



# the SIGNAL

BIMONTHLY PUBLICATION OF THE SOCIETY OF BROADCAST ENGINEERS

**JUNE  
2009**

Volume 22, Number 3

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## SBE to expand education programs

**T**he Society of Broadcast Engineers will be stepping up its educational programming for members, following action by the Society's Board of Directors at their meeting held on April 19 during the 2009 NAB Show in Las Vegas.

The Board approved a plan that calls for the Society's education programs to triple by the end of 2012. The Society will add a full-time education director position to its national staff in Indianapolis to help facilitate the growth. The additional staff person will work closely with the Society's volunteer Education Committee to expand the Society's existing educational offerings into a comprehensive program geared towards



**Chairman of the Education Committee, Cris Alexander, CPBE, DRB, AMD discussed the plans for expanding SBE's education program during the Membership Meeting during the 2009 NAB Show.**

working broadcast engineers and technicians. Courses and seminars will be offered on-line, as live or recorded webinars and in traditional in-person settings, with topics offered from basic to

See **EDUCATION** on page 19

## Heimerl and Scherer elected SBE Fellows

**T**wo members of the Society of Broadcast Engineers have been elected to the membership grade of Fellow by the SBE Board of Directors. The Board, at their April 19 meeting in Las Vegas, voted on the nominations of John J. Heimerl, CPBE and Christopher H. Scherer, CPBE, CBNT. Fellow membership is the highest recognition bestowed by the SBE to a member and recognizes conspicuous service and contributions to the Society and/or the broadcast engineering industry. Heimerl and Scherer are the 71st



**John J. Heimerl,  
CPBE**



**Christopher H.  
Scherer, CPBE, CBNT**

See **FELLOWS** on page 5

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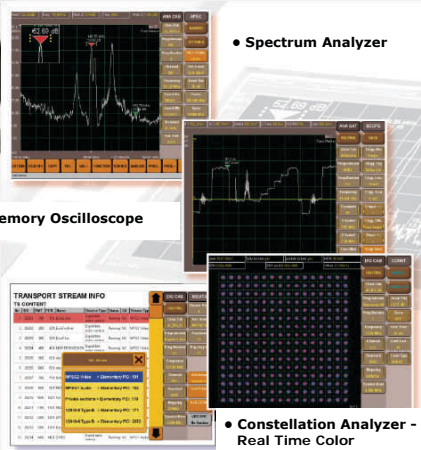
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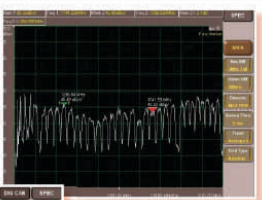
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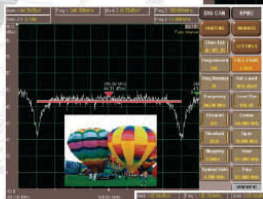
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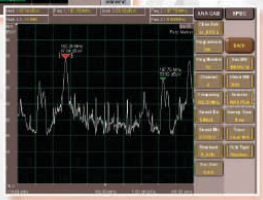
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# Board candidate nominations received

The Nominations Committee has submitted a slate of candidates for the upcoming SBE national Board of Directors election. The committee is chaired by Immediate Past President, Chriss Scherer, CPBE CBNT. Serving on the committee with Chriss are Jim Bernier, CPBE CBNT, Atlanta, Ga.; Roz Clark, CSRE CBNT, Tampa, Fla.; Robert Hess, CPBE, Sacramento, Calif. and Mark Simpson, CPBE, AMD, CBNT, Tucson, Ariz.

The final slate of candidates was submitted by the Committee to the SBE National Office on May 1. The list of candidates can be found below. Candidates may also be nominated by a voting member if accompanied by the endorsement of at least ten members. Nominations from the membership must be received by the SBE National Office no later than 4:00 pm, EDT, July 13. Nominees must be voting members in good standing and hold a current SBE engineering level certification.

All four officer positions will be on the ballot as will six of the 12 director seats. Officer terms are for one year while director terms are for two years. Election ballots will be mailed to voting members in good standing (dues paid) on July 28. Votes will be tabulated on August 27. Those elected will take office during the SBE National Meeting on October 7 in Verona, N.Y. The National Meeting is being held in conjunction with the Chapter 22 Broadcast & Technology Expo.

During the national SBE Board Meeting on April 19 in Las Vegas, the name of Chriss Scherer, CPBE, CBNT was placed in nomination from the membership, having received the endorsement of ten or more members.

The list of candidates, as of May 11:

## 2009 SBE BOARD OF DIRECTORS ELECTION

### Officer Candidates

#### FOR PRESIDENT



**Vinny Lopez, CEV, CBNT**  
 Director of Engineering  
 WSYT/WNYS TV  
 Syracuse, N.Y.

#### FOR VICE PRESIDENT



**Ralph Hogan, CPBE, DRB, CBNT**  
 Director of Engineering  
 KJZZ-FM/KBAQ-FM  
 Tempe, Ariz.

#### FOR SECRETARY



**Ted Hand, CPBE, 8-VSB, AMD**  
 Chief Engineer  
 WSOC/WAXN TV  
 Charlotte, N.C.

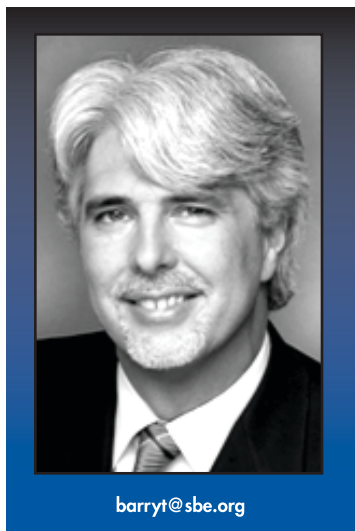
#### FOR TREASURER



**Andrea Cummis, CBT, CTO**  
 Roseland, N.J.

**DIRECTOR CANDIDATES:** **Mark Heller**, CBRE, CTO, President / Gen. Mgr. / Chief Engineer, WTRW Incorporated, WGBW Radio Station, Two Rivers, Wis.; **Jim Leifer**, CPBE, Director of Engineering /South Florida, Clear Channel, Miramar, Fla.; **Jerry Massey**, CPBE, 8-VSB, AMD, DRB, CBNT, Corp. Regional Engineer and Director of Engineering, Entercomm Communications, Greenville, S.C.; **David E. Priestler**, CPBE, Director, Technical Operations, Roy. H. Park School of Communications, Ithaca College, Ithaca, N.Y.; **Christopher H. Scherer**, CPBE, CBNT, Editor, *Radio* magazine, Overland Park, Kan.; **Joe Snelson**, CPBE, 8-VSB, VP & Director of Engineering, Meredith Broadcasting Group Henderson, Nev.

# “How will this benefit our members?”



BY **Barry Thomas, CPBE, CBNT**  
*SBE President*

I want to specifically thank all of you for participating in the Society and your commitment that helps us all succeed. The SBE is the only organization that is specifically chartered to support and promote you: the broadcast engineer. Your continued support helps us all succeed. During tough economic times, your support is even more appreciated, but then again Society membership becomes even more vital.

In the April issue of *The Signal* Vice President Vinny Lopez told us about the latest of two member surveys produced by his Strategic Planning committee over these past two years. I hope all of you were able to participate in the surveys because we need your input. These two surveys, when considered with the results of the strategic planning meeting held four years ago in Kansas City, help us understand what is important to you and ways that the Society can and should work with you. The Board of Directors considers all of this information as they chart the course of the Society forward. The two surveys resoundingly stated that you want the Society to be focused on

Education and Certification. This was not surprising but we learned some other things, as well. We learned that the Society is often expected to be a great many different things: Some expectations are realistic. Some not:

For example:

- Collective representative of broadcast engineering employees to broadcast owners and managers ...like a union.
- The broadcast engineer's lobby to Washington, DC
- A watchdog for the FCC
- The architect, or the creator, of the broadcaster-based public warning system; the new EAS
- The chief defender of broadcast auxiliary frequencies

Since we all agree that the SBE should be primarily focused on Education and Certification we understandably commit most of our energy with continuous updates to the certification program, the roll-out of the SBE University, the increased number of SBE publications, and now with the addition of a staff person in Indianapolis just to develop and coordinate our educational efforts.

We tend to diverge, however, when it comes to other issues. We disagree not only on our preferred position but sometimes whether we should be working in the space at all. Some of the opinions and expectations simply are not realistic considering the role we play supporting broadcasters and creators of media content. Also some expectations might be unrealistic considering the level of membership dues and, frankly, some issues stray outside our abilities and capabilities as a volunteer professional society.

I'm sure you can imagine that SBE member dues of \$63.00 makes it one of the most reasonably-priced professional

organizations in existence. We intend to keep that reasonable but to do that we must make careful decisions on how we use those funds and make sure your dues are having the greatest impact possible. We must allocate our limited financial resources and our volunteers' time to the objectives that are most effective and efficient for the long term purposes of the Society.

This leads us to the difficult question faced by our board of directors, beyond education and certification...how else do you want us to allocate resources. What are the most important roles that the Society should play?

Our board of directors has been explicit over these past couple of years about focusing on member benefit. I've been very excited to see that renewed interest in making the efforts of the greater organization relevant to you. We have engaged in a difficult debate about every effort we undertake in the Society. We continue to do this. We have been asking these questions about everything we're involved in:

- How Does this (program, effort, idea) benefit our members?
- Will our members really care?

The two questions sound like platitudes but if you take them seriously... keeping in mind their MEANING, and expecting a real answer that can be understood and articulated... you end up with some complicated decisions. You also might come up with some different ways of achieving the best results.

Please know that when I mean “benefit our members,” I mean MEMBERS! We expect to improve broadcast engineering in general, to be sure, but our Society exists to improve those who have committed to its improvement, first.

Those people like you!

At the spring board meeting, we had before us a reminder of the purposes of our efforts. It's the notepad we had in front of us during our four-hour meeting. I'd like to think this was a good constant reminder for all of us.

We also restructured our board meetings. In the past, these meetings were involved with reports and updates. We've changed that and committed the bulk of the time instead to working directly with the decisions of the efforts of the Society; working to be more responsive and relevant to you. I know most of you have never seen one of these board meetings but you should know that they are open to members. I encourage you to join us and see what's being done. We always meet at the NAB Show on Sunday morning and on an evening during the fall National Meeting. Information and specifics are available on the web site.

We've also been working to make the work of the Board of Directors more

transparent to you. We have committed more material to writing and include the report of every committee as part of the meeting minutes available on the SBE Web Site. Through these reports you can see what every arm of the Society is doing.

This information can be found in the "Board of Directors" section of the SBE Web site. Scroll down to the bottom of the page and you'll see "Board of Directors Meeting Minutes". While you're there, notice that every board member's email address is there. We need to hear from you about what is important to you! What will help YOU in your career? There are things we do well and things you'd like to see us do. The decision makers listed right there would love to hear from you. Send us an email with your opinions and ensure that you are represented. The Society is giving you the benefits you deserve!

