

THE Signal

Bimonthly Publication of the Society of Broadcast Engineers



The Association for Broadcast and Multimedia Professionals

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SBE Elevates Alexander, Hogan to Fellow

The Society of Broadcast Engineers Board of Directors elevated Cris Alexander, CPBE, AMD, DRB, of Aurora, CO, and Ralph Hogan, CPBE, DRB, CBNE, of Tempe, AZ, to the member grade of fellow at its meeting held during the 2015 NAB Show.



Alexander

Cris Alexander is director of engineering for Crawford Broadcasting; a position he has held since 1984. He first joined the SBE in 1985. He has served on the SBE Board of Directors, and currently is a member of the Certification and Education Committees. In

2007, Alexander received the Robert W. Flanders SBE Engineer of the Year award.

Ralph Hogan is the associate general manager - engineering and technology services for Rio Salado College, which operates KJZZ-FM, KBAQ-FM, Spot 127 and Sun Sounds. An SBE member since 1990, he has served on the Board of Directors and several national committees. He was president of the SBE from 2011 to 2013.



Hogan

He currently serves as chairman of the SBE Certification Committee. His professional activities include work on various boards and committees for the IEEE, NPR, PBS, NRSC, ATSC, and founding president of the Association of Public Radio Engineers.

"I'm proud to have worked with both Cris and Ralph in the SBE," said Joe Snelson, CPBE, 8-VSB, president of the Society of Broadcast Engineers. "They both possess the skill, attitude, professionalism and dedication to broadcast engineering that is the signature of an SBE Fellow."

The Fellow honor is the highest membership level in the SBE. Members must have made significant contributions to the broadcast engineering field or the SBE. Candidates are nominated by their peers. Since the Society's founding, 75 members have been honored with the Fellow rank.

The two recipients will be recognized for their election to Fellow during the SBE National Awards Dinner on October 14, 2015, in Madison, WI, during the annual SBE National Meeting, which will be held in conjunction with the Wisconsin Broadcasters Association Broadcasters Clinic.

Wisconsin Broadcasters Clinic Hosts SBE National Meeting

The Society of Broadcast Engineers will stage its 51st annual national meeting, October 13-14, 2015 in Madison, WI. Serving as event host is the Wisconsin Broadcasters Clinic (Oct. 13-15), which for more than 60 years has served as a must-attend educational event for broadcast engineers in the Upper Midwest. The three-day Clinic is produced by the Wisconsin Broadcasters Association in cooperation with the SBE chapters of Wisconsin. The Clinic features a broadcast and media equipment and services tradeshow and three days of technical presentations spanning TV, radio, broadcast IT and related media topics.

The SBE National Meeting begins on Oct. 13 with the fall meeting of the national SBE Certification Committee from 2 to 4 p.m. The fall meeting of the SBE Board of

Directors will take place from 6 to 10 p.m. On Wednesday, activities begin with the annual SBE Fellows Breakfast. In the afternoon, the SBE Annual Membership Meeting will be held from 4 to 5 p.m. CT, with a live webcast available to members around the world.

The SBE Annual Awards Reception and Dinner will take place on Wednesday, beginning at 5 p.m. CT. The dinner will feature a guest speaker and the presentation of the society's major awards, including the James C. Wulliman SBE Educator of the Year and Robert L. Flanders SBE Engineer of the Year awards. The dinner program will conclude with the presentation of the Fellow honor to Alexander and Hogan. Awards recognizing individual member and chapter achievement will also be presented.

Attendance at SBE National Meeting events are included in Clinic registration, except for the SBE National Awards Reception and Dinner. Tickets (\$15) will be available online and by telephone through the SBE National Office.

All events will be held at the Madison Marriott West Hotel in Middleton, WI. Complete details will be available in the coming weeks.

IN THIS ISSUE

- 3 National Elections
- 4 Letter from the President
- 5 Broadcast & IT Engineers
- 8 The SBE @ the NAB Show
- 10 Spectrum Enforcement
- 15 Member Spotlight

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

SBE Officer, Director Candidates Announced

Each year the SBE membership elects members to serve on the national Board of Directors; the governing body of the society. This includes all four officers for one-year terms and half the 12 directors for two-year terms. The slate of candidates assembled by the Nominations Committee includes:

Officers:

President - Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNT; Chapter 86, Greenville, SC

Vice President - James Leifer, CPBE; Chapter 53, South Florida

Secretary - Ted Hand, CPBE, 8-VSB, AMD, DRB; Chapter 45, Charlotte, NC

Treasurer - Andrea Cummis, CBT, CTO; Chapter 15, New York, NY

Directors:

(top six vote getters will be elected):

Mark Fehlig, PE, CPBE, 8-VSB, CBNT; Chapter 5, Atlanta

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

Mike Hendrickson, CPBE, CBNT; Chapter 17, Minnesota

Ched Keiler, CPBE, 8-VSB, CBNE; Chapter 53, South Florida

Jeff Keith, CPBE; Chapter 93, Raleigh, NC

Kevin Plumb, CPBE; Chapter 14, Connecticut

RJ Russell, CPBE; Chapter 32, Tucson, AZ

Dennis Wallace, CBTE; Chapter 37, Washington, D.C.

Additional candidates may be nominated by the membership. Any eligible member proposed by at least ten members to the national Secretary by July 6 will be added to the ballot. The election will take place July 17 through August 20. Balloting will be via the election website, except for those members who have opted out of electronic voting this year or who have not provided the SBE national office with their email address. They will receive their ballots through the mail.

For more information about candidacy, contact Ted Hand at thand@sbe.org or Executive Director John Poray at jporay@sbe.org or 317-846-9000.



Massey



Certification Question

Answer on page 6

Self-supporting or guyed towers are designed for structural integrity following the guidelines stated in the:

- A. Engineering Standards by Perry.
- B. Reference Data for Engineers by ITT.
- C. ANSI/EIA/TIA Standard.
- D. FCC Rules, Part 73.



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LETTER FROM THE PRESIDENT

By Joe Snelson, CPBE, 8-VSB
SBE President
jsnelson@sbe.org

And What a Show It Was

The major event that occurred since the last edition of *The Signal* was, of course, the NAB Show. It was an action-packed week, and especially so for the SBE. It kicked off Saturday morning with the all-day Ennes Workshop. When I was there about 8:30 Saturday morning, it was already almost standing room only. SBE board member and Education Committee Chair Wayne Pacena gave a tutorial on IP. The workshop was so well attended, a video camera was brought in to extend the presentation to another room for the overflow crowd. Many thanks are extended to Fred Baumgartner for putting together another successful all-day workshop with a slate of excellent presenters. During a brief break, *Radio World* presented Wayne with a plaque to recognize his receipt of the publication's Engineering Excellence Award last year.

Later Saturday afternoon, I had the privilege of discussing the SBE to students participating in the NAB Technical Apprentice Program. I have done this twice, and both times I am reminded of when I was breaking into this industry. It's always exciting to see the exuberance and thirst for knowledge that accompany the newcomers.

