



## James Leifer, Ralph Beaver Named SBE Fellows

The Society of Broadcast Engineers (SBE) has elevated James Leifer, CPBE, and Ralph Beaver, CBT, to the membership rank of Fellow. The SBE Board of Directors elected them at its meeting held April 24.

James Leifer, who originally joined the SBE in 1986, is the senior manager of broadcast operations for American Tower Corp. He is based in the Boston area. His broadcast career began in South Florida. From 1987 to 2017, he handled engineering responsibilities for various broadcast groups, including Paxson, Ion, and iHeart Media. In 2017, he moved to Massachusetts to join American Tower in his current role.

Jim's SBE activities began with SBE Chapter 53 South Florida. He served

that chapter as chair from 2008 to 2012. In 2009, he was elected to a seat on the SBE Board of Directors for one term, then elected secretary in 2011 for four terms. He was the vice president for two terms (2015 to 2017) and then president from 2017 to 2019. He continues to serve on the SBE Board of Directors as immediate past president.

Ralph Beaver originally joined the SBE in 1975. He moved to Tampa in 1973, and he has been an active member of Chapter 39 Tampa Bay Area for many years, including work on the chapter's annual Chapter 39 Broadcast Engineering Symposium. He served on the SBE Board of Directors from 2002 until 2012. During that time, he chaired the EAS Committee for one year, and then chaired the



Leifer



Beaver

SBE Frequency Coordination Committee, where he worked extensively with the SBE/NFL Game-Day Coordinator

see [FELLOW](#), p. 9

## SBE National Meeting Returns to Syracuse and Chapter 22 Broadcast & Technology Expo

The Society of Broadcast Engineers 56th SBE National Meeting will be held in Syracuse, NY, on Sept. 22-23, 2020. The event will be held in conjunction with the annual SBE Chapter 22 Broadcast & Technology Expo, presented by Chapter 22 of Central New York.

The SBE National Meeting includes the SBE National Awards Reception and Dinner, recognizing outstanding achievement by SBE members and chapters. The SBE will also conduct the SBE Annual Membership Meeting on the 23rd, and stream

Sept. 23 and includes broadcast technology sessions and broadcast/media equipment and a services tradeshow. The Expo was held for 45 consecutive years before taking a four-year break beginning in 2015. Chapter 22 brought it back in 2019. The event draws broadcast engineers from all over New York State, surrounding states and Canada.

The National Meeting begins on Tuesday afternoon, Sept. 22 with the fall meeting of the national SBE Certification Committee from 2:00 to 4:00 p.m. The fall meeting of the SBE Board of Directors follows from 6:00 to 10:00 p.m. Attendance at the Board meeting is open to any SBE member. On Wednesday, activities begin

with the annual SBE Fellows Breakfast, a reunion of SBE Fellow members including this year's inductees, Ralph Beaver, CBT,

and Jim Leifer, CPBE. In the afternoon, the one-hour SBE Annual Membership Meeting will be webcast live at 4:00 p.m. EDT (1:00 p.m. PDT) to members around the world.

see [NATIONAL MEETING](#), p. 12



it live so members not able to attend in person can watch.

The Expo takes place on Wednesday,

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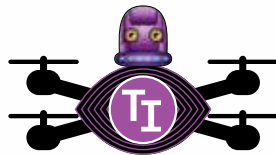
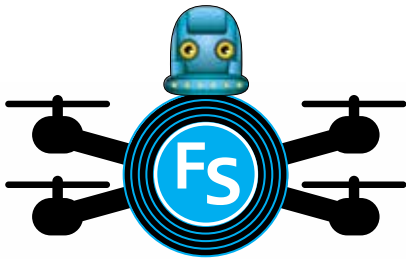
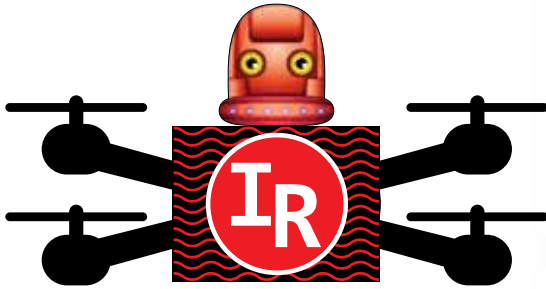
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**SBE National Office**  
317-846-9000 www.sbe.org

# Attend the 2020 Leadership Development Course, August 4-6

**M**ake your plans today to attend the 2020 Leadership Development Course, Aug. 4-6 in Atlanta. The SBE is proud to continue its offering of the SBE Leadership Development Course, an SBE tradition since 1997.

The three-day course, is specifically designed for broadcast engineers who have or aspire to have management responsibilities. The SBE Leadership Development Course is for technically adept people to acquire and develop skills for sound leadership, supervisory and management skills. The course is equally beneficial for those who are already in management and for those without prior management or supervisory experience.

The 2020 SBE Leadership Development Course will again be taught by Rodney Vandever, a professional leadership and management trainer and retired professor of organizational leadership and supervision at Purdue University.

The three-day event challenges attendees to refine leadership skills and better understand and improve interaction with others. Broadcast organizations may want to consider sending a group of employees to the course to share the experience of this highly interactive event. Registration includes all course materials, three days of instruction, the Leadership Development Webinar Series of three webinars, a certificate of completion, light breakfast and afternoon snacks. SBE Members receive a discount on registration.

The course will be held at the Hyatt Place Atlanta South; 1899 Sullivan Rd.; College Park, GA 30337. Need overnight



Students collaborate at the 2019 Leadership Development Course.

accommodations? The SBE has a block of rooms at \$125/night. Room reservations can be made by calling 888-HYATT-HP or at hyatt.com. Use the reservation code G-SB20 as the group/corporate number. Make room reservations by July 20, 2020, for the special rate.

The cost of the conference is \$670 for SBE Members and \$725 for non-members. Registration is now open! Register at sbe.org. Register with our "No Worry" guarantee. If the course has to be cancelled due to the COVID-19 pandemic, 100% of your paid registration fee will be refunded. Our go/no-go decision will be made no later than July 1. If planning to travel by air to attend the course, we suggest not booking until after July 1. Questions? Contact Education Director Cathy Orosz at 317-846-9000 or corosz@sbe.org.



**Certification Question**

Answer on page 6

What is the crest factor, also known as the peak to average ratio (PAPR), of ATSC3.0?

- A 1.732 dB
- B 8 to 10 dB
- C 3.0 dB
- A 6.2 dB



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# LETTER FROM THE PRESIDENT

By Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE  
SBE President  
wpecena@sbe.org

## Where Are We Now?

Some days, I find this question difficult to answer as our world has changed in ways I never imagined. As the national, state, and local stay at home orders are being lifted, we seek to return to “normal”, where often we find normal is very different. The COVID-19 virus has proven to have changed all aspects of our professional and personal lives for some time to come. In April your SBE held its first Board of Directors meeting via video teleconference in lieu of a face-to-face meeting. The annual membership meeting usually held during the National Association of Broadcasters (NAB) conference was held virtually as the April WEBxtra. Many of us have likely learned the distinction between cleaning and disinfecting our broadcast space while it remains minimally staffed as work at home continues. The electrostatic disinfecting spray gun may become far handier than the faithful Simpson 260 in maintaining the broadcast facility going forward.

As they say, “the show must go on.” Broadcast engineers responded by quickly deploying remote broadcast capabilities in on-air talent homes where many a dining room table became a broadcast origination studio. The wide variety of Internet Protocol-based remote production equipment and software applications available has made deployment possible. However, with the urgency to use equipment in meeting broadcast show deadlines, some best practices often are set aside for tomorrow. Cybersecurity is often one of those areas, and the diversity of equipment solutions deployed creates its own challenges for the broadcast engineer.

Maintaining just the very basic cybersecurity best-practices can go a long way in keeping your remote IP infrastructure secure and protected from those seeking to create havoc or do harm. The basic practices begin with changing default equipment login user name and password and use strong password creation rules. Use encrypted communications links between the home dining room studio and the broadcast station. Virtual private network-capable (VPN) network devices are plentiful and reasonably priced. Of course, a firewall should always be a component of your cybersecurity infrastructure. Keep in mind that firewalls require “care & feeding” on a routine basis. Keep them updated and monitor activity to know what is normal as abnormal activity may indicate a cyber-event underway. Remember, the cyber security challenges for the broadcast engineer also become opportunities for the cybercriminal.

The Federal Communications Commission Consumer Affairs

Division has reported numerous scams and hoaxes focused on the consumer. Many of these exploits are phishing based, offering cures, fake testing, and even financial relief from the FCC. Use of email, robocalls and text messaging are the common approaches found leading to accessing nefarious websites containing malware. More can be found at the link below.

Speaking of the FCC, the Public Safety & Homeland Security Division recently issued a security advisory regarding Emergency Alert System (EAS). The advisory focuses upon inadequate security practices found in installed EAS equipment

in the broadcast plant. An in-depth outline of Recommended Network & Operational Controls is provided in the referenced Communications Security, Reliability and Interoperability Council IV, Working Group 3, EAS Subcommittee Final Report. Attention to the basic cybersecurity practices such as changing default passwords, keeping equipment firmware updated, firewall principals

of least privilege and segmented networks satisfy the recommended action steps pointed out in the advisory.

*“After a great blow, or crisis, after the first shock and then after the nerves have stopped screaming and twitching, you settle down to the new condition of things and feel that all possibility of change has been used up. You adjust yourself, and are sure that the new equilibrium is for eternity... But if anything is certain it is that no story is ever over, for the story which we think is over is only a chapter in a story which will not be over.”*  
~ Robert Penn Warren, All the King's Men

### SBE Business As Usual

Behind the scenes, your SBE has been busy keeping things normal as much as possible while also looking to the future. A rebuild of the SBE website is underway, and a search for the next executive director has begun. Many of our local chapters have adopted virtual chapter meetings and found participation increased. Attendance, whether at an in-person meeting or a virtual meeting, counts for recertification credits. The National headquarters staff deserve a hearty thank you as they comply with the Indianapolis and Indiana work/stay at home orders and continue to maintain all the essential services that are provided to the members. Yes, you can order a new SBE logo cap or shirt that you might have otherwise bought at the SBE booth during the NAB Show. I trust you have renewed your SBE membership by now. If you have not renewed, a reminder that the grace period ends this month. Your support of your Society is crucial to maintaining the diverse member services provided. Access to webinars available through the MemberPlus program has also been extended through the grace period. Renew today!

I personally want to know your suggestions, comments and concerns. Your feedback is essential to our collaborative effort as we all navigate the new normal and make the right decisions to insure the society meets our member needs as our industry continues to change. Please reach out to me at wpecena@sbe.org or by phone at 979-845-5662 for a more personal exchange. A sincere thank you to those I have heard from. Stay safe and healthy!



### Did you participate in the SBE Compensation Survey?

If you did, thank you! The results are being compiled and will be available soon. SBE members can access the report for free as a member benefit.

**FCC COVID-19 Consumer Warnings**  
[fcc.gov/covid-scams](https://www.fcc.gov/covid-scams)



## EDUCATION UPDATE

By Geary Morrill, CPBE, CBNE  
Chair, SBE Education Committee  
gmorrill@sbe.org

# Maintain Good Connections

If there's one take-away from this shared pandemic experience it's this: Normal sure isn't what it used to be.