\* \* \* \* \*  
*Many of you asked about my health at*

*the NAB. I am honored that you would be concerned. After only four courses of chemotherapy I achieved remission for Multiple Myeloma. I underwent an additional four courses to get a "deeper remission" and, in the intervening time extracted enough stem cells for two transplants should I need it in the future. The side effects of the treatment have been manageable. I've been able to work at both my paying job, with the Society, and supporting my family that suddenly grew by two boys in January. (Those I saw at the NAB politely endured my iPod Touch photos of the babies). I have started a "maintenance" program for the cancer and will be monitored each month for changes. With luck this is how it will be from now on.*

*I am truly fortunate and blessed at this outcome. I appreciate your support, thoughts and prayers and thank you.*

---

## FELLOWS *from page 1*

and 72nd SBE members awarded Fellow membership in the Society's 45 year history.

John J. Heimerl, CPBE has been employed by the Hampton Roads Education Telecommunications Association, Inc. in Norfolk, Va. (public broadcaster, WHRO-TV/FM) since 1993 and currently serves as Chief Enterprise Officer. Previous positions have included his own consulting firm, Heimerl and Associates and as a partner in several other communications related businesses, Chief Engineer for Capital Broadcasting, WNVZ Division, National Program and Operations Director for five radio stations of The Bennis Group and with a number of other broadcast companies during his career.

John is a charter member of SBE Chap-

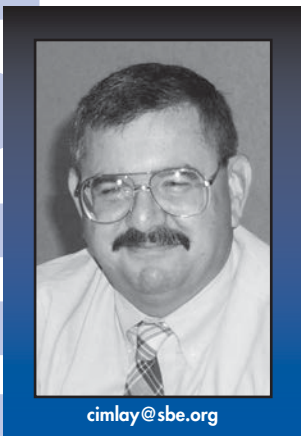
ter 54 (Tidewater, Va.) and has served as its chairman and on its board numerous times. He has mentored many broadcast engineers over the years and has given freely of his knowledge and expertise.

Christopher H. Scherer, CPBE, CBNT, of Overland Park, Kan., is the editor of Penton Media's *Radio* magazine, a position he had held since 1997. Prior to that, he was Chief Engineer or station engineer at a number of stations in Cleveland, Ohio including WMMS-FM, WHK-AM, WZAK-FM/WZJM-FM/WJMO-AM and WDOK-FM/WRMR-AM. Chriss was Chief Engineer for WYCL-FM in Boyertown/Reading, Pa. and at WEBE-FM in Westport, Conn. He began his broadcasting career in Florida, working at WVCG-AM in Coral Gables/Miami, WTMI-FM, also Miami and as a freelance audio and broadcast engineer.

Chriss served as SBE National President from 2005 to 2007 and currently serves on the SBE Board of Directors as Immediate Past President. He is also a past chairman of the SBE national Certification Committee and a past chairman of Chapter 59 in Kansas City.

Both men will be recognized during the SBE National Awards Dinner, held as a part of the SBE National Meeting, on October 7 in Verona, New York at the Turning Stone Resort and Casino. The National Meeting is being held in conjunction with the annual Broadcast & Technology Expo, sponsored by Chapter 22 of Central New York.





# They are from the government; and they really are here to help you

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

**T**he rules in spectrum allocations have changed a lot since I first began learning about how it works. The issue used to be which services should be allocated what segments of the radio spectrum, and what stations assigned channels within those allocations. But there is no exclusivity any longer. It used to be simply a matter of dividing up a scarce resource among services. No one talks about that now. It is all overlays, time-division multiplexing, frequency division multiplexing, and other re-use and sharing criteria.

So the decision points can't really be whether or not a new service or use can be accommodated in the fully-deployed radio spectrum. The only question is where, among which incumbent services, and how, the new service can be added without unnecessary disruption. It is not enough any longer, in general, to say that our service is more important than your service, or that you can't come in because I am here. The question, rather, is whether the new service is a good sharing partner or a bad sharing partner, and to put the good sharing partners together

with operating parameters for all sharing partners that minimize interference. I say minimize because "no" interference is not practically achievable. It is kind of like the maximum number of mouse parts that can be in a hot dog according to the FDA. These are scientific determinations, not political ones.

The Department of Defense's space operation service is a "good" sharing partner for broadcasters at 2GHz, and the decision to put the two together was made on technical grounds, not political ones. Unlike the FCC's bull-in-a-china-shop attempt to crowbar white spaces devices into what is left of the television broadcast band (the epitome of a political allocation decision), the FCC in Docket 00-258 put two services together that can be compatible, and it did so in a way that (1) forces the two services to cooperate, and (2) firmed up the ground rules that allow them to do so. If you add some good faith on both sides, which exists here, it is all good.

SBE and the Department of Defense are in the process now of executing a Memorandum of Understanding which has some general guidelines for the coordinated use of the 2025-2110 MHz (2GHz) band between broadcasters and satellite uplink facilities at the following locations:

Facility	Coordinates (NAD83)	
Naval Satellite Control Network, Prospect Harbor, ME	44°24'16"N	068°00'46"W
New Hampshire Tracking Station, New Boston AFS, NH	42°56'52"N	071°37'36"W
Eastern Vehicle Check-out Facility & GPS Ground Antenna & Monitoring Station, Cape Canaveral, FL	28°29'09"N	080°34'33"W
Buckley AFB, CO	39°42'55"N	104°46'36"W
Colorado Tracking Station, Schriever AFB, CO	38°48'21"N	104°31'43"W
Kirtland AFB, NM	34°59'46"N	106°30'28"W
Camp Parks Communications Annex, Pleasanton, CA	37°43'51"N	121°52'50"W
Naval Satellite Control Network, Laguna Park, CA	34°06'31"N	119°03'53"W
Vandenberg Tracking Station, Vandenberg AFB, CA	34°49'21"N	120°30'07"W
Hawaii Tracking Station, Kaena Pt, Oahu, HI	21°33'44"N	158°14'31"W
Guam Tracking Stations, Anderson AFB and Naval CTS, Guam	13°36'54"N	144°51'18"E

The FCC Report and Order modified footnote US346 to the Table of Allocations. It says that military satellite control stations are now on a co-primary basis with non-Federal operations in the above areas. How is it compatible to have co-primary fixed

uplink stations and mobile ENG operation in the same band? How can the military, national security issues be accommodated without interrupting BAS operations, both of which are time-sensitive. There are several reasons. These eleven sites send

tracking, telemetry and commanding satellite uplink signals to DoD spacecraft. in the 1,761–1,842 MHz band. The DoD was authorized use of the 2GHz TV BAS band as part of the 3rd generation wireless relocation. NTIA and the FCC determined that the 2 GHz electronic news gathering (ENG) band would be a good place for these DoD uplinks, though some are obviously near some large TV markets. The uplinks have transmitter power outputs (TPOs) of up to 59 dBm (i.e., 1 kilowatts) operating into a 10-meter uplink dish with a gain of around 45 dBi, so the equivalent isotropic radiated power (EIRP) is around a maximum of 104 dBm. The side lobe suppression of the uplink dish is about 60 dB, so the signal toward the horizon (potentially toward ENG receive only sites) will be about 44 dBm. A typical ENG truck has an EIRP of around 65 dBm, so co-channel DoD uplinks would radiate about 20 dB less power in the direction of the 2GHz BAS-Receive Only terminals than an ENG truck.

However, the conversion of ENG to digital reduces the required D/U signal ratio to about 30 dB. FCC's order requires that the ENG receiver threshold not be degraded by more than 0.5 dB. The combination of these factors, while not permitting frequency sharing, does permit frequency re-use if carefully coordinated. SBE has had a series of meetings, the most recent one being at the NAB this year, with the DoD and it was obvious from the beginning that this was going to be a very cooperative joint effort. DoD has been a pleasure to work with and the broadcasters in the markets affected by these uplink stations will have the same experience.

The gist of the SBE/DoD Memorandum of Understanding is what FCC said in its Report and Order establishing this sharing plan in the first place: that local coordination efforts are the key to compatible sharing in the eleven markets at issue. The process agreed to between SBE and DoD is as follows:

1. DoD will be able to operate at any time within the set of parameters as agreed to and documented specifically for each of the 11 military satellite control station sites. These parameters will be determined by analysis, simulations, and tests that will ensure that DoD space operation service transmissions do not preclude or significantly degrade the actual performance of 2GHz BAS links operating between identified fixed and mobile, or mobile-only 2GHz BAS transmitters and documented fixed 2GHz BAS-Receive Only terminals. Itinerant 2GHz BAS terminal operation will be addressed on a case-by-case basis using "real-time" or "near real-time" operational coordination.

2. Coordination parameters will include the following:

- a) Uplink power levels and transmission characteristics used by DoD in spacecraft command and control signals
- b) Location of DoD transmitting stations
- c) Carrier frequency and spectral bandwidth of both the 2GHz BAS and DoD signals

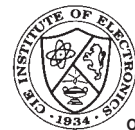
- d) Pointing of the DoD uplink antenna when transmitting relative to the identified 2GHz BAS-RO terminals
- e) Times of DoD uplink transmission
- f) Nominal times of relevant 2GHz BAS link usage
- g) Locations and technical characteristics of the 2GHz BAS-RO terminals

The protection goal of 2GHz BAS-RO terminals is no more than a 0.5 dB degradation of the receiver/noise threshold as required by FCC.

3. If contingencies require DoD or the 2GHz BAS operators to operate outside the parameter set appropriate to each site, DoD and 2GHz BAS representatives will need to coordinate on a "real time" (minutes/hours) or "near-real time" (days) basis. DoD and 2GHz BAS representatives will each provide a 24/7 real time communication interface for use as needed by both parties. This coordination will be agreed in advance by discussions at the local level.

4. Emergencies associated with critical spacecraft problems or events occur historically about one percent of the time for spacecraft control. 2GHz BAS will accommodate DoD needs in these rare but critical situations.

This is a thumbnail outline of the coordination plan, but you can see that it requires an ongoing local coordination dialog. The DoD representatives for this project have given SBE great assurance that this will remain a cooperative and well-executed sharing plan. If your station is in one of the markets where one of these uplinks is to be operated at 2GHz, you can look forward to being contacted by DoD or by the SBE coordinator in the market, or both. We are convinced it will be a pleasant and productive experience for you, as it has been for the SBE officers who have worked with DoD on this sharing plan. White spaces and Trucker TV: examples of incompatible sharing and allocations planning at its worst. DoD satellite uplinks and 2GHz BAS: compatible sharing and planning at its best. What a difference!



