

THE Signal

Bimonthly Publication of the Society of Broadcast Engineers



The Association for Broadcast and Multimedia Professionals

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SBE National Meeting Wraps in Madison

Continuing the tradition of partnering with regional broadcast events, the SBE held its National Meeting in Madison, WI, in conjunction with the Broadcasters Clinic. Held Oct. 15-17, the conference drew attendees from around Wisconsin and the surrounding area with a trade show exhibit floor and multiple technical sessions. Several SBE board members participated as session presenters.

The SBE National Meeting included a meeting of the SBE Certification Committee, the Board of Directors meeting, Fellows Breakfast and Membership Meeting, and concluded with the Awards Reception and Dinner.

The SBE Membership Meeting included an update on society activities, a discussion of the SBE and Department of Defense coordination effort between SBE President Leifer and SBE Frequency Coordination Manager RJ Russell, and the swearing-in of the recently elected directors and officers. The Membership meeting was streamed live, thanks to local support from Wisconsin Public TV, Wisconsin Public Radio, and the Educational Communications Board, as well as several SBE members, including Vinny Lopez and Andrea Cummis. SBE President Jim Leifer started the meeting.

President Wayne Pecena was sworn in for his first, one-year term, as was Vice President Andrea Cummis. Ted Hand was sworn in for his first full term as treasurer, and Kevin Trueblood was inducted for his first full term as secretary.



SBE General Counsel Chris Imlay administers the oath of office to President Wayne Pecena

see [MEETING](#), p. 7

Board of Director Actions from the National Meeting

The SBE Board of Directors met Oct. 15 for its regular fall meeting during the 2019 SBE National Meeting, held in Madison, WI. The board had a full agenda to consider, and several action steps were adopted. Some of the actions are a continuation of the work that came from the 2018 strategic planning conference.

The Board approved an operating bud-

get for 2020 that includes no change in membership dues levels for any member category.

The SBE MemberPlus benefit was first available on Jan. 2, 2018. The enhanced member benefit allows Regular, Senior or Associate members to upgrade their membership with full access to the more than 80 Webinars by SBE. It's proven to be

popular, with more than 1,000 members adding SBE MemberPlus to their regular membership. Beginning in January 2020, SBE MemberPlus will be available to SBE Life and SBE Student members.

SBE MemberPlus has been available to Regular, Senior and Associate members

see [ACTIONS](#), p. 8



The SBE Board of Directors met on Oct. 15 in Madison, WI.

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**SBE National Office
317-846-9000 www.sbe.org**

2020 Committee Chairs Named

At the SBE Membership Meeting on Oct. 16, the 2019-2020 officers and directors were sworn in to begin their new terms. (The results of the SBE election were announced on Aug. 29.) SBE President Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE, also announced his committee chair appointments for the coming year, which were reviewed and approved by the Board of Directors at its meeting on Oct. 15. The committee chair assignments follow.

Committee	Chair
Awards	Tom McGinley, CPBE, AMD, CBNT
By-Laws	Charles "Ched" Keiler, CPBE, 8-VSB, CBNE
Certification	Ralph Hogan, CPBE, DRB, CBNE
Chapter Liaison	Mark Fehlig, CPBE, 8-VSB
Education	Geary Morrill, CPBE, CBNE
Fellowship	Troy Pennington, CSRE, CBNT
Electronic Communications	Roswell Clark, CPBE, CBNT
Finance	Roswell Clark, CPBE, CBNT
Frequency Coordination	Ted Hand, CPBE, 8-VSB, AMD, DRB
Government Relations	Kevin Trueblood, CBRE, CBNT
International	Charles W. Kelly Jr.
Membership	Steve Brown, CPBE, CBNT
Mentoring	Chris Tarr, CSRE, AMD, DRB, CBNE
Nominations	Jim Leifer, CPBE
Publications	Jason Ornellas, CBRE, CRO
Social Networking	Kirk Harnack, CBRE, CBNE
Sustaining Membership	Vinny Lopez, CEV, CBNT
Technologies	Shane Toven, CBRE, CBNT

President Pecena also appointed two directors to serve on the SBE Executive Committee, which also includes all the officers and the past president. Roswell Clark and Geary Morrill were appointed and approved by the Board, and they join Pecena, Vice President Andrea Cummis, Secretary Kevin Trueblood, Treasurer Ted Hand, and Immediate Past President Jim Leifer.



Certification Question

Answer on page 6

The primary purpose of the EAS signal is to:

- A. run unscheduled tests.
- B. run scheduled tests.
- C. alert viewers in the event of a national emergency.
- D. activate emergency scanners.



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LETTER FROM THE PRESIDENT

By Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE
SBE President
wpecena@sbe.org

Looking Ahead to 2020

I begin my first Letter from the President with a simple thank you for the trust and confidence placed in me as your newly elected president. It is an honor to have been elected to and serve in this role. I look forward to working with my fellow board members, committee chairs, staff, and members to insure the society provides the right mix of programs and services to the membership.

Immediate Past President Jim Leifer has left some big shoes for me to fill. I hope to slip into those shoes and continue the implementation work of several important initiatives without missing a step. The MemberPlus membership option was implemented under Jim's leadership in January 2018 and continues to be well received today based upon live and on-demand webinar viewers. To recap, for a modest additional (but optional) fee, the MemberPlus option provides free access to all SBE webinar content. Today the webinar library content contains more than 80 diverse webinar topics with additional content added throughout the year.

The June 2018 Strategic Planning Conference conducted by your SBE leadership identified several initiatives as the SBE looked to the future. You have already seen some of these initiatives implemented such as the WEBxtra webcasts produced by Kirk Harnack and Chriss Scherer. The WEBxtra webcast is a virtual meeting for those who do not have a convenient local chapter. WEBxtra is not meant to replace a local chapter, but rather provide a medium for all members, regardless of location or convenience, to stay in touch.

The SBE website relaunch is one major task underway with high visibility. The website often provides the first impression of the society. The re-make is far more than a fresh coat of new paint, as additional member-focused functions will be provided

as well as a refreshed modern look compatible with mobile devices. During our October Board of Directors meeting, expansion of the MemberPlus program was approved by extending benefit to student and life members in January 2020. This expansion allows the younger, as well as the more experienced SBE members, to continue learning with this popular benefit. In addition, the Board approved the budget for the coming year and you will *not* see a membership dues increase in 2020. The SBE offers one of the lowest cost professional society mem-

berships in the industry.

berships in the industry.

Throughout my career, I have viewed three programs as the foundation of the SBE. These cornerstone programs include certification, professional development (education) and frequency coordination. Work continues on the development of the ATSC 3 certification by a dedicated group of volunteer Certification Committee members. New professional development content continues to be developed by the efforts of the Education Committee and their cadre of volunteer advisors, content developers and instructors. And frequency coordination has taken on a new perspective with the engagement of the society with the Department of Defense in frequency coordination efforts as broadcasters and the military now share a portion of the Broadcast Auxiliary Service frequency spectrum. I welcome RJ Russell as the society's staff frequency coordination manager as he works on policies overseen by the Frequency Coordination Committee and with the local frequency coordinators located throughout the nation. These volunteer coordinators will now be eligible for a modest annual gratuity.

These three committees are just part of the volunteer workforce of your fellow colleagues that make up the 18 active SBE committees. These committees, in collaboration with the SBE staff, are essential to the development, oversight and implementation of the diverse programs and services offered by your society.

I encourage each and every member to invite your fellow colleagues to look into SBE membership. Some may have let their membership lapse in the past as benefit was not derived. I suggest these former members take another look at the SBE today, review the programs offered, and rejoin. Others new to the industry are not aware of the SBE and the programs available. I encourage these individuals to consider SBE membership.

As I close for now, I personally want to know your suggestions, comments and concerns. Yes, it is often encouraging to receive a compliment, but I am more interested in what the SBE needs to accomplish or efforts we need to improve. Your feedback is essential to our collaborative effort to insure the society meets member needs as our industry continues to change. Please reach out to me at wpecena@sbe.org or by phone at 979-845-5662 for a more personal exchange.

