

THE Signal

Bimonthly Publication of the Society of Broadcast Engineers



The Association for
Broadcast and
Multimedia Professionals

www.sbe.org

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SBE Announces National Award Winners

The 2018 SBE National Awards, which recognize excellence and achievement by individual members, SBE chapters and Sustaining Member companies, have been announced. The two highest individual awards are the Robert W. Flanders SBE Engineer of the Year and the James C. Wulliman SBE Educator of the Year.

The Robert W. Flanders SBE Engineer of the Year award is presented to a member who has excelled in his or her career while furthering the mission of the SBE. Candidates are nominated by their peers. The winner of the award for 2018 is Mark Persons, CPBE, AMD, CBNT, of Brainerd, MN. Persons is a current member of SBE Chapter 17.

The recipient of the James C. Wulliman SBE Educator of the Year award is recognized for outstanding service and excellence in sharing knowledge through teaching other broadcast engineers. The winner of the 2018 James C. Wulliman SBE Educator of the Year award is Jeff Welton, CBRE, in Hackett's Cove, NS. Welton is the sales manager for the central region of the US at Nautel and has been a presenter at many Ennes Workshops conducted by the SBE across the country.

Mark Persons was exposed to broadcast engineering at an early age. His father began working as a broadcast engineer in the 1920s. Throughout his 50+ year career, Persons helped to build 12 new commercial AM and FM radio broadcast stations for clients as well as countless other rebuilds and upgrades. Recently retired, Persons and his wife Paula are mentoring four broadcast engineers. It is Mark's way of giving back to the industry that kept him employed for over half a century. In addition to his



Welton



Persons

see [AWARDS](#), p. 9

ATSC's Richer to Keynote SBE National Awards Dinner

SBE President Jim Leifer has announced that Mark Richer, President of the Advanced Television Systems Committee (ATSC), will be the keynote speaker at the 2018 SBE National Awards Dinner. The ATSC is an international, non-profit organization developing voluntary standards for digital television including the ATSC 3.0 suite of standards for next generation television. The SBE National Awards Dinner is the closing event of the SBE National Meeting, this year held in conjunction with the Media Resource Expo in Danvers, MA, just outside of Boston, on October 3.



Richer

Richer will also take part in that afternoon's live webcast of the SBE Annual Membership Meet-

ing. Leifer will discuss with him ATSC 3.0 standards, testing and implementation.

Richer first joined the ATSC after 16 years with the Public Broadcasting Service (PBS) where, as Vice President of Engineering & Computer Services, he was responsible for development of new technologies for PBS and its member stations, design of audio/video systems, and management of information technology operations.

Richer was a recipient of the *Broadcasting & Cable Technology Leadership Award* in 2007, the 2010 recipient of the National Association of Broadcasters Engineering Achievement Award for Television and the 2018 EDGE Award for Excellence in Innovation from America's Public Television Stations. He is a Fellow of the Society of Motion Picture and Television Engineers (SMPTE) a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) and serves on the FCC Technology Advisory Council. He has been a member

of the SBE since 1995.

SBE National Meeting events begin on Tuesday, Oct. 2 with meetings of the national SBE Certification Committee and the SBE Board of Directors. On Wednesday, Oct. 3, activities include the annual SBE Fellows Breakfast (invitation-only),

see [NATIONAL MEETING](#), p. 8

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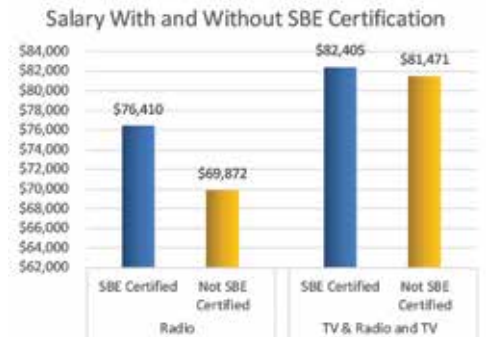
2018 SBE Compensation Survey

The SBE conducted its third compensation survey in April and May. The survey goal is to provide practical information to SBE members about individual compensation (salary and benefits) based on the type of broadcast or multimedia involvement, market size, and job title category.

We asked if respondents received a raise in the last year, and if so, how much, and to report benefits received. We also asked about contract engineering rates and practices.

Respondents were asked if they held any broadcast- and media-relevant professional certifications. We also compared salaries of respondents with and without SBE Certification and reported the results. That chart is shown here.

The survey report is available on the



SBE website. You will need your SBE website login to access the page. Also, the PDF report is password protected. The password is noted on the download page.

2018 Chapter Engineers of the Year

In conjunction with the SBE National Awards program, SBE members who are honored by chapters as a chapter engineer of the year are automatically entered into consideration for the Robert W. Flanders SBE Engineer of the Year award. Nine people were selected by chapters for the local honor.

- Marty Hadfield, CPBE; Ch. 16 Seattle
- Mark Persons, CPBE, AMD, CBNT; Ch. 17 Minneapolis
- Aaron Diezman, Ch. 32 Tucson
- Lawrence Montenegro; Ch. 38 El Paso
- John Hovanec, CSRE, AMD, DRB, CBNT; Ch. 70 Northeast Ohio
- Dave Driessen; Ch. 80 Fox Valley

Each honoree will receive a certificate and will be featured in the next issue of *The Signal*.



Certification Question

Answer on page 6

City Grade, as defined by the FCC, specifies what signal strength level?

- A. 60dBu or 1.0mV/m
- B. 20dBk or 100kV
- C. 1.0mW per square centimeter
- D. 70dBu or 3.16mV/m

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LETTER FROM THE PRESIDENT

By Jim Leifer, CPBE
SBE President
jleifer@sbe.org

A Day of Discussion, a Wealth of Ideas

It's that time again where the summer heat is on. There are a lot of exciting things happening, but I want to focus on one item in particular. On June 9, the SBE held a strategic planning conference in Indianapolis. To give you some sense of the scope and breadth, we had 35 SBE members, including SBE chapter representatives and the SBE Board of Directors. I want to thank everyone who attended for their time and candid interaction.

We spent the day working through many items that are important to SBE members. Some of the conversations and action points are around our membership growth and how we can continue to grow new memberships. As the Association for Broadcast and Multimedia Technology Professionals, how are we doing at recruiting our brethren in the industry and what strategically can we do to provide member benefits to current and future members? There was lengthy discussion on the youth memberships and how we can grow this area as well. As you know, the Mentor Program has had some good growth in the last year, and we want to support this. Another topic of discussion was providing new and better tools for our membership. There were many

more topics, and we spent a long 12-hour day to develop many ideas.

In April, the board created a strategic planning committee to work with me on these action items to present to the board at the National Meeting in Boston this October. I want to Thank Kevin Trueblood, Wayne Pecena and Jason Ornellas for being a big part of this effort.

Work on the Hill

The strategic planning conference is not the only recent activity. On May 22, the SBE attended a meeting with the FCC on the 3.7-4.2 GHz spectrum.

In April, the FCC issued a public notice of a temporary freeze on applications for new or modified fixed satellite service earth stations and fixed microwave stations operating in the 3.7-4.2 GHz band, the C-Band downlink. The notice also established, as a limited exception to the freeze, a 90-day window allowing existing entities that now own Fixed Satellite Service earth stations to register or license



The strategic planning conference held in Indianapolis in June.

them if not currently licensed or registered. During that 90-day window, earth station users of this band can also modify currently licensed or registered earth stations.

The FCC explained that the purpose of the freeze is to preserve the status quo in the C-Band pending FCC action in its open inquiry into "the possibility of permitting mobile broadband use and more intensive fixed use of the band" pursuant to Docket 18-122.

On May 22, SBE General Counsel Chris Imlay and I attended a meeting at the FCC along with SBE Sustaining Member Mark Johnson from LinkUp Communications. The result of the meeting was an FCC public notice that created a 90-day extension to the filing window, to Oct. 17, 2018, from July 18, 2018. The FCC also waived the coordination report requirement for the duration of the freeze.