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# Mother of invention

BY **Jim Bernier, CPBE, CBNT**  
*Certification Committee Chairman*

**N**ecessity is the mother of invention, so said Plato in “The Republic.” And without a doubt, the end of analog NTSC transmission for full power broadcast stations necessitated a review and update of the Television Operator’s Certification Handbook. But adversity played a significant role in producing the new Seventh Edition.

The original TVOP Handbook, the first edition, was completed in 1995 and was the work product of Fred Baumgartner, CPBE, CBNT and Doug Garlinger, CPBE, 8-VSB, CBNT, with Linda Baun, then Certification Director, shepherding its progress. It was another step towards expanding the umbrella of certification within the technical space of the broadcast industry. Many TV operators pursue further education towards becoming broadcast engineers and all TV operators interface with the station’s Chief Operator who usually is also the Chief Engineer of the station. So it made sense for the SBE to include this certification level.

The TVOP Handbook went through a number of revisions as various rules and regulations relevant to the TV operator position changed, most notably was the change from the Emergency Broadcast System (EBS) to the Emergency Alert System (EAS). Keeping the handbook up to date fell to Fred, Doug and Linda throughout the years.

At the Certification Committee meeting in Las Vegas in 2008, the committee reviewed the TVOP Handbook to determine how much effort it was going to take to rewrite the handbook with a focus on ATSC transmission and a de-emphasis on NTSC transmission, with the February 17, 2009 analog shutoff date looming in the near future. After a lengthy review, we concluded that it was going to take a bit more effort than we expected. Since we all have day jobs, who

had time to undertake the effort?

As it happens, both Doug and Fred had put together some thoughts about a rewrite. But the question still remained, who had time to lead the effort to rewrite the entire handbook?

That is when adversity stepped in.

Six months earlier, Dane Ericksen, PE, CSRTE 8-VSB CBNT was involved in a motorcycle accident after a chapter meeting which resulted in considerable injury to him. In the months following the accident, Dane underwent many surgeries to try to help repair the damage to his leg. Dane was not able to attend NAB 2008 and was not part of the TVOP Handbook review.

After the meeting, the committee began a dialog in email regarding the editing of the TVOP Handbook. While the effort was beginning to take form, it was becoming pretty clear that a committee the size of the Certification Committee was going to take a very long time to produce a new version.

Dane offered up that he had some time on his hands since he was still recovering at home. With his trusty Mac, an internet connection and production resources courtesy of Bill Hammett at Hammett & Edison, Dane was willing to lead the editing effort. Joe Snelson, CPBE 8-VSB, vice president and director of engineering for the Meredith Broadcasting Group, and Doug volunteered to assist. Together, these three men represent more than 45 years of experience on

the SBE’s Certification Committee and just over 100 years of experience in broadcasting.

Dane, Doug and Joe collaborated via email and telephone

conference calls. Within six weeks time, they had completely rewritten the TVOP Handbook. Their progress was marked by revision numbers, which at final count reached 17 – or three significant revisions each week.

NAB 2009 was the first time since his accident in October 2007 that Dane was able to attend a Certification Committee meeting in person. We were pleased he was able to attend as he was presented with an award recognizing his twenty years of contributions to the Certification Committee.

On behalf of the entire Certification Committee, I would like to thank these three gentlemen for their tireless efforts to continue to provide the television operators of this industry with a current handbook and exam process. Most will never realize that had it not been for the timing of an SBE chapter meeting and a motorcycle enthusiast, the seventh edition of the Television Operator’s Certification Handbook might not have been completed in time for the analog shutoff – even if some extended that deadline by 120 days!



Jim Bernier

## SBE Certification 2009 Exam Schedule

### Dates

June 5-15, 2009  
August 7-17, 2009  
November 6-16, 2009

### Location

Local Chapters  
Local Chapters  
Local Chapters

### Application Deadline

CLOSED  
June 5, 2009  
September 18, 2009



# 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®)

Jack McKain, Overland Park, KS – Chapter 59  
Robert Reppe, New Windsor, MD – Chapter 46

#### CERTIFIED SENIOR TELEVISION ENGINEER (CSTE®)

Richard Pitchford, Lakewood, OH – Chapter 70

#### CERTIFIED BROADCAST TELEVISION ENGINEER (CBTE®)

Steven Zimmerman, Verona, WI – Chapter 24

### 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®)

Daniel Rapak, Randolph, NJ – Chapter 15  
Kevin Rodgers, Stillwater Lake, Nova Scotia, Canada

### SBE CERTIFIED SCHOOL COURSE COMPLETION

#### CERTIFIED BROADCAST TECHNOLOGIST® (CBT®)

CLEVELAND INSTITUTE OF ELECTRONICS

Quentin Silver, Gambrills, MD – Chapter 37

#### SOUTHERN ALBERTA INSTITUTE OF TECHNOLOGY

Flosi Bjarnason  
Marc Cyr  
Louis Denommee  
Brock Huska  
Shawn Nichol  
Romika Prasad  
Victor Quintero

### FEBRUARY EXAMS

“Thank You” CHAPTER CERTIFICATION CHAIRS FOR YOUR ASSISTANCE

#### CERTIFIED BROADCAST NETWORKING TECHNOLOGIST® (CBNT®)

Thomas Ringer, Herndon, VA – Chapter 37

### NAB EXAMS

#### 8-VSB SPECIALIST (8-VSB)

Erick Steinberg, Mill Valley, CA – Chapter 40

#### CERTIFIED BROADCAST NETWORKING TECHNOLOGIST® (CBNT®)

Douglas Salewsky, Indianapolis, IN – Chapter 25

#### CERTIFIED SENIOR RADIO ENGINEER (CSRE®)

Steven Johnston, Fitchburg, WI – Chapter 24  
Charles Smith, Ashland, KY – Chapter 116  
Richard Stroupe, Jr., Missouri City, TX – Chapter 105

#### AM DIRECTIONAL SPECIALIST (AMD)

Robert Bowe, Jr., Clifton, CO – Chapter 81

### SPECIAL PROCTORED EXAMS

#### CERTIFIED BROADCAST NETWORKING TECHNOLOGIST® (CBNT®)

Paul Nebel, Muskego, WI – Chapter 28

### CERTIFIED BY LICENSE

#### CERTIFIED BROADCAST TECHNOLOGIST® (CBT®)

Jon Anderson, Davenport, IA – Chapter 65

Yvonne Ewry, Upland, CA – Chapter 131  
Paul Michels, Raleigh, NC – Chapter 93  
Michael Seguin, Burlington, VT – Chapter 110

### CERTIFIED RADIO OPERATOR® (CRO)

#### CERTIFIED RADIO OPERATOR® (CRO)

STREETSBORO HIGH SCHOOL  
William Bejger  
Arlin Bradford  
Casey Braun  
Cody Cade  
Matthew Melice  
Therese Rowland  
Nathan Tonkin

### CERTIFIED TELEVISION OPERATOR® (CTO®)

#### CERTIFIED TELEVISION OPERATOR® (CTO®)

Craig Fisher, Charlotte, NC  
Christie Francis, Houston, TX  
Chris Holman, Vancouver, WA  
Bruce Pedersen, Eugene, OR

### 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®)

Jorge Conde, Guayama, PR – Chapter 142  
Thomas Ray, III, New Windsor, NY – Chapter 15

#### CERTIFIED SENIOR RADIO ENGINEER (CSRE®)

George Gerard, Hamden, CT – Chapter 14

#### CERTIFIED SENIOR TELEVISION ENGINEER (CSTE®)

Bill Greep, Windham, ME – Chapter 11  
Robert Russell, Queen Creek, AZ – Chapter 138

#### CERTIFIED BROADCAST RADIO ENGINEER (CBRE®)

Jimmy Poole, Van Buren, AR – Chapter 56

#### CERTIFIED BROADCAST TELEVISION ENGINEER (CBTE®)

Bradford Cope, Crossville, TN – Chapter 113  
Michael Kemmerling, Aieha, HI – Chapter 63  
Gary Malick, Bellingham, WA – Chapter 16  
Jimmy Poole, Van Buren, AR – Chapter 56

#### CERTIFIED BROADCAST NETWORKING TECHNOLOGIST® (CBNT®)

Robert Russell, Queen Creek, AZ – Chapter 138

#### CERTIFIED BROADCAST TECHNOLOGIST® (CBT)

Joann Colameco, Wilmington, DE – Chapter 18  
Scott Granacher, Mt. Laurel, NJ – Chapter 18  
Robert Redcay, Riverview, FL – Chapter 39  
Thomas Wagner, Belgium, WI – Chapter 28  
Jeff Windsor, Oswego, NY – Chapter 22

#### CERTIFIED TELEVISION OPERATOR® (CTO®)

Todd Carson, Cleveland, OH  
Carl Flamm, Daytona Beach, FL  
Mary Rhoades, Englewood, CO  
Chris Rundel, Topeka, KS  
Frank Tremblay, Toldeo, OH  
Kenneth Vasquez, Westminster, CO  
Chris Zentkowski, Dultuh, MN

#### CERTIFIED RADIO OPERATOR® (CRO)

John Dutton, Warrensburg, MO  
Edward Lambert, Jr., Nashville, TN

# Central New York will host 2009 SBE National Meeting

**T**he 2009 SBE National Meeting will be held in Verona, N.Y. on October 6-7. It will be held in conjunction with the Chapter 22 Broadcast & Technology Expo. Chapter 22 covers central New York State and includes the Syracuse, Utica and Watertown markets. The location will be the Turning Stone Resort and Casino, located 30 miles east of Syracuse, just off the New York State Thruway (I-90).

The SBE National Meeting serves as an opportunity to spotlight national award winners, SBE Fellows and conduct Society business. It also serves to spotlight SBE chapter-sponsored regional conventions held in different areas of the country. This will be the fourth time the SBE National Meeting has been held with the Broadcast & Technology Expo since the national meeting concept began in 1997. It was previously held there in 1997, 2001 and 2006.

The SBE National Meeting includes the Annual SBE Membership Meeting, which includes the induction of newly elected officers and directors of the Board, status reports and announcements from some of our national committees and recognition of the winners in the annual SBE spring membership drive.

The highlight event will be the SBE Annual Awards Reception and Dinner. At this event, SBE will recognize the winners of the SBE National Awards including the SBE Broadcast Engineer of the Year and Educator of the Year. We'll also induct the two newest SBE Fellows (see related story on page 1), John Heimerl, CPBE and Chriss Scherer, CPBE CBNT. Chapter Award winners will also be recognized including those for best website, best newsletter and best regional convention. A special guest speaker will also be

featured during the dinner.

Other meetings and events that will take place include the annual Fellows Breakfast, Certification Committee meeting and the fall Board of Directors meeting.

The Broadcast & Technology Expo is an award-winning full day of exhibits and technical papers that has been presented every year for 37 years; the last ten years at the beautiful Turning Stone Resort. More than 120 exhibitors are expected. Annual attendance ranges from 800 to 1,000 people from across New York State, neighboring states and Canada.

