

THE Signal

Bimonthly Publication of the Society of Broadcast Engineers



The Association for
Broadcast and
Multimedia Professionals

www.sbe.org

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Jerry Massey Reelected SBE President

Members of the Society of Broadcast Engineers have reelected Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNT, as the society's president. Massey is the regional technical operations director, Southeast for Entercom Communications, and the director of technical operations, MIS, sustainability for Entercom Greenville.

The election was conducted online for members with a valid email address, and by paper ballot by mail for those without. Voting began on July 25 and closed on Aug. 25.

Others serving one-year terms as officers, which begin on Oct. 27 are:

- Vice President: Jim Leifer, CPBE; director of engineering and IT, iHeartMedia/South Florida; Boynton Beach, FL
- Secretary: Tim Anderson, CPBE, DRB, CBNE; manager of business and product development, radio transmission, GatesAir; Covington, KY

- Treasurer: Andrea Cummis, CBT, CTO; managing partner, AC Video Solutions; Roseland, NJ

Serving two-year terms on the board of directors, which also begin Oct. 27 are:

- Jim Bernier, CPBE, CBNE; Senior Director, Broadcast Engineering, Turner Entertainment Networks; Alpharetta, GA
- Kirk Harnack, CBRE, CBNE; Director of Multimedia Education, Telos Alliance; Nashville, TN
- Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE; Director of Engineering, Texas A&M University - KAMU FM & TV; College Station, TX



Massey

see [ELECTION](#), p. 3

Annual SBE Membership Meeting To Be Webcast Live

The Annual Membership Meeting of the Society of Broadcast Engineers will be webcast live from Columbus, OH, on Thursday, Oct. 27 at 4 p.m. ET. The meeting is part of the Society of Broadcast Engineers National Meeting, held in conjunction with the Ohio Broadcast Engineering Conference, presented by the Ohio Association of Broadcasters. The one-hour webcast will include updates

DRB, CBNT, will preside. Go to the SBE Annual Membership Meeting link at the SBE website, www.sbe.org, to access the webcast. Webcast sponsors include AC Video Solutions, Blackmagic Design, DTS/HD Radio, DVEO and Micronet.

Other National Meeting events begin on Wednesday, Oct. 26 and include a meeting of the national SBE Certification Committee from 2 to 4 p.m. and the fall meeting of the SBE Board of Directors from 6 to 10 p.m. On Thursday, Oct. 27, activities begin with the annual SBE Fellows Breakfast at 7:45 a.m. (invitation-only), sponsored by Kathrein USA. In addition to the SBE Annual Membership Meeting at 4 p.m. ET, the SBE Annual Awards Reception will begin at 5:15, sponsored by Comrex, followed by the SBE National Awards Dinner at 6 p.m., sponsored by The Telos Alliance. Keynote speaker at the dinner will be nationally known broadcast consultant Jay Adrick.

Adrick is a 50-year veteran of the broadcast industry and is a leader in the design and integration of digital broadcasting systems. He retired as VP of broadcast technology from Harris Corporation's

Broadcast Communications Division and is now a technology advisor to the Transmission Business Unit that was known as Harris Broadcast, but is now named GatesAir. He currently chairs the ATSC Mobile Emergency Alerting System Implementation Team and is also involved in the development of ATSC 3.0, Mobile DTV and with spectrum and regulatory issues.

The Awards Dinner features the presentation of the society's major awards,

see [WEBCAST](#), p. 9



The Membership Meeting will be streamed online again this year.

and reports on the Society's activities as well as the induction of the newly elected national officers and directors. SBE President Jerry Massey, CPBE, 8-VSB, AMD,

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

ELECTION from p. 1

• Marcelo Sanchez, CPBE; Director of Broadcast Operations and Engineering, WFOR-TV/WBFS-TV; Miramar, FL

• Mark Simpson, CPBE, AMD, DRB, CBNE; VP Engineering, Townsquare Media; Tucson, AZ

• Justin "JT" Tucker, CSRE, AMD, CBNE; Regional Director of Engineering Southwest, Cumulus Media Charleston; Charleston, SC

Those elected will begin their terms on Oct. 27, 2016, during the SBE Membership Meeting. They will join the other six directors who have another year remaining in their terms (Mark Fehlig, CPBE, 8-VSB, CBNT; Lafayette, CA; Michael Hendrickson, CPBE, CBNT; Lakeville, MN; Ched Keiler, CPBE, 8-VSB, CBNE; senior en-



Leifer



Anderson



Cummis

gineer; ISC/E Three; Ft. Lauderdale, FL; Jeff Keith, CPBE; senior product development engineer; Wheatstone Corporation; New Bern, NC; Kevin Plumb, CPBE; vice president, video/audio platform technologies; ESPN Technology; Trumbull, CT; RJ Russell, CPBE; VP of engineering; Fox 29 Philadelphia; Philadelphia, PA) as well as Joe Snelson, CPBE, 8-VSB, Henderson, NV, who is the immediate past president.

Members of SBE Chapter 25 Indianapolis served as election tellers. They are featured on page 14 of this issue of *The Signal*.

EQ Certification Question
Answer on page 6

An EAS log must contain the following information regarding transmissions and receptions:

- A. All station personnel on duty at the time of the alert.
- B. The originator, event, location and valid time period of the message.
- C. The weather conditions at the station.
- D. The station's transmitting power and official operator.



Bernier



Harnack



Pecena



Sanchez



Simpson



Tucker

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LETTER FROM THE PRESIDENT

By Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNT
SBE President
jmassey@sbe.org

Streaming, Sources, Surveys, Summits, and Mentors

As we approach the fall of 2016 we are looking back and assessing the year so far and projecting on how to finish this year successfully. While many of us look at our fall and winter preparation lists and ready our sites for the winter season. The same is true for your SBE and here are some of my observations of where we are and where we are going.

The SBE board elections are over and I am looking forward to working with the new officers and board members in the coming year. They will be installed at our national SBE meeting on Oct. 27 in Columbus, OH. We would love to have you in attendance at our 4 p.m. ET meeting at the Greater Columbus Convention Center. If you can't make it, our meeting will be streamed online. The link will be posted on the SBE website so put this on your calendar!

We have had some great accomplishments in the past year including the publication of the *SBE Broadcast Engineering Handbook*. The SBE Publications Committee worked some four years working with the many chapter authors to provide you with a comprehensive reference book that will not only aid you in your daily job

but will also be a great study manual for your upcoming certification exams. You can check out our new book on the SBE website in the SBE Bookstore.

dia rather than focusing on only one segment. This survey can be helpful to you so please check this out on the SBE website.



The first-ever SBE Compensation Survey was just released and thank you if you participated. We are pleased with the overall participation, and we look forward to greater participation in subsequent years. While other salary surveys have been conducted in the past, the SBE Compensation Survey broadly encompasses radio, TV and other me-

Looking Ahead

We have many goals for the coming year and I will mention a couple. Education for you the member is a prime goal of the SBE. We want to make sure that we have the courses and titles that will most benefit you in the future. To ensure we will be ready for the technologies of the future, the SBE held an Educational Summit at the end of September in New York City. During this one-day meeting, the SBE invited several well-known members of the broadcast and related fields to spend the day with us and tell us what they see as the biggest educational needs in the coming future. The Education Committee will use this information to structure new courses. We also thank the Ennes Educational Foundation Trust for its assistance in sponsoring this summit.