Many within our ranks have been engaged in providing an ability for large swaths of their workforce to function remotely (typically from their homes) and all that entails. This exercise has been dependent on reliable internet connectivity with adequate throughput/performance at both ends. While remote users might be well served with DSL, mifi hotspots and aircards, the enterprise end needs even better performance just to support several concurrent users. This has been most challenging in rural markets with few if any options for good connectivity.

At the same time, given the uncertainty of economic restoration, and what form it takes when it happens, there is likely to be pressure for broadcast entities to re-examine all operating expenses (including technical) with an eye to maximizing value for dollar spent. It's doubtful market size will exclude anyone from the exercise. Depending on where you fall in the food chain, you may be called on to assist in the planning, evaluation and certainly any deployment of resultant changes.

The connection situation in many locales has been evolving. One of the latest in rural areas involves the USDA's ReConnect Program, which has provided grants and/or low cost loans to telecommunications companies, rural electric cooperatives and utilities, internet service providers and municipalities to expand and improve connectivity. One iteration seen recently has been telco providers leveraging sales of VoIP solutions using these subsidized connectivity offerings. In some instances, replacing POTS service and its accompanying DSL service has resulted in an overall reduction of expense and improved performance. If implemented properly, there can be even more savings down the road. Let me cite a recent example.

I was advised of a small market being approached by its telco provider offering an upgrade from the existing telco/ISP service to VoIP with a fiber value-added component. In this instance, the connectivity was a 500Mb/s aggregated connec-

tion. While not providing an SLA, that's a major step up from an existing 10Mb/s DSL!

In the evaluation process, it was learned the provider was only seeking a three-year commitment. After crunching the numbers, it was decided:

1. A monthly savings of a couple hundred dollars could be obtained in the short term along with greatly improved connectivity.
2. By specifying and purchasing a generic brand of VoIP instrument, these could be migrated to myriad hosted service providers without significant additional hardware expense at the conclusion of the term. If desired, they could even host their own Asterisk server. In smaller operations, these open source servers have even been built on Raspberry Pi's with excellent results.
3. Adding a correctly sized FXO gateway, existing analog hybrids in the studios could also be supported.

The minimal equipment expenditure is quickly offset by the reduced service charge. And at the end of the term, flexibility to reduce the monthly expense even further is there. And more connectivity options (5G/LEOS) are on the horizon. If one so chooses, these providers will often offer a lease option on instruments and hardware, but that may eliminate the short term savings while still providing improved connectivity performance. If a buyout is offered at the end of term, the ability to perform a low cost migration still is on the table.

If ISP redundancy is desired, multiple WISP operators are often available in rural areas, and if not - a cellular data modem can be employed and the firewall configured for use only in failover to limit the possibility of exceeding a fixed data cap.

While cellular options are usually readily available, other wireless options can be a bit harder to track down. Using the search tool at wispa.org (the wireless ISP industry group) should help.

On top of VoIP, SaaS and other browser

traffic demands, most major playout providers are providing (or will be shortly) cloud-based offerings that will require improved connectivity performance. If your facility is going to be due for a playout hardware refresh in a few years, your ability to provide such connectivity might mean a fraction of the anticipated capital outlay would be necessary.



Following this pandemic, "normal" will be a moving target.

### One Other Thought

In our IT-centric world, the ability to perform remote management and

configuration presents opportunities both to existing tech personnel, and individuals with physical disabilities to participate as broadcast technicians/engineers. How we facilitate and enhance inclusion in our profession was a question recently posed in an inquiry from Len Watson, CPBE. He suggests a voluntary database of techs with existing disabilities that could be accessed by others looking for or wishing to provide assistance. Or a discussion thread to exchange helpful information.

I believe it's an intriguing idea that merits further thought. What do *you* think? Please share your thoughts with me on this, or any education topic you feel the SBE should address.

## Education Almanac

### Upcoming Webinars

June 4: Management Skills for Broadcast Engineers

June 18: AoIP Module 4: Dante Deep Dive

[sbe.org/webinars](http://sbe.org/webinars)



### Leadership Development Course

August 4-6: Atlanta

[sbe.org/lhc](http://sbe.org/lhc)

Have an idea for a webinar?  
Contact Education Director Cathy Orosz at 317-846-9000 or corosz@sbe.org.

For more information on any SBE education program, contact Education Director Cathy Orosz: corosz@sbe.org or 317-846-9000.



# CERTIFICATION UPDATE

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

## Preparing for ATSC3 Specialist Certification

In 2018, the Society of Broadcast Engineers tasked itself to create a new specialist certification to cover the upcoming transition to ATSC 3.0. A subcommittee of the certification committee was created utilizing experts in the new technology. During this development process, questions have been created, technologies investigated and a round of beta tests have been conducted. Through beta testing, it was ascertained that additional practical questions had to be added. With these updates, the planning committee is close to conducting a second round of beta tests. Once this is completed, the committee will have a

clearer idea of when the exam will be ready for public testing. When the ATSC3 Specialist is available, the exam will resemble the other specialist exams. There will be 50 multiple-choice questions and the choice of one out of two essay questions. The multiple-choice portion of the exam is open book and the internet is allowed. The essay is closed book. There is a list of references that may aid in studying for the exam on the SBE website at [sbe.org/specialist\\_ref](http://sbe.org/specialist_ref).

Following is a list of these references.

**NextGenTV Host Station Manual V6 – Final Manual**  
[bit.ly/PearlStationManual](http://bit.ly/PearlStationManual)

### ATSC Standards

- A/300:2017: ATSC 3.0 System
- A/321:2016: System Discovery and Signaling
- A/322:2018: Physical Layer Protocol
- A/324:2018: Scheduler/Studio-to-Transmitter Link
- A/327:2018: Physical-Layer - Recommended Practice
- A/330:2019: Link Layer Protocol
- A/331:2018: Signaling, Synchronization, Delivery and Error Protection
- A/360:2018: ATSC 3.0 Security and Service Protection
- A/327:2018: Guidelines for the Physical Layer Protocol
- A/350:2019: Guide to the Link-Layer Protocol
- A/351: Techniques for Signaling, Delivery and Synchronization

### Webinars by SBE

Cost per webinar: \$62 members, \$92 non-members,  
Free to SBE MemberPlus [sbe.org/webinars](http://sbe.org/webinars)

### SBE ATSC 3.0 Series

- ATSC 3.0 Webinar: Module 1 - Introduction to ATSC 3.0
- ATSC 3.0 Module 2: Overview of the Physical Layer
- ATSC 3.0 Module 3: Implementation of the Transport and Physical Layers
- ATSC 3.0 Module 4: MPEG Media Transport Standard and its Use in ATSC 3.0
- ATSC 3.0 Module 5: ATSC 3.0 ROUTE Protocol
- ATSC 3.0 Module 6: Advanced Emergency Information System

### ATSC 3.0 Tutorial Videos from SBE@PBS TechCon 2019

- Part 1: The Physical Layer
- Part 2: Broadcast Regulations
- Part 4: NextGen/ATSC 3.0 Transmitter Conversion
- Part 6: NextGen Broadcast/ATSC 3.x Scheduler
- Part 7: Monitoring and Display
- Part 8: The NextGen Broadcast Station

### SBE ATSC 3.0 Networking Series

- ATSC 3.0 Networking: Module 1 Introduction to ATSC 3.0 Station Architecture, Networking Standards and the Physical Layer
- ATSC 3.0 Networking: Module 2: Ethernet Switching
- ATSC 3.0 Networking: Module 3: IP Routing



**45 YEARS  
CERTIFIED**  
1975 – 2020

In 1973, the first SBE Certification Committee was formed with three members: Ben Wolfe, Jim Wulliman and John Wilner. Ben Wolfe drafted the first proposal for the

Program of Certification.

The three men appeared together on a panel at the 1974 NAB Convention to deliver a presentation titled, "A New Broadcast License Certification Program." Reaction to the idea was positive, and in 1975, the final draft for the SBE Certification Program was approved by the Board of Directors. Jim Wulliman was the first chair of the SBE Certification Committee.



Wilner



Wulliman



Wolfe

## EQ Answer from page 3

The answer is B

ATSC3.0 employs Orthogonal Frequency Division Multiplexing (OFDM). OFDM uses thousands of subcarriers placed across the bandwidth of the television channel. Each subcarrier is individually modulated in phase and amplitude. Statistically, it is possible that *all* the subcarriers could reach maximum amplitude and the same phase at the same instant. When this occurs, the peak instantaneous power can be 8 to 10 dB above the average power.