Admission to the Broadcast & Technology Expo is free and includes the technical papers, Continental breakfast and 5:00 pm reception with live band. A buffet lunch is available for a small charge. National Meeting events are free except the National Awards Dinner which requires a very reasonably priced \$14 ticket. Tickets are available for purchase on-line at the SBE website. Go to [www.sbe.org/cal\\_conv](http://www.sbe.org/cal_conv).

## 2009 SBE National Meeting and Broadcast & Technology Expo Schedule\*

### TUESDAY, OCTOBER 14

**Vendors Golf & Dinner**  
**National Certification Committee Meeting** – 2:00 pm to 4:00 pm  
**National Board of Directors Meeting** – 6:00 pm to 10:00 pm

### WEDNESDAY, OCTOBER 15

**Fellows Breakfast** - 8:00 am to 9:00 am (by invitation)  
**Exhibits** – 8:30 to 4:30 pm  
**Workshops** – 9:00 am to 4:00 pm  
**Buffet Lunch** – 12:00 pm to 1:30 pm

**SBE National Webcast** – Live from the Exhibit Floor! 2:00 pm to 3:00 pm EDT  
**Annual Membership Meeting** - 4:00 pm to 5:00 pm  
**Reception** - 5:00 pm to 6:30 pm  
**National Awards Dinner** - 6:30 pm to 9:00 pm

\* *Schedule subject to change*

## NATIONAL WEBCAST SET FOR OCTOBER 7

For the third consecutive year the SBE will produce a national Webcast, this time direct from the floor of the Chapter 22 Broadcast & Technology Expo. Through the cooperation of Chapter 22, the SBE will produce a one-hour Webcast that tentatively is set to air from 2:00 pm to 3:00 pm EDT on Wednesday, October 7. The chapter is organizing and providing much of the technical expertise and equipment necessary to make the Webcast possible.

Parts of the program will include live visits on the show floor. We hope the day-time slot will provide the opportunity for many members to watch the program from their work or home computer. Details about how to access the program will be provided later this summer. Be sure to mark your calendar!

# Membership meeting highlights

## SBE activity at the 2009 NAB Show

**T**he annual spring meeting of SBE members held during the NAB Show featured recognition of volunteer service and prizes for some lucky winners. SBE president, Barry Thomas, CPBE CBNT, addressed the crowd of about 100 members, highlighting accomplishments of the previous year and outlining the goals for the coming 12 months. The meeting was recorded and is available by podcast on the SBE website.

SBE Education Committee Chairman, Cris Alexander, CPBE AMD DRB, announced that the SBE will be expanding its education program to meet the needs of its membership. Alexander said that the Society plans to triple the number of its current educational course offerings over the next three years. The SBE Board of Directors approved the expansion at their meeting earlier in the week, which includes the addition of a full-time education director at the National Office

Chapter certification chairmen were recognized for their service with pins or plaques, presented by national SBE Certification Committee Chairman, Jim Bernier, CPBE CBNT during the meeting.

### Recognized for:

#### 20 Years of service

- Henry A. Kaul, CPBE – Chapter 63, Hawaii
- Samuel B. Straus, CPBE – Chapter 60, Richmond, VA

#### 15 Years

- Thomas A. Green, CSTE – Chapter 45, Charlotte, NC

#### 10 Years

- Edmund Barry, CPBE – Chapter 9, Phoenix, AZ
- Oscar Medina, CSTE – Chapter 36, San Diego, CA
- Thomas Taylor, CPBE, CBNT – Chapter 115, Southern Idaho

#### 5 Years

- Chris Heck, CPBE – Chapter 76, Eugene, OR
- Harold (Hal) Kneller, CPBE, AMD, DRB, CBNT – Ft. Myers, FL
- James Perry, CPBE, CBNT – Chapter 18, Philadelphia, PA
- Ernie Sutton, CPBE – Chapter 113, Knoxville, TN

#### First Year of Service

- Steve J. Epstein, CPBE – Chapter 143, Mid-Mo

Also recognized were two members of the National Certification Committee for service anniversaries.

- Dane Ericksen, PE, CSRTE, 8-VSB, CBNT – 20 years
- Terrence Baun, CPBE, AMD, CBNT – 5 years (second “tour of duty”)

Members of the NAB Broadcast Engineering Conference (BEC) committee were recognized for their work in organizing the six-day conference. SBE has been NAB’s organizing partner for the BEC since 1995. SBE member, Joe Snelson, CPBE, 8-VSB, Vice President and Director of Engineering, Meredith Broadcasting Group, served as chairman of the committee. Lew Zager and Fred Baumgartner, CPBE CBNT were co-organizers of the annual Ennes Workshop, which this year focused on, “Continuing the Digital Transition.”

The SBE organized and hosted an EAS meeting during the week that attracted more than 80 people. SBE EAS Committee Chairman, Clay Freinwald emceed the meeting which featured Wade Witmer

of IPAWS/FEMA as the key speaker. The meeting was recorded and is available as a podcast on the SBE website.

The SBE Membership Meeting was sponsored by SBE Sustaining Member, Microwave Radio Communications (MRC). That support made possible some great prizes including “Shizzles” that went to those in attendance. Three members received \$40 dinner gift cards and one lucky winner, Dave Boyer of Menifee, Calif., a member of Chapter 131 – Inland Empire, took home the big prize of a Sony 60 GB video camera with extra battery and case.

George Maier, CPBE, represented MRC at the meeting, which also made a \$500 contribution to the Ennes Scholarship Fund. Our Thanks to MRC for their continuing support of SBE and the Ennes Educational Foundation Trust.

Reported attendance of the NAB show was down about 16% from 2008. Still, the SBE booth was quite busy. Twenty-one new member applications were received and another 44 members took the opportunity to renew their memberships while visiting the booth. On Monday and Tuesday, Fred Hopengarten, author of the new SBE/Focal Press jointly published book, “Antenna Zoning, Professional Edition,” was on hand to greet people and autograph copies.



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# SBE AT THE 2009 NAB SHOW



SBE President Barry Thomas, CPBE, CBNT recognized Hal Kneller, CPBE, AMD, DRB, CBNT for five years as chapter certification chairman.



George Maier, CPBE spoke on behalf of Microwave Radio Communications, which sponsored the Membership Meeting.

Below: The SBE Membership Meeting at the 2009 NAB Show took place Tuesday, April 21 at the Las Vegas Convention Center with approximately 100 members in attendance.



SBE President Barry Thomas, CPBE, CBNT recognized Terry Baun, CPBE, AMD, CBNT for his five years of service on the National Certification Committee.



Above: SBE Vice President Vinny Lopez, CEV, CBNT rewarded Dick Burden, CPBE with a Chili's gift card during the prize giveaway for being the member in attendance at the Membership Meeting with the lowest member number.

Left: SBE President Barry Thomas, CPBE, CBNT recognized Joe Snelson, CPBE, 8-VSB and Jeff Smith, CEA, CBNT, members of the BEC Committee.



Left: SBE President Barry Thomas, CPBE, CBNT updated members on news and upcoming plans of the Society during the Membership Meeting.

Below: At the end of the Membership Meeting an open forum was held for members to ask questions.







Members of the Asociación Mexicana de Ingenieros y Técnicos en Radiodifusión A.C. (AMITRA), SBE's Mexican affiliate, met SBE officials at the SBE Booth on Wednesday, April 22.

Below: Author of *Antenna Zoning, Professional Edition*, Fred Hopengarten signed copies of his book at the SBE booth. Members receive a discount when ordering online at the SBE Bookstore at [www.sbe.org/store\\_books.php](http://www.sbe.org/store_books.php).



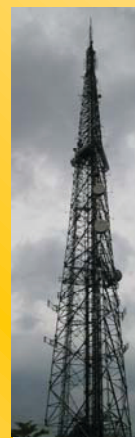
SBE Vice President Vinny Lopez, CEV, CBNT rewarded John Erick Rempillo with a MRC Gift Pack during the prize giveaway for being the member who traveled the farthest at the Membership Meeting. John traveled from Abu Dhabi, United Arab Emirates.



SBE Vice President Vinny Lopez, CEV, CBNT rewarded Robert Collom with a Chili's gift card during the prize giveaway for having the highest member number in attendance at the Membership Meeting.



SBE Vice President Vinny Lopez, CEV, CBNT rewarded Dave Boyer, CBTE with a Sony 60 GB Camcorder during the prize giveaway. Door prize tickets were given at the beginning of the meeting, and Bryer had the winning number.



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# Attend the NEW SBE Leadership Development Course

**D**o not miss out on this year's SBE Leadership Development Course (formerly called, SBE Leader Skills Course). This year's course is August 4-6, 2009 in Indianapolis. The deadline to register for the 2009 SBE Leadership Development Course is July 2, 2009. Register now to reserve your spot to gain valuable leadership skills this summer.

This course is taught by Rodney Vandever, a Purdue University Professor in the Organizational Leadership Department.

If you have or aspire to have management responsibilities and want to gain valuable leadership skills, this course is for you!

The SBE Leadership Development Course is designed to take technically proficient people and instill in them sound supervisory and management skills. In today's market place, individuals with enhanced management skills give their employers a competitive advantage.

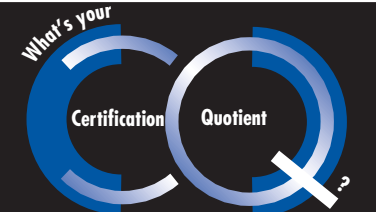
Many of the most respected broadcast engineering managers in the country today are graduates of this program and continue to send members of their staffs to the course.

Cost of registration is \$580, which includes three days of instruction, all course materials, a certificate of completion and classroom refreshments. Housing and meals are additional.

The course will be held at the Crowne Plaza Indianapolis Airport Hotel. A block of rooms have been reserved for Monday, August 3 through Wednesday, August 8. These rooms are available for a special guest room rate of \$109 per night for single or double occupancy. This special rate is available until July 13th, after which rooms and rates are subject to availability. To make reservations, call 317-244-6861. The course starts promptly at 8:00 am Tuesday, August 4.

A registration form is available online at [www.sbe.org](http://www.sbe.org).

Or fax your registration to 317-846-9120 or mail it to SBE, 9102 N. Meridian St., Suite 150, Indianapolis, IN 46260. For more information on course, please contact Holly Essex at (317) 846-9000 or [hsexsex@sbe.org](mailto:hsexsex@sbe.org). Register now, as space is limited.



**A linear integrated operational amplifier has the following characteristic(s):**

- A - High open-loop voltage gain
- B - Direct-current coupled throughout
- C - Differential inputs
- D - Low output impedance
- E - All of the above

*answer on page 20*

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

### Tracy Gibson, CSTE, CBNT

Broadcast Engineer  
Kansas State University  
Manhattan, Kan.  
SBE Chapter 3  
Joined SBE in 1983



### Involvement with SBE:

I enjoy the local monthly chapter meetings where you can share your success stories and your frustrations with someone who can relate to them. In Kansas we are spread out over the whole state, so SBE is great for information exchange about what's going on locally as well as nationally.

