



The Society of Broadcast Engineers

**Fox Valley Wisconsin SBE Chapter 80 PO Box 1519
Appleton, WI 54912-1519**

April 2016

Like us on FaceBook -facebook.com/sbe80

Our website sbe80.org

Twitter: @sbechapter80

Our next SBE Chapter 80 meeting will be at the Out O' Town club on Tuesday April 26th at noon one week later than usual

Chapter 80 members and friends,

By the time you read this it won't be snowing, temperatures will be in the 50s and spring flowers will be in bloom – OK, it was a nice thought anyway!

In the absence of a formal program, nine members and two guests at our March meeting participated in a nice discussion about station and studio planning.

Our April meeting will be held at the Out o' Town Club one week later on the 26th due to the NAB Show the previous week. Our meeting will feature reports from members who were able to attend the NAB in Las Vegas.

The Society has published a new SBE Broadcast Engineering Handbook: Hands-on Guide to Station Design and Maintenance, member-priced at \$159, but available for \$139 through April 22.

The SBE March 3rd webinar, "Sharing of the 2025-2110 MHz Band Between DoD and the Broadcast Community" has been archived; the one-hour webinar may be watched at no cost.

NAB Show attendees are invited to the SBE Membership Meeting on Tuesday, April 19th at 6:00 PM in Room S225 of the Las Vegas Convention Center followed by a member reception at 7:00. Prizes will be awarded at both events with food and beverages provided at the reception.

Looking forward to seeing you at our April meeting on the 26th!

Mark Hoenecke

Upcoming meetings and events:

April 14th Wisconsin Tornado warning test-more in this newsletter

April 26th is NAB review. **[One week later than usual!]** at Out O Town club

May 10th Camera Corner expo

JUNE 22 ENGINEERING DAY - Wisconsin Broadcasters Association 2016 SUMMER CONFERENCE/MTI & ENGINEERING DAY The Radisson, La Crosse WI

SBE Certification

2016 EXAM SESSION

June 3-13

August 5-15

November 4-20

APPLICATION DEADLINE

April, 19, 2016

June 3, 2016

September 30, 2016

If you have any questions contact the Certification Director, [Megan Clappe](#).

CHAPTER 80 ELECTED AND APPOINTED OFFICERS

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Board of Dirs/SBE Liaison	Keith Kintner	UWO	920-424-7357	kintner@uwosh.edu

SBE Conducts Compensation Survey

For the first time, the Society of Broadcast Engineers is conducting a compensation survey of member engineers and technicians. The survey officially opens today with this announcement.

The survey will provide an ongoing reference to compensation in the past 12 months for radio and TV engineering personnel. The SBE often receives inquiries about engineering salaries and benefits, and this survey is being conducted to provide a service to SBE members and the industry. All answers will be aggregated and no specific answers will be identifiable to any specific respondent.

Results of the survey will be available free of charge to members of the SBE. Of course, to make this the most useful survey possible, we need your participation. It should take no more than 10 minutes to complete. The results of the SBE survey will be helpful to you for your own budget, personnel and personal planning. Results will be available this summer. [Take the survey now.](#)



More >

TO: All Wisconsin Broadcasters and Cable Operators

FROM: Wisconsin EAS Committee

Gary Timm, Broadcast Chair, GTEAS@sbcglobal.net

Released: 2/10/2016

Afternoon and Evening Statewide Tests of Tornado Warning EAS Code on April 14, 2016

In cooperation with Wisconsin Emergency Management, the National Weather Service will conduct two tests of the real Tornado Warning EAS Code, one in the afternoon and a second one in the evening, on April 14, 2016 as part of Tornado and Severe Weather Awareness Week. The State of Wisconsin has received a waiver from the FCC to use the actual EAS Tornado Warning Code for these statewide tests. If there is a threat of severe weather at the time of the afternoon test, then both the afternoon and evening tests will be postponed until April 15, 2016. If there is severe weather on April 15, the tests will be canceled. If the afternoon test runs on April 14, but the evening test is canceled due to the threat of severe weather, the evening test will not be rescheduled to the next day – it will just be canceled.