I can say that when we have the opportunity to work with the FCC they are receptive. The SBE and the FCC have had a long and positive relationship, and I am happy to report that this relationship continues. We look forward to the next meeting in Washington where we can make a difference for our members.



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EDUCATION UPDATE

By Wayne M. Pecena, CPBE, 8-VSB, AMD, DRB, CBNE
Chairman, SBE Education Committee
wpecena@sbe.org

Do I Really Need To Know That?

Determining the scope of an SBE education program can often be a daunting task, beginning with determining an overall topic, identifying a subject matter expert (SME) or team experts to present the content, and finally development of the right content for the program. ATSC 3.0 or Next Gen TV is one such topic that was easy to identify. It is clearly going to become part of the broadcast engineer's knowledge base. As your SBE Education Committee is focused on professional development programs, your SBE Certification Committee is developing the ATSC 3.0 specialist certification. Whether for skill development or certification, what does the broadcast engineer really need to know about ATSC 3.0?

ATSC 3.0 is expected to bring an entirely new definition to broadcast television as conventional over-the-air (OTA) broadcast merges with broadband internet. These technologies converge to form a platform that is flexible and scalable to meet changing needs of the viewer and future technology advances. 4K Ultra HD video images enhanced with high dynamic range (HDR), multi-channel personalized immersive audio, and increased channel capacity frequently top the broadcast capability advantage list. Robust mobile device reception with multiple streams of content provide more of the broadband internet experience to the viewer. In fact, the viewer may not really know how his content is received, whether via OTA, via broadband, or even a combination of the two, especially for interactive content. The end result is the viewer is provided the desired content when he wants the content, and displayed on the device of his choosing. The common use of the Internet Protocol (IP) for transport allows this convergence with a significant change in the concept of the future broadcast station technical facility. ATSC 3.0 may also provide significant capability enhancement not seen in broadcast television today. More complex implementation features might include:

- On-Demand linear viewing support
- Digital Rights Management (DRM) controlled conditional access (subscription or pay-per-view)
- Enhanced emergency alerting with location geo-targeting

And new business and service opportunities are likely to be developed as applications are developed in the marketplace. These applications may be profit-focused for the commercial broadcasters or service-focused for the non-commercial educational broadcaster. The overall goal of ATSC 3.0 is to provide a system that is flexible, adaptable, and future-proof as technology and viewer demands change.

The sheer scope of ATSC 3.0 is daunting. It is clear that any professional development offered will be a multi-part series with the potential end not clearly in sight. Plentiful theoretical information and limited real-world information are available. The Ad-

vanced Television Standards Committee (ATSC) has published the standard documents that are the basis for the theory of operation on how things should work. My goal is for the SBE to blend just the right level of theoretical operation defined by the standards, while capturing real-world implementation aspects from test environments such as those in Cleveland and Phoenix, or the single-frequency network (SFN) implementation effort in Dallas.

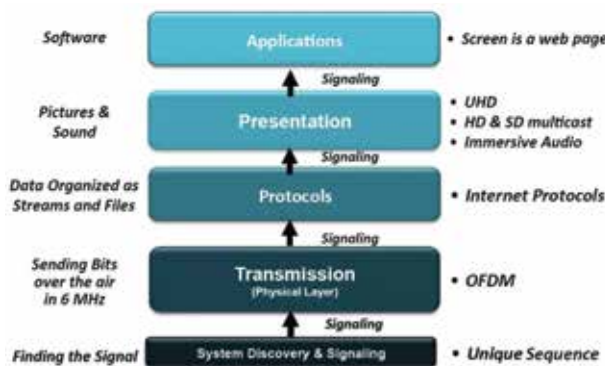
The ATSC 3.0 System Layers provide an excellent outline for a forthcoming webinar-based education program that begins with a system overview and continues with focus on the Physical Layer. The Physical Layer is the foundation to ATSC 3.0 OTA operation that is based on OFDM modulation utilizing Low Density Parity Check (LDPC) forward error correction with a range of possible coding rates and constellation formats. Different multiplexing modes may be incorporated through a concept of

Physical Layer Pipes (PLP) to support different content delivery applications balancing coverage (robustness) and stream capacity (throughput) within the overall channel capacity (bandwidth). There is a lot ahead to be learned and significant aspects to be remembered.

Keep in mind that it is "not how much you learn, but how much you remember that counts", according to Ted Waddington, Ph.D. at Psychology Today. Techniques that help you remember include regular review, repetition, and don't try to learn too much. Information learned that is not reviewed will go quickly away, even within 60 minutes. Repetition is a key to long term retention. And keep in mind that you can attempt to learn too much in one sitting, so complex topics must be broken into manageable or memorable portions. With this in mind, you can expect the daunting scope of ATSC 3.0 to be broken into manageable and rememberable portions, and yes, some repetition along the way.

Look for the initial webinars associated with the ATSC 3.0 or Next Gen TV this fall. Your SBE membership with SBE Member-Plus gives you access to all the latest SBE webinars, as well as the entire webinar on-demand library at no additional cost. Don't have SBE MemberPlus? You can upgrade your membership at any time.

Your SBE Education Committee wants to know your professional development needs. Tell us your thoughts on current and future programs, lend your advice and guidance to your SBE Education Committee to help establish the right mix of educational content to meet your professional development needs. 🌐



Overview of the ATSC 3.0 system layers.

For more information on any SBE education program click the Education tab at sbe.org, or contact Education Director Cathy Orosz at the SBE National Office at 317-846-9000 or corosz@sbe.org.

SBE Ennes Workshops

- August 15: Lincoln, NE - With the Nebraska Broadcasters Association
- August 21: Overland Park, KS - With the Missouri Broadcasters Association and the Kansas Association of Broadcasters
- November 1: Indianapolis - With the Indiana Broadcasters Association

sbe.org/education/wkshp





CERTIFICATION UPDATE

By Megan Clappe
SBE Certification Director
mclappe@sbe.org

What Are You Waiting For? Stand Out to Employers!

With so many layoffs and reorganizations in the broadcasting field you might be thinking about how you can stand out to current or future employers. One way is to become SBE certified. How do you become certified? Read on and find out. First let's start with a quick background of how SBE Certification came to be.

The Society of Broadcast Engineer's Program of Certification began more than 40 years ago as a way to recognize and raise the professional status of broadcast



CERTIFIED

engineers by providing a standard of professional competence. It has become recognized in the industry as the primary method of verifying the attainment of educational standards. All SBE Certifications are based on eligibility for the years of work in the broadcast industry.

Entry-Level Certifications

Certified Television Operator (CTO) and Certified Radio Operator (CRO). These two certifications are targeted to the entry-level, non-technical pool of applicants filling board operator and master control positions in today's radio and television marketplace and include the opportunity to be tested and certified.

Certified Broadcast Technologist (CBT). This exam will consist of either AM/FM or TV questions. Content of these questions will consist of electronic fundamentals, FCC rules pertaining to operating tolerances and safety.

Certified Broadcast Technologist (CBT). If you hold a valid FCC Amateur Extra Class license or a valid General Class license and have two continuous years or three out of the last five years work experience in broadcast engineering or a related technology, you can apply for the CBT certification without taking the exam.

Certified Broadcast Networking Technologist (CBNT). This certification is designed for persons who wish to demonstrate a basic familiarity with network-

ing hardware as utilized in business and audio/video applications in broadcast facilities. This exam will consist of questions on network topologies and layouts, common network protocols, wiring standards and practices, maintenance, troubleshooting and connectivity issues and challenges unique to broadcast-based networks.

5-Year Certifications

The following certifications require a minimum of five years' experience of broadcast engineering or experience in a related field. You may substitute the years of experience to supplement the year requirement (see acceptable substitutions below).