**Getting Started:** When I was 14, I worked part time at an equipment rental company, replacing power cords, switches and brushes in belt sanders, grinders, floor polishers, etc. It really "sparked" my interest in electronics. A few years later I took a tour of a television station and once in the control room I knew it had to be an exciting field to go into.

**Job Satisfaction:** I like the fact there is always change and always something new to learn. Each new challenge is rewarded with a greater sense of accomplishment.

**When I'm not working:** I enjoy spending time with my grand kids, playing "texas-holdem" with the guys, and tinkering on a computer.



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**Society of Broadcast Engineers, Inc.**  
**2008 Audited**  
**Financial Statements**  
**Combined Statement of Assets,**  
**Liabilities and Net Assets**  
**December 31, 2008**

**ASSETS**

Cash and cash equivalents	\$394,374
Investments	672,580
Office Equipment	10,857
Intangible Assets	10,460
<b>Total Assets:</b>	<b>\$1,088,271</b>

**LIABILITIES and NET ASSETS**

Liabilities:	\$0
Net assests:	\$1,088,271
<b>Total Liabilites &amp; Net assests:</b>	<b>\$1,088,271</b>

**2008 SBE Audited Revenue & Expense Statement\***

**INCOME:**

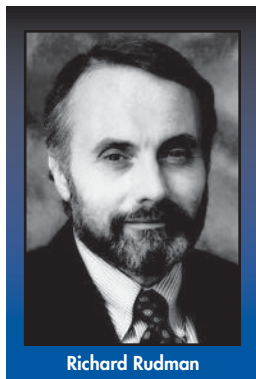
Membership Fees & Support	\$361,415
National Meeting	\$30,717
Certification	\$75,093
Publications	\$86,324
Frequency Coordination	\$229,400
Education Services	\$19,538
Interest & Dividend Income	\$50,816
Net Realized/Unrealized	
Gain (Loss) from Investments (\$213,318)	
Miscellaneous Income	\$29,085
<b>Total Income:</b>	<b>\$669,070</b>

**EXPENSES:**

Member Services	\$274,524
Chapter Rebates	\$35,652
National Meeting	\$25,027
Publications/Communications	\$101,817
Certification	\$75,969
Education	\$42,864
Frequency Coordination	\$201,067
Administration	\$77,810
Depreciation/Amortization	\$10,596
<b>Total Expenses:</b>	<b>\$845,326</b>

**CHANGE IN NET ASSETS: (\$176,256)**  
**NET ASSETS 12/31/2007:\$1,264,527**  
**NET ASSETS 12/31/2008:\$1,088,271**

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



**Richard Rudman**

# Government Relations Committee Update

**BY Richard Rudman, CPBE**

*Government Relations Committee Chairman*

**A**t the April Board meeting there was extensive discussion on how SBE's Government Relations Committee (GRC) can best serve SBE's membership. First, what SBE is not going to do. SBE probably will not act alone on many technical issues facing our industry. As engineering is but one discipline (albeit vital) within the field of broadcasting, there are other industry stakeholders we should consult with on technical issues. These include the National Association of Broadcasters (NAB), the National Alliance of State Broadcasters Associations (NASBA), the Association of Maximum Service Television (MSTV), the National Cable Television Association (NCTA), and other professional societies.

When a new industry technical issue is brought to the attention of the GRC, you will first hear about it through the SBE Roundtable, the SBE-news and/or a whitepaper on the SBE Web site linked from the front page.

After getting the word out, the Board may decide that an issue is not something SBE can take on through direct or indirect action at that time. The issue will then be put on a "watch list" so Members will know what the Board decided.

If there is sufficient interest in pursuing a new issue or changes occur that impact an issue already on SBE's "watch list," the GRC will work with the Board on a course of action. This action will likely include arranging meetings with other stakeholders, drafting Comments for FCC proceedings, and in some cases,

drafting FCC filings. National issues should result in additional Chapter and Member follow-up. This will include briefings and educational material for the membership. In some cases, SBE National will suggest local actions to Chapters such as making an issue the topic of a Chapter meeting.

How does the GRC learn about new technical issues that could affect you? Our Washington Counsel, Chris Imlay, is charged with alerting the Board and the GRC when he hears about important new issues or developments on existing concerns. The GRC's membership and the SBE Board of Directors are also constantly watching for developments that should be on SBE's radar. But there is another important resource we need to tap. YOU.

Over the years individual SBE members have brought early warnings about important issues to the attention of the Board. Local broadcast auxiliary issues are but just one example. There is a saying in emergency management that "All Emergencies Are Local." The same can be said for many industry technical issues. If you hear about something you think warrants SBE's attention, please let SBE National know. Such information should not be limited to national FCC issues. Antenna zoning, low voltage wiring, incursions on our special use of the term "engineer" are all examples of "local emergencies" you may hear about that should be brought to the attention of SBE National.

# Full speed ahead!

BY **John L. Poray, CAE**  
*SBE Executive Director*

**A**mong the decisions made by the SBE national board of directors at their meeting in Las Vegas during the NAB Show was the affirmative vote to expand the Society's education program. This perhaps was the most significant decision the Board has made in the last ten years. The move will provide resources necessary to reach the intended tripling of the national SBE's educational offerings over the next three and half years. The goal, as stated by SBE education committee chairman, Cris Alexander, CPBE AMD DRB at the SBE Membership Meeting held during the NAB Show, is to make the SBE, *THE* source for our member's continuing education needs.

The Board authorized using a portion of the Society's savings, that which has been designated towards development of new member programs and services, to fund the initial expansion. The plan for the education program is that it become self-sustaining by the end of 2012. Given the economy, not a move made without significant forethought. I think it reflects both a confidence that the economy will get better down the road as well as the need to meet the stated needs of SBE members.

The action demonstrates the commitment of the Society to provide a much needed and requested service at a time when members may need it the most. In the recent member survey conducted by the Society, education was named by 98.7% of all respondents as something the Society should be involved in. The highest percentage of any category measured.

Our SBE By-laws (Article I, Section 2a) state that, "diffusion and increase of knowledge" has been a core purpose of the SBE since its beginning. Since

the Society's beginning in 1964, the vast majority of educational opportunities have been organized and offered by SBE chapters. Through the efforts of volunteers, chapter meetings typically have included a presentation about broadcast related technology, regulations or issues each month. Simple calculation suggests that collectively, more than 700 chapter-sponsored educational presentations are made each year and many thousands over the last 45 years!

The chapter programs need to continue to be the foundation of SBE member education, as well as a source of information, resources and fellowship. The programs that SBE national provides serve to fill an ever-growing need for in-depth instruction on a wide array of specific topics that members need to help them do their jobs.

The SBE will be building a comprehensive education program using our existing programs as a foundation. At the national level, SBE has presented in conjunction with the Ennes Educational Foundation Trust, the popular one-day, multi-topic/multi-presenter Ennes Workshops since 1989 in locations around the country. SBE picked up the Leader Skills management training program from the NAB back in 1997 and continues that important program today, now called the SBE Leadership Development Course. SBE's first live webinars were held in 2007 and the SBE University of on-line, on-demand courses opened in January of this year with four courses currently offered.

The growth will largely come in the latter two areas of live and recorded webinars and on-line, on-demand web courses. These two methods provide the most economic value for members in terms of time and money. Traditional in-person programs like the Ennes Workshops and the Leadership Development

Course will continue as well. There is still no substitute for what a quality, in-person, educational experience

offers. They do cost more to produce and therefore, cost more to attend, but they will continue to have an important place in SBE's overall education plan.

Much of the funding the Board approved will go towards the creation of a new full-time position of education director on the national office staff. This person will work closely with our Education Committee to develop new programs, identify topics and experts to teach them. The education director will manage the program on a day-to day basis, implementing the committee and board-approved program. The search to fill this position is now underway with the objective to have it filled by next month.

The expansion of the SBE education program will be a challenging task for the Society, but one that is well worth the effort.

\* \* \* \* \*

I'd like to end this column recognizing the passing of Eugene Hill, member number 1699, who passed away on February 5, 2009 after a long illness. Gene's stellar career in broadcasting began in 1952 as engineer for WXYZ-TV, Detroit. He then moved on to Kaiser Broadcasting and Kaiser Industries, Taft Broadcasting and then as vice president of engineering at WKSD-TV in St. Louis. Gene served as SBE national vice president in 1975/76 and again in 1979/80. We extend our condolences to his wife Bobbie and his family.



# Certified Youth Member plans career *Grandfather serves as mentor*

**T**he Society of Broadcast Engineer's Program of Certification began 34 years ago as a way to recognize and raise the professional status of Broadcast Engineers by providing a standard of professional competence. It has become recognized in the industry as the primary method of verifying the attainment of educational standards.

One benefit of being a youth member is having the great opportunity to become certified. Being certified as a youth member is a great way to jump-start a career and education in broadcast engineering.

SBE Youth Member, Jeff Miller, CTO did just that. Jeff is the only youth member of the Society who holds SBE certification.

"I became certified to help secure a job at a local television station and to further my education in the field of broadcast engineering. I plan to start studying for the (CBNT) Certified Broadcast Networking Technician certification soon," Jeff stated.

Currently, Jeff is a Certified Television Operator (CTO), which is targeted to the entry-level, non-technical pool of applicants filling board operator and master control positions in today's television marketplace. A Certified Radio Operator (CRO) is the comparable certification for those in the radio industry. The exams for these certifications consist of 50 multiple-choice questions, closed book with 90% as the passing score.

Jeff became a Youth Member of SBE in 2007 and has been an active member in Chapter 70, Northeast Ohio. Next year, Jeff plans on continuing his involvement with SBE as



SBE Youth Member Jeff Miller, CTO, grandson of SBE Past President Edward J. Miller, CPBE plans on studying for his CBNT (Certified Broadcast Networking Technician) certification soon.

a Student member when he enters college.

"I am currently attending Valley Forge High School in Parma Ohio. I plan to start attending Cuyahoga Community College in the summer and get an Associates Degree in Electrical Engineering. Then I plan to transfer to Cleveland State University and get a Bachelors Degree in Electrical Engineering," Jeff said.

Jeff's grandfather, Edward Miller, CPBE, was a key figure in SBE's establishment of a youth program. Ed is a past president of the Society, and it was during his time in office that SBE started the Youth Program in 1998.

Ed, who is now retired, is also the reason Jeff became interested in broadcast engineering. "I started off just being interested in becoming a operator of the equipment like a cameraman or something, but with talking to my grandfather and attending the local SBE chapter 70 meetings, I realized I would much rather become an engineer; someone who fixes the problems, someone everyone else turns to, someone who not

only knows how to work the equipment but knows how it works," he said.