# SBE Certification Achievements

## CONGRATULATIONS

|  |  |   |   |
|--|--|---|---|
| <b>LIFE CERTIFICATION</b>  | <p>Certified Professional Broadcast Engineer (CPBE) AM Directional Specialist (AMD)<br/>Tim Walker, Graham, TX - Chapter 67</p> <p>Certified Senior Radio Television Engineer (CSTE)<br/>Walter Williams, Sr., Columbus, GA - Chapter 118</p>  | <p>Certified Senior Radio Television Engineer (CSRTE)<br/>Lewis Ray, South Bend, IN - Chapter 30</p> <p>Certified Broadcast Radio Television Engineer (CB RTE)<br/>Leon Amstutz, Elkhart, IN - Chapter 30</p>   | <p>Certified Professional Broadcast Engineers and certified senior broadcast engineers who have maintained SBE certification continuously for 20 years, are at least 59½ years old and are current members of the SBE may be granted Life Certification if so requested. All certified who have retired from regular full-time employment and are at least 59½ years old may be granted Life Certification if they so request. If the request is approved, the person will continue in his/her current level of certification for life.</p>   |
| <b>CERTIFIED PROFESSIONAL BROADCAST ENGINEER (CPBE)</b>  | <p>Chuck Condron, Memphis, TN - Chapter 9</p> <p>Applicants must have 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.</p>  |   |  <p><b>Got your SBE Certification pin?</b><br/><a href="http://sbe.org/pins">sbe.org/pins</a></p>  |
| <b>FEBRUARY EXAMS</b>  | <p>Certified Senior Television Engineer (CSTE)<br/>Ben Endow, Phoenix, AZ - Chapter 9</p> <p>Certified Broadcast Radio Engineer (CBRE)<br/>Michael Dorris, Chicago, IL - Chapter 26</p>  | <p>Certified Broadcast Networking Engineer (CBNE)<br/>Justin Lange, Minneapolis, MN - Chapter 17<br/>Troy Majeska, Davenport, FL - Chapter 42<br/>Zsolt Vicsacsan, Glendale, AZ - Chapter 9</p>   | <p>Certified Broadcast Networking Technologist (CBNT)<br/>Michael Dorris, Chicago, IL - Chapter 26</p>  |
| <b>SPECIAL PROCTORED EXAMS</b>   | <p>Certified Broadcast Technologist (CBT)<br/><i>Alabama Broadcasters Association</i><br/>Stella Maner, Florence, AL<br/>Jeff Blazer, Milford, OH</p>  | <p><i>Alabama Broadcasters Association (cont.)</i><br/>Annie Hawkes, Newton, MA<br/>Luke Marlowe, Newnan, GA</p>  | <p><i>Alabama Broadcasters Association (cont.)</i><br/>Robert Poor, Huntsville, AL<br/>Timothy Tinney, Carrollton, GA<br/>Joseph Tuck, Metairie, LA</p>   |
| <b>CERTIFIED BY LICENSE (CBT)</b>  | <p>Samuel Fiotti, Shavertown, PA - Chapter 2</p>   | <p>Tonya Holroyd, Chapin, SC - Chapter 101</p>  | <p>Rick Ruhl, Rialto, CA - Chapter 131</p>  |
| <b>CERTIFIED RADIO OPERATOR (CRO)</b>  | <p>Gregory Harvey, Hamburg, NY<br/>Tonya Holroyd, Chapin, SC<br/>Brian Krieger, Gainesville, FL<br/>Josh Merrill, Gainesville, FL<br/>Kim Smith, Rocklin, CA<br/><i>East Valley Institute of Technology</i><br/>Marcos Alvarado, Chandler, AZ<br/>Marc Baca, Mesa, AZ<br/>Sandro Becirbegovic, Gilbert, AZ<br/>Spencer Bennett, Chandler, AZ<br/>Sophia Bianco, Phoenix, AZ<br/>Rebekah Bodger, Mesa, AZ<br/>Anthony Carter, Scottsdale, AZ<br/>Joshua Case, Apache Junction, AZ<br/>Lanae Chapman, Queen Creek, AZ<br/>Connor Chrisman, Chandler, AZ<br/>Alessandra Davis, Mesa, AZ<br/>Hezekiah Demps-Trannon, Maricopa, AZ<br/>Maximus DeSimone, Chandler, AZ</p> | <p>Frank Samuel Elizando, Scottsdale, AZ<br/>Carson Enderle, Phoenix, AZ<br/>Michael Granados, Phoenix, AZ<br/>Arabeth Gurr, Gilbert, AZ<br/>Elizabeth Gustafson, Phoenix, AZ<br/>Andrew Haddock, Gilbert, AZ<br/>Frank Hathaway, Queen Creek, AZ<br/>Jacob Henderson, Phoenix, AZ<br/>Jonathan Hernandez, Tempe, AZ<br/>Zai Ivey, Queen Creek, AZ<br/>Kyras Malloy, Phoenix, AZ<br/>Miracle McAtee, Mesa, AZ<br/>Matthew McDonald, Gilbert, AZ<br/>Constantine Miranda, Phoenix, AZ<br/>Derek Montgomery, Mesa, AZ<br/>Jonathan Navarro, Tempe, AZ<br/>Basilio Nieves, Phoenix, AZ<br/>Thomas Nine, Mesa, AZ<br/>Donovan Ong, Gilbert, AZ<br/>Jondrew Philip, Scottsdale, AZ</p> | <p>Jack Pollock, Gilbert, AZ<br/>Mark Powers, Tempe, AZ<br/>Aden Proctor, Gilbert, AZ<br/>Justin Rombough, Chandler, AZ<br/>Garrett Searles, Scottsdale, AZ<br/>Nathanyal Sharp, Scottsdale, AZ<br/>Skylar Smith, Scottsdale, AZ<br/>Ryann Stanage, San Tan Valley, AZ<br/>Robert Tablado, Phoenix, AZ<br/>Chanmony Ty, Chandler, AZ<br/>Giovanni Velencia, Gilbert, AZ<br/>Nevin Valenzuela, Gilbert, AZ<br/>Annalicia Vasquez, Tempe, AZ<br/>Karina Vargas Villalobos, Guadalupe, AZ<br/>Dylan Vaz, Phoenix, AZ<br/>Siu Lan Waugh, Apache Junction, AZ<br/>Alexander Winters, Mesa, AZ<br/>Lewis Yorio, Phoenix, AZ</p> |
| <b>CERTIFIED TELEVISION OPERATOR (CTO)</b>   | <p>Brandon Haling, Oxford, AR</p>  | <p>Kody Joiner, St. Petersburg, FL</p>  | <p>Michael Nepveux, Beaumont, TX</p>  |
| <b>RECERTIFICATION</b><br>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. | <p>Certified Broadcast Technologist (CBT)<br/>Aaron Kerr, Calgary, AB<br/>Marty Lee, Seneca, SC - Chapter 86<br/>Moshe Waserman, Lomita, CA - Chapter 47</p>   | <p>Certified Television Operator (CTO)<br/>Mark Flesner, Indianapolis, IN - Chapter 25<br/>Karen Rose, Boynton Beach, FL<br/>Samuel Sanchez, Sherman Oaks, CA</p>   | <p>Certified Radio Operator (CRO)<br/>David Leishman, Antelope, CA - Chapter 43</p>   |

## Renew Membership by June 30 or Lose Your Benefits

By renewing your SBE membership, you have retained all your member benefits without interruption. But if you have not yet renewed, you need to do so today. If you don't renew by June 30 (the end of the grace period), you will be dropped from the active roll.

Member, Senior, Student, Associate and Fellow membership categories can renew online at [sbe.org](http://sbe.org). Click on "Renew Membership" in the upper right-hand corner of the website home page. The online system is available 24/7, is secure and accepts Visa, MasterCard and American Express.

When renewing, consider upgrading to SBE MemberPlus. SBE MemberPlus provides you with access to all archived and all

new Webinars by SBE. And if you are a Student or Life Member, you can now take advantage of SBE MemberPlus, too. Adding MemberPlus gives you full access to all the Webinars by SBE. Student MemberPlus costs \$90, current Life Members can upgrade for \$90, and all other membership categories cost \$175.

You may also renew by completing and returning the renewal form that you received in early February with payment by mail to the SBE national office: Society of Broadcast Engineers; 9102 N. Meridian St., Suite 150; Indianapolis, IN 46260; or by fax at 317-846-9120.

Questions about renewal? Contact Scott Jones at the SBE National Office at 317-846-9000 or [kjones@sbe.org](mailto:kjones@sbe.org).

# Candidates Announced for Upcoming SBE Election

Each year the SBE membership elects members to serve on the national Board of Directors, the governing body of the society. This includes all four officers for one-year terms and half the 12 directors for two-year terms.

Additional candidates may be nominated by the membership. Any eligible member proposed by at least ten members to the national Secretary by July 2 will be added to the ballot. The election will take place July 17 through August 19. Balloting will be via the election website, except for those members who have opted out of electronic voting this year or who have not provided the SBE national office with their email address. They will receive their ballots through

the mail.

The Nominations Committee is chaired by Jim Leifer, CPBE. Committee members are Marcelo Sanchez, CPBE, Miramar, FL; Scott Fybush, Rochester, NY; and Steve Brown, CPBE, CBNT, Appleton, WI.

For more information about candidacy, contact Secretary Kevin Trueblood at [ktrueblood@sbe.org](mailto:ktrueblood@sbe.org) or Executive Director John Poray at [jporay@sbe.org](mailto:jporay@sbe.org) or 317-846-9000.



Pecena



Brown



Clark



Harnack



Johnson



Kline



McGinley



Toven



Willard

## Nominations Committee

### Candidate Slate

\* indicates incumbent

#### Officers:

**President:** Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE \*  
Chapter 99 Bryan, TX; College Station, TX  
**Vice President:** Andrea Cummis, CBT, CTO \*  
Chapter 15 New York; Bethlehem, PA  
**Secretary:** Kevin Trueblood, CBRE, CBNT \*  
Chapter 90 Southwest Florida; Estero, FL  
**Treasurer:** Ted Hand, CPBE, 8-VSB, AMD, DRB \*  
Chapter 45 Charlotte; Charlotte, NC

#### Directors

(top six vote getters will be elected):

Stephen Brown, CPBE, CBNT \*  
Chapter 80 Fox Valley; Appleton, WI  
Roswell Clark, CPBE, CBNT \*  
Chapter 39 Tampa Bay Area; Clearwater, FL  
Kirk Harnack, CBRE, CBNE \*  
Chapter 103 Nashville; Nashville, TN  
Mark Johnson, CSRE  
Chapter 106 Panhandle; Panama City Beach, FL  
Gary Kline, CBT  
Chapter 5 Atlanta; Atlanta, GA  
Thomas McGinley, CPBE, AMD, CBNT \*  
Chapter 16 Seattle; Missoula, MT  
Shane Toven, CBRE, CBNT \*  
Chapter 43 Sacramento; Antelope, CA  
Fred Willard, CPBE, 8-VSB, CBNT  
Chapter 37 District of Columbia; Washington, DC



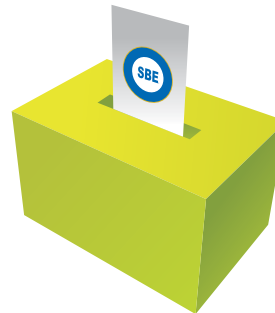
Cummis



Trueblood



Hand



# Now Scheduling Ennes Workshops

There's still time to schedule an Ennes Workshop in 2020 or consider getting on the 2021 calendar!

## ENNES WORKSHOP

Each year the Society of Broadcast Engineers and the Ennes Educational Foundation Trust present a number of one-day educational programs for broadcast engineers, called Ennes Workshops. These programs feature multiple topics and speakers that provide television and radio engineers with the "nuts and bolts" information they need to do their jobs. An Ennes Workshop can serve as a highlight of your chapter's program year.

The SBE is currently scheduling Ennes Workshops for 2020-2021. The cost to bring an Ennes Workshop to your area is typically shared through participant registration fees, sponsorships and chapter support. Some state broadcaster associations have also supported these programs financially,

either as a part of one of their events or as a stand-alone event.

To find out how your chapter can host an Ennes Workshop for the broadcast engineers in your community, contact Education Director Cathy Orosz, at 317-846-9000 or [corosz@sbe.org](mailto:corosz@sbe.org).



Nashville Ennes Workshop, August 2019



## FELLOWS from p. 1

program when the two groups worked together. He started working with the NFL in 1999 as the Tampa game-day coordinator and Super Bowl coordinator in 1999. He was named NFL general manager of frequency coordination in 2011. In addition, he is the CEO of Media Alert LLC, a company he founded in 1994.

In letters endorsing Leifer's nomination, several commented on his talent, competency and technical abilities as a broadcast engineer. More recently, Jim has been involved with projects relating to the TV repack, and nomination supporters note that he goes beyond the technical duties of the project with his willingness to help in any way he can. One nominator also noted that Jim is "brilliant in the area of technical regulatory advocacy work involving the FCC."

Several nomination endorsement letters for Ralph Beaver cite his work on EAS alerting, working with Florida on creating the state's Child Abduction Alert system, and his extensive work in frequency coordination, first around the Tampa area and then with the National Football League. Among the nomination endorsements, one letter stated that Ralph is "not only an expert at radio broadcasting technology, [but] also a master of spectrum allocations and spectrum compatibility studies."

"I have worked directly with Jim and followed Ralph's accomplishments in their various capacities within the SBE," said Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE, president of the Society of Broadcast Engineers. "They both possess and regularly demonstrate the skill, attitude, professionalism and dedication to broadcast engineering that are the benchmarks of an SBE Fellow."

The Fellow honor is the highest membership level in the SBE. Members must have made significant contributions to the broadcast engineering field or the SBE. Candidates are nominated by their peers. Since the Society's founding 56 years ago, 81 members have been honored with the Fellow rank.