Certified Audio Engineer (CEA), Certified Video Engineer (CEV), Certified Broadcast Radio Engineer (CBRE) and Certified Broadcast Television Engineer (CBTE). These exams consist of questions regarding safety, problems, operation practices and theory.

Certified Broadcast Networking Engineer (CBNE). This exam is for experienced broadcast professionals having significant experience in IP networks and associated storage and playout technologies deployed in radio and television operations.

10-Year Certifications

Certified Senior Radio Engineer (CSRE) and Certified Senior Television Engineer (CSTE). This exam will consist of more advanced questions regarding safety, problems, operation practices and theory.

For the 5-year or 10-year certifications you may substitute the years of experience by holding a state registered pro-

fessional engineer's license, a bachelor's degree, an associate degree or years of related accredited education can be substituted, year for year (up to 4 years).

20-Year Certification

Certified Professional Broadcast Engineer (CPBE). This certification requires 20 years of professional broadcast engineering or related technologies experience in radio and/or television. Educational credits will not be counted towards the 20 years. There isn't an exam associated with this certification. However the applicant must first be certified on the senior level in order to apply for the CPBE.

To apply you must fill out the application and include three letters of reference. Two must be from a Certified Professional Broadcast Engineer, certified senior engineer or state-registered professional engineers. At least one other letter of reference must be from a person who has supervised your work. However, if he or she is certified at one of the above-mentioned levels, that reference will be counted as two letters. In addition to the application and letters of reference you must submit a resume and a statement showing why you believe your professional experience, educational background and training qualifies you for certification.

Your application will then go for review to your SBE local chapter certification chairman and then to the National Certification Committee.

Specialist Certifications

Certified 8-VSB Specialist (8-VSB), Certified AM Directional Specialist (AMD) and Certified Digital Radio Broadcast Specialist (DRB). These certifications were created by the National Certification Committee to establish a benchmark of individual strengths. In order to apply for the Specialist exams you must first be certified on the 5-year, 10-year or 20-year level.

All SBE certifications are valid for a period of five years. At which time you will need to recertify by professional credits. These credits will be valid from the 5-year period of your certification. Credits can be obtained by continuing your education, working in the broadcasting field, attending seminars, SBE meetings, active membership in SBE or other national technical broadcasting societies.



Answer from page 3

The answer is D

47 C.F.R. §73.315(a): The transmitter location shall be chosen so that, on the basis of the effective radiated power and antenna height above average terrain employed, a minimum field strength of 70 dB above one uV/m (dBu), or 3.16 mV/m, will be provided over the entire principal community to be served.

SBE Certification Achievements

CONGRATULATIONS

LIFE CERTIFICATION

Certified Senior Radio Engineer (CSRE)
Joseph Soucise, Plaistow, NH - Chapter 11
Certified Senior Television Engineer (CSTE)
Thomas Alderson, Spokane, WA - Chapter 21

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 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.

JUNE EXAMS

Certified Broadcast Radio Engineer (CBRE)
Corey Walters, Union City, NJ - Chapter 15
Certified Broadcast Television Engineer (CBTE)
Ben Endow, Phoenix, AZ - Chapter 9
Bradley Meyer, Andover, MN - Chapter 17
George Salloum, Riverside, CA - Chapter 47
Jason Quinn, Albuquerque, NM - Chapter 34

Certified Broadcast Networking Technologist (CBNT)
Lanier Byrd, Fairhope, AL - Chapter 118
Jason Jones, Corona, CA - Chapter 131
Bradley Meyer, Andover, MN - Chapter 17
Jonah Nemece, Chicago, IL - Chapter 26
Robert Packard, Elyna, OH - Chapter 70

Certified Broadcast Technologist (CBT)
Mark Corless, Menifee, CA - Chapter 131
Mike Fierro, San Jacinto, CA - Chapter 131
Raymond Mayberry, Richmond, VA - Chapter 60
Certified Television Operator (CTO)
George Khem, Long Beach, CA - Chapter 47
Dedrick Smith, Long Beach, CA - Chapter 47

SPECIAL PROCTORED EXAMS

Certified Broadcast Technologist (CBT)
Gary Kline, Atlanta, GA - Chapter 5

SBE CERTIFIED SCHOOL COURSE COMPLETION

Southern Alberta Institute of Technology
Jesse Cook, Calgary, AB
Francesco DeSantis, Calgary, AB
Brett Fry, Calgary, AB

Southern Alberta Institute of Technology (cont.)
Panupol Kaewplee, Calgary, AB
Donghyuk Kim, Calgary, AB
Martin Papst, Calgary, AB
Keith Ferces Pastor, Calgary, AB

Southern Alberta Institute of Technology (cont.)
James Sanderson, Calgary, AB
George Wan, Calgary, AB
DINFOS
Robert Chrysafis, Lakewood, CO

CERTIFIED BY LICENSE

Certified Broadcast Technologist (CBT)
Darrell Gordon, Raleigh, NC - Chapter 93
Robert Martin, Easley, SC - Chapter 86

CERTIFIED RADIO OPERATOR (CRO)

Reno Dutton, Suring, WI
Christopher Ernst, APO, AP
Gregory Huntsman, Sheffield Village, OH
Deonte Keitt, Rockville, MD
Phil Pollack, Austin, TX
Blake Williams, Montclair, VA

Cedar Ridge High School
Jonah Rice, Newark, AR
KISD
Aljalon Jenkins, Harker Heights, TX
Cooper Anderson, Temple, TX

Killeen Career Center
Ty Quan Abson, Killeen, TX
Rei Deffield, Killeen, TX
Daniella Pazmino, Killeen, TX
Jamar Williams, Killeen, TX

Pasadena City College
Aaron Ealy, Altadena, CA
Kara Fortier, Los Angeles, CA
Julie Keller, Altadena, CA
Marcy Langren, Glendale, CA
Jerome Paeff, Los Angeles, CA
Jose Robles, Alhambra, CA
Thomas Zumberge, San Marino, CA

Knightstown High School
Dakota Burroughs, Knightstown, IN
Ben Callahan, Knightstown, IN
Dakota Case, Knightstown, IN
Logan Donley, Knightstown, IN
Emily Guffey, Knightstown, IN
Isabelle Phelps, Knightstown, IN
Cainan Pierce, Knightstown, IN
Andrew Richards, Seminole, FL
Zach Smith, Knightstown, IN
Andy Vickery, Knightstown, IN
Burrias Wisner, Knightstown, IN

CERTIFIED TELEVISION OPERATOR (CTO)

Megan Brown, Garland, TX
Christopher Ernst, APO, AP
Deidre Farris, Los Angeles, CA

Bates Technical College
Connor Crookshank, Bonney Lake, WA
Victorya Crumbley, Tacoma, WA
Mason Jennings, Puyallup, WA
Namakoakalani Perreira, Fircrest, WA
Destiny Sharp, Lacey, WA
Drew Valley, Tacoma, WA
Firdnito White, Tacoma, WA

Ford HS Media Arts
Coltyn Duke, Quinlan, TX
Leonel Gonzales, Quinlan, TX
Angel Hernandez, Quinlan, TX
Cheyenne Montgomery, Quinlan, TX
Augie Montoya, Quinlan, TX
Jess Morris, Quinlan, TX
Damien Rogers, Quinlan, TX
Kameron Stanley, Quinlan, TX

Ariana Jimenez, Kingsville, TX
Abbey Nimrick, McHenry, IL
Marthalyin Sayon, Garland, TX

Friendswood High School
Aiden Anderson, Friendswood, TX
Amanda Archer, Friendswood, TX
Libbey Dean, Friendswood, TX
Zack Dodson, Friendswood, TX
Bella Guminey, Friendswood, TX
Nathan Lawrence, Friendswood, TX
Piper Robertson, Friendswood, TX

