



Leifer Elected to Second Term as SBE President

The 2018 election for the SBE national board of directors concluded on Aug. 22. Jim Leifer, CPBE, was re-elected as the society's president. Leifer is senior manager of broadcast operations at American Tower Corporation, Andover, MA.

Regarding the election, President Leifer said, "I thank SBE members for their support and the Board of Directors for their work over the last year. Looking ahead, I am eager to discuss the ideas from the SBE strategic planning meeting held in June, and then implement those approved by the SBE Board of Directors. This will enhance the membership experience as we embrace new technologies and new ways of performing the work of the SBE."

Others serving one-year terms as officers, which begin on Oct. 3, are:

- Vice President: Robert "RJ" Russell, CPBE; president, Technical Broadcast Solutions, Inc.; Middletown, DE
- 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, Tech-

wood Engineering, Turner; Atlanta

Serving two-year terms on the board of directors, which also begin Oct. 3 are:

- Stephen J. Brown, CPBE, CBNT; director of broadcast engineering, Woodward Radio Group; Appleton, WI
- Roswell Clark, CPBE, CBNT; senior director of radio engineering, Cox Media Group; Clearwater, FL
- Kirk Harnack, CBRE, CBNE; senior solutions consultant, Telos Alliance; Nashville, TN
- Vinny Lopez, CEV, CBNT; chief engineer, WSTM/WTVH/WSTQ-TV; Syracuse, NY
- Thomas McGinley, CPBE, AMD, CBNT; president, McGinley Enterprises; Missoula, MT
- Shane Toven, CBRE, CBNT; field engineer, Educational Media Foundation; Laramie, WY



Leifer

see **ELECTION**, p. 3

SBE to Webcast SBE Membership Meeting Live from Boston

The Annual Membership Meeting of the Society of Broadcast Engineers will be webcast live from the Boston suburb of Danvers, MA on Wednesday, Oct. 3 from 3:30 to 4:30 p.m. ET (12:30 to 1:30 p.m.

PT). The meeting is part of the Society of Broadcast Engineers National Meeting, held in conjunction with the Media Resource Expo (MRE) and hosted by SBE Chapter 11 of Boston.

The one-hour webcast will include updates and reports on the Society's activities and programs, the induction of newly elected national officers and directors, and a special segment featuring ATSC President Mark Richer in a one-on-one conversation with SBE President Jim Leifer. Richer and Leifer will discuss the progress being made with ATSC 3.0/Next Gen TV and its implementation.

To view the webcast, go to the SBE website, sbe.org, and click on the SBE Annual Membership Meeting link. The SBE Annual Membership Meeting webcast

is sponsored by Blackmagic Design, Di-electric, Drake Lighting, DVEO, IMT Vis-link, Lawo and Technical Broadcast Solutions, Inc.

National Meeting events begin on Tues-

see **WEBCAST**, p. 8



The 2018 SBE Membership Meeting will be streamed live again this year.

IN THIS ISSUE

- 4 Letter from the President
- 5 Need to Know: ATSC 3.0
- 6 New Certification: ATSC 3.0
- 10 Wireless Power and AM
- 11 Ennes Scholarship Committee
- 12 Repack Rejection Letters
- 14 Member Spotlight



TERADEK LINK^{PRO}

Bonded Cellular WiFi Router

Blazing-fast Internet and maximum 4G/LTE redundancy so you can stream, browse and broadcast wherever you go.

2.4 / 5GHz WiFi
600 ft Range

Portable Power
Gold & V-mount

6x Modems
3G / 4G / LTE



linkpro.teradek.com

PRESIDENT

James E. Leifer, CPBE
American Tower | Boston, MA
jleifer@sbe.org

VICE PRESIDENT

RJ Russell, CPBE
Technical Broadcast Solutions Inc. | Middletown, DE
rjrussell@sbe.org

SECRETARY

Wayne M. Pecena, CPBE, 8-VSB, AMD, DRB, CBNE
Texas A&M University/KAMU | College Station, TX
wpecena@sbe.org

TREASURER

James Bernier, CPBE, CBNE
Turner | Alpharetta, GA
jim.bernier@sbe.org

DIRECTORS

Andrea Cummis, CBT, CTO
WLVT-TV | Roseland, NJ
acummis@sbe.org

Mark Fehlig, PE, CPBE, 8-VSB
Jampro Antennas/Alan Dick | Walnut Creek, CA
mfehlig@sbe.org

Ted Hand, CPBE, 8-VSB, AMD, DRB
Cox Media Group | Charlotte, NC
thand@sbe.org

Kirk Harnack, CBRE, CBNE
The Telos Alliance | Nashville, TN
kharnack@sbe.org

Stephen H. Lampen, CBRE
Consultant | San Francisco, CA
slampen@sbe.org

Vinny Lopez, CEV, CBNT
Sinclair Broadcast Group | Syracuse, NY
vlopez@sbe.org

Jason Ornellas, CBRE, CRO
Bonneville | Sacramento, CA
jornellas@sbe.org

Kimberly K. Sacks, CBT
iHeartmedia | Loveland, CO
ksacks@sbe.org

Marcelo Sanchez, CPBE
WBFS-TV/WFOR-TV | Miramar, FL
msanchez@sbe.org

Dave Siegler, CPBE
Cox Media Group | Atlanta, GA
dsiegler@sbe.org

Kevin Trueblood, CBRE, CBNT
WGCU Public Media | Estero, FL
ktrueblood@sbe.org

Justin "JT" Tucker, CSRE, AMD, CBNE
Cumulus Media | Charleston, SC
jttucker@sbe.org

IMMEDIATE PAST PRESIDENT

Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNT
Greenville, SC
jmassey@sbe.org

SBE NATIONAL STAFF

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

Megan E. Clappe | Certification Director
mclappe@sbe.org

Cathy Orosz | Education Director
corosz@sbe.org

Chriss Scherer, CPBE, CBNT
Member Communications Director
cscherer@sbe.org

Debbie Hennessey
Sustaining Membership Manager
dhennessey@sbe.org

Scott Jones | Database Manager
kjones@sbe.org

Carol S. Waite | Certification Assistant
cwaite@sbe.org

The Signal is published bimonthly by the Society of Broadcast Engineers, Inc., 9102 North Meridian Street, Suite 150, Indianapolis, IN 46260. Questions or comments regarding editorial content or design should be referred to Chriss Scherer at 317-762-9723 or cscherer@sbe.org. For advertising, contact Debbie Hennessey at dhennessey@sbe.org. SBE is a registered trademark of the Society of Broadcast Engineers.

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

ELECTION from p. 1



Brown



Clark



Harnack



Lopez



McGinley



Toven



Russell



Pecena



Bernier

Those elected will be sworn in on Oct. 3, 2018, during the SBE Membership Meeting. They will join the other six directors who have another year remaining in their terms (Andrea Cummis, CBT, CTO; CTO, WLVT-TV, Roseland, NJ; Mark Fehlig, PE, CPBE, 8-VSB, senior systems engineer, Jampro Antennas/Alan Dick, Walnut Creek, CA; Ted Hand, CPBE, 8-VSB, AMD, DRB, director of engineering/operations, Cox Media Group, Charlotte, NC; Stephen H. Lampen, CBRE, consultant, San Francisco, CA; Kimberly K. Sacks, CBT, director of engineering, iHeartMedia, Loveland, CO; Kevin Trueblood, CBRE, CBNT, director of engineering, WGCU Public Media, Estero, FL. Also Continuing on the board is Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNE, immediate past president.)



Certification Question

Answer on page 6

An angstrom (abbreviated Å) is:

- A. 10^{-10} meters
- B. 10^{-9} meters
- C. 10^{-6} meters
- D. None of the above



**OFF-AIR ATSC 3.0 & 1.0
DEMOD/RECEIVER/
DECODER**



TLV500E-ATSC 3.0 and ATSC 1.0™ 1-4ch

sales@dveo.com | +1 858 613-1818 | www.DVEO.com



LETTER FROM THE PRESIDENT

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

To the Year Ahead

The first hints of fall have arrived on Boston. Preparations for the SBE National Meeting have been underway, and will be about to start as you read this. Thanks to all our event sponsors and our meeting host, the Media Resource Expo, for making the National Meeting possible.

As you know, the SBE election closed in August, and six director seats and all the officers were on the ballot. I'm pleased to begin my second term as SBE president, and I welcome the new directors who begin their terms at the National Meeting. As I look back at my first term, we have accomplished much within the society. The SBE held a strategic planning session on Saturday, June 9, in Indianapolis. The meeting ran a full day, from 9 a.m. to 9 p.m. Attending were 32 members and staff from across the country. That included many SBE members representing chapters, the board of directors, five members of the SBE staff and our facilitator participating in the day-long event.

A strategic planning committee was formed to review and present the results of this session to the board in Boston. From their recommendations, action points will be acted on as the board approves them.