Until the next *Signal* column, I wish everyone an enjoyable and safe holiday season! See you next year.

“Every man owes a part of his time and money to the business or industry in which he is engaged. No man has the moral right to withhold his support from an organization that is striving to improve conditions within his sphere.”
~ President Theodore Roosevelt

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EDUCATION UPDATE

By Geary Morrill, CPBE, CBNE
Chair, SBE Education Committee
gmorrill@sbe.org

Have We Learned Enough Yet?

In recent conversations with several broadcast engineers, I've heard the following on more than a couple occasions: "I just don't have time to go back to school on this new technology."

It's an understandable sentiment. In my career, radio content has gone from turntables and magnetic tape, and TV has gone from bulky cameras, film chains and 3/4" video tape systems, to 100 percent IT playout systems. In the not-too-distant future, large portions of our broadcast infrastructure will not physically reside in our facilities. Software as a service (SaaS) will permeate all parts of the enterprise as new connectivity options and function implementations converge in ways deemed impossible just a handful of years ago.

On the transmission side, we have evolved from manually tuned triodes, tetrodes and pentodes to modular transmitters utilizing solid-state devices operable across an entire band with changes made through the built-in GUI.

Thumbing through the *NAB Engineering Handbook 7th Edition* (1985), one finds "computers" mentioned only briefly – as replacements for typewriters in a newsroom. About the same time, microprocessors started appearing in common studio hardware. Few saw the possibility, let alone potential, of large-scale interconnectivity, as it was just New Year's Day, 1983 that ARPANET switched from NCP to TCP/IP, which was considered more flexible and powerful. Within a few short years, networking of backend functions began appearing, followed closely by a sea-change with PC-based playout systems. Things haven't slowed down since.

Almost simultaneously, the landscape changed dramatically for broadcast technical professionals plying their trade. The multi-person radio engineering staff all but disappeared in markets under Top 20 with deregulation. The television ranks, typically numerically larger, shrank as well. Fewer folks doing the same or more work, and in more disciplines.

Where once a young hire fresh out of a tech school/vocational electronics program could break in with guidance of an experienced broadcast engineer, there are just more than a handful of such

schools in operation today, and a rookie hire is often deemed chief operator (if not chief engineer) from day one. At every turn, there's something new to learn/implement. Indeed, how can one possibly find time just to stay abreast of the rapidly changing technology? Addressing these challenges are myriad opportunities administered through the SBE.

Whether it's an in-person Ennes workshop or an online webinar, relevant technical knowledge for the broadcast professional is available at the learner's convenience. Even ATSC 3.0 – currently in its infancy – is well represented by in-depth multiple webinar sessions. It's a foundation I have been fortunate to inherit as Education Committee chair.

From my perspective, one of the best recent SBE creations is SBE MemberPlus, which places the comprehensive library of live and on-demand webinars available for your unlimited use at an affordable fixed price. My opinion is shared widely: More than 1,000 members have chosen to take the SBE MemberPlus option, with an overwhelming majority choosing to renew MemberPlus. And in case you hadn't heard, SBE MemberPlus has been expanded to allow Life and Stu-

dent members to add it, too.

Perhaps you've thought about taking the SBE MemberPlus plunge in 2020. Maybe you're questioning whether it's worth the investment of your time and money. If that's you, I invite you to sample some of the popular webinars being offered. You'll find five-minute samples of those online: <https://www.sbe.org/sections/WebinarsbySBEPreview.php>

Then look at the full variety of webinars available at no added charge to SBE MemberPlus members at [sbe.org/webinars](https://www.sbe.org/webinars). There are offerings to get the brand new broadcast engineer up to speed, while a seasoned veteran can quickly grasp new technologies or enhance his or her proficiency without needing to return to a classroom.

If there are new topics you'd like to see made available, we'd love to hear from you. Member feedback truly helps determine what is developed next. My email is gmorrill@sbe.org and I will bring your suggestions to the Education Committee.

So, have you learned enough yet? If your answer is a resounding NO, I invite you to add SBE MemberPlus and make 2020 a Happy (and personally satisfying) New Year.



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For more information on any SBE education program, contact Education Director Cathy Orosz: corosz@sbe.org or 317-846-9000.



CERTIFICATION UPDATE

By Ralph Hogan, CPBE, DRB, CBNE
Chair, Certification Committee
rhogan@sbe.org

Continuing Education is Key to Certification Program

Years ago, the FCC required those responsible for maintaining a broadcast transmission system to hold a valid First Class license, which later became a General Class license. To obtain a license one had to take an FCC exam. The license was, hopefully, a good barometer for employers to judge the qualifications of prospective employees.

In the early 1980s, the FCC decided, as part of deregulation, to no longer issue these types of licenses. Without the need to be licensed, the pizza delivery guy could legally be a station engineer (if he or she could keep from blowing him or herself up).

Even before the FCC deleted the license requirements, the SBE established a certification program to recognize and raise the professional status of broadcast engineers by providing standards of professional competence. Through the years, it has become recognized in the industry as the primary method of verifying the attainment of educational standards. With the industry constantly changing, the SBE-certified engineer must keep up with those changes.

One of the main differences between the FCC license and SBE certification is that the SBE program is designed to aid engineers in continuing their education. Certifications are issued after passing the exam and are valid for a period of five years. Certificate holders may have them renewed by demonstrating that, during this time, they have participated in various activities geared toward continuing education.

From the engineers' point of view, becoming certified and renewing every five years is an excellent way to keep up with

the ever changing technology. The engineer that doesn't keep up with changing technology, for whatever reason, will not be around very long. Certification is also a big plus when applying for employment. SBE Certification has now become the standard by which employers can use to judge the qualifications of a perspective employee.

The certification program has several levels, from the entry level Certified Broadcast Technologist (CBT) to Certified Professional Broadcast Engineer (CPBE).

Eight years ago, the Alabama Broadcasters Association was approached by several broadcast companies about the need for some type of entry level training for broadcast engineers. There was a growing concern that engineers were beginning to "age out" of the business and it would be great if we could develop a pool of new engineers.

Working with the SBE Certification Committee, the Association developed the ABA Engineering Academy. The Academy offers both a radio and a television

class twice each year. The Academy also hosts special one day seminars on various technical topics presented by leading engineers. The five-day classes cover subjects including basic electronics, analog and digital audio, television basics, RF systems for both radio and television, plus station operations and FCC rules. The Academy offers the opportunity to take the CBT exam at the end of the class. Over the years, the Academy has had students from across the nation attend, including a student from Alaska.

While the ABA is aware that it cannot create "chief engineers" in five days, the classes give students the basics of the technical operation of a radio or television station, which can create efficiency and confidence while working under a station engineer. Seasoned engineers attend the classes for a refresher on basics and take the opportunity to learn about new technology.

If you are not already an SBE certified engineer, contact the SBE today. For information concerning the ABA Engineering Academy visit al-ba.com.



Students learning at an ABA Engineering Academy seminar.

Ann Sullivan Joins SBE National Office Staff



Sullivan

The SBE welcomed Ann Sullivan to the staff at the National Office on July 15 of this year. She fills the position of Receptionist/Certification Assistant, previously held by Carol Waite, who retired in June. Ann has 25 years of business experience and comes to the SBE after 15 years with LeadingAge Indiana, an association that serves the long-term care and housing needs of seniors. She has a Bachelor of Science degree in business from Indiana University. We welcome Ann to the SBE!

EQ Answer from page 3

The answer is C

The Emergency Alert System (EAS) is used by alerting authorities to send warnings via broadcast, cable, satellite and wireline communications pathways. The EAS is also used when all other means of alerting the public are unavailable, providing an added layer of resiliency to the suite of available emergency communication tools.