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)
Paul Miller, Stafford, VA - Chapter 37
Certified Senior Radio Television Engineer (CSRTE)
Brian Hoover, South Bend, IN - Chapter 30
Certified Senior Television Engineer (CSTE)
Dean Maluski, New Britain, CT - Chapter 14
Certified Broadcast Radio Engineer (CBRE)
Kent Kramer, Bowie, MD - Chapter 37
Certified Broadcast Television Engineer (CBTE)
Richard Miska, Southbury, CT - Chapter 14
Brian Ryel, Oklahoma City, OK - Chapter 85
Brian Wood, Vermillion, SD

Certified Audio Engineer (CEA)
Jan Andrews, Alexandria, VA - Chapter 37
Certified Broadcast Networking Technologist (CBNT)
Jan Andrews, Alexandria, VA - Chapter 37
Richard Miska, Southbury, CT - Chapter 14
Kevin Trueblood, Estoro, FL - Chapter 90
Certified Television Operator (CTO)
Andrea Cummis, Roseland, NJ - Chapter 15
Doug Maulden-Locke, Sterling, VA - Chapter 37
Chris Thomas, Seattle, WA - Chapter 16

Certified Broadcast Technologist (CBT)
Kathryn Crum, Bloomington, IN - Chapter 33
Jon Garrison, Thompson's Station, TN - Ch. 103
Martin Gibbs, Pasco, WA - Chapter 51
Tyler Godsman, Edmonton, AB Canada
Richard Hoose, Medford, OR - Chapter 141
Eric Kuglin, New Bern, NC - Chapter 93
Isaac Lopez, Knoxville, TN - Chapter 113
Michael Matovich, Jr., Portsmouth, VA - Ch. 54
Certified Radio Operator (CRO)
Tim Russell, Twin Falls, ID
Todd Stickler, Costa Mesa, CA
Jon Zucco, Denver, CO - Chapter 48

CERTIFICATION UPDATE *continued from page 6*

Employer Notification

When you apply for certification, you have the option to request a letter be sent to your employer from the SBE president. This letter states that you have obtained a level of SBE Certification. While the certification itself looks good on a resume, this letter "steps it up" to acknowledge your efforts for career improvement in the broadcast engineering field. (Certification applicants can request the employer letter when they complete

the certification or recertification application.) The employer letter is only sent when the applicant passes an exam.

To apply for any of these certifications please complete an application from the SBE website (sbe.org/certification) or you may call the National office to request an application at 317-846-9000. Exams are given year round at your local chapter during exam sessions.

NATIONAL MEETING from p. 1

sponsored by Kathrein USA, SBE Annual Membership Meeting (webcast live), sponsored by Blackmagic Design, Dielectric, DVEO, Drake Lighting, IMT Vislink, Lawo and Technical Broadcast Solutions.

The SBE Annual Awards Reception, sponsored by Comrex, is followed by the SBE National Awards Dinner, sponsored by Telos Systems. Presentation of the society's major awards will be made, including the SBE Fellow Award to Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNT of Greenville, SC. Also to be presented are, the Robert W. Flanders SBE Broadcast Engineer of the Year, James C. Wulliman SBE Educator of the Year, the SBE Technology Award to a Sustaining Member company and the Best Technical Article, Book or Program by an SBE member.

SBE chapters will be presented with awards recognizing achievement for Best Chapter Communications, Best Regional Educational Event, Greatest Member Growth, Highest SBE Certified Chapter

and Highest Meeting Attendance.

The SBE National Meeting is being held in conjunction with the Media Resource Expo and our host is SBE Chapter 11 of Boston. MRE is a one-day annual trade show and technical educational event that attracts professionals in broadcast, film, instructional media and communication, along with manufacturers, resellers and integrators. The SBE will have a booth during the show, sponsored by Technical Broadcast Solutions.

The SBE National Meeting and the MRE will be held at the Doubletree by Hilton Boston North Shore Hotel in Danvers, MA. The hotel is located 19 miles north of downtown Boston and Logan Airport.

Registration for the MRE is required



The Doubletree by Hilton Boston North Shore in Danvers, MA

but free to SBE members if they register in advance. Tickets for the SBE National Awards Reception and Dinner (\$16) are available through the SBE website, www.sbe.org and by telephone, Monday - Friday from 8:30 a.m. to 4:30 p.m. ET at 317-846-9000. There is no registration or fee to attend the Annual Membership Meeting.

Accommodations at the Doubletree can be reserved by calling 978-777-2500. The SBE has a limited number of rooms reserved at the discounted rate of \$149. Rooms are on a first come, first-served basis, so don't wait too long.

The SBE National Meeting and MRE are open to anyone interested in media technology. We invite SBE members, especially those in the New England area, to take advantage of this opportunity and attend all of the events on October 3.

SBE Annual Membership Meeting Webcast

If you aren't able to attend the SBE National Meeting in person, do the next best thing and tune in to the live webcast of the Annual SBE Membership Meeting. It takes place from 3:30 to 4:30 p.m. ET (12:30 p.m. - 1:30 p.m. PT) on Wednesday, October 3.

Hosted by SBE President Jim Leifer, the program will include updates on the latest developments with SBE education, certification and frequency coordination. Leifer will lead a special interview segment with Mark Richer, President of ATSC, about the latest developments with ATSC 3.0 and NextGenTV. The newly elected national officers and directors of the SBE Board of Directors will be inducted.

To tune in, go to the SBE website, sbe.org and click on the webcast link.

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Membership Drive Brings 62 New Members

GET AHEAD WITH THE SBE

The 2018 SBE Membership Drive, which carried the theme "Get Ahead With the SBE," brought in 62 new members. Each member who recruited a new member was entered into a drawing to win prizes donated by several SBE Sustaining Members and the SBE.

The Grand Prize winner, who receives an expense-paid trip to the SBE National Meeting in Danvers, MA, this October, is Donald Ohse of Midwest City, OK. All the prize winners are listed to the right.

Thanks to the SBE Sustaining Members who donated prizes for the Membership Drive this year.

Recruiters also earned \$5 off their 2019 dues renewal for each new member he or she recruited. SBE members who recruited three or more new members will receive an upgrade to SBE MemberPlus in 2019.

AWARDS from p. 1

hands-on work, Person's has also written more than 175 articles between 1980 and 2018, as well as presented 27 talks at various events throughout that same time period.

Jeff Welton began his professional career in 1970 as a Nautel field service engineer. In addition to his current work with Nautel, Welton also lends his expertise to CKVE-FM as a co-engineer. CKVE is a community broadcaster in Hubbard, NS. This unique background has served Jeff well in his many technical presentations, tutorials and speaking engagements. He has further provided his broadcast engineer colleagues countless professional development events ranging from Nautel specific equipment seminars, participated as an instructor at the Alabama Broadcast Association Engineering Academy and served as a presenter at the NAB BEIT conference. His passion for transmitter site safety education is just one area of noteworthy mention.

Davicom has been awarded the 2018 SBE Technology Award for its Cortex 360 Site Management System. The Cortex 360 Site Management System is based on the latest hardware processors running an embedded Linux operating system, which incorporates 30 years of experience and knowledge in the remote site management industry.



Davicom Cortex 360

Chapter and Individual Awards

Chapters are the lifeblood of the SBE, and 2018 marks the fifth year that the Chapter Engineer of the Year Award has highlighted the achievements of members within their chapters. This year, six chapters selected their own award recipients. Each winner will be presented with a special certificate and be recognized nationally on the SBE website and in a future issue of *The Signal*. The six chapter winners also were automatically nominated

for the national Robert W. Flanders SBE Engineer of the Year Award. The 2018 national winner, Mark Persons, represented Chapter 17 as its Chapter Engineer of the Year Award winner.

The 2017 Broadcasters Clinic in Wisconsin has won for Best Chapter Regional Educational Event. Chapter 16 in Seattle, WA, has won for Best Chapter Communication.

Rob Sobol of Highlights has won the award for Best Technical Article, Book or Program by an SBE member for NOC, NOC. Who's There in *AGL Magazine*.