Would you like to be a mentor or do you need a mentor? The SBE Mentoring Program is now underway. The SBE Mentor Program is designed to help broadcast engineers who are new to the field. The program partners a new engineer with a more-seasoned professional. This allows the more-experienced person to share his or her gained knowledge, both empirical and practical, with someone new to the field. Check out the Mentoring Program on the SBE Website and under the Education tab.

As always, thanks for your continued efforts and support of the Society of Broadcast Engineers.



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EDUCATION UPDATE

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

Is Your Network Secure?

IP network security is an on-going process for the broadcast network engineer and should never be considered a “one-time setup and forget” process. The August 2016 *Signal* Education Update outlined several simple to implement best practices that are often utilized in creating a secure network environment. The practices included actions such as changing default logins, disabling un-used ports, and utilization of secure communications protocols and links.

What is a Secure Network?

But, how do you know you really have a secure IP network? There are several attributes that define a “secure” network. These attributes include utilization of a system design approach that establishes multiple layers of security. There is no single technique to securing a network infrastructure due to the diversity of potential threats. The defense-in-depth approach implements multiple perimeters or layers of security such that if one perimeter is breached another exists to prevent further exploit. Whereas this may be a new approach to network security, it is a centuries-old approach beginning with the design of a castle where the outermost perimeter is protected by a moat and additional perimeters must be conquered to reach the core inhabitants or treasures.

Further attributes include segmentation of the network with different security requirements often implemented through the use of internal virtual local area network (VLAN) techniques. This approach isolates functional areas through separate networks. Privileges to network resources should be restricted to a need-to-access basis for specific users. Access to network resources is restricted by use of firewall techniques with deny-by-default established for both ingress and egress network traffic (SAMS Institute). Internal network firewalls are further used to establish the different perimeters or layers. And finally, a secure network establishes an audit trail by tracking and monitoring of network activity. Monitoring of unusual network activity is often an indication that a breach has occurred. Audit trails are the key to determining how a breach occurred and to the development of preventative measures for the future. Logging of denied access attempts give indication of potential threats being imposed on the network.

Recent news stories have reported FBI investigations of electronic voting systems in at least two states have been compromised and identified several states having systems that are vulnerable to hacking exploits. The key attribute that has created the vulnerability concern is a lack of adequate audit trails in these systems. Breaches often go un-noticed without audit and

For more information on any SBE education program, contact the SBE National Office at 317-846-9000.

monitoring capabilities in place.

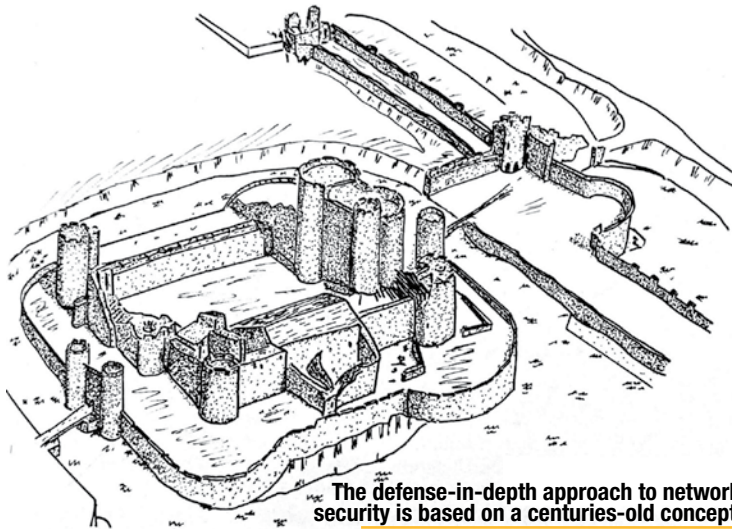
In summary, a network is considered secure when defense-in-depth design techniques are implemented with restricted access via internal and external firewall techniques where all activity is monitored and logged.

Accessing Network Security

With attributes in place for a secure network, how does the broadcast network engineer verify that network protection perimeters are really effective? A common approach is to utilize a port scanning tool. Such a tool is commonly used by a network hacker to discover network vulnerabilities, but is also a useful tool used by the broadcast network engineer to verify configurations that are thought to be in place. Nmap is one of the most popular public domain tools for such verification tasks. Nmap and the companion Zenmap graphical user interface form a powerful tool for network security verification (or hacking attempts).

As broadcast station IP networks have grown to become an integral part of the broadcast technical plant, so has the security threats. The broadcast network engineer has yet another ongoing task to insure the network infrastructure remains secure. The SBE Webinar IP Network Security – part 2 will focus upon the use of nmap and zenmap for assessing your network security. Part 2 will be offered live on Nov. 15, 2016, and also available later for viewing at your leisure. Additional detail and registration information can be found at www.sbe.org.

Learning is a continuous process for the broadcast engineer. Take advantage of SBE professional development events to learn a new technology, enhance your current skills, or adding an SBE Certification to your personal professional portfolio. Continuous learning is a key trait of the successful technology professional and the SBE Education team is dedicated to bringing you quality professional development programs covering relevant broadcast industry topics delivered in different mediums to meet your needs. Your comments, ideas for future programs, and feedback are always welcome!



The defense-in-depth approach to network security is based on a centuries-old concept.

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CERTIFICATION UPDATE

By Joseph L. Snelson, Jr., CPBE, 8-VSB
Member, SBE Certification Committee
jsnelson@sbe.org

The (Not-so-)Daunting Essay Question

The SBE Program of Certification currently has 14 certification levels based on area of expertise and years of experience. In most cases, to obtain SBE Certification an individual must pass an examination to demonstrate knowledge of a specific broadcast engineering-related area. An important part of Senior, Specialist and Certified Broadcast Networking Engineer certification exams is the (not-so) daunting essay question.

All SBE exams use a multiple-choice question format, but the exams for Certified Senior Radio or Television Engineer, specialists (AMD, DRB, 8-VSB) and Certified Broadcast Network Engineer (CBNE) also include an essay question. I'll explain the purpose of the essay question in a moment.

Eligibility and Testing

For Senior Radio or Television, an applicant must first have 10 years or more of responsible broadcast engineering or related experience. For a specialist, the applicant must hold a Broadcast Engineer or higher level of certification. Certification on the CBNE level requires a minimum of five years of experience. In many cases, education in broadcast related technology can count towards years of experience. In all cases, an applicant must achieve a passing grade on an examination comprised of multiple-choice questions and one essay question.

