS

The Broadcasters Clinic Committee and the Wisconsin Broadcasters Association extend their gratitude to the Broadcast Clinic exhibitors and prize donors.

25-SEVEN

ALPHA VIDEO & AUDIO, INC.

ANYWAVE COMMUNICATION TECHNOLOGIES

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DIELECTRIC, LLC

DJB RADIO - DIGITAL JUKEBOX

DOUBLERADIUS INC.

ENCO SYSTEMS INC.

FULL COMPASS

GATESAIR

HITACHI KOKUSAI ELECTRIC AMERICA

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RESONANT RESULTS

ROHDE & SCHWARZ

SBE

THE TELOS ALLIANCE

TIELINE, THE CODEC COMPANY

UTAH SCIENTIFIC

YELLOWTEC USA, LLC

Exhibitor list is current as of July 19, 2017. The most up-to-date list is in the attendee packet.

THURSDAY OCT. 12

7:45 A.M.
REGISTRATION AND CONTINENTAL BREAKFAST

8:30 A.M.
THE IP BASEBAND MIGRATION

TOM HARMON, UTAH SCIENTIFIC
As the IP revolution sweeps through the broadcast industry, there's little doubt that most video operations will be driven by IP technologies in the not-so-distant future. The good news is that the industry is making great strides in developing and adopting open IP standards and methodologies, the most important being SMPTE 2022-6 and TR-03/04, (SMPTE 2110 draft). This session will cover the history of IP technology and standards, the SMPTE 2022 family of standards, potential strategies for your conversion to IP, and IP islands and their role in your transition.

9:15 A.M.
SCTE-104/35 AND BEYOND: A LOOK AT AD INSERTION IN AN OTT WORLD

JACOB KINSEY, COBALT DIGITAL
Ad Insertion is a very important part of many video delivery systems because it generates revenue! With Over-The-Top (OTT) video delivery on the internet, the holy grail of advertisement is finally achievable. It is technically possible to send individual, personalized ads to each viewer. Such systems are based, in part, on the traditional ad insertion workflows that use the SCTE-104 and SCTE-35 standards as their starting point. This session will show how a traditional ad-insertion workflow at the programmer side can be used as a basis for an OTT system.

10 A.M.
BREAK

10:15 A.M.
BROADBAND ANTENNA AND FILTER TECHNOLOGY FOR REPACK AND ATSC 3.0

CHRISTINE ZUBA, DIELECTRIC
To date, broadband antennas have been largely designed with large panels and high windload. Newer technologies such as waveguide slot-cavity antennas have been introduced within the last 12-18 months. Additional New Broadband Slot Antenna techniques are becoming available. The television channel repack not only means the need for broadband antenna applications, but additional filter considerations for closely spaced channels, and a future ATSC 3.0 environment. This paper will examine the latest in antenna and filter design techniques and specifications in a more crowded television band, anticipating ATSC 3.0.

11 A.M.
ADOPTING VOIP TO IMPROVE LIVE COVERAGE WORKFLOWS WHILE SLASHING EXPENSES

KIRK HARNACK, JOE TALBOT, MARTIN DYSTER, THE TELOS ALLIANCE
Live coverage television is rife with difficulties and pitfalls, and every TV facility is looking to cut expenses. More TV stations are discovering VoIP/SIP service

along with the modern studio equipment that makes it effective. From instant IFB connections to great-sounding severe weather spotter reports, VoIP/SIP technology and equipment is improving audio quality both behind the scenes and on-air. This presentation demonstrates how TV stations are improving in-the-field reporting while saving hundreds to thousands on their telecom costs.

12 P.M.
LUNCH

1 P.M.
ATSC 3.0: CHARACTERISTICS AND TRANSMISSION REQUIREMENTS

MARTYN HORSPOOL, GATESAIR ATSC 3.0 promises to bring with it many advanced features and capabilities which will enhance the future of over-the-air television. The differences between OFDM-based modulation and the current ATSC 8-VSB modulation are apparent. Some of these differences will impact the ability of existing transmission equipment to successfully and reliably perform their intended tasks. This presentation will dig into some of the key areas that need to be investigated

and provide some insight as to how to be prepared for the transition to ATSC 3.0 transmission.