Statistical Awards

Greatest Growth in New Members

Class A: Chapter 57, Rochester, NY
Chapter Chairman, Gregory Carter, CBT, CBNT

Class B: Chapter 118, Montgomery, AL Chapter Chairman, Wiely Boswell, CBRE, CBNE

Most Certified Chapters

Class A: Chapter 115, Southern Idaho Chapter Chairman, Thomas Kettwig, CBT

Class B: Chapter 131, Inland Empire, Chapter Chairman, Wayne Murphy, CPBE, CBNE and Certification Chairman Paul Claxton, CPBE, CBNE

Highest Member Attendance

Class A: Chapter 145, Magic Valley, Chapter Chairman, Thomas Lowther, CSRTE, CBNT

Class B: Chapter 79, Austin, TX Chapter Chairman, Ed Rupp, CBTE, CBNT

Nominations for the 2019 awards will open in February.

Class awards are determined using the median chapter size as of Dec. 31, 2017, as the dividing line between Class A (fewer than the median) and Class B (more than the median).

305 Broadcast, \$250 Amazon gift card	Brian Kroth	Oklahoma City, OK
Cavell Mertz & Associates, \$250 SBE Store gift certificate	Jeff Smith	South Amboy, NJ
Cavell Mertz & Associates, \$250 SBE Store gift certificate	Sean Anker	Dedham, MA
Comrex long-sleeved shirt	Walter Williams	Columbus, GA
Comrex care package	Donald Ohse	Midwest City, OK
Comrex care package	David Siegler	Atlanta, GA
Comrex care package	Timothy Mance	Dallas, TX
Comrex care package	Joe DiMaggio	Wethersfield, CT
Comrex care package	Ronald Sweatte	Spokane, WA
Comrex drinking glasses	Robert Hoffman	Manchester, MO
Comrex iPad case and koozie	Jeremy Preece	Roseville, CA
Comrex iPad case and koozie	Bruce Wilde	Buffalo, NY
Comrex iPad case and koozie	Paul Melmer	Vernon, CT
Comrex insulated bag, hat, and koozie	Kevin Kidd	Lawrenceburg, TN
Davicom, \$100 Amazon gift card	James Henkel	Liberty Hill, TX
DVEO tropical shirt and sunglasses	James Henkel	Liberty Hill, TX
Fujifilm/Fujinon, Fuji Instax Mini 9 camera	Lance Hankins	Anchorage, AK

Shively, \$100 L.L. Bean gift card	John Carroll	Buffalo, NY
Tieline barbecue set	Jeff Smith	South Amboy, NJ
Tieline barbecue set	Stacey Rosenberry	Albany, NY
Tieline, \$25 Visa gift card	Jeff Hoffman	Cedar Rapids, IA
Tieline, \$25 Visa gift card	Walter Dutra	Goodyear, AZ
LBA Group, \$250 LBA University gift certificate	David Hodges	Christiansburg, VA
Hitachi-Comark, speaker system	Roland Fields	Mobile, AL
Hitachi-Comark, speaker system	Terry Spring	Carnation, WA
JVC, sports headphones	Glenn Gunnufsen	Caledonia, MI
JVC, sports headphones	Elvir Hadziselimovic	Cottonwood Heights, UT
JVC, sports headphones	Tim Costley	Pelham, AL
JVC, sports headphones	Jon Kasprick	Renton, WA
JVC, sports headphones	Mark Seekins	Columbus, OH
Kathrein, ARRL Antenna Handbook	Gibson White	Mesa, AZ
Wheatstone FM-55 audio processor	Scott Solko	Sacramento, CA
SBE National Meeting trip	Donald Ohse	Midwest City, OK



LEGAL PERSPECTIVE

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

FCC Drops the Next Shoe on the C-Band

It is refreshing, after many years of watching FCC open meetings, to finally have the document that the FCC is considering in hand well before the meeting occurs. Frankly, it didn't mean much to have a short summary of what the FCC was deciding on and no real idea of the contents. The FCC's newer policy is to release draft documents a couple of weeks in advance of the open meeting on which those items are calendared. So we know what is coming up in advance of the meeting and what the rationale is for the proposed rules or orders that are being considered. A win for government in the sunshine at long last.

As I write this, just before July 4, the FCC has released a proposed order and notice of proposed rulemaking in Docket 18-122, which it labels "Expanding Flexible Use of the 3.7 to 4.2 GHz Band." The open meeting to consider this NPRM was planned for July 12, but the NPRM is pretty much in final form now. It continues the FCC's effort to make mid-band spectrum in the 3.7-4.2 GHz band available for "expanded flexible use," focusing on "mechanisms for clearing for mobile use" and considering whether to allow "point-to-multipoint use on a shared basis in portions of the band." Another purpose of the NPRM is to "collect information from FSS earth stations and space stations to provide a clear understanding of the operations of current users."

Sound ominous? It is. It is a very, very rapid follow-up to the notice of inquiry in the 2017 "Mid-band Docket," which began an evaluation of which bands between 3.7 GHz and 4.2 GHz can be made available for "flexible use" (which for this purpose should be defined as "5 GHz wireless broadband") and which directly threatened the C-Band receive-only dishes.

The SBE has taken the position that C-Band receive-only dish registration is an absolute good. It would help identify the vast numbers of C-band dishes that are in active use all the time. It would, says the Commission, entitle the registrant to interference protection from future mobile uses. And it helps the FCC decide the feasibility of sharing with 5G mobile operations. Given the number of dishes in active use now, that is a tall order.

The FCC, due in large part to a presentation made by SBE President Jim Leifer, Mark and Karen Johnson of Linkup Communications, and me, to the FCC's International Bureau staff on May 22, extended the registration window to October 17, 2018, for broadcasters to register their receive-only C-Band Earth Sta-

tions. Also at our request, the FCC clarified that broadcasters with multiple receive-only dishes at a single location may apply with a single application and pay a single fee of \$435. If you have 25 or more receive-only dishes, a network application option is available. These are helpful accommodations, and broadcasters should take the opportunity offered to register these dishes. Though we asked for an across-the-board fee waiver as well, that is difficult for the FCC on a generalized basis since the schedule of application fees is statutory.

But will that be enough to protect the C-Band from incompatible sharing partners? Jim Leifer and I noted to the Commission in May that, despite an anticipated large level of registrations, the Commission simply does not have the resources to police the band in the event of interference from billions of mobile devices to C-Band downlinks. So, the FCC has to get the sharing part right the first time because there is no post hoc interference resolution that is going to occur. There is no impetus to evict broadcasters from the C-Band. The concern is whether adding a layer of mobile broadband as an overlay is feasible or not. The new NPRM asks for data.

And the Commission candidly admits it doesn't have enough information right now to make any decisions about actual usage of the band. Paragraph 15 of the NPRM says: "The record, however, reflects that the Commission lacks sufficient information regarding incumbent operations, including those of earth station licensees and registrants, and that correct usage data is vital to any action regarding modified use of the band. Specifically, commenters claim that in addition to the 4,700 earth stations registered or licensed in the International Bureau Filing System (IBFS), there is a significant number, possibly thousands, of unregistered receive-only earth stations that must be protected under any Commission action concerning the 3.7-4.2 GHz band."

So you can see how important it still is to register these dishes, show the FCC plainly how many there actually are, and what their geographic distribution is. The SBE will tell the Commission what data we have, but we all have to pull together on this. The FCC says it "proposes to protect incumbent earth stations from harmful interference" while also planning to "increase the intensity of terrestrial use in the band." It asks how to define the appropriate class of incumbents for protection. For C-Band earth-station registrants, the FCC proposes to define incumbent stations as earth stations that: (1) were operational as of April 19, 2018; (2) were licensed or registered (or had a pending application for license or registration) in the IBFS database as of Oct. 17, 2018; and (3) have timely filed information in response to the Commission's public notice collecting information on operations of earth stations in the 3.7-4.2 GHz band or, as applicable, certified the accuracy of information on file with the Commission.

