THE Signal
Bimonthly Publication of the Society of Broadcast Engineers

SBE
The Association for Broadcast and Multimedia Professionals

www.sbe.org
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SBE Elects Jim Leifer as President

The results of the 2017 election for the national board of directors are in. Jim Leifer, CPBE, was elected as the society's president. Leifer is senior manager of broadcast operations at American Tower Corporation, Andover, MA.


Leifer

Regarding the election, President-elect Leifer said, "I look forward to serving the Society and its members. I would first like to thank my friend President Jerry Massey. We all appreciate your efforts and leadership over the last two years. I look forward to continuing your outreach to the military. I also look forward to working with the Board of Directors and the membership so we can expand our membership and outreach to the media professionals among us."

Others serving one-year terms as officers, which begin on Oct. 26, are:

• Vice President: Robert "RJ" Russell, CPBE; VP engineering and operations, WTXF-TV; Philadelphia, PA

• Secretary: Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE; director of engineering, Texas A&M University – KAMU-FM & TV; College Station, TX

• Treasurer: Jim Bernier, CPBE, CBNE, senior director, Techwood Engineering; Turner; Atlanta

Serving two-year terms on the board of directors, which also begin Oct. 26 are:

• Andrea Cummis, CBT, CTO; managing partner, AC Video Solutions; Roseland, NJ

• Mark Fehlig, P.E., CPBE, 8-VSB, CBNT; senior systems engineer, Jampro/Alan Dick Antennas; Walnut Creek, CA

• Stephen H. Lampen, CBRE; multimedia technology manager/product line manager – entertainment products, Belden; San Francisco

• Kimberly K. Sacks, CBT; director of engineering, iHeartMedia; Loveland, CO

• Barry Thomas, CPBE, DRB, CBNE; director of engineering, KSE Radio; Denver, CO

• Kevin Trueblood, CBRE, CBNT; director of engineering, WGCU Public Media; Estero, FL

Those elected will be sworn in on Oct. 26, 2017, during the SBE Membership Meeting. They will join the other five directors who have another year remaining in their terms (Kirk Harnack, CBRE, CBNE; Telos Alliance; Nashville, TN; Vinny Lopez, CEV, CBNT;

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 Denver on Thursday, October 26 at 4 p.m. ET (2 p.m. MT). The meeting is part of the Society of Broadcast Engineers National Meeting, held in conjunction with the Rocky Mountain Audio/Video Expo (AVX) and hosted by SBE Chapter 48 Denver and the Colorado Front Range. The one-hour webcast will include updates and reports on the Society's activities and the induction of newly elected national officers and directors, including incoming President Jim Leifer, CPBE. Current SBE President Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNT, will preside over the meeting.

Featured during the meeting will be special guest, Robert Weller, vice president for spectrum policy at the National Association of Broadcasters (NAB), who will field questions on spectrum issues affecting broadcasting posed by President Massey.

To view the webcast, go to the SBE website, www.sbe.org and click on the SBE Annual Membership Meeting link. The SBE Annual membership Meeting webcast is sponsored by AC Video Solutions, Blackmagic Design, Dielectric, DVEO, HD Radio/DTS and Micronet.

National Meeting events begin on Wednesday, October 25 and include a meeting of the national SBE Certification Committee and the fall meeting of the SBE Board of Directors. On Thursday, October 26, activities begin with the annual SBE Fellows Breakfast (invitation-only), sponsored by Kathrein USA. Following the SBE Annual Membership Meeting will be the SBE Annual Awards Reception, sponsored by Comrex, and the SBE National Awards Dinner, sponsored by The Telos Alliance. Weller will be the keynote speaker for the dinner, speaking on the TV Repack.

Weller became vice president for spec-

see MEETING, p. 8

IN THIS ISSUE

4 Letter from the President
5 Working in the Cloud
6 What Certification Says
8 Ennes Scholarships
10 6.5 & 7 GHz Activity
12 Winter Ready
15 Chapter Engineer Recognitions

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

ELECTION from p. 1

WSTM/WTVH/WSTQ-Sinclair Broadcast Group, Syracuse, NY; Jason Ornellas, CBRE, CRO; CBS Radio Sacramento; Sacramento, CA; Marcelo Sanchez, CPBE; WFOR-TV/WBFS-TV; Miramar, FL; Justin "JT" Tucker, CSRE, AMD, CBNE; Cumulus Media Charleston; Charleston, SC) and Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNE, who becomes the immediate past president. Bernier had one year remaining in his director term, so a replacement will be appointed to fill the remainder of that term when the new officers and directors are in office.


Russell


Pecena


Bernier


Cummis


Fehlig


Lampen


Sacks


Thomas


Trueblood

Certification Question

Answer on page 6

For an audio frequency response measurement, 0.8V RMS is arbitrarily assigned the value of +1 dB. Knowing this, a voltage of 0.55V RMS would correspond to:

A. +4.25 dB
B. +0.68 dB
C. -2.25 dB
D. -3.25 dB

LETTER FROM THE PRESIDENT

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

Hard Work, Heartfelt Thanks

As I write this message to you, Hurricane Irma has just moved out of Florida and into the southeastern states. I know personally many SBE engineers that have worked to keep their stations on air and the public informed during this crisis. The last few weeks has also exhibited the tireless work of broadcast engineers with the western fires and Hurricane Harvey in Texas and Louisiana. The life and safety of the public has been well served by your professionalism and your selfless drive to keep your stations on air. Your efforts have not gone unnoticed and on behalf of the SBE, I want to say how proud we are of you.

Flashback: Jerry Massey is sworn in as president at the 2015 National Meeting in Madison, WI.

This week also gives us time to pause and reflect of the events of September 11, 2001, and to pay tribute to the six engineers whom were lost in the collapse of the World Trade Center Towers. Those of us who were starting a normal broadcast day on 9-11-01 can remember how that event changed everything we had normally been doing. To this day, we work by a different set of rules learned on that fateful day. I know each of you who were in broadcasting that day paused to pay respect to the six engineers we lost and to reflect on where you were and what you were doing on 9-11.

The time for our national meeting in Denver, CO is quickly approaching. The dates are Oct. 25 and 26 at the Crowne Plaza Denver Airport, Denver, CO. This is being held in conjunction with the Rocky Mountain Audio/Video Expo. If you are in the area, please join us. For all the details, go to www.sbe.org and click on the SBE National Meeting box for all the details. If you can't be with us in person, the SBE annual Membership Meeting will be streamed on Oct. 26 at 4 p.m. ET. The link will be posted on the SBE website. Tune in; we would love to have you!

This is my last *Signal* article to you as your president. It has been my pleasure to represent you for the past two years. I especially appreciate meeting and talking to many of you at our national meetings, the NAB conventions and on phone conversations. I want to thank the Board of Directors who have worked for you the past two years. You have been well represented by this Board as they have given of their time to make sure the SBE runs smoothly.

To the staff of the national office, our Executive Director John Poray and our General Counsel Chris Imlay, a very big thanks for your hard work the past two years of my presidency. We are blessed to have such a dedicated staff and thanks for all of your assistance to me.

I look forward to working with your President-elect Jim Leifer and the new officers and directors in the coming year.

AVX Takes Place Oct. 25 - 26 at Crowne Plaza Denver International Airport

The 2017 AVX experience will expand your mind, skills and capabilities. You and your colleagues will learn at any of our free* seminars led by true trailblazers in their respective fields. We offer learning pavilions where the most qualified instructors provide a hands-on learning experience with Adobe and Apple Pro App certified trainings. The most incredible business resources are at your fingertips when you immerse yourself in the latest technologies and business solutions on the exhibit floor featuring more than 125 companies you want to see. This year's AVX is also produced in conjunction with the SBE National Meeting and CBCcon.