Jeff's grandfather has also been his mentor as he explores the industry. "He is definitely someone in the field I admire. He has done everything I hope to do someday and has gone through some difficult challenges the industry has thrown at him, but he always seems to end up on top," Jeff said.

Jeff plans on becoming a maintenance engineer at a local television station and working his way up to one day becoming a chief engineer. By being SBE certified, Jeff has already started working toward achieving that goal.

"I am very driven and know exactly what I want to do and what I need to have to do it. My drive is inspired from my grandfather but my hard work comes from me," Jeff said.

To learn more about joining the Society of Broadcast Engineers and its youth program, visit SBE's website at [www.sbe.org](http://www.sbe.org).



# RF Safety Webinar Set for September 24

**T**he Society of Broadcast Engineers will present another edition of the SBE RF Safety Course on Thursday, September 24 from 6:30 pm to 9:30 pm, EDT (3:30 pm to 6:30 pm PDT). The course is designed for broadcast station personnel such as chief and assistant chief engineers, transmitter site engineers, ENG and SNG maintenance personnel and management that need to have an understanding of RF safety issues and regulations. Instructing the course will be RF safety expert, Richard Strickland of RF Safety Solutions.

## Course Description & Content

The SBE RF Safety Course provides an overview of RF radiation issues and practices for broadcasters.

- Biological effects of RF radiation and the distinct differences between RF radiation and ionizing radiation
  - FCC and OSHA regulations - what they are and what you need to do to comply
    - Workplace hazards
      - o Transmitter Sites
      - o SNG and ENG trucks
      - o Remote operations (where news personnel can find problems such as on rooftops)
      - o The unique issues at AM stations
    - RF hazard protection equipment - you may not need it but your contractors probably will
      - Signs - what they mean and what you need

Each participant will receive a course "hand-out" via e-mail prior to the course. The course makes use of MS Power Point and is interactive - questions can be asked at any time during the course. Those who complete the course will receive a certificate of completion through the mail from the Society of Broadcast Engineers.

It is recommended that persons taking the SBE RF Safety Course have at least a basic knowledge of electronics and understand

the concept of frequency. Taking this course meets the FCC education requirement for those working in broadcast RF exposure areas. SBE recertification credit may also be earned by completing this course.

## Log-in Port Reservations

To accommodate the anticipated interest in this course, we encourage SBE chapters and companies to consider hosting the course at a suitable training site where local members can be accommodated, such as a broadcast station conference room with Internet connection and telephone line.

At each site where more than just a few will gather, an LCD projector and screen is needed with an Internet-connected computer for the video portion of the training. The audio will be via toll-free telephone connection and should be amplified as needed for the size of the audience. There is no fee charged for a chapter or company to host a course. However, each participant must register individually.

Each host-site organizer will be given a web-address and a toll-free telephone number to access the course.

The course is limited to nineteen log-in ports. The number of participants at each log-in port is only limited by the seating capacity of the room and the audio and video equipment used to listen to and view the course. To reserve one of the ports, contact the SBE National Office at [RFSafetyCourse@sbe.org](mailto:RFSafetyCourse@sbe.org) or (317) 846-9000. We'll need to know your name, your chapter or company and email and telephone contact information for the person hosting the site. We'll also need the name and address of the location and the number of participants the location can accommodate for the course.

Log-in port reservations will be taken on a first-come, first-served basis. To hold a log-in port reservation, a paid registra-

tion from at least one individual must be received at the National Office within two weeks of reserving the log-in port.

## How Individuals Can Register

Each individual participant must be registered for the course. Registrations must be received by 12:00 Noon EDT on Wednesday, September 23.

## Course Fee:

SBE members - \$85 per participant  
Non-members - \$125 per participant

We encourage people to register using the SBE's on-line system. When a log-in port has been reserved, the location will be listed on the SBE website if it is open to others to attend. Go to the SBE website, seminars page: [http://sbe.org/edu\\_seminars.php](http://sbe.org/edu_seminars.php) and click on the location you wish to attend. Complete the registration form. Payment will be accepted using VISA, MasterCard or American Express. Registration using a check for payment may be mailed to the SBE National Office at SBE, 9102 N. Meridian Street, Suite 150, Indianapolis, IN 46260. You may also fax your registration form with credit card information to SBE at (317) 846-9120. Questions? Call SBE at (317) 846-9000.

## About our Instructor, Richard Strickland

Richard Strickland founded RF Safety Solutions in 2001 after ten years as Director of Business Development for Narda Safety Test Solutions, the world's leading supplier of RF safety measurement and monitoring products. He initiated the development of RF radiation training courses at Narda and has conducted courses ranging from basic employee awareness seminars to in-depth application specific courses. Mr. Strickland serves as our instructor for this course; his 10th SBE course since first introduced in 2007.

# SBE University adds 8-VSB Course

**T**he SBE introduces the 8-VSB Course as the fourth course in the SBE University series of on-line, on-demand courses for broadcast engineers. The SBE University courses are designed to bring expert instruction on a variety of technical radio and television topics to broadcast engineers at an affordable price.

## Courses Available:

### 8-VSB Course

The purpose of the course is to give the student an overview of the 8-VSB system from end to end, providing all of the basic information he or she will need to understand the nature of 8-VSB modulation and to recognize deficiencies in the transmitted signal. This information will be invaluable in installing, maintaining and operating a digital television transmitter facility. Much of the material contained in this course will aid the student in his or her efforts to obtain the SBE 8-VSB Specialist Certification.

### FM Transmission Systems Course

An FM transmission system, at its most basic level, consists of the transmitter, the transmission line and antenna. There are many variables within these basic building blocks, including types and sizes of antennas, size and type of transmission line, and transmitter power output. Situation-specific variables such as the allocation and class of station, permissible area to locate, permissible tower height, location of the tower site with respect to the target coverage area, and the local terrain all come into play in the proper selection of the correct tower, antenna, line and transmitter. This course will provide the student with knowledge of all of the above and how they impact the performance of an FM station. Upon completion, the student should have a clear understanding of the proper design, installation and maintenance of an FM transmission system.

### Matching Networks and Phasing Course

The purpose of this course is to give the student a good overall understanding

of the various types of networks used in an AM transmission system, the situations in which each might be used and calculating the leg values thereof. It also discusses the phase budget for a phasing and coupling system and the use of power divider and phasing networks therein.

### AM Antenna Computer Modeling Course Syllabus

Modeling of AM antenna systems, while not particularly difficult, does require some specific steps and proper model calibration in order to be valid and acceptable to the FCC. This course will take the student through the modeling and measurement process specifically for AM broadcast antennas, providing a general understanding of the process and procedures as well as operation of the recommended software.

There are more courses to come. To enroll in the available courses, visit [www.sbe.org/edu\\_seminars.php](http://www.sbe.org/edu_seminars.php). Once enrolled, you may take the course any time and at your own speed.

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## EDUCATION *from page 1*

advanced levels.

One of the immediate targets of the effort will be to expand the Society's "SBE University" which opened on January 1, 2009. The SBE University now includes four courses that are available on-line and on-demand. Participants may access the courses 24/7/365. The Society plans to have as many as 18 different SBE University courses available by 2012.

"SBE has always been about education, since its founding in 1964. Our members and the industry have told us that they need more opportunities for continuing education to keep up with changing technology. We are very pleased to announce this expansion that we feel

will provide our members with the educational resources they will need in the years to come." said SBE President, Barry Thomas, CPBE CBNT.

Besides the SBE University, the Society also currently offers four or five "Ennes Workshops" each year in different locations, multiple offerings of its live webinar, "SBE RF Safety Course" and the SBE Leadership Development Course, which teaches management and leadership skills to broadcast engineers.

SBE Executive Director, John Poray said, "The plan is to fill the new education director position by July 1. We are searching for candidates with experience in organizational management and the administration and management of adult

education programs. The ideal candidate will have organized and produced education programs using not only traditional delivery methods, but through web-based programs as well."

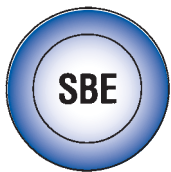
A complete job description and list of position requirements has been posted on the SBE website. Click on the Short Circuits article titled, SBE To Expand Education Programs to find a link to them. SBE members who meet the requirements are welcome to apply. E-mail a resume with cover letter and salary requirements to [resumes@sbe.org](mailto:resumes@sbe.org). The position will be based at the SBE National Office in Indianapolis. When the position is filled, a notice will be posted on the SBE website.

# SBE welcomes Hong Kong Chapter 144



A group of broadcast engineers in Hong Kong have formed the newest chapter of the Society of Broadcast Engineers. Hong Kong Chapter 144 is SBE's first true international chapter. The chapter held their first dinner meeting on March 24.

**Congratulations to SBE Members Sterling E. Davis and Jack Sellmeyer, CPBE** for winning the Engineering Achievement Awards at the 2009 NAB Show. Davis, the Vice President of Engineering for Atlanta-based Cox Broadcasting, was given the Television Engineering Achievement Award. Sellmeyer was awarded the Radio Engineering Achievement Award. Sellmeyer is a professional engineer and principal engineer for Sellmeyer Engineering, Broadcast Engineering Consultants. Both were honored at the Technology Luncheon on April 22 at the Las Vegas Hilton Hotel.



## Members on the Move

**Eric Schecter, CBRE** returned to CBS Radio in Phoenix as DOE of its three-station cluster, a position he held previously.

**Jay Martin** has been appointed to the position of broadcast technical sales director for the Americas at the wireless communications infrastructure company, Radio Frequency Systems.