With all the constant changes it was exciting to see how many participated and look forward to trying new things to enhance the membership experience, and how we can embrace new technologies and new ways of doing the work of the SBE.

I want to take a moment to say thank you to all the members who have reached out to me with ideas and encouragement. I have had the pleasure of attending several regional and lo-



Findings from the strategic planning meeting will be reviewed by the SBE Board of Directors at its meeting in Boston in October.

cal meetings. It is also nice to see so many new people who have joined the SBE.

The SBE Mentor Program continues to develop, and with the support of our board, our members are embracing the program. I encourage those participating to continue, and if you are interested contact the SBE National Office so you can be added to the growing list.

SBE Joins Professional Certification Coalition

Since February 2018, a number of states have considered legislation that could restrict how holders of SBE certifications, and hundreds of other non-governmental certifications, are able to use them. The intent has been to remove perceived employment barriers and is focused on state professional licensing laws. However, language affecting voluntary certifications offered by private organizations has been swept up into these bills.

The legislation varies by state. Some define certifications as solely created by the state, while others limit holders of certifications from using them to promote their business, or indicate their knowledge and experience to current or potential employees.

Legislation in Louisiana was successfully amended earlier this year, but a new law in Missouri went into effect earlier this summer that defines certification as only authorized by the state. Legislation is pending in Ohio, Illinois and Michigan.

The SBE has joined the Professional Certification Coalition (PCC), which was formed to challenge these legislative efforts. The coalition is led by the American Society of Association Executives and the Institute for Certification Excellence. It currently numbers more than 78 organizational members. The group is waging a campaign focused on educating state legislators and their staffs on how this legislation will negatively affect thousands of their constituents. Their aim is to modify the bills to remove any effect they have on certifications offered by private, non-profit associations and other certification granting organizations.

The SBE will be an active participant in this effort and may call on individual SBE members who hold SBE certifications to contact their state legislators. Watch for further updates in The Signal, SBE-news and SBE Legislative Updates and Alerts.



SBE Election Board of Tellers

The annual SBE election of officers and directors concluded on Aug. 22. 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; Roger Bishop, CPBE, CBNT; Tom Weber, CPBE, CBNT; Dale Smiley, CPBE; Kenny Elcock, CPBE.



EDUCATION UPDATE

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

The Next Broadcast Engineer

A common topic found in many industry publications over the last two or three years indicates a growing concern for where the next generation of broadcast engineers will come. I expect you have been involved in similar conversations and even some lively debate exchanged regarding the future of broadcast engineering. I have certainly had this conversation many times through my travels. Conversation with station managers at state broadcast conferences this summer in Kansas, Missouri, Tennessee, and Texas indicate that they too have concerns. There are often more questions than tangible answers and many look to the SBE for the answers. Needless to say, this topic has been on the radar of your SBE Board for some time, and it was a major focus of the recent Strategic Planning Conference held this past June in Indianapolis. The 2018 SBE Compensation Survey indicated that the majority of SBE member's ages range from 61-64 and have worked in the field for 36-40 years. I expect this demographic represents the industry as a whole.

Let's face the reality that the path many of us took to a career in broadcast engineering rarely exists anymore. Amateur radio peaked my interest in electronics in the mid-1960s in junior high and high school. My "Elmer's" family owned the local AM/FM broadcast station and I spent time "helping" the chief engineer as much as possible. Later on in life, I realized he was the one doing the real helping. Experience gained from employment at a local radio/TV repair shop while in high school provided me employment when I went off to college and got my first paid job at a broadcast station. Even at a small Texas TV station, the engineering staff provided mentors in essentially all areas of broadcast technology of the time, from the studio to the transmitter. Formal classes in high school and college brought a deeper understanding of electronics fundamentals, but the hands-on aspect with an experienced mentor not far away provided my real broadcast engineering knowledge base. This "old school" career path to broadcast engineering rarely exists today.


Change is a Constant

As I look back at my own career, I often lose sight of the stability of technology that existed in my early career years. There simply was not much significant technology change. Beginning in the 1980s, the rate of change picked up, new technology was introduced in all facets of the industry, and technology life cycles became shorter. The regulatory side of the industry changed as well. There was less time to learn the new technology, less experienced staff available to mentor and guide, and overall more time demands placed on the broadcast engineer. Industry consolidation often resulted in the experienced broadcast engineer being tasked with supporting multiple stations. We all have experienced the impact of Moore's Law on technology.

I predict that the majority of the future broadcast engineers will come from the information technology (IT) industry as the broadcast technical facility will be an IT environment, if not already the case. The broadcast technical facility that we know today may not even exist as the traditional broadcast "rack room" functionality is built with common (or commercial) off-the-shelf

(COTS) IT hardware, or the functionality moves to an unseen "cloud" environment. Support needs will be accomplished by remote access from virtually anywhere. Specialization will overtake generalization and even the title of "broadcast engineer" will not be reflective of the future technology professional as content distribution methods will range from traditional high-power broadcast RF, to terrestrial Internet, to 5G service providers. ATSC 3.0 is likely to provide a significant change as multiple distribution channels become integrated across an Internet Protocol-based (IP) platform. Yes, the high power transmitter facility will still be around, but the support likely handled by the manufacturer field service or a new breed of service company. I expect the industry will see future service offerings that provide the RF facility as a service in addition to the tower structure as an outsourced service option.

The broadcast industry will survive, and change will continue. Change will occur in the skills the broadcast engineer will be required to process in the future. Change may occur in the titles given to those in the industry. Change will occur in the career path one takes to the technology side of broadcasting. Station management should also be prepared to meet compensation and working environment norms as they compete for qualified talent within the IT industry. Change will occur in how station management might sustain their operations through the availability of outsourced service offerings. Every aspect of the industry we know today will be affected by change as change will occur to meet the industry need to survive. Change creates an opportunity for the SBE educational programs to insure we have the proper mix of content offered in a format delivered at the right time to fulfill member needs.

Remember, SBE MemberPlus gives you access to all the latest SBE webinars including the entire webinar on-demand library at no additional cost. If you currently don't hold the MemberPlus option, you can upgrade your membership at any time. Your SBE Education Committee wants to know your professional development needs. Let us know your thoughts on current and future programs, lend your advice and guidance to your SBE Education Committee to help establish the right mix of educational content to meet your professional development needs. 

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

Earn Your Diploma at Home!



Cleveland Institute of Electronics

Distance learning programs in electronics and computer technology!

Programs offered:

- Broadcast Engineering
- Electronics Tech with FCC
- Electronics Communications
- Industrial Electronics PLC
- Wireless
- Robotics and more!

www.cie-wc.edu

Course descriptions & tuition prices.
Request a FREE Course Catalog!

www.ciebookstore.com

Learn iPhone Repair, Video Production,
PC Repair & more! DVDs, labs & tools.

Or call 1-800-243-6446

1776 E. 17th, Cleveland, OH 44114

Registration Certificate 70-11-0002H



CERTIFICATION UPDATE

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

New ATSC 3.0 Certification In the Works

Last April, the National Certification Committee announced that SBE is creating an ATSC 3.0 Specialist Certification with the help of the Advanced Television Systems Committee (ATSC). I want to give you an update on our progress since that announcement.

The National Certification Committee created specialist certifications about 11 years ago to establish a benchmark of individual proficiency for a specific subject. The program currently offers three specialist certifications: 8-VSB Specialist (8-VSB), AM Directional Specialist (AMD) and Digital Radio Broadcast Specialist (DRB). With any of the specialist certifications, the individual applying to take the exam must first hold a five-, ten- or 20-year engineering level certification as the host certification. Specialist exams are three hours in duration and consist of 50 multiple-choice questions. Additionally, one essay-type question is appropriately selected for each designation.

On Aug. 27, 2018, the National Certification Committee held a teleconference meeting and approved the addition of the five-year Certified Broadcast Networking Engineer (CBNE) to the list of possible host certifications. Therefore, if the ATSC 3.0

Specialist certification is something that you are interested in pursuing, make sure you hold a required host certification by the time you are ready to take the ATSC 3.0 exam. The ATSC 3.0 specialist is on track to be released during the second quarter of 2019. We are targeting the June 2019 exam session for the first set of examinations.



The SBE Education Committee has released the first ATSC 3.0 webinar covering a system overview of the 3.0 standard with a plan for a series to be rolled out later in 2018-2019. Gary Sgrignoli of Meintel, Sgrignoli & Wallace, LLC (MSW) is planning to present a traveling roadshow starting in 2019 similar to what he presented during the digital transition covering RF systems including SFNs and STLs. An SBE CertPreview update will also be released prior to the first exams covering this field of specialization. The CertPreview will have sample questions to give the examinee an idea of what to expect on the actual exam.

Closer to the release of the exam, a reference list of books, webinars, roadshows, websites and other tools that the examinee can utilize to prepare for the new specialist exam will become available. This test will initially focus on the 3.0 System, Physical Layer and include Single Frequency Networks (SFNs) and STLs. To be successful, a thorough knowledge of IP networks is recommended.