The two will be recognized for their election to Fellow during the SBE National Awards Dinner on Sept. 23, 2020, in Syracuse, NY, during the annual SBE National Meeting, which will be held in conjunction with the SBE 22 Broadcast & Technology Expo.

## Who Are SBE Fellows?

Want to know who has received the honor of being named an SBE Fellow?

There's a complete list online.

[sbe.org/fellows](http://sbe.org/fellows)

## 2020 NAB Show: the Epilogue

The cancellation of the 2020 NAB Show in Las Vegas was a disappointment to many. Not able to reschedule the full event during 2020, the NAB instead held NAB Show Express, an online event, on May 13-14. The NAB has also said that it is looking at ways to expand the 2020 NAB New York show, scheduled for Oct. 21-22 at the Javits Center in New York City.



At the NAB's invitation, the SBE took part in NAB Show Express, providing a one-hour version of the Ennes Workshop program that had been planned for Las Vegas. Our thanks to broadcast industry consultant Tom Mikkelsen and IABM CTO Stan Moote, for putting together this program that featured an update on ATSC 3.0 from Madeleine Noland, president of the ATSC, and a panel moderated by Moote, with the



topic, "Multiplatform is Key," with Nino Doijashvili, business development, Tulix; and Ricardo Rodrigues, head of busi-

ness development, Americas, Media & Broadcast, Telstra.

On April 19, what would have been Day 1 of the NAB Show, the SBE partici-



pated in a four-hour webinar produced by three industry manufacturers: Elenos/BE, Wheatstone and Xperi. Called NAB Kickoff, each company prepared presentations on technology that attendees would have seen and heard about at the NAB Show if the program had not been cancelled. The SBE produced three pre-recorded segments featuring SBE President Wayne Pecena, discussing SBE education, certification and mentoring programs. Video recordings of all segments of NAB Kickoff are available at the Elenos website ([elenosgroup.com/webinar](http://elenosgroup.com/webinar)). The SBE segments are also available on the SBE YouTube channel ([sbe.org/youtube](http://sbe.org/youtube)) to help current and prospective members learn about what the SBE has to offer in the way of career development services.



## AFFORDABLE 1- 4 CH ATSC 3.0 RECEIVER

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BATTLE OF THE  
FM BANDS!

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**Texas two-steppin'** or **blastin'** the classics,  
**Dielectric** has the antenna with the perfect  
power, price and profile for your station.

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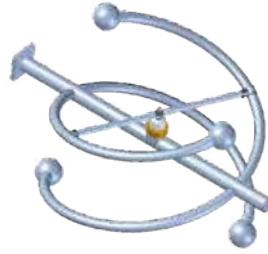
SEE **REVERSE** FOR **THREE** OF OUR  
MANY **FM ANTENNA** OPTIONS!

# ALL ANTENNAS PROVIDE STANDARD SINGLE STATION OMNI-DIRECTIONAL SERVICE



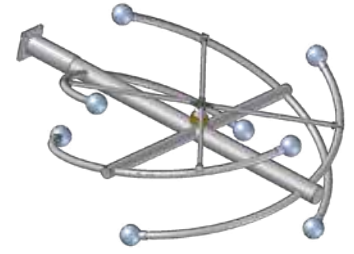
## POWERLITE™ (DCR-T)

Omni & Directional  
FM Translators and Local  
Community Stations



## DCR-H

Medium-Power  
College/University and  
Class A Stations



## DCR-M

Medium/High-Power  
Regional Stations

### SPECIAL USE CASE STUDY

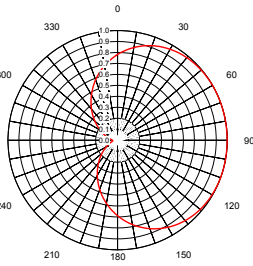
Simple, cost-effective and high-performance

#### CHALLENGE

FM translator required broad coverage over 270 degrees of azimuth, but tightly reduced radiation to antenna's rear.

#### SOLUTION

Dielectric DCR-T2 antenna array with the two bays half-wavelength-spaced vertically and offset from each other horizontally.



### SPECIAL USE CASE STUDY

An affordable choice with an array of benefits

#### CHALLENGE

University radio station with FM broadcast antenna on student union wanted to reduce the RF radiation on the building's rooftop, improve reception by reducing signal's multipath, and improve program audio quality.

#### SOLUTION

Dielectric DCR-H3 antenna array, with half-wavelength-spaced bays, transmits the signal with a reduced vertical plane beam width. This lowers the RF signal on the building's rooftop and scatter from nearby structures, resulting in less signal multipath. The antenna's RF bandwidth noticeably increases high-frequency audio performance of signal.

### SPECIAL USE CASE STUDY

A cost-effective and compact solution

#### CHALLENGE

Major market broadcaster wanted to replace a single-station auxiliary antenna with a two-station antenna, using the same space and loading on the tower.

#### SOLUTION

Dielectric DCR-M3 with 0.66 wavelength antenna bays provides the RF bandwidth for two stations spaced 5.5 MHz from each other, with more gain than the typical (and costlier) 0.5 wavelength-spaced antenna bay solution. The DCR-M offers unmatched signal circularity and transmission performance to automobiles and fixed receiver locations.

### SPECIFICATIONS: INDIVIDUAL BAY

| ANTENNA                      | DCR-T                               | DCR-H      | DCR-M                                    |
|------------------------------|-------------------------------------|------------|--|
| <b>IBOC Capable</b>          | Yes                                 | Yes        | Yes                                      |
| <b>Multi-Station Capable</b> | No                                  | No         | Yes*                                     |
| <b>Directional Capable</b>   | Yes                                 | Yes        | Yes                                      |
| <b>Power kW Rating</b>       | 1                                   | 4          | 18                                       |
| <b>Weight (lb/kg)</b>        | 17.5/8.0                            | 17.5/8.0   | 17.5/8.0                                 |
| <b>Input</b>                 | 7/16 DIN Bay (1 5/8" EIA for array) | 1 5/8" EIA | 3 1/8" EIA (4 1/16" EIA for large array) |

\*See DCR-M Case Study

### TYPICAL ARRAY GAINS (APPLIES TO ALL 3 ANTENNAS)

| # of Bays | Gain—Full Wavelength | Gain—Half Wavelength |
|-----------|----------------------|----------------------|
| 1         | 0.46 (-3.37 dBi)     | —                    |
| 2         | 1.0 (0 dBi)          | 0.7 (-1.55 dBi)      |
| 4         | 2.1 (3.22 dBi)       | 1.3 (1.14 dBi)       |
| 6         | 3.2 (5.05 dBi)       | 1.8 (2.55 dBi)       |
| 8         | 4.3 (6.34 dBi)       | 2.3 (3.62 dBi)       |
| 12        | 6.6 (8.2 dBi)        | 3.5 (5.44 dBi)       |

SO CHOOSE **DIELECTRIC**, AND TURN YOUR RADIO ON.



## NATIONAL MEETING from p. 1

The SBE Annual Awards Reception and Dinner takes place on Wednesday with the reception beginning at 5:00 p.m., followed by the dinner at 6 p.m. The dinner will feature a guest speaker and the presentation of the society's major awards, including the Robert W. Flanders SBE Engineer of the Year and James C. Wulliman SBE Educator of the Year awards. The dinner program will conclude with the presentation of the Fellow honor to Beaver and Leifer.

The SBE will also present awards to chapters and individual members during the dinner program. Chapter awards include: Best Chapter or Regional Educational Event, Best Chapter Communications, Most Certified Chapter, Highest Member Attendance and Greatest Growth in New Members. Winners of local Chapter Engineer of the Year awards will also be recognized.

Individual (or company) awards include: Technology Award, Facility Innovation of the Year, Best Technical Paper, Article, Book or Program by an SBE Member; Best Article, Paper or Program by a Student Member and the SBE Freedom Award.

Tickets (\$16) for the SBE Awards Reception and Dinner went on sale at the SBE website on June 1. The other SBE



The Holiday Inn Syracuse Liverpool is the site of the 2020 SBE National Meeting and SBE22 Broadcast & Technology Expo.

You do not need to be an SBE member to attend. Admission to the Expo and sessions is free. Register at [sbe22.org](http://sbe22.org). Lunch will be available for a nominal charge.

The SBE National Meeting and Chapter 22 Broadcast and Technology Expo will be held at the Holiday Inn Syracuse Liverpool, conveniently located at Exit 37 of the New York State Thruway at 441 Electronics Parkway, Liverpool, NY 13088.

Individual attendees may make hotel reservations directly through Holiday Inn reservations at 888-465-4329. Ask for the Society of Broadcast Engineers special rate of \$109 plus tax per night. A limited room block has been set aside for our guests. Check-in is 3:00 p.m., and check-out is 12:00 p.m. Free parking is available to all Expo/National Meeting attendees.

Companies wishing to exhibit may register at the SBE Chapter 22 website, [www.sbe22.org](http://www.sbe22.org). Go to the 2020 Expo page/Exhibitors. Booths are assigned on a first come, first served basis. Booth set-up is Tuesday Sept. 22 from noon to 8 p.m. and Wednesday, Sept. 23 from 7:30 a.m. to 8:30 a.m.

Save the dates and plan to make your way to Syracuse for the Chapter 22 Broadcast and Technology Expo and SBE National Meeting!

Register for the SBE National Awards Dinner  
[bit.ly/2020SBEAwardsDinner](http://bit.ly/2020SBEAwardsDinner)

Register for the SBE22 Broadcast & Technology Expo  
[sbe22.org/2020-expo/](http://sbe22.org/2020-expo/)

National Meeting events are free with your Chapter 22 Broadcast and Technology Expo registration.

The Expo features exhibitors, both regional and national, showing radio/audio technology, television/video technology and broadcast IT. Expo hours are 8:30 a.m. to 5:00 p.m. Anyone working in the broadcast/media field, including those that work in non-technical positions in broadcast and media are invited to attend.

You do not need to be an

## ENNES EDUCATIONAL FOUNDATION TRUST

The trust offers scholarship and educational programming and grants that benefit broadcast engineering and the broadcast engineer. Submit tax-deductible donations, payable to the Ennes Educational Foundation Trust, to the Society of Broadcast Engineers; 9102 N. Meridian St., Suite 150; Indianapolis, IN 46260.

