

THE Signal

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Society of Broadcast Engineers



The Association for
Broadcast and
Multimedia Professionals

www.sbe.org

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Board of Director Actions from the SBE National Meeting

The SBE Board of Directors met Sept. 27 for its regular fall meeting during the 2023 SBE National Meeting, held in Columbus, OH. The board had a full agenda to consider, and several action steps were adopted.

After SBE members in Canada held several organizational meetings, the SBE Board of Directors approved the application to form SBE Chapter 100 Canada. A group of 27 Canadian SBE members worked together, meeting the requirements to form the SBE chapter. As part of the application process, officers have been selected to lead that group. They are: Chapter Chair Jeff Welton, CBRE; Chapter Vice Chair Jordan Thomas; Chapter Secretary John-Erik Remplito, CPBE; and Chapter Treasurer Ron Combden, CPBE, CBNT.

Chapter 100 brings the number of active SBE chapters to 116. Given the wide geographic area of the entire country, the new chapter's plan is to primarily meet virtually, a method that has been used by many SBE chapters during and since the COVID pandemic.

Additions to the SBE By-Laws were presented for review and discussion. Those additions are shown on page 3 of this issue. The SBE By-Laws note that the membership must be informed of such changes. Publication in *The Signal* satisfies that requirement.

With the 2024 NAB Show coming up, the Education Committee proposed holding another SBE Ennes Workshop before the conven-

tion begins, as was done in 2023. The tentative plan is to hold two separate tracks for 1.5 days, and then have a combined session for the last half of the second day.

The Board approved then President-elect Hand's appointments of national committee chairs to serve through the National Meeting in 2024. A complete list appeared in the October 2023 issue of *The Signal*.

Other information provided during the meeting included that 59 SBE chapters qualified for cash rebates in 2022 from the national SBE and received checks totaling more than \$29,000 on May 31. Chapters qualify by holding at least five meetings each year and filing reports of attendance and meeting content with the national office.

The SBE Board of Directors will meet next in-person on April 13 in Las Vegas during the 2024 NAB Show. The next SBE Executive Committee meeting will be Jan. 19, 2024 in Charlotte, NC.



Jim Ragsdale, Andrea Cummis and Ted Hand at the September Board of Directors meeting.

Put an SBE Ennes Workshop on Your 2024 Calendar

The SBE completed a successful year of SBE Ennes Workshops in El Paso, TX; Nashville, TN; Jekyll Island, GA; New York City and Overland Park, KS. Start planning your 2024 SBE Ennes Workshop today.

The SBE and the Ennes Educational Foundation Trust present a number of one-day educational programs for broadcast engineers, called SBE 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 SBE Ennes Workshop can serve as a highlight of your chapter's program year.

"Our SBE Ennes Workshop exceeded all expectations. The mixture of young people

and experienced engineers sharing knowledge is quite inspiring!" said Jeff Schick, CBT, SBE Chapter 15 chair.

"The Ennes workshop provided a unique opportunity for students at Hofstra University to interface with some of the top engineering minds in the country, and take a first-hand look at some of the current broadcasting trends and technology in our industry, said Andy Gladding, CBT, chief engineer, Hofstra University and 2023 SBE Chapter 15 Engineer of the Year recipient. "The networking opportunities provided by SBE are an invaluable resource for fostering and growing the next generation of broadcast engineers."

The 2024 calendar is filling up, so secure your spot on the Ennes calendar. The cost to bring an SBE 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 finan-

cially, either as a part of one of its 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.



ENNES
WORKSHOP

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World Radio History

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Ted Hand, CPBE, 8-VSB, AMD, ATSC3, DRB
Cbz Media Group | Charlotte, NC
thand@sbe.org

VICE PRESIDENT

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

SECRETARY

Geary Morrill, CPBE, AMD, CBNE
Alpha Media | Saginaw, MI
gmorrill@sbe.org

TREASURER

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

DIRECTORS

David Antoine, CBRE, CBNT
WBGO Newark Public Radio | New York, NY
dantoine@sbe.org