*If you or someone you know moved, changed positions, or has been honored in some way in the broadcast engineering industry, submit details to Members on the Move at [hessex@sbe.org](mailto:hessex@sbe.org) or to Attn Holly Essex, 9102 North Meridian St. Suite, 150, Indianapolis, IN 46260*

### Questions or comments?

Contact the  
SBE National Office at  
**(317) 846-9000**

Office hours:  
Monday - Friday:  
8:30 am - 4:30 pm, EDT  
fax: (317) 846-9120  
[www.sbe.org](http://www.sbe.org)



**A: (E) All of the above**

question on page 14

## ENNES

EDUCATIONAL  
FOUNDATION TRUST

thanks to  
the following  
supporters  
for their  
scholarship  
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contributions:

*The Ennes Educational Foundation Trust offers scholarships, presents educational programming and provides grants for educational projects that benefit 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.*

### Harold Ennes Scholarship

Paul Swartzendruber, Spring Valley, NY  
John Lyons, New York, NY  
John Batson, Birmingham, AL  
Mike Waldman, Chesterfield, MO  
John Trousdale, Cromwell, CT  
William McCombs, Wichita, KS  
David Turnmire, Pocatello, ID  
Barry Thomas, Atlanta, GA  
Noel Richardson, South Charleston, WV  
George Maier, Sudbury, MA

### Robert Greenberg Scholarship

Joel Saxberg, Arcadia, CA  
John Lyons, New York, NY

### Youth Scholarship

Chris Thomas, Vienna, VA  
Marvin Marcelo, Pullman, WA  
John Lyons, New York, NY  
Scott Pendergraft, Mountville, PA  
Maria Salcido, APO, AP



# The Society of Broadcast Engineers would like to welcome its newest members to the organization:

## NEW MEMBERS

Andrew R. Avery, Knob Noster, MO  
Tim L. Bingaman, Plant City, FL  
Dominic Dorman, Astoria, NY  
Matthew E. Glissendorf, Janesville, WI  
Thatcher Graham, King of Prussia, PA  
Bernel Nery, Long Beach, CA  
Kevin A. Odgers, Green Bay, WI  
Zachary Akey, Washington, DC  
Dennis L. Benjamin, Emmetsburg, IA  
John A. Crane, Grand Prairie, TX  
Robert M. Donovan, Palm Harbor, FL  
Vernon E. Egli, Yucaipa, CA  
William D. Hicks, New Lexington, OH  
Robert W. Johnstone, Palm City, FL  
Lee MacPherson, Oakland, CA  
Michael C. McGuire, Ashland, OR  
Robert S. Allison, Coventry, CT  
Mary C. Arends, Bossier City, LA  
Jeffrey S. Biernat, Riverside, CA  
Ron Breitner, St. Clair Shores, MI  
John G. Carter, McLean, VA  
Mike Dickey, Shreveport, LA  
Roger T. Endres, Miller Place, NY  
Gary L. Glaenger, Jacksonville, IL  
James D. Klas, Middleton, WI  
Steven H. Miller, Camp Point, IL  
James D. Robinson, Jr., Orlando, FL  
Michael E. Seguin, Burlington, VT  
Dion L. Wilson, Tampa, FL  
Charley R. Carpenter, Carmichael, CA  
Jim R. Krueger, Quincy, IL  
Steven Moreen, San Diego, CA  
Michael R. Shelkey, Frederick, MD  
Paul J. Daooust, Raleigh, NC  
Brandon M. Hill, Phoenix, AZ  
Mark A. Mueller, La Grange, IL  
Kevin T. Rodgers, Stillwater Lake, Nova Scotia, Canada  
Jim Shryne, APO, AE  
Timothy D. Templeton, Lawrence, KS  
Charles Turner, San Diego, CA  
Derrick R. Abel, Muskogee, OK  
Paul Bickford, Philomont, VA  
Nelson Bohorquez, Quincy, IL  
Philip Brooks, Oklahoma City, OK  
Richard C. Cabot, Lake Oswego, OR  
Bill L. Canning, Cedar Rapids, IA  
Johnathon P. Chelette, Baton Rouge, LA  
Eric DeVries, Clackamas, OR  
Justin M. Dominguez, Baton Rouge, LA  
Skip Florey, San Diego, CA  
Jeffrey D. Lovetinsky, Phoenix, AZ  
Louis P. Molizone, Oxon Hill, MD  
Benjamin A. Moss, Houston, TX  
Jimmy T. Truong, Menifee, CA  
Elliot R. Wolfson, Sparta, NJ  
Larry Gold, Bethesda, MD

Eric T. Johnson, Los Angeles, CA  
Yefim Royzer, Rochester, NY  
Mark Allen, Chula Vista, CA  
Steve Brooks, Kerrville, TX  
Michael L. Cernak, Clearwater, FL  
Mark Ferrell, Durham, NC  
Reggie J. Johnson, Brooklyn, NY  
Joseph F. Miller, Hixson, TN  
Ryan Salazar, Fort Lauderdale, FL  
Stan Tacker, Tulsa, OK  
Mark H. Weisheimer, Blacklick, OH  
Gary R. Brown, Norfolk, VA  
Milton T. Grimes, Los Angeles, CA  
Jim V. Vicente, Bergenfield, NJ  
Mike Frezzo, San Jose, CA  
Michael Gulnac, Estero, FL  
Ernest D. Kara, Claremore, OK  
Matthew Barry, West Yarmouth, MA  
Edward I. Amana, Abuja, Nigeria  
Abayomi O. Bolanniwa, Abuja, Nigeria  
David R. Candy, Oklahoma City, OK  
Sotero Delgado, North Hollywood, CA  
Frank Garfi, Brooklyn, NY  
Ganim Y. Hanna, Loma Linda, CA  
Philip R. Joiner, Levittown, PA  
Julio C. Lopez Garcia, Mexico City, Mexico  
James J. McTigue, Orinda, CA  
Craig S. Miller, Roseville, CA  
Mike A. Modney, Coaldale, Alberta, Canada  
Dominick M. Pannone, Juneau, AK  
Ernesto Tamez Escamilla, Nuevo Leon, Mexico  
Erik A. Thompson, Sweet Home, OR  
David C. Wolfe, Mountain View, CA  
Timothy Worley, Las Cruces, NM

## NEW STUDENT MEMBERS

Myra Campolo, New York, NY  
Kisung Lee, Union City, CA  
Jermaine Evans, Austell, GA  
Kevin Coogan, Rantoul, IL  
Jeff E. Fevang, Napa, CA  
James Midyette, Kensington, MD  
John M. Mothershed, Tucson, AZ  
Nathan Russell, Evansville, IN  
Richard Manriquez, Alhambra, CA  
Christopher Evans, Indianapolis, IN  
Loren M. Manning, Florence, OR

## NEW ASSOCIATE MEMBERS

Brad Meeks, Waxhaw, NC  
David Pergantis, Flowery Branch, GA  
Bruce L. Raddatz, Roseville, CA  
Don D. Baker, Columbus, IN  
Kevin M. McDonald, Twin Falls, ID  
Rotem Cohen, Kfar Saba, Israel  
Howard E. Davis, Hagatna, GU

## NEW YOUTH MEMBERS

Gregory T. Conroy, Rocky Mount, VA  
Samantha R. Hendrickson, Colville, WA

## REINSTATED MEMBERS

Frank V. Wolynski, Brandon, FL  
Dee Ana S. Bell, Pullman, WA  
Stephen K. Etherton, Elkton, VA  
Gary L. Talkiewicz, Harvey's Lake, PA  
Lawrence C. O'Donnell, Eagle Mountain, UT  
Jerry N. Gepner, Doylestown, PA  
Hank G. Langlinais, Mesa, AZ  
Cary D. Robinson, Baton Rouge, LA  
Haitham M. Nasr, Ashburn, VA  
Francisco Bedolla, Puebla, Mexico  
Adam S. Truax, Crooksville, OH  
Charles H. Sell, Toledo, OH  
Fred Streeter, Laveen, AZ  
Robert W. Folmar, Sweet Valley, PA  
Steven R. Hagerty, Sacramento, CA  
Edmund T. Davies, San Carlos, CA  
Ron J. McNair, Rutherford, NJ  
William H. Cyree, National City, CA  
Todd W. Tanner, Orangevale, CA  
Scott A. Todd, Cambridge, MN  
Lawrence V. Bloomfield, Lancaster, CA  
George F. Motter V, Nazareth, PA  
Daniel A. Buchholz, Ashland, NE  
David C. Garland, Summersville, WV  
James R. Carter, Columbia, AL  
Philip J. Altenburg, West Orange, NJ  
Eric P. Odendahl, Lawrenceville, GA  
Ben K. Wong, West Sacramento, CA  
Kurt Schroeder, Grafton, WI  
John H. Weber, Charleston, SC  
Sam M. Roffe, Burien, WA  
Christopher W. Cullen, Las Vegas, NV  
John D. Grover, Detroit, MI  
Russell G. Rockwell, Venetia, PA  
Harry R. Schroeder, Ewing, NJ  
John M. Duffy, Baldwinsville, NY  
Brett A. Blankenship, Marion, IL  
Craig D. Bury, Hartley Wintney, UK  
Derrick K. Cullison, Santee, CA  
John K. Thomas, Chattanooga, TN  
Harry L. Scott, Woodbridge, VA  
Chadd R. Warfield, Riverside, CA  
Clifford C. Thomas, Palm Beach Gardens, FL  
Christopher F. Cormier, Durham, NC  
James R. Offerdahl, Fosston, MN  
Carlo Francescangeli, San Diego, CA  
Robert S. Hershey, Dillsburg, PA  
Steve W. Vinke, Cedar Hill, TX

## REINSTATED SENIOR MEMBERS

Joseph McCormick, Ocean, NJ

**Silver Members, those with at least 25 years of membership, are highlighted with a silver box, New Members are listed in blue**

**ADC Telecommunications Inc.\*1998**

Anne-Marie Gunderson  
(952) 917-3072  
End to End Connectivity Solutions

**Advanced Test Equipment Rentals\*2006**

Martin Jahn (800) 404-8232  
Test and Measurement  
Equipment Rentals

**Ai\*1995**

Mark Polovick (607) 215-0653  
UHF TV Broadcast Transmitters

**American Tower Corporation\*2000**

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

**Anixter\*2005**

David Ste-Marie (800) 995-6158  
Audio/Video Cable &  
Interconnect Products

**Anton/Bauer Inc.\*2004**

Paul Dudeck (203) 929-1100  
Battery Solutions for ENG

**Audemat-Aztec Inc.\*2000**

Sophie Lion Poullain (305) 249-3110  
RDS Generator, Metering, Monitoring,  
Remote Control Manufacturer

**Autodesk\*1998**

Christina Shackleton  
(212) 338-3888  
Digital Content Creation Software

**AXCERA\*1983**

Mike Rosso (800) 215-2614 ext. 101  
Television Transmitters & Exciters

**Belden Electronic Division\*1991**

George Stillabower (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 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**

Russell Murphy - East  
Jim Kubit - West  
(540) 932-3660, (805) 581-4566,  
(800) 669-9667  
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  
One Stop Broadcast Store

**CANARE\*1991**

Luis Sotomayor (818) 365-2446  
Audio/Video Interconnect Products

**Canon USA, Inc.\*1985**

Gordon Tubbs (201) 807-3300,  
(800) 321-4388 Broadcast Lenses &  
Transmission Equipment

**Chyron Corp.\*1992**

Carol Keane (631) 845-2031  
HD/SD Character Generators & MOS

**Clark Wire & Cable\*1991**

Shane Collins (800) 222-5348  
Audio, Video & Remote Camera  
Cables

**COMET North America\*2005**

Steve Clatterbaugh (214) 235-6596  
Capacitors, Variable & Fixed

**Communications Laboratories\*2008**

Jared Maynard (321) 409-9898  
Emergency Management Network

**Comrex Corporation\*1997**

Chris Crump (978) 784-1776  
Remote Audio Broadcast Equipment

**Comsearch\*2004**

Tim Hardy (703) 726-5651  
Frequency Coordination Services,  
Continental Electronics