On Sunday morning the SBE Board of Directors convened. This is one of the two face-to-face meetings the board conducts during the year. Our meeting is not only a time of reflection on what the society has accomplished since we previously met, but it's also an opportunity to share thoughts and ideas for the future. At our meeting we review the financials of the society, membership statistics, updates on regulatory issues facing our members, review reports from the various committees and discuss future activities affecting our industry and, ultimately, our membership.

On Tuesday afternoon our annual membership meeting convened. We presented to the membership reports from the Finance, Government Relations, Membership, Education and Certification Committees. At our meeting we also announced the elevation of two members, Ralph Hogan and Cris Alexander, to the membership grade of Fellow. You will find photos and other information on some of our activities in this edition of *The Signal*.

We also repeated an event we started

last year during our 50th anniversary celebration: We held a reception following the Membership Meeting. There was plenty of fellowship and snacks. Both the meeting and reception were sponsored events that included some very cool prizes. We appreciate our sponsors and thank them for supporting the SBE. And I thank all of you who stopped by the SBE booth to say hello and to visit for a few minutes.

Time is Everything

Between the number of SBE and NAB activities I was committed to I didn't get much time out on the exhibit floor. Of course, the exhibit floor is much larger than when I started in this industry when I could cover the entire exhibit floor in two or three days. There were a couple of things that particularly caught my attention this year.

There were a number of unmanned aircraft systems (UAS, also known as drones) on display. It will be interesting to see how these devices are ultimately used in the production and news environments. A lot will hinge on the ultimate rules and associated limitations put in place by the FAA.

There was a plethora of 4K cameras on display. While these cameras can certainly be used in the production environment we still have the issue of not being able to broadcast 4K today over-the-air using the current ATSC 1.0 transmission system. That, however, will change once ATSC 3.0 is adopted and stations can begin that migration.

On the transmitter front, it looks like the days of the high-power tube television transmitter may be numbered. Several manufacturers were showing their solid-state transmitters with efficiencies approaching that of the tube versions.

Overall, it was a good NAB Show loaded with a number of SBE activities. We now begin to look forward to our next major event, which will be our national meeting to be held in Madison, WI, at the Wisconsin

Broadcasters Association Broadcasters Clinic.

I have to comment on something posted in my April letter, which had a photo of a display I have in my office of imaging devices. The photo was captioned, "Various solid-state imaging devices." A long-time SBE member submitted a comment asking if this was an April fool's gag for that edition. Well, it wasn't meant to be a gag but it somewhat turned out that way. The picture was of various camera tubes that have been used through the history of television. The only one that was solid-state was the

very small rectangular imager (a charge coupled device, CCD) at the lower center on the wall display. The caption below the picture should have read "Eighty years of imaging technology."

Missed Colleagues

Finally, I want to pause and pay respect to two prominent SBE members who passed in March

and April.

Peter Onnigian passed away on March 13 at the age of 93. Peter founded Jampro Antennas in 1959. He was a charter member of the SBE, joining on April 8, 1968, and carried member number 60. He was a member of Chapter 43 Sacramento and life certified as a CSBE.

On April 19, Scott Mason passed away after a long battle with health issues. Scott was regional engineering director, CBS Radio West Coast. He had been a part of CBS for 36 years. Scott was also very active in the SBE as a member of Chapter 47 Los Angeles, and held CPBE and CBNT certifications. Scott served three terms on the SBE Board of Directors and was a former chair of the SBE EAS Education Committee. I, like many of you, had the privilege of working closely with Scott, and I know his contributions to the SBE and CBS Radio will be missed.

We continue to remember the family and friends of Peter and Scott in this time of bereavement.



President Snelson speaks at the annual Membership Meeting.



EDUCATION UPDATE

By Wayne Pecena, CPBE, AMD, DRB, 8-VSB, CBNE
Chairman, SBE Education Committee
w-pecena@tamu.edu

Broadcast Engineers and IT Engineers Living Together

You must agree that the broadcast industry is well engrained with information technology in the technical facility, whether it's radio or TV. Like it or not, we as broadcast engineers live in an IT technology environment. The simplest evidence: It is difficult to flip through any industry publication without a mention of the engagement of information technology in the broadcast technical facility.

Characteristics of the Broadcast Engineer

The broadcast industry is characterized as a "live" environment with precise measurements with respect to time. TV expects events occurring at frame accuracy and radio program segments end precisely at the top of the hour to cross-fade into the next program. The broadcast technical facility is often one comprised of single-function appliances, chained together by endless multi-conductor and coaxial cabling. Redundant designs and a focus upon maintaining the air-chain on-the-air at all cost is the performance metric. The broadcast engineer is focused on a fix-it-now mentality.

But, can the broadcast engineer and the IT engineer co-exist? This is an ongoing area of conflict. One approach to getting along in the technical sandbox is to understand some of the mindset and environmental differences between the broadcast engineer and the IT engineer. Both professions are often occupied by what a normal person often describes as a "pocket protector-wearing geek". Both professionals are molded by the environment in which they function on a daily basis.

A first step to a livable environment of the broadcast and IT professional is to understand each other's environment, recognize the different mindsets, and accept different approaches. The broadcast engineering approach of never down, no dropped frames utilizing 24x7 all-hands-on deck swap-out repair approach is in sharp contrast to the traditional IT approach of planned downtime, acceptable buffering, and a problem queue of continuous soft-

For more information on any SBE education program, contact Education Director Kristin Owens: kowens@sbe.org or 317-846-9000.

ware patches and bug fixes between major software based feature upgrades.

Communication is also often identified as a barrier between the two professionals. Each must understand the language of the other to communicate effectively. The broadcast engineer needs to speak IT with ease and confidence just as the IT engineer must speak broadcast engineering. Each must be able to speak and understand the

Characteristics of the IT Engineer

The IT industry is often characterized as an on-demand environment with statistical metrics utilized as the benchmark for performance (i.e. 99.99% reliability). The IT technical facility utilizes multi-function virtualized platforms, a development environment described as agile, with a re-boot as a common and accepted approach to resolution of many problems. The IT engineer often sees system outages as acceptable downtime as defined by a performance service-level-agreement (SLA).

language of the other in order to be successful. The individual bridging both fields is the technology professional of the future.

Yes, there are differences in the individuals molded by their profession. But don't lose sight of the similarities that often make the broadcast engineer and the IT engineer a perfect match. Both share a love of technology, and it is not uncommon for either to have a working knowledge of numerous technology and scientific fields. Both love a technical challenge and often execute that challenge during non-standard work hours or maintenance periods. Broadcast engineering and IT engineering are often not 8-to-5 jobs, and the true work goes unseen and unnoticed as everything just works.

Remember, learning is a continuous process for the technology professional and certainly the broadcast engineer. Continuous learning is a key trait of the successful technology professional and the SBE education team is at work to bring you quality professional development programs covering timely industry topics and delivered in several media.

A final thought is to mention an enjoyable book I recently picked up at the NAB Store during the convention in Las Vegas. "The Tower Builder" by author Vicky Kas-eorg is billed as an Amazon # 1 Best Seller. This is an interesting book that blends the engineering challenges and triumphs of re-building the iconic WBT-AM Blaw-Knox towers following devastating destruction by hurricane Hugo. You will find a blend of engineering facts, dedication of those often found in broadcasting, some WWII mystery, a bit of aviation, and even a love story like those in a book that is hard to put down at night. I will save all the details for your own discovery and reading enjoyment.