Greg Dahl, CPBE

Second Opinion Communications | Rockford, IL
gdahl@sbe.org

Terry Douds, CPBE

WOJB Public Media | Lancaster, OH
tdouds@sbe.org

Mark Heller, CPBE

WTRW Metro North Communications | Two Rivers, WI
mheller@sbe.org

Brad Humphries, CBT

Beasley Media Group | Charlotte, NC
mhumphries@sbe.org

Zhulietta Ibisheva, CBTE

E.W. Scripps Co. | Honolulu, HI
zibisheva@sbe.org

**Charles "Ched" Keiler, CPBE, 8-VSB,
ATSC3, CBNE**

E Three Services; WPLG | Deerfield Beach, FL
ckeiler@sbe.org

Thomas McGinley, CPBE, AMD, CBNT

McGinley Enterprises | Missoula, MT
tmcginley@sbe.org

David Ratener, CPBE, CBNT

Salem Media | Seattle, WA
dratener@sbe.org

Shane Toven, CPBE, DRB, CBNE

Educational Media Foundation | Antelope, CA
stoven@sbe.org

Jeff Welton, CBRE

Nautel | Chester, NS
jwelton@sbe.org

Fred Willard, CPBE, 8-VSB, ATSC3, CBNT

Univision | Washington, DC
fwillard@sbe.org

IMMEDIATE PAST PRESIDENT

Andrea Cummis, CBT, CTO

WLVT-TV | Bethlehem, PA
acummis@sbe.org

SBE NATIONAL STAFF

James Ragsdale | Executive Director
jragsdale@sbe.org

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

Cathy Orosz | Education Director
corosz@sbe.org

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

**Debbie Hennessey
Sustaining Membership Manager**
dhennessey@sbe.org

Scott Jones | Database Manager
kjones@sbe.org

**RJ Russell, CPBE, ATSC3
Frequency Coordination Manager**
rjrusell@sbe.org

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Editorial content and design: Chriss Scherer, 317-762-9723, cscherer@sbe.org.
Advertising: Debbie Hennessey, dhennessey@sbe.org, 317-846-6300
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SBE National Office
317-846-9000 www.sbe.org

SBE Board of Directors Amends By-Laws

The SBE operates under a set of By-Laws that establish the governing rules of the organization. The By-Laws are reviewed periodically to ensure they are up-to-date and to propose and adopt any changes needed as the Society, applicable laws and regulations governing non-profit corporations, and technology evolve. At the September meeting of the Board of Directors, two articles of the SBE Bylaws were considered for review. The proposals were prepared by previous Committee Chair Jeff Juniet, CBTE.

Article III, dealing with conduct by Board of Directors, and Article IV, dealing with conduct by Governing Officers, had sections added that describe expectations for professional conduct. Article IV, Section 18 specifies how the review of complaints regarding conduct would be evaluated. The additions are effective Oct. 11, 2023.

Article IX, Section 2, states that updates to the SBE By-Laws shall be distributed to all members in good standing within 120 days after passage and enactment.

Amendment to Article III. Board of Directors

Section 16. Members of the Board of Directors will endeavor to protect the integrity and professionalism of the broadcast profession and the Society of Broadcast Engineers, Inc.

Section 17. At all meetings of the Board of Directors, the members will conduct the business of the Society following Article VII in the Society By-Laws.

Section 18. Members of the Board of Directors will maintain professionalism and restraint in any disagreements in matters concerning the Society.

Section 19. Members of the Board of Directors will not discuss or publicize personal disagreements outside of Board of Directors meetings.

Section 20. At all times, members of the Board of Directors will not disparage the participants in any disagreements or discussions in any professional or personal manner.

Section 21. During closed-session portions of the Board of Directors meetings, discussions shall be treated as confidential and not shared outside of the meeting with those not present.

Amendment to Article IV. Governing Officers

Section 12. Members of the Executive Committee will endeavor to protect the integrity and professionalism of the broadcast profession and the Society of Broadcast Engineers, Inc.

Section 13. At all meetings of the Executive Committee, the members will conduct the business of the Society following Article VII in the Society By-Laws.

Section 14. Members of the Executive Committee will maintain professionalism and restraint in any disagreements in matters concerning the Society.

Section 15. Members of the Executive Committee will not discuss or publicize personal disagreements outside of Board of Directors or Executive Committee meetings.

Section 16. At all times, members of the Executive Committee will not disparage the participants in any disagreements or discussions in any professional or personal manner.

Section 17. During closed-session portions of the Executive Committee meetings, discussions should be treated as confidential and not shared outside of the meeting with those not present.

Section 18. The Executive Committee will perform any review and validation of complaints regarding the conduct of a member of the Board of Directors or Executive Committee. The Executive Committee will be able to consult any parties involved in the complaint. Any Executive Committee member directly involved in a complaint will be excused from the review & validation of complaints. The President will determine if there is a need to appoint a temporary replacement for any Executive Committee member excused from the review and validation process for the sole purpose of participating in the review and validation process.



Certification Question

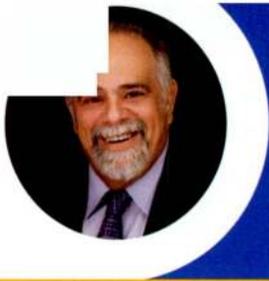


CERTIFIED

Answer on page 6

What is an effective way for supervisors to address conflicts among team members?

- A. Ignore conflicts, as they often resolve on their own.
- B. Intervene immediately and impose a solution.
- C. Encourage open communication and facilitate a resolution.
- D. Assign blame to one party to establish accountability.