### THANKS TO THE FOLLOWING SUPPORTERS FOR THEIR CONTRIBUTIONS

#### Harold E. Ennes Scholarship

Lawrence Behr, Greenville, NC  
 John Byrne, Jr., Lyndell, PA  
 Ronald Capan, Pittsburgh, PA  
 Karl Lahm, P.E., Rapid City, MI  
 Kate Landow, Denver, CO  
 William McCombs, Wichita, KS  
 Kishore Persaud, Catonsville, MD  
 Daniel Santiago, Lehigh Acers, FL  
 Matthew Saplin, Altamont, NY  
 Stephen Smith, Loudon, TN  
 Richard Thomas II, Okemos, MI  
 Charles Treese, Lake Lotawana, MO  
 David Turnmire, Pocatello, ID  
 Larry Will, Glen Mills, PA

#### John H. Battison Founder's Scholarship

Lawrence Behr, Greenville, NC  
 John Byrne, Jr., Lyndell, PA  
 Kishore Persaud, Catonsville, MD

#### Robert D. Greenberg Memorial Scholarship

Lawrence Behr, Greenville, NC  
 John Byrne, Jr., Lyndell, PA  
 Craig Fox, Syracuse, NY  
 Kishore Persaud, Catonsville, MD

#### Youth Scholarship

Lawrence Behr, Greenville, NC  
 John Byrne, Jr., Lyndell, PA  
 Tom Crowley, Sea Cliff, NY  
 Kyle Facey, Portland, ME  
 Maria Laing, Agoura Hills, CA  
 David Peabody, Gardner, MA  
 Scott Pendergraft, Wrightsville, PA  
 Kishore Persaud, Catonsville, MD  
 Matthew Saplin, Altamont, NY  
 Michael Shovan, Newburgh, NY  
 Nick Straka, Hackettstown, NJ

[sbe.org/ennes](http://sbe.org/ennes)

## Society of Broadcast Engineers, Inc. 2019 Audited Financial Statements

Combined Statement of Assets, Liabilities and Net Assets\*  
 December 31, 2019

### ASSETS:

|                           |                    |
|---------------------------|--------------------|
| Cash and cash equivalents | \$157,455          |
| Investments               | 1,038,519          |
| Property & Equipment, Net | 14,265             |
| Intangible Assets, Net    | 720                |
| <b>Total Assets</b>       | <b>\$1,210,959</b> |

### LIABILITIES and NET ASSETS:

|   |                    |
|---|--------------------|
| Liabilities                               | \$0                |
| Net Assets                                | 1,210,959          |
| <b>Total Liabilities &amp; Net Assets</b> | <b>\$1,210,959</b> |

### 2019 SBE Revenue & Expense Statement

#### INCOME:

|                           |                    |
|---------------------------|--------------------|
| Membership Fees & Support | \$381,400          |
| Membership Services       | 41,797             |
| National Meeting          | 29,988             |
| Certification             | 62,298             |
| Education Services        | 164,978            |
| SBE Store/Book Store      | 11,251             |
| Website                   | 12,190             |
| Frequency Coordination    | 358,892            |
| Net Investment Return     | 119,160            |
| Interest                  | 24                 |
| <b>Total Revenue</b>      | <b>\$1,181,978</b> |

#### EXPENSES:

|                       |                  |
|-----------------------|------------------|
| Program Services      | \$712,231        |
| Management & General  | 249,639          |
| <b>Total Expenses</b> | <b>\$961,870</b> |

|                       |                    |
|-----------------------|--------------------|
| NET ASSETS 12/31/2018 | \$990,851          |
| NET ASSETS 12/31/2019 | <u>\$1,210,959</u> |
| CHANGE IN NET ASSETS  | \$220,108          |

\* CPA-conducted financial audit. SBE uses modified cash accounting method. Investments are listed at market value.

# Hardship Waiver Extends SBE Membership for Qualified Members

**S**BE members who have been laid off or lost their jobs through no fault of their own, can apply for a hardship waiver of their annual SBE dues for one year (through March 31, 2021). Using a waiver to maintain your membership will keep you connected when you need it most. You'll continue to have access to the members-only SBE JobsOnline and SBE Resume Bank services, The Signal, SBE

Compensation Survey results, and discounts on SBE services and books. SBE MemberPlus members will continue to have access to SBE webinars at no cost.

To apply for a waiver, contact Executive Director John Poray at [jpokay@sbe.org](mailto:jpokay@sbe.org) and provide a statement of the circumstances for the waiver request. The statement must include a brief description of the circumstances that have caused you

to become unemployed or experience a significant reduction to your income. To be eligible for a waiver, applicants must have been a member of SBE since at least April 1, 2019 and have not received more than one waiver in the past. The SBE membership waiver program is supported through financial contributions from SBE members.

## Chapter Check

Chapter 16 • Seattle

With stay-at-home orders being enacted in March and April, the SBE encouraged chapters to conduct virtual or online meetings. Several chapters did just that and shared screen shots of their meetings.



Chapter 68 • Birmingham



Chapter 40 • San Francisco



SBE National • Membership Meeting

With the NAB Show being cancelled, the SBE held its spring Membership Meeting online during the April SBE WEBxtra.



Chapter 59 • Kansas City





## LEGAL PERSPECTIVE

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

# Spectrum Pollution and Pandora's Box

The SBE has always been of the view that when it comes to allowing Part 15 unlicensed RF devices into bands occupied by incumbent licensed radio services, the FCC has only one chance to get it right. When thousands or millions of unlicensed RF devices make it past the point of sale, there is no pulling them back, even if the FCC had the resources to do so, which it of course does not. The FCC tends to rely on Section 15.5 of its rules to deal with actual interference post-point of sale. That section requires the operator of the device to cease using the device if it causes interference and requires that the unlicensed device accept all interference received. That is the price one pays for the flexibility of operating an RF device without a license.

Presumably, the operating parameters will be nominal so there can be a presumption that the devices, operated individually or in the aggregate, will not cause interference to licensed radio services with which the devices share spectrum in fact. Because of this presumption, the Part 15 devices have no allocation in the international or domestic table of allocations; they are allowed to operate at sufferance to those services that do have allocations. Where these presumptions break down is when the FCC's focus is not on interference potential as much as the potential benefit of the latest broadband deployment. But it is true that the FCC has to get it right in the rulemaking proceeding, because the interference can't be fixed later, once Pandora's Box has been opened.

### Forward Progress

The FCC took action in April on the Oct. 24, 2018, Notice of Proposed Rulemaking in Docket 18-295, which proposed to permit unlicensed 5G Wi-Fi devices and other unlicensed broadband devices (projections indicating that there will be almost a billion such devices) in the 1200 MHz of spectrum in the 5.925-7.125 GHz (6 GHz) band. In the FCC's original proposal, relatively high-powered unlicensed devices would be permitted to operate outdoors in portions of two sub-bands (totaling 850 MHz of spectrum), subject to their use of an equipment-based frequency coordination mechanism that would prevent the unlicensed devices from transmitting on frequencies where such transmissions could cause harmful interference to incumbent services. In the BAS 6425-6525 MHz and 6875-7125 MHz bands, lower powered, indoor-only unlicensed operation would be permitted (totaling 350 MHz of spectrum) without any automatic frequency control circuitry required. FCC assumed that the itinerant nature of mobile services (including BAS) would make the use of AFC impractical. The combination of lower power (30 dBm EIRP as opposed to 36 dBm for outdoor devices) and indoor operations would, the FCC said, protect licensed services operating on these frequencies from harmful interference.

The Report and Order and Further Notice of Proposed Rule Making makes 1200 MHz available for unlicensed use in the 6 GHz band. Unlicensed devices will share this spectrum with incumbent licensed services under rules that FCC says are "carefully crafted to protect those licensed services and to enable both unlicensed and licensed operations to thrive throughout the band." It authorizes two different types of unlicensed operations—standard-power and indoor low-power operations.


Standard-power access points using an automated frequency coordination (AFC) system. These access points can be deployed anywhere as part of hotspot networks, rural broadband deployments, or network capacity upgrades. Indoor, low-power access points are authorized across the entire band.

### Interference Avoidance

As to the interference potential between broadcast ENG and the Wi-Fi devices in the 6.5 and 7 GHz bands, the FCC said that the risk of harmful interference to outdoor electronic news gathering receivers from indoor unlicensed devices is "negligible," and that a 10 dB signal-to-interference-plus noise level provides an accurate basis for determining the impact of unlicensed indoor devices on broadcast auxiliary service signals. The FCC agreed with broadband sources that "[n]ews truck operators will be able to improve their link budgets by slightly adjusting the positions of their trucks or shooting locations."

The NAB commissioned an impressive study of the effect of these Wi-Fi devices on communication between indoor electronic news gathering transmitters, such as microphones and camera-back transmitters, and indoor electronic news gathering receivers. The FCC said that, but for the rules that were adopted for such devices, the indoor Wi-Fi scenario would present some risk of harmful interference, but it was not permitting client devices to be used as hotspots and it required 6 GHz unlicensed devices to use a contention-based protocol, which should protect indoor mobile links, including electronic news gathering and Low Power Auxiliary Stations.

The SBE had argued in comments filed in February of 2019 and in an ex parte filing a year later, that the FCC lacked information about the compatibility of these unlicensed devices, operating at the parameters proposed, in the same bands as incumbent, mobile BAS LTTS and CARS licensees, or about the potential aggregate effect of the proposed, unlicensed broadband devices on the incumbent users at 6.5 and 7 GHz. The power level for indoor unlicensed devices is too high; there is no duty cycle limitation for mobile broadband devices; the out-of-band emission limits proposed for devices in the entirety of the 6 GHz band are insufficient; and there is *no* possibility that unlicensed broadband mobile devices, indoors or outdoors, can sense a temporary receive location in a stadium or other indoor location. There is a "hidden transmitter effect" that makes this spectrum sharing plan ineffective. Finally, the FCC hasn't the enforcement resources to police the deployment of these new Wi-Fi devices. None of these arguments was even noted in the Report and Order, and the NAB's technical study was glossed over.

The Further NPRM in this Docket proposes to permit unlicensed devices to operate both indoors and outdoors across the entire 6 GHz band at "very low power." It would also seek comment on increasing the transmit power of indoor access points that operate without an AFC. Stay tuned. 

### FCC ACTION ON DOCKET 18-295

[docs.fcc.gov/public/attachments/FCC-20-51A1.pdf](https://docs.fcc.gov/public/attachments/FCC-20-51A1.pdf)



## FOCUS ON SBE

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

# SBE Chapters Adapt

**B**y the time you read this, we will have gone through about three months of social distancing, stay-at-home orders and other restrictions as a result of the COVID-19 pandemic. I hope you have remained safe and healthy throughout this time. Given the size of our membership and the number of members who are over 65 years of age, it is likely that some have contracted the virus. For those, I hope you have recovered or are on the way there. Our thoughts are with you!

In March, we asked chapters to not meet in person, but rather, to meet virtually if they have the resources. I am pleased to say that many chapters have done that and with some pretty good success. Some report that attendance has actually been better than their in-person meetings. Of course, with many of us living in a bit of seclusion, the attraction of getting together, even virtually, is appealing and some also have a little more time on their hands. We do want to recognize those that have found themselves as busy as ever, helping to provide remote facilities for on-air talent and keeping IT and transmission facilities functioning at a high level. With so many people having an increased desire and need to get their news from broadcasters, the work of SBE members has been critical to make this possible.

Also during this time, we have seen the number of members who have taken advantage of online SBE educational programs increase. During the first few months of 2020, we saw a 16 percent jump in SBE webinar viewers over the same period of

the record-setting year of 2019:

More than 1,200! Those who have taken the SBE MemberPlus option account for most of those. If you have yet to try this value-added member option, it's not too late. Contact Scott Jones at the national office (317-846-9000 or [kjones@sbe.org](mailto:kjones@sbe.org)) and he will help you make the switch. The additional \$90 over the traditional membership dues level of \$85 is very small considering you'll gain access to more than 90 webinars that cover broadcast RF and IT technology, safety and regulatory topics presented by subject matter experts. If purchased separately, the cost for SBE members is \$62 for each webinar.