**Continental Electronics Corporation\*1976**

Michael Troje (214) 381-7161,  
(800) 733-5011  
AM & FM IBOC Transmitters

**Crispin Corporation\*2006**

Brian Gleason (919) 845-7744  
Broadcast Automation Solutions

**Crouse-Kimzey Co.\*2008**

Mark Bradford (972) 660-6100  
Broadcast Equipment Sales

**CUC Broadcast\*2008**

Michael Johnson  
(951) 278-5626  
Shared Storage System Integrator

**Dataworld\*1998**

John T. Neff (800) 368-5754  
Coverage Maps and Services

**Dialight Corporation\*2006**

Doug Woehler (732) 991-2837  
Obstruction Lighting, L.E.D. Based

**Dielectric Communications\*1995**

Jay S. Martin (207) 655-4555  
TV & FM Broadcast Products

**Digital Alert Systems, LLC\*2005**

Bruce Robertson (520) 488-8667  
IP Based EAS ENDEC

**DiskStream Incorporated\*2006**

Rein Taul  
(519) 579-8166, ext. 57  
Capsa Video Archive

**DSC Laboratories\*2002**

Michael Kent (905) 673-3211  
Test Charts & Illuminators

**DTS\*2009**

Mark Seigle (425) 814-3200

**DTVinteractive\*2007**

Jennifer Jang  
(+82) (0)2-3446-2040  
Test & Measurement  
Solution Provider

**du Treil, Lundin & Rackley, Inc.\*1985**

Jeff Reynolds (941) 329-6000  
Consulting Engineers

**e2v technologies Inc.\*1997**

Rick Bossert  
(800) 433-8269,  
(800) 342-5338  
Klystrons, MSDC IOTs, IOTs, Satcom  
Amps, TWTs

**Econco\*1980**

(800) 532-6626 or  
(530) 662-7553  
New & Rebuilt Transmitting Tubes

**Electroack Enclosure Products\*2008**

Todd Schneider (714) 776-5420  
Racks, Enclosures, Power, Acces-  
sories

**Empower RF Systems\*2008**

Jon Jacobs (310) 412-8100  
DTV Transmitter & Translator

**ENCO Systems Inc.\*2003**

Don Backus (800) 362-6797  
Digital Audio Automation & Delivery

**Environmental Technology Inc.\*1997**

John Cahill  
(800) 234-4239, ext. 229  
Dehydrators, Deicing Sensor &  
Controls for Broadcast/FM and Satel-  
lite Antennas

**ERI - Electronics Research\*1990**

David White (812) 925-6000  
Antennas, Towers, Filters, Combiners

**ETS-Lindgren/Holiday EMF Measurement\*2003**

Dave Seabury (908) 876-5042  
RF Safety Instrumentation

**Fiber Instrument Sales, Inc.\*2009**

David J. Porta (315) 736-2206

**Floral Systems\*2008**

Jim Berry (352) 372-8326  
Television Broadcast Automation

**Freeland Products\*1997**

Joel Freeland (800) 624-7626  
Rebuilt Power Tubes

**Frontline Communications Corp.\*2000**

Doug McKay  
(727) 573-0400, ext. 120  
Broadcast/Command/HLS Vehicles

**Fujinon, Inc.\*1986**

Thom Calabro (973) 633-5600  
Broadcast & Communications  
Products

**Gepco International, Inc.\*1995**

Ken Bernd (847) 795-9555  
Audio, Video Cable Products

**Google Inc.\*2005**

Scott Bodgan (949) 791-1200  
SS32, Maestro, ASP Solutions

**Harris Corporation, Broadcast Communications Division\*1977**

Joe Mack (TLC), Chris Pannell (Radio),  
Bob Duncan (Software)  
(513) 459-3406, (406) 556-0280,  
(719) 439-0130  
Broadcast Equipment & Services

**HD World\*2006**

Michael Driscoll (203) 371-6322  
HD World Conference & Exposition  
(Oct. 10-11, 2007, New York)

**Holbrook Enterprises, Inc.\*2006**

Heywood Bagley (208) 468-8797  
WireCAD - Serious design tools

**Image Video\*1997**

Dave Russell (416) 750-8872  
ext. 230  
Under Monitor Tally Display Systems,  
Monitor Walls, Signal Alarm Systems

**IneoQuest\*2009**

Tom Tucker (508) 339-2497  
Video Quality Assurance Solutions

**Jay S. Gerber, CBT\*1999**

(205) 491-6904  
Manager, NFI Frequency  
Organization Group

**JDSU\*2007**

Brigitte Robbins  
(919) 338-5061

**Joseph Electronics Inc.\*2003**

Yohay Hahamy  
(847) 501-1584  
Broadcasters One-Stop Supplier

**Kathrein Inc., Scala Division\*1985**

Michael W. Bach or Mike Johnson  
(541) 779-6500  
Antennas for Broadcasting &  
Communications

**KPFF Consulting Engineers\*2004**

Madison Bate  
(206) 926-0508  
Tower Engineering, Inspections  
Design

**L-3 Communications Electron Devices\*2003**

Steve Bliex (570) 326-3561, ext. 229  
Tubes, Power

**LBA Technology, Inc.\*2002**

Jerry Brown (252) 757-0279  
AM/MW Antenna Equipment &  
Systems

**LEA International\*2004**

Carol Rasser (208) 762-6121  
Power Quality Products & Services

**Lincoln Financial Media\*2007**

Don Shaw (704) 374-3639  
Media, Communications

**LYNX Technik\*2007**

Steve Russel (661) 251-8600  
Broadcast Terminal Equip

**Markertek Video Supply\*2002**

Tom Moretti (845) 246-3036  
Audio, Video, Audio Visual Broadcast  
Supply

**Maxell Corporation of America\*1991**

Patricia Byrne (201) 794-5900  
Broadcast Video Products

**Micro Communications, Inc.\*1998**

Frank Malanga (603) 624-4351,  
(800) 545-0608  
TV & FM Antennas & RF Components

**Micronet Communications, Inc.\*2005**

Jerry Armes (972) 422-7200  
Coordination Services / Frequency  
Planning

**Microwave Filter Company, Inc.\*2003**

Sherry Bell (315) 438-4700  
Passive Electronic Filters

**Microwave Radio Communications\*1991**

Nadine Frechette (978) 671-5700  
Video Microwave Systems

**Microwave Service Corporation\*1997**

Warren J. Parece (978) 556-0970  
Microwave Equipment Rentals/Sales/  
Service

**Middle Atlantic Products\*2005**

David Amosato  
(973) 839-1011, ext. 1197  
Enclosures, Power, Accessories,  
Furniture

**Minkin Design Inc.\*2005**

Jay Minkin (206) 250-7481  
System Integration/Design/  
Documentation

**Mohawk\*1995**

Jamie Silva (800) 422-9961  
Wire and Cable

**Moseley Associates, Inc.\*1977**

Dave Chancery (805) 968-9621  
RF & TI STLs

**National Association of Broadcasters\*1981**

(202) 429-5340  
Industry Trade Association

**National Football League\*1999**

Jay Gerber  
Game Day Coordination Operations

**Nautel, Inc.\*2002**

Wendell Lonergan (207) 947-8200  
Radio Broadcast Transmitter  
Manufacturer

**Nott Ltd.\*2002**

Ron Nott (505) 327-5646  
Folded Unipole Antennas; Detune  
Systems; Lightning Prevention

**Nucomm, Inc.\*1996**

John Dulany (908) 852-3700  
Digital Microwave Transmission  
Equipment

**NVISION, Inc.\*1997**

Doug Buterbaugh (530) 265-1000  
Routers, Master Control & Terminal  
Equipment

**Orban/CRI\*2008**

David Rusch (480) 403-8300  
Audio Processing

**Panasonic Broadcast & Digital Systems Company\*1985**

Tom Moore (201) 392-6176  
Professional Broadcast Equipment

**Pasternack Enterprises\*2001**

Christine Hammond (949) 261-1920  
Coax & Fiber Products

**PESA Switching Systems, Inc.\*1997**

Robert McAlpine (800) 328-1008  
Routing Switcher Manufacturer

**Pike & Fischer\*1991**

Andy Myers (800) 255-8131, ext. 234  
FCC Rules & Regulation

**Prime Image, Inc.\*1997**

Rodney Hampton (408) 867-6519  
Digital Audio/Video Equipment

**Pro-Bel\*2002**

Terry Barnham (631) 549 5159  
Automation, Routing & Infrastructure

**Propagation Systems, Inc.(PSI)\*2005**

Doug Ross (814) 472-5540  
Quality Broadcast Antenna Systems

**Pulsecom\*2003**

Stan Bailey (630) 961-3253  
Telco Broadband Audio Transmission

**Quintech Electronics and Communications Inc.\*2002**

Richard E. Bush (724) 349-1412  
RF Signal Management

**Radian Communication Services Inc.\*1986**

John McKay (866) 4-RADIAN  
Towers, Antennas, TV Transmitter  
Installation

**RCS\*2003**

Diana Stokoy (308) 284-3007  
Audio and Video Content Manage-  
ment, Music Scheduling, Radio  
Automation

**RDL\*2004**

John Gatts (928) 778-9678, ext. 111  
Audio, Video, Control & Test Equip-  
ment Manufacturer

**RF Central, LLC\*2005**

Jeff Winemiller (717) 249-4900,  
ext. 222  
Digital Wireless Microwave Equip-  
ment

**RF Extreme, LLC\*2009**

Don Hoeler  
(908) 852-3700 ext 3110

**RF Specialties of Texas, Inc.\*2008**

Don S. Jones (806) 632-4518  
Transmitters, Antennas and More

**RF Technologies a Ferrite Company\*2008**

Bill Ammons (800) 634-4075  
Television Broadcast Antenna  
Systems

**Richland Towers\*2001**

David Denton  
(813) 286-4140, ext. 6872  
Tower Owner/Management

**Rohde & Schwarz\*2003**

Eddy Vanderkerken (469) 713-5322  
Broadcast Transmitters, Test &  
Measurement

**ROSCOR Corporation\*1998**

Tom Voigts (847) 299-8080  
DTV System Integration

**Ross Video Ltd.\*2000**

Burt Young (613) 652-4886  
Manufacturer, Television Broadcast  
Equipment

**Salzbrenner Stagetec Media Group\*2009**

Russell Waite (888) 782-4391  
Professional Audio Solutions

**SCM Construction\*2009**

Samuel Mitchell (972) 274-5151  
General Contractor/Transmitter/  
Facility Services

**SCMS, Inc.\*2000**

Bob Cauthen (800) 438-6040  
Broadcast Equipment- New/Used

**Seacomm Erectors, Inc.\*1997**

John Breckenridge (360) 793-6564  
Tower/Antenna Erections

**Senore, Inc.\*2005**

Jeff Murray (800) 736-2673  
Audio/Video Test Equipment

**Shively Labs\*1996**

David Allen  
(207) 647-3327 or 888-SHIVELY  
FM Antennas & Combiners

**Sigmat\*2008**



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