LETTER FROM THE PRESIDENT

By Ted Hand, CPBE, 8-VSB, AMD, ATSC3, DRB
SBE President
president@sbe.org

Let's Turn to the Next Page...

It was good to see many of you in Columbus, OH, at the 2023 SBE National Meeting, which was held in conjunction with the Midwest Broadcast & Multimedia Technology Conference. The conference was sponsored by the state broadcasters associations of Ohio, Michigan, Indiana, and Kentucky. I would like to thank them again for an excellent conference.

As I move forward into a new term, let's look back for a moment. The Society now has a Canada chapter (Chapter 100), which covers the entire country of Canada. Meetings will be held virtually. A big thank you to Chapter Liaison Chair Mark Heller and board member Jeff Welton for pulling this together. Establishing this chapter was IPP Andrea Cummis' last initiative before she left office as president.

A first occurred at the fall meeting in Columbus: The Certification Committee, under the guidance of Chair Ralph Hogan, and the Education Committee, under the guidance of Chair Geary Morrill, met together in a joint meeting for what I hope is the beginning of a new event at the SBE National Meeting. In the past, the two committees have met separately, but both working toward the same goal: Better-educated broadcast engineers with the knowledge to move forward in their careers and better-working job places. The committees working together can and will make SBE training and certification even

stronger as the standard for broadcasting excellence. Training and certification are core parts of the Society's mission. These two committees meeting together will ensure alignment on education goals and objectives.

International News

At the end of October, Vice President Kevin Trueblood and Executive Director Jim Ragsdale visited the SBE chapter that was formed in the Republic of Georgia back in 2022. This was a goodwill event, sponsored by the SBE Chapter 148 Eastern Europe. The Chapter 148 leaders are looking to be on the forefront of training and education for broadcasting in Europe. The trip was paid entirely by Chapter 148 in the Republic of Georgia, and no SBE funds were used. A special thank you to Kevin for taking my place as I was unable to attend because of my recovery due to shoulder surgery in early October.

Jim Ragsdale and I have had one-on-one meetings with committee chairs to review the description of the chair's function, and the purpose and goals of each committee. It has been a while since this type of review has taken place. These committees are in place and work for you the membership. We want to make sure the goals and the focus are correct and on target. We are also working on a short orientation session with incoming board members. This will ensure

that new board members have a solid understanding of what is expected of an SBE officer/board member. Incoming officers and board members have requested this in the past. Putting this into practice is something I want to accomplish in my term of office.

Frequency Coordination Manager R.J. Russell and new Frequency Coordination Committee Chair Bob Weller are working with the Department of Defense on continued frequency coordination events in the 2 GHz BAS band. Bob is a welcome new addition to the frequency coordination committee.

On a personal note, I want to thank everyone for all the calls, texts and emails asking how I have been recovering from my rotator cuff surgery in early October. It has been challenging, and physical therapy is just starting as I write this. I know it will be well worth it in the long run. Pro tip: If you ever have any kind of joint surgery, a cold-therapy ice flow machine is money well spent.

Please remember, the SBE staff is available for any questions or information you may need. They can be reached at 317-846-9000. Staff email addresses are found at sbe.org/contact. I can be reached by email at president@sbe.org, and I welcome hearing from you.

In closing, on behalf of the SBE staff and me, I wish you all a happy and safe holiday season and a great 2024.

2023 EAS National Periodic Test Review

By Brad Humphries, CBT; Chair, SBE EAS Committee; bhumphries@sbe.org

On Oct. 4, 2023, a national test of the Wireless Emergency Alert system was transmitted, followed two minutes later by a nationwide Emergency Alert System test. From the data I've been able to obtain, it appears that the 2023 test went well overall. The primary goal of the test was to distribute via the Integrated Public Alert and Warning System (IPAWS), however, in some cases, stations received the test over the air instead of via IPAWS. The reason for this is explained later. For my group of stations, the experience was 100% success reception from IPAWS. My stations also received the test from the Local Primaries in my area. Alabama Broadcasters Association Director of Engineering Services and Alabama ABIP Inspector Larry Wilkins, CPBE, AMD, CBNT, reports a 97.7% success rate in transmission and reception. During the test, Wisconsin State Emergency Communications Committee Chair Chris Tarr, CPBE, AMD, DRB, CBNE, was on the call with the FCC, FEMA and several other SECC chairs. No states reported any major issues. This is all good news!

In my search for information about the test around the country, I gained some insight as to why the test was relayed over-the-air, rather than IPAWS in some areas. Alfred Kenyon of FEMA stated, "For

stations that received OTA first, it is likely a case where the LP polled immediately after the alert was posted. Cycle time from receipt to end of data header transmission is typically 14-18 seconds. That leaves plenty of time for a monitoring station to receive and decode the header before polling IPAWS at the common 30 second interval."