Another SBE educational program, the only one not on a technical topic, is the SBE Leadership Development Course. As of this writing, the three-day program in Atlanta, led by professional leadership trainer, Rodney Vandevener, is still scheduled to take place on Aug. 4-6. If leadership and management training is important to you and your employer, I encourage you to register. There is no risk if conditions require that we cancel or postpone the program. All registration money will be returned if that's the case. If necessary, the decision to cancel or postpone will be made no later than July 1. Those needing to make travel arrangements should wait until after July 1. See the Education page at the SBE website to register, or go to [sbe.org/lcd](http://sbe.org/lcd). A limited number of participants can be accommodated.

## The Meeting Must Go On

Though the in-person national SBE Board of Directors meeting that was to be held April 19 during the 2020 NAB Show was canceled, the Board still got together for its first-ever meeting via Zoom on April 24. Among the actions taken by the Board was the elevation of two members to the membership rank of Fellow. Ralph Beaver and Jim Leifer will receive their formal recognition during the SBE National Meeting on Sept. 23 in Syracuse, NY. Both men have earned this recognition over many years of service to the SBE and the industry. I have personally benefited greatly from knowing and working with both. See a more detailed account of their broadcasting careers in this issue of *The Signal*.

Chuck Kelly, a past president of the SBE, has served most of the last 30 years as chair of the SBE International Committee. His work for industry manufacturers over the years has taken him around the world and he has always been ready to talk about SBE to broadcast engineers where ever his travels would take him. This contributed to the establishment of working agreements with ten broadcast engineering organizations located in South Korea, Mexico, India, Canada and other countries, as well as new SBE members located in more than 30 countries spread across six continents. Chuck announced his resignation as chair of the committee during the Board meeting, citing that he travels less internationally. Our thanks to Chuck for his many years as the SBE's "international ambassador."



Kelly

In mid-July, ballots will be sent to all voting members for the annual election of board directors and officers. The candidates, all volunteers, deserve your support so please plan to vote. Unless indicated during membership renewal that you wish to vote with a paper ballot, you will receive your ballot and vote electronically. We encourage this method as it's convenient, quicker, secure and saves the SBE the cost of printing, postage and mailing services. Each year, more than 90 percent of all ballots have been cast electronically.

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## ENGINEERING PERSPECTIVE

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



# Preparation for a Crisis

**B**ecause broadcasting is a 24/7 business, having plans in place to address a wide range of possible unusual situations is – or should be – the goal of every facility, station, group and business. When a station is off the air, it's not serving its audience, and it's not making any revenue. While the specifics of COVID-19 with stay-at-home orders is unique for most broadcast operations, operations with more extensive emergency preparedness plans were likely better prepared for what is hap-

### The station group

**Sam Wallington, CSRE**  
*VP of Operations and Engineering;*  
*Educational Media Foundation*

**P**reparing for a disaster, even an unknown one, is essential to allowing an organization to act rather than react when disaster comes. Once a disaster starts, managing the crisis without prior preparation can become a game of Whac-a-Mole.

Educational Media Foundation (EMF) has intentionally built a high-change culture to support quick action when opportunities (or crises) arise. We've worked hard as well to create a high-trust culture, helping make change more fun and less stressful. Both characteristics were very useful as we faced the challenges brought by COVID-19.

Years ago, our Business Continuity/Disaster Recovery (BCDR) team walked through disaster possibilities and quantified expectations. For example, if computer network servers fail, which services should be restored first, and which can wait? EMF's board and leadership team have also clearly defined and communicated who we are and why we exist. These foundations enable quick focus and prioritization.

As COVID-19 began to emerge, EMF's COO met with the head of HR to plan options, and evaluate each role's criticality and work-location requirements. They then brought their recommendations to the Leadership Team, where we reviewed and made minor changes to the plan. We each then met individually with team leaders to describe the plan and work out problems. By the end of the day, each leader had communicated with his or her team, and the CEO had sent a detailed communication e-mail to the entire organization so everyone was informed and on the same page.

Within a few days, our IT team transitioned more than 300 employees to work remotely. If you believe in luck (we believe it was a God thing), our IT team had laptops in stock from a recent department upgrade. They deployed those laptops as needed, and spun up hundreds of Virtual Desktop Infrastructure (VDI) instances, providing training as needed. Meanwhile, leaders collaborated with their teams on working from home and ensuring a safe environment for those whose work required being in the office or studios. An example of this was our studio engineers working closely with each on-air team to implement effective home studios using RCS Zetta2go, Selector2go, and In:Quality ipDTL audio codecs. They also ensured careful sanitization of microphones and workspaces between main studio shows for those in the office.

None of us expected COVID-19. Nonetheless, "what if" planning, communication, culture, and having spare equipment on hand all played a role in preparing for quick action during this unprecedented crisis. ■



Wallington

pening.

For two different points of view on how the current situation affected their operation, I contacted a contract engineer and broadcast group technical director for their insights. In the end, they have the same goal: Keep their stations operating as close to a regular routine as possible. They explain how they accomplish this. ■

### The contract engineer

**Joe Portelli, CBRE**  
*JPP Communications*

**I**t is now day 33 of quarantine. As I write this I'm sitting in my basement shop/hamshack at my home pondering what in the world has happened. It seems like just yesterday I was in busy broadcast studios that were teeming with staffers. Yet, here we are. Somehow the phrase "we're all in this together" isn't very comforting to me.

From a business standpoint, some things have changed for me, some things have not. There's still the occasional off-air crisis as always; however, it's become a very lonely job.

As a contract engineer who doesn't visit facilities on a daily basis, typically word gets out when I walk into the building and people hunt me down to help them solve their small issues. "Help me map that shared drive," or "There's a hum in mic 3." If you're a contract engineer, you know the drill. I don't mind it, but sometimes the small issues keep me from getting to the task that I walked into the building for.

These days, being mobbed when I walk into the building isn't an issue. While some broadcasters have minimized their staff to prevent the spread of COVID-19, others have mostly completely vacated their facilities and have staff working remotely. The stations are lonely, empty places. Sales staff is nowhere to be found. At some stations, all that can be heard is the faint sound of air monitors and the quiet hum from the rack room. Strange world we're living in.

At the beginning of the quarantine, I was in a scramble to help some of my clients get set up for remote operations. Offsite voice tracking was a hot commodity. Over the period of a week or so, we managed to get five facilities and about 20 signals set up for remote tracking.

One of the few positives about quarantine is that it's been a great time to catch up on projects that have been sitting on the backburner. I've been spending more time at transmitter sites than usual. Tower crews are still working, so I've been able to get several projects done that involve climbing. I suppose visiting a transmitter site is the ultimate in social distancing. I've also been able to catch up on the pile of equipment in the queue for bench service.

Now that my clients are into their remote operation routine, things have settled down mostly to normal for me. Though I sure miss having folks around when I'm working, I understand that some people thrive on solitude. I'm not one of them. ■



