



the

SIGNAL

raising the bar

BIMONTHLY PUBLICATION OF THE SOCIETY OF BROADCAST ENGINEERS

JUNE 2011

Volume 24, Number 3

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SBE Chapter Spotlight: 40 - San Francisco

Have you visited us on the web yet?

www.sbe.org

Kelly, Lebermann and Thomas Elected SBE Fellows

The Board of Directors of the Society of Broadcast Engineers elected Charles W. Kelly, Jr., Arthur Lebermann, CPBE and Barry Thomas, CPBE, CBNT to the membership grade of SBE Fellow during the SBE Board of Directors meeting on April 10, at the 2011 NAB Show.



Charles W. Kelly, Jr.

Kelly is the Director of International Sales for Nautel, Ltd. in Halifax, Nova Scotia, Canada and is a member of SBE Chapter 49 in Central Illinois. He is also a past national president of the SBE, serving in that capacity from the fall of 1993 through the fall of 1995.

Lebermann is transmitter supervisor for KGO and KSFO in San Francisco and is chairman of SBE Chapter 40 in San Francisco. He was also a co-founder of Chapter 40 in 1975.

Thomas, CPBE, CBNT is the VP of Engineering for

Radio, Lincoln Financial Media and is a member of SBE Chapter 5, in Atlanta. He is the immediate past president of the SBE.

The SBE Fellow membership grade recognizes members who have rendered conspicuous service, or who have made valuable contributions to the advancement of broadcast engineering or its allied professions, the dissemination of knowledge thereof or the promotion of its application in practice. It is the highest SBE membership level and can only be attained through member nomination and subsequent election by the Board of Directors.



Arthur Lebermann



Barry Thomas

See **FELLOW** on page 3

Candidate slate announced for SBE Board of Directors

The SBE Nominations Committee has submitted a slate of candidates for the national Board of Directors election. The committee is chaired by National Secretary and Board member Ted Hand, CPBE, 8-VSB, AMD, DRB of Charlotte, N.C. – Chapter 45. Serving on the committee with Ted are John Demshock, Orlando, Fla. - Chapter 42; Denise Mastrullo, Virginia Beach, Va. - Chapter 54 and Otto Schellin, Pittsburgh, Pa. – Chapter 20.

The slate of candidates was submitted by the Com-

mittee to the SBE National Office on April 29 and the candidates are listed below. Qualified members may still be nominated by a voting member if accompanied by the endorsement of at least nine additional members. Nominations from the membership must be received by the SBE National Office no later than 4:00 p.m., EDT, July 11. Nominees must be voting members (Regular, Senior, Life, Fellow or the official representative of a Sustaining Member) in good standing (dues paid through March 31, 2012) and hold a current SBE engineering level

See **ELECTIONS** on page 12

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We had been struggling for about a year to find a reliable audio STL to our transmitter site on top of a mountain in Warrenton, VA. The telco lines degraded every time it rained, causing dropouts in our T1 and ISDN service. This summer, when services that did not rely on the leaky copper cables were finally built out at the site, we tried a pair of BRIC-Links on our new broadband Internet service. We've kept our transmitter on them ever since. We're going to be purchasing more pairs of these units to feed audio to our other sites."

David Kolesar, Senior Broadcast Engineer
Bonneville International Corporation
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By-law changes approved

On April 10, 2011, the Board of Directors of the SBE approved changes to the Society's by-laws. The changes authorize the use of electronic methods, in addition to mail, to conduct the ballot and voting process for the annual election of the national board of directors. Though the changes went into effect immediately, the Board later voted to adopt a hybrid election process (using both electronic delivery and mail) beginning in 2012.

Previous By-laws text:

The original text of the By-laws section affected by the change is below (only the first of the two paragraphs in this section is included as the second paragraph, dealing with the reporting of election results, had nothing to do with the proposed changes).

Article VIII. Nominations and Elections

Section 2. Elections. Elections shall be by mail Ballot which shall be mailed to every voting Member in good standing at least thirty (30) days prior to election date. The votes shall be canvassed by a Board of Tellers, consisting of not less than five (5) Members in good standing appointed by the Board of Directors.

Approved language change (*italics* added for emphasis):

Article VIII. Nominations and Elections

Section 2. Elections. Elections shall be by mail *and/or electronic* Ballot which shall be mailed *and/or electronically* delivered to every voting Member in good standing at least thirty (30) days prior to election date. The votes shall be canvassed by a Board of Tellers, consisting of not less than five (5) Members in good standing appointed by the Board of Directors."

FELLOWS from page 1

Following the election, SBE President Vinny Lopez, CEV, CBNT remarked, "The Society is pleased and honored to add Kelly, Lebermann and Thomas to the highest level of SBE Membership, the SBE Fellow."

All three recipients will be recognized during the SBE National Awards Reception and Dinner, held as a part of the SBE National Meeting in Columbus, Ohio on September 28, 2011.

RENEW NOW
Don't lose your SBE member benefits!

If you have not yet renewed your SBE membership, you risk losing valuable member benefits, such as member access to JobsOnline, insurance coverage and discounts on workshops, seminars, certification and books. Membership renewals were due on April 1, 2011. If you have not yet renewed your membership, renew online before June 30, 2011 at www.sbe.org or contact the National Office at (317) 846-9000.

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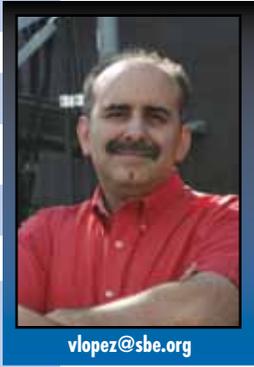
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vlopez@sbe.org

by **Vinny Lopez, CEV®, CBNT®**
SBE President

Another NAB Show is in the books. Hopefully, you were able to check out

issues they face every day and our education committee, as well as Education Director Kimberly Kissell, are hard at work coming up with compelling and informative content for our members' educational needs. By my count, there are at least ten webinars archived at www.sbe.org for viewing at any time and some of these are free to members.

There are three upcoming SBE webinars; Creative Strategies for Translators and Boosters on June 16 at 2:00 p.m. EDT, the popular SBE RF Safety Course on June 21 at 2:30 p.m. EDT, and Managing a Project and Outside Contractors for Success on July 20 at 2:00 p.m. EDT.

It's time to mark your calendars for September 27th and 28th. SBE will be holding our National Meeting in cooperation with the OAB Broadcast Engineering Conference in Columbus, Ohio. We will be at the Greater Columbus Convention Center and the Crowne Plaza Hotel, across the street from the convention center. SBE events will include the fall meeting of the Board of Directors, the annual Fellows Breakfast, the Annual Membership Meeting and the SBE National Awards Reception and Dinner. Hope to see all of you there!

P.S. If you are wondering if this month's title has any significance, it does not right now, but it may in a future issue.

some of the SBE activities that took place, maybe attended the SBE Membership Meeting, or stopped by the SBE booth and picked up a souvenir of your visit to sin city. It was a very productive NAB for SBE. We elected three new SBE Fellows, appointed new co-chairs for the EAS Education Committee, and named one of our awards for the founder of our society.

At the SBE board meeting held during the NAB Show, I appointed directors Scott Mason and Jeff Smith as co-chairs of the EAS Education Committee. Former chair, Ralph Beaver, decided to resign his chairmanship of the committee due to new and additional business responsibilities. He is taking over as manager of the NFL's Game Day Coordination program from the retiring Jay Gerber and Ralph felt he would not have the time needed to commit to a committee chairmanship.

Scott Mason and Jeff Smith were busy during the NAB Show, contacting people, companies and organizations related to EAS looking for opportunities for SBE to assist with education for engineers on EAS related topics. I am pleased to say that SBE will be partnering with FEMA to promote educational opportunities for engineers about EAS. FEMA intends to hold webinars and events in the coming months and SBE will be promoting these programs to our membership on this important topic.

Were you one of the one hundred or so people who took advantage of the free "recovering from disaster" SBE webinar? I sincerely hope so. I did, and found it a very interesting and eye opening look at what could happen to any one of us at anytime. As I have said before, the SBE board has taken the view that our members want and need education on the

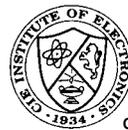
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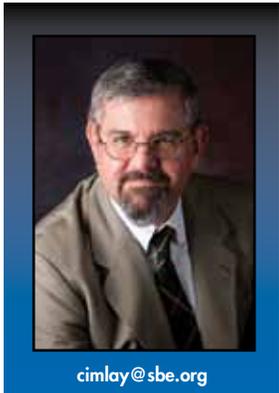
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Rearranging deck chairs on the Titanic



by **Chris Imlay, CBT**
SBE General Counsel

The topic of discussion at the NAB Convention that I heard most often this year was about TV broadcast band repacking. Let's take a look at that for a minute.