Your Broadcast Partner

Largest portfolio of communications sites in the U.S.



americantower.com/broadcasters
877-ATC-SITE

© 2018 ATC IP LLC. All rights reserved.

EQ Answer from page 3

The answer is A

The angstrom (ångström in the original Swedish) is a unit of length equal to 10^{-10} m (one ten-billionth of a meter) or 0.1 nanometer.

Source: 11th edition NAB Engineering Handbook, page 3

Want to be a mentor or a mentee?

SBE Mentor Program

The SBE Mentor Program pairs an experienced broadcast engineer with someone who is a newer broadcast or multimedia technology professional. The SBE Mentor Program provides a means for SBE members to share knowledge and experience.

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

SBE Certification Achievements

CONGRATULATIONS

LIFE CERTIFICATION

Certified Professional Broadcast Engineer (CPBE)
Johnny Stigler, Euless, TX - Chapter 67

Certified Professional Broadcast Engineer (CPBE) 8-VSB Specialist (8-VSB)
Jerry Whitaker, Morgan Hill, CA - Chapter 40

Certified Professional Broadcast Engineer (CPBE) AM Directional Specialist (AMD) Digital Radio Broadcast Specialist (DRB)
Harold Kneller, Punta Gorda, FL - Chapter 90

Certified Senior Television Engineer (CSTE)
James Cutright, Fredericksburg, VA - Chapter 37
Kenneth MacKinnon, Miami, FL - Chapter 53

Certified Broadcast Networking Engineer (CBNE)
Harold Kneller, Punta Gorda, FL - Chapter 90
David Shaffer, Broken Arrow, OK - Chapter 56

Certified Audio Engineer (CEV)
David Buell, Oak Grove, MO - Chapter 59

Certified Broadcast Technologist (CBT)
Gregory Ehrman, Phoenix, AZ - Chapter 9
W. David Johnson, Columbus, OH - Chapter 52
William Lissemore, Dumont, NJ - Chapter 15
Marlow Saady, New Windsor, NY - Chapter 15
Norman Stein, Lewes, DE - Chapter 37

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)
Brad Jurens, Chicago, IL - Chapter 26

Certified Broadcast Television Engineer (CBTE)
Muthana Al-Wazni, Springfield, VA - Chapter 37

Certified Broadcast Networking Engineer (CBNE)
Paul Schminke, Phoenix, AZ - Chapter 9
George White, Halethorpe, MD - Chapter 37

Digital Radio Broadcast Specialist (DRB)
Paul Schminke, Phoenix, AZ - Chapter 9

AUGUST EXAMS

Certified Senior Television Engineer (CSTE)
Thomas Bohnet, Glendale, AZ - Chapter 9
Mohanad Faisal, Bristol, CT - Chapter 37

Certified Broadcast Radio Engineer (CBRE)
Keaton Scovel, Waterloo, IA - Chapter 109

Certified Broadcast Television Engineer (CBTE)
Adam Barry, Burke, VA - Chapter 37

Certified Broadcast Networking Engineer (CBNE)
Thomas Bohnet, Glendale, AZ - Chapter 9
Darrell Gordon, Raleigh, NC - Chapter 93

Certified Broadcast Networking Technologist (CBNT)
Andrew Goossen, Grandview, MO - Chapter 59
Wilson Middleton, Tacoma, WA - Chapter 16
Anthony Moreno, Columbia, MD - Chapter 37

Certified Television Operator (CTO)
Nicole Fantozzi, Rhodesdale, MD - Chapter 46
Bennie Hickson, Charlotte, NC - Chapter 45
Gregory Huntsman, Sheffield Village, OH - Chapter 70
Saren Whalen, Las Vegas, NV - Chapter 128

Certified Audio Engineer (CEA)
Christopher Kunkel, Flushing, NY - Chapter 15

Certified Radio Operator (CRO)
Leonard Diggs, Frederick, MD - Chapter 37
Kyle Eller, Roseville, CA - Chapter 43
Patrick Licita, Loxahatchee, FL - Chapter 53
Craig Teegarden, Rocklin, CA - Chapter 43
Rosalia Villarino, Rocklin, CA - Chapter 43
Bob Wells, Roseville, CA - Chapter 43

SPECIAL PROCTORED EXAMS

Certified Broadcast Networking Technologist (CBNT)
David Gruis, Baltic, SD
Daniel Nelson, Sioux Falls, SD

SBE CERTIFIED SCHOOL COURSE COMPLETION

Certified Broadcast Technologist (CBT)
DINFOS
Romulo Cabauatan, Fayetteville, NC

Keith Ferguson, Fort Meade, MD
Shane Irving, Fayetteville, NC
William Jones, FPO, AE

Kenneth Stafford, Jr., Biloxi, MS
Coleston Walters, Fayetteville, NC

CERTIFIED BY LICENSE

Certified Broadcast Technologist (CBT)
Jonah Riner, Vidalia, GA

CERTIFIED RADIO OPERATOR (CRO)

Cody Gelsinger, Long Valley, NJ
Glenn Gershan, Reseda, CA

Scott Maxon, Sebring, FL
Jesse Maxwell, Heines City, FL
Tom Mazzone, Streetsboro, OH

Ethan Rand, Streetsboro, OH
Matthew Rocke, Suring, WI

CERTIFIED TELEVISION OPERATOR (CTO)

Jonnathan Abrams, Clearwater, FL
Christopher Cosgrove, Fairway, KS
Steven D'Ambrozio, Stuyvesant, NY
Marquis Delance Pierce, Aberdeen, MS
Fatima Kelley, Columbus, GA

Jacob Killman, Clearwater, FL
Zara Mannion, Pray, MT
Reiley McDonell, Clearwater, FL
James Parkinson, Spokane, WA

Erica Prete, Lake Worth, FL
Zac Ross, Burbank, CA
Landis Schrock, Clearwater, FL
Joshua Sepulveda, Glendale, CA
Aron Topitsky, Gardena, CA

RECERTIFICATION

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

Certified Professional Broadcast Engineer (CPBE)
Craig Beardsley, Chicago, IL - Chapter 26
Paul Claxton, Moreno Valley, CA - Chapter 131
Peter Douglas, Carrollton, TX - Chapter 67
Steve Mankowski, Glendale, CA - Chapter 47
Jeffery Smith, South Amboy, NJ - Chapter 15
Gary Stigall, San Diego, CA - Chapter 36

Certified Professional Broadcast Engineer (CPBE) 8-VSB Specialist (8-VSB) Digital Radio Broadcast Specialist (DRB)
John Mackey, Beaverton, OR - Chapter 124

Certified Senior Radio Engineer (CSRE)
James Turvaille, Mobeetie, TX - Chapter 48

Certified Senior Television Engineer (CSTE)
Emir Hadziahmetovic, Columbia, SC - Chapter 101

Richard Strack, Homedale, ID - Chapter 115
Certified Senior Radio Engineer (CSRE) AM Directional Specialist (AMD)

Thomas Oliver, Villa Hills, KY - Chapter 35
Curt Yengst, Allentown, PA - Chapter 120

Certified Broadcast Networking Engineer (CBNE)
Richard Brett Gilbert, Jenks, OK - Chapter 56
John Mackey, Beaverton, OR - Chapter 124
Joseph Meldrum, Omaha, NE - Chapter 74
Michael Patton, Baton Rouge, LA - Chapter 72

Certified Broadcast Radio Engineer (CBRE)
James Ferguson, Mount Vernon, OH
Russell Kendrick, West Monroe, LA - Chapter 44
Chris Wygal, Lynchburg, VA - Chapter 78

Certified Broadcast Television Engineer (CBTE)
David Boyer, Menifee, CA - Chapter 131
Darryl Douglas, Vail, AZ - Chapter 32
Dana Nahumck, Milton, VT - Chapter 22
Kevin Olden, Adrian, MI - Chapter 104
Paul Pedziwiatr, Raleigh, NC - Chapter 93
Richard Singer, Oakton, VA - Chapter 37
Vladimir Tuzkov, Fountain Valley, CA - Chapter 47

Certified Audio Engineer (CEA)
James Bigwood, Owings Mills, MD - Chapter 46
Vincent Plantanida, San Jose, CA - Chapter 40
Richard Rarey, Kensington, MD - Chapter 37

Certified Broadcast Networking Technologist (CBNT)
Fuad Cuzman, Albuquerque, NM - Chapter 34
Steve Mankowski, Glendale, CA - Chapter 47
Jeffrey Martin, Bowling Green, KY - Chapter 103
Richard Rarey, Kensington, MD - Chapter 37
Richard Singer, Oakton, VA - Chapter 37
Randal Smith, Denton, TX - Chapter 67
Wayne Smith, San Springs, OK - Chapter 56
Scott Storkel, Arlington, VA - Chapter 37