If you had the same experience as I did, and your heart dropped when you received the NPT via your mobile device two minutes before your EAS decoder, "Per our standard practice, FEMA activated the WEA portion of the test at 2:18 p.m. ET and the EAS portion at 2:20 p.m. ET," IPAWS Director Antwane Johnson said, "This was the exact same procedure used during our tests in 2021 and 2018, which also included a two-minute delay between the WEA and EAS activation. Due to the mechanics of sending these two different alerts, we are unable to execute them both simultaneously as they contain different information and elements."

I have heard no reports of the test not being received or relayed. This is not to say someone somewhere did not have troubles; I am only going off the info I have. In conclusion, the 2023 NPT appears to have been a success. The audio from IPAWS was very good quality. The message got to the public, and that is what we do.



EDUCATION UPDATE

By Geary Morrill, CP3E, AMD, CBNE
Chair, SBE Education Committee
gmorrill@sbe.org

SBE Ennes Workshop Planned for 2024 NAB Show

Plans are proceeding for two Ennes workshops to be held at the Las Vegas Convention Center's West Hall immediately preceding the 2024 NAB show. The SBE Ennes workshop will be held Friday April 12 and Saturday April 13.



Jeff Welton, CBRE, presents during the 2023 SBE Ennes Workshop at the NAB Show.

We will again present the RF 101 Bootcamp, which is designed to give folks with a predominantly IT-oriented background foundational information regarding transmission methods and equipment so that they can effectively function in these disciplines. A group headed by Jeff Welton, CBRE, a member of the SBE Board of Directors, will present this workshop.

New for 2024 is a workshop to introduce folks with a predominant-RF background and others who are new to our industry the essentials of IP-delivered media, covering both video and audio implementations. We've seen a steady march towards utilizing IP technology due to inherent benefits, including lower purchase and installation costs, as well as the ability to move signals around – many times without external routing equipment involved. The vast majority of audio studio builds today utilize IP infrastructure from the microphone forward, and the ATSC 3.0 universe is totally IP-based. Individuals involved with non-broadcast media delivery, whether a house of worship, post-production facility or as an audio-visual professional will also benefit from grounding in the installation and maintenance of modern non-analog plants.

The Media Over IP (MoIP) Essentials workshop is being crafted by a couple well known people in our industry: David Bialik, CBT, and Fred Willard, CPBE, 8-VSB, ATSC3, CBNT. David is co-chair of the AES Technical Committee for Broadcast and Online Delivery; and chair of the Metadata and Streaming Working Group at the NRSC. He is former director of stream operations for CBS Radio and Entercom. Fred is a senior RF engineer with Univision Communications, a member of the SBE Board of Directors, and an active member of SMPTE in Washington, DC. These two-day workshops include lunch breaks and are a great value at \$259. More details and registration will be available on the SBE website. 



Bialik



Willard

SBE Ennes Workshop at the NAB Show

The SBE has provided an SBE Ennes Workshop at the NAB Show for many years. Originally part of the Broadcast Engineering Conference (later the Broadcast Engineering and IT Conference) program, the Workshop presented a full day of sessions before the exhibit floor opened.

More recently, the NAB reduced the time allotted to the Workshop, eventually being reduced to only one hour. In 2023, the SBE pulled the Workshop out of the NAB Show BEITC program and presented it separately from the NAB Show registration. With the success of the 2023 event, the SBE is once again planning a two-day event to be held before the NAB Show begins. 

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
Evangel Arcega, Abu Dhabi, UAE
David Peabody, Gardner, MA
SBE Chapter 91, Central Michigan
John Strahler, Santa Barbara, CA

Gino Ricciardelli Scholarship
Donald Perkins, Johnson City, NY

sbe.org/ennes

Education Almanac

Webinars by SBE

Dec. 19, 2023: Workbench Tips with John Bisset
*Free to everyone, thanks to the financial support of
SBE Sustaining Member SCMS.*

Jan. 19, 2024: Applied RF Basics Module 3
Feb. 15, 2024: Applied RF Basics Module 4

sbe.org/webinars

Webinars
by SBE



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



CERTIFICATION UPDATE

By Ralph Hogan, CPBE, ATSC3, DRB, CBNE
SBE Certification Committee Chair
rhogan@sbe.org

The National Certification Program

During the annual SBE National Meeting in September, the Certification Committee and Education Committee held a joint meeting. It was the first time that this has happened. We had a few discussions about potential new certifications and creating new content and questions for our current exams.

As the program comes up on more than 45 years of certifying broadcast engineers, I thought this may be a good opportunity to give you background on how the program works. At the National Office, Certification Director Megan Clappe preforms the day-to-day certification support functions. The rest of the program relies on volunteers to carry out its various tasks.