SBE Certification Achievements

CONGRATULATIONS

LIFE CERTIFICATION

Certified Professional Broadcast Engineer (CPBE)
Chris Heck, Eugene, OR - Chapter 76
Sam Killen, Chesterfield, VA - Chapter 60

Certified Broadcast Television Engineer (CBTE)
Terry Johnson, Charlotte, NC - Chapter 45
George Randell, Nashville, TN - Chapter 103

Certified Radio Operator (CRO)
James Grimes, Evanston, IL

Certified Professional Broadcast Engineers® and certified senior broadcast engineers who have maintained SBE certification continuously for 20 years, are at least 59½ years old and are current members of the SBE may be granted Life Certification if so requested. All certified who have retired from regular full-time employment and are at least 59½ years old may be granted Life Certification if they so request. If the request is approved, the person will continue in his/her current level of certification for life.

CERTIFIED PROFESSIONAL BROADCAST ENGINEER (CPBE)

Certified Professional Broadcast Engineer (CPBE)
John Boehm, Homewood, IL - Chapter 26
Kevin Johnson, Hoffman Estates, IL - Chapter 26
Philip Langston, Plover, WI - Chapter 80

Applicants must have 20 years of professional broadcast engineering or related technologies experience in radio and/or television. The candidate must be currently certified on the Certified Senior Broadcast Engineer level.

AUGUST EXAMS

Certified Broadcast Technologist (CBT)
Connor Crookshank, Bonney Lake, WA - Chapter 16

SPECIAL PROCTORED EXAMS

AMITRA
Certified Broadcast Radio Engineer (CBRE)
Ernesto De La Rosa, Apodaca, Nuevo Leon, Mexico

Ernesto Tamez, Monterrey, Nuevo Leon, Mexico

Certified Broadcast Technologist (CBT)
Fuad Cuzmar, Albuquerque, NM - Chapter 34

SBE CERTIFIED SCHOOL COMPLETION

Certified Broadcast Technologist (CBT)
DINFOS
Travis Cotton, Fort Bragg, NC
Robert Moore, Timonium, MD - Chapter 46

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CERTIFIED BY LICENSE

Certified Broadcast Technologist (CBT)
Ponziano Ferraraccio, Albuquerque, NM - Chapter 34

Donald Perkins, Johnson City, NY - Chapter 1

CERTIFIED RADIO OPERATOR (CRO)

Nereida Perez, St. Petersburg, FL

RECERTIFICATION

Applicants completed the recertification process either by re-examination, point verification through the local chapters and national Certification Committee approval and/or met the service requirement.

Certified Professional Broadcast Engineer (CPBE)
Debbie Jones, Corona, CA - Chapter 131

Certified Professional Broadcast Engineer (CPBE)
AM Directional Specialist (AMD)
Michael Hayden, Mt. Vernon, IL - Chapter 26

Certified Senior Television Engineer (CSTE)
Stephen Blot, Hawthorne, NY - Chapter 15
John Gold, Tucson, AZ - Chapter 32

Certified Senior Television Engineer (CSTE)
8-VSB Specialist (8-VSB)
Paul Jonak, Moreno Valley, CA - Chapter 131

Certified Broadcast Networking Engineer (CBNE)
Thomas Finnegan, River Forest, IL - Chapter 47
Marcos O'Rourke, Costa Mesa, CA - Chapter 47
John Svetlik, Burbank, CA - Chapter 47

Certified Audio Engineer (CEA)
Jonathan Abrams, Jersey City, NJ - Chapter 15

Certified Video Engineer (CEV)
Jonathan Abrams, Jersey City, NJ - Chapter 15

Certified Broadcast Radio Engineer (CBRE)
Aaron Bonto, Hagatna, Guam - Chapter 126
Steven Mena, Sacramento, CA - Chapter 43
Marcos O'Rourke, Costa Mesa, CA - Chapter 47
John Tyler, Pawcatuck, CT - Chapter 14

Certified Broadcast Television Engineer (CBTE)
Mark Albert, Algonquin, IL - Chapter 26
Klyde Layon, Highland, CA - Chapter 47
Michael Moore, Unicoi, TN - Chapter 113
Scott Storkel, Reston, VA - Chapter 37

Certified Broadcast Networking Technologist (CBNT)
Jonathan Abrams, Jersey City, NJ - Chapter 15
Michael Hayden, Mt. Vernon, IL - Chapter 26
John Mazza, Pasco, WA - Chapter 51
Kerry Plackmeyer, Baltimore, MD - Chapter 46
Blake Thompson, Akron, OH - Chapter 70
Jimmy Truong, Sun City, CA - Chapter 131

Certified Broadcast Technologist (CBT)
Jonathan Cote, Portland, OR - Chapter 124
Steven Mena, Sacramento, CA - Chapter 43
Werner Ullrich, Il, New Castle, PA - Chapter 20

Certified Television Operator (CTO)
Gregory Foss, Riverside, CA - Chapter 131
Anthony Leon, San Dimas, CA
William Obando, Hialeah, FL
Ronald Shaw, Glen Burnie, MD
Phillip Spina, Lake Worth, FL - Chapter 88
Gregg, Tomczak, Duluth, MN
Philip Torti, Rochester, NY - Chapter 57
Rodney Witherspoon, West Palm Beach, FL
Bee Xiong, Boulder, CO

Certified Radio Operator (CRO)
Rodney Freed, Martin, TN - Chapter 103

MEETING from p. 1

Directors beginning their two-year terms included Mark Fehlig, Charles "Ched" Keiler, Geary Morrill, Jason Ornellas, Chris Tarr, and Dan Whealy. They join six other directors on the Board who are in the middle of their two-year terms. Immediate Past President Jim Leifer completes the Board of Directors.

The webcast was made possible through the financial support of eight SBE Sustaining Member sponsors: Blackmagic Design, Comark, Dielectric, Drake Lighting, DVEO, Jampro, Ross Video and Shively Labs.

A highlight of the National Meeting was the 2019 SBE Annual Awards Dinner. Among the members recognized for achievement were Charles Wooten, of Panama City, FL, with the Robert W. Flanders SBE Engineer of the Year Award, and Bill Hubbard,



CPBE, of Green Bay, WI, with the James C. Wulliman SBE Educator of the Year Award. SBE Sustaining Member Blackmagic Design received this year's SBE Technology Award for its 8K workflow technology. One member was elevated to the highest SBE membership level of Fellow: John Collinson, CPBE, 8-VSB, AMD, CBNE.

Lewis Friedland, professor, College of Letters and Science at the School of Journalism and Mass Communications, University of Wisconsin presented the keynote address with his topic, "The

Changing News Ecology: What Will We Do Without Newspapers?" At the close of the dinner, President Pecena invited everyone to attend the 2020 SBE National Meeting in conjunction with the 2020 SBE Chapter 22 Broadcast & Technology Expo in Syracuse, NY, hosted by SBE Chapter 22 Central New York.

Chapter Check

Chapters present their Chapter Engineer of the Year Awards

Chapter 16 Seattle
Alex Brewster, CBRE, CBNT (left) with Chapter Chair Dave Ratener, CPBE, CBNT



Chapter 32 Tucson
John Gold, CSTE, (right) with Chapter Chair Robert Nemitz, CBNE

Chapter 38 El Paso
David Halperin, CBRE, (left) with Chapter Chair Jose Castro



Chapter 59 Kansas City
John Gray (left) with Chapter Chair Mike Rogers

Chapter 70 Northeast Ohio
Robert Leskovec (left) with Chapter Chair Blake Thompson, CBNT



Chapter 78 Blue Ridge
Paxton Durham (with plaque) and chapter members



Chapter 80 Fox Valley
Stuart Muck, CBRE, (left) with Chapter Chair Steve Brown, CPBE, CBNT

SBE Returns to PBS TechCon in 2020

The Society of Broadcast Engineers will once again be a part of the 2020 PBS TechCon in Las Vegas. The SBE will present two half-day programs on Saturday, April 18 at the MGM Grand Hotel. The morning program will be of interest to just about anyone in media technology: Audio for Radio, TV, Performance; led by Steve Savanyu of Audio-Technica.

In development for the afternoon is a tutorial on "NextGen Platforms - Advanced Emergency Alerting and Informing." Next-Gen platforms are the things that combine OTT with OTA and change the experience from watching TV, to interacting with TV.