Certified Broadcast Technologist (CBT)
Aaron Archuleta, Boise, ID - Chapter 115
Robert Clarke, Dededo, Guam - Chapter 63
Daniel Copher, Raleigh, NC - Chapter 54
Joel Curtin, Lancaster, NY - Chapter 133
Joel Gascot, York, PA - Chapter 132
Stephen Jensen, Oregon City, OR - Chapter 124
Jonathan Kramer, Los Angeles, CA - Chapter 47
Keane Laguatan, Eugene, OR - Chapter 141
Kate Landow, Denver, CO - Chapter 48
Michael Orto, Youngstown, OH - Chapter 122
James Pollock, Mount Laurel, NJ - Chapter 18
Randal Smith, Denton, TX - Chapter 67
Urban Stiebs, Los Angeles, CA - Chapter 47
George Warren, Ill, Nottingham, MA - Chapter 46

Certified Television Operator (CTO)
Harold Eder, II, Newtown Square, PA - Chapter 18
Christopher Homer, Marana, AZ - Chapter 47
Karen Martin, Charlotte, NC

Joseph Norris, Mobile, AL - Chapter 68
Paul Pritchett, Tulsa, OK
Kurt Race, Ada, MI - Chapter 102
Juan Carlos Rivas, Alhambra, CA
Ken Witkoe, Tacoma, WA - Chapter 16

Certified Radio Operator (CRO)
John Salvatore, Jr., Vineland, NJ
Sean Vaughn, Santa Fe, TX - Chapter 105

WEBCAST from p. 1

day, Oct. 2 and include a meeting of the national SBE Certification Committee and the fall meeting of the SBE Board of Directors. On Wednesday, Oct. 3, activities begin with the annual SBE Fellows Breakfast, 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. Richer will be the keynote speaker for the dinner.

The SBE National Awards Dinner features the presentation of the society's major awards, including the Robert L. Flanders SBE Engineer of the Year to Mark Person, CPBE, AMD, CBNT of Brainerd, MN, and the James C. Wulliman SBE Ed-

ucator of the Year to Jeff Welton, CBRE of Hackett's Cove, NS.

The SBE will present the SBE Technology Award to Davicom for its Cortex 360 Site Management System.

The award for the Best Chapter Regional Educational Event goes to The 2017 Broadcasters Clinic, held in Madison, WI. Rob Sobol of Hilights won the award for Best Technical Article, Book or Program by an SBE member for his article, "NOC, NOC. Who's There" in *AGL Magazine*.

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 winners are:

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

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

The two chapters with the highest percentage of SBE certified members:

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

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

The two chapters with the highest average percentage of member attendance at chapter meetings:

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

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

The dinner program concludes with the presentation of the SBE Fellow membership rank to Jerry Massey, CPBE, 8-VSB, AMD, DRB, CBNT of Greenville, SC, SBE immediate past president.

MRE includes media, production and A/V exhibits and technical sessions with close to 40 companies participating. All MRE activities and the SBE National Meeting events will take place at the Doubletree by Hilton Boston North Shore. Reservations can be made by calling 978-777-2500. Ask for the SBE room block.

SBE members can register for MRE online at the SBE website by clicking on the MRE website link. It's free if done by midnight, Oct. 2. Register separately to attend the SBE National Awards Reception and Dinner (\$16) through the SBE National Office website or by telephone, Monday - Friday from 8:30 a.m. to 4:30 p.m. ET at 317-846-9000. Live music will accompany the reception and dinner.

Thanks To Our National Meeting Sponsors

Fellows Breakfast

KATHREIN

SBE Booth



Technical Broadcast Solutions, Inc

Awards Reception

COMREX
BROADCAST RELIABLE

Membership Meeting Webcast

Blackmagicdesign

Dielectric
Trusted for Decades. Ready for Tomorrow.

DRAKE LIGHTING

DVEO
Digital Video ExtraOrdinaire™

IMT vislink

LAWO

Technical Broadcast Solutions, Inc

Awards Dinner

THE TELOS ALLIANCE®

Telos® Omnia® AXIA® L4 LINEAR ACOUSTIC® ZS® MINNETONKA AUDIO

Chapter Check

▼ **Chapter 93**
Raleigh/Durham, NC
After a 2.5-year hiatus, Chapter 93 met

in August. The chapter leaders are calling the effort a chapter reboot.



▼ **Chapter 103 • Nashville**

Mike Arnold (N8NWA) shows a digital mobile radio (DMR) "hotspot" that transmits and receives on the UHF (70 cm) amateur band. It then connects via WiFi (or wired) to the public internet. Attendees talked and listened to amateurs in other countries in good quality coded digital audio.



Upcoming Webinars

Put these on your calendar and register today

RF201: RF Safety Course

The SBE presents an ongoing advanced RF series: RF 201. The series kicked off last summer and continues with an RF Safety course on Nov. 15 from 1 to 4:30 p.m. The course is designed for broadcast station personnel, including chief and assistant chief engineers, transmitter site engineers, ENG and SNG maintenance personnel and management who need to have an understanding of RF safety issues and regulations. Instructing the course is noted RF safety expert, Richard Strickland of RF Safety Solutions.

The 2018 SBE RF Safety Course provides an updated overview of RF radiation issues and practices for broadcasters, including: Proving compliance at a broadcast site; biological effects of RF radiation and the distinct differences between RF radiation and ionizing radiation; FCC and OSHA regulations - what they are and what you need to do to comply; workplace hazards; transmitter sites; SNG and ENG trucks; remote operations (where news personnel can find problems such as on rooftops); the unique issues at AM stations; RF hazard protection equipment; and signs - what they mean and what you need.

Other modules in the RF201 series include:

Module 1: FM Transmitter Systems

Module 2: FM Antenna Systems

Module 3: AM Directional Antenna Systems

Module 4: Transmitter Site Grounding

ATSC 3.0/Next Gen TV Webinar Series

On Sept. 12, the SBE held the first of a multi-part webinar series on ATSC 3.0/Next Gen TV. Part 1 provided an overview of the ATSC 3.0 system capabilities including physical layer, signaling, audio, video, captions, interactivity and advanced emergency messaging. It also included an introduction to the suite of Standards and Recommended Practices documents and an overview of the SBE ATSC 3.0 Specialist Certification.

Madeleine Noland, chair of Technology Group 3 of ATSC (TG3), was the presenter. Noland is a consultant with LG Electronics. She was the 2016 recipient of the prestigious ATSC Lechner Award for her leadership roles related to the development of the ATSC 3.0, Next Generation Broadcast Television suite of Standards. The webinar is available now on-demand from the SBE website.

The series continues on Oct. 17 with Module 2: Overview of the Physical Layer, presented by Luke Fay, sr. manager technical standards, Sony Electronics. The presentation will cover the scope of the physical standards, the architecture of the physical layer, its functional descriptions and the mandatory modes of operations, followed by a few optional technologies and a summary.

Fay is vice-chair of the ATSC Technology Group 3 (TG3), chair of ATSC TG3 Specialist Group on Physical Layer and vice-chair of ATSC TG3 Specialist Group on Interactive Environment for ATSC 3.0.

The SBE will continue the ATSC 3.0 webinar series through 2019. For dates and registration visit sbe.org/webinars.

Register for all Webinars by SBE at sbe.org. All Webinars by SBE can be viewed live or on-demand. Purchase webinars individually. SBE MemberPlus members have free access to all Webinars by SBE.

Completion of SBE webinars qualifies for SBE recertification credit under Category I of the Recertification Schedule.

Chapter Check

Chapter Engineer of the Year Award Winners

▶ **Chapter 16 Seattle**
Martin Hadfield, CPBE, received the Chapter 16 Chapter 2018 Engineer of the Year Award. Chapter Secretary Jim Dalke, CPBE, 8-VSB, AMD, CBNT, (r) presents a plaque to "Marty" with the help of Chapter Chair Jon Kasprick, CBRE, DRB.



◀ **Chapter 17 Minneapolis**

Mark Persons, CPBE, AMB, CBNT, received his chapter's honor.



▶ **Chapter 38 El Paso**
Lawrence Montenegro (l) receives his award from Chapter Chair Jose Castro.



◀ **Chapter 32 Tucson**
Aaron Diezman received the award posthumously. He died in January 2018.



▶ **Chapter 70 Northeast Ohio**
John Hovanec, CSRE, AMD, DRB, CBNT, (r) receives his award from Chapter Chair Blake Thompson, CBNT.



◀ **Chapter 80 Fox Valley**
Dave Driessen (r) receives his award from Chapter Chair Steve Brown, CPBE, CBNT.