ROCKY MOUNTAIN AUDIO VIDEO EXPO

So, whether you escape reality at our new VRXperience or take flight in our DRONEZone, this is one show you cannot afford to miss. Details at www.avxpo.biz.

** Free event if registered by Oct. 22. Admission at the door is $15.*

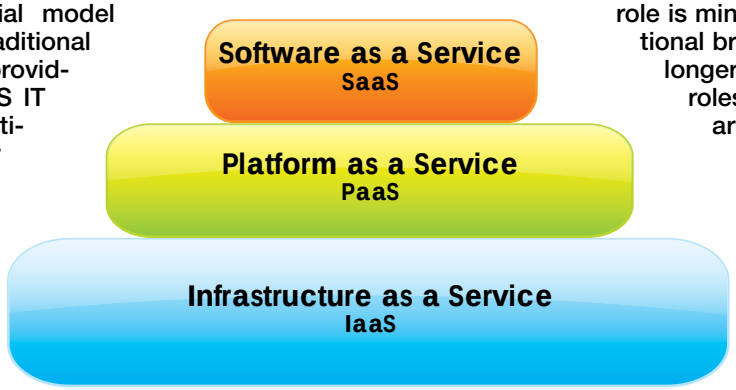
EDUCATION UPDATE

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

Is Your Future Cloudy?

The future will always present challenges for the broadcast engineer. You are faced with challenges on a daily basis ranging from the immediate transmitter repairs to get back on the air to longer term planning of how to actually implement ATSC 3.0 with the right service mix for your market. Regardless of the challenges of today, I expect that the "cloud" will be in your future whether you support one or more small market radio stations or a major market TV station.

The industry has migrated to an information technology-dominated infrastructure, which has brought advantages and of course challenges. One advantage touted by manufacturers is the use of common, off-the-shelf technology (COTS) IT hardware as a cost savings due to the economies of scale of the IT industry. Whether or not true cost-of-ownership savings exist can likely be debated. It is for sure that the broadcast industry has changed from a capital expense- (CapEx) to an operations expense- (OpEx) based financial model driven by the IT industry. Traditional broadcast industry equipment providers are able to simply buy COTS IT hardware and focus their competitive value add upon creating their unique special sauce software to implement the infrastructure needs of the broadcaster. I expect this migration trend will continue and the cloud will be in your future if it already not an integral part of your broadcast technical facility. What does this technology shift mean for the broadcast engineer? Needless to say, a grasp of cloud technology will be another essential IT knowledge area for the broadcast engineer to master.



Cloud implementation layers

Cloud services can be implemented in a private environment, a public environment, or even a hybrid approach. A private cloud is simply resources are dedicated to a specific company or organization. A large group broadcaster would best fit this model. A public cloud is shared by several organizations often with no relationship to one another. Separate environments are commonly maintained by virtualization techniques to provide isolation between users, yet retain economies of scale and scalability in hardware resources. The hybrid cloud simply combines private resources and public resources and may be the common model upon which the future broadcast facility is based.

Cloud service models can be found in many service forms or service layers that begin with Infrastructure as a Service (IaaS) as the fundamental building block. An IaaS provider is responsible for the hardware infrastructure that often incorporates storage, connectivity, and security. This service level allows the broadcast station to focus on their operating system needs and broadcast specific application deployment. The broadcast station is no longer responsible for the ongoing hardware system support.

The Platform as a Service (PaaS) cloud service model builds on IaaS by adding an operating system (often multiple choices available) and a development Application Programming Interface (API) tool level. At this service level, the broadcast station is focused solely of the specific application and not the underlying hardware and operating system support responsibilities.

At the higher service layer, Software as a Service (SaaS) provides IaaS and PaaS services with broadcast specific software applications that the broadcast station utilizes to accomplish its infrastructure needs. Often these broadcast-specific SaaS applications are provided in an as-needed basis as capacity is enabled as demand warrants. This flexible and scalability feature can be advantageous to the broadcaster as viewer and listener demand varies. Amazon AWS EC2 and Microsoft Azure offerings are examples of well-known PaaS cloud providers.

On the surface, it may appear that the broadcast engineer's role is minimized. It is true that some traditional broadcast engineering roles will no longer be in demand, but I expect new roles and responsibilities will likely arise, as well as a new generation of independent service companies formed to support a new broadcast facility environment. The broadcast station engineer is likely to become familiar with the details of the service level agreement (SLA) between the cloud provider and the broadcast station. Monitoring SLA performance and enforcing compliance is likely a critical, ongoing task. Security will continue to be a concern even as the many routine tasks become the cloud provider's responsibility.

As an example, ATSC 3.0 and the necessary IT infrastructure seems well suited to a cloud implementation by the broadcast station, especially considering the potential underlying terrestrial connectivity integration. ATSC 3.0 transmission services provided through a Business Process as a Service (BPaaS) cloud provider might be a realistic method to integrate multiple stations broadcast content in a market with even RF transmission services provided in an outsourced manner. The future may be cloudy today, but I expect the cloud will be in your future!

Your SBE Education Committee wants to know your professional development needs. Provide your expertise and knowledge to your SBE colleagues through one of several education program delivery platforms. Lend your advice and guidance to the SBE Education Committee to help establish the right mix of content to meet the broadcast engineer's needs. Remember, 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 content mediums to meet your needs. On behalf of the Education Committee, I would like to offer a special welcome to the new SBE officers and directors who take office this month.

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

CERTIFICATION UPDATE

By Cris Alexander, CPBE, AMD, DRB
Member, SBE Certification Committee
Director of Engineering, Crawford Broadcasting Company
calexander@sbe.org

What Does SBE Certification Tell Me About a Person?

First, it tells me that he or she recognizes the value of certification and the value of the SBE as a certifying and standards-setting organization that is, in essence, the authority on what level of expertise constitutes a "broadcast engineer." It tells me that person found it worthwhile to go to the trouble and expense of studying and sitting for a certification exam. It takes some effort to get certified.

It also tells me that the person has exhibited a certain level of expertise pertinent to the certifications that he or she holds. As a manager, I know that I can hire that person and expect him or her to perform to that level. In our company, we require SBE certification of all our chief engineers and engineering managers, and we encourage it for all other engineering staffers. The higher the certification level of an employee-candidate, the more qualified I assume he or she is for the position, and the more that person is worth to this company.

Specialist certifications tell me a good bit more about the person. A person holding a specialist certification has demonstrated specialized knowledge in a certain area – networking (CBNT, CBNE), digital television (8-VSB), digital radio (DRB) or AM directional (AMD). If I am looking for an engineer in one of our AM-heavy markets, the candidate with the AMD has a leg up on all the candidates without. Likewise, in markets where we operate digital stations, the candidate with the DRB specialist certification will move up the list ahead of those without. In addition, in today's IT-intensive broadcast environment, the CBNT- or CBNE-holding candidate is way ahead of the game.

So, certification is a primary screening and qualifying tool that my company uses in the hiring process, and rightly so. But what about existing employees? What does certification tell me about the person who may have been working for us for years?

That person's certification level and history tells me a lot about his or her drive, work ethic and enthusiasm for the job, all of which are qualities that we examine in annual performance reviews. Take for example the otherwise very qualified and very experienced chief engineer who had been grandfathered into his employment without certification for many years. When he got his CSRE, and then followed that up with CBNT and AMD specialist certifications, that said something about his leadership. By obtaining those certifications when he really didn't need them to keep his job, he led by example, and several of his engineering staffers followed him to their own certifications.