A special thanks to Blake White, broadcast consulting partner, Cognizant Technology Solutions, for his insight in noting the differences between the broadcast and IT engineer during the PBS 2015 TechCon Conference held prior to the 2015 NAB Show.

Background image: Vector Open Stock

UPCOMING SBE EDUCATION EVENTS

- Webinar: Transmitter Maintenance Checklist June 18, 2015
- SBE Regional Ennes Workshop New York, NY June 23, 2015
- SBE Leadership Development Course w/ Purdue Professor Rodney Vandever Atlanta August 4-6

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CERTIFICATION UPDATE

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

Keys to Success: National, Local Volunteers

2015 marks the 40th anniversary of the SBE Program of Certification

You may have heard or read recently that the SBE Program of Certification will turn 40 this year. During the Membership Meeting at the 2015 NAB Show, President Joe Snelson said a few words about the program. At one point, President Snelson asked for those in the audience to stand up if they currently hold an SBE certification. It was amazing to see that approximately 90% of the individuals in the room stood to be recognized.

It made me think about how our Society and specifically the Certification Program work to support our industry certification efforts. There are two full-time staff people that work in the Indianapolis office: Certification Director Megan Clappe and Certification Assistant Carol Waite. They perform the day-to-day certification support functions. The rest of the program relies on volunteers to carry out its various tasks.

The National Certification committee is a group currently comprised of 12 broadcast engineers whose experience spans more than 360 years in radio, television

and multimedia broadcasting. The committee meets formally in-person twice a year: once in the spring at the NAB Show and again in the fall at the SBE National Meeting. Throughout the year the committee grades essay exams, reviews the question database for relevance, revises the question pool for it to remain current with changing technologies, review certification applications to assign essays as needed, and a myriad of other tasks in support of the program.

We also have volunteer chapter certification chairmen at most of the 114 current SBE chapters throughout the world. These individuals promote the program of certification, proctor exams, and review recertification applications throughout the year.

In addition to national Certification Committee members and local chapter certification chairs who have specifically chosen to volunteer their time to the certification



Left to right: SBE President Joe Snelson and Ralph Hogan recognize Cris Alexander and Michael Graziano for their service to the SBE Program of Certification at the Membership Meeting.

program, there are individuals who help to proctor exams and promote the benefits of being certified. Those efforts have made their way into the US military and a number of high schools and colleges.

SBE Certification is the only certification program focused at the broadcast/multimedia engineer. Since its inception, the Society of Broadcast Engineers has issued more than 18,500 certifications. Thank you to everyone who has generously given his or her time to the SBE and certification program. Without you, the certification program would not have thrived over the past 40 years.

Answer from page 3

C. ANSI/EIA/TIA Standard

Tower standard TIA-222-G went into effect on Jan. 1, 2006. It updated the previous version (TIA-222-F). Revision H is currently in review and is expected to be released in 2016.

Certification Program Recognition

Every year at the annual membership meeting during the NAB Show, the SBE recognizes the local certification chairmen and national committee members who devote volunteer time to the Program of Certification. These SBE members receive a plaque on their recurring five-year anniversaries. The following were recognized in April. The SBE thanks the volunteers who devote so many hours to the SBE and the certification program.

20 YEARS
National Certification Committee
James T. Bernier, Jr., CPBE, CBNE

20 YEARS
Frederick W. Hoffman, CPBE
Chapter 29
Michael P. Scott, CPBE
Chapter 16

35 YEARS
William J. Kozel, II, CSRTAVE, CBNT
Chapter 70

15 YEARS
Eric Hoehn, CSRE, CBNT
Chapter 37
Larry W. Rixman, CBTE, CBNT
Chapter 35
H. Fred Stone, CPBE, CBNT
Chapter 33

10 YEARS
David E. Priester, CPBE
Chapter 140
Eric C. Margeson, CPBE
Chapter 124
Cris Alexander, CPBE, AMD, DRB
Chapter 48

5 YEARS
Juan Antonio Gonzalez, CSTE
Chapter 53
David M. Halperin, CBRE
Chapter 38
Gary S. Hartman, CPBE
Chapter 22

1 YEAR
David W. Davis, CPBE, CBNT
Chapter 67
Kishore Persaud, CPBE, CBNT
Chapter 46
Michael Graziano, CEV, CBNT
Chapter 14
Charles "Buc" Fitch, CPBE, AMD
Chapter 14