It is hard to believe that it was less than two years ago that all full-power TV stations in the United States completed the transition to an all-digital television service, and returned all the analog channels

to the government. One would have thought that the "broadcasters get their spectrum for free" remarks would have stopped at the time. Not so. An article by a land mobile radio consultant recently reiterated that tired old saw. An NAB paper was released toward the end of April which demonstrated that the alleged spectrum shortage for mobile broadband is being vastly overblown. This land mobile consultant criticized NAB, billed it as the all-powerful, super-rich lobbying behemoth, and said that the "TV stations didn't pay a penny for their spectrum and have already lost the 700-MHz band to commercial wireless broadband services (Channels 53 to 69)." The article criticized the NAB paper, saying that the author was opposed to "incentive" spectrum auctions of television spectrum because he is "opposed to paying the broadcasters to give up spectrum they never paid for in the first place."

He refers to the vague allusions that FCC has made to TV band repacking. The basic theme is the clear objective in the National Broadband Plan to free up 120 megahertz of spectrum for wireless broadband that is now allocated to television broadcasting (i.e. 20 television channels). FCC has a study that asserts that there will be a shortfall of approximately 95 MHz of broadband spectrum by 2012, and about 250 MHz by 2014. So they are in a hurry to start the reallocation process. Mobile broadband can optimally use bands beginning at 500 MHz and above. Therefore, TV channels 20 (506 to 512 MHz) through 51 (692 to 698 MHz) are prime territory. Lower frequencies result in less efficient antennas, and hence are less desirable. Channels 20 through 51, excluding channel 37 would constitute 192 MHz of prime spectrum for wireless broadband services.

The first step in the repacking process was taken on November 30, 2010 when the FCC issued a Notice of Proposed Rule Making asking for comment on a proposal to allow voluntary channel-sharing in the TV broadcast band. The theory is that two television stations could share one, six-megahertz bandwidth channel. There are two aspects of this. One is now no secret: voluntary ("incentive") auctions. Very straightforward, the FCC would offer television broadcasters the opportunity to voluntarily move downward in frequency to a channel below 20 and share that channel with another broadcast station in the same market. The "sharing" is not a free lunch though. The licensee that gives up its channel and shares in auction proceeds might have to lease subchannel space from an incumbent. The FCC is again discussing "spectrum fees" (read "tax") for broadcast licensees. Not much of an incentive, is it?

Since it is unlikely that all stations would take advantage of incentive auctions, and since the best opportunity for mobile broadband in the view of the FCC and others is in auctioning large, contiguous blocks of spectrum nationwide, the FCC would have to first do the incentive auctions, and then

afterward do "repacking" in order to clear blocks of spectrum. That is where the picture gets muddy. CEA and CTIA, with FCC on the bandwagon, have asserted that reclaimed broadcast spectrum, in order to be most useful for mobile broadband, should be contiguous between 572 MHz and 698 MHz – 20 of the 37 channels in the UHF band. The stations that do not elect to participate in auction proceeds would have to change frequency (inevitably by moving downward in frequency).

The (involuntary) repacking process could affect more than 600 television stations and millions of television viewers, depending on the specific channels to be cleared and the number of stations that elect to participate in the auction process and voluntarily move. This raises logistic issues and equipment costs. There are also, all over again, the issues of co-channel and adjacent channel spacing, replacement equipment (even though the digital equipment just bought has hardly been amortized) and channel sharing by the auction voluntary participants. A nightmare. So is the determination of VHF power that is necessary to replicate the service contours that a station had on a UHF channel, assuming for the moment that it is even possible to do.

How much is this spectrum worth at auction? The upper 700 MHz of spectrum (TV channels 60 through 67) produced a total income to the United States of more than \$19 billion. That makes a TV channel worth more than \$2 billion nationwide. But assuming that a station that is involuntarily repacked would be entitled to some reimbursement of costs, those costs could run well over a million dollars per station for even a UHF-to-UHF channel switch. The cost of a UHF-to-VHF switch would be far higher, and the amount of power necessary to replicate the service area might be impractical.

Is the United States ready for yet another consumer education campaign for over-the-air television broadcasters changing channels and operating parameters? During the DTV conversion, a lot of outdoor antennas were converted to UHF only. Now viewers will have to be educated about VHF and UHF replacement antennas. Finally, no one is talking about a period where dual channel use would occur on old and new channels for any period of time. This transition, therefore, would differ from the digital transition.

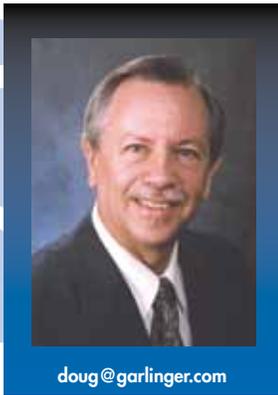
Finally, what about the White Spaces devices (TVBDs) that FCC has just authorized to operate in the same television channels that are proposed to be reallocated and auctioned for mobile broadband? Will those follow the broadcasters downward in frequency? Will they become White Spaces White Elephants before even getting started? One thing that can be said about TVBDs as opposed to the repacking process: at least with TVBDs, broadcasters were permitted to continue operating on their assigned channels, and were offered some modicum of protection, or at least the illusion of such. Dynamic channel access based on cognitive electronic circuits and a database maintained by white spaces advocates leaves me a bit cold, but at least the illusion is there that there will be harmonious sharing of the TV broadcast band. Not so with the repacking proposal, which is more of a sledge hammer approach to accommodating expanded UHF mobile broadband.

The repacking process seems to be a rearrangement of deck chairs on the Titanic: a lose-lose proposition for both television viewers and for broadcasters.



**What's your
Certification Quotient?**
Answer on Page 11

Question: Structured Query Language is used for:
A. Accessing information in distributed databases
B. Defining database report protocols
C. Proprietary transmission of databases across the network
D. Accessing the fifth layer of the OSI model for data



Economy requires standing out to employers

by Douglas W. Garlinger, CPBE®, 8-VSB, CBNT®

SBE Certification Committee Member

Nearly two years ago, I wrote a *Signal* article about the value of SBE Certification and I concluded by saying "Remember; the only real job security is your ability to get your next job. Certification helps!"

When I wrote that article I did not expect to find it necessary to rely upon my own advice. I had been continuously employed with great companies throughout my entire 38-year career as a Broadcast Engineer, then on March 28th, I was not. The very promising Mobile TV venture I worked for shut down its nationwide network of 575 digital transmitters and left me unemployed.

I was not alone. At NAB, I walked around the exhibit floor listening to stories of layoffs, downsizing, reorganization, bankruptcy and ownership changes. At a time when fewer stations were sending engineers to attend NAB, it seemed there were plenty of unemployed engineers in attendance "networking" and making it known they were available.

For the welfare of those who depend on you and your own survival, you must prepare yourself to stand out to future employers.

There is no doubt that SBE Certification is one way to do that. Many broadcast engineer job postings include words along the lines of "SBE Certification preferred." You have spent years honing your engineering skills and yet if you are not SBE Certified, how do you demonstrate that to a prospective employer?

The Society of Broadcast Engineers' Program of Certification was created 36 years ago as a way to recognize and raise the professional status of Broadcast Engineers by providing a standard of professional competence. I personally believe in Certification. I have had the privilege of serving on the SBE National Certification Committee for 20 years.

Certification could easily make the decisive difference in a management lay-off decision or in a new hire decision. For me, Certification is real and it is valuable. I have started a new job at the local ABC affiliate, WRTV6, in Indianapolis.

I recently had a long conversation with Megan Clappe, SBE's certification director. She tells me that she gets calls all the time from engineers who have suddenly developed an interest in learning about all of the various certification levels that are available. So Megan and I have put together a brief overview of each level.

Entry-Level Certifications:

Certified Television Operator (CTO) and Certified Radio Operator (CRO) – These two certifications are targeted to the entry-level, non-technical pool of applicants filling board operator and master control positions in today's radio and television marketplace and include the opportunity to be tested and certified. The exam consists of 50 multiple choice questions. It is closed book and you are allotted one hour. Passing score is 90%.