As noted, I certainly consider those things during annual employee reviews. An employee who has gone out of his or her way to demonstrate to me and the company active improvment in his or her professional pedigree, and thus his or her value to the company, gets an extra mark in the "assets" column during the review.

You will find our engineers' certification marks prominently displayed on their business cards to demonstrate to those with whom they professionally interact that they are, in fact, professionals.

As I deal with engineers at other companies, the certification marks after their names tell me something about them as well. Their certification tells me I am not dealing with a hobbyist that likes to play with broadcast equipment, but rather a certified broadcast engineer, someone who not only has the knowledge and skills to be a real broadcast engineer but who has also taken the time and gone to the trouble of getting the credentials to go with that knowledge and those skills.

Finally, whether I am dealing with a job candidate, an engineer within our company or someone on the outside, those certification marks tell me that I'm dealing with a credentialed professional. Certified broadcast engineers are broadcast engineers who take their occupations seriously. That's the kind of people I like to work with.

CQ Answer from page 3

The answer is C

Decibels (dB) express a ratio of voltages. Use the equation shown below to determine the difference in dB. Use $V_1 = 0.8$ and $V_2 = 0.55$ for a result of 3.25. Because 0.8 V = +1 dB, 1 - 3.25 = -2.25 dB.

$$20 \log \frac{V_1}{V_2} = \text{dB}$$

SBE Certification Achievements

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 Professional Broadcast Engineer (CPBE)
Robert Nelson, Manhattan, KS - Chapter 3
Gary Pearcey Sr., Stone Mountain, GA - Chapter 5
Thomas Weber, Indianapolis, IN - Chapter 25

Certified Professional Broadcast Engineer (CPBE) AM Directional Specialist (AMD)
Michael Fields, Oklahoma City, OK - Chapter 85

Certified Professional Broadcast Engineer (CPBE) AM Directional Specialist (AMD)

Digital Radio Broadcast Specialist (DRB)
Douglas Irwin, Burbank, CA - Chapter 47

Certified Senior Radio Engineer (CSRE) AM Directional Specialist (AMD) Digital Radio Broadcast Specialist (DRB)
Alan Lane, Tallahassee, FL - Chapter 42

Certified Senior Radio Television Engineer (CSRTE)
Robert Carroll, Slidell, LA - Chapter 72

Certified Senior Television Engineer (CSTE)
Steve Benedict, Vancouver, WA - Chapter 124
Juan Antonio Gonzalez, Miami, FL - Chapter 53
Michael Norton, Madison, WI - Chapter 24

Certified Senior Radio Engineer (CSRE)
James Gay, Macon, GA - Chapter 5

Certified Broadcast Networking Engineer (CBNE)
Randall Hisle, Williamsburg, VA - Chapter 54
Jesse Janosky, College Station, TX - Chapter 37
Michael Norton, Madison, WI - Chapter 24

Certified Broadcast Radio Engineer (CBRE)
Mark Dubosky, Hollywood, FL - Chapter 53
Chuck Springer, Garden City, KS - Chapter 3
Pete Tridish, Philadelphia, PA - Chapter 18

Certified Broadcast Television Engineer (CBTE)
Randall Hisle, Williamsburg, VA - Chapter 54
Jesse Janosky, College Station, TX - Chapter 37
Eddie Simone, Phoenix, AZ - Chapter 9
Todd Zschernitz, Neillsville, WI - Chapter 112

Certified Broadcast Networking Technologist (CBNT)
Mark Dubosky, Hollywood, FL - Chapter 53
Bryan Gordon, Atlanta, GA - Chapter 5
David Kolesar, College Park, MD - Chapter 37
Thomas Weber, Indianapolis, IN - Chapter 25

Certified Audio Video Engineer (CEAV)
Gregory Lesko, Newport News, VA - Chapter 54

Certified Audio Engineer (CEA)
Ron Jones, Manhattan, KS - Chapter 3

Certified Broadcast Technologist (CBT)
Christopher Auker, Honolulu, HI - Chapter 63
Chris Daniel, Mena, AR
William Davis, Westerville, OH - Chapter 52
David Erickson, Anchorage, AK - Chapter 89
Robert Farkas, Oakville, Ontario Canada
William Flud, Sacramento, CA - Chapter 43
Harold Henderson, Jackson, MS - Chapter 125
John Johnson, St. Petersburg, FL - Chapter 39
David Kolesar, College Park, MD - Chapter 37
Gregory Lesko, Newport News, VA - Chapter 54
Andres Sandin, Crownsville, MD - Chapter 132

Certified Television Operator (CTO)
Dale Jones, Grand Junction, CO

Certified Radio Operator (CRO)
John Tyler, Pawcatuck, CT

SBE Certification Achievements

CONGRATULATIONS

LIFE CERTIFICATION

Certified Professional Broadcast Engineer (CPBE)
Robert Hoffman, Manchester, MO - Chapter 55
K. Terry Horbatiuk, Caldeon, Ontario Canada

Certified Professional Broadcast Engineer (CPBE)
George Marshall, Laurence Harbor, NJ - Chapter 15
Michael Snyder, Albuquerque, NM - Chapter 34

Certified Broadcast Technologist (CBT)
Stephan Laughrin, Albuquerque, NM - Chapter 34
Kathleen Morgain, Skamokawa, WA - Chapter 124

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 Senior Television Engineer (CSTE)
Jan Andrews, Alexandria, VA - Chapter 37

Certified Senior Radio Engineer (CSRE)
Jimmy Poole, Van Buren, AR - Chapter 56

AM Directional Specialist (AMD)
Joseph Ferrara, Erie, PA - Chapter 130
William Traue, Idaho Falls, ID - Chapter 145

8-VSB Specialist (8-VSB)
Jay Ballard, Middleton, MA - Chapter 11
Joseph Ferrara, Erie, PA - Chapter 130

AUGUST EXAMS

Certified Broadcast Radio Engineer (CBRE)
Michael Steele, Columbus, GA - Chapter 68

Certified Broadcast Television Engineer (CBTE)
Robert Haisch, Lincoln, NE - Chapter 74
Michael Marshall, Tallahassee, FL - Chapter 7
William Vickery, Pittsburg, KS - Chapter 56

Certified Video Engineer (CEV)
Gabriel Rosas, Inglewood, CA - Chapter 47
Neil Wallace, Alexandria, VA - Chapter 37

Certified Broadcast Networking Technologist (CBNT)
Justin Baczek, Studio City, CA - Chapter 47
Markell Lambright, Brooklyn, NY - Chapter 15

Certified Broadcast Technologist (CBT)
Caleb Gordon, Saginaw, MI - Chapter 91
Matthew Higdon, Los Angeles, CA - Chapter 47
Najee Kitchens, Sugar Hill, GA - Chapter 5
Ryan Tobin, Wexford, PA - Chapter 20

Certified Radio Operator (CRO)
Ricardo Llanos, Miami, FL - Chapter 53
Nicholas Mavromoustakos, Flushing, NY 11358

Certified Television Operator (CTO)
Terry Neal, Lavergne, TN - Chapter 103
Ryan Philips, Seattle, WA - Chapter 16

SPECIAL PROCTORED EXAMS

Certified Broadcast Networking Technologist (CBNT)
Keara Vig, Tacoma, WA
Shannon Wilson, Columbus, GA