SBE Certification Achievements

CONGRATULATIONS

LIFE CERTIFICATION	Certified Professional Broadcast Engineer® (CPBE®) Noel Richardson, South Charleston, WV - Chapter 116	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®)	James Stitt, Cincinnati, OH - Chapter 33	Applicant must have had 20 years of professional broadcast engineering or related technologies experience in radio and/or television. The candidate must be currently certified as a Certified Senior Broadcast Engineer®.
FEBRUARY EXAMS	Certified Senior Television Engineer™ (CSTE®) Stephen Blot, White Plains, NY - Chapter 15 Robin Cole, Spokane, WA - Chapter 21 Michael Graves, Grass Valley, CA - Chapter 43 Certified Senior Radio Engineer™ (CSRE®) Thomas Gray, Humble, TX - Chapter 105 Certified Broadcast Technologist® (CBT™) John Pooley, Norwood, MA - Chapter 11	Certified Broadcast Networking Engineer™ (CBNE™) Robert Army, Jr., Moreno Valley, CA - Chapter 131 Dennis Graiani, New City, NY - Chapter 15 Kirk Harnack, Nashville, TN - Chapter 103 Alan Prescod, Rochester, NY - Chapter 57 Adrian Washington, Riverside, CA - Chapter 131 Certified Broadcast Networking Technologist® (CBNT®) Joshua Smith, East Longmeadow, MA - Chapter 16
NAB SHOW EXAMS	Certified Broadcast Television Engineer™ (CBTE™) Eric Jingst, Toledo, OH - Chapter 104 Michael Stoeckle, Falls Church, VA - Chapter 78	Certified Broadcast Networking Technologist® (CBNT®) Tom Bole, Las Vegas, NV - Chapter 128 Certified Radio Operator® (CRO®) Robert Sims, Auburn, CA
SPECIAL-PROCTORED EXAMS	Certified Broadcast Networking Technologist® (CBNT®) Kevin White, Lakewood, WA - Chapter 16	Alabama Broadcasters Association Certified Broadcast Radio Engineer™ (CBRE™) Christopher Howard, Columbus, MS Robert Williams, Alabaster, AL - Chapter 68
SBE CERTIFIED SCHOOL COURSE COMPLETION	Certified Broadcast Technologist® (CBT®) <i>Bates Technical College</i> Jonathan Cote, Gig Harbor, WA - Chapter 16 Harrison Crawford, Eatonville, WA - Chapter 14 Joshua Green, Tacoma, WA - Chapter 16	<i>Bates Technical College (cont.)</i> Stoddard Leggett, Tacoma, WA - Chapter 16 Andrea Minor, Shelton, WA - Chapter 16 John Redoblado, Lakewood, WA - Chapter 16 Joaquin Vergara, Spanaway, WA - Chapter 16
CERTIFIED RADIO OPERATOR® (CRO®)	Nicholas Bentz, West Sacramento, CA Kristen Coleman, Auburn, CA James Grimes, Evanston, IL Daniel Peck, Brunswick, OH	<i>Pasadena City College</i> Stephanie Arevalo, Los Angeles, CA Michael Back, Los Angeles, CA Debbie Barrera, Glendale, CA Zachary Carels, Monrovia, CA George Jimenez, Baldwin Park, CA Adam Leon, Arcadia, CA
CERTIFIED TELEVISION OPERATOR® (CTO®)	Chad Anderson, Medford, OR Ernie Ensign, Bristow, VA Victoria Gonzales, Corpus Christi, TX Brandon Isaac, Raeford, NC Joseph Krause, Columbus, IN Anthony Leon, San Dimas, CA Ronald Shaw, Jr., Spring Lake, NC	DIRECTV Jordan Bibby, Los Angeles, CA Matthew Cosgrove, Los Angeles, CA Chris Coultrup, Los Angeles, CA Riley Gittlin, Los Angeles, CA Julio Navarrete, Los Angeles, CA Peter Vellos, Santa Monica, CA
RECERTIFICATION	Certified Professional Broadcast Engineer® (CPBE®) James Alexander, Wildomar, CA - Chapter 131 Roger Bishop, Carmel, IN - Chapter 25 Kevin Plumb, Trumbull, CT - Chapter 15 Certified Professional Broadcast Engineer® (CPBE®) 8-VSB Specialist™ (8-VSB™) Ernest Harvey, Jr., Harahan, LA - Chapter 72 Certified Senior Radio Engineer (CSRE®) AM Directional Specialist™ (AMD™) Brien Laufer, Riverside, CA - Chapter 47 Certified Broadcast Television Engineer™ (CBTE™) Mark Albert, Algonquin, IL - Chapter 26 Frank Bell, Clifton, NJ - Chapter 15 Christopher Castro, Kansas City, MO - Chapter 59 Gary Keener, San Antonio, TX - Chapter 69 Leroy Marburger, Brownsburg, IN - Chapter 25 Ian Owens, West Palm Beach, FL - Chapter 88 Jon Strom, Ames, IA - Chapter 109 Christopher Wilde, Des Moines, IA - Chapter 109	Certified Broadcast Television Engineer™ (CBTE®) 8-VSB Specialist™ Michael Galik, Dunedin, FL - Chapter 39 Certified Broadcast Radio Engineer™ (CBRE®) Jerald Scott, Pekin, IL - Chapter 49 Paul Wiren, Culver City, CA - Chapter 47 Certified Broadcast Networking Technologist® (CBNT®) James Alexander, Wildomar, CA - Chapter 131 Frank Bell, Clifton, NJ - Chapter 15 Roger Bishop, Carmel, IN - Chapter 25 James Corbin, Georgetown, TX - Chapter 79 William Hooper, Glendale, CA - Chapter 47 Randall Miller, Jr., Harrisburg, PA - Chapter 41 Certified Television Operator® (CTO®) Allan Boudreau, Scappoose, OR Stephen Coss, Wheatridge, CO Diane Goad, Columbus, GA Certified Radio Operator® (CRO®) Larry Flegle, Blairsville, GA Vincent Hamilton, Houston, TX

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.

Cox Media Honors Two SBE Members

At the 2015 NAB Show, Cox Media Group held its Annual engineering/IT dinner on April 12. Part of the event was a recognition of Cox engineering employees across the company. This year, two SBE members received the Engineer of the Year award honors for radio and TV.

Ted Hand, CPBE, 8-VSB, AMD, DRB, director of engineering/operations for CMG in Charlotte, NC,

took the TV honor. He has worked for Cox since 2006. Hand is a past secretary of the SBE and currently serves on the Board of Directors.

The CMG Radio Engineer of the Year award was presented to Jack Conway, IT manager of CMG Tulsa, OK. Conway has worked for Cox since 2000.

Ted Hand with his award at the Cox Media Group engineering/IT dinner.





@ the 2015
NABSHOW
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A



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C



D



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E



F



- A:** The annual Membership Meeting on Tuesday attracted a full house.
- B:** Fred Baumgartner moderates the Ennes Workshop on Saturday.
- C:** Jim Bernier, CPBE, CBNE, (right) receives a plaque to commemorate his 20 years of service on the National Certification Committee.
- D:** Students in the NAB's Technical Apprentice Program attend the Membership Meeting.
- E:** Member reception prize winners with their prizes.
- F:** The Ennes Workshop attracted a record crowd.
- G:** Bob Caniglia of Blackmagic Design, Joe Snelson and Jerry Massey draw for prizes at the Membership Meeting.
- H:** The SBE booth was a place to meet, get info and buy books and logo items.
- I:** President Joe Snelson draws a daily booth prize winner.
- J:** Jim Keightley won the Blackmagic Design Studio Camera at the Membership Meeting.
- K:** The Membership Reception on Tuesday was a chance to meet, greet and eat.
- L:** SBE and AMITRA leaders meet at the SBE booth.



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LEGAL PERSPECTIVE

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

Spectrum Enforcement In the Broadcast Service

In an internal memo leaked from an FCC field office, FCC Managing Director Jon Wilkins and Enforcement Bureau Chief Travis LeBlanc announced in March a plan to close all but 8 of the 24 FCC field offices and to reduce its field office staff from 63 to 33. In the March 10 memorandum, LeBlanc and Wilkins cited the need to take “a fresh look” at the Bureau’s 20-year-old operating model in light of technology changes and tighter budgets.

Under its Phase I field modernization scheme the primary focus of its reduced field office is RF spectrum enforcement. The proposed “Tiger Team” of agents based at the Commission’s Columbia, MD, monitoring station would be “flexible enough to support other high-priority initiatives.” Under the plan, all field agents would have electrical engineering backgrounds “to support the primary focus on RF spectrum enforcement.” The Bureau also proposes standardizing its investigatory and sanctioning processes.

The EB field organization chart would shrink from 21 to 5 director positions, and from 10 to 3 administrative support positions. The 8 remaining field offices would remain in place, but the EB would “pre-position” equipment in several other locations. Offices slated to stay would be New York City; Columbia, MD (also the Bureau’s HF Direction-Finding Center); Chicago; Atlanta; Miami; Dallas; Los Angeles, and San Francisco. Equipment would be

stashed in or near Kansas City; Salt Lake City; Phoenix; Seattle; San Juan; Anchorage; Honolulu; and Billings, MT.

Part of the plan involves privatization with “beneficial partnerships between the field and other organizations that may support increasing our effectiveness.”