Stay tuned for program updates and for details about how to register. The programs are electives for those attending the PBS TechCon but will be open to anyone. Planning to attend the 2020 NAB Show? Be sure to arrive in Las Vegas early to take in these two programs.

ACTIONS from p. 1

for the cost of annual dues, plus \$90; a total of \$175. On Jan. 2, 2020, Life members will be able to add SBE MemberPlus to their membership for \$90. Student members will be able to opt for SBE MemberPlus when they join or renew, also for \$90. Existing SBE Life and Student members can add the option beginning Jan. 2 by contacting the SBE National Office by phone at 317-846-9000.

After SBE members in the Florida Panhandle held several organizational meetings, the SBE Board of Directors approved the application to form SBE Chapter 106 Panhandle. Chapter 106 brings the number of active SBE chapters to 115. The chapter leaders are Chair Mark Johnson, CSRE, of Linkup Communications; Vice Chair Alan Lane, CSRE, AMD, DRB, of Cumulus Media; and Secretary/Treasurer Ricky Carter of Alarado Media.

The Board approved then President-elect Pecena's appointments of national committee chairs to serve through the National Meeting in 2020. A complete list is on page 3 of this issue of *The Signal*.



One of the task groups created following the strategic planning conference was tasked with investigating a redesign and relaunch of the SBE website. That task has been completed, and the board approved the budget for the project and approved the vendor to provide the service. It is expected that the new site will be launched in 2020. A new committee, the Electronics Communications Committee, was created to provide oversight to the project.

Other information provided during the meeting included that 71 SBE chapters qualified for cash rebates in 2018 from the national SBE and received checks totaling more than \$38,000 in June of this year. Chapters qualify by holding at least five meetings each year and filing reports of attendance and meeting content with the national office.

The next in-person SBE Board of Directors meeting will be held on April 19 in Las Vegas, NV, during the 2020 NAB Show. The next SBE Executive Committee meeting will be Saturday, Jan. 25 in Orlando, FL.



A



B



C



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J

A. SBE General Counsel Chris Imlay swears President Wayne Pecena in. | B. The Membership Meeting was streamed live. | C. President Jim Leifer and SBE Frequency Coordination Manager RJ Russell discuss the SBE/DoD coordination efforts during the Membership Meeting | D. The SBE had a booth on the exhibit floor at the Broadcasters Clinic. | E. The annual Fellows Breakfast gathered a crowd of SBE Fellows and invited guests. | F. Educator of the Year Bill Hubbard accepts his honor. | G. Wisconsin Public TV and Radio provided technical support for the Membership Meeting webcast. | H. SBE Executive Director John Poray gives outgoing President Leifer his plaque. | I. Jim Leifer thanks the outgoing Board of Directors. | J. Engineer of the Year Charles Wooten provides remarks on his award.

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LEGAL PERSPECTIVE

By Chris Imlay, CBT
SBE General Counsel
cimlay@sbe.org

All-Digital and the AM Renaissance

As of this writing, the FCC is preparing to roll out a notice of proposed rulemaking (in a new Docket 19-311 (but which is also part of the AM Revitalization Docket, 13-249) that proposes to permit AM stations to operate in full-digital mode. Presently, AM stations have two choices: broadcast using either analog, or with a hybrid analog/digital signal. Based on a petition for rulemaking, the FCC is going to propose allowing AM stations a third option: broadcasting using an all-digital signal. This would not be mandatory, but entirely optional. The FCC says that the petition for rulemaking, filed by Bryan Broadcasting, has received support from broadcasters, and that there is favorable data gathered as the result of performance tests conducted by NAB Labs. WWFD (AM) in Frederick, MD, has transmitted in all-digital for more than a year, pursuant to an experimental authorization. It is refreshing to note that the FCC views AM revitalization as an ongoing, longer-term project. The fear that a short-term solution, the addition of FM translators for some AM stations, would be the extent of meaningful AM revitalization, is now largely allayed.

The FCC is of the preliminary view that all-digital AM broadcasting offers improved reliability and enhanced audio quality and avoids some of the issues inherent in analog or hybrid service. AM stations, now limited to audio-only broadcasting, could, using an all-digital signal, transmit other information such as song and artist identification. Transition to all-digital service would be up to the individual broadcaster's discretion, based on its own needs and that of the market in which the station is located. It is indeed heartening that the FCC is continuing its efforts begun in 2013 to revitalize the AM service.

The comment date will be long: 60 days after the publication of the notice in the Federal Register, and the FCC hasn't yet actually released it publicly. The NPRM

has three basic parts. It asks for comments on the Commission's premise that it should authorize all-digital AM broadcasting (i.e., the HD Radio in-band on-channel (IBOC) system) on an optional, non-mandatory basis. It also proposes technical standards for all-digital AM stations, including adoption of the NRSC-5-D Standard, and asks for comment on the impact of such operations on existing analog stations and existing AM receivers. Finally, it proposes to establish a notification procedure for stations converting to (or from) all-digital operation, as is now done on a 10-day advance notification process, for commencement of hybrid operations.

The FCC is candid in its assessment that the AM broadcast service has struggled for decades with a decline in listenership caused by interference from point-source emitters and aggregate emitters resulting in a completely unacceptable, high noise floor in almost all environments. There are also other reception issues and a plethora of higher fidelity alternatives. Due to propagation characteristics and interference concerns, some AM stations are unable to provide programming at night such as local sports, and that competitive handicap relative to other media is overwhelming.

Staying the Course

As the SBE has argued for years (without much acknowledgement from the FCC), AM stations suffer competitively due to rampant (and, presumptively, increasing) electromagnetic emissions from various sources such as power lines, fluorescent and LED lights, computer monitors, and innumerable RF products. The FCC's draft NPRM notes that the quality of AM signals results in AM radio being largely dominated by low-fidelity voice formats such as talk radio/foreign language programming), sports, religious programming, and news.

The FCC has said since 1999 that it believes that a transition to an all-digital service is an appropriate public policy goal, because it offers spectrum efficiencies and new service opportunities. In 2002, the Commission approved the IBOC digital radio system originally developed by iBiquity, now called HD Radio. The HD Radio system has two AM service modes: hybrid (MA1) and all-digital (MA3). MA1

consists of a combination of analog and digital signals, with the analog signal typically occupying a center band of 5 kHz and digital carriers on either side of and beneath the analog signal. In MA3, there is no modulated analog carrier and the digital carriers are moved toward center frequency with increased power, resulting in what the FCC claims is a more robust digital signal that is less susceptible to (first-, second- or third-) adjacent channel interference. The downside: An analog receiver cannot receive an all-digital MA3 signal, so the disincentive to short-term conversion to all-digital is obvious. While the NAB supports the option, there are opponents of the proposal. The opponents argue that allowing all-digital AM operation might cause undue interference to analog AM stations or result in a loss of service for analog AM listeners.

The FCC, however, seems to be impressed with the results of the NAB Labs All-Digital AM Test Projects and a paper prepared analyzing the results of the experiments conducted at WWFD. But the FCC asks for comment on the presumed benefits of (a single) all-digital AM broadcasting system, including the extent of improved audio quality; the utility of auxiliary data; the extent of improved useable signal coverage; increases in programming choices (such as music) and energy and spectrum efficiency. The FCC also asks about the interference potential of all-digital stations, including adjacent-channel, co-channel, digital-to-digital, and nighttime interference. The NPRM considers operating standards, power limits, emissions mask requirements, a carrier frequency tolerance standard, a notification requirement for stations converting to all-digital, and EAS requirements. Finally, the FCC asks for comment on the costs of conversion for AM licensees and the readiness of the public to transition to all-digital reception. This last consideration seems to the SBE to be a big issue indeed.

The FCC, and especially Chairman Pai, is to be congratulated for its, and his, dogged efforts at AM revitalization. This docket is deserving of our most careful analysis and constructive comments. Tell the SBE and FCC what you think. Can all-digital at least minimize the noise floor problem? Let's talk about it.