The multiple-choice questions are ran-

domly selected by computer from a pool of questions. Each question is worth two points. During this portion of the exam, standard reference texts, including computers and tablets within defined limitations, can be used. While it is important for an individual to know the material by heart, it is just as important to demonstrate that he or she is able to find the correct answer when needed. We often use reference materials in our jobs and, therefore, the same opportunity is given in answering the multiple-choice questions.

So why is there an essay question? When the Senior Broadcast Engineer certification was created, it was felt that an additional element should be added in the exam process to demonstrate the applicant's proficiency in broadcast engineering. An applicant with adequate experience should be capable of answering an essay-type question related to a job responsibility that he or she has held, affording the examinee an opportunity to demonstrate from practical experience his or her knowledge of a subject. This same principle has been extended to the specialist and CBNE exams.

How is the essay question selected, administered and graded? The exam application asks for an applicant's record of experience. Many applicants also attach a biography or resume with further experience details. The SBE certification director assigns a member of the

SBE National Certification Committee the task of reviewing the application, and if approved, assigning the essay portion from the essay question pool. The question pool covers various topics related to broadcast engineering. For a Senior Engineer exam, the committee member selects three questions based on the experience information submitted by the applicant. This is why it is important for an applicant to provide good detail on his or her experience. For the specialist examination, however, a single essay question will be selected by the certification director that is targeted specifically for the specialist certification being sought.

The Essay Question

After a Senior Engineer examinee answers the multiple-choice questions, he or she then reviews and then chooses one of the three essay questions selected by the certification committee member. The three essay questions are provided to the examinee in a sealed envelope. Unlike the multiple-choice question portion of the exam, reference texts and computers are not allowed to be used while answering the essay.

A minimum passing score of 84 is required for an examinee to obtain Senior Engineer or specialist certification. The essay question may contribute up to 20 points towards this 84-point total. This means a person must score a minimum of 64 points on the multiple-choice questions to pass the exam assuming he or she achieved a perfect score of 20 points on the essay question. As you can see, there is considerable worth placed on the essay question.

Once the multiple-choice questions have been graded and it has been determined that an individual has scored at least 64 points, the essay question response is sent to three members of the National Certification Committee to be graded. The three members independent-

– Continued on page 7

Exam Preparation

Because I have graded several essay responses, I will offer my own thoughts and observations that I feel could help you to prepare to take the essay portion of the senior or specialist examination.

1. Submit an accurate application. Be specific on your application and other documents you attach as to your work experience and responsibilities. This greatly assists the committee member assigning your essay questions to assign those questions that are in line with your experience.

2. Neatness counts. On the essay response, be neat in any drawings you provide and ensure your writing is legible. The committee person assigned to grade your question is a grader and not a mind reader. Messy drawings and handwriting may work against you if the grader can't follow or understand what you have written. (Hint: A straight-edge ruler with no formu-

las or notes on it may be useful for any supporting drawings you may need to provide.)

3. Be detailed. Provide appropriate supporting detail on any drawings or explanations. Think in terms of preparing something to be reviewed by your peers, boss or other industry professionals.

4. Be thorough. Ensure that all the items mentioned in the essay question are answered fully. Read the question carefully. It may be worth making a checklist to ensure you address all the areas required. Once your essay answer is complete, reread the question to verify that all the elements are included.

5. For block diagrams, unless explicitly stated otherwise, an "electrical one-line" flow drawing is being requested and not a free hand artist rendering of what equipment visually looks like. -JS



Answer from page 3

The answer is B

The EAS log must include the originator, event, location and valid time period of the message.

SBE Certification Achievements

CONGRATULATIONS

LIFE CERTIFICATION

Certified Professional Broadcast Engineer® (CPBE®)
8-VSB Specialist™ (8-VSB™)
Drew Stewart, Morton, PA - Chapter 18

Certified Senior Radio Engineer™ (CSRE®)
Ritchie Bauer, West Jordan, UT - Chapter 62
David Wright, Chapel Hill, NC - Chapter 93

Certified Senior Broadcast Engineer (CSBE)
Warren Shulz, Griffith, IN - Chapter 26

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®)

Carl Dole, Williamsburg, IN - Chapter 25
Brian Heise, Bells, TX - Chapter 67

Applicant 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.

JUNE EXAMS

Certified Senior Radio Engineer™ (CSRE®)
Andrew Disterhaft, Oshkosh, WI - Chapter 80
AM Directional Specialist™ (AMD™)
Andrew Disterhaft, Oshkosh, WI - Chapter 80

Certified Broadcast Networking Engineer™ (CBNE™)
Michael Cernak, Clearwater, FL - Chapter 39
William Magliocco, Detroit, MI - Chapter 82
Marisabel Mercado, Laurel, MD - Chapter 37
Brian Olinger, Dulles, VA - Chapter 37
Steven Pacheco, Romeoville, IL - Chapter 26

Digital Radio Broadcast Specialist™ (DRB™)
Edwin Allen, Sarasota, FL - Chapter 39
Certified Radio Operator® (CRO®)
Valerie Ingram-Hinkley, Clearwater, FL - Chapter 39

AUGUST EXAMS

Certified Senior Television Engineer™ (CSTE®)
Paul Robertson, Zumbrota, MN - Chapter 17
Certified Senior Radio Engineer™ (CSRE®)
Philip Langston, Plover, WI - Chapter 80
Certified Broadcast Radio Engineer™ (CBRE™)
Jan Andrews, Alexandria, VA - Chapter 37
Adam Carlson, Shakopee, MN - Chapter 17
Kevin Trueblood, Estero, FL - Chapter 90
Certified Broadcast Television Engineer™ (CBTE®)
Benjamin Overbaugh, Oakland, CA - Chapter 40

Certified Audio Engineer® (CEA®)
Jesse Allain, Fitchburg, MA - Chapter 11
Certified Video Engineer® (CEV®)
Jan Andrews, Alexandria, VA - Chapter 37
Garry Wilson, Laurel, MD - Chapter 132
Certified Broadcast Networking Engineer™ (CBNE™)
Lee Clardy, III, Lafayette, LA - Chapter 72
Brian Reilly, Nashville, TN - Chapter 103
Sean Richardson, Port Huron, MI - Chapter 82
Dale Scholten, Jr., Grand Rapids, MI - Chapter 102

Certified Broadcast Networking Technologist® (CBNT®)
Christopher Arensen, Aloha, OR - Chapter 124
Louis Caesar, New York, NY - Chapter 18
Nick Riebesehl, Lewiston, ME - Chapter 110
Frankie Torchia, Smyrna, GA - Chapter 5
Thad White, North Judson, IN - Chapter 30
Certified Radio Operator® (CRO®)
David Barnes, Menifee, CA - Chapter 131
Robert Jacobs-Springer, Seattle, WA - Chapter 16
Jolene Kraft, Sacramento, CA - Chapter 43

SPECIAL PROCTORED EXAMS

Certified Broadcast Networking Technologist® (CBNT®)
Jose Bolanos, Cedar Springs, MI

Alabama Broadcasters Association
Certified Broadcast Television Engineer™ (CBTE®)
Craig LeFevre, Cookeville, TN - Chapter 103
Daniel Santiago, Elizabethton, TN - Chapter 113