1:45 P.M.
ATSC 3.0: THE BIG PICTURE

FRED BAUMGARTNER, NEXT GEN TV IMPLEMENTATION, ONE MEDIA/ SINCLAIR BROADCAST This session will engage the audience in challenging the long held assumptions of "what is Broadcasting?" and provide new insight into the unique opportunities to establish relevance in today's rapidly converging digital IP world with "BaaS (Broadcast as a service), positioning and developing Broadcasting's central role in the emerging 5G world.

2:30 P.M.
ATSC 3.0 PANEL

JAY ADRICK, BROADCAST CONSULTANT/ CHAIRS ATSC ADVANCED EMERGENCY ALERTING IMPLEMENTATION TEAM; FRED BAUMGARTNER, NEXT GEN TV IMPLEMENTATION, ONE MEDIA-SINCLAIR BROADCAST; MARTYN HORSPOOL, GATESAIR; JERRY WHITAKER, ATSC; CHRISTINE ZUBA, DIELECTRIC With the ATSC 3.0 standards process almost complete, this panel of experts will delve into what it will take to bring the technology to your market, and your station. This session will be highly interactive with the audience.

TUESDAY REGISTRATION

GATESAIR™

TUESDAY BREAKFAST

GATESAIR™

TUESDAY BREAK

BGS Broadcasters General Store

TUESDAY LUNCH

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WEDNESDAY BREAKFAST

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In memory of Al Clark, engineer with WITI for 45 years.

STATE OF THE ART PROJECTOR

SONY

BROADCASTERS CLINIC UNDERWRITER

wba ON AIR
WISCONSIN BROADCASTERS ASSOCIATION

**COMMITTEE CHAIR
LEONARD CHARLES**
TELEVISION WISCONSIN

KENT ASCHENBRENNER
E.W. SCRIPPS COMPANY

STEVE BROWN
WOODWARD RADIO GROUP

DENNIS BALDRIDGE
BALDRIDGE COMMUNICATIONS

MARK BURG
WLAX-DT/WEUX-DT

GREG DAHL
SECOND OPINION COMMUNICATIONS

CLIF GROTH
NEW RADIO GROUP

BILL HUBBARD, *UW-GREEN BAY*

KEITH KINTNER,
UW-OSHKOSH

GARY MACH, *GEMCOM*

KEVIN RUPPERT,
WISC-TV

TOM SMITH

MICHELLE VETTERKIND
WBA PRESIDENT & CEO

LINDA BAUN
WBA VICE PRESIDENT & EMAIL QUEEN

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ON AIR
WISCONSIN BROADCASTERS ASSOCIATION

**The 2017
Broadcasters Clinic
is dedicated to
Leonard Charles
for his many years
of service
to the WBA
and the
Broadcasters Clinic**

HOTEL INFORMATION

The 2017 Broadcasters Clinic sessions are being held in the Superior Room at the Madison Marriott West Hotel, which is located at 1313 John Q. Hammons Drive in Middleton. The hotel deadline is 5 p.m., Sept. 18, 2017, and the discounted rate is $124. Reservations can be made online at wi-broadcasters.org. To register by phone, call 888-745-2032. Mention you are with the WBA Broadcasters Clinic to receive the $124 rate.

REGISTRATION INFORMATION

Registration fee covers: program materials, continental breakfasts and luncheons as indicated, refreshment breaks and an evening reception with hot hors d'oeuvres (cash bar) and Beer and Brats at the Nuts and Bolts session.

Vegetarian meals can be requested by calling the WBA office at 1-800-236-1922, by Sept. 15, 2017. The WBA will need to guarantee meal counts with the hotel, therefore the WBA will NOT refund any cancellations made after Sept. 15, 2017. The WBA will also invoice for all "no-shows."

CONTACT

For further conference or exhibit information contact: Linda Baun, lbaun@wi-broadcasters.org 608-729-1480

MARK YOUR CALENDARS
OCT. 9-11, 2018