Certified Broadcast Technologist (CBT) – This exam includes AM/FM or TV questions. Content of these questions will consist of electronic fundamentals, FCC rules pertaining to operating tolerances and safety. The exam is 50 multiple choice questions. It is open book and you are allotted three hours to take the exam. Passing score is 70%.

Certified Broadcast Technologist (CBT) - If you hold a valid FCC Amateur Extra Class license or a valid General Radiotelephone license and have two continuous years or three out of the last five years work experience in

broadcast engineering or a related technology you can apply for the CBT certification without taking the exam. Please contact the national office for more information.

Certified Broadcast Networking Technologist (CBNT) – This certification demonstrates a basic familiarity with networking hardware as utilized in business and audio/video applications in broadcast facilities. The exam consists of questions on network topologies and layouts, common network protocols, wiring standards and practices, maintenance, troubleshooting and connectivity issues and challenges unique to broadcast-based networks. The exam is 50 multiple choice questions. It is open book and you are allotted three hours to take the exam. Passing score is 70%.

5-Year Certifications:

Certified Audio Engineer (CEA), Certified Video Engineer (CEV), Certified Broadcast Radio Engineer (CBRE) and Certified Broadcast Television Engineer (CBTE) – These certifications are based on the years of experience you have in the field of broadcast engineering or related technology. You may substitute the years of experience to supplement the 5 year requirement (see acceptable substitutions below). This exam consists of questions regarding safety, problems, operation practices and theory. The exam is 50 multiple choice questions. It is open book and you are allotted three hours to take the exam. Passing score is 70%.

10-Year Certifications:

Certified Senior Radio Engineer (CSRE) and Certified Senior Television Engineer (CSTE) – These two certifications are based on years of experience you have in the field of broadcast engineering or related technology. You may substitute the years of experience to supplement the 10 year requirement (see acceptable substitutions below). The exam is 50 multiple choice questions. It is open book. There is an essay portion associated with the senior exams. You will be given a choice of three essays. The essay is closed book. You are allotted three hours to take the exam. Passing score is a combined score of 84%.

For the 5-year or 10-year certifications you may substitute the years of experience by holding a state registered Professional Engineer's license (4 years), a Bachelor Degree (4 years), an Associate Degree (2 years) or years of related accredited education can be substituted, year for year (up to 4 years).

20-Year Certification:

Certified Professional Broadcast Engineer (CPBE) – This certification requires 20 years of professional broadcast engineering or related technologies experience in radio and/or television. Educational credits will not be counted towards the 20 years. There isn't an exam associated with this certification, but the applicant must be certified on the Senior (10-year) level in order to apply for the CPBE.

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

See **CERTIFICATIONS** on page **12**

the **SIGNAL**

CONGRATULATIONS

New SBE Certification Achievements

LIFE CERTIFICATION

Certified Professional Broadcast Engineers® and Certified Senior Broadcast Engineers® who have maintained SBE certification continuously for 20 years and are current members of SBE may be granted Life Certification if so requested. All certified who have retired from regular full-time employment 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®)

Edward Frisa, Cincinnati, OH – Chapter 33
Slade Kennedy, Ithaca, NY – Chapter 140
Barry Siegfried, Stockholm, NJ – Chapter 15
Gary Thayer, Arlington, VA – Chapter 37
Johnny Vines, Pacific, MO – Chapter 55

CERTIFIED PROFESSIONAL BROADCAST ENGINEER® (CPBE®) 8-VSB SPECIALIST™ (8-VSB™)

Scott Chestnut, Los Angeles, CA – Chapter 47

CERTIFIED SENIOR TELEVISION ENGINEER™ (CSTE®)

Marshall Michel, Missouri City, TX – Chapter 105
Clyde Yost, Jr., Castalia, OH – Chapter 104

CERTIFIED BROADCAST RADIO ENGINEER™ (CBRE®)

Thomas Lange, Sheboygan, WI – Chapter 80

CERTIFIED BROADCAST NETWORKING TECHNOLOGIST® (CBNT®)

Michael Behan, Tuttle, OK – Chapter 55
George Schank, Conroe, TX – Chapter 105

NEWLY CERTIFIED CPBE®

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 on the Certified Senior Broadcast Engineer® level.

CERTIFIED PROFESSIONAL BROADCAST ENGINEER® (CPBE®)

Samuel Cox, Escondido, CA – Chapter 36
George MacKnight, Germantown, OH – Chapter 33

FEBRUARY EXAMS

"Thank You" CHAPTER CERTIFICATION CHAIRS FOR YOUR ASSISTANCE

CERTIFIED SENIOR RADIO ENGINEER™ (CSRE®)

Kenneth Colwell, Davenport, IA – Chapter 65

DIGITAL RADIO BROADCAST SPECIALIST™ (DRB™)

Ted Hand, Charlotte, NC – Chapter 45

CERTIFIED BROADCAST NETWORKING TECHNOLOGIST® (CBNT®)

Matthew Shea, Silver Spring, MD – Chapter 37
Lamonte Tyler, Baltimore, MD – Chapter 37

CERTIFIED BROADCAST TECHNOLOGIST® (CBT™)

Matthew Shea, Silver Spring, MD – Chapter 37

SBE EXAMS AT THE 2011 NAB SHOW

CERTIFIED SENIOR RADIO ENGINEER™ (CSRE®)

Charles Beck, Phoenix, AZ – Chapter 9

CERTIFIED BROADCAST TELEVISION ENGINEER™ (CBTE®)

Calvin Ogawa, La Habra, CA – Chapter 47
David Prenoslo, Edmonton, Alberta, Canada

CERTIFIED BROADCAST NETWORKING TECHNOLOGIST® (CBNT®)

Eric Dalke, Snoqualmie, WA – Chapter 16
James Dalke, Bellevue, WA – Chapter 16
Timothy Stoffel, Reno, NV – Chapter 139

CERTIFIED BROADCAST TECHNOLOGIST® (CBT™)

Richard Reyes, Las Vegas, NV – Chapter 128

CERTIFIED TELEVISION OPERATOR® (CTO®)

Todd Graham, Palm Desert, CA

CERTIFIED BY LICENSE

CERTIFIED BROADCAST TECHNOLOGIST® (CBT™)

David Ahneman, Eugene, OR – Chapter 76
Kevin Faris, Plattsmouth, NE – Chapter 74
Timothy Lick, Plainwell, MI – Chapter 102
Timothy Pemberton, Milwaukee, WI – Chapter 28

Teresa Phelps, Cornoa, CA – Chapter 131
Duane Sedge, Arlington, TX – Chapter 67
Marshall Thompson, Huntington Beach, CA – Chapter 36
Frank Torbert, Orlando, FL – Chapter 42

CERTIFIED RADIO OPERATOR® (CRO™)

CERTIFIED RADIO OPERATOR® (CRO™)

Bob Gaut, Knoxville, TN
David Haug, Larchmont, NY
Cliff Moquin, Tucson, AZ
Greg Powers, Mattoon, IL
Curtis Rodgers, Tucson, AZ
Matt Steck, State College, PA

CERTIFIED TELEVISION OPERATOR® (CTO®)

CERTIFIED TELEVISION OPERATOR® (CTO®)

Kyle Burnett, Oklahoma City, OK
Rob Martin, Seattle, WA
Sean Sanchez, Metairie, LA
Dixie Sizer, Fort Mill, SC

COLUMBUS EAST HIGH SCHOOL (IN)

Alexis Bardonner
Andrew Ellis
Andria Mahl
Luke Martin
Maxwell Whipker

NORMANDY HIGH SCHOOL (OH)

Taylor Colaric
Michael Dawson
Matthew Madej
Brittany Messer
Valerie Hopper
Melissa Powell
Nicole Septaric
Zachary Springfield
Bryan Webb
Adam Zapotechne

RECERTIFICATION

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

CERTIFIED PROFESSIONAL BROADCAST ENGINEER® (CPBE®)

Jack Davis, Sacramento, CA – Chapter 43
Barry Fisher, Emmaus, PA – Chapter 18
John Gober, Auburn, AL – Chapter 118
Donald Lockett, Newington, VA – Chapter 37
Dick Pickens, Spicewood, TX – Chapter 79
Michael Waldman, Chesterfield, MO – Chapter 55
Robert Yankowitz, New Bedford, MA – Chapter 11

CERTIFIED PROFESSIONAL BROADCAST ENGINEER® (CPBE®) AM DIRECTIONAL SPECIALIST™ (AMD™)

Mark Simpson, Marana, AZ – Chapter 32
Larry Wilkins, Prattville, AL – Chapter 118