ENNES

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The trust offers scholarship and educational programming and grants that benefit broadcast engineering and the broadcast engineer. Submit tax-deductible donations, payable to the Ennes Educational Foundation Trust, to the Society of Broadcast Engineers; 9102 N. Meridian St., Suite 150; Indianapolis, IN 46260.

Thank you Gino Ricciardelli
for the donation from his estate.

sbe.org/ennes



FOCUS ON SBE

By John L. Poray, CAE
SBE Executive Director
jporay@sbe.org

Life and Student Members Will have Access to SBE MemberPlus

The SBE MemberPlus option has proven to be very popular in its first two years. In the first membership cycle that ended March 31 of this year, 1,008 members had chosen the option, which provided them with access to all SBE webinars – live and archived. SBE MemberPlus costs \$175 per year while traditional annual membership dues is \$85. The additional \$90 investment gives the member access to more than 80 SBE webinars on a wide range of broadcast technology, regulatory and safety topics.

We've been in the second membership year cycle since last April 1, and, as of October 31, already 1,033 members had taken the SBE MemberPlus option. With five more months to go, that number is sure to grow.

During these initial two years, the SBE MemberPlus option has been available to only Regular, Senior and Associate members. During that time a number of Life members have asked about getting access to the SBE MemberPlus option. Even though Life members, by definition, are retired from broadcast engineering, many are still active with their chapters and desire to continue their life-long interest in broadcast technology. At the recent national Board of Directors meeting, held October 15 in Madison, WI, the Board approved to expand the program to Life members, beginning on January 2, 2020.

Also on January 2, the program will be available to SBE Student members. This is a group that perhaps will benefit as much or more than anyone from having access to the wide range of technical content the SBE webinars have to offer. We hope participating in SBE webinars will help to stimulate Student members towards a career in broadcast/media technology after they graduate, and that they will convert their Student MemberPlus membership into full SBE membership with the SBE MemberPlus option.

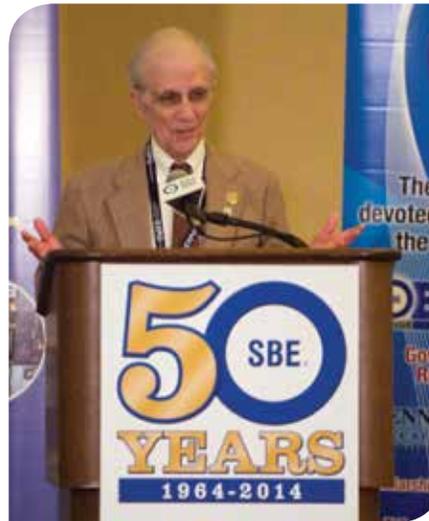
Traditional SBE Life members pay no annual dues. At their option, they will be able to add the SBE MemberPlus benefit for just \$90. Since Life members don't receive the annual membership renewal letter each February that other members receive, a special annual invitation will be sent to them early each year, inviting them to add SBE MemberPlus to their Life membership for the next member-year.

Students new to SBE and current Student members will have the opportunity to select the SBE MemberPlus option. Traditional Student Member dues is \$25 annually. Those who wish to take the SBE MemberPlus option will pay just \$90. The \$25 traditional dues will be waived to help keep it affordable for them. We think there is good potential for schools with technical broadcast or related programs to see access to this tremendous amount of quality content instructed by industry experts as an extension of their own curriculum. Some might treat it similar to the text books or a lab fee required for a class. Some schools may even choose to pay for it. Either way, this is a good opportunity to help prepare and steer young people towards a career in broadcast engineering, and a life-long connection with the SBE like many of you.

Our Thanks to SBE Charter Member #117

In 2014, the SBE celebrated its 50th year, and one of the events where we celebrated was the SBE National Meeting, held that year in Verona, NY, with the Chapter 22 Broadcast Technology Expo. Charter (#117) and Life member, Gino Ricciardelli, CPBE, a member of SBE Chapter 1 in Binghamton, NY, was elevated to the SBE membership level of Fellow during that year's SBE National Awards Dinner.

Knowing that the 92 year-old Ricciardelli planned to make the 114 mile trip from his home in Vestal, NY, to Verona, we invited him to speak during the SBE Membership Meeting, which was webcast live. Gino told some great stories about the early days of SBE, working with friend, colleague and second national SBE president, Charlie Hallinan and others. He also spoke extensively about his Army days during World War II in Europe, working in radio communications, using German POWs to help repair radios, and his work to help lay a military communication cable



Gino Ricciardelli

across the English Channel.

Sadly, Gino passed away in June 2018 at the age of 95 and, about a year later, we received a letter that he had left a significant portion of his estate to the Society's Ennes Educational Foundation Trust Scholarship Fund. Gino's donation of more than \$83,000 is the largest single donation ever made to the Ennes Trust. The donation will make it possible for the Ennes Trust to increase the level of scholarship support it can provide to young people interested in pursuing a career in broadcast engineering. Something we think Gino had in mind.

From all of us, thanks, Gino.

Video of Gino Ricciardelli's comments at the 50th SBE Membership Meeting, and the presentation and his acceptance speech upon receiving the SBE Fellow honor during the 2014 SBE National Awards Dinner, are both available at the SBE YouTube Channel.

• 2014 SBE Membership Meeting: Go to 17:20 on the video to hear Gino speak for five minutes about the early days of SBE. bit.ly/Ricciardelli1

• 2014 SBE National Awards Dinner: Go to 59:45 to see the Fellow presentation and hear Gino's comments about his early career and experiences in WWII. That segment lasts about 15 minutes. bit.ly/Ricciardelli2





ENGINEERING PERSPECTIVE

By Bob Weller
Member, SBE Frequency Coordination Committee
Vice-President, Spectrum Policy, National Association of Broadcasters
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New Hope for FCC Enforcement

It's been almost five years since the FCC "modernized" its 24 field offices by closing almost half of them, leaving just 13 today. Those office closures followed a decade of chronic underfunding that left field staff unable to fill-up direction-finding vehicles with gas to locate sources of interference. As a result, almost no broadcaster complaints were investigated, and broadcast engineers had little choice but to deal with interference problems on their own.

In October, the FCC took a major step toward restoring rapid response to broadcaster complaints of widespread interference. A web-based "interference reporting portal" has been established with access limited only to "enterprise" users, including broadcasters. The FCC has committed to providing high-priority complaints filed through the portal with an initial response within one calendar day, while medium- and low-priority complaints should hear back within two and five business days, respectively. The initial response will include the name of the Agent assigned to the matter, the expected nature and timeframe for investigation, and a request for additional information, if necessary.

FCC Acting Field Director Ron Ramage emphasized that trying to resolve the problem on your own is the best first step, followed by providing detailed information to the FCC. "It is always good to provide a local point of contact information for the licensee or station engineer, call sign, location, frequency of the station receiving interference and the days and times of day the interference occurs. Saying interference is 'always there,' is usually not accurate. Often there is a pattern to the interference, so if one is observed, providing us with that pattern is helpful."

To access the portal, you will need your station's FCC Registration Number (FRN) and the corresponding name of the licensee. The two must match precisely. ("KXYZ" is not the same as "XYZ Broadcasting Inc.") In the **Entity Information** section, the FCC provides an FRN/Name verification utility that should assist with ensuring that the two entries match. Once identified yourself as a legitimate enterprise entity, the remaining steps are straight-forward and consist mostly of completing a series of drop-down responses and text blocks, as shown in Figure 1.

Interference Information. Specify the "service experiencing interference." The NAB worked with the FCC during the development of this portal and tried to ensure that most of the common broadcast services were included. Apart from reporting widespread interference to your over-the-air signal (AM, FM, TV, LPFM, LPTV, FM translator or TV translator), the portal recognizes interference to BAS and other services, including STL, RPU/ENG systems, and weather radar. If you recognize the type of interference you can also report that or state that it is unknown. Common types of interference include "Public Mobile Services," such as AWS-3 which often bleeds into the upper 2 GHz ENG channels; "Radio Frequency Devices," such as 5 GHz WiFi

routers and access points that have been modified to operate on frequencies used by weather radar, and LED traffic signals or outdoor displays that interfere with AM stations.