Portelli



|   |  |  |   |
|---|--|--|---|
| <p><b>AC Video Solutions • 2014</b><br/>Andrea Cummis 201-303-1303<br/>Consulting, Systems Design/Integration</p>   | <p><b>DoubleRadius, Inc. • 2012</b><br/>Jeffrey Holdenrid 704-927-6085<br/>IP Microwave STL</p>  | <p><b>LYNX Technik • 2007</b><br/>Steve Russell 661-251-8600<br/>Broadcast Terminal Equipment Manufacturer</p>                                 | <p><b>Ross Video Ltd. • 2000</b><br/>Jared Schatz 613-228-0688<br/>Manufacturer, Television Broadcast Equipment</p>   |
| <p><b>AEQ Broadcast International • 2015</b><br/>Peter Howarth 954-581-7999<br/>Broadcast Audio, Video and Communications</p>   | <p><b>Drake Lighting • 2015</b><br/>Dave Sheppard 270-804-7383<br/>FAA Obstruction Lighting - Medium and High Intensity</p>                                    | <p><b>Markertek • 2002</b><br/>Adam June 845-246-2357<br/>Specialized Broadcast &amp; Pro-Audio Supplier</p>                                   | <p><b>Sage Alerting Systems Inc. • 2010</b><br/>HAROLD PRICE 914-872-4069 x113<br/>Emergency Alert Systems Products</p>                                     |
| <p><b>American Tower Corporation • 2000</b><br/>Peter A. Starke 781-926-4772<br/>Development/Construction/Management</p>  | <p><b>DTS Inc./HD Radio Technology • 2014</b><br/>Rick Greenhut 443-539-4335<br/>HD Radio Technology</p>   | <p><b>Micronet Communications Inc. • 2005</b><br/>Jeremy Vize 972-422-7200<br/>Coordination Services/Frequency Planning</p>                    | <p><b>SCMS Inc. • 2000</b><br/>Bob Cauthen 800-438-6040<br/>Audio and RF Broadcast Equipment Supplier</p>   |
| <p><b>Audemat-Worldcast Systems Inc. • 2000</b><br/>Christophe Poulain 305-249-3110<br/>Control Manufacturer</p>  | <p><b>du Treil, Lundin &amp; Rackley, Inc. • 1985</b><br/>Jeff Reynolds 941-329-6000<br/>Consulting Engineers</p>  | <p><b>Microwave Video Systems • 2011</b><br/>Warren J. Parece 781-665-6600<br/>Microwave Equipment Rental, Sales &amp; Service</p>             | <p><b>Seacomm Erectors, Inc. • 1997</b><br/>John Breckenridge 360-793-6564<br/>Tower/Antenna Erections</p>  |
| <p><b>Belden Electronic Division • 1991</b><br/>Rose Lockwood 203-500-4743<br/>Fiber and Copper Cabling Infrastructure</p>  | <p><b>The Durst Org. - 4 Times Square • 2004</b><br/>212-997-5508<br/>TV/FM/Microwave Tower Site</p>   | <p><b>Moseley Associates Inc. • 1977</b><br/>Bill Gould 805-968-9621 x785<br/>Digital STLs for Radio and Television</p>                        | <p><b>SEG • 2014</b><br/>Chris Childs 913-324-6004<br/>Supply Chain Products and Services</p>   |
| <p><b>Blackmagic Design • 2012</b><br/>Terry Frchette 408-954-0500<br/>Production Switchers, Digital Cameras, Routers, Video Editing and Monitoring, Color Correction, Video Converters</p> | <p><b>DVEO - Division of Computer Modules Inc. • 2011</b><br/>Laszlo Zoltan 858-613-1818<br/>Everything About Transport Streams</p>                            | <p><b>MulticAM Systems • 2020</b><br/>Mary Ann Gordon 207-776-5998<br/>Fully automated live video production</p>                               | <p><b>Shively Labs • 1996</b><br/>Dale Ladner 888-SHIVELY<br/>FM Antennas &amp; Combiners</p>   |
| <p><b>Bracke Manufacturing LLC • 2012</b><br/>Patra Largent 949-756-1600<br/>RF &amp; Microwave Components</p>  | <p><b>Econco • 1980</b><br/>Debbie Storz 800-532-6626,<br/>530-662-7553<br/>New &amp; Rebuilt Transmitting Tubes</p>   | <p><b>MusicMaster • 2014</b><br/>Jerry Butler 352-231-8922<br/>Advanced Music Scheduling Solutions</p>   | <p><b>Shure Incorporated • 2012</b><br/>Bill Ostry 847-600-6282<br/>Microphones, Wireless Systems, Headsets</p>   |
| <p><b>Broadcast Depot • 2018</b><br/>John Lackness 305-599-3100<br/>TV, Satellite, Radio, IP</p>  | <p><b>ENCO Systems Inc. • 2003</b><br/>Samantha Bortz 248-827-4440<br/>Layout and Automation Solutions</p>   | <p><b>Nascar Productions • 2014</b><br/>Abbey Klecheski 704-348-7131<br/>Live/Post Production Services</p>                                     | <p><b>Sierra Automated Systems and Eng. Inc. • 2011</b><br/>Al Salci 818-840-6749<br/>Routers, Mixers, Consoles, Intercoms</p>                              |
| <p><b>Broadcast Devices, Inc. • 2015</b><br/>Robert Tarsio 914-737-5032<br/>Audio/RF Support Products</p>   | <p><b>ERI - Electronics Research • 1990</b><br/>David White 812-925-6000<br/>Broadcast Antennas, Transmission Line, Filters/Combiners, Towers and Services</p> | <p><b>National Association of Broadcasters • 1981</b><br/>Industry Trade Association 202-429-5340</p>  | <p><b>Solid State Logic • 2014</b><br/>Steve Zaretsky 212-315-1111<br/>Digital Audio Mixing Consoles, Networked Audio Routing, Embedded Audio Solutions</p> |
| <p><b>Broadcast Electronics Inc. • 1978</b><br/>Perry Priestly 217-224-9600<br/>Radio Equipment Manufacturer</p>  | <p><b>Floral Systems • 2008</b><br/>Shawn Maynard 877-774-1058<br/>Television Broadcast Automation</p>   | <p><b>National Football League • 1999</b><br/>Michael Katzenoff 212-450-2368<br/>Game Day Coordination Operations</p>                          | <p><b>Staco Energy Products Co. • 2010</b><br/>Paul Heiligenberg 937-253-1191 x128<br/>Manufacturer of Voltage Regulators, UPS</p>                          |
| <p><b>Broadcast Software International • 2016</b><br/>Marie Summers 888-274-8721<br/>Radio Automation, Audio Logging</p>  | <p><b>Fujifilm/Fujinon • 1986</b><br/>Gordon Tubbs 973-686-2769<br/>Broadcast &amp; Cine Lens Products</p>   | <p><b>Nautil Inc. • 2002</b><br/>Jeff Welton 877-662-8835<br/>Radio Broadcast Transmitter Manufacturer</p>                                     | <p><b>SuitLife Systems • 2019</b><br/>Nigel Brownett 310-405-0839<br/>Manage. Monitor. Control</p>  |
| <p><b>Broadcast Supply Worldwide • 1986</b><br/>Shannon Nichols 800-426-8434<br/>Audio Broadcast Equipment Supplier</p>   | <p><b>GatesAir • 1977</b><br/>Dave Hopson (TV) 513-445-5243<br/>Mark Goins (Radio) 513-899-9124<br/>Broadcast Equipment Manufacturer</p>                       | <p><b>Nemal Electronics Int'l Inc. • 2011</b><br/>Benjamin L. Nemser 305-899-0900<br/>Cables, Connectors, Assemblies and Fiber Optic</p>       | <p><b>Sutro Tower Inc. • 1989</b><br/>Eric Dausman 415-681-8850<br/>Broadcast Tower Leasing</p>   |
| <p><b>Broadcasters General Store • 2004</b><br/>Buck Waters 352-622-7700<br/>Broadcast Audio Video Distributor</p>  | <p><b>Heartland Video Systems, Inc. • 2011</b><br/>Dennis Klas 920-893-4204<br/>Systems Integrator</p>   | <p><b>Neutrik USA, Inc. • 2012</b><br/>Kathy Hall 704-972-3050<br/>Ruggedized Optical Fiber Systems</p>  | <p><b>Synthax Inc. • 2020</b><br/>Derek Badala 603-591-6735<br/>Audio Codecs and Converter Solutions</p>  |
| <p><b>Burk Technology • 2019</b><br/>Jim Alinwick 978-486-0086 x7404<br/>Transmitter Facility Control Systems</p>   | <p><b>Hilights, Inc. • 2016</b><br/>Timothy Nash 352-564-8830<br/>Obstruction Lighting Maintenance</p>   | <p><b>NPR Distribution Services • 2019</b><br/>Dan Riley 202-513-2624<br/>Your Content Delivery Partners</p>                                   | <p><b>Technical Broadcast Solutions, Inc. • 2018</b><br/>Robert Russell 215-983-0855<br/>Engineering and Consulting Services</p>                            |
| <p><b>Calrec Audio • 2016</b><br/>Helen Carr 703-307-1654<br/>Audio Mixing Equipment</p>  | <p><b>Hitachi Kokusai Electric Comark • 2013</b><br/>Jack McAnulty 413-998-1523<br/>Manufacturer Broadcasting Transmission Equipment</p>                       | <p><b>Orban Labs, Inc. • 2011</b><br/>Mike Pappas 480-403-8300<br/>Audio Processing AMFMTV</p>   | <p><b>Teledyne e2v US • 1997</b><br/>Dominic Pianulli 845-578-6137<br/>Electronic Components</p>  |
| <p><b>Camplex • 2017</b><br/>Daniel Coscarella 800-445-7568 x7409<br/>Fiber Optic Cable Assembler</p>   | <p><b>iHeartMedia, Inc. • 2019</b><br/>Troy Langham 918-664-4581<br/>Radio Group Owner</p>   | <p><b>Pasternack Enterprises • 2001</b><br/>Christine Hammond 949-261-1920<br/>Coax &amp; Fiber Products</p>                                   | <p><b>Televs USA, LLC • 2018</b><br/>Andy Ruffin 937-475-7255<br/>ATSC 3.0 Transmission Solutions, Antennas</p>   |
| <p><b>Canon USA Inc. • 1985</b><br/>Larry Thorpe 201-807-3300,<br/>800-321-4388<br/>Broadcast Lenses &amp; Transmission Equipment</p>   | <p><b>Indiana Broadcasters Association • 2019</b><br/>Dave Ariand 317-701-0084<br/>Indiana Association for Radio &amp; TV Broadcasters</p>                     | <p><b>Potomac Instruments • 1978</b><br/>Zachary Babendreier 301-696-5550<br/>RF Measurement Equipment Manufacturer</p>                        | <p><b>Telos Systems/Omnia/Axia • 2003</b><br/>John Bisset 216-241-7225<br/>Telos Systems Talk-Show Systems</p>  |
| <p><b>Cavell, Mertz &amp; Associates Inc. • 2011</b><br/>Gary Cavell 703-392-9090<br/>Consulting Services</p>   | <p><b>Inovonics Inc. • 2012</b><br/>Gary Luhman 831-458-0552<br/>Radio Broadcast Equipment</p>   | <p><b>ProAudio.com- A Crouse-Kimzey Co. • 2008</b><br/>Mark Bradford 800-433-2105 x560<br/>Proaudio Broadcast Equipment Distributor</p>        | <p><b>Teradek • 2011</b><br/>Jon Landman 949-743-5783<br/>Camera-top ENG Solutions</p>  |
| <p><b>Comrex Corporation • 1997</b><br/>Chris Crump 978-784-1776<br/>Audio &amp; Video Codecs &amp; Telephone Interfaces</p>  | <p><b>JAMPRO Antennas Inc. • 2011</b><br/>Alex Perchevitch 916-383-1177<br/>DTV, FM-HD Radio, DVB-T/T2, ISDB-T, DAB</p>  | <p><b>Propagation Systems Inc. - PSI • 2010</b><br/>Doug Ross 814-472-5540<br/>Quality Broadcast Antenna Systems</p>                           | <p><b>Tieline The Codec Company • 2003</b><br/>Dawn Shewmaker or Jacob Daniluck 317-845-8000<br/>Audio Codec Manufacturer</p>                               |
| <p><b>Continental Electronics • 1976</b><br/>Dale Dalesio 412-979-3253<br/>TV and Radio Transmitters</p>  | <p><b>JVC Professional Video • 2014</b><br/>Edgar Shane 973-317-5000<br/>Professional Video Products, Camcorders, Display Monitors, Recording Decks</p>        | <p><b>QCommunications • 2019</b><br/>Tony zumMallen 816-729-1177<br/>Services Behind the Scenes</p>  | <p><b>Unimar Inc. • 2001</b><br/>Thad Fink 315-699-4400, 813-943-4322<br/>Tower Obstruction Lighting Designer, Manufacturer, Distributor</p>                |
| <p><b>CueScript • 2014</b><br/>Michael Accardi 203-763-4030<br/>Teleprompting Software &amp; Hardware</p>   | <p><b>Kathrein USA Inc. • 1985</b><br/>Les Kutasi 541-879-2312<br/>Antennas for Broadcasting &amp; Communications</p>  | <p><b>Quintech Electronics and Communications Inc. • 2002</b><br/>James Herbstritt 724-349-1412<br/>State-of-the-art RF Hardware Solutions</p> | <p><b>Wheatstone • 2010</b><br/>Jay Tyler 252-638-7000<br/>IP Consoles, Routers &amp; Processors</p>  |
| <p><b>Davicom, Division of Comlab, Inc. • 2014</b><br/>Louis-Charles Cuierrier 418-682-3380 x512<br/>Remote Site Monitoring and Control Systems</p>   | <p><b>Kintronc Labs, Inc. • 2015</b><br/>Joaquin Raventos 423-878-3141<br/>Radio Broadcast Antenna Systems - ISO9001 Registered Company</p>                    | <p><b>QVC • 2011</b><br/>Kevin Wainwright 484-701-3431<br/>Multimedia Retailer</p>   | <p><b>Wireless Infrastructure Services • 2006</b><br/>Travis Donahue 951-371-4900<br/>Repacking Services - West Coast Turnkey Services</p>                  |
| <p><b>DEVA Broadcast • 2015</b><br/>Todor Ivanov 305-767-1207<br/>Monitors, IP Audio Codecs, RDS/RBDS Encoders, Audio Processors, Broadcast Tools</p>                                       | <p><b>LBA Technology Inc. • 2002</b><br/>Javier Castillo 252-757-0279<br/>AM/MW Antenna Equipment &amp; Systems</p>  | <p><b>RF Specialties Group • 2008</b><br/>www.rfspecialties.com<br/>Everything from the Microphone to the Antenna</p>                          | <p><b>Robde &amp; Schwarz • 2003</b><br/>Walt Gumbert 724-693-8171<br/>Transmitters, Test &amp; Measurement, Video</p>                                      |
| <p><b>Dielectric • 1995</b><br/>Cory Edwards 207-655-8131<br/>TV &amp; FM Transmission &amp; Cellular Products</p>  | <p><b>Linkup Communications Corporation • 2017</b><br/>Mark Johnson 703-217-8290<br/>Satellite Technology Solutions</p>  |  |   |
| <p><b>Digital Alert Systems, LLC • 2005</b><br/>Bill Robertson 585-765-1155<br/>Emergency Alert Systems</p>   |  |  |   |

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## EAS UPDATE

SBE EAS Advisory Group; Larry Wilkins, CPBE, chair  
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# Security Issues Concerning Operation of EAS Equipment

I hope everyone is staying safe and abiding by the guidance concerning Covid-19. Most broadcast operations are now being handled off-site, which could create security problems. Hackers know this and can take advantage of these opportunities.