Certified Broadcast Technologist® (CBT®)
Shelby Avery, Hanahan, SC
Michael McGuire, Chaffee, MO

SBE CERTIFIED SCHOOL COURSE COMPLETION

Certified Broadcast Technologist® (CBT®)
Mitchell Technical Institute
Michael Kokesh, IV, Wagner, SD

DINFOS
Morgan Ancheta, Long Beach, CA - Chapter 47
JD Sacharok, Ft. Irwin, CA

CERTIFIED BY LICENSE

Certified Broadcast Technologist® (CBT®)
Mark Brasche, Burlington, CT - Chapter 14

Dan Ethen, Santa Rosa, CA - Chapter 40
Shane Godmere, Green Bay, WI - Chapter 80

Ted Nadaskay, Pensacola, FL
John Thompson, Jr., Brandon, FL - Chapter 39

CERTIFIED RADIO OPERATOR® (CRO®)

Brian Allred, Boise, ID
Caleb Conyers, Newark, AR
Jonathan Craig, Mesquite, TX
Gregory German, Berkeley, CA
David Pelz, Rocklin, CA

Pasadena City College
Andrea Cardenas, Baldwin Park, CA
Wilbert Flores, Altadena, CA
Tanya Gonzalez, San Gabriel, CA
Jessica Guardado, Pasadena, CA
Leonid Khoroshev, Arcadia, CA

Arturo Gomez Lopez, Los Angeles, CA
Marilyn Rojas, Pasadena, CA
Rosa Torres, Altadena, CA
Carlos Uribe, Glendale, CA
Daniel West, Pasadena, CA
Josef Wiesmuller, Altadena, CA

CERTIFIED TELEVISION OPERATOR® (CTO®)

Jeffrey Coleman, Chesapeake, VA
Carly Dandrea, Bozeman, MT
Kathleen Daniel, Boca Raton, FL
Melissa Gerstner, Quincy, IL
David Gilbert, Quincy, IL
Jordan Hull, Quincy, IL

Aaron Irvin, Quincy, IL
Aaron Johnson, Franklin, VA
Jack Jones, Quincy, IL
Kristen Moretti, West Palm Beach, FL
Logan Putnam, Quincy, IL
Judy Stokes, Merrick, NY

Olivia Svetich, Quincy, IL
Eric Traubitz, Quincy, IL
Kira Vig, Tacoma, WA
Guilford Walker, Virginia Beach, VA
Brandon Watkins, University Place, WA
Holly White, Tacoma, WA

RECERTIFICATION

The following 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 Broadcast Technologist® (CBT®)
William Barrick, Sayville, NY - Chapter 15
Jan Bathurst, Quentin, PA - Chapter 22
Stephen Brown, Virginia Beach, VA - Chapter 54
James Caldwell, Grove City, OH - Chapter 52
Gregory Carter, Fairport, NY - Chapter 57
Darrell Gauchier, Edmonton, Alberta Canada
Anthony Granata, Northridge, CA - Chapter 47
William Hamilton, Dickson, TN - Chapter 24
Wayne Hart, Silver Spring, MD - Chapter 37

CBT® continued
Thomas Kingsley, Fort Mill, SC - Chapter 45
Dean Maluski, New Britain, CT - Chapter 14
Darrell McCalla, Mountain Brook, AL - Chapter 68
Robert Reite, Exeter, PA - Chapter 2
Joseph Royall, Mount Olive, NC - Chapter 93
James Sallen, Bloomington, IL - Chapter 49
Jeremy Scott, Hendersonville, NC - Chapter 116
Terry Spring, Carnation, WA - Chapter 16

Certified Television Operator® (CTO®)
Orville Cole, Shady Spring, WV - Chapter 116
Bryan Durr, Brooklyn, NY - Chapter 15
Edwin Escobar, Jersey City, NJ
Leslie Franzen, Madison, WI - Chapter 24
Rob Martin, Seattle, WA
Andrew Schatz, Charlotte, NC
Certified Radio Operator® (CRO®)
Maximilian Navarro, Los Angeles, CA
Jason Ornellas, W. Sacramento, CA - Chapter 43
Robert Taylor, Secaucus, NJ - Chapter 15

ly grade the essay and return their scores to the SBE National Office. The certification director averages the three scores to obtain a single score for the essay response. The single score for the essay must be at least a 10 for the individual to pass. If the averaged essay score is 10 or greater, the essay score is added to what was achieved on the multiple-choice questions. This becomes the total score of the examination.

The Certification Committee hopes this helps you understand the importance of the essay question and the process used to assign and grade it. Don't let the essay question intimidate you from obtaining the level of certification you deserve. As you answer the essay question, let your experience do the writing, and let those creative juices flow. I state this from experience as I took the senior-level exam and passed.

Recognizing the 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.



Gary Mach, CPBE, CBNT (right), receives his certificate from Fox Valley Chapter 80 Chair Mark Hoenecke, CBNT.



Owen Smith, CBTE (left), receives his certificate from El Paso Chapter 38 Chair Antonio Castro.



Ted Hand, CPBE, 8-VSB, AMD, DRB (right), receives his certificate from Hampton Roads Chapter 54 Chair John Heimerl, CPBE.



Ted Hand, CPBE, 8-VSB, AMD, DRB, (left) receives his certificate from Charlotte Chapter 45 Chair Ben Brinitzer, CPBE, AMD. Photo by Edgar Payne.



Michael Hendrickson, CPBE, CBNT (right), receives his certificate from Minneapolis Chapter 17 Chair Nathan Hart.

Six people were selected by seven chapters for the local honor. They were listed in the last issue of The Signal. We recognize them here as they were honored by their chapters.



Ron Bartlebaugh, CBNT (left), receives his certificate from Northeast Ohio Chapter 70 Vice chair Gary A. Miller.



Michael Cole, CTO (left), receives his certificate from Tucson Chapter 32 Chair Robert Nemitz, CBNE.

SBE Mentor Program Begins

The SBE Mentor Program helps broadcast engineers who are new to the field. The program partners a new engineer with a more-seasoned professional. This allows the more-experienced person to share his or her gained knowledge, both empirical and practical, with someone new to the field. The SBE Mentor Program provides this conduit for the participants.

The application form for mentors and mentees was posted online over the past few months. There were many more mentees than mentors who applied, but we were able to pair all the participants. As a member benefit, there is no cost to the

participants in the program.

To be a mentor, individuals have to be a current SBE member who values the society and its mission, must be employed in

broadcast engineering with a minimum of five years working in the profession, have a desire to help others grow and excel in their careers, and have a positive attitude toward the profession and learning.

Qualifications for the mentees are to be a current SBE member, to be currently working in broadcast engineering, to have fewer than five years experience in broadcast engineering or have a new assignment or responsibility in the current position, and be open to constructive feedback.

The mentor and mentee agree to talk by phone at least once every other week. As the program was being created, it was not expected that the partners would be located in the same city.