CERTIFIED SENIOR RADIO ENGINEER™ (CSRE®)

Sara Allen, Bradenton, FL – Chapter 39

CERTIFIED SENIOR TELEVISION ENGINEER™ (CSTE®)

William Bobich, Columbus, OH – Chapter 52
Robert Swanberg, Warwick, RI – Chapter 11
Russell Taylor, Greenbelt, MD – Chapter 37

CERTIFIED BROADCAST RADIO TELEVISION ENGINEER™ (CBRT™)

Jon Bennett, College Station, TX – Chapter 99

CERTIFIED BROADCAST RADIO ENGINEER™ (CBRE®)

Frank Baptista, Westport, MA – Chapter 11
Wiely Boswell, Montgomery, AL – Chapter 118
Nester Criscio, Montevideo Uruguay
Robert Fields, San Antonio, TX – Chapter 69

CERTIFIED BROADCAST TELEVISION ENGINEER™ (CBTE®)

John Arthur, Jr., Brandon, MS – Chapter 125
Kevin Schrader, Marion, IA – Chapter 109
Ralph Shriker, Lancaster, OH – Chapter 52
Dean Tracy, Costa Mesa, CA – Chapter 48
James Tronolone, Hackensack, NJ – Chapter 15

CERTIFIED VIDEO ENGINEER® (CEV®)

Mark Miller, Dearborn, MI – Chapter 82
Safdin Shokrollahi, Pearland, TX – Chapter 105

CERTIFIED BROADCAST NETWORKING TECHNOLOGIST® (CBNT®)

John Arthur, Jr., Brandon, MS – Chapter 125
Patrick Berger, North Aurora, IL – Chapter 26
William Bobich, Columbus, OH – Chapter 52
Debra Carroll, Knoxville, TN – Chapter 113
Dwight Downing, Salina, KS – Chapter 3
David Erickson, Anchorage, AK – Chapter 89
Frederick Ervin, Grove City, OH – Chapter 52
James Ferguson, Mount Vernon, OH – Chapter 52
John Garmendi, Old Bridge, NJ – Chapter 15
John Gober, Auburn, AL – Chapter 118
Robert Hawthorne, San Antonio, TX – Chapter 69
Michael Hayden, DeKalb, IL – Chapter 26
Richard LaSaracina, Norwich, CT – Chapter 14
Mark Miller, Dearborn, MI – Chapter 82
Larry Rixman, Louisville, KY – Chapter 35
Mark Simpson, Marana, AZ – Chapter 32
James Stanley, Surprise, AZ – Chapter 9
Christopher Verdi, New London, NH – Chapter 110
Michael Waldman, Chesterfield, MO – Chapter 55
Larry Wilkins, Prattville, AL – Chapter 118

CERTIFIED BROADCAST TECHNOLOGIST® (CBT™)

Jesse Acon, San Diego, CA – Chapter 36
William Barrick, Sayville, NY – Chapter 15
Randy Brudigan, Ainsworth, NE – Chapter 87
Debra Carroll, Knoxville, TN – Chapter 113
David Deese, Nashville, TN – Chapter 103
Vincent Fuhs, Sioux Falls, SD
Eric Hancock, Quincy, MA – Chapter 11
Robert Hawthorne, San Antonio, TX – Chapter 69
Kevin Howie, Boynton Beach, FL – Chapter 88
Jason Royals, Fairborn, OH – Chapter 69
Edward Stanley, Pharr, TX – Chapter 136

CERTIFIED TELEVISION OPERATOR® (CTO®)

Denise Allen, Indianapolis, IN
Arthur Mistretta, Moreno Valley, CA – Chapter 131
Roland Robinson, Tacoma, WA – Chapter 16

Buckeye state capitol to host this year's SBE National Meeting

The 2011 National Meeting of the Society of Broadcast Engineers will be held on September 27-28 at the Crown Plaza Hotel and the Columbus Convention Center in downtown Columbus, Ohio. The National Meeting is being held in conjunction with the Ohio Association of Broadcasters' Ohio Broadcast Engineering Conference.

The Ohio Broadcast Engineering Conference is an annual event attended by broadcast engineers from across the state of Ohio and neighboring states as well.

The Conference is in its ninth year and includes technical papers and an equipment trade show on the 28th. All five SBE chapters in Ohio are being encouraged to promote attendance at the event to their members.

All National Meeting activities will take place at the Crown Plaza Hotel with the exception of the Annual Membership Meeting at 4:00 p.m. on the 28th. That will be held at the convention center across the street from the hotel in a room adjacent to where the trade show has just wrapped up. Other events include a Certification Committee meeting and Board of Directors meeting on the 27th and the annual Fellows Breakfast and Awards Reception and Dinner on the 28th.

The dinner program will include the presentation of the SBE Broadcast Engineer of the Year and the SBE Educator of the Year Awards, to be announced later in June. Three members will be recognized with the highest membership rank awarded by the SBE, the SBE Fellow: Chuck Kelly, Halifax, N.S., Chapter 49; Art Lebermann, CPBE, San Francisco, Calif., Chapter 40; and Barry Thomas, CPBE, CBNT, Chapter 5, Atlanta, Ga.

Chapters and individual members will also be recognized during the dinner for best technical article, best chapter newsletter, website, regional conference, most certified chapter and chapters with the greatest percentage growth and highest average member attendance at chapter meetings.

Tickets for the reception and dinner are just \$15 and may be ordered on-line at http://sbe.org/sections/cal_conv.php and scroll down to "SBE National Meeting." Tickets may also be ordered by calling the SBE National Office at (317) 846-9000.

A special guest room rate of \$99 for single and double occupancy has been arranged for attendees of the SBE National Meeting and OAB Engineering Conference. The rate includes complimentary Internet connection. To make reservations, call (614) 461-4100 and ask for the special OAB rate. Or make your reservation on-line at www.crowneplaza.com/cmhcrowneplaza. Use group code: OAB. The cutoff date for reservations is August 27th. After the deadline, rooms are available subject to a space and rate-available basis.

We hope to see many of you in Columbus for this year's SBE National Meeting and the Ohio Broadcast Engineering Conference!



Columbus, Ohio skyline

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SBE at NAB Show



Above: A delegation from AMITRA, the Mexican association of broadcast engineers, met with SBE leadership during the NAB Show in Las Vegas. Among those in the photo are AMITRA president, Jesus Enriquez, 2nd from right, and SBE president, Vinny Lopez, to the left of President Enriquez. SBE has maintained an affiliation agreement with AMITRA for 20 years.

Right: Members of the SBE National Certification Committee were recognized for years of service. (l-r) 10 Yrs. - Joseph Snelson, CPBE, 8-VSB, Las Vegas, Nev.; Larry Wilkins, CPBE, AMD, CBNT, Montgomery, Ala., 15 Yrs. - Ralph Hagan, CPBE, 8-VSB, DRB, Phoenix, Ariz.; 20 Yrs. - Douglas Garinger, CPBE, 8-VSB, CBNT, Fishers, Ind. Not present but also recognized were, 15 Yrs. - Rick Ryan, CPBE, New Berlin, Wis. and 20 Yrs. - David Carr, CPBE, 8-VSB, Frisco, Texas.

Bottom Right: SBE President Vinny Lopez, CEV, CBNT recognizes SBE member Dominic Bordonaro, CSRE, chairman of the 2011 NAB Broadcast Engineering Conference.

Bottom Left: SBE chapter certification chairs were recognized for years of service during the meeting. (l-r) 1 yr. - Gary Hartmann, CPBE, Chapter 22; 5 yrs. - Don Hackler, CPBE, Chapter 40; 15 yrs. - John Collinson, Chapter 39; 30 yrs. - Chuck Ingle, Chapter 96; 35 yrs. - George Werl, Jr., Chapter 17. SBE National Certification Committee chair, Jim Bernier, CPBE, CBNT is at the podium and president, Vinny Lopez, CEV, CBNT is seated.

Top Right: SBE recognized three companies with 25 years of SBE Sustaining Membership during the membership meeting held at the NAB Show. (l-r) SBE president Vinny Lopez, CEV, CBNT, Tim Schwieger, president and CEO and Shannon Nichols, of Broadcast Supply Worldwide; John McKay, P.E., CBT, sales engineer for Radian Communication Services, of Oakville, Ontario, Canada. Mark Heller, CSRE, CTO, chair of the SBE Sustaining Member Committee. Not able to be present was Thom Calabro, Director of Marketing and Product Development, Optical Devices Division, Fujinon.