This is the first year a second test is being added in the evening hours, as our neighbors in Minnesota have been doing for years. Broadcast stations and cable systems are encouraged to carry both of these tests, and forward their opinions on this new testing regime to the Wisconsin EAS Committee following the tests. Participation in these tests is not required by FCC rules, but is requested for public awareness.

The audio of these tests will repeat several times in the script “This is a Test”, but because the real EAS Tornado Warning Code is being sent, the crawl on TV stations and cable systems will read “A Tornado Warning has been issued for...”. Thus we ask that TV broadcasters and cable operators making the decision to air these tests should display a “This is a Test” graphic behind the crawl.

The tests will be originated on NOAA Weather Radio (NWR), and will be relayed via the State Relay (SR) and Local Primary (LP) stations. The EAS “TOR” Code will be sent independently by all five NWS offices serving Wisconsin, following the schedule below. Broadcasters and cable operators that monitor SR or LP stations from multiple EAS Operational Areas, or directly monitor NWR from another EAS Operational Area, may receive more than one Tornado Warning alert for each test; since these alerts are sent independently from each NWS office they will not be recognized by EAS units as duplicates if alerts are received from two different EAS Operational Areas. It is also possible that some NWR stations may broadcast more than one TOR Code for each test as some NWR stations serve counties from more than one NWS office.

As a condition of granting Wisconsin a waiver to use the real TOR Tornado Warning code for these tests, the FCC stipulates that broadcasters and cable operators should air informational announcements to the public in advance of the test so that citizens are not misled when the test airs saying “A Tornado Warning has been issued for...” Accordingly, we ask that broadcasters and cable operators begin carrying informational announcements one week prior to the April 14th test (PSAs, mention in your news stories, weather reports, etc.)

This will be the schedule for the two tests run on April 14, 2016
(or if there is severe weather on April 14, both tests will be conducted on April 15, 2016)
(if the afternoon test runs on April 14, but the evening test is canceled due to the threat of severe weather, the evening test will not be rescheduled to the next day – it will just be canceled):

Tornado Warning AFTERNOON TEST:

1:00PM – Tornado Watch “TOA” EAS Code issued (not aired on broadcast stations or cable)

1:45PM – Tornado Warning “TOR” EAS Code issued by all NWS offices serving Wisconsin counties*

EVENING TEST: (The TOA EAS Code will not be sent for the evening test.)

6:55PM – Tornado Warning “TOR” EAS Code issued by all NWS offices serving Wisconsin counties*

EAS Header Code parameters to be used in both tests:

Originator Code: WXR

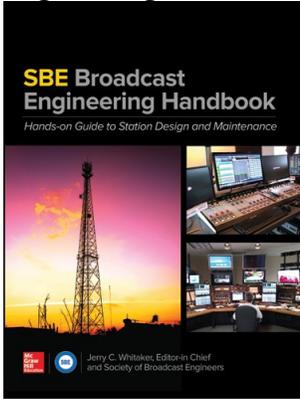
EAS Code: TOR

EAS Duration: 15 minutes

*These tests are being coordinated with the State of Minnesota. Stations and cable systems in the border area will receive both Wisconsin and Minnesota counties in the same coordinated TOR Tornado Warning EAS message at both 1:45PM and 6:55PM.

SBE Publishes Broadcast Engineering Handbook

The Society of Broadcast Engineers and McGraw-Hill Education have released the *SBE Broadcast Engineering Handbook: Hands-on Guide to Station Design and Maintenance*. With close to 1,000 pages, this new book offers detailed practical information on video, audio and broadcast transmission systems from dozens of the field's foremost experts. Featuring everything from basic principles and formulae to the latest technologies and engineering trends, this hands-on resource offers practical and up-to-date coverage of all major broadcast technologies for radio, television and related fields.