Mentees will have the opportunity to discuss technical problems with their mentors as a way to identify possible solutions. But the conversations can certainly go beyond nuts-and-bolts topics to cover station operations and the cooperative role that engineering has with other departments at a broadcast or media facility, including sales, programming, marketing and more.

The partnership lasts for one year and began on Oct. 1, although the SBE is hopeful that the program will build long-lasting relationships. More info at sbe.org/mentor.

WEBCAST from p. 1

including the Robert L. Flanders SBE Engineer of the Year to Michael Hendrickson, CBPE, CBNT and the James C. Wulliman SBE Educator of the Year to Cheryl Lustenberger, CBNT, CTO. Presentation of the SBE Technology Award to Blackmagic Design and the first-ever SBE Freedom Award to Sgt. Norman Portillo, CBT, CTO will be made. The dinner program concludes with the SBE Fellow honor presented to three members: Jay Adrick, Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE and Joseph Snelson, CPBE, 8-VSB.

SBE Chapters will be recognized for achievement, including: Best Chapter or Regional Educational Event, Best Chapter Communications, Most Certified Chapter, Highest Member Attendance and Greatest Growth in New Members.

Hosting this year's national meeting is the Ohio Association of Broadcasters (OAB) and the five SBE chapters of Ohio. The OAB presents the Ohio Broadcast Engineering Conference that includes a broadcast and media equipment and services tradeshow and multiple technical sessions of interest to all media engineers, technicians and IT personnel. It will be held at the

Greater Columbus Convention Center in downtown Columbus.

All SBE National Meeting events will be held at the Crowne Plaza Hotel adjacent to the convention center, with the exception of the Annual Membership Meeting, which will be held in the convention center.

Register for the Ohio Engineering Conference and SBE National Meeting through the OAB website at www.oab.org. Register separately to attend the SBE National Awards Reception and Dinner (\$15) through the SBE National Office website or by telephone, Monday - Friday from 8:30 a.m. to 4:30 p.m. ET at 317-846-9000.

Hotel reservations may be made at the Crowne Plaza by calling 800-338-4462 or via the hotel's website, www.crownplaza.com/cmhcrownplaza. A special room rate of \$134 per night plus tax has been reserved. Reservations must be made by Sept. 24. After that, rooms will be available on a space and rate availability basis. Rooms include complimentary internet connection and reduced valet parking of \$18 per day.

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LEGAL PERSPECTIVE

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

Good Fences Make Good Neighbors

The SBE has tried several times to modernize the rules governing the 450-451 MHz and 455-456 MHz paired RPU band. We haven't gotten much help from the Wireless Bureau at FCC on that subject, to say the least. Now, the FCC is proposing, on its own motion, based on some recent waivers that have been granted to land mobile licensees, to allow new, narrowband land mobile applications for the channels immediately adjacent to the top end of the paired UHF BAS bands. On August 18, 2016, the FCC released a notice of proposed rulemaking in Docket 16-261 proposing, among other things, to amend the Part 90 land mobile radio service rules to allow land mobile applications for new or modified licenses to use frequencies very close to the band edge between the land mobile Business and Industrial channel pool and the BAS RPU band. The idea of course is to permit the most efficient use possible of scarce UHF spectrum. However, in doing so, it is important to not create a source of interference to incumbent BAS operation below 451.000 MHz and 456.000 MHz.

This initiative had its start in 2014 when a number of land mobile licensees applied for waivers of the table of allocations and the Part 90 rule that lists channels available for business and industrial (I/B) land mobile licensees, in order to permit the applicants to operate on frequency pairs 451/456.0000 MHz, 451/456.00625 MHz, and 451/456.0125 MHz at numerous locations around the country where the land mobile I/B pool is overcrowded. FCC consolidated those waiver requests into Docket 14-34 and granted them for three of those pairs but denied the requests with respect to frequency pair 451/456.0000 MHz. All of the requested channels were and are allocated for land mobile operations, but then and now they have not been allowed for use on a primary basis by the Industrial/Business Pool licensees or any other radio service because they are on

the band edges between BAS spectrum and I/B Pool spectrum. Since the I/B pools were set up, however, land mobile narrowbanding has occurred and the initial rationale for the prohibition has been removed. No narrowband requirements exist for Part 74 licensees, however.

The 2014 waiver applicants asked to use the frequency pairs 451/456.0000 MHz, 451/456.00625 MHz, and 451/456.0125 MHz with a 4 kHz emission designator (such as JVC Kenwood's NXDN ultra-narrowband equipment), which they said would have no risk of interference because the requested channels would not overlap any designated frequencies on either side, in light of the implementation of narrowbanding by private land mobile radio licensees in the VHF and UHF land mobile bands.

The applicants for 451/456.009375 MHz propose to operate with an 8 kHz emission designator, which they contend will not overlap any designated frequencies on either side. The SBE objected to the waivers, stating concern of interference to BAS operations at the band edges. The FCC agreed in part, saying that the proposed land mobile use of frequency pair 451/456.0000 MHz would overlap the 450-451 MHz and 455-456 MHz bands, and because BAS low power auxiliary licensees operate in the 450-451 MHz and 455-456 MHz bands and utilize the entire bands, so long as the emission bandwidth does not exceed the band edges (§ 74.861(c)), land mobile on that one pair would overlap BAS operation. Narrowband operation in the other requested channels would not overlap the band edge of the BAS bands so FCC permitted it.

The Change of Plans

Now the FCC is proposing to extrapolate from these 2014 waiver grants. The August 2016 NPRM proposes to amend the land mobile I/B Pool frequency table to add frequency pairs 451/456.00625 MHz and 451/456.0125 MHz, with the limitation that the "authorized bandwidth" not exceed 6 kHz (the widest bandwidth that will avoid overlap between the BAS band and the private land mobile band). The FCC said that it tentatively concluded that it would be in the public interest to make additional frequencies available to land mobile applicants that can be used without overlapping the occupied bandwidth of currently assignable frequencies and without causing harmful interference. As of this writing the 60-day comment period has not yet begun to run because the NPRM has not been published yet in the Federal Register.

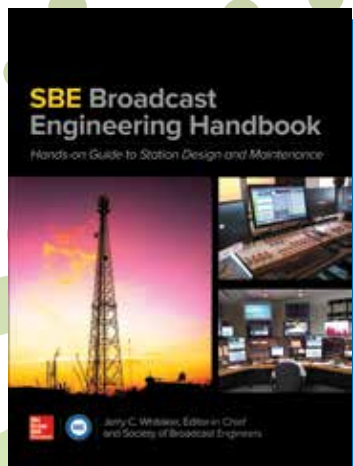
Will there be any interference to BAS licensees from this proposal? It is not entirely clear. The Part 74 rules allow, among other things, BAS operations at 450.99375 MHz with 5 kHz deviation and on 450.95 MHz with 35 kHz deviation. The frequency tolerance is 0.0005% (about 2.25 kHz) for BAS mobile stations and one-half that amount for base stations. It is certainly possible that wideband RPU-type operations at 450.95 MHz would not be interfered with by a land mobile NXDN signal, the lower end of which would be at the 451.000/456.000 band edge. However, the same may not be true of RPU narrowband operations at 450.99375.

