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.

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.

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 Committee 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.
"We use BRIC-Links for our main STL on 107.7 FM, one of the satellite stations for WTOP, with very good results. I was pleasantly surprised at just how easy it is to set up a pair of BRIC-Links out of the box. I had my final configuration within ten minutes of powering up the units. We’re running AAC audio that sounds every bit as good as the circuits to our other transmitter sites.

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
WTOP / WFED, Washington, DC

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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 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.

RENUEW 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.
another NAB Show is in the books. Hopefully, you were able to check out 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 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!

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

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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.
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 Engineer’s 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...
SPECIALIST™ (8-VSB™)

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 35
Slade Kennedy, Itahaca, NY – Chapter 140
Barry Siegfried, Stockholm, NJ – Chapter 15
Gary Thayer, Arlington, VA – Chapter 37
Johnny Vines, Pacifico, MO – Chapter 55

CERTIFIED PROFESSIONAL BROADCAST ENGINEER® (CPBE®) 8-VSB
Scott Chestnut, Los Angeles, CA – Chapter 47

CERTIFIED SENIOR TELEVISION ENGINEER™ (CSRE®)
Marshall Michel, Missouri City, TX – Chapter 105
Clyde Yost, Jr., Castalia, OH – Chapter 67

CERTIFIED RADIO OPERATOR® (CRO®)
Samuel Cox, Escondido, CA – Chapter 36
George Schank, Conroe, TX – Chapter 105

CERTIFIED RADIO OPERATOR® (CRO®)
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 TELEVISION OPERATOR® (CITO®)
Todd Graham, Palm Desert, CA

CERTIFIED TELEVISION OPERATOR® (CTO®)
Sara Allen, Bradenton, FL – Chapter 39

CERTIFIED TELEVISION OPERATOR® (CTO®)
Christopher Verdi, New London, NH – Chapter 9

CERTIFIED BROADCAST TELEVISION ENGINEER™ (CBTE®)
Jon Bennett, College Station, TX – Chapter 99

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 Schank, Conroe, TX – Chapter 105

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
Lamont Tyler, Baltimore, MD – Chapter 37

CERTIFIED BROADCAST TECHNOLOGIST® (CBT™)
Matthew Shea, Silver Spring, MD – Chapter 37

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 TELEVISION OPERATOR® (CITO®)
Todd Graham, Palm Desert, CA

CERTIFIED TELEVISION OPERATOR® (CTO®)
Sara Allen, Bradenton, FL – Chapter 39

CERTIFIED BROADCAST TELEVISION ENGINEER™ (CBTE®)
Jon Bennett, College Station, TX – Chapter 99

CERTIFIED BROADCAST TELEVISION ENGINEER™ (CBTE®)
William Bobich, Columbus, OH – Chapter 52
Robert Swanberg, Warwick, RI – Chapter 11
Russell Taylor, Greenbelt, MD – Chapter 37

CERTIFIED BROADCAST TELEVISION OPERATOR® (CTO®)
Frank Baptista, Westport, MA – Chapter 11

CERTIFIED BROADCAST TELEVISION ENGINEER™ (CBTE®)
Frank Baptista, Westport, MA – Chapter 11
Wiely Boswell, Montgomery, AL – Chapter 118
Nester Cricsto, Montevideo Uruguay
Robert Fields, San Antonio, TX – Chapter 69

CERTIFIED VIDEO ENGINEER® (CVE®)
Mark Miller, Dearborn, MI – Chapter 82
Safdin Shokrollahi, Pearlhand, 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 115
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 Garzemi, Old Bridge, NJ – Chapter 15
John Gober, Auburn, AL – Chapter 118
Robert Hawthorne, San Antonio, TX – Chapter 69
Michael Hayden, Delkab, IL – Chapter 26
Richard LaSarcina, 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 Waldeman, Chesterfield, MO – Chapter 55
Larry Willkins, Pratville, AL – Chapter 118

CERTIFIED BROADCAST TECHNOLOGIST® (CBT™)
Jesse Acreon, San Diego, CA – Chapter 36
William Barnick, Sayville, NY – Chapter 15
Randi Bridagin, Ainsworth, NE – Chapter 87
Debra Carroll, Knoxville, TN – Chapter 115
David Deese, Nashwau, TN – Chapter 103
Vincent Fuhls, Sioux Falls, SD
Erich Hancock, Quincy, MA – Chapter 11
Robert Hawthorne, San Antonio, TX – Chapter 69
Kevin Howie, Boynton Beach, FL – Chapter 88
Jason Roval, Fairborn, OH – Chapter 69
Edward Stanley, Pharr, TX – Chapter 156