Certified Broadcast Technologist (CBT)
Keara Vig, Tacoma, WA
Brandon Watkins, University Place, WA - Chapter 16

SBE CERTIFIED SCHOOL COURSE COMPLETION

Loyalist College
Eric Heidendahl, Brighton, Ontario Canada

Southern Alberta Institute of Technology
Derek Siemens, Bragg, Alberta Canada

DINFOS
Roberto Moore, Fort Irwin, CA

CERTIFIED BY LICENSE

Certified Broadcast Technologist (CBT)
Christopher Arnesen, Aloha, OR - Chapter 124

Robert Haisch, Lincoln, NE - Chapter 74
Scott Horner, Camarillo, CA - Chapter 47

Klonaris Ingram, Hoover, AL - Chapter 68

CERTIFIED RADIO OPERATOR (CRO)

Bianca Addison, Rosemead, CA
Steven Chu, Pasadena, CA
Blake Finley, Newark, AR
Michael Fletcher, Suring, WI
Michelle Gamba, Burbank, CA
Joshua Gaytan, Duarte, CA
Klaus Gomez-Stimeder, Los Angeles, CA
Richard Gonzalez, El Paso, TX
Justin Heintz, Mesa, AZ
Liam Salvage, Streetsboro, OH
Brian Thomas, Rio Linda, CA

East Valley Institute of Technology
Angelina Abiles, Chandler, AZ
Eleasar Alcala, Mesa, AZ
Josh Alvarez, Mesa, AZ
Victor Arias, Mesa, AZ
Feliz Arteaga, Tempe, AZ
Veronika Atilano, San Tan Valley, AZ
John Bacino, Chandler, AZ
Carter Casteel, Mesa, AZ
Jaycee Cottingham, Mesa, AZ
Nathan Daniels, Gilbert, AZ
Evan Dean, Tempe, AZ
D'Ovion Ferber, Chandler, AZ
Victoria Garcia, Gilbert, AZ
Ricardo Garcia, Mesa, AZ
Steven Grosz, Mesa, AZ
Daniel Hank, Mesa, AZ
Dave Juday, Phoeniz, AZ

East Valley Institute of Technology (cont.)
Jeff Kodman, Tempe, AZ
Parker Miller, Mesa, AZ
Mark Mohs, Gilbert, AZ
Sam Muller, Mesa, AZ
Alex Kurtis, Gilbert, AZ
Sam Houldridge, Gilbert, AZ
Dakota Jessen, Mesa, AZ
Armando Cordova, Mesa, AZ
Jayden Keith King, San Tan Valley, AZ
Henry Pofahl, Mesa, AZ
Holly Rees, Gilbert, AZ
Major Revoir, Chandler, AZ
Gage Rodriguez, Chandler, AZ
Sydney Roten, Gilbert, AZ
Yereni Sanchez Mendoza, Mesa, AZ
Tyler Shenert, Scottsdale, AZ
Trevor Sellers, Gilbert, AZ
Zak Simonis, Mesa, AZ
Noe Soberano, Phoenix, AZ
Adrineh Stephenson, Phoenix, AZ
Logan Taylor, San Tan Valley, AZ
Joe Thalman, Apache Junction, AZ
Abigail Valenzuela, Mesa, AZ
Jose Valenzuela, Mesa, AZ
Anondi Varn, Chandler, AZ
Corey Walsh, Chandler, AZ
Bryce Weisler, Queen Creek, AZ

East Valley Institute of Technology (cont.)
Kris Willabus, Scottsdale, AZ
Gillis Williams, Mesa, AZ
Denim Wolff, Chandler, AZ
Seth Wondercheck, Chandler, AZ

Ford HS Media Arts
Cheyenne Montgomery, Quinlan, TX
Damien Rogers, Quinlan, TX

Killeen Independent School District
Ariana Bailey, Harker Heights, TX
Evelyn Litau, Killeen, TX
Dimitrius Oleskevich, Killeen, TX
Gabriella Pazmino, Killeen, TX
Ricardo Yones, Killeen, TX

St. Ambrose University
Magdalena Hilton, Muscatine, IA
Erin Schilinger, Davenport, IA
Kasey Zielinski, Chicago, IL

St. Petersburg College
Damon Dougherty, St. Petersburg, FL
Andrew Holness, Tampa, FL
Anthony Minotti, St. Petersburg, FL
Gilberto Perez-Montas, Tampa, FL
Armand Pomeroy, Tampa, FL

Winston-Salem/Forsyth County Schools
Blake Briles, Belews Creek, NC
Ethan Smith, Rural Hall, NC

CERTIFIED TELEVISION OPERATOR (CTO)

Maya Amshay, Grand Prairie, TX
Brittney Bacy, Grand Prairie, TX
Alysia Braun, Palestine, TX
Chadwick Cunningham, Grand Prairie, TX
Seena Greiwe, Columbus, IN
Justin Grey, Grand Prairie, TX
Rosario Guzman, Palestine, TX
Emily Hagen, Cleveland, TX
Christopher Jackson, Hope, IN
Andrea King, Redwood City, CA
Taylor Malone, Palestine, TX
Diego Manriquez, Grand Prairie, TX
Tyler Neeman, Vermillion, SD
Adrian Pineda, Garland, TX
Alejandro Oranday, Grand Prairie, TX
Mackenzie Rook, Columbus, IN

Jason Royals, Pullman, WA
Ryan Sawyer, Houston, TX
Jared Toney, Cape Girardeau, MO

Bates Technical College
Henry Holtgeerts, Tacoma, WA
Steven Surerus, Puyallup, WA
Aidan Torp, Tacoma, WA

Cleveland High School
Lilia Almanza, Cleveland, TX
Zachary Chappell, Cleveland, TX
Brexton Desormeaux, Cleveland, TX
Nicholas Hart, Thicket, TX
Bryan Litchford, Cleveland, TX
Antonio Pigott, Cleveland, TX
Anthony Vazquez, Cleveland, TX

Ford HS Media Arts
Kaitlyn Garrison, Quinlan, TX
Sara Wayne, Quinlan, TX

Friendswood High School
Melissa Archer, Friendswood, TX
Fawzi Jasser, Friendswood, TX
Katie Mulloy, Friendswood, TX
Tyler Radigan, Friendswood, TX
Connor Ricklefsen, Friendswood, TX
Christianna Simon, Friendswood, TX
Kylie Trotti, Friendswood, TX

Killeen Independent School District
Tania DeRouen, Fort Hood, TX
Brad Retz, Killeen, TX
Gauge Thoeny, Fort Hood, TX

Ennes Educational Foundation Trust Awards Scholarships

The Ennes Educational Foundation Trust has awarded four scholarships for 2017. Winners were chosen from applications received by July 1, 2017, from the previous 12 months.

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.

The Harold E. Ennes Scholarship recipient is Clifford White of Tyler, TX. Cliff grew up near Tyler, TX, in a very technically inclined family. His father, Steve, has owned a small computer software company since the 1970s. He discovered amateur radio at the age of 14, and within two months earned his Extra Class license. He is a senior at LeTourneau University, where he is studying for an engineering degree. When not in school, he works as a consulting engineer for many radio stations in the East Texas area.

Receiving the Robert Greenberg Scholarship is Thomas Carlisle of Mesa, AZ. Tom began his career in broadcast working as a freelance system design engineer in 2000 in New York City. During his career, he has worked for Trade the News, Fox News, and NBC-affiliate KPNX in Phoenix, AZ. In 2016, Tom joined the staff at Sneaky Big Studios as studio engineer. He is furthering his education at Mesa Community College.