Interference Location. You must specify the location where the interference is being received. Importantly, this is typically not the location of the studio. Rather, this might be a mountain-top ENG site or the location of a translator. You can specify the location using either latitude and longitude or a physical description (address or name of site), or both.

Identity of Alleged Violator and Interference Source Location. Sometimes, the culprit is known but you've been unsuccessful in getting the problem resolved. If you know the name of the person or entity responsible for causing the interference you can provide it. Separately, if you know the location of the interference source, you can enter it – either by latitude and longitude or a physical description.

Interference Description. A description of the interference is helpful to the FCC agent so that s/he knows how the interference is affecting your system. For example, radiation from LED traffic signals at an intersection might be described as "a buzzing noise that masks all AM radio stations within 100 meters of the intersection of First and Main." Further, you must characterize the interference as "less than 50% degradation," "more than 50% degradation," or "complete blockage." You must specify the number of users affected. If your weather radar is being hit by WiFi interference, then every single viewer of your station's newscast would be affected.

FCC agents are busy, so they want to investigate at a time when the interference is most likely to be occurring. Questions are asked about the incidence rate (once, intermittent, frequent) and duration of the interference.

Additional Information. If you've taken remedial action, such as contacting the source of the interference or doing investigation on your own, you should explain what you've done.

Escalation. While the FCC is confident that interference complaints will receive timely responses, after one week stations can escalate the complaint to the FCC Regional Director. After two weeks, stations can further escalate the complaint to the Field Director in Washington, DC.

The relationship between broadcasters and FCC field staff has mostly been a friendly one. Station engineers in far-flung cities were often asked to be the eyes and ears of the FCC to validate interference complaints and provide local expertise on transmitter sites. In exchange, station engineers were provided with non-public phone numbers for field offices and received rapid response to interference problems. This new interference reporting portal has the potential to help build a stronger relationship between FCC field agents and broadcast engineers, and importantly, it provides hard data to the FCC about interference problems that affect our industry.



Figure 1. The FCC's new Enterprise Interference Reporting Portal at fccprod.service-now.com/psix-esix?id=esix_form