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SBE Education Update

by **David Priester, CPBE®**

SBE Education Committee Chair



dpriester@ithaca.edu

2 New Courses Coming to SBE University

The SBE Education Committee has been hard at work developing education for broadcast engineers. This isn't always easy given the vast amount of information broadcast engineers need to know in order to be successful in their positions, not to mention all of the work involved in putting a course together, from writing detailed content, to creating a glossary, quiz questions and the graphics. That's why the committee is so

excited to announce two courses about to be released. In their own way, each should prove valuable to SBE Members.

The first course, **ENG Truck Operations**, written by Mike Seaver, CBT, is designed for non-technical personnel. This course will be beneficial for those employees who do not have an engineering background who work under the supervision of broadcast engineers. The course covers the basics necessary to produce a safe, good quality field-produced shot from both a microwave-based vehicle as well as one utilizing satellite uplinks.

Topics include safety, the basics of microwave principles and operations, audio, video, various IFB techniques, lighting basics, use of wireless microphones and other advanced applications. The cost for SBE Members is \$65 and \$85 for non-members.

Modulation Techniques in Broadcasting, written by Len Watson, CSBE, is the second course coming to SBE University. This course explores current modulation methods, and how most of these methods are derived from three basic forms of altering the base signal or 'carrier'. Students can expect to learn how each of them is accomplished, how they are measured and troubleshooting techniques when problems occur.

It is assumed that the student is aware of how radio frequency signals are generated and amplified and with how active and passive components, e.g., inductors, resistors, capacitors and active amplifiers, function. The cost for SBE Members is \$99 and \$139 for non-members.

SBE Technical Presenters Group brings Educational Programs to Your Area

The Society of Broadcast Engineers is working with select industry professionals to organize the new SBE Technical Presenters Group. For a reasonable fee and travel expenses, groups such as state broadcasters associations, broadcasting companies, SBE chapters and others have the opportunity to include one of these speakers in their next engineering conference, or as a trainer for their engineering staff. Speakers from the SBE Technical Presenters Group are generally available to speak across the country. Visit the SBE Website under Education for details on the current presenters and programs being offered.

SBE Leadership Education – Check it out!

Do you need help understanding how to work better with management? How to get your next big expenditure approved by the 'powers that be'? Having difficulty working with someone on your team? Consider leadership training offered through the Society of Broadcast Engineers. The SBE Leadership Development Course, a three-day intense and highly interactive course, takes place in Atlanta, August 2-4. The cost for SBE Members is \$580 and \$630 for non-members. Sign up for the course now, and you will get the Leadership Development Webinar Series for FREE to help you prepare. Topics of the course include the function and nature of leadership, generational differences in the workplace, a leadership style assessment, managing conflict and more.

To celebrate the highly respected Leadership Development Course, the Leadership Development Webinar Series (three webinars) is being offered at a deep discount. Normally \$117, this series is being offered for a limited time for only \$45 for SBE Members and \$59 for non-members. The webinars provide an introduction to the function and nature of leadership, communication and motivation.

The SBE has always believed strongly in leadership training to help broadcast engineers succeed in their positions. Take advantage of one of these special offers while they last.

MARK YOUR CALENDAR

June 16 · Creative Strategies for Translators and Boosters · Webinar · 2:00-3:30 p.m. Eastern

Instructor: Doug Vernier, CPBE

Cost: SBE Members · \$49; Non- Members · \$69

June 21 · SBE RF Safety Course · Webinar · 2:30-5:45 p.m. Eastern

Instructor: Richard Strickland, RF Safety Solutions

Cost: SBE Members · \$85; Non- Members · \$125

July 20 · Managing Project and Outside Contractors for Success · Webinar · 2:00-3:30 p.m. Eastern

Instructor: John Luff, SBE Member and Consultant

Cost: SBE Members · \$69; Non- Members · \$89

August 2-4 · SBE Leadership Development Course · Atlanta, Georgia

Instructor: Rodney Vandever, Professor and Leadership Consultant

Cost: SBE Members · \$580; Non- Members · \$630

September 27-28 · SBE National Meeting · Columbus, Ohio

See National Meeting article for details on page 8.

For more information or to register for the programs brought to you by the SBE, visit our website at www.sbe.org under Education.

2011 SBE Certification Exam Schedule

Dates	Location	Application Deadline
August 5-15, 2011	Local Chapters	June 3, 2011
November 4-14, 2011	Local Chapters	September 16, 2011

Society of Broadcast Engineers, Inc.
2010 Audited Financial Statements

**Combined Statement of Assets, Liabilities
and Net Assets - December 31, 2010**

ASSETS

Cash and cash equivalents	\$224,979
Investments	867,537
Office Equipment	34,036
Intangible Assets	7,640
Total Assets:	\$1,134,192

LIABILITIES and NET ASSETS

LIABILITIES	\$0
NET ASSETS:	\$1,134,192
TOTAL LIABILITIES & NET ASSETS	\$1,134,192

2010 SBE Audited Revenue & Expense Statement*

INCOME:

Membership Fees & Support	\$338,656
National Meeting	31,130
Certification	82,032
Publications	86,760
Education Services	74,353
Interest & Dividend Income	31,015
Net Realized/Unrealized	
Gain (Loss) from Investments	47,516
Miscellaneous Income	13,767
Total Income:	\$705,229

EXPENSES:

Member Services	\$291,628
Chapter Rebates	36,341
National Meeting	25,149
Publications/Communications	76,560
Certification	74,407
Education	93,738
Administration	94,823
Depreciation/Amortization	16,554
Total Expenses:	\$709,180

CHANGE IN NET ASSETS:	-\$3,951
NET ASSETS 12/31/2009:	\$1,138,143
NET ASSETS 12/31/2010:	\$1,134,192

* Audited statement reflects modified cash accounting method. Investments are listed at market value.

SBE members recognized at the NAB Show

by **John L. Poray, CAE**

SBE Executive Director

The recent NAB Show and Broadcast Engineering Conference was a great opportunity for the SBE to recognize outstanding volunteer service to the Society. Close to 150 members attended the SBE Membership Meeting on Tuesday of NAB week, chaired by SBE president, Vinny Lopez, CEV, CBNT.

Vinny used this opportunity to recognize local certification chairmen who had reached milestone anniversaries. The five men recognized who were present total 86 years of service as chapter certification chairmen! A photo of the chairs recognized at the meeting is on page 9 of this issue of *the Signal*.

Recognition was given to six members of the National Certification Committee who had also reached milestone anniversaries. Present were Joe Snelson, CPBE, 8-VSB of Las Vegas and Larry Wilkins, CPBE, AMD, CBNT of Montgomery, Ala., who have both served 10 years; Ralph Hogan, CPBE, CBNT, DRB of Phoenix, Ariz., who has served 15 years and Douglas Garlinger, CPBE, 8-VSB, CBNT, Fishers, Ind., who has served for 20 years. Not able to be present were Rick Ryan, CPBE of New Berlin, Wis. who has served 15 years and former Certification Committee chairman, David Carr, CPBE, 8-VSB, Frisco, Texas, who has served for 20 years and recently announced his retirement from the committee. Our thanks to all of these men for their commitment and especially to David, as we will miss his many contributions.

Vinny recognized SBE member, Dom Bordonaro of Chapter 14, Connecticut, who chaired this year's NAB Broadcast Engineering Conference as well as Fred Baumgartner, CPBE, CBNT, Chapter 48 in Denver, who organized and moderated the day-long Ennes Workshop presented by SBE.

Three companies who have been Sustaining Members of the SBE for 25 years were recognized for their long-standing support of the Society. Tim Schwieger, president and CEO of Broadcast Supply Worldwide, and John McKay, P.E., CBT, sales engineer for Radian Communication Services, were present to receive awards from President Vinny. Fujinon was also recognized but was not able to be represented.

We've been grateful to have the on-going

support of SBE Sustaining Member, Vislink News and Entertainment, for the membership meeting at the NAB Show. Through their generosity, we provided SBE logo items to those in attendance as well as several prizes. They have also made a donation to the Ennes Scholarship Fund. Many thanks to our friends at Vislink.

Also recognized at the NAB Show were two SBE members who received this year's engineering awards from the NAB. Congratulations to Bob du Treil of du Treil, Lundin & Rackley, Inc., who was presented the NAB Radio Engineering Award, and to television consultant and former head of NAB's Science & Technology Department, Thomas Keller, who received the NAB Television Engineering Achievement Award.