The comment date is to be determined, but it will be some time after mid-September of this year. Speak now or forever hold your peace.

LINKS

The FCC Public Notice

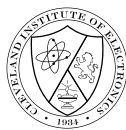
docs.fcc.gov/public/attachments/DA-18-639A1.pdf

FCC Info on Registering Earth Stations

tinyurl.com/FCC-form312

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FOCUS ON SBE

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

Seventy Chapters Earn Quality Chapter Status

In 2019, One Will Be Named Chapter of the Year

Each year the SBE returns a portion of the membership dues paid by members to the chapters in which those members belong. The chapters have to qualify for the rebate, as we call it, by having at least five meetings during the calendar year and documenting those meetings to the national SBE office.

In 2017, 70 chapters qualified for Quality Chapter status and the SBE paid a total of more than \$36,000 to them. Chapters typically use the money to help run their own operations. Expenses can include website hosting fees, printing, postage, sometimes meals for chapter meetings or social events, and other things. Having the rebate allows most chapters not to have to charge their own dues, avoiding that administrative burden, and instead, concentrate on producing successful meetings and other chapter functions.

In 2019, the SBE, for the first time, will recognize one chapter as the SBE Chapter of the Year. The annual award will go to a chapter that is judged best, overall. Criteria will include holding quality meetings on a regular basis, serving a high percentage of media technical professionals in the community, has a high percentage of members attending chapter events and has a high percentage of members who are SBE certified. Also included in the criteria will be quality communication with its members and how the chapter sets itself apart by holding one or more special activities each year, such as a special educational event, holiday

dinner, chapter picnic, scholarship program, or makes visits to schools to discuss careers in broadcast engineering, etc.

Chapters will not nominate themselves, but be judged instead using a two-phase process. First, chapters will be compared statistically using data from the national office. The statistics will measure many of the specific items mentioned above based on Dec. 31, 2018, data. This phase will generate a group of finalists of roughly ten percent of the total number of SBE chapters. The second phase will be more subjective, judging the special events and the quality and variety of programs provided to local members. Judging of the second phase will be done by members of the national Board of Directors, recusing themselves when their own chapter is being judged. The winning chapter will be recognized during the spring SBE Membership Meeting, held during the annual NAB Show in Las Vegas.

Why recognize a single chapter each year? Just two reasons. To recognize those members who have made the chapter a success, and to provide other chapters with an outstanding example from which to build their own chapter.

Below is a list of chapters that attained Quality Chapter status during 2017 and received a cash rebate from the national SBE in June of this year. Our congratulations to them and to their leadership.

Chapter	Chair
2 Northeastern Pennsylvania	Joseph Glynn, CPBE
3 Kansas	Robert Locke, CPBE, CBNT
7 Jacksonville	Craig Butler, CSRTE
9 Phoenix	Robert Reymont, CPBE
14 Connecticut Valley	Frederick Krampits, CPBE, CBNT
15 New York City	Jeffrey Smith, CPBE
16 Seattle	Jon Kasprick, CBRE, DRB, CEA
17 Minneapolis	Joseph Conlon
21 Spokane	Jerry Olson, CSRE
22 Central New York	Thomas McNicholl, CBTE
24 Madison	Richard Wood
26 Chicago	Gordon Carter, CPBE, DRB, CBNT
32 Tucson	Robert Nemitz, CBNE
33 Southwestern Ohio	James Stitt, CPBE
34 Albuquerque	William Harris, CPBE, AMD, CBNT
35 Kentucky	Jerry May, CPBE
36 San Diego	Anthony McDaid
37 District of Columbia	Kent Kramer, CBRE
38 El Paso	Jose Castro
39 Tampa Bay Area	Dustin Hapli, CBNE
40 San Francisco	Arthur Lebermann, CPBE
41 Central Pennsylvania	Randall Miller, CBT, CBNT
42 Central Florida	Randy Woods
43 Sacramento	Robert Hess, CPBE

Chapter	Chair
44 Shreveport	Troy Jones
45 Charlotte	Brad Humphries
46 Baltimore	James Richardson
47 Los Angeles	Matthew Anderson, CBRE
48 Denver	Shane Toven, CBRE, CBNT
49 Central Illinois	Gary Glaenzer
51 Tri-Cities	Jack Blum
52 Central Ohio	John Owen
53 South Florida	Carlos Sanchez, CPBE
54 Hampton Roads	Chris Gunnufsen
55 St. Louis	Terrence Dupuis, CBRE, CBNT
56 Tulsa	Donald Dobbs, CBTE
57 Rochester	Gregory Carter, CBT, CBNT
58 Northeast	Nolan Stephany, CSRTE
59 Kansas City	Michael Rogers
66 Fresno	Jaime Gonzalez
67 North Texas	William Ryan
68 Birmingham	Darrell McCalla, CBRE, CEA, CEV, CBT, CBNT
69 Alamo Area	Christopher Anderson
70 Northeast Ohio	Blake Thompson, CBNT
72 New Orleans	Ernest Kain
74 Midland	Kevin Faris
76 Eugene	Dennis Hunt
78 Blue Ridge	Daniel Ullmer
79 Austin	Edward Rupp, CBTE, CBNT

Chapter	Chair
80 Fox Valley	Stephen Brown, CPBE, CBNT
85 Central Western	Brian Ryel, CBTE
88 West Palm Beach	Steve Billing
90 Southwest Florida	Kevin Trueblood, CBRE, CBNT
91 Central Michigan	Gary Blievernicht
96 Rockford	Ben Pflederer
102 Grand Rapids	Glenn Gunnufsen, CSTE, CBNT
103 Nashville	James Campbell III, CPBE
105 Houston	Thomas Daniels, Jr., CPBE
109 Des Moines	Jon Strom, CBTE
111 Huntsville	Davisson Spindle
112 Western Wisconsin	Todd Zschernitz, CBTE
113 Knoxville	Robert Holden, CBT, CTO
115 Southern Idaho	Thomas Kettwig, CBT
118 Montgomery	Wiely Boswell, CBRE, CBNE
122 Youngstown	Richard Foley
124 North Oregon	Everett Helm, CPBE
131 Inland Empire	Wayne Murphy, CPBE, CBNE
133 Buffalo	Raymond Felckowski
141 Medford	David Katz
145 Magic Valley	Thomas Lowther, CSRTE, CBNT



ENGINEERING PERSPECTIVE

By Kevin Trueblood, CBRE, CBNT
Associate General Manager, Technology & Operations, WGPU Public Media
ktrueblood@sbe.org

Ensure Smart Speakers Can Play Your Station

The term “smart speaker” has moved from a catchy buzzword to an everyday reality for an increasing amount of Americans. Currently, 20% of the US population owns a smart speaker and 80% of those are the Amazon Echo.

At the same time as the rise of smart speaker, consumers are finding fewer choices for in-home devices with traditional AM/FM tuners. Considering the top use for smart speakers is to listen to music, it’s easy to see how the smart speaker is quickly becoming the replacement for traditional AM/FM radio in the typical American home.

For a long time we controlled the user experience, and it was simple. Turn on the radio, tune to the right frequency, and there’s your audio.

The problem now is we have to rely on third-party gatekeepers to play our station streams. For listeners, it means they may not get what you’ve asked for and can lead to a frustrating experience at best and a lost listener at worst. It would be like tuning a radio to 95.1 and getting the 95.7 from two states over.

Smart speakers like the Echo natively support radio streaming through the TuneIn app. TuneIn is a longtime stream aggregate service that has become a “one stop shop” for finding and listening to radio station streams. You just tell Alexa to play WGPU and she’ll find and play the station stream as long as it’s available on TuneIn.

So how do you make sure your listeners hear your stream when they ask for it? Here are a few tips to make sure your station comes up correctly when requested.

In the Alexa app be sure the listener sets his home address. This will provide a location for the device. So if you live in Mari-

on, IL, it plays the local Z100 and not the Z100 in New York City.