LEGAL PERSPECTIVE

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

Wireless Power Transfer and AM Broadcast Interference

Early this year, a well-known American corporation began making its case to the FCC for available spectrum for Wireless Power Transfer (WPT). This is not a new idea at all. Nikola Tesla had plans for supplying power to the world without the need for wires. The Tesla coil was created in 1891. Tesla's plans, however, were for a global wireless power grid that any home, business, or vehicle could tap into at will. We are coming right back to that concept now, and the renewed interest in WPT for vehicles stands to challenge even further the RF environment at MF and HF at least, including the AM broadcast band.

In the past, the applications for WPT involved recharging small battery-operated devices. However, Wireless Power Transfer for Electric Vehicles [WPT(EV)] poses a very real threat to AM broadcast radio spectrum due to the prevalence of electric vehicles and the benefits offered by vehicle-to-roadside WPT(EV). WPT typically uses frequencies in the LF and MF range, and allows charging of electric vehicle batteries without having to plug into a power source.

WPT(EV) is high duty cycle, will be located in residential areas, and its harmonics are likely to be spread across a band of frequencies. It is easy to forecast that WPT(EV) would be installed at residences of electric vehicle owners, generating noise that could obscure radio reception in and around residential environments. It is also conceivable that regular charging of electric cars on roadways would create RF emissions along such roadways that would make AM broadcast reception impossible.

WPT(EV) uses induction coupling from a charging pad on the floor under the vehicle without the need to plug the vehicle into a charging point. While the technology is still under development, some installations for public service vehicles,

typically buses, are already in operation, using charging frequencies around 20 kHz. Discussions are underway within the International Telecommunication Union (ITU) over the introduction of WPT(EV) on a widespread basis across Europe.

The International Amateur Radio Union (IARU) has released a White Paper entitled *Unwanted Emissions in the Spurious Domain from Wireless Power Transfer For Electric Vehicles on Frequencies Allocated to the Amateur Service*, which seeks the support of other countries "to ensure that spurious emission limits are set for WPT(EV), which will protect incumbent radio services in the urban/suburban residential environment. World Radiocommunication Conference (WRC-19) agenda item 9.1.6 calls for "urgent studies" of WPT(EV) to assess its impact on radio-communication services and to study suitable harmonized frequency ranges that could minimize its impact on the radio spectrum. In a 2016 report entitled *Applications of Wireless Power Transmission via Radio Frequency Beam*, the ITU called WPT "game-changing" technology. "We will be able to become free from lacking electric power when [it] will be supplied wirelessly," the report said.

Practical Use Studies

In Europe, where there are ongoing studies of WPT(EV) and interference potential, the existing spurious emission limits were developed with a degree of "discounting" because of the probability of colocation of emitter and receiver, duty cycle of the emitter and whether the frequency of emission coincided with the receiver frequency. In the case of WPT(EV), however, these factors do not apply because of: (1) The projected density of deployment of WPT(EV), such that a WPT(EV) installation could be within 20 meters of every property; (2) The duty cycle of WPT(EV) is high (charging times of 6-12 hours have been quoted); and (3) The harmonic content of WPT(EV) is high.

Domestically, charging systems are expected to use a frequency around 85 kHz. The fear is that this poses a real risk to radio communication resulting from the harmonics that the high-power WPT(EV) installations would generate. The IARU paper said that, while it is not yet clear what the actual spurious performance of

WPT(EV) will be, it is apparent that in order to provide adequate protection to radio services in residential environments, the existing limits would have to be tightened significantly.

Researchers at Stanford University have been able to transmit electricity wirelessly to a moving object nearby. If their technology is scalable, they may have discovered a way to allow electric cars to recharge in motion, eliminating issues of charging station availability and EV battery range. That would likely result in electricity becoming the standard vehicle fuel worldwide. A coil in the bottom of the vehicle could receive electricity from a series of coils connected to an electric current embedded in the road.

For WPT, the major limitation is that the battery-containing device must be kept very close to the energy supplying device, in order to transfer useful amounts of energy across the gap. Moving the two units too far apart reduces energy transfer and efficiency drops. So the WPT engineers strive to keep the transfer efficiency as high as possible, since a low efficiency means that some power purchased by the consumer is not beneficially used for charging. The transfer efficiency level of wireless charging devices could be critical for recharging a plug-in electric car's batteries that require large amounts of power. High-power wireless power transfer, to be efficient, necessitates use of a higher frequency. Higher power and higher frequency produces new concerns about high ambient noise levels and significant amounts of power being radiated. Most of the radiated power will be captured and used to charge the battery, but some will be radiated. So there are not only radio frequency interference issues but human radio frequency exposure hazards as well. Where WPT is ubiquitous in residential and industrial areas, or if part of vehicle to roadside intelligent transportation systems, this is a problem that can become unmanageable very fast. FCC hasn't the resources to address this issue after the fact. RF location and remediation would be impossible. And as we have said before, AM broadcast listeners do not complain to the FCC of interference. They simply utilize other media.

Do you have SBE MemberPlus?

No?

Upgrade your SBE membership today.



sbe.org/join



FOCUS ON SBE

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

Two Appointed to Ennes Scholarship Committee

The Ennes Educational Foundation Trust has been an important part of the activities and mission of the Society of Broadcast Engineers since the inception of the Trust in 1980. Organized by Chapter 25 of Indianapolis as a scholarship fund to memorialize the work and contributions of Harold E. Ennes, the chapter gave the Trust to the national SBE in 1981 to broaden its exposure. The mission of the Trust was expanded several years later to include educational programs and grants to support educational projects benefiting the field of broadcast engineering.

The Scholarship Committee of the Trust consists of three members of the SBE. Their responsibility is to review all of the scholarship applications and select the recipients. I am sad to tell you that earlier this year we lost two of the three committee members. In March, Ron Arendall of Dublin, OH, who served on the Scholarship Committee for many years and was a past president of SBE, passed away. He served as director of engineering at TV stations in several cities during his long career. In July, Mike Scott, of Puyallup, WA, passed away unexpectedly. Mike was retired from Bates Technical College in Tacoma where he served as an instructor and tutored many into the field of broadcast engineering. Mike had been on the committee about ten years. In addition to their Ennes Trust roles, both men contributed mightily to the SBE, both locally and nationally.

The Trustees of the Trust, Doug Garinger, Tony Peterle and Dale Scherbring, who oversee Trust activities, appointed two very qualified members to fill the scholarship committee vacancies. We welcome Tom Weber of WISH-TV and Kenny Elcock of WRTV-TV, both in Indianapolis. Thank you for taking on this important annual task. They join Ed Karl, of Warrenton, MO, who has served on the scholarship committee for more than 25 years.

SBE Strategic Plan Update

Since our one-day strategic planning conference was held on June 9, a small task group has been working to review and analyze the findings in the report submitted by our facilitator, Rodney Vandever. They are developing recommendations that they will deliver to the national

SBE Board of Directors at its meeting on Oct. 3 just outside of Boston, in Danvers, MA, during the SBE National Meeting.



Elcock



Weber

National SBE Board members, Jason Ornellas, Kevin Trueblood and Wayne Pecena are members of the task group and have been joined by SBE President Jim Leifer and me. There have been a number of meetings held by conference call. As of this writing, the final recommendations were still being drafted, but I can tell you that, broadly speaking, the recommendations will include the objectives of attracting new and younger individuals to the SBE (and to the field of broadcast/media

engineering) and to provide members with services and programs that meet the needs of today's, and tomorrow's, media engineer.

The Board will discuss and eventually adopt specific objectives. These objectives will then be fleshed out with specific, measurable action steps. Some of these action steps will undoubtedly be drawn from the many ideas that were generated during the June 9 meeting. The Board will provide members with an update following the meeting.

Accredited SBE Frequency Coordinators

The SBE provides accreditation to broadcast auxiliary spectrum (BAS) frequency coordinators who agree to conduct their coordination using a voluntary national standard of procedures.

Roger Newton, CSTE, CBNT
Tulsa, OK

THE TELOS ALLIANCE®

EXPERIENCE A FULLY INTEGRATED AOIP ENVIRONMENT

CLOUD VIRTUALIZATION AUDIO DELAYS
 SURROUND SOUND **STREAMING** WATERMARK
 CLOUD CONSOLES OEM WORKFLOWS DTS MONITORING
AUDIO PROCESSING IMMERSIVE
 ATSC 3.0 SMPTE 2110 ENTERPRISE
CODECS 7.1+4 **CONSOLES** **AES67** MIXING
 HYBRIDS **ROUTING** **INTERCOM** LIVEWIRE+
 REAL-TIME UPMIXING **PHONES**
 5.1+4 MULTICHANNEL FILEBASED ROUTING
VIRTUAL RADIO **LOUDNESS MANAGEMENT**
VOIP WORKSTATION PLUGINS MXF
 AUDIO AUTOMATION QUICKTIME DOLBY

telosalliance.com

By Jim Kauffman, CPBE
Senior Director, Television; Cox Media
Vice Chair; SBE Chapter 42
jim.kauffman@coxinc.com

Polite Rejection Letters

Cox Media Group owns 14 television stations in ten markets. We also sport 13 translators in five markets and 56 radio stations in 11 markets. The repack has graced ten of our TV licenses in nine of ten markets. I'm the guy that oversees the repack and receives the rejection letters from the FCC.