### Login and Password

It stands to reason that engineers should review the station security features including firewalls, passwords and any access to the open internet by station equipment. One area of concern is the EAS equipment, including any RBDS encoders. Creating secure login information is vital to blocking hackers from getting to the system. While I visit stations as part of the ABIP program, I still find some that are still using the default password that came with the unit. It is not difficult to create secure passwords and change them regularly.

Thankfully, most EAS devices force you to change your password when you first configure your device. Some EAS devices also periodically remind you to change your passwords. When you first install your EAS device, you need to change that default password. If you haven't done this since you first installed your device, take this as a reminder to go change it as soon as possible. If your device didn't prompt you to change your password, that is also probably a clue that you are running old software on the EAS device that needs to be updated.

Other reasons to change your EAS device passwords:

1. When you have changes in personnel. Even when changes in status happen on friendly terms, it is a wise idea to "change the locks" on key station equipment - including EAS equipment - when staff or contractors quit, retire or are terminated.
2. After a security incident, such as evidence of unauthorized access to EAS device (even internally).
3. You suspect someone who should not have access might know the password.
4. You somehow logged into the EAS device from outside your station, or from a shared or public computer. First, you should not access your EAS equipment from outside the station, unless you are using a secure link (such as a virtual private network). Fix that right away. Then change your passwords.
5. It's been a year or more since you last changed the password.

### Network Connections

Although it is tempting to place the EAS equipment on an outside static IP address, this gives an open door to those wishing to do harm. If you don't have an IT staff or someone who understands IT systems, you might ask, "How can I check to see if my EAS device is directly accessible from the Internet?"

1. The easiest way to see if your EAS device might be directly connected to the Internet is this check: Are you accessing the device from a remote location - from home, or an off-campus hotspot, from your smart phone, etc. If you are, and it always "just works," then your device is on the internet, and you might not have a firewall. A firewall usually requires you to access the device from a known IP address, or to connect through a VPN or other access limiting system. If you've never heard of these, and haven't spent any time setting it up, you

need to investigate if you have a firewall.

2. Check the IP address of your EAS device. This will be the address you use to check your logs. Some EAS devices will display their IP address on their front panel - check with your manufacturer.

Some IP addresses are non-routable, and some are routable. If you have a non-routable address, then you are not directly connected to the internet - but you might still have a problem. Sometimes your network will have a device that is redirecting connections from an external routable address to your non-routable internal address. Such a device will often also have firewall capabilities. The non-routable addresses will always look like one of these: 10.xxx.xxx.xxx, 172.16.xxx.xxx through 172.31.xxx.xxx, and 192.168.xxx.xxx. If you have anything other than these, then you are probably directly connected to the Internet. You *need a firewall*. Find out if you have one.

The firewall will permit only certain IP addresses that you select from getting from the outside internet directly to your EAS device. You usually need to limit such access to just the HTTPS port (443). SSL will add additional protection against outsiders gaining information by watching the flow of data between you and your EAS device. Even if you are going to permit remote access to your EAS device, you only want to give access to just the ports you need; not all the ports, because an IP address can be spoofed.

For the best protection for your EAS device, a firewall should reject ANY incoming connection to your EAS device it receives from the Internet. If you must permit remote access, the best choice is to only permit a connection to the HTTPS port (443). Some EAS devices will use different ports for different things, and you might want to allow access on these ports, but start with a locked down system, and know what you are doing when opening any other ports.

### Software Updates

As with all computer devices that connect to a network, keeping the firmware and software updated is important. EAS device software updates contain modifications to meet FCC rule changes, they also contain critical security patches, functional updates and bug patches.

1. FCC compliance updates. The FCC has modified its rules several times over the past few years, changing the way alert time is handed for national alerts, adding EAS event codes, modifying FIPS names, and other rules. If you are not updating your software, you run the risk of not being compliant with current FCC rules.
2. Security patches. Security patches address vulnerabilities that bad guys might use to gain unauthorized access to your EAS equipment. And, let's face it, anything connected to the Internet - even behind a firewall - should be treated as vulnerable. It is very wise practice to keep current with these security updates.
3. Bug patches and functional updates. From time to time, EAS

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# Member Spotlight: Damion Giunta

## Member Stats

**SBE Member Since:** 2012  
**SBE Certifications:** CBTE, CBNT, CBT  
**Chapter:** 48 Denver  
**Employer:** Starz Entertainment  
**Position:** Broadcast IT Engineer  
**Location:** Englewood, CO

**I'm Best Known For:** I am great with working on legacy equipment. I believe that I have an unusual sixth sense for troubleshooting problems.

**Q** What do you value most about your SBE involvement?

**A** The certification requires that I keep my skills current. The webinars inform me about industry movement and changes.

**Q** What got you started in broadcast engineering?

**A** I started working in rental houses in Hollywood repairing broadcast equipment. My capabilities were noticed by some of the clients and I started working on larger productions like *American Idol*, *So You Think You Can Dance* and *America's Got Talent*.



Damion working in the transmission room at Starz.

**Q** Who do you consider to be a mentor?

**A** I have two I must mention. Terry Donahue was my mentor while working on *American Idol* and *So You Think You Can Dance*. He has been in the industry forever and has a great deal of knowledge. He gave me opportunities to work on some of the greatest shows

out there. Mike Farina was my supervisor at my previous job. He was brilliant and patient and taught me a great deal of technical skills relating to broadcast repair and satellite ops.

**Q** What do you like most about your job?

**A** New equipment and changing technology. There's always something to learn.

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

**A** ...enjoy hiking, playing video games, finding new music, spending time with my wife, and reading.

**Q** What's something that most people may not know about you?

**A** I have worked in every state in the United States with my work in broadcast engineering. It has taken me from glaciers in Alaska to the swamps of Florida. I'm Rosebud and Pine Ridge Sioux. I've delivered all four of my children at home.

## WELCOME TO THE SBE

### NEW MEMBERS

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 Daniel Bish - Phoenix, AZ  
 Clayton Carnes - Houston, TX  
 Terry J. Crawford - Avondale, AZ  
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 Graham T. Dicker - Blackwood, Australia  
 Kent A. Downs - Rock Hill, SC  
 Kari Elswick - North Hollywood, CA  
 Charles O. Emuze - Lagos, Nigeria  
 Mario Flores - Savannah, GA  
 Christopher Groves - St. Petersburg, FL  
 Kent D. Gustafson - Wauconda, IL  
 Daniel Hornbeck - Portland, OR  
 Darin Ide - Sweet Valley, PA  
 Nick A. Israel - Brooklyn, NY  
 Kenneth L. Jones - Redford Charter Township, MI  
 Shawn M. Kimsey - Katy, TX  
 David M. Krause - Liverpool, NY  
 Jeremy T. Lee - Alabaster, AL  
 Scott H. MacLeod - Halifax, NS  
 Jacob Martin-Wagner - Mendocino, CA  
 Robert C. McCarney - Hatfield, PA  
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 Kenneth K. Merley - Holt, MI  
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 Barry L. Perrault - Humble, TX  
 Steven M. Pierce - Houston, TX  
 Javier Quiroz - Harlingen, TX  
 Thomas D. Richardson - Gresham, SC  
 Eric Scace - Boulder, CO  
 Joseph C. Scarazzo - Dickson, TN  
 Jesse D. Spurgeon - Wenatchee, WA  
 Darrell Stafford - Mt. Juliet, TN  
 Richard Steward - Granbury, TX  
 David Swanick - Buffalo, NY  
 Jackson A. Taylor - Detroit, MI  
 John B. Underwood - Oak Hill, WV  
 Doug P. Watson - Statesville, NC  
 Jason Weyl - Savannah, GA  
 Hunter E. White - Pelham, AL  
 Joshua C. Williams - Lander, WY  
 Chris J. Zentkowski - Duluth, MN  
 Corey A. Ziegler - Plymouth, MN

### RETURNING MEMBERS

Brady C. Aldrich - Wenatchee, WA  
 Michael J. Baker - St. Cloud, MN  
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 Joel M. Mastrantuono - Wayne, NJ  
 Timothy Meinig - Seattle, WA  
 Jack E. Mills - Oklahoma City, OK  
 Kelly E. Moore - Dallas, TX  
 Vincent C. Paladino - Ramsey, NJ  
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 John R. Penovich - Silver Spring, MD  
 David Polk - Birmingham, AL  
 Chuck Poulton - Kent, OH  
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 Landis T. Schrock - Roanoke, VA  
 Michael R. Stepp - Fort Myers, FL  
 Todd W. Tanner - Centennial, CO  
 Seth B. Welcker - Lahaina, HI  
 Albin J. Wicki - Union Beach, NJ

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 Chun Kit Chan - Yuen Long, Hong Kong  
 Kwan Hei Chong - Tseung Kwan O, Hong Kong  
 Benford T. Gould - Calgary, AB  
 Kar Man Ho - Tai Po, Hong Kong  
 Wing Ki Lam - Sheung Shui, Hong Kong  
 Yik Fai Li - Tai Po, Hong Kong  
 Wai Kei Ngan - Hong Kong  
 Ismail K. Otu - Charlotte, NC  
 Diana L. Schwarz - La Crescenta, CA  
 Igor Sukhermin - Calgary, AB  
 Chi Yung Wong - Hong Kong  
 ZiYuan Zhang - East Lansing, MI

### NEW YOUTH MEMBERS

Hudson T. Stanfield-Myers - Lee's Summit, MO  
 Christopher D. Wilder - Swanzy, NH

manufacturers find a flaw or a bug in their software and issue a software update to address it. They also release helpful improvements and new features.

Should you have questions about the

## Are you part of the EAS Exchange?

The SBE Email Discussion List

Join the conversation  
[sbe.org/eas](http://sbe.org/eas)

EAS equipment configuration, contact the manufacturer directly. Should you have questions regarding your firewall or network configuration, you may want to consult with an IT consultant or the manufacturer of that equipment.

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## MEMBERS ON THE MOVE



◀ **Jeff Welton**, CBRE, is the 2020 NAB Radio Engineering Achievement Award recipient. He is regional sales manager, Central US, for Nautel.

▶ **Fred Baumgartner**, CPBE, CBNT, director of next gen TV implementation, ONE Media 3.0 - Sinclair Broadcast Group, and



◀ **Neil Mazur**, VP of engineering and operations, WAGA-TV Atlanta, are two of the recipients of the Broadcast & Cable 2020



Tech Leadership Awards.  
▶ **Chris Tarr**, CSRE, AMD, DRB, CBNE, is group director of engineering for Magnum Media, which operates 16 radio and three LPTV stations in Wisconsin.



**David Baden** is senior design engineer at AYW Group, Derwood, MD. **Dave Grant** is director of engineering for Cumulus Dallas.

▶ **Eric Adler** is event support and integration engineer at Binghamton University, Binghamton, NY.



Have a new job? Received a promotion? Send your news to Chriss Scherer at [cscherer@sbe.org](mailto:cscherer@sbe.org).

## MARK YOUR CALENDAR

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