The John H. Battison SBE Founder's Scholarship has been awarded to Timothy Kyobe of Kampala, Uganda. Timothy started his professional journey as a radio broadcast and IT engineer seven years ago at the age of 25 at Capital Radio Limited, part of Radio Africa Group. That same year he completed his two-year university diploma in telecommunications engineering at the Uganda Institute of Information And Communications Technology. He is proud to be the first and only CBRE and CBNE in Uganda and East Africa.

Katy Gerber of Anaheim, CA, received the Youth Scholarship. As an incoming freshman attending California State University of Monterey Bay, Katy will study human communications and cinematic arts. With this education, she will enter the field of broadcast media to direct and inform an audience on ways to go about conscious living and consumerism. She is a paid intern at Empire Media Productions.


White


Carlisle


Kyobe


Gerber

SBE President Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNT, said, "Education continues to be a focal point of the Society of Broadcast Engineers, and through the Ennes Educational Foundation Trust, we can assist deserving candidates with Ennes Scholarships to support their education in broadcast engineering."

MEETING from p. 1

trum policy at the NAB in July 2014. In that role, he is responsible for developing and implementing spectrum policy for NAB.

Prior to joining the NAB, Weller served in a number of technical and management roles at the Federal Communications Commission (FCC) over a 15-year period and as an engineering consultant to the telecommunications industry. He started his career at an AM/FM combo in the San Francisco Bay Area.

The Awards Dinner features the presentation of the society's major awards, including the Robert L. Flanders SBE Engineer of the Year to Stephen R. Brown of Robbinsdale, MN, and the James C. Wulliman SBE Educator of the Year to Tony Peterle, CPBE of Miami, FL.

The SBE will present the SBE Technology Award to IMT-Vislink for its Newsnet technology, a next generation wireless ecosystem that was spearheaded by John Payne.

The award for the Best Chapter Regional Educational Event goes to The 2016 Ohio Broadcast Engineering Conference, held in Columbus, OH in Oct. 2016. James Dalke, CPBE, 8-VSB, AMD, CBNT has won the award for Best Technical Article, Book or Program by an SBE member for his presentation "Using Satellite VSATs for Broadcast STL" during the 2017 NAB BEITC.

A number of chapters will be recognized for their accomplishments in member growth, attendance and certification. These categories recognize chapters in two divisions; Division A, with membership less than the national median, and Division B, for chapters greater than the national median.

For greatest percentage growth in new members, the winning chapters are:

A. Chapter 111, Huntsville, AL; Chapter Chairman Kevin Kidd, CSRE, AMD

B. Chapter 68, Birmingham, AL; Chapter Chairman Tim Costley

For the highest average percentage of member attendance at chapter meetings, the winners are:

A. Chapter 112, Western, WI; Chapter Chairman Todd Zschernitz, CBTE

B. Chapter 79, Austin, TX; Chapter Chairman Ed Rupp, CBTE, CBNT

The two chapters with the highest percentage of SBE Certified members are:

A. Chapter 72, New Orleans, LA; Chapter Chairman Ernest Kain, CBRE, CBNE; Certification Chairman Ernie Harvey, CPBE, 8-VSB, CBNT

B. Chapter 118, Montgomery, AL; Chapter Chairman Wiely Boswell, CBRE, CBNE; Certification Chairman Charlie Grider, CBRE, CBNT

The dinner program concludes with the presentation of the SBE Fellow membership rank to Frank Giardina, CPBE, Birmingham, AL; Ted Hand, CPBE, 8-VSB, AMD, DRB, of Charlotte, NC; and Robert Hoffman, CPBE, of St. Louis, MO.

AVX includes two days of media and production technical sessions and an exhibition with more than 100 companies participating. All AVX activities and the SBE National Meeting events will take place at the Crowne Plaza Denver International Airport (DIA) Hotel. For reservations, call 866-378-1583. Use the special room block code: XVA.

Register for AVX at www.avxpo.biz by October 22 and it's free. Register separately to attend the SBE National Awards Reception and Dinner ($16) through the SBE website or by telephone, Monday - Friday from 8:30 a.m. to 4:30 p.m. ET at 317-846-9000. Live music will accompany the reception and dinner.

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LEGAL PERSPECTIVE

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

Next Step On the Broadband Freight Train: 6.5 and 7 GHz BAS Bands

The 600 MHz auction and the TV repack; the 700 MHz band reallocation of some years ago; the inclusion of fixed wireless backhaul at 7 GHz; the rebanding of 2 GHz; the current sharing plan between broadcasters and the Department of Defense at 2 GHz and the loss of 2483.5-2500 MHz before that had one thing in common: Each of these actions was premised on the need to keep fueling the insatiable demand for mobile broadband spectrum, and the even more insatiable demand in Congress for auction revenues. Broadcasters have taken it on the chin over time, apparently disproportionately relative to other radio services, and it clearly isn't over yet.

On August 3, 2017, the FCC released a notice of inquiry in General Docket 17-183, asking for public comment on ways to expand opportunities for "next-generation services" (by which it means wireless broadband services) in what it refers to as "mid-band" spectrum. FCC notes that in recent years, it has made spectrum available for wireless services in the bands below 3700 MHz and above 24 GHz. The Aug. 3 NOI seeks to evaluate bands between 3.7 and 24 GHz to allow FCC to "explor[e] all potential options to meet the ever-increasing demands for spectrum." Comments are due in response to this NOI on Oct. 2, 2017, and reply comments on Nov. 1, 2017.

The NOI asks the public to comment on three specific bands: 3.7-4.2 GHz, 5.925-6.425 GHz, and 6.425-7.125 GHz. However, open season has been declared on all bands from 3.70 GHz to 24 GHz: The FCC is also asking for comments identifying other "non-federal mid-band frequencies that may be suitable for expanded flexible use." The NOI asks how the FCC can provide for flexible use of these bands to allow the introduction of additional fixed and mobile wireless services; how to protect existing services against harmful interference; and how to promote flexible wireless use, including exclusive use, non-exclusive use, and unlicensed use. It is also asking for comment on eliminating or modifying existing rules to encourage sharing by wireless services.

The FCC has made its long-term strategy clear: "As the demand for mobile services and products continues to increase, it is essential for the Commission to continue making spectrum available."

So, the NOI affects both the 6.5 GHz and 7 GHz BAS bands. The 6.5 GHz band is already subject to potential sharing with Aeronautical Mobile Telecommunications (AMT) as proposed by the FCC in Docket 15-99. The SBE had been told that this docket was slated for a report and order during the first quarter of this year, but that clearly did not happen, and there is no item on this on circulation among the Commissioners as of this writing. The SBE filed timely comments in this docket on Aug. 31, 2015. Those comments said that while the SBE was open to discussion of sharing studies, none existed that indicated any compatibility between BAS and AMT.

Broadcasters already have to share the 7 GHz band (6185-7125 MHz) with fixed wireless backhaul (per the FCC's report and order in Docket 10-153). How that sharing arrangement is working will differ from market to market, and time will tell. In the meantime, with 7 GHz taking the ENG overflow from 2 GHz in major markets, as well as supporting large numbers of fixed links, it is difficult to envision a compatible "flexible use" arrangement given current technology in widespread deployment now.