The *SBE Broadcast Engineering Handbook* features in-depth tutorials that stress key topics throughout, complete coverage of radio and television technologies, and is written from the perspective of the broadcast engineer. More than 50 authors, authorities in their field, have contributed their expertise to create this valuable resource. The handbook has been deftly assembled by Jerry Whitaker, CPBE, 8-VSB, editor-in-chief, and the author or editor of more than 40 broadcast technical books. Mr. Whitaker is a Fellow of the Society of Broadcast Engineers and past national vice president.

The book covers every aspect of broadcast engineering in seven sections: Regulatory Issues, RF Transmission, DTV Transport, Information Technology Systems, Production Systems, Facility Issues, Broadcast Management, plus three reference annexes.

The SBE member price is normally \$159 (it retails for \$199), but now through April 21, you can purchase it for just \$139.30 through the [SBE Bookstore](#).

SBE RF Safety Webinar is May 12

The [SBE RF Safety webinar](#) will be presented live on Thursday, May 12 from 1 - 4:30 pm ET by RF safety expert Richard Strickland of RF Safety Solutions. The course provides an overview of RF radiation issues and practices for broadcasters. Course content is updated regularly.

The SBE RF Safety Course is designed for chief and assistant chief engineers, transmitter site engineers, ENG and SNG maintenance personnel and management that need to have an understanding of RF safety issues and regulations. A certificate of completion is available to participants who complete the webinar, providing evidence of RF safety awareness training.

Completion of this webinar from Webinars by SBE qualifies for one credit, identified under Category I of the Recertification Schedule for SBE Certifications. Fee for SBE Members is \$95. Fee for non-members is \$150. [Register online](#) at the SBE website. Direct questions to [Kristin Owens](#) via email or at 317-846-9000.

[More >](#)

SBE Membership Meeting and Reception To Be Held During NAB Show

The SBE will hold its spring membership meeting on April 19 during the 2016 NAB Show. All members and friends of the SBE are invited. NAB Show credentials are not required. It will be held in Room S225 of the Las Vegas Convention Center, South Hall-Upper Level from 6:00 to 7:00 p.m.

A SBE luggage handle gripper will be given to the first 135 people in attendance and some great prizes will be given away, including a [Blackmagic Micro Studio Camera 4K](#), a \$300 Fry's Electronics gift card, three \$25 dinner gift cards and two SBE hats. Our thanks to Blackmagic Design, our sponsor of this year's SBE Spring Membership Meeting.



Following the membership meeting, from 7 to 8 p.m., will be the SBE Member Reception in the same room, LVCC S225, for members and friends of the SBE. Food and beverage will be provided and a drawing for more prizes will be held, including five \$100 B&H Photo gift cards, compliments of Gold Sponsor, B&H Photo-Video-Pro Audio, and a copy of the *SBE Broadcast Engineering Handbook*, compliments of the SBE.

Our thanks to the sponsors of the SBE Member Reception:

Gold Sponsor - B&H Photo-Video-Pro Audio

Silver Sponsors - Comrex, Econco and JVC

Bronze Sponsors - AC Video Solutions, Broadcast Electronics, ENCO, Hitachi Kokusai Electric Comark, Jampro

[More >](#)

(SA) Situational Advisory: Radio Station (RF Audio Transmitter) Barix Box Attacks

Fellow InfraGard Louisiana (ILMA) Members,

Please see below situational advisory from The Alabama Broadcasters Association & (Dan Kelly):

These boxes are used to transmit audio from point to point and stream station audio over IP. These are also used to provide programming to stations for over the air broadcasts.

The Alabama Broadcasters Association shared this with us...from one of their members:

“Someone is attacking Barix Boxes. Within the past 24 hours, several radio stations and at least one radio network have been compromised. The Barix receiver is pointed to an obscene podcast and its password changed so it can only be reset manually. This appears to have been in the planning stages for some time by the person doing it - apparently they have been accumulating passwords for some time. MAKE SURE that your password is of sufficient strength! Barix Boxes will take up to 24 characters.... In at least two cases six character passwords were cracked.”