Situation Analysis

There are numerous problems with this plan. There is no sense of urgency in the FCC’s enforcement activities targeting spectrum polluters, such as noisy power lines, RF grow lights, and pirate broadcasting, all of which plague broadcasters. The field offices are already stretched thin due to hiring freezes and attrition from retirement of veteran FCC staff. At the same time, broadcasters are critical of the fact that the FCC field offices are forced to spend limited staff time with tasks that are unrelated to the core function of interference resolution. For example, spot broadcast station inspections appear to some broadcasters to be unrelated to interference resolution.

The FCC website identifies the mission of the field offices:

“The Enforcement Bureau’s Regional and Field Offices are our ‘eyes and ears’ on the ground. Nearly half of EB’s staff is deployed in the three Regional Offices and 24 Field Offices around the country. This ubiquitous presence uniquely positions EB to assist the Commission and other government agencies in resolving interference and unauthorized radio transmission cases. The Field also conducts routine on-site investigations, facilities inspections, audits of radio facilities, cable systems, and antenna structures, provides disaster recovery support, and assists in carrying out special priorities of the Commission. [F]ield agents also help the Department of Justice pursue *in rem* seizures of equipment used by unauthorized operators.”

So what will happen when the “ubiquitous presence” of the FCC’s “eyes and ears” disappears from most of the markets? How could the FCC respond immediately to interference to public safety, or interference to air-to-ground communications? The FCC’s basic charge is to prevent interference between and among users of the RF spectrum, something the FCC hasn’t done well of late. This proposal bodes ill for the situation improving. Pirate broadcasting is epidemic, and the longer the pirates are allowed to continue, the more there will be. A rule violation quickly addressed in a visible manner deters others from the same activity. Conversely, invisibility of FCC enforcement and allowing rule violations to fester for long periods encourages other rule violators.

The EB’s deputy chief was recently quoted as saying that the \$21 million it costs to keep the field offices and employees and equipment is too expensive, and field office staffers have “too little work to do.” That is at variance with the response of the field office staff when asked to perform some RF investigation. The offices’ staffs are spread so thin as it is that they don’t have time to do anything but high-priority spectrum-enforcement field work.

Surely there are tasks the field offices are doing that they shouldn’t be wasting time doing, such as random station inspections. But there are far more things that they aren’t doing that they should be doing to protect the radio spectrum as a natural resource. The FCC plan bodes ill for RF spectrum enforcement in the future, and the process has been anything but transparent.



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FOCUS ON SBE

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

Professional Liability Coverage Coming This Summer

I have another update on the progress of providing a new professional liability insurance program at a reasonable cost for SBE members. In early May we were reviewing the draft policy designed for broadcast contract and consulting engineers. By the time you read this, we hope to have the new program available. Check the SBE website or watch for announcements in the semi-monthly SBE-news email newsletter for its availability.

During the April NAB Show, the SBE was very active with meetings, events and the NAB Broadcast Engineering Conference. SBE Member Communications Director Chriss Scherer captured some of the SBE activity in a short video that's linked from the SBE website and posted on our YouTube channel. If you were at the convention, you might catch a glimpse of yourself.



April 1 was the deadline for members to renew their SBE membership on time. Thanks to the several thousand members who did. If you've not taken a moment to renew your membership, please do so today. You can use our secure online renewal form, or use the printed renewal form mailed to you in February. The grace period for member renewal ends on June 30. After that, if you have not renewed you will be dropped from membership.

If you find yourself out of broadcast engineering work due to no fault of your own, you may be eligible for a one-year waiver of your dues. Send a brief message to me explaining your circumstances. I'll share it with Membership Committee Chairman Tim Anderson, CPBE, DRB, 8-VSB, who makes the final decision. Waiver requests must be submitted by June 30. If granted, membership will be extended through March 31, 2016. The SBE is able to provide this assistance because of donations made by members to the SBE Engineer Relief Fund. If you would like to donate to the fund, send a check payable to "SBE," mark it "SBE Engineer Relief Fund" on the memo line, and mail to the national office. Donations to this fund are not tax deductible.

2014 SBE Revenue & Expense Statement

INCOME:	
Membership Fees & Support	\$377,625
National Meeting	38,983
Certification	81,518
Publications/Promotion	46,880
Education Services	81,671
Interest & Dividend Income	39,167
Net Realized/Unrealized Gain (Loss) from Investments	10,958
Miscellaneous Income	4,063
Total Income:	\$680,865
EXPENSES:	
Member Services	\$338,099
Chapter Rebates	34,945
National Meeting	29,351
Publications/Communications	65,723
Certification	79,393
Education	66,636
Administration	69,715
Depreciation/Amortization	12,330
Total Expenses:	\$696,192
CHANGE IN NET ASSETS:	-\$15,327
NET ASSETS 12/31/2013:	\$1,148,893
NET ASSETS 12/31/2014:	\$1,133,566

Society of Broadcast Engineers, Inc. 2014 Audited Financial Statements

Combined Statement of Assets, Liabilities* & Net Assets - Dec. 31, 2014

ASSETS	
Cash & cash equivalents	\$37,209
Investments	1,075,574
Office Equipment	18,783
Intangible Assets	2,000
Total Assets:	\$1,133,566
LIABILITIES and NET ASSETS	
Liabilities	\$0
Net Assets:	\$1,133,566
TOTAL LIABILITIES and NET ASSETS	
	\$1,133,566

* CPA-conducted financial review reflects modified cash accounting method. Investments are listed at market value.

We've included in this issue memorials to two SBE members who recently passed. President Snelson has paid tribute to them in this issue's President's Letter, and I would like to briefly as well. I have great respect for those who were a part of the beginning of the SBE. In the mid-1960s, not everyone was rushing to join the upstart group of radio and television engineers. Peter Onnigian, CSBE, of Sacramento, CA, Charter Member #60 and SBE Fellow, was a forward thinker his entire career, eventually founding the antenna manufacturing company Jampro. We're glad he was there at the beginning of the SBE, and a strong supporter all through his career.

Sadly, we also lost Scott Mason, CPBE, CBNT, in April. Scott had a long, notable and respected career with CBS Radio in Los Angeles. I was privileged to work with Scott during his six years on the national SBE Board of Directors. He provided leadership, first to the society's membership committee, and later to the EAS Education Committee. His contributions during Board discussions were always insightful and reflected the respect and admiration he had for other members and broadcast engineers in general. We join the many family, friends and coworkers of Peter and Scott in mourning their loss.

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Engineering Perspective

By Dr. Richard Chernock
rchernock@trivenidigital.com
CSO, Triveni Digital; Chair, ATSC TG3

Update on ATSC 3.0, Part 2

In the last issue we looked at the upcoming changes with ATSC 3.0, including details on the physical layer. We continue with the management/protocol layer.

The Management and Protocols Layer is the plumbing connection between the Physical Layer and Presentation Layer, supporting service delivery and synchronization, service announcement and personalization, and interactive services and companion-screen services.

A consensus has been reached on the use of Internet Protocol (IP) transport for broadcast delivery of both streaming and file content. The use of IP transport (instead of MPEG-2 transport as used in the current DTV system) provides a large degree of commonality with other delivery mechanisms. Streaming content (for example, live TV) will be delivered in chunks (using ISO/BMFF as a content format), rather than a continuous stream of bits. Again, this provides commonality with other delivery mechanisms, as well as making things such as localized or personalized ad insertion relatively simple.