The SBE will file comments in this proceeding. Let us know what you think. Good fences make good neighbors. Do you think the fence should be moved?

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FOCUS ON SBE

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

Technology For the Media Engineer... In 2026!

In the mid-2000s, the SBE Board of Directors made the commitment to increase the scope, quantity and quality of the Society's educational programs. The objective was to provide our members with the training and knowledge to meet the demands of rapidly changing technology; technology being used, or about to be incorporated at their stations, or for their clients.

Since then, under the direction of an effective SBE Education Committee and the work of an additional national SBE headquarters staff member dedicated to education, the SBE has increased its education offerings by 300% and participation has grown to more than 1,000 members annually taking part. The SBE has produced dozens of live webinars on technology, regulatory and other topics of interest and necessity to media engineers. Almost all of these webinars are archived and available on the SBE website. The SBE has created 16 courses available online in our SBE University series that provide more in-depth treatment of a cross section of technical and engineering management topics.

The SBE also created the Technical Presenters Group, matching subject matter experts who also happen to be excellent speakers. These are for longer format, single-topic programs typically in use by state broadcasters' associations and some of our chapters for half or whole-day presentations.

During this period of growth, the SBE has continued to produce its legacy education programs. The regional Ennes Workshops, the first one was held in Cincinnati, OH, in 1991, are presented around the U.S. four or five times each year. These multi-topic, multi-speaker, one-day programs bring together speakers and an in-person audience. The annual Ennes program held as a part of the annual NAB Broadcast Engineering and Information Technology Conference in Las Vegas, is a super-sized version of these. The annual SBE Leadership Development Course, presented by the SBE since 1997, is as strong as ever; this year with 25 students attending the three-day course in Atlanta led by instructor Rodney Vandever of Purdue University. We need our online education delivery options because

they help overcome obstacles of lack of time, personnel and financial resources. Yet, there is still no more effective way to learn than bringing learners and teachers together in a class room.

All of these programs have generally focused on presenting technology as it is used today and in the very near future. We are indebted to literally hundreds of subject matter experts and companies that have contributed their resources to teach and inform our members over the years with information they need to keep their stations and facilities running, and to incorporate new technology that our industry embraces.



The SBE Leadership Development Course is one of many educational opportunities.

But what of the future? What will broadcast media look like five to ten years from now? Content delivery models are (and have been) transforming to compete with other sources of news and entertainment. These developments have also influenced the trends impacting viewing and listening habits of the public. What technology will be in place in 2021 or 2026 to deliver content?

That is a question that the SBE and its non-profit, charitable arm, the Ennes Educational Foundation Trust, posed earlier this year. To meet the technological education needs of our industry, the SBE sought to look further ahead and brought together a small group of industry thought-leaders for a one-day SBE Education Summit on Sept. 28 in New York City. Their objective? To discuss, predict, forecast and speculate on where technology is headed in our industry in the next five to ten years with the mission of helping the SBE create future educational programming that will meet the industry's, and our members, needs.

The SBE Education Summit was hosted by SBE President, Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNT, of Entercomm Communications; Education Chairman, Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE, of Texas A&M University; Joe Snelson, CPBE, 8-VSB, who served as moderator of the summit; and me. Participating were Conrad Trautmann, CPBE, senior vice president of technology and operations, Cumulus Media; Milford Smith, vice president of radio engineering, Greater Media; Robert Seidel, vice president of engineering and advanced technology, CBS Television; Mario Vechi, chief technology officer, PBS; Jay Adrick, industry consultant to GatesAir and others and heavily involved in ATSC 3.0; and Jan Ozer, consultant, author and streaming media guru. We thank this group for committing their time and valuable input to this effort.

The group represents a cross section of today's changing media field and has literally hundreds of years of experience and an impressive amount of collective knowledge; all contributing to create a knowledgeable perspective on the future. The SBE will work to use the information gathered from the Education Summit to begin to develop webinars, courses and workshops that reflect future technology needs. We will also continue to provide educational offerings that address legacy technology that is still in use today and will be into the future.

Our SBE Board of Directors is commended for reviewing and refining the education summit plan, first proposed by the trustees of the Ennes Educational Foundation Trust, earlier this year. The event is made possible through a financial grant from the Trust. Our thanks to the trustees, Fred Baumgartner, CPBE, CBNT, of Nautel; Leonard Charles, CPBE, of Morgan Murphy Media; and Doug Garlinger, CPBE, 8-VSB, CBNT, of WISHTV for their foresight to recognize the need to look ahead at the industry's needs and their willingness to commit funds from the trust for this purpose. We wish to thank The Durst Organization and New York SBE member John Lyons, CPBE, for their support in providing a conference room at One World Trade Center for our group to meet.

We'll share the findings of the SBE Education Summit in the December issue of *The Signal*.



ENGINEERING PERSPECTIVE

By Mike Seaver
Owner/CEO, Seaver Management and Consulting
meseaver@comcast.net

Communication Is Key In Contract Engineering

In August, the SBE presented a live webinar titled, *Managing Your Contract Engineering Business*. The webinar was co-presented by Dennis Baldrige, CPBE, 8-VSB, AMD, DB, CBNT, and me, and is available on-demand through the SBE website. Reading/listening to this webinar will be of great value to you whether you are the contract administrator or the contract engineer.

As an extension of that webinar, I offer some additional ideas for station and contract engineers.

While the various procedures and techniques discussed in the contract engineering webinar are essential in the day-to-day operation of your engineering department, I want to stress the value of good, documented communications. We work in the business of communications and are, perhaps, somewhat lax in the application of exchange of information. That is why I want to re-emphasize the importance of the paper trail of any contract maintenance.

It Starts With the First Call

Who called for service is important to know to ensure that what is needed is what was requested and delivered. It is imperative that the person making the call accurately record the information that was provided to the service contractor. This will eliminate any discrepancies upon arrival of the service personnel and ensure the accurate, timely completion of the service required. This is especially important if any further conversation with the provider is needed prior to the visit. Keeping everyone on the same page will eliminate cost overruns and expedite the repair or service.

Equally important is the notification of the station's personnel involved with the equipment or service. They should be notified, in writing, of the time of expected arrival with all the information of who, for what, when, why, and to whom to report the service performed. Often, service will be performed when the engineer or department director is unavailable. The in-writing notification will ensure continuity of services and the availability of the device when the serviceman arrives.

Interdepartmental communication is vital to keeping systemic continuity. If you, the engineer, are going to be the person re-

sponsible for administrating the service contract you must be able to adequately communicate what is going on with the other departments and be able to do so in a manner that they can understand. This is vital in maintaining essential services.

The chief engineer or director of engineering must be able to talk in language understood by other station personnel in terms they can understand. This is vital to keeping the station's workflow running smoothly. The engineer must be able to understand how the service contract not only affects their involvement, but how other departments are affected by the work to be performed. This requires you, the engineer, to be multilingual.