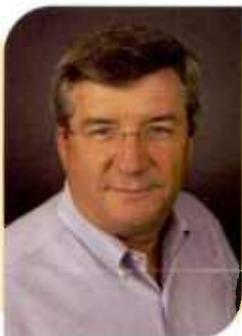
The National Certification committee, a group currently comprised of 12 broadcast engineers whose combined experience spans more than 300 years of experience in radio, television and multi-media

broadcasting. The committee meets formally in-person twice a year: Once in the spring at the NAB Show and again in the fall at the SBE National Meeting. Throughout the year the committee grades essay exams, reviews the question database for currency and relevance, revises the question pool for it to remain current with changing technologies, review certification applications to assign essays as needed, and a myriad of other tasks in support of the program.

We also have a number of volunteer chapter certification chairs at the 116 current SBE chapters throughout the world. These individuals promote the program of certification, proctor exams and review recertification applications throughout the year. During Covid, many certification chairs found ways to safely proctor exams so that individuals could still become certified.

In addition to those who specifically volunteer their time to the certification program, there are individuals who help to proctor exams and promote the benefits of being certified. Their efforts have made it into the US military and a number of high schools and colleges.

SBE Certification is the only certification program geared toward the broadcast/multimedia engineer. Since its inception, the Society of Broadcast Engineers has issued more than 18,500 certifications. Thank you to everyone who has generously given his or her time to the SBE and certification program. Without you, the certification program would not have thrived over the past 45+ years.



Long-time Service

Jim Bernier, CPBE, CBNE, has retired from the Certification Committee. Jim has been a valuable member of the committee for 28 years, and the chair for eight of those, from 2005-2013. We're immensely thankful for the time he gave to the certification program and the SBE.

Bernier



Answer from page 3

The answer is C

Good communication is essential to addressing conflicts.

SBE National Meeting in Review



SBE Certification Achievements

CONGRATULATIONS



LIFE CERTIFICATION

Certified Professional Broadcast Engineer (CPBE)
 Tracy Gibson, Manhattan, KS - Chapter 3
 Gary Stigall, San Diego, CA - Chapter 36
Certified Broadcast Networking Technologist (CBNT)
 Tracy Gibson, Manhattan, KS - Chapter 3
Certified Radio Operator (CRO)
 Kyle Smith, Los Angeles, CA

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.

SPECIAL PROCTORED EXAMS

Certified Broadcast Technologist (CBT)
 Alabama Broadcasters Association
 Harley Baker, Columbia, MO
 Sami Hazim, Enterprise, AL

Vincent Howell, Wilmer, AL
 Lindsey Lounsbury, Decatur, AL
 Richard Parker, III, Tucson, AZ
 Curtis Patrick, Pell City, AL

Edward Pitts, Valdosta, GA
 Justin Rucker, Brookland, AR
 Brian Stephenson, Springfield, MO
 Joshua Trahan, Lake Charles, LA

AUGUST EXAMS

Certified Broadcast Networking Technologist (CBNT)
 Michael Sisk, II, Las Vegas, NV - Chapter 128

Certified Television Operator (CTO)
 Seamus Butcher, Somerville, MA - Chapter 11



SBE CERTIFIED SCHOOL COURSE COMPLETION

Certified Broadcast Technologist (CBT)
 DINFOS
 Britney Johnson, FPO, AE

CERTIFIED BY LICENSE

Certified Broadcast Technologist (CBT)
 William Kirkman, Covington, KY - Chapter 33

Got your SBE Certification pin? sbe.org/pins

CERTIFIED RADIO OPERATOR (CRO)

David Brady, Franklin, TN

Emilee-Goss, Franklin, TN

Christopher Hikdon, Franklin, TN

CERTIFIED TELEVISION OPERATOR (CTO)

Jason Williams, North Hollywood, CA

RECERTIFICATION

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

Certified Professional Broadcast Engineer (CPBE)
 Tim Neese, Swannanoa, NC - Chapter 86
Certified Broadcast Radio Engineer (CBRE)
 Angel Ramos, Spring Valley, CA - Chapter 36
Certified Broadcast Television Engineer (CBTE)
 Eli Sanders, Canton, GA - Chapter 5

Certified Broadcast Technologist (CBT)
 Charlie Farr, Jr., Virginia Beach, VA - Chapter 54
 Damion Guinta, Highlands Ranch, CO - Chapter 48
 Jonathan Kramer, Santa Monica, CA - Chapter 47
 Michael Matovich, Jr., Portsmouth, VA - Chapter 54
 Billy Steen, Kosciusko, MS - Chapter 125
 Bill Tidwell, Valoosta, GA - Chapter 7
 Travis Wussow, Madison, WI - Chapter 24