CERTIFIED TELEVISION OPERATOR® (CTO®)
Denise Allen, Indianapolis, IN
Arthur Mistretta, Moreno Valley, CA – Chapter 151
Roland Robinson, Tacoma, WA – Chapter 16
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!
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 Hogan, CPBE, 8-VSB, DRB, Phoenix, Ariz.; 20 Yrs. - Douglas Garlinger, 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. - Dan 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.
SBE Education Update
by David Priester, CPBE®
SBE Education Committee Chair

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 basic 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 Vandeveer, 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

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SIGNAL
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, Vasilink 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 Vasilink.

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.
**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 Priester, 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

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

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

Partnerships = Success for Chapter 40

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- Art Lebermann, CPBE, Chapter 40 Chairman
Welcome New SBE Members:

**New Members**

Bruce A. Albert - Lomita, CA  
Andrew S. Pudvah - Bozeman, MT  
David Albee - Chittenango, NY  
Francis J. Anderl - Minneapolis, MN  
Jack Herbert - Carlisle, PA  
Frederick T. Moore - Madison, WI  
Victor Vickers - Douglas, GA  
Elizabeth A. Enns - Albuquerque, NM  
Sidney J. Fosie, Jr. - Geismar, LA  
Mark Mullen - Lancaster, PA  
Teresa R. Phelps - Corona, CA  
Sergio L. Rivera - Gardenia, CA  
Adam R. Wheeler - Southbridge, MA  
Kirk G. Beery - Parker, CO  
Christopher Bell - North Jackson, OH  
Tom Anderson - West Palm Beach, FL  
Adimal Masanz - Bend, OR  
Jeffrey Whaley - Atlanta, GA  
Patrice A. Wade - Grants Pass, OR  
James A. White - Nixa, MO  
Joseph P. Musie - Boston, MA  
Vincent C. Paladin - Lodi, NJ  
Timothy Pemberton - Milwaukee, WI  
Duane A. Sedge - Arlington, TX  
Jordan K. Webber - Lander, WY  
John D. Bradshaw - Shepherdsville, KY  
Eric A. Dalko - Snoqualmie, WA  
Philbert M. Duncan - Louisville, KY  
John M. Ottow - Sugar Land, TX  
David A. VanderEst - Brooks, KY  
Deborah L. Adegbo - Albuquerqume, NM  
Larry E. Handley - Louisville, KY  
Steve D. Jones - Louisville, KY  
Kenneth G. McCrimmon - Kinsey, AL  
Robert Owen - Missoula, MT  
Ray Widstrand - White Bear Lake, MN  
Jimmy D. Boone - Irmo, SC  
Jonathan D. Brandkamp - White Plains, MD  
Karl Blomh - Ventura, CA  
Hiten Vadgama - Auckland, New Zealand  
Robert W. Whiting - Richmond Hill, GA  
Jeremiah Caubry - Brighton, CO  
Frederick S. Bobrow - New York, NY  
Michael S. Geis - Jacksonville, FL  
Janet Gross - St. Thomas, VI  
Francis L. Gustave, Jr. - St. Croix, VI  
Brent Harshbarger - Powder Springs, GA  
LeRon L. Lake - St. Thomas, VI  
James E. Meyer - St. Paul, MN  
Lea J. Moro - St. Thomas, VI  
Stephen M. Peters - San Diego, CA  
Eric R. Raud - Medford, OR  
Kerry A. Rhyme - St. Thomas, VI  
Davidson Spindle - Madison, AL  
Cosmore A. Wheatley - St. Thomas, VI  
Sean EA Williams - Charlotte Amalie, VI  
Andrew B. Young - St. Thomas, VI  
Michael S. Doty - Stephens City, VA  
Jerry W. Martin - Loma Linda, MO  
Danny W. Albrow - Jamestown, NY  
Rachel Johnson - Milwaukee, WI  
Gail C. Zetter - Santa Monica, CA  
Karl Celarier - Washington, DC  
Philip E. Schoene - St. Leo, FL  
Anthony C. Granata - El Mirage, AZ  
Paul M. Bost - Midland, GA  
Edmund O. Berkley - Alexandria, VA  
Supriya Biswas - Noida, OP, India  
Jerry R. Estok - Gahanna, OH  
Charles C. Forsyth - Fort Washington, KY  
Stephen K. Goze - Mountain House, CA  
Robert W. Guall - McLean, VA  
Seth M. Harrison - San Jacinto, CA  
Chiepoezi S. Ideko - Abujja, Nigeria  
Sudhir K. Khanna - McLean, VA  
Michael Lainser - Fairview, NJ  
Ramon S. Quijano - Manghahan, Pasig City, Philippines  
Zaddy 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 E. Sorens - Coeur D'Alene, ID  
Benny J. Spiteri - Dayton, OH  
Anthony D. Sprando - Bend, OR