ATSC 3.0 is being designed to allow the seamless use of broadcast combined with broadband to deliver services and components of services. One example of this might be delivering video and one audio language (which might be expected to be used by a majority of viewers) in the broadcast, with alternate language audio streams delivered via broadband – allowing the viewer to select among a number of options. One enabling technology for hybrid delivery is the use of UTC (or some other form of “absolute” time) for synchronization and buffer management.

In a number of situations, the receiver may only have access to uncompressed audio and video; e.g., via an HDMI cable connected to a set-top box. For ATSC 3.0, additional components and services are desired that may not make it all the way to the receiver in the main delivery path. Automatic Content Recognition (ACR) can enable the receiver to identify what is being

viewed. ACR methods include fingerprinting and watermarking. ACR-aware receivers with a broadband connection could request and retrieve additional content via broadband.

Application/Presentation Layer

The Applications and Presentation Layer represents essentially the elements the viewer experiences, including video coding, audio coding and the runtime environment. The service model for ATSC 3.0 allows for more complex services to allow

dialog, alternate audio tracks and assistive audio services, other language dialog, special commentary, and music and effects. Furthermore, normalization of content loudness and contouring of dynamic range, based on the specific capabilities of a user’s device and unique sound environment, is expected. An enhanced immersive experience is envisioned, with high spatial resolution in sound source localization (in azimuth, elevation, and distance), for an increased sense of sound envelopment. Features will include targeted services to various devices and speaker set-

ups, support for hybrid broadcast/broadband delivery, and support for audio-only content as well as audio/video content.

The runtime (or application) environment will likely be based on HbbTV 2.0, with modifications as needed to accommodate differing needs and requirements. Some aspects from the ATSC 2.0 application environment may be used as well.

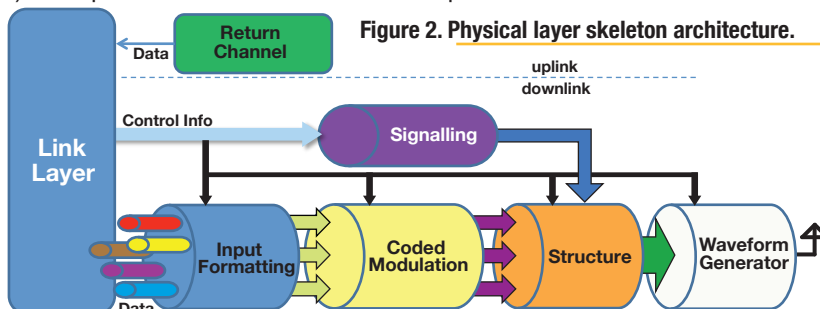


Figure 2. Physical layer skeleton architecture.

broadcasters to evolve their business. Major elements include:

- Enhanced linear TV, plus on-demand support
- Subscription and pay-per-view (PPV) support
- Conditional access and digital rights management (DRM) capabilities
- Mobile and fixed device, plus companion device support
- Hybrid delivery (broadcast and broadband), combined with pushed content

For video coding, UHD and HD enhancements are a key initial goal, with 4k support at the start and 8k possible later via extensibility. HEVC (H.265) has been selected as core video codec. Portable, handheld, vehicular, and fixed devices in both indoor and outdoor settings are all targeted. Physical Layer pipes may enable the flexible trade-off of robustness vs. throughput for each component. Layered (scalable) coding is under consideration, possibly on multiple PLPs. The latter situation may allow delivery of an HD version for core service over a robust pipe and an enhancement layer over a higher bitrate pipe to bring the video up to UHD.

For audio coding, new personalization features are envisioned that include control of

Extensibility

Because technology continues to advance and consumer demands evolve, methods are being included in the ATSC 3.0 standard to facilitate a graceful evolution from the initial technologies to newer, more advanced technologies that may be developed in the future. Signaling will permit new receivers to take advantage of new technologies when they are available. This signaling begins at the Physical Layer and extends through to the application/presentation layer. The Physical Layer will have a very basic, highly robust form of signaling that can indicate what technology is used for the physical layer itself. At a minimum, each layer will have the ability to signal what technologies are used in the layer above. Signaling and announcement information will include the ability to indicate the capabilities necessary to successfully render services (with a distinction between those considered essential (by the content creator) and those considered optional).

MORE ONLINE

Want to know more? Access the SBE on-demand webinar on ATSC 3.0 at sbe.org/webinars.