The FCC NOI notes that mobile operations are permitted in the 6.425-6.525 GHz band in channel bandwidths ranging from 1 MHz to 25 MHz, licensed pursuant to parts 74 (BAS), 78 (CARS), and 101 (mobile including Local Television Transmission Service) rules, and that mobile operations are also permitted in the 6.875-7.125 GHz band. The FCC's licensing records reflect that 139 BAS, 26 CARS, and 243 Part 101 licenses are issued for mobile operations in the 6.425-6.525 GHz band, and 346 BAS, 19 CARS, and 38 Part 101 licenses are issued for mobile operations in the 6.875-7.125 GHz band.

It says that it is interested in hearing about the potential for more intensive fixed service or mobile use of the 6.425-7.125 GHz band. The FCC says that most of that band is "less heavily used" by fixed satellite service stations than in other bands under consideration, and there is no fixed satellite operation in the United States in the 7.075-7.125 GHz band. So, the FCC asks whether it would be easier, relative to other frequency bands, for new fixed service or mobile operators to coordinate and share the 6.425-7.075 GHz band with incumbent licensees. The FCC notes that the 6.425-6.725 GHz band is an extended C-band uplink band paired with the extended C-band downlink band at 3.6-3.7 GHz, which the Commission recently made available for expanded terrestrial fixed and mobile use. It asks whether this might facilitate more intensive use of the 6.425-6.725 GHz band for FS or mobile service. Finally, the FCC asks whether the 6.425-7.125 GHz band or specific subsets of this band be a viable expansion opportunity for unlicensed devices.

The SBE will file comments in this docket informing the Commission of the important ENG and other critical uses of these two bands by broadcasters and video producers regularly, and the extent to which these bands are already shared with other services. Help us do that.

FOCUS ON SBE

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

A Welcome to Our New Leadership

The SBE Annual Membership Meeting is Oct. 26 in Denver. We will again stream the one-hour event live, so members around the country (and world) can take part. This year's membership meeting will feature guest Robert Weller, NAB vice president of spectrum policy, in a special Q&A session with SBE President Jerry Massey about broadcast spectrum issues. The meeting will also include several updates on the status of the Society's programs, membership and finances.

The annual membership meeting is also the occasion when the Society inducts officers and directors to the national board of directors who were elected this past August. We thank all the candidates who ran for office and were willing to serve if elected. The national SBE Board of Directors governs the society, overseeing and determining programs and allocating resources that benefit SBE members.

A special welcome to incoming President Jim Leifer, CPBE, who joined American Tower earlier this year after many years with iHeartMedia. Jim has been a member of the national board for eight years, first as a director and then as secretary and vice president, so he is well prepared for the top leadership role in the society.

Entering the vice president's chair is RJ Russell, CPBE. RJ is VP of engineering at WTXF Fox 29 in Philadelphia and has served as a director since 2014. He also served on the Board for four years in the early 2000s as a director and treasurer.

Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE, will take his first full term as secretary, after filling the unexpired term of his predecessor. Wayne previously served as a director for five years and is the chair of the SBE Education Committee. Wayne is director of engineering at Texas A&M University's KAMU FM and TV.

Jim Bernier, CPBE, CBNE takes on the treasurer responsibilities after a year as a director. Jim also served as a director for six years in the mid to late 2000s and was the chair of the SBE Certification Committee for a number of years. Jim is senior director, Techwood Engineering at Turner.

As you can see, our officers have many years of experience in the broadcast engineering field as well as in SBE leadership roles. They will be joined by 11 directors, six of whom were elected this summer and five who return to serve the second year of their two-year terms. One more director will be appointed to fill the unexpired director term of Jim Bernier, created with his election as treasurer. I encourage you to read the election results article in this issue of The Signal for more information about our new board members.

Completing the Board will be Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNT, who will move to the role of immediate past president when his second term as president ends on Oct. 26. President-elect Leifer and the entire board will certainly benefit from Jerry's experience in this role.

I'd like to take this opportunity to recognize several national directors whose Board service is coming to an end. Mike Hendrickson, CPBE, CBNT, served two years as a director and chaired the SBE Awards Committee, which continued the updating of our awards program. Jeff Keith, CPBE, also served two years as a director and chaired the Mentoring Committee. He oversaw the roll-out of our mentoring program last fall. Kevin Plumb, CPBE, served two years as a director and chaired the Membership Committee.

Ched Keiler, CPBE, 8-VSB, CBNE served three terms as a director, a total of six years. He chaired the Government Relations Committee and then the By-Laws Committee during his service.

Also leaving the Board after eight years of service is Immediate Past President Joe Snelson, CPBE, 8-VSB. Joe served two years as president beginning with his election in 2013, after serving two years as VP and as a director before that. His leadership, knowledge and skill have been great assets to the Board and the society.

As we look forward to 2018, we welcome all of the members of the national Board and officers and give a heart-felt thanks to those whose service is ending.

You may have heard that Jack Layton passed away in July. Jack was well known in broadcast engineering circles, not only in his home state of Pennsylvania, but around the country. He authored several books popular in the industry, including our own SBE Radio Chief Operator's Handbook. He served several state associations as the inspector in their FCC Alternate Inspection Programs. We extend our condolences to his family and friends. He will be missed.

ENGINEERING PERSPECTIVE

By Kevin Kidd, CSRE, AMD
KK Boradcast Engineering, AM Ground Systems Co.
kkidd@kkbc.com

Winterization for the Winter Challenged

Hello, 911? I want to report a theft. Someone has stolen several pages from my calendar. It says that winter is almost here, but I still have a ringing in my ears from July 4 fireworks.

Where has the year gone?

As the months whiz by, we tend to forget seasonal lessons previously learned. Living in southern Tennessee, our winter is often noted by a few weeks of jeans and jacket rather than our normal shorts and sandals. Then again, sometimes old man winter hits us hard. Our winter precipitation is often ice rather than snow. If you live north of me, you will be preparing your sites and vehicles by habit, while those of us down here in the South are too often caught unaware as the first freezing raindrop falls. With that said, I have a number of items that I try to check at each of my clients' site(s) before winter arrives.

1. Rodents will hunt for a warmer spot as temperatures drop. They *will* find a way into your buildings and vehicles. I try to do a general building check and fill any openings that might allow them access. You can't 100% stop them so be sure to put out plenty of poison or traps. I prefer traps but typically don't go to most client sites often enough to keep traps emptied and baited. An unbaited or tripped trap is just something else to step on in the dark.

2. At most sites the generator is one of those "out of sight, out of mind" items that needs particular attention paid before the weather gets bad. Checking the genset block heater, fuel and battery charger is essential before winter. If the generator doesn't spin over easily and start quickly in warm weather, it is certainly going to fail in cold weather. Check that there is sufficient fuel on hand for any anticipated power outage. Many of my rural sites have had power outages lasting more than seven days in recent years.

Did you reaim a satellite receive antenna? Stations that changed from AMC-8 (right) to AMC-18 may have new snow accumulation challenges.

3. Does your site have antenna heaters? Living down here in the land of "we don't need no stinking heaters", very few of my clients have heaters (although a few have radomes). If your site has heaters, manually trigger the heaters and measure the current to see if they are functional. Some controllers have current monitoring but the few that I have worked around do not. Checking that the controller is operating on/off properly in the correct temperature window is not particularly easy but check the controller manual to see if there is a procedure.

4. Check the building heat source(s) and IF the AC system has been recently updated make sure that it has a low ambient temperature kit to allow operation at lower than normal temps.

5. Will the road to the transmitter hold up thru the winter? A decent summer road can churn into tapioca pudding consistency with just a few passes by any vehicle but especially large power system trucks.