Certified Broadcast Networking Technologist (CBNT)
 Connor Crookshank, Anchorage, AK - Chapter 89
 Damion Giunta, Highlands Ranch, CO - Chapter 48
 Eli Sanders, Canton, GA - Chapter 5
Certified Television Operator (CTO)
 Elizabeth Brito, Hialeah, FL
Certified Radio Operator (CRO)
 Dan Arias, Spring Hill, FL



A: SBE President Andrea Cummis shares her final thoughts as outgoing president at the Membership Meeting. **B:** SBE President Ted Hand outlines his goals for his coming term. **C:** The SBE exhibited at the Midwest Broadcast & Multimedia Technology Conference. **D:** 2023 James C. Wulliman SBE Educator of the Year Andrew Gladding accepts his award at the Awards Dinner. **E:** SBE Executive Director Jim Ragsdale presents Immediate Past President Andrea Cummis with a plaque and bound editions of *The Signal* published during her term. **F:** SBE President Ted Hand makes introductions at the Awards Dinner. **G:** SBE Regulatory Co-counsel Patrick Cross leads the induction ceremony of the new officers and directors. **H:** Jeff Welton receives the SBE Technology Award on behalf of Nautel, his employer. **I:** Andrew Carey, general manager of the *Bob & Tom Show*, provided the keynote address at the Awards Dinner. **J:** The SBE Board of Directors met the evening of Sept. 27 during the National Meeting. **K:** SBE Fellows. SBE officers and invited guests gathered for the annual Fellows Breakfast and then took a group photo.



FREQUENCY COORDINATION

By Bob Weller, CPBE
Chair, SBE Frequency Coordination Committee
Vice-President, Spectrum Policy, National Association of Broadcasters
rweller@sbe.org

FCC Enforcement: First, You Have to Complain

Back in 2019, I wrote an article in *The Signal* about the FCC's web-based "interference reporting portal" with access limited only to "enterprise" users, including broadcasters. We are not using it, and as a result, broadcasters are losing our spectrum battles for lack of complaints.

Here's one recent example: The FCC decided to allow Wi-Fi across the entire 6 GHz band. The SBE, NAB and others pointed out that after Wi-Fi was authorized at 2.4 GHz, ENG channels 8 and 9 (2450-2483.5 MHz) became virtually unusable for ENG in many places due to Wi-Fi interference. As evidence, we provided spectrum captures, the results of a survey of SBE frequency coordinators and articles in *The Signal* and other publications about the interference. The FCC ignored all that evidence, instead saying that we didn't show that we had complained to them.

We know that interference to ENG continues to be a problem at 2 GHz Channels 8, 9, and 10 because of Wi-Fi and other services. We anticipate interference to ENG may be a problem at 6.5 and 7 GHz because of Wi-Fi-6E. We also know that the AM band is unlistenable because of RF noise from LED traffic lights, electronic signs, and other sources. That interference does not only affect you, it affects every listener or viewer of your station. Now is the time to register those complaints.

The FCC has committed to providing high-priority complaints filed through the portal with an initial response within one calendar day, while medium and low priority complaints should hear back within two and five business days, respectively. The initial response will include the name of the agent assigned to the matter, the expected nature and timeframe for investigation, and a request for additional information, if necessary.

You need to provide some specific information to the FCC, as well as your contact information. Basically, the call sign of the station receiving interference, location where the interference is occurring, the frequency of the station receiving interference and the days and times of day the interference occurs.

The interference reporting portal is located at the link shown below. You can also find a link to PSIX-ESIX on the fcc.gov homepage. To access the portal, you will need your station's FCC Registration Number (FRN) and the corresponding name of the licensee. You should keep that information handy. Look it up now – before you need it – and post it in a prominent place. In the Entity Information section, the FCC provides an FRN/Name lookup utility that may be helpful. The wildcard (*) can be used in case you're not sure whether your complete license name ends with a Co, Inc, LLC, or something else. (Useful Hack: any valid combination of FRN and Name will get you into the portal. Once you're inside, you can change the information.) Once you've validated yourself as a legitimate enterprise entity, the remaining steps are straight-forward and consist mostly completing of a series of drop-down responses and text blocks, as shown in Figure 1.

Interference Information. Apart from reporting widespread interference to your over-the-air signal (AM, FM, TV, LPFM, LPTV, FM translator or TV translator), the portal recognizes interference to

BAS, weather radar, and other services.

If you recognize the type of interference you can report that or state that it is unknown. Common types of interference include Public Mobile Services, such as AWS-3, which often bleeds into the upper 2 GHz ENG channels; radio frequency devices, such as 5 GHz Wi-Fi routers and access points that have been modified to operate on frequencies used by weather radar, and LED traffic signals or outdoor displays that interfere with AM stations.

Interference Location. You must specify the location where the interference is being received. This might be a mountain-top ENG site or an intersection in a city. You can specify the location using either latitude and longitude or a physical description (address or name of site), or both.