Protect Internet-Connected STLs From Hacking

IP access and connectivity continues to see increased use in audio and video transport, including station STLs. As can be a problem with any device connected to the internet, these point-to-point connections can be hacked, disrupting a station's on-air signal.

While most IP interconnection devices provide some level of security, there are steps that should be taken to ensure a station's main STL connection is not compromised in any way. The problem could be simply interrupting the signal, or as malicious as substituting an alternate signal.

Here are some guidelines to consider when connecting any device to the internet:

1. Change the default password of the device.
2. Use a strong password with mix of characters. And use the maximum password length, not the minimum.
3. Change the password regularly. At least every 90 days is recommended.
4. Place the connected device behind a firewall.
5. Use a more secure connection than the open internet, such as VPN tunnel.
6. Limit connections to the internet-connected device. For an STL, perhaps only a direct connection at the transmitter site.
7. If possible, enable port forwarding and turn off ICMP to prevent the device from being found via Ping.

While these ideas were brought to the SBE's attention specifically for STL use, any internet-connected device, such as RBDS encoders and EAS units, should take similar preventative steps. (SBE Tech Update)

MISSION: POSSIBLE

CAMERA CORNER CONNECTING POINT



ANNUAL TECH EXPO | TUESDAY, MAY 10, 2016

EXPO UPDATES AT www.cccp.com/tech-expo-2016

Camera Corner Connecting Point has been hosting an annual technology expo for more than 30 years. Our mission is to bring together our customers with our vendor partners, so they can learn about emerging technologies and developments in current technologies. It gives our customers the opportunity to ask questions directly to our vendors. There will be a full schedule of informational seminars, opportunities to win technology prizes, and, as always, some fun and games.

Register for the Expo

Preregistration is required, so be sure to **register now**.

Wisconsin Broadcasters & Cable Operators,

Back in September 2015, the Wisconsin EAS Committee updated our State EAS Plan and submitted it to the FCC for approval, as the EAS rules require.

I am happy to report that on 3/25/16, the FCC approved our updated State EAS Plan, as written.

Two updated documents have been posted to the State EAS webpage:

- Main Plan: Has been updated with a note on the cover that the Plan has been approved by FCC.
- Appendix G - Signature Page: Indication of FCC approval has been added.

These documents can be found on the State EAS webpage: www.sbe24.org/eas/

Gary Timm, Broadcast Chair
Wisconsin EAS Committee

Bob Seaberg passed away last week. He was a longtime member of SBE, a regular attendee of the Broadcasters Clinic and a former sales and field engineering representative for Tektronix.

http://www.hultgrenfh.com/home/index.cfm/obituaries/view/fh_id/10184/id/3640359

SBE Files FCC Comments on AM Improvement

The Society of Broadcast Engineers filed comments in response to the Federal Communications Commission's further notice of proposed rulemaking and the combined notice of inquiry in the AM Improvement Docket, 13-249. Its comments focused on a single issue first raised in the SBE's comments filed in the proceeding in 2014, but not addressed by the FCC in its October 21, 2015, first report and order: that of ambient noise in the AM broadcast band specifically, and in the Medium Frequency bands generally. The SBE's comments note that the Commission has made, and is currently examining additional short-term improvements in AM broadcasting in this proceeding. Although those short-term initiatives may be necessary to help the serious economic conditions for AM broadcasters, they are not going to lead to any meaningful, long-term improvement in MF AM broadcasting. To do that, the SBE asserts, the Commission is going to have to be willing to implement some difficult regulatory reforms that it has not addressed to date. It must develop and commit to a regulatory plan that, over time, will reduce the levels of man-made noise in the MF bands, and more broadly in the bands below 30MHz.