Even if you are the contractor, these communication skills are mandatory. Working in a multi-disciplined environment requires the ability to communicate, not only to other engineering types, but to everyone involved in this process.

No longer can the chief engineer or director of engineering just be accomplished technically, he or she must also be able to be part of the management team, able to converse with people from every department in language they can understand and using terms others will comprehend. Well-written communications makes working with contracted personnel very efficient and will go a long way in making your station operate smoothly. It is your job, as engineer, to teach the others at your station to understand your language and, perhaps even more important for you to learn their language.

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Chapter Check

Chapter 15 New York City

George Marshall, CPBE (right), receives his plaque from Chapter Chair Jeff Smith, CPBE, for serving Chapter 15 as certification chair for 16 years at the the Chapter 15 barbecue, held May 19 at Liberty State Park in NJ.



Chapter 26 Chicago

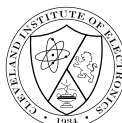
In August, Chicago Chapter 26 met for a tour of the transmission facilities at the John Hancock Center. Highlighting the tour were the WLS-TV transmitter and a 10-channel FM combiner.



Chapters: Send your chapter event photos to Chriss Scherer (cscherer@sbe.org).

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Television Broadcast Playout Automation
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Audio and Video Content Management
- RDL • 2004**
David Zovod 928-778-9678 x104
Audio, Video, Control & Test Equipment
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
Servers & Storage
- 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
- Seacomm 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
- Signiant • 2012**
Steve Gillen 781-221-4000
Signiant Content Delivery Software
- Silvus Technologies • 2015**
Mark Tommey 617-816-6588
Wireless Video Mesh Network
- Snell Advanced Media • 1995**
John Shike 818-556-2616
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
- Superior Electric • 1995**
Michael J. Miga 860-507-2052
Power Protection Equipment
- Sutro Tower Inc. • 1989**
Eric Dausman 415-681-8850
Broadcast Tower Leasing
- The Switch • 2011**
Peter Hartz 323-645-8011
Fiber Transmission Provider
- Tektronix Inc. • 1977**
Jim Lang 503-627-2980
Video Test & Measurement, Equipment
Manufacturer
- 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
- Thomson Video Networks • 2014**
Matt Tietze 301-537-6288
Video Compression and Processing
- Tieline The Codec Company • 2003**
John Lackness or Jacob Daniluck 317-845-8000
POTS, ISDN, Codecs & A/V Products
- Unimar Inc. • 2001**
Thad Fink 315-699-4400, 813-943-4322
Tower Obstruction Lighting Designer,
Manufacturer, Distributor
- Vislink Inc. • 1991**
Mike Payne 978-671-5700
Video Microwave Systems and Services
- Volicon • 2015**
Russell Wise 781-221-7400
Media Intelligence and Logging Solutions
- Wheatstone • 2010**
Jay Tyler 252-638-7000
IP Consoles, Routers & Processors
- WideOrbit • 2012**
Brad Young 214-923-6337
Broadcast Management Software, Automation
and Master Control
- Wireless Infrastructure Services • 2006**
Travis Donahue 951-371-4900
Repacking Services - West Coast Turnkey
Services
- WnewTech Corporation • 2014**
Luiz Santiago 310-220-5664
Systems Integration

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Member Spotlight: Randy Kerbawy

Member Stats

SBE Member Since: 1978
Certifications: CSRE
Chapter: 116 Mountain State
Employer: West Virginia Radio Company
Position: Engineer
Location: Beckley, WV
I'm Best Known For: My willingness to help others and my love of the industry, especially its history.

Q What got you started in broadcast engineering?

A I kind of stumbled into broadcast engineering. As a teenager, I spent a lot of time listening to distant stations on a WWII Navy receiver while fixing radios. When I was in high school, my plan was to go into radio and TV repair. I felt that I wasn't learning enough, so I transferred to a newly formed broadcasting class. A friend and I were the only two high school students in the class as it was a post-graduate class. I found that I was more interested in the technology than I was programming so I decided to get my First Class License (1974) and go into engineering. I still enjoy a good-sounding AM station late at night.



Randy with a few of his favorite things.

Q Who do you admire or consider a mentor?

A My Dad worked for Western Union and the Plant Technician, Ted Freeman showed me a lot about electronics and really sparked my interest in communications.

Q What do you like most about your job?

A The people I work with. We have a great group of folks here and throughout the company.

Q When I'm not working I...

A ...enjoy spending time with my grandchildren, Amateur Radio (KD8JEB), collecting slide rules and old radios.

Q You may not know this, but...

A ...in 2014 I was inducted into the West Virginia Broadcasting Hall of Fame along with my broadcasting instructor from high school.

Q What is your favorite gadget?

A My recently acquired Agilent 8935 Analyzer.

SBE Election Board of Tellers

The annual SBE election of officers and directors concluded on Aug. 25. To officiate the results of the election, the SBE Board of Directors appointed members of SBE Chapter 25 Indianapolis to serve as the election board of tellers. The SBE thanks these members for their service to the society.



The 2016 SBE election board of tellers: (l-r) John Kocur; Roger Bishop, CPBE, CBNT; Doug Garlinger, CPBE, 8-VSB, CBNT; Bill Cherry; Dale Smiley, CPBE

SBE-news Roundup

SBE Compensation Survey

From April 1 to May 13, 2016, the SBE conducted a survey to determine salary levels and benefits among broadcast and media technology engineers. This first survey will provide a benchmark for surveys going forward. The complete results of the survey are available at no charge to SBE members as a benefit of membership. A link to the survey is posted on the SBE website. SBE members will login to view the report.

Chapter Leader Training Video

The SBE has produced the first in a series of videos designed to inform and orient chapter leaders about chapter responsibilities and how a chapter works. View the video in the chapter administration section of the SBE website or on the SBE YouTube channel.

Ennes Educational Foundation Trust Awards Four Scholarships for 2016

The Ennes Educational Foundation Trust has awarded four scholarships for 2016. Winners were chosen from applications received by July 1, 2016, from the previous 12 months.



Copeland

The Harold E. Ennes Scholarship, Robert D. Greenberg Scholarship and John H. Battison Founder's Scholarship are awarded to individuals interested in continuing or beginning their education in broadcast engineering and technology. The Youth Scholarship is specifically for a graduating high school senior interested in broadcast engineering as a career. Each scholarship awarded this year is for \$1,500.

This year the Harold E. Ennes Scholarship recipient is Michael Frushour from Brookfield, IL. Frushour is a student at Columbia College in Chicago studying television production. His introduction to broadcasting was via a television production course offered at his high school. After his sophomore year, he applied some of his college knowledge by helping his high school update its facilities from analog to digital. He plans to pursue a career on live sports production.



White

Receiving the Robert Greenberg Scholarship is James Copeland from Wichita, KS. He is starting his junior year at Kansas State University studying broadcasting. He is currently the program director and student engineer at K-State's student-run radio station. On the side, he collects classic Heathkit and Collins radios.