6. Are you prepared to clean out our newly reaimed snow catchers (a.k.a., AMC-18 dish)? I fear the new AMC-18 look angle will be much more susceptible to snow accumulation than was AMC-8. I, for years, have been carrying a plastic broom with snap-on dustpan to shovel/rake snow out of dishes. I am going to add an extendable plastic roof rake to the truck for the first snow adventure. I have already had a talk and demo with most of my clients to show them where the snow/sleet needs to be cleaned and how to do it.

7. Refill your vehicle go bag (or TX stay bag) with fresh snacks and water. My go "bag" is actually a couple of good, air tight snap-lock bowls with a variety of trail mix, jerky, Slim Jim's, granola bars and a few individual packs of Propel dry mix. I also carry a couple of the little survival blankets and a couple of emergency ponchos. I keep a few bottles of energy drinks in the truck, but usually have a couple "emergency" bottles in my stay bag/box. A similar container holds a few bottles of water.

You never know when a rushed trip to a TX will make you forget to grab a burger and then have to stay for hours. If there are specific meds that you might need, toss in a couple doses of those as well.

8. Do you have a CP maturing during the winter or early spring months? Here in the south, construction during this time can be problematic due more to rain than wintery weather but can be impossible in the northern states due to deeply frozen soil and snow.

Sometimes it is the simplest things that create our face-palms but a little pre-prep can help reduce the embarrassment and stress of dealing with a "surprise" weather event. Winter is coming whether we are ready or not.

Mistaken Identity

In the August issue of *The Signal*, we recognized the SBE National Award recipients, including Steve Brown of Robbinsdale, MN, as the Robert W. Flanders SBE Engineer of the Year. Unfortunately, we ran a photo of Steve Brown of Appleton, WI. Shown here is Steve Brown, the award recipient. We apologize for the mistaken identities, Steves.

Brown

SUSTAINING MEMBERS

Support the companies who support the SBE and the industry

101 Telco Solutions • 2017
Erik Hoegh-Guldberg 469-732-3589
Dehydrator and Microwave Repair

305 Broadcast • 2015
Anthony Gervasi 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

Black Box • 2014
Brian Kutchma 724-873-6719
HD-KVM Switching & Extension

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 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

Camplex • 2017
Daniel Coscarella 800-445-7568 x7409
Fiber Optic Cable Assembler

Canon USA Inc. • 1985
Larry Thorpe 201-807-3300, 800-321-4388
Broadcast Lenses & Transmission Equipment

Cavell, Mertz & Associates Inc. • 2011
Gary Cavell 703-392-9090
Consulting Services

Comrex Corporation • 1997
Chris Crump 978-784-1776
Audio & Video Codecs & Telephone Interfaces

Comsearch • 2004
Tim Hardy 703-726-5651
Frequency Coordination Services

CueScript• 2014
Michael Accardi 203-763-4030
Teleprompting Software & Hardware

Davicom, Division of Comlab, Inc.• 2014
John Ahern 418-682-3380
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 Obstruct. 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 Shepeard 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

Fiber Group Inc. • 2016
Dennis Ford 336-859-2031
Fiber, Video, Satellite and Drone Products

Florical 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

Graham Brock, Inc. • 2012
R. Stuart Graham 912-638-8028
Technical Consultation - Radio/TV

Harmonic Inc. • 2014
Matt Tietze 301-537-6288
Video Compression and Processing

Heartland Video Systems, Inc. • 2011
Dennis Klas 920-893-4204
Systems Integrator

Hilights, Inc. · 2016
Richard Hickey 352-564-8830
Obstruction Lighting Maintenance

Hitachi Kokusai Electric Comark · 2013
Jack McAnulty 860-763-1100
Manufacturer Broadcasting Transmission Equipment

IEWC • 2014
Matt Granard 425-286-1900
Global Connectivity Solution Provider

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

Ka You Systems • 2011
George Gimourginas 301-585-4302
Audio, Video, IP - Satellite

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

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
Steve Russell 661-251-8600
Broadcast Terminal Equipment Manufacturer

Markertek • 2002
Wesley Brewer 800-522-2025
Specialized Broadcast & Pro-Audio Supplier

Micronet Communications Inc. • 2005
Jeremy Lewis 972-422-7200
Coordination Services/Frequency Planning

Microtech Gefell GmbH • 2016
Michael Militzer +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

Midtown Video • 2016
Jesse Miller 305-669-1117
Complete Studio Production Support

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

Nautel Inc. • 2002
Jeff Welton 877-662-8835
Radio Broadcast Transmitter Manufacturer

Nemal Electronics Int'l Inc. • 2011
Benjamin L. Nemser 305-899-0900
Cables, Connectors, Assemblies and Fiber Optic

Neutrik USA, Inc. • 2012
Kathy Hall 704-972-3050
Ruggedized Optical Fiber Systems

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
Kurt Schini 612-345-0461
Television Broadcast Playout Automation

PlayBox Technology • 2017
Van Duke 561-229-0003
Automation Video Playout Server

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
Scott Martin 812-589-4755
Broadcast & Telecom Antennas & Systems

RF Specialties Group • 2008
www.rfspecialties.com
Everything from the Microphone to the Antenna

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
Danielle Rita 781-791-4611
Accelerated File Transfer Solution

Silvus Technologies • 2015
Mark Tommey 617-816-6588
Wireless Video Mesh Network

Smarts Broadcast Systems • 2017
Dave Potratz 800-213-3356
Radio Digital Audio Systems

Solid State Logic • 2014
Steve Zaretsky 212-315-1111
Digial 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

The Switch • 2011
Peter Hartz 323-645-8011
Fiber Transmission Provider

Tektronix Inc. • 1977
Jim Lang 503-627-2980
Video Test & Measurement, Equipment Manufacturer

Teledyne e2v US Inc. • 1997
Dominic Piarulli 914-593-6828
Electronic Components

Telemetrics Inc. • 2016
Anthony Cuomo 201-848-9818
Camera Robotic Control Systems

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 Shewmaker or Jacob Daniluck 317-845-8000
Audio Codec Manufacturer

Unimar Inc. • 2001
Thad Fink 315-699-4400, 813-943-4322
Tower Obstruction Lighting Designer, Manufacturer, Distributor

Verizon Digital Media/Services • 2015
Gary Learner 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

Members With 25 or More Years of Membership
New Sustaining Members
Become a sustaining member.
Apply online or call 317-846-9000.

Member Spotlight: Greg Carter

Member Stats

SBE Member Since: 1995
Certifications: CBT, CBNT
Chapter: 57 Rochester
Employer: WHEC-TV
Position: Director of Engineering
Location: Rochester, NY
I'm Best Known For: Being the chapter chair of SBE chapter 57.

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

A. Monthly SBE meetings. The meetings provide an opportunity to gather with broadcasting, video and audio professionals in the Rochester area.

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

A. I started in broadcasting out of technical school – I was fascinated by the ability to transmit audio and video to viewers (cable penetration was only 60% and there was no OTT when I started). I am still fascinated by the ability to send audio and video to home viewers – even if the technology to do so has changed.

One of Greg's visits to Ireland included a stop (and a selfie) at the Jameson Distillery in Dublin.

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

A. It's never the same from day to day. I like all aspects of broadcasting: transmitter sites, studio facilities and remote vehicles. I enjoy visiting other TV stations; I learn something every time I do.

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

A. ...am running, skiing or driving my daughter to dance competitions.

Q. *You may not know this, but...*

A. ... I love spending time in Ireland. I first traveled there in 1993, and my wife and I travel there as often as we can. We particularly like to go in the spring, before vacation season.