So who's reading this? If you haven't been repacked, you are probably backing away slowly and hoping it isn't contagious. If you have a date, well... you are hard at work making that date. So that leaves the niche audience, those who haven't started the reimbursement process.

Don't Fear Rejection

It's coming soon to a reimbursement request near you. You can take acetaminophen (seriously, Tylenol lessens the emotional pain of rejection) or you can learn what triggers the FCC repack administrators to reject your claim. Things start off innocently enough with a shot across the bow from a bot:

FCC Form 399 Automatic Notice: Invoice Or Line Items Rejected

Rejection Reason: Administrative Correction

Okay, we're all reasonable people here, just need a little Administrative Correction and we'll be on our way. And then clarification arrives:

Invoice Repayment Request: WSCM-TV, Facility ID: 12345

Your request(s) for reimbursement of channel relocation expenses has been received and is under evaluation. During our review, we have identified the following issue(s) that requires further information and/or supporting evidence:

And friends, let me tell you, the issue(s) are various and manifold. Let's look at some common reasons for rejection.

"The total you are requesting includes estimated sales tax. Repack Program guidelines do not allow reimbursement for estimated expenses." And there you have it. If your submitted invoice has estimated shipping, tax or anything else preceded by the word 'estimated' you are going to trigger the bot. Please don't trigger the bot.

"...invoice(s) does not clearly show that the described work was on behalf of WSCM-TV." Every invoice must have station call letters or facility ID on the invoice. No exceptions. If that hardware store invoice is made out to SCM Broadcasting, it won't fly. The bot hates that.

"Your payment request(s) for the invoice(s) referenced below is for less than the total amount due on the invoice(s)." Sometimes your transmitter invoice will show the down payment, progress payment, final payment and total payment. If it is not clear what part you are paying, it will appear you are paying less than the

total amount. Include a cover letter.

"The following payment request has a mismatch between the invoice date that you entered in LMS and the date on the invoice attached to your request. Without exactly matching LMS Meta Data to the invoice data, your request for payment cannot be processed. -OR- the invoices were not submitted in pdf file format;"

The robot is in a frenzy now. And this is what finally got him there: *"All invoice calculations used to support a payment request must be accurate/exact. When rounding, round down."* Just remember, the house wins all ties.

Here's some good advice and a helpful tip: *"The reimbursement requests for the following invoices include references to quotes and purchase orders. Please provide these vendor quotes and your purchase orders. Note: The review of your requests will be expedited if you attach the quote and purchase order to each invoice when uploading in LMS so that they are together in one multi-page document for each payment request."*

Don't fall into the trap of attaching multiple copies of the same invoices for various line items you are claiming. It will be flagged as a duplicate invoice and rejected. *"The invoice referenced below was uploaded in LMS for different payment requests, one for each invoice line item. Our reimbursement review system flags duplicate invoice submissions"*

Here's a common one: *"The following payment request has a mismatch between the invoice number that you entered in LMS and the number on the invoice attached to your request."* Okay, now you're just poking the bot...

I Can Fix This

So, it's time to right some wrongs. You can't do it though, because your Form 399 is locked. If you ask a repack coordinator they will unlock an item for you. A morose bot will inform you the invoice is unlocked for editing. After the correction or addition goes in you will hear from a new, upbeat bot. He tells you: "The cost component with the following details has been sent to Financial Ops." This generally presages a deposit in your treasury account. Not always, but usually.

Cox Media Group has some of the best directors of engineering in the business spending hours on this work. Since we have experienced nearly every possible permutation of rejection reasons, I hope readers will learn from this missive and spend their time efficiently raking in reimbursement funds, or worst case, inventing your own reasons for rejection. May all your reimbursement requests come true!



Are you suffering TV repack woes? There are steps you can take to reduce the automated reimbursement rejection headaches.