Frushour

The John H. Battison Founder's Scholarship has been awarded to Clifford White from Tyler, TX. Obtaining his Amateur Extra Class license at age 14, his ham radio acquaintances who worked in broadcasting introduced him to the big leagues of radio. During the summer of 2015, White is a freelance radio broadcast engineer in East Texas and studies electrical engineering at LeTourneau University in Longview, TX.



Willet

Ruth Willet of Lawrenceville, GA, received the Youth Scholarship. She recently graduated from high school and plans to attend Kettering College in Michigan with a double major in mechanical engineering and engineering physics. She is an active amateur radio operator and was introduced to broadcast engineering through contacts with other amateur operators.

SBE President Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNT, said, "Education is a keystone of the Society of Broadcast Engineers, and through the

Ennes Educational Foundation Trust, we can assist these deserving candidates with Ennes Scholarships to support their education in broadcast engineering."

The Harold Ennes Scholarship Fund Trust was initiated by Indianapolis Chapter 25 in 1980 in memory of Harold E. Ennes,

author of many textbooks for broadcast and broadcast-related communications training and a member of the Indianapolis chapter. Ennes was a member of the SBE's national Certification Committee and made many contributions to the early development of the Certification Program. To encourage greater growth, the Scholarship Trust was transferred by Chapter 25 to the SBE national organization to administer in 1981. The name of the Trust was changed in 1995 to the Harold Ennes Educational Foundation Trust to fully embrace its expanded role.

WELCOME TO THE SBE

NEW MEMBERS

Wesley Albury - Chicago, IL
 Morgan U. Ancheta - Long Beach, CA
 Kevin J. Anderson - Logan, UT
 Joshua D. Anderson - Rochester, MN
 Shelby C. Avery - Hanahan, SC
 Brent Bolinger - Springfield, MO
 Mark D. Brasche - Burlington, CT
 Alan R. Camacho - Auburn, CA
 David Dieter - Denver, CO
 Tommy Evans - Missoula, MT
 Thomas Gallagher - West Palm Beach, FL
 Gregory S. German - Berkeley, CA
 Yvonne A. Gomes - West Haven, CT
 Timothy Gorry - Florissant, MO
 Billy Gullett - Norfolk, VA
 Roger D. Hatfield - Brooksville, KY
 Roy E. Henn - Prairie du Sac, WI
 Chris D. Hill - Lompoc, CA
 Bill Ingram - San Luis Obispo, CA
 Chad A. King - Mustang, OK
 Kenneth W. Kuenzie - Englewood, FL
 Craig A. LeFevre - Cookeville, TN
 Richard A. Lozano - San Antonio, TX

Ragheed A. Maloyan - Natick, MA
 Steven Martinez - Denison, TX
 Sean M. Maxwell - Euless, TX
 Scot McDougal - Gilbert, AZ
 Michael W. McGuire - Chaffee, MO
 Anthony Mota - Brooklyn, NY
 Ted S. Nadaskay - Milton, FL
 John M. Needham - Lawrence, KS
 Jonah Nemecek - Chicago, IL
 Kevin Newsome - Warrensburg, MO
 Richard Perry - Peachtree City, GA
 Catalin O. Popescu - Syracuse, NY
 Marc M. Porath - Deatsville, AL
 Jesse Y. Reagan - Pinson, AL
 Al Ritchie - Madison, WI
 Shawn M. Spaulding - Evanston, IL
 Otis Spaulding - Evanston, IL
 Ryan Stotts - Mount Juliet, TN
 William J. Teller - Akron, OH
 John W. Thompson - Brandon, FL
 Stephen Ullman - Cape Girardeau, MO
 Lisa A. Weiner - Bethesda, MD
 Susan S. York - Jefferson City, MO

NEW STUDENT MEMBERS

Jacob N. Carbajal - Battle Ground, WA
 Michael J. Kokesh, IV - Wagner, SD
 Amanda McIntosh - Miami, FL
 Erik S. Nunez - Rochester, NY

RETURNING MEMBERS

Naveed Aslam - The Woodlands, TX
 Andrew R. Avery - Knob Noster, MO
 Thomas Bohnet - Fairbanks, AK
 Jesse H. Bowman - Pearlant, TX
 Gerry Field - Watertown, MA
 James M. Gale - Rio Communities, NM
 Margo K. Kelly - Washington, DC
 John W. Lee - Milwaukee, WI
 Jerry Lilly - Hunt Valley, MD
 Thomas M. Petti - Willowick, OH
 Gabriel M. Rosas - Inglewood, CA
 Alexandre Rukashaza - Silver Springs, MD
 Timothy D. Tilden - Vermillion, SD
 Anthony B. Tsosie - Hooper, UT
 Zsolt L. Vicsacsan - Phoenix, AZ
 Richard A. Williams - Trenton, NJ
 Sean E. Williams - St. Thomas, VI
 Joseph Zeppuhar - Cocoa Beach, FL

NEW ASSOCIATE MEMBERS

Helen Carr - Alexandria, VA

NEW YOUTH MEMBERS

Caleb R. Camarillo - Pasadena, TX
 Jason A. Chua - Cooper City, FL
 Ruth A. Willet - Lawrenceville, GA

RETURNING ASSOCIATE MEMBERS

Ron Smith - Gulfport, FL



In Memoriam

Charles Morgan
 Member #143
 1933 - 2016

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MEMBERS ON THE MOVE



Alpha Media announced three new regional directors of engineering; **Jeff Caudell**, CSRE; **Gary Morrill**, CPBE, CBNE, and Trent Muldrow. Caudell will handle the Western region, based in San Antonio, TX; Morrill will handle the Midwest region, based in Saginaw, MI; and Muldrow will handle the Eastern region, based in Columbia, SC. **Mike Everhart**, CSRE, Alpha Media director of engineering, will continue to oversee Alpha's Oregon and Washington markets.

➤ **Charles Longfellow** is now the master control manager at Tribune Media in Indianapolis.



Bill Hamilton is now broadcast systems engineer at WSMV-TV, Meredith Corporation in Nashville, TN.

➤ **Mark Fehlig**, CPBE, has joined the Jampro/Alan Dick sales and engineering staff as senior systems engineer digital television. Fehlig also currently serves on the SBE Board of Directors.



Have a new job? Received a promotion? Let your fellow SBE members know. Send your news to Chriss Scherer at cscherer@sbe.org.

MARK YOUR CALENDAR

Kansas Engineering Day by KAB

Wichita, KS
Oct. 10, 2016 kab.net

Kentucky Broadcasters Ennes Workshop

Bowling Green, KY
Oct. 11, 2016 kba.org

WBA Broadcasters Clinic

Madison, WI
Oct. 11 - 13, 2016 wi-broadcasters.org

SBE National Meeting

Columbus, OH
Oct. 26 - 27, 2016 sbe.org

SBE Certification Exams

Local Chapters
Nov. 4 - 20, 2016 sbe.org/certification
Application deadline is Sep. 30, 2016.

Live & Local



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