Be sure that your station information is accurate, complete, and has the correct URL for your stream on the TuneIn listing. TuneIn usually puts this information together itself, but if something is wrong it can lead to trouble in requesting the stream

from the Echo. If you need to make changes, the company will work with you to make sure everything is correct. Keep this email contact handy: broadcaster-support@tunein.com

The Echo also supports stations that stream on the iHeartRadio platform. However, it’s not the default app called for if you ask Alexa to play a station. That can be accomplished by simply telling Alexa to play Lite Rock 106.3 from iHeartRadio, and it will launch the requested stream. Be aware that iHeartRadio requires greater nuance in how you ask for the station. For example, if I ask for Y100, it plays Y100 from Miami. Asking for Y100.1 gets the station in Fort Myers.

Finally, you can build your own “Skill.” These are the smart speaker equivalents of mobile apps, where listeners can install a station-specific skill that

will guarantee when they ask for “B92.7” it plays the correct station and can offer more listening options such as recorded news and podcasts. These skills can be built by a number of different providers, including many popular stream hosting services such as Streamguys and Securenet.

Much like making sure your station audio is loud and clear on the radio, these tips can help make sure your audience receives your station correctly on demand.

Amazon Echo photo courtesy of Amazon.

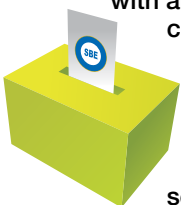


A growing percentage of radio listening is via a smart speaker.

SBE National Election: Vote by August 22

The annual election of SBE officers and directors is currently underway. Up for election are all four officers for one-year terms and half the 12 directors for two-year terms.

All ballots are due by 4:30 p.m. EDT on Aug. 22. Voting is via the election website, except for those members who have opted out of electronic voting this year or who have not provided the SBE national office with an email address. They will receive their ballots through the mail. An email test message was sent on July 6, and the ballot link was sent to valid email addresses on July 20. Reminder emails will also be sent.



For members who received a paper ballot in the mail, your ballot must be received in the SBE National Office by 4:30 p.m. ET on Aug. 22.

If you have not yet cast your vote, do so today.

SBE Election Candidate Slate

Officers:

President: James Leifer, CPBE; Chapter 11 Boston; Andover, MA

Vice President: RJ Russell, CPBE; Chapter 18 Philadelphia; Middletown, DE

Secretary: Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE; Chapter 99 Bryan, TX, College Station, TX

Treasurer: Jim Bernier, CPBE, CBNE; Chapter 5 Atlanta; Alpharetta, GA

Directors: (top six vote getters will be elected):

Stephen J. Brown, CPBE, CBNT; Chapter 80 Fox Valley; Appleton, WI

Roswell Clark, CPBE, CBNT; Chapter 39 Tampa Bay Area; Clearwater, FL

Kirk Harnack, CBRE, CBNE; Chapter 103 Nashville; Nashville, TN

Gary Kline, CBT; Chapter 5 Atlanta; Atlanta, GA

Vinny Lopez, CEV, CBNT; Chapter 22 Central New York; Syracuse, NY

Thomas R. McGinley, CPBE, AMD, CBNT; Chapter 16 Seattle; Missoula, MT

Jason Ornellas, CBRE, CRO; Chapter 43 Sacramento; Sacramento, CA

Shane Toven, CBRE, CBNT; Chapter 48 Denver; Laramie, WY

Daniel N. Whealy, CBTE; Chapter 96 Rockford; Sumner, IA

- 305 Broadcast • 2015**
Alfonso Lopez 305-406-3560
Broadcast Equipment Supplier
- 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
- ATV Broadcast, LLC • 2016**
Doug Smith 317-258-6280
Telecommunications Consulting Group
- Audemat-Worldcast Systems Inc. • 2000**
Christophe Poulain 305-249-3110
Control Manufacturer
- AVCOM of Virginia, Inc. • 2010**
Tom Pagonis 804-794-2500
Spectrum Analyzers
- A-Ware Software/MusicMaster • 2014**
Shane Finch 352-351-3625
Advanced Music Scheduling Solutions
- 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
- Calrec Audio • 2016**
Dave Lewty 805-305-5711
Audio Mixing Equipment
- Complex • 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
- D2D Technologies • 2018**
Jessica Colyer 619-248-0618
PSIP & EAS Insertion, IP Gateways,
Multiplexers, SRT Transmission
- Davicom, Division of Comlab, Inc. • 2014**
Louis-Charles Cuierrier 418-682-3380 x512
Remote Site Monitoring and Control Systems
- DEVA Broadcast • 2015**
Todor 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
- DVEO - 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
Playout and Automation Solutions
- ERI - Electronics Research • 1990**
David White 812-925-6000
Broadcast Antennas, Transmission Line,
Filters/Combiners, Towers and Services
- Floral Systems • 2008**
Shawn Maynard 877-774-1058
Television Broadcast Automation
- Frontline Communications • 2015**
Tracy Brink 727-280-8843
Broadcast Vehicle Manufacturer
- 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
- Hilights, Inc. • 2016**
Rob Sobol 352-564-8830
Obstruction Lighting Maintenance
- Hitachi Kokusai Electric Comark • 2013**
Jack McAnulty 860-763-1100
Manufacturer Broadcasting Transmission
Equipment
- IMT-Vislink • 2009**
John Procacci 908-747-3011
Wireless Video Systems
- 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**
Lon Mass 973-317-5117
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
- L3 Electron Devices • 2017**
Mark Strohecker 570-326-3561
CEAs, IOTs, Thyratrons
- Lawo AG • 2017**
Michael Dosch 888-810-4468
AoIP Consoles & Virtual Radio
- LBA Technology Inc. • 2002**
Javier Castillo 252-757-0279
AM/MW Antenna Equipment & Systems
- Linkup Communications Corporation • 2017**
Mark Johnson 703-217-8290
Satellite Technology Solutions
- LYNX Technik • 2007**
Udo 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
- Microtech Gefell GmbH • 2016**
Udo Wagner +49 36649-82245
Microphones
- Microwave Video Systems • 2011**
Warren J. Parece 781-665-6600
Microwave Equipment Rental, Sales & Service
- Middle Atlantic Products • 2005**
David Amoscato 973-839-1011
Equipment, Mounting, Solutions
- Moseley Associates Inc. • 1977**
Bill Gould 805-968-9621 x785
Digital STLs for Radio and Television
- 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
- Nautil Inc. • 2002**
Jeff Welton 877-662-8835
Radio Broadcast Transmitter Manufacturer
- Nemal Electronics Int'l Inc. • 2011**
Benjamin L. Nemes 305-899-0900
Cables, Connectors, Assemblies and Fiber
Optic
- Neutrik USA, Inc. • 2012**
Kathy Hall 704-972-3050
Ruggedized Optical Fiber Systems
- Orban Labs, Inc. • 2011**
David Rusch 480-403-8300
Audio Processing AMFMTV
- Pasternack Enterprises • 2001**
Christine Hammond 949-261-1920
Coax & Fiber Products
- Pebble Broadcast Systems • 2016**
Alison Pavitt 612-345-0461
Television Broadcast Playout Automation
- Potomac Instruments • 2012**
Guy Berry 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
- 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**
Gerald LeBow 914-872-4069
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 Salmi 818-840-6749
Routers, Mixers, Consoles, Intercoms
- Silvus Technologies • 2015**
Mark Tommey 617-816-6588
Wireless Video Mesh Network
- Snell Advanced Media • 1995**
John Shike 650-703-4906
Video Equipment Manufacturer
- 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
- 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
- Tedyne e2V US Inc. • 1997**
Dominic Piarulli 914-593-6828
Electronic Components
- Televs USA, LLC • 2018**
Andy Ruffin 937-475-7255
ATSC 3.0 Transmission Solutions, Antennas
- Telos Systems/Omnia/Axia • 2003**
Denny Sanders 216-241-7225
Telos Systems Talk-Show Systems
- Teradek • 2011**
Jon Landman 949-743-5783
Camera-top ENG Solutions
- Terrestrial Inc. • 2003**
Billie Layman 888-373-4832
FCC Broadcast Auxiliary Licensing Services
- Tieline The Codec Company • 2003**
Dawn Shewemaker 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
- Verizon Digital Media/Services • 2015**
Nabil Kanaan 310-302-3383
Media Intelligence and Logging Solutions
- Wheatstone • 2010**
Jay Tyler 252-638-7000
IP Consoles, Routers & Processors
- Wireless Infrastructure Services • 2006**
Travis Donahue 951-371-4900
Repacking Services - West Coast Turnkey
Services

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Member Spotlight: Maria Dudzak

Member Stats

SBE Member Since: 2013
Certifications: CBT
Chapter: 89 Alaska
Employer: KRBD
Position: Morning Edition Host/
 Program Director
Location: Ketchikan, AK
I'm Best Known For: Singing, acting and devotion to my cats.