**Reinstated Members**

Richard N. Singer - Oakton, VA  
Michael L. Starling - Cambridge, MD  
Dwayne M. Jones - Houston, TX  
Michael L. Cooper - Charleston, IN  
Michael C. Creamer - Flower Mound, TX  
Michael A. Marno - Alexandria, VA  
Gregory A. Cymne - St. Thomas, VI  
Max Cherrubin - Rancho Cucamonga, CA  
Lance E. Harper - Alhiedena, CA  
Daniel J. Haytt - La Junta, CO  
Leon L. Crowder III - Fresno, CA  
Robert L. Jackson, Jr. - Moreno Valley, CA  
Gordon P. Emerson - Cobleskill, NY  
Thomas M. Karvelis - Ossidale, PA  
Bob Fitzguth - Gold River, CA  
Christopher L. Whitfield - Large, MD  
Charlie A. Wolford - Spartanburg, SC  
Edgar R. Woodfin - Spartanburg, SC  
Andrew S. Clod - Murfreesboro, TN  
Kristopher E. Hoopes - Foster, OR  
John W. Herrholz - Derby, NH  
Charles M. Lakaytis - Anchorage, AK  
Daniel J. Mattern - Dallas, PA  
Andrew W. Vu - Clovis, CA  
Bryan Black - Overton, TX  
Brian E. Dugger - Tuscon, CA  
Chadd R. Warfield - Riverside, CA  
Jeffrey W. Pearce - Helena, MT  
Steven H. Miller - Camp Point, IL  
David C. Beauvais - Hanson, MA  
Ray M. Ubereck - Colorado Springs, CO  
Mitchell L. Doty - River Vale, NJ  
Michael J. Miller - Summerville, SC

**New Student Members**

Timothy S. Lick - Plainwell, MI  
Cody P. Hanson - Napa, CA  
Nathan P. Smith - Pensacola, FL  
Donald E. Evans - Veradale, WA  
Ramona B. Miles - Spokane, WA  
Meaghgan S. Roberts - Ootewah, TN  
Jason Davis - Spokane, WA  
Daniel J. West - Spokane, WA  
David C. Bak - Wallington, NJ  
Kresta D. Arneson - Napa, CA  
Andres M. Salamanca - Vallejo, CA  
Charles J. Perkins - Vallejo, CA  
Maria Perez - American Canyon, CA  
Andrew S. Cloud - Clovis, CA  
Daniel J. Mattern - Dallas, PA  
Jeffrey W. Pearce - Helena, MT  
Kristopher C. Hoopes - Foster, OR  
John W. Herrholz - Derby, NH  
Charles M. Lakaytis - Anchorage, AK  
Daniel J. Mattern - Dallas, PA  
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Steven H. Miller - Camp Point, IL  
David C. Beauvais - Hanson, MA  
Ray M. Ubereck - Colorado Springs, CO  
Mitchell L. Doty - River Vale, NJ  
Michael J. Miller - Summerville, SC

**Reinstated Student Members**

Dana Seay - Milwaukee, WI  
New Associate Members  
Dana Seay - Milwaukee, WI

**Reinstated Members**

Anthony D. Sprando - Bend, OR

**New Associate Members**

Ross W. Dahman - El Paso, TX  
Patrick Wilson - Manchester, MD  
Lewis O. Tenzer - Boca Raton, FL

**New Student Members**

Vincent J. Sipocz - Osceola, IN

**Reinstated Members**

Dana Seay - Milwaukee, WI
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- Dual Fiber to SDI Receivers
- SDI / Fiber Transceiver
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