305 Broadcast • 2015 Alfonso Lopez 305-406-3560 Broadcast Equipment Supplier	Dialight Corporation • 2006 US Headquarters 732-919-3119 FAA Obstruction Lighting, LED Based	Lawo AG • 2017 Michael Dosch 888-810-4468 AoIP Consoles & Virtual Radio	Ross Video Ltd. • 2000 Jared Schatz 613-228-0688 Manufacturer, Television Broadcast Equipment
AC Video Solutions • 2014 Andrea Cummis 201-303-1303 Consulting, Systems Design/Integration	Dielectric • 1995 Cory Edwards 207-655-8131 TV & FM Transmission & Cellular Products	LBA Technology Inc. • 2002 Javier Castillo 252-757-0279 AM/MW Antenna Equipment & Systems	Sage Alerting Systems Inc. • 2010 Gerald LeBow 914-872-4069 Emergency Alert Systems Products
AEQ Broadcast International • 2015 Peter Howarth 954-581-7999 Broadcast Audio, Video and Communications	Digital Alert Systems, LLC • 2005 Bill Robertson 585-765-1155 Emergency Alert Systems	Linkup Communications Corporation • 2017 Mark Johnson 703-217-8290 Satellite Technology Solutions	SCMS Inc. • 2000 Bob Cauthen 800-438-6040 Audio and RF Broadcast Equipment Supplier
American Tower Corporation • 2000 Peter A. Starke 781-926-4772 Development/Construction/Management	DoubleRadius, Inc. • 2012 Jeffrey Holdenrid 704-927-6085 IP Microwave STL	LYNX Technik • 2007 Steve Russell 661-251-8600 Broadcast Terminal Equipment Manufacturer	Seacom Erectors, Inc. • 1997 John Breckenridge 360-793-6564 Tower/Antenna Erections
ATV Broadcast, LLC • 2016 Doug Smith 317-258-6280 Telecommunications Consulting Group	Drake Lighting • 2015 Dave Sheppard 270-804-7383 FAA Obstruction Lighting - Medium and High Intensity	Markertek • 2002 Wesley Brewer 800-522-2025 Specialized Broadcast & Pro-Audio Supplier	SEG • 2014 Chris Childs 913-324-6004 Supply Chain Products and Services
Audemat-Worldcast Systems Inc. • 2000 Christophe Poulain 305-249-3110 Control Manufacturer	DTS Inc./HD Radio Technology • 2014 Rick Greenhut 443-539-4335 HD Radio Technology	Micronet Communications Inc. • 2005 Jeremy Lewis 972-422-7200 Coordination Services/Frequency Planning	Shively Labs • 1996 Dale Ladner 888-SHIVELY FM Antennas & Combiners
AVCOM of Virginia, Inc. • 2010 Tom Pagonis 804-794-2500 Spectrum Analyzers	du Treil, Lundin & Rackley, Inc. • 1985 Jeff Reynolds 941-329-6000 Consulting Engineers	Microtech Gefell GmbH • 2016 Udo Wagner +49 36649-82245 Microphones	Shure Incorporated • 2012 Bill Ostry 847-600-6282 Microphones, Wireless Systems, Headsets
A-Ware Software/MusicMaster • 2014 Shane Finch 352-351-3625 Advanced Music Scheduling Solutions	The Durst Org. - 4 Times Square • 2004 John M. Lyons, CPBE 212-997-5508 TV/FM/Microwave Tower Site	Microwave Video Systems • 2011 Warren J. Parece 781-665-6600 Microwave Equipment Rental, Sales & Service	Sierra Automated Systems and Eng. Inc. • 2011 Al Saldi 818-840-6749 Routers, Mixers, Consoles, Intercoms
Belden Electronic Division • 1991 Sales 800-235-3361 Cable and Connectivity	DVE0 - Division of Computer Modules Inc. • 2011 Laszlo Zoltan 858-613-1818 Everything About Transport Streams	Middle Atlantic Products • 2005 David Amoscato 973-839-1011 Equipment, Mounting, Solutions	Silvus Technologies • 2015 Mark Tommey 617-816-6588 Wireless Video Mesh Network
Blackmagic Design • 2012 Terry Frechette 408-954-0500 Production Switchers, Digital Cameras, Routers, Video Editing and Monitoring, Color Correction, Video Converters	Econco • 1980 Debbie Storz 800-532-6626, 530-662-7553 New & Rebuilt Transmitting Tubes	Moseley Associates Inc. • 1977 Bill Gould 805-968-9621 x785 Digital STLs for Radio and Television	Snell Advanced Media • 1995 John Shike 650-703-4906 Video Equipment Manufacturer
Bracke Manufacturing LLC • 2012 Patra Largent 949-756-1600 RF & Microwave Components	ENCO Systems Inc. • 2003 Ken Frommert 800-362-6797 Playout and Automation Solutions	Nascar Productions • 2014 Abbey Kielcheski 704-348-7131 Live/Post Production Services	Solid State Logic • 2014 Steve Zaretsky 212-315-1111 Digital Audio Mixing Consoles, Networked Audio Routing, Embedded Audio Solutions
Broadcast Depot • 2018 John Lackness 305-599-3100 TV, Satellite, Radio, IP	ERI - Electronics Research • 1990 David White 812-925-6000 Broadcast Antennas, Transmission Line, Filters/Combiners, Towers and Services	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
Broadcast Devices, Inc. • 2015 Robert Tarsio 914-737-5032 Audio/RF Support Products	Floral Systems • 2008 Shawn Maynard 877-774-1058 Television Broadcast Automation	National Football League • 1999 Ralph Beaver 813-282-8612 Game Day Coordination Operations	Sutro Tower Inc. • 1989 Eric Dausman 415-681-8850 Broadcast Tower Leasing
Broadcast Electronics Inc. • 1978 Tom Beck 217-224-9600 Radio Equipment Manufacturer	Frontline Communications • 2015 Tracy Brink 727-280-8843 Broadcast Vehicle Manufacturer	Nautil Inc. • 2002 Jeff Welton 877-662-8835 Radio Broadcast Transmitter Manufacturer	Technical Broadcast Solutions, Inc. • 2018 Robert Russell 215-983-0855 Engineering and Consulting Services
Broadcast Software International • 2016 Marie Summers 888-274-8721 Radio Automation, Audio Logging	Fujifilm/Fujinon • 1986 Gordon Tubbs 973-686-2769 Broadcast & Cine Lens Products	Nemal Electronics Int'l Inc. • 2011 Benjamin L. Nemer 305-899-0900 Cables, Connectors, Assemblies and Fiber Optic	Tektronix Inc. • 1977 Jim Lang 503-627-2980 Video Test & Measurement, Equipment Manufacturer
Broadcast Supply Worldwide • 1986 Shannon Nichols 800-426-8434 Audio Broadcast Equipment Supplier	GatesAir • 1977 Dave Hopson (TV) 513-445-5243 Mark Goins (Radio) 513-899-9124 Broadcast Equipment Manufacturer	Neutrik USA, Inc. • 2012 Kathy Hall 704-972-3050 Ruggedized Optical Fiber Systems	Teledyne e2v US Inc. • 1997 Dominic Piarulli 914-593-6828 Electronic Components
Broadcasters General Store • 2004 Buck Waters 352-622-7700 Broadcast Audio Video Distributor	Heartland Video Systems, Inc. • 2011 Dennis Klas 920-893-4204 Systems Integrator	Orban Labs, Inc. • 2011 David Rusch 480-403-8300 Audio Processing AMFMTV	Televue USA, LLC • 2018 Andy Ruffin 937-475-7255 ATSC 3.0 Transmission Solutions, Antennas
Calrec Audio • 2016 Dave Lewty 805-305-5711 Audio Mixing Equipment	Hilights, Inc. • 2016 Rob Sobol 352-564-8830 Obstruction Lighting Maintenance	Pasternack Enterprises • 2001 Christine Hammond 949-261-1920 Coax & Fiber Products	Telos Systems/Omnia/Axia • 2003 Denny Sanders 216-241-7225 Telos Systems Talk-Show Systems
Complex • 2017 Daniel Coscarella 800-445-7568 x7409 Fiber Optic Cable Assembler	Hitachi Kokusai Electric Comark • 2013 Jack McAnulty 860-763-1100 Manufacturer Broadcasting Transmission Equipment	Pebble Broadcast Systems • 2016 Alison Pavitt 612-345-0461 Television Broadcast Playout Automation	Teradek • 2011 Jon Landman 949-743-5783 Camera-top ENG Solutions
Canon USA Inc. • 1985 Larry Thorpe 201-807-3300, 800-321-4388 Broadcast Lenses & Transmission Equipment	IMT-Vislink • 2009 John Procacci 908-747-3011 Wireless Video Systems	Potomac Instruments • 2012 Guy Berry 301-696-5550 RF Measurement Equipment Manufacturer	Terrestrial Inc. • 2003 Billie Layman 888-373-4832 FCC Broadcast Auxiliary Licensing Services
Cavell, Mertz & Associates Inc. • 2011 Gary Cavell 703-392-9090 Consulting Services	Inovonics Inc. • 2012 Gary Luhrman 831-458-0552 Radio Broadcast Equipment	ProAudio.com - A Crouse-Kimzey Co. • 2008 Mark Bradford 800-433-2105 x560 Proaudio Broadcast Equipment Distributor	Tieline The Codec Company • 2003 Dawn Shewemaker or Jacob Daniluck 317-845-8000 Audio Codec Manufacturer
Comrex Corporation • 1997 Chris Crump 978-784-1776 Audio & Video Codecs & Telephone Interfaces	JAMPRO Antennas Inc. • 2011 Alex Perchevitch 916-383-1177 DTV, FM-HD Radio, DVB-T/T2, ISDB-T, DAB	Propagation Systems Inc. - PSI • 2010 Doug Ross 814-472-5540 Quality Broadcast Antenna Systems	Unimar Inc. • 2001 Thad Fink 315-699-4400, 813-943-4322 Tower Obstruction Lighting Designer, Manufacturer, Distributor
Continental Electronics • 1976 Dale Dalesio 412-979-3253 TV and Radio Transmitters	JVC Professional Video • 2014 Edgar Shane 973-317-5000 Professional Video Products, Camcorders, Display Monitors, Recording Decks	QVC • 2011 Kevin Wainwright 484-701-3431 Multimedia Retailer	Verizon Digital Media/Services • 2015 Nabil Kanaan 310-302-3383 Media Intelligence and Logging Solutions
CueScript • 2014 Michael Accardi 203-763-4030 Teleprompting Software & Hardware	Kathrein USA Inc. • 1985 Les Kutasi 214-238-8835 Antennas for Broadcasting & Communications	Radio Frequency Systems • 2015 Eddy Vanderkerken 214-471-6693 Broadcast Infrastructure Manufacturer	Wheatstone • 2010 Jay Tyler 252-638-7000 IP Consoles, Routers & Processors
D2D Technoloies • 2018 Jessica Colyer 619-248-0618 PSIP & EAS Insertion, IP Gateways, Multiplexers, SRT Transmission	Kintronc Labs, Inc. • 2015 Joaquin Raventos 423-878-3141 Radio Broadcast Antenna Systems - ISO9001 Registered Company	RF Specialties Group • 2008 www.rfspecialties.com Everything from the Microphone to the Antenna	Wireless Infrastructure Services • 2006 Travis Donahue 951-371-4900 Repacking Services - West Coast Turnkey Services
Davicom, Division of Comlab, Inc. • 2014 Louis-Charles Cuierrier 418-682-3380 x512 Remote Site Monitoring and Control Systems	L3 Electron Devices • 2017 Mark Strohecker 570-326-3561 CEAs, IOTs, Thyratrons	Rohde & Schwarz • 2003 Walt Gumbert 724-693-8171 Transmitters, Test & Measurement, Video	
DEVA Broadcast • 2015 Todor Ivanov 305-767-1207 Monitors, IP Audio Codecs, RDS/RBDS Encoders, Audio Processors, Broadcast Tools			

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

Member Spotlight: Adam Niner

Member Stats

SBE Member Since: 2018
Chapter: 39 Tampa Bay Area
Employer: Ion Media Networks
Position: Support Engineer I
Location: Ketchikan/Clearwater, FL
I'm Best Known For: Perseverance.

Q What do you value most about your SBE involvement?

A The SBE has provided a lot of learning materials that are included with my membership. For someone who is new to the industry, these have been very helpful.

Q What got you started in broadcast engineering?

A At my college career fair, I walked up to Ion Media's recruiting table thinking the sign said Ion Medals. Later on in the recruiting process I was intrigued by the challenges a career in television has to offer.



Adam enjoying one of his hobbies.

Q What do you like most about your job?
A The best part of the job is when I am able to troubleshoot and figure out why something doesn't work. I have also enjoyed when I get to travel to a station and upgrade or install equipment.

Q When I'm not working ...
A ...my hobbies include off-road RC car racing, fishing, and working on cars (specifically my Ford Mustang). Growing up in North Carolina I am also a big Nascar fan and never miss a race on TV and attend as many races as possible.

Strength in Numbers

Everyone who has been a member of the SBE has a unique member number. Adam holds SBE member number 33,000, meaning that after 54+ years of SBE history, there have been more than 33,000 people who held membership at some point.

The SBE is a member-driven organization. There's strength in numbers.

Ennes Educational Foundation Trust Awards Four Scholarships

The Ennes Educational Foundation Trust has awarded four scholarships for 2018. Winners were chosen from applications received by July 1, 2018, 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 Nick Thweatt of Blaine, WA. Nick is a board operator and engineering intern with Multicultural Broadcasting in Blaine, WA. Nick's interest in electronics and radio began at a very young age, assembling radio receiver kits and listening to DX shortwave by night. Nick became a licensed General Class Amateur radio operator at age 13, call sign KE7NEI, and continues to enjoy the hobby. Nick is currently seeking an EE certificate at Washington Technical Institute.