Identity of Alleged Violator and Interference Source Location. If it's unknown, check the "unknown" box. If you do know the name of the person or entity responsible for causing the interference, you can provide it. Separately, if you know the location of the interference source, you can enter it – either by latitude and longitude or a physical description.

Interference Description. A description of the interference is helpful to the FCC agent so that s/he knows how the interference is affecting your system. For example, radiation from LED traffic signals at an intersection might be described as "a buzzing noise that masks all AM radio stations within 100 meters of the intersection of First and Main." Further, you must characterize the interference as "less than 50% degradation," "more than 50% degradation," or "complete blockage." You must specify the number of users affected. If your weather radar or ENG receiver is being hit by Wi-Fi interference, then every single viewer of your station's newscast would be affected.

FCC agents are busy and so they want to investigate at a time when the interference is most likely to be occurring. So, questions are asked about the incidence rate (once, intermittent, frequent) and duration of the interference.

Additional Information. If you've taken remedial action, such as contacting the source of the interference or doing investigation on your own, you should explain what you've done.

Escalation. Although interference complaints from broadcasters are supposed to receive timely responses, after one week you can escalate the complaint to the FCC regional director. After two weeks, stations can further escalate the complaint to the field director in Washington, DC.

The FCC's interference reporting portal has the potential to provide policy makers with hard data about interference problems that affect our industry. But only if it is used. I urge you to make use of the FCC's complaint portal. It can help our industry, our listeners and our viewers.



Figure 1. The FCC's new Enterprise Interference Reporting Portal.

LINK
FCC PSIX-ESIX
fccprod.servicenowservices.com/psix-esix?id=esix_form

SBE Leadership Development Course Is a Success

Radio Free Asia (RFA) in Washington, DC, was the generous host for the 2023 SBE Leadership Development Course in October. The course brought together 33 participants from across the country.

Dr. Abram Walton, the founder of Ivory Bridge Group, a management consulting and training firm taught the course. Walton is also a tenured professor of management at Florida Tech, specializing in management and innovation. He actively researched in the fields of innovation management, business analytics and product lifecycle management and has authored more than 100 publications.

"Whether you're a high-level manager, or an aspiring leader, this course is packed with insightful team building fundamentals to bring your communication, people and management skills to the next level and beyond. Three days well spent," said Mike Friedman, chief engineer, VPM Radio.

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 SBE Leadership Development Course is equally beneficial for



The 2023 SBE Leadership Development Course class

those who are already in management and for those without prior management or supervisory experience.

"This course doesn't just pertain to your work career and your effectiveness there; it transcends into success and effectiveness in friendships, family, happiness, and well-being. Well worth the time you put into it," said Fred Willard, CPBE, 8-VSB, ATSC3, CBNT, a member of the SBE Board of Directors.

The three-day event challenges attendees to refine leadership skills and better understand and improve interaction with others. Broadcast organizations may want to con-

sider 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 2024 dates will be announced soon. If you are interested in hosting the LDC, contact SBE Education Director Cathy Orosz at 317-846-9000 or corosz@sbe.org.

Happy Holidays

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LEGAL PERSPECTIVE

By Coe Ramsey, Patrick Cross and Noah Hock
SBE Regulatory Counsels
cramsey@sbe.org, pccross@sbe.org, nhock@sbe.org

The Changing Face of Spectrum Access: One Chapter Closes; Another Has Just Begun

For some time now, the Commission has been focused on re-examining spectrum use across the United States, which has impacted broadcasters – who often hold spectrum licenses across a wide range of spectrum for various operational uses – in myriad ways over the past several years. In our last article, we highlighted the requirement for anyone with broadcast auxiliary services (BAS) authorized in the 12.75-13.25 GHz band (the 13 GHz band) to certify the accuracy of license information in FCC databases, or make changes to correct any discrepancies. Those certifications should have been completed by Nov. 29, 2023.

Beyond the 13 GHz band, recent FCC actions and proposals again call for broadcasters to act to secure incumbent protection and/or relocation reimbursements for new and expanded use in two other spectrum bands: the C-band and 6 GHz band. In brief, the relocation of C-band earth stations is largely complete and deadlines have been proposed for all remaining reimbursement claims, while unlicensed use in the 6 GHz band is expanding, broadcasters must now register their temporary fixed operations in the band prior to deployment, and broadcasters may in the future be required to register their BAS receive sites in the band in order to receive interference protection. For more details, keep reading.