Q. *What's your favorite gadget?*

A. It would have to be my iPhone. The ability to access contact lists, email and watch video to apps that allow me to control security cameras and locate satellites. The functionality is only limited by your imagination.

SBE ELECTIONS

SBE Election Board of Tellers

The annual SBE election of officers and directors concluded on Aug. 23. 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. Thanks to (left to right) Bill Cherry; Mike Rabey; Roger Bishop, CPBE, CBNT; Doug Garlinger, CPBE, 8-VSB, CBNT; Tom Weber, CPBE, CBNT; Dale Smiley, CPBE.

Mentor Program: One Year and Growing

The SBE Mentor Program was launched last year 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. The SBE Mentor Program provides a means for SBE members to share knowledge and experience. For the seasoned mentor, it's a chance to give something back. For the freshman mentee, it's an ideal way to gain inside knowledge and understanding that can sometime take years to accumulate.

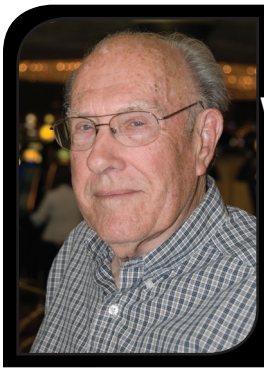
The first mentor/mentee partnerships began Oct. 1, 2016. The original participants have reached their one-year anniversaries. Additional participants have joined over the past year, and new mentors and mentees are welcome. Contact Cathy Orosz (corosz@sbe.org) or go to www.sbe.org for more info.

Attending the 143rd AES Convention?

The SBE is exhibiting at the convention. Stop and say hello.

We thank members of SBE Chapter 15 New York for staffing the booth with volunteers.

Skyline graphic: Rwdd_studios/Freepik



In Memoriam

Walter "Bernie" Marston, CPBE
Member #163
1922 - 2017

Charter Member
Life Member

Chapter Check

Chapter Engineer of the Year Award Winners

Chapter 16 Seattle
Thomas McGinley, CPBE, AMD, CBNT, (l) receives his award from Chapter Chair Martin Hadfield.

Chapter 17 Minneapolis
Steve Brown (r) receives his award from Chapter Chair Joe Conlon, CSTE.

Chapter 37 District of Columbia
(l - r) Chapter Treasurer Fred Willard, CPBE, 8-VSB, CBNT; Chapter Chair Kent Kramer, CBRE; award winner Dan Ryson, CBT; and Chapter Vice Chair Brian Oliger, CBT, CBNE.

Chapter 38 El Paso
Chapter Chair Jose Castro (l) receives his award from WVIA Chief Engineer Elias Ventanilla.

Chapter 70 Northeast Ohio
Bill Kozel, CSRTAVE, CBNT, (r) receives his award from Chapter Chair Blake Thompson.

Chapter 109 De Moines
Dave "Doc" Ohmstede, CPBE

Chapter 118 Montgomery
Chapter Chair Wiely Boswell (r) and chapter member Terry Harper display the award for Frank McLemore, CPBE, CBNT, which was presented posthumously.

WELCOME TO THE SBE

NEW MEMBERS

Steven Alicea - Pomona, NY
Aaron Andrus - Athens, PA
Nathan Bettisworth - Eastchester, NY
Sam Black - Rockville, MD
Sara D. Charlton - Las Vegas, NV
John R. Coulter - Gerry, NY
Ryan C. Dietrich - New Albany, IN
Andrew P. Gannon - Cranston, RI
John E. Gifford - Austin, TX
Michael G. Hackett - New Orleans, LA
Michael Harabin - West Hollywood, CA
Frank V. Horace - Rockville, MD
Roy Kellerman, Jr. - Northville, MI
Jason Liao - San Leandro, CA
Steven W. Mainger - Westlake, OH
Keenan C. Morris - Nottingham, MD
Rocco Nicotra - New York, NY
Jason Oster - Teaneck, NJ
Jason Page - Knoxville, TN
Clifford Peck - Redmond, OR
Andrew Pinedo - Tustin, CA
Robert R. Provost - Essex, NY
Paul Rea - Rutherford, NJ
Jeanine M. Rivas - St. Petersburg, FL
Matthew C. Sneed - Memphis, TN
Nathan Strack - Orlando, FL
Clyde A. Tappy - Mesa, AZ
Robert Weller - Washington, DC

NEW YOUTH MEMBERS

Emma C. Gabbert - Burnsville, MN

NEW STUDENT MEMBERS

Mitchell D. Brown - Perkins, OK
Joshua Campbell - Mission Viejo, CA
Lucas V. Hardy - Puyallup, WA
Lanea A. Haru - Cleveland, OH
Peggy A. Jelson - Tacoma, WA
Derek A. Siemens - Bragg, AB Canada

NEW ASSOCIATE MEMBERS

Will Bakewell - Ojai, CA
Stephanie A. Rowen - Arlington, TX

RETURNING MEMBERS

Jonathan D. Bednar - Baltimore, MD
Ron Davis - Nephi, UT
Theo Economides - Chicago, IL
Bob Farahi - Oakridge, TN
Anthony D. Fox - Newport News, VA
Steven W. Garaventa - Novato, CA
Bryce Layman - Dallas, TX
Antony A. Low - Kalamazoo, MI
Walter G. Merizalde - Doral, FL
Paul A. Montoya - Buford, WY
David L. Morais - Chattanooga, TN
Lloyd P. Robinson - Houston, TX
Michael Steiner - West Sacramento, CA
William O. Sykes - Hawthorne, FL
Rick Zach - Gilford, NH

Using Drones in Broadcast Operations

Oct. 19 at 2 p.m. ET

Unmanned aerial vehicles, a.k.a. drones, are useful in broadcast operations, including ENG, tower inspections, site documentation, signal measurements, and even training videos. This 90-minute webinar explores these uses and discusses FAA requirements.

Presenter: Sam Wallington, vice president of engineering at the Educational Media Foundation (K-Love/Air)

SBE RF Safety Course

Nov. 9 at 1 p.m. ET

This course provides an updated overview of RF radiation issues and practices for broadcasters, including proving compliance, FCC and OSHA regulations, workplace hazards, unique issues at AM stations, RF hazard protection equipment, and signage.

Presenter: Richard Strickland, RF Safety Solutions

More info and registration at sbe.org/webinars

Members On The Move

Joining the FEMA IPAWS Subcommittee are Edward Czarnecki, senior director, strategy and government affairs, Monroe Electronics Inc.; Sam Matheny, executive vice president and chief technology officer, National Association of Broadcasters; Harold Price, president, Sage Alerting Systems Inc.; and Richard Strack, chief engineer, Boise State Public Radio.

Jay Adrick is a consultant for Cavell, Mertz and Associates.

Nathan Russell is a remote truck engineer with IMS Productions, Indianapolis.

Brett Blankenship is a senior RF engineer at Lockheed Martin, Ft. Worth.

Kirk Harnack, CBRE, CBNE, is a senior systems consultant with the Telos Alliance.

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

WBA Broadcasters Clinic
Madison, WI
Oct. 10 - 12, 2017 wi-broadcasters.org

Webinar: Using Drones in Broadcasting
Online
Oct. 19, 2017 sbe.org/webinars

SBE National Meeting
Denver, CO
Oct. 25 - 26, 2017 sbe.org

SBE Certification Exams
Local Chapters
Nov. 3 - 13, 2017 sbe.org/certification
Application deadline is closed

SBE RF Safety Course
Online
Nov. 9, 2017 sbe.org/webinars