I'd like to extend congratulations to two members who recently made announcements regarding their futures. Jay Gerber, CBT, who created and was the driving force behind the NFL's Game Day Coordination (GDC) program since its beginning in 1995, announced his retirement from the program. SBE was an important partner in the GDC program for ten years, and many of the GDCs today are members of SBE. Our sincere thanks go to Jay for his support of the SBE and for his tireless efforts to make the program the success it has been. This was a second retirement for Jay, as he had retired from a long career with NFL Films just before taking on, at the request of the NFL, the growing spectrum interference concerns that had developed by the mid-90's.

At the annual meeting of NFL GDCs during the NAB Show, Jay announced that long-time SBE member, Ralph Beaver, CBT, will take over leadership of the GDC program. Ralph is a member of the SBE National Board and had served as SBE National Frequency Coordination Committee chair for ten years. He also has been heavily involved in the GDC program, serving as the GDC for the Tampa Bay Buccaneers and as a key part of the select GDC team that coordinates the Super Bowl. Our best wishes to Ralph as he takes on this new responsibility. We're certainly pleased to see that a member of the SBE was selected to manage this important program.

With the NAB Show behind us, the SBE National Meeting is the next major SBE event coming up. I hope we'll see a good number of you in Columbus, Ohio, September 27-28.



Answer: **A. Accessing information in distributed databases**

Question on page 5

ELECTION from page 1

certification (CBT or higher) by July 11, 2011 and all through Board service if elected.

All four officer positions will be on the ballot as will six of the 12 director seats. Officer terms are for one year and director terms are for two years. Election ballots will be mailed from the National Office to voting members in good standing by July 25 and are to be returned by USPS, express delivery or personal hand delivery so they are received by the National Office by 4:30 p.m. EDT on August 25. Votes will be tabulated on the evening of August 25. Those elected will take office during the SBE National Meeting on September 28 in Columbus, Ohio. The National Meeting is being held in conjunction with the annual Ohio Broadcast Engineering Conference, which is presented by the Ohio Association of Broadcasters in cooperation with the Ohio chapters of the SBE.

The list of candidates as submitted by the Nominations Committee includes:

President



Ralph Hogan, CPBE, DRB, CBNT

Director of Engineering
KJZZ-FM/KBAQ-FM
Tempe, Ariz.
Chapter 117



Vice President

Jeff Smith, CSRE, CBNT

Supervisor of Studio
Systems
Clear Channel Radio
New York, N.Y.
Chapter 15



Secretary

James Leifer, CPBE,
Director of Engineering
and IT
Clear Channel
Communications
Boynton Beach, Fla.
Chapter 53

Treasurer



**Jerry Massey, CPBE,
8-VSB, AMD, DRB, CBNT**
Corporate Regional
Engineer and DoE
Entercom
Communications
Greenville, S.C.
Chapter 86

Director Candidates



**Raymond Benedict,
CPBE**

CBS
Washington, D.C.
Chapter 37



Paul J. Burnham, CPBE

e2v Inc.
Poughkeepsie, N.Y.
Chapter 58



John Demshock

WFTE
Altamonte Springs, Fla.
Chapter 42



Mark Heller, CSRE, CTO

President, GM & Chief
Engineer
WTRW Inc./WGBW Radio
Two Rivers, Wis.
Chapter 80



David Priestler, CPBE

Director, Technical
Operations
Ithaca College
Ithaca, N.Y.
Chapter 140



**Joseph Snelson, CPBE,
8-VSB**

Vice President of
Engineering
Meredith Corporation
Las Vegas, Nev.
Chapter 128



Gary Stigall, CPBE

TV Magic
San Diego, Calif.
Chapter 36



**Conrad Trautmann,
CPBE**

Vice President of
Technology
Dial Global
New York, N.Y.
Chapter 15

CERTIFICATIONS from page 6

you for certification.

Your application will then go for review to your SBE Local Chapter Certification Chairman and then to the National Certification Committee.

Specialist Certifications:

Certified 8-VSB Specialist (8-VSB), Certified AM Directional Specialist (AMD) and Certified Digital Radio Broadcast Specialist (DRB) – These certifications were created by the National Certification Committee to establish a benchmark of individual strengths. In order to apply for the Specialist exams you must first be certified on the 5-year, 10-year or 20-year level. The exam is 50 multiple choice questions. It is open book. You will be given one essay. The essay is closed book. You are allotted three hours to take the exam. Passing score is a combined score of 84%. Upon passing, your Specialist certification will be linked to the expiration of your host certification.

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

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

If you have any questions, please contact Megan Clappe at mclappe@sbe.org.

In the Circle ... *a snapshot of an SBE Member*



Frank Maynard, CPBE Supervisor of Technical Operation for CBS Television Stations WWJ-TV and WKBD, Southfield, MI. Joined SBE in 1979, Chapter 82 - Southeastern Michigan. Founder and charter co-chair of Chapter 91, Lansing, Mich.

Focal Point: With SBE, I enjoy getting to know fellow broadcast professionals, reconnecting with colleagues and supporting the program of certification. I have served as Certification Chair for Chapter 82 since 1999.

Job Satisfaction: I enjoy solving problems, making the “impossible” happen and providing the infrastructure for a vital public service. Every day presents a new challenge; it never gets boring.

Pictured Here: Standing on the roof of the 74-story Renaissance Center in downtown Detroit during a break while doing microwave repeater maintenance.

Chapter Spotlight

**Chapter 40
San Francisco**
www.sbe40.org



Tom VanStavern, District Director, FCC Enforcement Bureau, speaks to members of SBE Chapter 40

Partnerships = Success for Chapter 40

San Francisco SBE Chapter 40 was founded in 1975, and is now in its 36th year. It has been a journey with several twists and turns along the way, but our chapter is alive and well – with over 120 members.

In 1987, we began meeting with another Bay Area group – the “Bay Area Broadcast Engineers Society” – also known as “BABES”. The “BABES” group had its origins in 1961, as an informal lunch meeting of Bay Area radio and TV chief engineers. As the years passed, the group began to feature technical presentations, and regular appearances by members of the FCC’s local office. In December of 1989, Chapter 40 voted to make the joint lunch meetings permanent, on the last Wednesday of each month. By the early ‘90s, all meetings were organized by Chapter 40, and many members of “BABES” became SBE members. We have continued to feature a wide range of technical presentations at our meetings, covering both Radio and Television, and have been working to share resources with the local chapters of SMPTE and AES.

We have recently assisted a group of students at Napa Valley College to form a student SBE chapter, and invite anyone interested in a career in Broadcast Engineering to attend our meetings. Chapter 40 is concerned with the loss of technical programs in our schools, and understands the need to encourage the next generation of Broadcast Engineers – and SBE members!

- Art Lebermann, CPBE, Chapter 40 Chairman

SBE Members on the Move

Roy Baum, CSRE, CBNT, chief engineer of WIBW (AM/FM) and Kansas Radio Networks, was elected chairman of the Kansas state EAS committee.

The Michigan Association of Broadcasters honored **Ralph Haines III** with its Carl E. Lee Broadcast Engineering Excellence Award. Haines is co-owner of contract engineering firm Broadcast Engineer Services and of stations WGDN (AM/FM).

Kirk Harnack, CBNT was recently promoted to executive director of worldwide sales for the Telos, Omnia and Axia brands.

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Lance Howell, Erie, PA
Kate Landow, Denver, CO
James Linn, Atlantic Beach, FL
John Lyons, New York, NY
William McCombs, Wichita, KS
Gene Powell, Shreveport, LA
Matthew Richardson, Tucson, AZ
Stephen Smith, Loudon, TN
Howard Steele, Aurora, CO
Michael Waldman, Chesterfield, MO
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Vislink News and Entertainment, North Billerica, MA

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William Beck, Plattsburgh, NE
Frederick Ervin, Grove City, OH
Leslie Franzen, Madison, WI
Thomas Hackett, Burke, VA
Hugo Isensee, San Antonio, TX
James Linn, Atlantic Beach, FL
John Lyons, New York, NY
Joel Saxberg, Arcadia, CA
Thomas Weber, Indianapolis, IN
Thomas Wimberly, Bakersfield, CA

Youth Scholarship

Dennis Barr, Waxahachie, TX
William Beck, Plattsburgh, NE
Alfred D'Alessandro, North Caldwell, NJ
John Harrington, Modesto, CA
David Hewitt, New York, NY
James Linn, Atlantic Beach, FL
John Lyons, New York, NY
Scott Pendergraft, Wrightsville, PA
Thomas Weber, Indianapolis, IN
Larry Will, Glen Mills, PA
Thomas Wimberly, Bakersfield, CA

The Ennes Educational Foundation Trust offers scholarship, presents educational programming and provides grants for educational projects that benefits broadcast engineering and the broadcast engineer. To make a tax-deductible donation, make your check payable to the Ennes Educational Foundation Trust and mail it in care of the Society of Broadcast Engineers, 9102 North Meridian Street - Suite 150, Indianapolis, IN 46260.