AC Video Solutions • 2014 Andrea Cummis 201-303-1303 Consulting, Systems Design/Integration	DoubleRadius, Inc. • 2012 Jeffrey Holdenrid 704-927-6085 IP Microwave STL	Microwave Video Systems • 2011 Warren J. Parece 781-665-6600 Microwave Equipment Rental, Sales & Service	Sierra Automated Systems and Engineering Inc. • 2011 Al Salci 818-840-6749 Routers, Mixers, Consoles, Intercoms
Advanced Broadcast Solutions • 2012 Arco Groenberg 206-870-0244 Systems Integrator	du Treil, Lundin & Rackley, Inc. • 1985 Jeff Reynolds 941-329-6000 Consulting Engineers	Middle Atlantic Products • 2005 David Amoscat 973-839-1011 Equipment, Mounting, Solutions	Signiant • 2012 Steve Gillen 781-221-4000 Signiant Content Delivery Software
American Tower Corporation • 2000 Peter A. Starke 781-461-6780 Development/Construction/Management	Drake Lighting • 2015 Dave Sheppard 270-804-7383 FAA Obstruction Lighting - High Intensity	MoreCom Inc. • 2009 Kyle Moorehead 763-533-5535 Networking & AV Construction	Snell Inc. • 1995 John Shike 818-556-2616 Video Equipment Manufacturer
ATCI • 2012 Anthony Graves 480-844-8501 Satellite Communications Solutions Provider	DVEI - Division of Computer Modules Inc. • 2011 Laszlo Zoltan 858-613-1818 Everything About Transport Streams	Moseley Associates Inc. • 1977 Dave Chancey 805-968-9621 Digital STLs AM/FM/TV	Solid State Logic • 2014 Steve Zaretsky 212-315-1111 Digital Audio Consoles/Routers
Audemat-Worldcast Systems Inc. • 2000 Christophe Poulain 305-249-3110 Control Manufacturer	e2v • 1997 Mark Strohecker 914-593-6831 Electronic Components, SATCom Amplifiers	Nascar Productions • 2014 Abbey Kielcheski 704-348-7131 Live/Post Production Services	Sourcerer • 2014 Eddy Vanderkerken 214-912-5007 Broadcast Equipment, T & M
AVCOM of Virginia, Inc. • 2010 Tom Pagonis 804-794-2500 Spectrum Analyzers	Econco • 1980 Debbie Storz 800-532-6626, 530-662-7553 New & Rebuilt Transmitting Tubes	National Association of Broadcasters • 1981 Industry Trade Association 202-429-5340	Staco Energy Products Co. • 2010 Paul Heiligenberg 937-253-1191 x128 Manufacturer of Voltage Regulators, UPS
AVDB Group • 2014 Maria Cody 720-940-7131 Audio/Video/Lighting & Control	Emerson Network Power/Avocet • 2014 George Morgan 917-592-0956 Avocet High Performance KVM	National Football League • 1999 Ralph Beaver 813-282-8612 Game Day Coordination Operations	Superior Electric • 1995 Michael J. Miga 860-507-2025 Power Protection Equipment
Avid Technology • 2011 Rich Griffin 303-248-3259 Broadcast Products and Services	ENCO Systems Inc. • 2003 Kenneth Frommert 800-362-6797 Audio Automation and Playout	Nautel Inc. • 2002 Jeff Welton 877-662-8835 Radio Broadcast Transmitter Manufacturer	Sutro Tower Inc. • 1989 Eric Dausman 415-681-8850 Broadcast Tower Leasing
A-Ware Software/MusicMaster • 2014 Shane Finch 352-351-3625 Advanced Music Scheduling Solutions	ERI - Electronics Research • 1990 David White 812-925-6000 Broadcast Antennas, Transmission Line, Filters/Combiners, Towers and Services	Nemal Electronics Int'l Inc. • 2011 Benjamin L. Nemser 305-899-0900 Cables, Connectors, Assemblies and Fiber Optic	TC Electronic • 2008 Laura Davidson 818-665-4902 DTV Audio Level Processing
Belden Electronic Division • 1991 Steve Lampen 800-235-3361 Cable and Connectivity	Floral Systems • 2008 Shawn Maynard 877-774-1058 Television Broadcast Automation	Neutrik USA, Inc. • 2012 Kathy Hall 704-972-3050 Ruggedized Optical Fiber Systems	Tektronix Inc. • 1977 Michael Brett 503-627-5888 Video Test & Measurement, Equipment Manufacturer
Bell Tower • 2014 Bruce Burris 918-789-9020 Tower Manufacturing, Design & Installation	FOR-A Corporation of America • 2013 Adam Daniul 305-773-7608 Innovation in Video and Audio Technology	Orban • 2011 David Rusch 480-403-8300 Audio Processing AMFMTV	Teletream • 2013 Mark Wronski 530-470-1337 Transcoding, Captioning, Workflow Automation
Black Box • 2014 Brian Kutchna 724-873-6719 HD-KVM Switching & Extension	Fujinon, Inc. • 1986 Thom Calabro 973-633-5600 Broadcast & Communications Products	Pacific Radio • 2013 Josh Phillips 818-556-4177 Cables, Connectors, Tools, Racks	Telos Systems/Omnia/Axia • 2003 Denny Sanders 216-241-7225 Telos Systems Talk-Show Systems
Blackmagic Design • 2012 Terry Frechette 978-337-0991 Switchers, Digital Cameras, Routers	GatesAir • 1977 Dave Hopson (TV) 513-445-5243 Mark Goins (Radio) 513-899-9124 Broadcast Equipment Manufacturer	Pasternack Enterprises • 2001 Christine Hammond 949-261-1920 Coax & Fiber Products	Teradek • 2011 Jon Landman 949-743-5783 Camera-top ENG Solutions
Bracke Manufacturing LLC • 2012 Patra Largent 949-756-1600 RF & Microwave Components	Geppo/General Cable • 1995 Dennis Thompson 407-405-0756 Innovative Cabling & Custom Solutions	Potomac Instruments • 2012 Guy Berry 301-696-5550 RF Measurement Equipment Manufacturer	Terrestrial RF Licensing Company • 2003 Jennifer Smith 888-373-4832 FCC Broadcast Auxiliary Licensing Services
Broadcast Electronics Inc. • 1978 Tom Beck 217-224-9600 Radio Equipment Manufacturer	Graham Brock, Inc. • 2012 Marilyn Matheny 912-638-8028 Technical Consultation - Radio/TV	ProAudio.com - A Crouse-Kimzey Co. • 2008 Mark Bradford 800-433-2105 x560 Proaudio Broadcast Equipment Distributor	The Durst Org. - 4 Times Square • 2004 John M. Lyons, CPBE 212-997-5508 TV/FM/Microwave Tower Site
Broadcast Microwave Services Inc. • 1997 Jim Kubit 805-581-4566 Manufacturer, Transmitters, Receivers, Antenna Systems	HD Radio/iBiquity Digital • 2014 Rick Greenhut 443-539-4335 HD Radio Technology	Propagation Systems Inc. - PSI • 2010 Doug Ross 814-472-5540 Quality Broadcast Antenna Systems	The Switch • 2011 Peter Hartz 323-645-8011 Fiber Transmission Provider
Broadcast Supply Worldwide • 1986 Shannon Nichols 800-426-8434 Audio Broadcast Equipment Supplier	Heartland Video Systems, Inc. • 2011 Dennis Klas 920-893-4204 Systems Integrator	Quintech Electronics and Communications Inc. • 2002 James Herbstritt 724-349-1412 State-of-the-art RF Hardware Solutions	Thomson Video Networks • 2014 Matt Tietze 301-537-6288 Video Compression and Processing
Broadcasters General Store • 2004 Buck Waters 352-622-7700 Broadcast Audio Video Distributor	IEWC • 2014 Matt Granard 425-286-1900 Global Connectivity Solution Provider	QVC • 2011 Kevin Wainwright 484-701-3431 Multimedia Retailer	Tieline The Codec Company • 2003 John Lackness 317-845-8000 POTS, ISDN, Codecs & A/V Products
Canon USA Inc. • 1985 Larry Thorpe 201-807-3300, 800-321-4388 Broadcast Lenses & Transmission Equipment	Image Video • 1997 Zach Wilkie 416-750-8872 x228 Under Monitor Tally Display Systems, Monitor Design and Manufacture Broadcast Equipment	Radio Frequency Systems • 2015 Jay Martin 207-523-0990 Broadcast & Telecom Antennas & Systems	Tower Engineering Company • 2013 Madison Batt 425-640-2266 Tower Engineering Analysis & Design
Cavell, Mertz & Associates Inc. • 2011 Gary Cavell 703-392-9090 Consulting Services	Inovonics Inc. • 2012 Lukas Hurwitz 831-458-0552 Radio Broadcast Equipment	RCS • 2003 Diana Stokey 308-284-3007 Audio and Video Content Management	Unimar Inc. • 2001 Thad Fink 315-699-4400, 813-943-4322 Tower Obstruction Lighting Designer, Manufacturer, Distributor
Comark • 2013 Jack McNulty 860-763-1100 Manufacturer Broadcasting Transmission Equipment	Integrated Microwave Technologies • 2009 Elena Waldhuber 908-852-3700 Microwave Video Transmission and Receive Systems	RDL • 2004 Chuck Smith 928-778-9678 x142 Audio, Video, Control & Test Equipment Manufacturer	Vislink Broadcast • 1991 Mark Tommey 978-671-5700 Video Microwave Systems
Comrex Corporation • 1997 Chris Crump 978-784-1776 Audio Codecs & Telephone Interface Products	JAMPRO Antennas Inc. • 2011 Alex Perchevitch 916-383-1177 DTV/DVBT & HD Radio-IBOC Solutions	RF Specialties Group • 2008 www.rfspecialties.com Everything from the Microphone to the Antenna	Volicon • 2015 Russell Wise 781-221-7400 Broadcast Monitoring and Logging Solutions
Comsearch • 2004 Tim Hardy 703-726-5651 Frequency Coordination Services	JVC • 2014 Lon Mass 973-317-5117 Professional Video Products	Rohde & Schwarz • 2003 Walt Gumbert 724-693-8171 Broadcast Transmitters, Test & Measurement	Wheatstone • 2010 Jay Tyler 252-638-7000 IP Consoles, Routers & Processors
Continental Electronics Corporation • 1976 Michael Troje 800-733-5011 AM & FM IBOC Transmitters	Ka You Systems • 2011 George Gimourginas 301-585-4302 Audio, Video, IP - Satellite	Ross Video Ltd. • 2000 Darren Budrow 613-228-0688 Manufacturer, Television Broadcast Equipment	WideOrbit • 2012 Brad Young 214-923-6337 Broadcast Management Software, Automation and Master Control
CueScript • 2014 Michael Accardi 203-763-4030 Teleprompting Software & Hardware	Kathrein USA Inc. • 1985 Michael W. Bach 541-779-6500 Antennas for Broadcasting & Communications	Sage Alerting Systems Inc. • 2010 Gerald LeBow 914-872-4069 x210 Emergency Alert Systems Products	Wireless Infrastructure Services • 2006 Travis Donahue 951-371-4900 Broadcast Microwave, Tower & ENG Installation, Integration Maintenance Services
Dakota Lighting Supply • 2015 Randy Doremus 303-748-6241 FAA/Obstruction Lighting Products	LBA Technology Inc. • 2002 Katie Sneed 252-757-0279 AM/MW Antenna Equipment & Systems	SCMS Inc. • 2000 Bob Cauthen 800-438-6040 Broadcast Equipment- New/Used	WnewTech Corporation • 2014 Luiz Santiago 310-220-5664 Systems Integration
Davicom, Division of Comlab, Inc. • 2014 Guy Fournier 418-682-3380 Site Remote Controls	LYNX Technik • 2007 Steve Russell 661-251-8600 Broadcast Terminal Equipment Manufacturer	Seacom Erectors, Inc. • 1997 John Breckenridge 360-793-6564 Tower/Antenna Erections	
DEVA Broadcast • 2015 Todor Ivanov 305-767-1207 Monitors, IP Audio Codecs, Broadcast Tools	Markertek Video Supply • 2002 Andrew Barth 845-246-3036 Audio, Video, A/V Broadcast Supply	SEG • 2014 Chris Childs 913-324-6004 Supply Chain Products and Services	
Dialight Corporation • 2006 US Headquarters 732-919-3119 FAA Obstruct. Lighting, LED Based	Maxell Corporation of America • 1991 Patricia Byrne 973-653-2423 Data/Broadcast Video Media	Shively Labs • 1996 Dale Ladner 888-SHIVELY FM Antennas & Combiners	
Dielectric • 1995 Cory Edwards 207-655-8131 TV & FM Transmission & Cellular Products	Micronet Communications Inc. • 2005 Jeremy Lewis 972-422-7200 Coordination Services/Frequency Planning	Shure Incorporated • 2012 Bill Ostry 847-600-6282 Microphones, Wireless Systems, Headsets	
Digital Alert Systems, LLC • 2005 Bill Robertson 585-765-1155 Emergency Alert Systems			