- AC Video Solutions • 2014**
Andrea Cummis 201-303-1303
Consulting, Systems Design/Integration
- AEQ Broadcast International • 2015**
Peter Howarth 954-581-7999
Broadcast Audio, Video and Communications
- American Tower Corporation • 2000**
Peter A. Starke 781-926-4772
Development/Construction/Management
- Audemat-Worldcast Systems Inc. • 2000**
Christophe Poulain 305-249-3110
Control Manufacturer
- AVCOM of Virginia, Inc. • 2010**
Tom Pagonis 804-794-2500
Spectrum Analyzers
- Belden Electronic Division • 1991**
Sales 800-235-3361
Cable and Connectivity
- Blackmagic Design • 2012**
Terry Frechette 408-954-0500
Production Switchers, Digital Cameras,
Routers, Video Editing and Monitoring, Color
Correction, Video Converters
- Bracke Manufacturing LLC • 2012**
Patra Largent 949-756-1600
RF & Microwave Components
- Broadcast Depot • 2018**
John Lackness 305-599-3100
TV, Satellite, Radio, IP
- Broadcast Devices, Inc. • 2015**
Robert Tarsio 914-737-5032
Audio/RF Support Products
- Broadcast Electronics Inc. • 1978**
Tom Beck 217-224-9600
Radio Equipment Manufacturer
- Broadcast Software International • 2016**
Marie Summers 888-274-8721
Radio Automation, Audio Logging
- Broadcast Supply Worldwide • 1986**
Shannon Nichols 800-426-8434
Audio Broadcast Equipment Supplier
- Broadcasters General Store • 2004**
Buck Waters 352-622-7700
Broadcast Audio Video Distributor
- Burk Technology • 2019**
Tom French 978-486-0086 x613
Transmitter Facility Control Systems
- Calrec Audio • 2016**
Helen Carr 703-307-1654
Audio Mixing Equipment
- Camplex • 2017**
Daniel Coscarella 800-445-7568 x7409
Fiber Optic Cable Assembler
- Canon USA Inc. • 1985**
Larry Thorpe 201-807-3300,
800-321-4388
Broadcast Lenses & Transmission Equipment
- Cavell, Mertz & Associates Inc. • 2011**
Gary Cavell 703-392-9090
Consulting Services
- Comrex Corporation • 1997**
Chris Crump 978-784-1776
Audio & Video Codecs & Telephone Interfaces
- Continental Electronics • 1976**
Dale Dalesio 412-979-3253
TV and Radio Transmitters
- CueScript • 2014**
Michael Accardi 203-763-4030
Teleprompting Software & Hardware
- Davicom, Division of Comlab, Inc. • 2014**
Louis-Charles Cuierrier 418-682-3380 x512
Remote Site Monitoring and Control Systems
- DEVA Broadcast • 2015**
Toddr Ivanov 305-767-1207
Monitors, IP Audio Codecs, RDS/RBDS
Encoders, Audio Processors, Broadcast Tools
- Dialight Corporation • 2006**
US Headquarters 732-919-3119
FAA Obstruction Lighting, LED Based
- Dielectric • 1995**
Cory Edwards 207-655-8131
TV & FM Transmission & Cellular Products
- Digital Alert Systems, LLC • 2005**
Bill Robertson 585-765-1155
Emergency Alert Systems
- DoubleRadius, Inc. • 2012**
Jeffrey Holdenrid 704-927-6085
IP Microwave STL
- Drake Lighting • 2015**
Dave Sheppard 270-804-7383
FAA Obstruction Lighting - Medium and High
Intensity
- DTS Inc./HD Radio Technology • 2014**
Rick Greenhut 443-539-4335
HD Radio Technology
- du Treil, Lundin & Rackley, Inc. • 1985**
Jeff Reynolds 941-329-6000
Consulting Engineers
- The Durst Org. - 4 Times Square • 2004**
John M. Lyons, CPBE 212-997-5508
TV/FM/Microwave Tower Site
- DVE0 - Division of Computer Modules Inc. • 2011**
Laszlo Zoltan 858-613-1818
Everything About Transport Streams
- Econco • 1980**
Debbie Storz 800-532-6626,
530-662-7553
New & Rebuilt Transmitting Tubes
- ENCO Systems Inc. • 2003**
Ken Frommert 800-362-6797
Layout and Automation Solutions
- ERI - Electronics Research • 1990**
David White 812-925-6000
Broadcast Antennas, Transmission Line,
Filters/Combiners, Towers and Services
- Florical Systems • 2008**
Shawn Maynard 877-774-1058
Television Broadcast Automation
- Fujifilm/Fujinon • 1986**
Gordon Tubbs 973-686-2769
Broadcast & Cine Lens Products
- GatesAir • 1977**
Dave Hopson (TV) 513-445-5243
Mark Goins (Radio) 513-899-9124
Broadcast Equipment Manufacturer
- Heartland Video Systems, Inc. • 2011**
Dennis Klas 920-893-4204
Systems Integrator
- Highlights, Inc. • 2016**
Timothy Nash 352-564-8830
Obstruction Lighting Maintenance
- Hitachi Kokusai Electric Comark • 2013**
Jack McAnulty 413-998-1523
Manufacturer Broadcasting Transmission
Equipment
- iHeartMedia, Inc. • 2019**
Troy Langham 918-664-4581
Radio Group Owner
- IMT-Vislink • 2009**
John Procacci 908-747-3011
Wireless Video Systems
- Indiana Broadcasters Association • 2019**
Dave Arland 317-701-0084
Indiana Association for Radio & TV
Broadcasters
- Inovonics Inc. • 2012**
Gary Luhrman 831-458-0552
Radio Broadcast Equipment
- JAMPRO Antennas Inc. • 2011**
Alex Perchevitch 916-383-1177
DTV, FM-HD Radio, DVB-T/T2, ISDB-T, DAB
- JVC Professional Video • 2014**
Edgar Shane 973-317-5000
Professional Video Products, Camcorders,
Display Monitors, Recording Decks
- Kathrein USA Inc. • 1985**
Les Kutasi 214-238-8835
Antennas for Broadcasting & Communications
- Kintronc Labs, Inc. • 2015**
Joaquin Raventos 423-878-3141
Radio Broadcast Antenna Systems - ISO9001
Registered Company
- LBA Technology Inc. • 2002**
Javier Castillo 252-757-0279
AM/MMW Antenna Equipment & Systems
- Linkup Communications Corporation • 2017**
Mark Johnson 703-217-8290
Satellite Technology Solutions
- LYNX Technik • 2007**
Steve Russell 661-251-8600
Broadcast Terminal Equipment Manufacturer
- Markertek • 2002**
Wesley Brewer 800-522-2025
Specialized Broadcast & Pro-Audio Supplier
- Micronet Communications Inc. • 2005**
Jeremy Lewis 972-422-7200
Coordination Services/Frequency Planning
- Microwave Video Systems • 2011**
Warren J. Parece 781-665-6600
Microwave Equipment Rental, Sales & Service
- Moseley Associates Inc. • 1977**
Bill Gould 805-968-9621 x785
Digital STLs for Radio and Television
- MusicMaster • 2014**
Shane Finch 352-351-3625
Advanced Music Scheduling Solutions
- Nascar Productions • 2014**
Abbey Kielcheski 704-348-7131
Live/Post Production Services
- National Association of Broadcasters • 1981**
Industry Trade Association 202-429-5340
- National Football League • 1999**
Ralph Beaver 813-282-8612
Game Day Coordination Operations
- Nautel Inc. • 2002**
Jeff Welton 877-662-8835
Radio Broadcast Transmitter Manufacturer
- Nemal Electronics Int'l Inc. • 2011**
Benjamin L. Nemser 305-899-0900
Cables, Connectors, Assemblies and Fiber
Optic
- Neutrik USA, Inc. • 2012**
Kathy Hall 704-972-3050
Ruggedized Optical Fiber Systems
- NPR Distribution Services • 2019**
Dan Riley 202-513-2624
Your Content Delivery Partners
- Orban Labs, Inc. • 2011**
Mike Pappas 480-403-8300
Audio Processing AMFMTV
- Pasternack Enterprises • 2001**
Christine Hammond 949-261-1920
Coax & Fiber Products
- Potomac Instruments • 1978**
Zachary Babendreier 301-696-5550
RF Measurement Equipment Manufacturer
- ProAudio.com- A Crouse-Kimzey Co. • 2008**
Mark Bradford 800-433-2105 x560
Proaudio Broadcast Equipment Distributor
- Propagation Systems Inc. - PSI • 2010**
Doug Ross 814-472-5540
Quality Broadcast Antenna Systems
- QCommunications • 2019**
Tony zumMallen 816-729-1177
Services Behind the Scenes
- Quintech Electronics and Communications Inc. • 2002**
James Herbstritt 724-349-1412
State-of-the-art RF Hardware Solutions
- QVC • 2011**
Kevin Wainwright 484-701-3431
Multimedia Retailer
- Radio Frequency Systems • 2015**
Eddy Vanderkerken 214-471-6693
Broadcast Infrastructure Manufacturer
- RF Specialties Group • 2008**
www.rfspecialties.com
Everything from the Microphone to the
Antenna
- Rohde & Schwarz • 2003**
Walt Gumbert 724-693-8171
Transmitters, Test & Measurement, Video
- Ross Video Ltd. • 2000**
Jared Schatz 613-228-0688
Manufacturer, Television Broadcast Equipment
- Sage Alerting Systems Inc. • 2010**
Harold Price 914-872-4069 x113
Emergency Alert Systems Products
- SCMS Inc. • 2000**
Bob Cauthen 800-438-6040
Audio and RF Broadcast Equipment Supplier
- Seacom Erectors, Inc. • 1997**
John Breckenridge 360-793-6564
Tower/Antenna Erections
- SEG • 2014**
Chris Childs 913-324-6004
Supply Chain Products and Services
- Shively Labs • 1996**
Dale Ladner 888-SHIVELY
FM Antennas & Combiners
- Shure Incorporated • 2012**
Bill Ostry 847-600-6282
Microphones, Wireless Systems, Headsets
- Sierra Automated Systems and Eng. Inc. • 2011**
Al Salci 818-840-6749
Routers, Mixers, Consoles, Intercoms
- Solid State Logic • 2014**
Steve Zaretsky 212-315-1111
Digital Audio Mixing Consoles, Networked
Audio Routing, Embedded Audio Solutions
- Staco Energy Products Co. • 2010**
Paul Heiligenberg 937-253-1191 x128
Manufacturer of Voltage Regulators, UPS
- SuiteLife Systems • 2019**
Kennedy Miller 310-405-0839
Manage. Monitor. Control
- Sutro Tower Inc. • 1989**
Eric Dausman 415-681-8850
Broadcast Tower Leasing
- Technical Broadcast Solutions, Inc. • 2018**
Robert Russell 215-983-0855
Engineering and Consulting Services
- Tektronix Inc. • 1977**
Jim Lang 503-627-2980
Video Test & Measurement, Equipment
Manufacturer
- Teledyne e2v US • 1997**
Dominic Piarulli 845-578-6137
Electronic Components
- Televs USA, LLC • 2018**
Andy Ruffin 937-475-7255
ATSC 3.0 Transmission Solutions, Antennas
- Telos Systems/Omnia/Axia • 2003**
John Bisset 216-241-7225
Telos Systems Talk-Show Systems
- Teradek • 2011**
Jon Landman 949-743-5783
Camera-top ENG Solutions
- Tieline The Codec Company • 2003**
Dawn Shewmaker or Jacob Daniluck 317-845-8000
Audio Codec Manufacturer
- Unimar Inc. • 2001**
Thad Fink 315-699-4400, 813-943-4322
Tower Obstruction Lighting Designer,
Manufacturer, Distributor
- Wheatstone • 2010**
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Member Spotlight: Mark Voris

Member Stats

SBE Member Since: 1995

SBE Certification: CBRE

Chapter: 74 Midland (Nebraska)

Employer: Spirit Catholic Radio Network

Position: Chief Engineer

Location: Omaha, NE

I'm Best Known For:

Having a real knack for AoIP.

Q What do you value most about your SBE involvement?

A Education and networking with others in broadcast.

Q What got you started in broadcast engineering?

A I started part-time at the local TV station. I studied electronics in school and had a big interest in the technical side of broadcast, so I started hanging out with the engineer. After six years as a studio cameraman, I left as chief engineer.



Mark at his laptop, where he can do almost anything with AoIP.

Q Who do you consider to be a mentor?

A My mentor is Vern Killion. After I worked in television, he offered me a job in radio. He taught me a lot about RF and allowed me the hands-on experience to learn the trade.

Q What do you like most about your job?

A I like new challenges and every day there is most always something new.

Q When I'm not working, I...

A ...work amateur radio. You can't work radio without playing radio. I also spend time in the wood shop building whatever comes to mind.

Q What's your favorite gadget?

A My laptop computer. There are so many things you can do with a laptop, and in the world of AoIP those things seem endless.

SBE Fellow Nominations Open

by Troy Pennington, CSRE, CBNT
Chair, SBE Fellowship Committee

SBE members: Do you know an SBE member who has contributed to the success of an SBE chapter or the broadcast industry? Has this person exhibited a dedication to the advancement of the broadcast engineer, the field of broadcast engineering and the Society of Broadcast Engineers itself? Someone like this deserves to be recognized for his or her efforts. Consider nominating him or her for the SBE Fellow rank of membership. The SBE is now accepting nominations for 2020.