Support these companies who support the industry and the Society of Broadcast Engineers

ADC Telecommunications Inc. • 1998
Anne-Marie Gunderson (952) 917-3072
Fiber and Copper Interconnect

Advanced Broadcast Solutions • 2008
Mark Siegel (206) 870-0244
Systems Integrator

American Tower Corporation • 2000
Peter A. Starke (781) 461-6780
Broadcast Tower Development/
Construction/Management

Anton/Bauer Inc. • 2004
Sol Comerchero (203) 929-1100
Manufacturer Portable Power Systems

Audemat-Worldcast Systems Inc. • 2000
Christophe Poulain (305) 249-3110
Control Manufacturer

AVCOM of Virginia, Inc. • 2010
Warren "Buck" McElfresh
(804) 794-2500 ext. 312
Spectrum Analyzers

AXCERA • 1983
Mike Rosso (724) 873-8100
Broadcast Television Transmitter Manufacturer

Belden Electronic Division • 1991
Kip Coates (765) 983-5200
Cable and Connectivity

Beveridge Consulting, Inc. • 2006
Gregory J. Beveridge (720) 810-3464
Broadcast Engineering Technical Consulting

Bexel • 2009
Garrick Lewis (818) 565-4314; Calrec
Broadcast and Audio Consoles

Broadcast Electronics, Inc. • 1978
Ray Miklius - Studio Products
Tim Bealor - RF (217) 224-9600
Radio Equipment Manufacturer

Broadcast Engineering Magazine • 1984
Bradley L. Dick (913) 341-1300
Journal of the Broadcast Industry

Broadcast Microwave Services, Inc. • 1997
Jim Kubit (805) 581-4566
Manufacturer, Transmitters, Receivers, Antenna
Systems

Broadcast Supply Worldwide • 1986
Shannon Nichols (800) 426-8434
Audio Broadcast Equipment Supplier

Broadcasters General Store • 2004
Buck Waters (352) 622-7700
Broadcast Audio Video Distributor

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

Communications Laboratories • 2008
Jared Maynard (321) 409-9898
Emergency Management Network

Comrex Corporation • 1997
Chris Crump (978) 784-1776
Audio codecs & Telephone Interface Products

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

Content & Communications World (CCW) • 2006
Michael Driscoll (203) 371-6322
HD World, 3D World and SATCON

Continental Electronics Corporation • 1976
Michael Troje (800) 733-5011
AM & FM IBOC Transmitters

Dejero Labs • 2009
Bogdan Frusina, CTO (519) 886-8070
Complete Cellular ENG Platform

Dialight Corporation • 2006
US Headquarters (732) 919-3119
FAA Obstruction Lighting, L.E.D. Based

Dielectric Communications • 1995
John George (803) 951-7443
or Matt Leland (207) 655-8139
TV & FM Broadcast Products

Digital Alert Systems, LLC • 2005
Bill Robertson (585) 765-1155
Emergency Alert Systems

DSI RF Systems, Inc. • 2010
Judy Mueller (732) 563-1144
RF Service/Installation/Products

du Treil, Lundin & Rackley, Inc. • 1985
Jeff Reynolds (941) 329-6000
Consulting Engineers

DVEO - Division of Computer Modules, Inc. • 2011
Laszlo Zoltan (858) 613-1818
Everything About Transport Streams

e2v • 1997
Mark Strohecker (914) 593-6831
Electronic Components, SATCom Amplifiers

Econco • 1980
Debbie Storz (800) 532-6626 or
(530) 662-7553
New & Rebuilt Transmitting Tubes

Eletronika America Inc. • 2010
Maria Quintero (305) 592-4506
Television Transmitter & Exciters

ENCO Systems Inc. • 2003
Don Backus (800) 362-6797
Digital Audio Automation & Delivery

ERI - Electronics Research • 1990
David White (812) 925-6000
FM & TV Antennas, Transmission Line, Filters,
Combiners and Towers

Floral Systems • 2008
Jim Berry (352) 372-8326
Television Broadcast Automation

Frontline Communications Corp. • 2000
Stephen Williamson (727) 573-0400, ext. 160
Manufacturer Broadcast Vehicles

Fujinon, Inc. • 1986
Thom Calabro (973) 633-5600
Broadcast & Communications Products

Geppo International • 1995
Dave Chapa (847) 795-9555
Audio, Video Cable Products

Grass Valley • 2000
Andy Jackson (404) 929-5000
TV/Film Production & Broadcast Professionals

Harris Corporation, Broadcast Communications Division • 1977
Dave Hopson (TV) (513) 445-5243
Mark Goins (Radio) (513) 899-9124
Broadcast Equipment Manufacturer

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

Image Video • 1997
Zach Wilkie (416) 750-8872 ext. 228
Under Monitor Tally Display Systems, Monitor
Design and Manufacture Broadcast
Equipment

Jay S. Gerber, CBT • 1999
(205) 491-6904

Kathrein Inc., Scala Division • 1985
Michael W. Bach (541) 779-6500
Antennas for Broadcasting &
Communications

Kintronic Labs, Inc. • 2010
Eric Miramontes (423) 878-3141
AM HD Antenna Systems

KPFF Consulting Engineers • 2004
Madison Batt (206) 926-0508
Tower Engineering, Inspections Design

L-3 Communications Electron Devices • 2003
Steve Bliet (570) 326-3561, ext. 229
Tubes, Power

Latako, Inc. • 2011
Rod Taylor (512) 825-8709
Internet Video Distribution

LBA Technology, Inc. • 2002
Jerry Brown (252) 757-0279
AM/MW Antenna Equipment & Systems

Lincoln Financial Media • 2007
Barry Thomas (404) 261-2970
Media Group Owner

LYNX Technik • 2007
Steve Russel (661) 251-8600
Broadcast Terminal Equipment Manufacturer

Markertek Video Supply • 2002
Andrew Barth (845) 246-3036
Audio, Video, A/V Broadcast Supply

Maxell Corporation of America • 1991
Patricia Byrne (201) 794-5900
Data/Broadcast Video Media

MAYAH Communications • 2010
Daniel Loeffler (360) 618-1474
Audio CODECS: Mobile/ 1/21 RUrack

Micronet Communications, Inc. • 2005
Jerry Armes (972) 422-7200
Coordination Services / Frequency Planning

Middle Atlantic Products • 2005
David Amoscatto (973) 839-1011
Equipment, Mounting, Solutions

MoreCom, Inc. • 2009
Kyle Moorehead (763) 533-5535
Networking & AV Construction

Moseley Associates, Inc. • 1977
Dave Chancey (805) 968-9621
Digital STLs AM/FM/TV

National Association of Broadcasters • 1981
(202) 429-5340
Industry Trade Association

National Football League • 1999
Ralph Beaver
Game Day Coordination Operations

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

NSOEM • 2010
Robert Sorbet (281) 500-8940
Electrical Equipment Sales

NuComm/RF Central • 2009
Don Hoeler (908) 852-3700 ext. 3110
Digital and Analog Video Microwave Systems

Orban • 2011
David Rusch (480) 403-8300
Audio Processing AMFMTV

OTL • 2010
Martin Rochon (574) 318-5810
Tower Lights (Lighting)

Panasonic Solutions Company • 1985
Joe Facchini (201) 392-6183
Professional Broadcast Equipment

Pasternack Enterprises • 2001
Christine Hammond (949) 261-1920
Coax & Fiber Products

Prime Image, Inc. • 1997
Rodney Hampton (408) 867-6519
Digital Audio/Video Equipment

ProAudio.com - A Crouse-Kimzey Co. • 2008
Mark Bradford (800) 433-2105 ext. 560
Proaudio Broadcast Equipment Distributor

Propagation Systems Inc. - PSI • 2010
Doug Ross (814) 472-5540
Quality Broadcast Antenna Systems

Pulsecom • 2003
Dave Corp (703) 471-2908
AM, FM and HD STLs, Copper & Optical

Quintech Electronics and Communications Inc. • 2002
Paul Campagna (724) 349-1412
State-of-the-art RF Hardware Solutions