Receiving the Robert Greenberg Scholarship is Chloe Rosario, originally from Long Island. Chloe is a junior at Queens University of Charlotte, NC, studying journalism and digital media with a focus in broadcasting and engineering. This summer, she completed a minor in Spanish while abroad in Madrid, Spain. She lives with her family in Lenoir, NC. She interns with the Carolina Panthers working in all

aspects of broadcast as well as with the English and Spanish radio networks. Her interest in this field struck when she began her first internship and official job with Foothills Radio Group, LLC in Lenoir, NC, her junior year of high school. She's been hooked ever since. She also likes to travel and scuba dive.

The John H. Battison SBE Founder's Scholarship has been awarded to Emma Gabbert, a freshman at Minnesota State University, Mankato, majoring in mass media. She plans to use her major to pursue a career in broadcast television. Emma has started her career in media as the creator and administrator of the Mankato Class of 2022 Facebook Group, which has grown to a group of 1,200 members over the past eight months. She is also a reporter at KMSU 89.7, the MNSU Mankato campus radio station.

Parker Smith of Mesquite, TX, received the Youth Scholarship. Parker is a former student in the KEOM class in Mesquite Independent School District. He attends Texas State University and is majoring in mass communications. After college he would like to find a job where he can continue his passion for radio.

SBE President Jim Leifer, CPBE, said, "I congratulate the scholarship recipients as they further their education in broadcast engineering. Education is a cornerstone of the SBEs efforts, and through the Ennes Educational Foundation Trust, we welcome this next generation into the technical side of broadcasting."



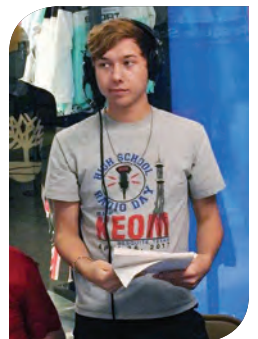
Thweatt



Rosario



Gabbert



Smith

WELCOME TO THE SBE

NEW MEMBERS

Scott Aune - Williston, ND
 David P. Bachner - Vancouver, BC
 Adam Beason - New York, NY
 Jose M. Betancourt - Albuquerque, NM
 Sharlene Birdsong - Indianapolis, IN
 Paul E. Cargill - Evansville, WI
 Cole N. Collins - St. Petersburg, FL
 Brian W. Denn - Wixom, MI
 Melvin W. Fowler - Birmingham, AL
 Ian Fritzsche - Lakeland, FL
 Jimmy D. Galam - Honolulu, HI
 Tyler Garner - Roanoke, VA
 Francisco Gutierrez -
 Corpus Christi, TX
 Adam Hargrove - Black Creek, WI
 Jonathan M. Hollon - North Richland
 Hills, TX
 Emery J. Hudson - San Francisco, CA
 Clay Johnson - Panama City, AL
 William K. Jones - FPO, AE
 Mikhail I. Kravchenko -
 Mt. Sterling, KY
 Frank G. Long - Tallahassee, FL
 Jose Macias - Altadena, CA
 Shedrick Mask - Spring, TX
 Lee A. Miller - Lufkin, TX
 Jakob Nielsen - South Pasadena, CA
 Adam J. Niner - Pinellas Park, FL
 Duncan J. Ober - Chico, CA
 Robb Omura - Honolulu, HI
 Michael L. Ortiz - Watertown, NY
 Gregory Pocali - Oyster Bay, NY
 Anthony J. Porras - Las Cruces, NM
 Chase W. ReBarker - Arlington, VA
 Jonah R. Riner - Vidalia, GA
 Shane E. Ross - Morrow, GA
 Chad M. Santorilla - Astoria, NY
 Ryan C. Schulte - St. Louis, MO
 Derik Staley - Phoenix, AZ
 Eric J. Tabor - Leesburg, GA
 Austin Thomas - Conroe, TX
 Brandon E. Travis - Independence, MO
 Rocky Van Blaricom II -
 Sandy Valley, NV
 Coleston L. Walters - Fayetteville, NC

RETURNING MEMBERS

John M. Albea - Irondale, AL
 Charles G. Couch - Clearwater, FL
 Joel A. Gascot - York, PA
 Bert S. Goldman - Auburn, CA
 Mike C. Harrison - Hoover, AL
 Carl R. Harrison - Birmingham, AL
 Paulette Hooker - Dallas, TX
 James D. Hyatt - Odenville, AL
 Thomas H. Keffer - Kennesaw, GA
 Keane H. Laguatan - Eugene, OR
 Mary Beth Leidman - Indiana, PA
 Milan Maksimovic - Oak Creek, WI
 David C. Matyis - Austin, TX
 Kelly E. Moore - Dallas, TX
 Wayne A. Nestor - Columbus, NE
 William J. Patnaud - Morrisville, NC
 Jake Robinson - Indianapolis, IN
 Rick N. Singer - Oakton, VA
 Dixie L. Sizer - Fort Mill, SC
 Paul A. Spinelli - Kingsville, MD
 David Whitehead - Atlanta, GA
 Schyler L. Wood - Indianapolis, IN
 Chris M. Wygal - Amelia, VA

NEW STUDENT MEMBER

Ray Bruster - Columbus, OH
 Keith E. Ferguson - Fort Meade, MD
 Matthew R. Huber - Carmel, IN
 Haemi Jo - Antioch, TN
 Patrick J. Licitra - Loxahatchee, FL
 Ivan V. Morales - Los Angeles, CA

NEW ASSOCIATE MEMBERS

Jeff Surgeon - Pensacola, FL

Upgrade to MemberPlus



Chapter Check

Chapter 37 District of Columbia

In July, Chapter 37 had two guest speakers to cover both TV (ATSC 3.0) and FM repack issues. Roughly 25 people attended the meeting. Photo by Fred Willard, CPBE, 8-VSB, CBNT, chapter treasurer.



Chapter 24 Madison

In August, Steve Smedberg, representing Videstra, spoke to Chapter 24 about the company's weather/tower camera systems.



Chapter 59 Kansas City & Surrounding Chapters

An SBE Ennes Education Workshop visited Kansas City in August to present a day-long series of informative sessions. The workshop was presented jointly by the Kansas Association of Broadcasters and the Missouri Broadcasters Association.



SBE Ennes Workshops

Affordable Educational Events In Your Region

ENNES

EDUCATIONAL
FOUNDATION TRUST.

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



In Memoriam

Ron Arendall, CPBE
 Member #4409
 1933 - 2018
 Fellow Member
 Life Member
 SBE President 1981 - 1983
 Ennes Scholarship Cmte

PRESORTED
STANDARD
U.S. POSTAGE
PAID
INDIANAPOLIS, IN
PERMIT #9076

MEMBERS ON THE MOVE



▶ **Anthony Peiffer**, CBTE, is a senior technician, broadcast operations at SiriusXM New York.

▶ **Chris Wygal**, CBRE, is the chief engineer for the Summit Media stations in Richmond, VA.



▶ **Ed Noyes** is the south central regional DOE for Cumulus Media, Columbia, SC.

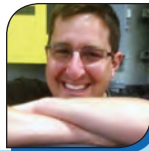


▶ **Carl W. Davis**, CPBE, was named to the North Carolina Association of Broadcasters Hall of Fame. He is the first engineer so named.



▶ **David Layer** is vice president, advanced engineering at the National Association of Broadcasters, Washington, DC.

▶ **Scott Solko**, CBRE, DRB, CBNT, is director of engineering of The Rush Limbaugh Show at Premiere Networks.



*Have a new job? Received a promotion?
Send your news to Chriss Scherer at cscherer@sbe.org.*

MARK YOUR CALENDAR

SBE National Meeting

Boston, MA
Oct. 2 - 3, 2018 sbe.org

WBA Broadcasters Clinic

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

SBE Certification Exams

AES Convention
Oct. 20, 2018 sbe.org/certification
Application deadline Sept. 21

Ennes Workshop

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

SBE Certification Exams

Local Chapters
Nov. 2 - 12, 2018 sbe.org/certification
Application deadline Sept. 24

LiveShot

Real-time ENG that goes beyond bonded cellular Live, two-way, HD video and audio over IP

Local TV Station Newsgathering

WDAY goes further with Comrex LiveShot. For everything from local news to sports coverage, LiveShot's size and versatility makes it easy to do more.

The mobility that LiveShot provides is incredible. We can do a shoot at the drop of a hat. It's made my job as a news director better, it's made our reporters better, and it's made our programming better.

- Jeff Nelson, News Director

Want an in-depth look at WDAY's setup?

Watch the case study at www.comrex.com/liveshot/wday

COMREX

1-978-784-1776
WWW.COMREX.COM