Fellow membership is the highest level of SBE membership. It's a form of recognition for someone who has contributed significantly to the society, the field of broadcast engineering or its allied professions, or by disseminating his or her broadcast knowledge and promoting its application in practice. Eighty-five members have been recognized with the honor in the society's 55 years of existence.

To nominate a member, candidates must be proposed in writing by a voting member to the Fellowship Committee. The nomination must include a comprehensive professional history of the nominee and an explanation of why the candidate is deserving of this honor. The nomination must also include the written endorsements of at least five other voting SBE members. All nominations are to be kept confidential. No others besides the nominators and the members of the Fellowship Committee should be aware of the nomination. Moreover, the nominee should not be made aware that he or she has been nominated.

Nominations for 2020 must be received no later than March 15, 2020, for consideration. The Fellowship Committee will bring the names of nominees to the Board of Directors for consideration and election at the April 2020 meeting. The SBE secretary will notify those elected. Awards will be presented at the SBE National Awards Dinner during the 2020 SBE National Meeting to be held in Syracuse, NY. Submit your nominations to Fellowship Committee Chair Troy Pennington, CSRE, CBNT; 6156 Hampton Hall Way; Hermitage, TN 37076, or to tpennington@sbe.org.

Mentor Program

Want to be a mentor or a mentee?

The SBE Mentor Program continues to grow. More mentors and mentees are participating than ever before. Do you know of someone who would benefit from being mentored or be a valuable mentor? *We need you* to continue growing this important program! Help us reach our annual goal to have program representation nationwide!

Want to know more or participate?
sbe.org/mentor

Plan Now to Attend the 2020 SBE Leadership Development Course

The SBE is proud to continue its offering of the SBE Leadership Development Course in 2020. Make plans now to take part in this SBE tradition started in 1997, which will be held Aug. 4-6, 2020, in Atlanta.

Specifically designed for broadcast engineers who have or aspire to have management responsibilities, the SBE Leadership Development Course is for technically adept people to acquire and develop skills for sound leadership, supervisory and management skills. The SBE Leadership Development Course is equally beneficial for those who are already in management and for those without prior management or supervisory experience.

The three-day event challenges attendees to refine leadership skills and better understand and improve interaction with others. Broadcast organizations may want to consider sending a group of employees to the course to share the experience of this highly interactive event. Registration includes all course materials, three days of instruction, the Leadership Development Webinar Series of three webinars, a certificate of completion, light breakfast and afternoon snacks. SBE Members receive a discount on registration.

The 2020 SBE Leadership Development Course will again be taught by Rodney Vandever, a professional leadership and management trainer and professor of organizational leadership and supervision at Purdue University.

Put it on your calendar, and add it to your budget to attend the SBE Leadership Development Course on Aug. 4-6, 2020. Registration will be available on the SBE website. Questions? Contact SBE Education Director Cathy Orosz at 317-846-9000 or corosz@sbe.org.

WELCOME TO THE SBE

NEW MEMBERS

Sam J. Aboousamra - Vancouver, WA
 Christopher Alloway - Anchorage, AK
 Christopher M. Antonille - Massilon, OH
 Derek Badala - Spring Hill, FL
 Chase A. Browning - Richmond, VA
 Brian Dullaghan - Moorpark, CA
 Nelson T. Durfey - Coweta, OK
 Hector M. Estrada - Orlando, FL
 Darin J. Feagins - Denver, CO
 Scott Forward - Mistissini, QC
 Matthew A. Fravor - Charlotte, NC
 Adam P. Garcia - Albuquerque, NM
 Ryan C. Glazar - Flagstaff, AZ
 Robert J. Haduch - Pittston, PA
 Michele Hoepfer - Austin, MN
 Darrel Hollins - Tarpon Springs, FL
 Jerry Hoyt - Virginia Beach, VA
 Tapon Mahamad Jony - Jamaica, NY
 Patrick Kelly - Storm Lake, IA
 Chastity Kennedy - Crystal River, FL
 Steve Kneprath - Willmar, MN
 Reed A. LaCoste - Lake Elsinore, CA
 Vernon Lawton - Seattle, WA
 C. Jason Mancebo - Meridian, ID
 Jessica E. Martinez Torres - Orlando, FL
 Jeremy Martzall - Camp Hill, PA
 Tom McGeehan - North Wales, PA
 Andrew J. Mercs - Mebane, NC
 Jay Mongillo - Plantsville, CT
 Robert S. Moore - Timonium, MD
 Tim P. Morrissey - Lincoln, NE
 Morris D. Oesterly - Louisville, KY
 Steven Patterson - Toronto, ON Canada
 Ronnie D. Phillips - Burleson, TX
 Wendell J. Pitt - Rogers, AR
 Michael T. Quistad - Ocala, FL
 Jay N. Rogers - Middleborough, MA

Luis E. Sandin - Crownsville, MD
 John R. Schilberg - Allen, TX
 Davonte K. Smith - Williamsburg, VA
 Dalton Starling - Memphis, TN
 Zachary Swiec - Lincoln, NE
 Corey M. Toby - Tallahassee, FL
 Mike Wallin - Dayton, MN
 Chico LS Wilkerson - Hemet, CA
 Daniel Zimmermann - Minneapolis, MN

NEW STUDENT MEMBERS

Terry Nepveux - Nederland, TX

NEW ASSOCIATE MEMBERS

Jacquelen Timm - Lansing, MI

RETURNING MEMBERS

James B. Campbell - Waterford, CT
 Armando Gonzales - Wylie, TX
 Geoffrey W. Graves - North Reading, MA
 Jeffrey S. Hartman - Syracuse, NY
 Adam J. Lancaster - Cape Coral, FL
 Jeffrey E. Leonard - Spring Hill, FL
 Jason E. Lipton - San Bruno, CA
 Neil A. Mazur - Atlanta, GA
 Gerry L. Meinders - Pecatonica, IL
 Walter G. Merizalde - Miami, FL
 Andy J. Miles - Boise, ID
 Mark Mullen - Gettysburg, PA
 Donald L. Perkins - Johnson City, NY
 Brice L. Phillips - Bay Saint Louis, MS
 Daniel B. Powell - Phoenixville, PA
 Kevin A. Rogers - Richardson, TX
 Rodney W. Simon - Hampshire, IL
 Patrick R. Smith - Pittsburgh, PA
 Steven C. Thompson - Conroe, TX
 James A. White - Springfield, MO

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*Merry Christmas and Happy New Year!
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From John and I and the QCrew working for you!*

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Paul Easter is the director of engineering for Cox Media Group Houston.



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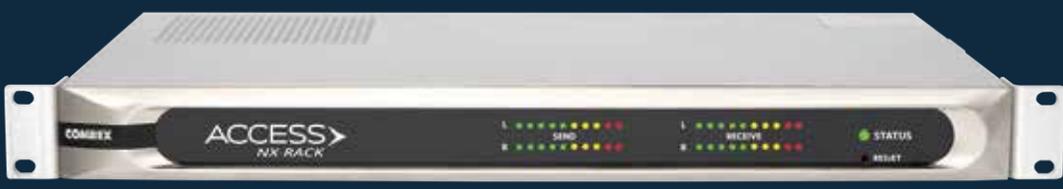
- SBE Webinar: Workbench Tips**
online
Dec. 12, 2019 sbe.org/webinars
- SBE WEBxtra**
online
Dec. 16, 2019 sbe.org/webxtra
- SBE WEBxtra**
online
Jan. 20, 2020 sbe.org/webxtra
- SBE Certification Exams**
Local Chapters
Feb. 7-17, 2020 sbe.org/certification
Application deadline Dec. 31, 2019
- SBE Certification Exams**
NAB Show
April 21, 2020 sbe.org/certification
Application deadline March 9, 2020

- SBE Membership Meeting**
NAB Show
April 20, 2020
- SBE Certification Exams**
Local Chapters
June 5-15, 2020 sbe.org/certification
Application deadline April 17, 2020
- SBE Leadership Development Course**
Atlanta
Aug. 4-6, 2020 sbe.org/ldc
- SBE Certification Exams**
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