The FCC noted earlier in the docket that "AM radio is particularly susceptible to interference from electronic devices of all types, including such ubiquitous items as TV sets, vehicle engines, fluorescent lighting, computers, and power lines. The noise on the AM band that is caused by those sources is only expected to increase as electronic devices continue to proliferate." The SBE suggested that this increase in noise is not inevitable. However, it is a serious and worsening problem. Citing the aggregate effects of Part 15 and Part 18 unlicensed devices, the SBE notes that the FCC does not have any practical ability to address the interference potential of unlicensed devices past the point of sale. Reductions in field staff available to conduct spectrum enforcement have made enforcement in interference cases involving unlicensed devices unavailable in the future. The only source of regulatory reform that has a meaningful chance to positively affect the noise floor over time are the regulations that create obligations on manufacturers and importers and dealers, prior to the point that the consumer deploys it.

Citing a study by the LBA Group, AM reception is dependent on the desired signal being typically some 26dB above the ambient noise level. The AM band is subject to AM coverage distortion, increasing noise threats, and interference from the proliferation of wireless systems, electronic devices and low-frequency radiators that distort AM signals more now than as recently as 10 years ago. The electric power grid has expanded, bringing noise contributions from corona, arcing, and other modes. AM stations have increased power to raise their signal-to-noise ratio in an attempt to preserve their coverage areas, often interfering with other stations. But there is a limit to power increases, both economically and technically, and those limits are now reached in many cases.

The SBE argues that AM listeners have media options, and that RF noise will make them exercise those options. When an RF lighting device or a Part 15 intentional radiator causes interference to their receivers, AM listeners receive interference. They will not suffer it; They will simply utilize different media. The SBE urges the Commission to commence an interference management plan for the AM band, based on rules that limit RF noise before it becomes an issue, not after the fact, and those rules have to be enforced. The FCC should also study current ambient noise in the MF band, with an eye toward updating older studies on the subject. This will permit a reasoned analysis of the Commission's Part 15 and Part 18 rules and thus contribute to a controlled RF environment over time. The SBE suggested that AM broadcasting will never get better in the worsening RF noise environment in the bands below 30MHz without some regulatory relief.

**Wisconsin Broadcasters Association
2016 SUMMER CONFERENCE
MTI & ENGINEERING DAY
The Radisson, La Crosse WI
ENGINEERING DAY - JUNE 22**



8:45 AM: Risk Management in a Broadcast Enterprise

Mike Epstein, Sr. Director of Risk Management, Scripps

What are the risks in a broadcast complex and how to address them will be discussed in this session. Mike will also cover business continuity and physical security including active shooter situations.

9:30 AM: Tower Site Security and FAA Lighting Changes

Rich Wood, President, Resonant Results

Out of sight doesn't have to mean less secure. Rich will talk about ways your tower site is threatened and what you can do to make it more secure. Rich will also describe the latest FAA circular and what it means for your tower.

10:15AM: BREAK

10:30 AM:

Information Security: What Are the Hackers Up to Now?

Dave Kieper, Interim Chief Information Officer, UW Green Bay

David will describe the current motivation and methods used by the internet hacker community and discuss defense strategies to mitigate their attacks.

11:15 AM:

An Amber Alert Incident Debrief

Jennifer Price, Director, Special Operations Bureau, CART Commander, WI DOJ-DCI

Michelle DuBois, Coordinator, Wisconsin Clearinghouse for Missing & Exploited Children & Adults

We will dissect an actual child abduction incident that resulted in an Amber Alert in Wisconsin. What were the steps that lead up to the Alert and what process was used to determine an Alert was needed.

12:00 PM: LUNCH

1:30 PM: The Growing Impact of Ambient Noise on Broadcasting

Steve Johnston, Director of Engineering and Operations, Wisconsin Public Radio

Growing levels of unintended "noise" are interfering with reception of RF signals from radio and television stations. This presentation will discuss the problems we face, pinpoint common sources of the noise, and propose possible resolution.

2:15 PM:

Ask the Manager

In this session the audience will have a chance to ask non engineering managers questions about anything.