Q ■ *What do you value most about your SBE involvement?*

A ■ The support and sense of belonging. I appreciate the on-demand classes and look forward to completing more RF and IT courses as a SBE MemberPlus.

Q ■ *What got you started in broadcast engineering?*

A ■ Necessity. We haven't had an on-site engineer for many years. I'm pretty handy and like to be helpful. I'm still learning, but the 2013 ABA Engineering Academy with Larry Wilkins was a great crash course that gave me just enough skills to be dangerous.

Q ■ *Who was your mentor?*

A ■ Matt Holmes who was one of the first engineers I met at KRBD. Our phone system died and we had a call-in show the next morning. Overnight he rigged some-



Maria with her buddy Lincoln and Lincoln's buddy Taylor the Tiger. Her other cat, Cisco, was out visiting kitty friends.

thing with a touch-tone phone, and miscellaneous items. He showed me you can fix anything with creativity and imagination.

Q ■ *What do you like most about your job?*

A ■ My coworkers. We're a small staff and all have to wear many hats. We make a great team.

Q ■ *When I'm not working I...*

A ■ ...volunteer where I can, act, sing, read, bake, create art and hang out with my cats Cisco and Lincoln.

Q ■ *What's something most people don't know about you?*

A ■ At the age of 33 I went back to college to study voice and theater. I even lived in the dorms with 18-year-olds. It's never too late to pursue what you love.

Q ■ *Do you have a nickname?*

A ■ Some call me "The Soggy Songstress of Swing." I tend to sing mostly jazz standards and it rains a lot in Ketchikan. An average of 162 inches a year.

Participate as an SBE Mentor

Keep the Mentor Program Growing

The SBE Mentor program is in full swing and is working to engage even more professionals by offering a mentor in each state. We are contacting you as a seasoned, engaged professional and ask that you consider participating in this valuable program. We need you to continue growing this important program!



"We are proud of what the SBE Mentor Program is becoming. Mentors and mentees are now able to participate in quarterly webinars and have access to professionals on our closed group Facebook page," said SBE Mentor Committee Chair Kimberly Sacks, CBT. "But we still have room to grow. Please join our efforts by volunteering as a mentor or recommending mentees!"

Start today by completing a mentor application at sbe.org/mentor. Send it to Education Director Cathy Orosz at corosz@sbe.org. It can also be mailed to SBE; Attn: Cathy Orosz; 9102 North Meridian St., Suite 150; Indianapolis, IN 46260.

Want to learn more about the program? Cathy can help. Contact her at corosz@sbe.org or 317-846-9000.



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.

THANKS TO THE FOLLOWING SUPPORTERS FOR THEIR CONTRIBUTIONS

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In Memoriam

Gino Ricciardelli, CPBE
 Member #117
 1922 - 2018

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WELCOME TO THE SBE

NEW MEMBERS

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William Acevedo - Birmingham, AL
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Michael Chmiel - Grand Island, NY
Tom Colburn - Carmichael, CA
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Christopher S. Eastman - Kent, WA
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Zach T. Goffney - Indianapolis, IN
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Mason S. Jennings - Puyallup, WA
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Webinar: Advanced RF

The SBE's Advanced RF Webinar Series RF 201 kicked off in June with Module 1 - FM Transmitters, presented by Chris Tarr, CSRE, AMD, DRB, CBNE, of Entercom. Module 2 - FM Antenna Systems, presented by Tom Silliman, PE, president ERI, was held in July. If you were not able to participate in the live presentations, the archived versions are now available online.

Plan now to participate in the rest of the series. Mark your calendar for RF 201: Module 3 - AM Directional Antenna Systems, presented by Tom King, President and CEO, Kintronic Labs, Thursday, August 30

The cost is \$59 for SBE members and \$89 for non-members. SBE MemberPlus members participate in the webinar for free. Register at sbe.org/webinars.

Watch for announcements about additional SBE Advanced RF Series webinars and a new series beginning in September: ATSC 3.0/Next Gen TV.

The archive of the SBE Transmitter Site Safety webinar, presented by Jeff Welton, CBRE, of Nautel on June 14, is now available at the SBE website. SBE MemberPlus members can access it for free. The fee for SBE members with traditional membership is just \$59. The fee for non-members is \$89.



2018 Ennes Workshops

Plan to attend one near you

Three SBE Ennes Workshops are on the calendar for the remainder of 2018. Ennes Workshops were created to bring affordable education to SBE members locally. These programs feature multiple topics and speakers that provide television and radio engineers with the latest information in broadcast and media technology.

The SBE and the Nebraska Broadcaster's Association present an Ennes Workshop on Wednesday, Aug. 15, in Lincoln, NE. Topics include: Radio and Television Transformed; Tower Safety; Nex Gen TV; NEB EAS Plan; Grounding and Lightning Protection.

The SBE and the Missouri Broadcaster's Association and the Kansas Association of Broadcasters present an Ennes Workshop on Tuesday, Aug. 21, in Overland Park, KS. Topics include: Proper Wiring Techniques for Broadcasters; Tower Safety; Grounding and Lightning Protection; Workbench Topics; and Cybersecurity/Physical Security.

For the second year, the SBE will hold an Ennes Workshop during the Indiana Broadcasters Association conference in Indianapolis on Nov. 1.

Registration information for these workshops is listed on the SBE website. Two of them are being held this month, so register now.

Questions? Contact Education Director Cathy Orosz at 317-846-9000 or corosz@sbe.org. Interested in hosting an Ennes Workshop in 2019? Contact Cathy Orosz at 317-846-9000 or corosz@sbe.org.

sbe.org/education/wkshp

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MEMBERS ON THE MOVE



◀ **Rich Redmond** is president – managing director, international at GatesAir, Cincinnati.

▶ **Carl W. Davis, Jr.**, CPBE, has been

awarded the 2018 NCAB Hall of Fame Award from the North Carolina Association of Broadcasters.



◀ **John Landry**, CSRE, is chief operating officer/general manager at Sugar River Media/WCFR-AM/FM, Springfield, VT

Have a new job? Received a promotion?

Send your news to Chriss Scherer at cscherer@sbe.org.

MARK YOUR CALENDAR

Ennes Workshop

Overland Park, KS

Aug. 21, 2018 sbe.org/education/EnnesKS

Webinar: Advanced RF Series

Online

Aug. 30, 2018 sbe.org/webinars

SBE National Meeting

Boston, MA

Oct. 2 - 3, 2018 sbe.org

WBA Broadcasters Clinic

Madison, WI

Oct. 16 - 18, 2018 wi-broadcasters.org

Ennes Workshop

Indianapolis

Nov. 1, 2018 sbe.org/education/wkshp

SBE Certification Exams

Local Chapters

Nov. 2 - 12, 2018 sbe.org/certification

Application deadline Sept. 24

SBE RF Safety Course

Online

Nov. 15, 2018 sbe.org/webinars

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