QVC • 2011
Kevin Wainwright (484) 701-3431
Multimedia Retailer

Radian - A Division of Prestige Telecom Inc. • 1986
John McKay (866) 4-RADIAN
Towers, Antennas, TV Installation

RCS • 2003
Diana Stokoy (308) 284-3007
Audio and Video Content Management

RDL • 2004
Chuck Smith (928) 778-9678, ext. 142
Audio, Video, Control & Test Equipment
Manufacturer

RF Specialties Group • 2008
www.rfspecialties.com
Everything from the microphone to the
antenna

Richland Towers • 2001
David Denton (813) 286-4140, ext. 4235
Tower Owner/Management

Rio Steel & Tower • 2010
Keith Cendrick (817) 225-0890
Turn-key Tower/Antenna Services

Rohde & Schwarz • 2003
Eddy Vanderkerken (469) 713-5322
Broadcast Transmitters, Test & Measurement

ROSCOR Corporation • 1998
Tom Voigts (847) 299-8080
DTV System Integrator

Ross Video Ltd. • 2000
Kyle Luther (613) 652-4886
Manufacturer, Television Broadcast Equipment

Sage Alerting Systems, Inc. • 2010
Gerald LeBow (914) 872-4069 ext. 210
Emergency Alert Systems Products

Salzbrenner Stagetec Media Group • 2009
(888) 782-4391
Professional Audio Solutions

SCMS, Inc. • 2000
Bob Cauthen (800) 438-6040
Broadcast Equipment- New/Used

Screen Service America • 2010
Graziano Casale (212) 695-8341
Broadcast Transmitter & ATSC Mobile

Seacomm Erectors, Inc. • 1997
John Breckenridge (360) 793-6564
Tower/Antenna Erections

Shively Labs • 1996
David Allen 888-SHIVELY
FM Antennas & Combiners

Sigmat • 2008
Ed Portko (610) 783-6666
Broadcast Equipment Support Sales

Snell Inc. • 1995
John Shike (818) 556-2616
Video Equipment Manufacturer

SpectraRep • 1998
Mark O'Brien (703) 802-2975
Coverage Maps and Services

Staco Energy Products Co. • 2010
Paul Heiligenberg (937) 253-1191 ext 128
Manufacturer Voltage Regulators, UPS

Stainless LLC/Doty-Moore • 2004
Ed Deetscreek (215) 631-1323
Towers - Engineering - Services - mods

Superior Electric • 1995
Michael J. Miga (860) 507-2025
Power Protection Equipment

Sutro Tower, Inc. • 1989
Eric Dausman (415) 681-8850
Broadcast Tower Leasing

TC Electronic • 2008
Ed Simeone (818) 665-4902
DTV Audio Level Processing

Technostrobe • 2009
Francis Lacombe (877) 578-7623
FAA lights - High Intensity

Tektronix, Inc. • 1977
James Lang (800) 833-9200
Video Test Equipment Manufacturer

Telos Systems/Omnia/Axia • 2003
Denny Sanders (216) 241-7225
Telos Systems - Talk-Show Systems

Terrestrial RF Licensing Company • 2003
Steven Slocum (888) 373-4832
FCC Broadcast Auxiliary Licensing Services

The Durst Organization - 4 Times Square • 2004
John M. Lyons, CPBE (212) 997-5508
TV/FM/Microwave Tower Site

The Whitlock Group • 2000
Kevin Thompson (800) 726-9843
Broadcast and Presentation Solutions

The Switch Company • 2011
Peter Hanz (323) 645-8011
Fiber Transmission Provider

Tieline Technology • 2003
Mary Ann Seidler (317) 845-8000
POTS, ISDN, Codecs & A/V Products

TV Magic • 2008
Benito Behar (858) 650-3155
Broadcast Systems Integrator

Unimar, Inc. • 2001
Thad Fink (813) 643-6791 or (813) 943-4322
Tower Obstruction Lighting Designer,
Manufacturer, Distributor

VALCOM • 1996
Bill Burtenshaw (519) 824-3220
AM/FM Broadcasting Antennas

Vislink News and Entertainment • 1991
Nadine Frechette (978) 671-5700
Video Microwave Systems

Ward-Beck Systems Ltd. • 2004
Michael Jordan (416) 335-5999
Metering, Monitoring, Distribution,
Conversion

Warning Systems, Inc. • 2008
Elysa Jones (256) 880-8702
CAP, Warning, Emergency Alert

Wheatstone • 2010
Jay Tyler (252) 638-7000
IP Consoles, Routers & Processors

Wireless Infrastructure Services • 2006
Travis Donahue (951) 371-4900
Broadcast Microwave, Tower and ENG
Installation, Integration Maintenance Services

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New Members

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Andrew S. Pudvah - Bozeman, MT
David Albee - Chittenango, NY
Francis J. Anderl - Minneapolis, MN
Jack Herbert - Carlsbad, CA
Frederick T. Moore - Madison, WI
Victor Vickers - Douglas, GA
Elizabeth A. Enns - Albuquerque, NM
Sidney J. Folse, Jr. - Geismar, LA
Mark Mullen - Lancaster, PA
Teresa R. Phelps - Corona, CA
Sergio L. Rivera - Gardena, CA
Adam R. Wheeler - Southbridge, MA
Kirk G. Beery - Parker, CO
Christopher Bell - North Jackson, OH
Tom Anderson - West Palm Beach, FL
Amador Velasquez - Bend, OR
Jeffrey Whaley - Atlanta, GA
Patrice A. Wade - Grants Pass, OR
James A. White - Nixa, MO
Joseph P. Muxie - Boston, MA
Vincent C. Paladino - Lodi, NJ
Timothy Pemberton - Milwaukee, WI
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Jordan K. Webber - Landrum, SC
John D. Bradshaw - Shepherdsville, KY
Eric A. Dalke - Snoqualmie, WA
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John M. Ottea - Sugar Land, TX
David A. VanderEspt - Brooks, KY
Deborah L. Adeogba - Albuquerque, NM
Larry E. Handley - Louisville, KY
Steve D. Jones - Louisville, KY
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Robert Owen - Missoula, MT
Ray Widstrand - White Bear Lake, MN
Jimmy D. Boone - Irmo, SC
Jonathan D. Brandkamp - White Plains, MD
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Hiten Vadgama - Auckland, New Zealand
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Jeremiah Causby - Brighton, CO
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Brent Harshbarger - Powder Springs, GA
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Philip E. Schoene - Falls Church, VA
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Edmund O. Berkey - Alexandria, VA
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Charles C. Forsyth - Corbin, KY
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Robert W. Guill - McLean, VA
Seth M. Harrison - San Jacinto, CA
Chiepozie S. Idoko - Abuja, Nigeria
Sudhir K. Khanna - McLean, VA
Michael Lanzisera - Fairview, NJ
Ramon S. Quijano - Manggahan, Pasig City, Philippines

Zaldy B. Quitaleg - Quezon City, Philippines
Thomas A. Remkus, II - Elbert, CO
Lou Ristau - Kent, WA
Gregory J. Rufus - West Lafayette, IN
Peter J. Severson - Los Angeles, CA
Bryan Shouse - Greensboro, NC
Mildred Sibley - Los Angeles, CA
William F. Soreth - Cockeysville, MD
Benny J. Spidler - Dayton, OH
Anthony D. Sprando - Bend, OR

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Dwayne M. Jones - Houston, TX
Michael L. Cooper - Charlestown, IN
Michael C. Creamer - Flower Mound, TX
Michael A. Marno - Alexandria, VA
Gregory A. Cynje - St. Thomas, VI
Max Cherubin - Rancho Cucamonga, CA
Lance E. Harper - Altadena, CA
Daniel J. Hyatt - La Junta, CO
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Bob Fitzhugh - Gold River, CA
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Ray M. Uberecken - Colorado Springs, CO
Mitchell L. Doty - River Vale, NJ
Michael J. Miller - Summerville, SC

New Student Members

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Donald E. Evans - Veradale, WA
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Meahgan S. Roberts - Ooltewah, TN
Jason Davis - Spokane, WA
Daniel J. West - Spokane, WA
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Salvatore Iacia - Baltimore, MD
Edwin M. Macalalad - Vallejo, CA
Stephen W. Peck - Napa, CA
Maria Perez - American Canyon, CA
Charles J. Perkins - Vallejo, CA
Andres M. Salamanca - Vallejo, CA
Michael D. West - Napa, CA

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