On the panel will be: HR Manager: Jeff VerVoort, Morgan Murphy Media Radio Manager: Nancy Douglas, CTJ Communications Finance Manager: Paul Rahmlow, Midwest Communications, Inc. TV Manager:

Steve Lavin, WBAY TV

3:15 PM: BREAK

3:30 PM: The Round Tables

Everyone's voice is heard in this session. We will split the audience into four subgroups and talk about four timely topics. Then we'll hear a report of each discussion. These are the topics:

Table 1: The Broadcast Sales Tax Exemption, Kevin Ruppert, Chair

Table 2: The FM Translator Buildout, Greg Dahl & Jason Mielke, Co-Chairs

Table 3: X-OIP, Clif Groth & Matt Sperling, Co-Chairs

Table 4: Working with Millennials, Kent Aschenbrenner & Bill Hubbard, Co-Chairs

4:30 PM: Exhibits and Reception

WBA Media Technology Institute Scholarships

How would you like to offer an opportunity to a Student to attend the WBA Media Technology Institute June 20-23 at the Radisson in La Crosse? The WBA is offering two scholarships to attend this year's Institute. Scholarships include Hotel and Registration. The WBA provides most meals as well. To apply, contact Linda Baun at lbaun@wibroadcasters.org. Keep in mind that only two scholarships to this program will be awarded. More about the Institute.... Media Technology Institute (MTI) (see next page) offers practical, instructional courses suitable for prospective, beginning, intermediate, and senior broadcast/media engineers. This four day program is presented by experienced broadcasting professionals. The program consists of three days of instructional content, one additional day of technical seminars and a broadcast equipment exposition as part of the WBA Summer Broadcast Engineering Conference, and concludes with an opportunity to tour a radio/TV technical facility near La Crosse. Underwriting for MTI is provided by the Wisconsin Broadcasters Association and Midwest Communications.

Media Technology Institute June 20-23, 2016 Radisson Hotel & Convention Center La Crosse, Wisconsin

Media Technology Institute (MTI) offers practical, instructional courses suitable for prospective, beginning, intermediate, and senior broadcast/media engineers, in a four day program presented by experienced broadcasting professionals. The program consists of three days of instructional content and one additional day of technical seminars and a broadcast equipment exposition as part of the WBA Summer Broadcast Engineering Conference.

Location: Illinois Room

10:00 am: Welcome by Michelle Vetterkind, WBA President/CEO, followed by a discussion of the schedule by Terry Baun

10:15 am: "A brief Introduction to the history and challenges of Broadcast/Media Technology" with Terry Baun

10:30 am - 12:00 pm: "Big iron-Antennas, towers, and transmission lines" with Richard Wood

12:00 pm: Lunch

1:30 pm: "Engineering Your Career in a Broadcast Station" with Bill Hubbard

3:30 pm - 5:00 pm: Welcome Reception

Location: Illinois Room

9:00 am: "RF Fundamentals" with Terry Baun

12:00 pm: Lunch

1:30 pm: "Facility Design" with Bill Hubbard

3:30 pm: "Understanding Audio levels and Measurement Standards" with Jim Klas

5:00 pm: Dismiss

Location: Zielke Suite 1, La Crosse Center

8:45 am: WBA Engineering Day Sessions

12:00 pm: Engineers Luncheon at the WBA Summer Conference

1:30 pm: WBA Engineering Day Sessions Continued

5:00 pm: WBA Equipment Exhibits, Reception and Dinner

Location: Illinois Room

9:00 am: "Engineering on a (no) budget and Site Grounding/Safety issues" with Jeff Welton

11:00 am: "Business Basics for Broadcast Engineers" with Jim Klas

12:00 pm: Lunch

1:30 pm: "The Continuing Confluence of IT and RF Technologies" with Terry Baun

2:00 pm: Field trip to WHLA FM/TV site in Minnesota

The WBA is offering two scholarships to attend this year's Institute. Contact Linda at lbaun@wibroadcasters.org.

Underwriting for the Media Technology Institute is provided by the Wisconsin Broadcasters Association and Midwest Communications.

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