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 Roman G. Ziombra - Malibu, CA

NEW STUDENT MEMBERS

Mark Corless - Menifee, CA
 Danisha Graham - Spanaway, WA
 Esmail G. Hamidi - Sparks, MD
 Michael JB Klebak - Clemmons, NC
 Jacob Lockwood - Las Cruces, NM
 Joel Mastrantuono - Endwell, NY
 Calvin L. Smith, Jr. - Hackensack, NJ
 Raymond P. Sukhdeo - South Richmond Hill, NY
 Matthew J. Elliott - Grays River, WA

NEW ASSOCIATE MEMBERS

E. Len Doughty - Norman, AR
 Christopher B. Howard - Columbus, MS
 James Simmons - Congers, NY

RETURNING STUDENT MEMBERS

Kenneth C. Andrews - Tacoma, WA



In Memoriam

Scott Mason, CPBE, CBNT
 Member #15086

1959 - 2015

Senior Member
 Board of Directors 2008 - 2014

In Memoriam

Peter Onnigian, CSBE
 Charter Member #60

1921 - 2015

Life Member

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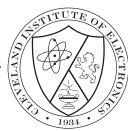
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Member Spotlight: Tom Weber

Member Stats

First Joined the SBE: 1979

Certifications: CPBE, CBNT

Chapter: 25, Indianapolis

Employer: WISH-TV and WNDY-TV

Position: Engineering Manager Supervisor

Location: Indianapolis, IN

I'm Best Known For: Working really hard to get the job done, with a sense of humor.

Q. *What do you enjoy or value most about your involvement with the SBE?*

A. The SBE has been instrumental in allowing me to meet other excellent broadcast engineers, learn from them and excel at my profession, and return the favor in getting other engineers to do the same.

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

A. We had a family friend who was in broadcasting. I enjoyed engineering, so I started at the student radio station at college.



Q. *What do you find most satisfying in your job?*

A. I really like it when people say that they turn to my station to find out vital news and weather information that they need to know.

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

A. ...will often be out bicycling. Many weekends I'll ride 30-50 miles.

Q. *Tell us something others may not know about you.*

A. I once managed souvenir sales at an N'Sync concert. We sold \$200,000 gross, and at the end of the night we were off only \$20 on the count. I have also helped my son repo cars and motor homes.

Q. *What's your favorite gadget?*

A. Right now, it's my FLIR One thermographic camera clip-on to my iPhone 5.

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MEMBERS ON THE MOVE



▶ **Kirk Harnack, CBRE, CBNE**, is now director of multimedia marketing at the Telos Alliance.

▶ **Huascar Sousa**

is now CEO at Global 760 AM, Santo Domingo, Dominican Republic.



Jason Ornellas, CRO, is now director of engineering for CBS Radio, Sacramento, CA.

Larry Wilson is now chief engineer at Cumulus Media in Oxnard/Ventura, CA.

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

▶ **Bill Hayes** has become a partnership board member for the International Broadcasting Convention (IBC).



Michael Maville, CBT, is now chief engineer at WPEC-TV, West Palm Beach, FL.

Matthew Agnesi has been promoted to director of engineering and IT for CBS Radio Orlando.



▶ **Fred Baumgartner, CPBE, CBNT**, has been named TV product manager at Nautel.

MARK YOUR CALENDAR

Webinar: Transmitter Maintenance Checklist

June 18, 2015

sbe.org/webinars

SBE National Board Elections

July 17 - August 20, 2015

sbe.org

SBE Leadership Development Course

Atlanta

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