Deadlines Proposed for Final C-band Reimbursement Claims

The relocation of C-band earth stations (e.g., broadcaster C-band downlink dishes) is nearly complete, ahead of the Dec. 5, 2023, Phase II accelerated relocation deadline. Yet a meaningful number of incumbent users, including broadcasters, have yet to submit or obtain reimbursement for the technical and operational changes that were necessary to relocate their operations to the 4.0-4.2 segment of the Band or otherwise vacate the band entirely. In light of this, a Public Notice has been released to seek comment on the C-band Relocation Payment Clearinghouse's (RPC) proposal that a deadline be set for submission of all remaining transition-related reimbursement claims. The RPC proposes the following deadlines:

- Feb. 5, 2024 – proposed deadline for reimbursement claims addressing costs incurred and paid by claimants on or before Dec. 31, 2023, including all lump sum election claims by incumbent earth station operators.
- Sept. 30, 2024 – proposed deadline for reimbursement claims addressing costs incurred and paid by claimants after Dec. 31, 2023, with the added requirement that claims be submitted within 30 days of being incurred.

For the many broadcasters who elected lump sum reimbursement for relocation of their earth stations, the proposed Feb. 5 deadline is particularly important. Regardless, however, all broadcasters are encouraged to complete any remaining steps to transition their earth stations and submit final reimbursement claims as soon as possible. Comments on the proposed deadlines closed Nov. 8, 2023.

As a quick refresher, in early 2020 the Commission released a

Report and Order aiming to make a significant portion of the C-band available for new terrestrial wireless uses while also preserving the continued operation of existing fixed satellite services (FSS) during and after the C-band's transition. In particular, the Commission publicly auctioned the lower 280 MHz of the C-band (with gross winning bids totaling more than a whopping \$81.1 billion). The C-band's incumbent users (including broadcasters) have since been undergoing a repack into a smaller swath of the remaining spectrum – the upper 200 MHz of the band. The remaining 20 MHz in the middle (from 3.98-4.0 GHz) now serves as a guard band. The lower 280 MHz of the band cleared through the auction is now available for flexible use, including 5G service.

To protect incumbent C-band users (such as qualifying broadcasters' C-band downlink dishes), successful auction bidders have been required to reimburse all relocation costs incurred by registered incumbent earth stations displaced by the repacking, as well as costs incurred by programmers and satellite operators themselves (such as launching new satellites). Broadcasters with qualifying earth stations were given an opportunity to elect either (1) reimbursement for their actual, reasonable costs incurred in relocating their qualifying incumbent earth stations or (2) a lump sum payment for all of their estimated relocation costs. Importantly, broadcasters who elected the lump sum payment option were also required to take on sole responsibility for transitioning their incumbent C-band operations (rather than having an assigned satellite operator handle the transition for them).

Because all satellite operators have now certified to the FCC that they successfully transitioned their assigned earth stations, *any incumbent broadcaster C-band dishes that have not yet transitioned to the upper part of the band and/or had necessary filters installed to block harmful interference from those 5G deployments may soon experience harmful interference unless prompt action is taken*. It is therefore crucial for all broadcasters who elected the lump sum payment option to promptly ensure that their incumbent C-band dishes have been (or as soon as possible will be) successfully transitioned out of the lower section of the band in order to ensure that the station's downlink feeds are not interrupted. Similarly, because the Notice indicates that the FCC may well soon set deadlines for final reimbursement submissions, all broadcasters with remaining, unsubmitted C-band reimbursement claims would be well advised to file them soon.

Requirement to Register Temporary-Fixed 6 GHz Operations

It's been a busy period for FCC action in the 6 GHz spectrum band (i.e., 5.925-7.125 GHz). First, in early September 2023, the Wireless Telecommunications Bureau announced that temporary fixed stations in the 6 GHz band now can – and, indeed, must – register in ULS prior to commencing operations so that automated frequency coordination (AFC) systems can account for those temporary fixed operations when providing channel information to 6 GHz unlicensed standard power devices. Then, at the FCC's October 2023 open meeting, the Commission acted to expand availability of portions of the 6 GHz Band for unlicensed use. Although as of this writing the final approved versions of those FCC actions – a Second Report and Order and Second Further Notice of Proposed Rulemaking – have

see **LEGAL**, p. 14

LINKS

C-Band Relocation Public Notice

docs.fcc.gov/public/attachments/DA-23-958A1.pdf

6 GHz Band Registration Notice

docs.fcc.gov/public/attachments/DA-23-814A1.pdf



FOCUS ON THE SBE

By James Ragsdale
SBE Executive Director
jragsdale@sbe.org

Reaching Out To the World

I am writing this article while traveling in Eastern Europe. You may remember that the SBE added a new chapter in the fall of 2022 that is centered in Tbilisi, Republic of Georgia. This chapter currently has members from Republic of Georgia, Armenia,

region. The chapter invited SBE Vice President Kevin Trueblood and me to events in which they are involved in Tbilisi, Georgia. They provided the plane tickets, lodging, meals, and ground transportation so that we could attend their events. One of the objectives of our presence here is to invite others involved in the technical aspects of broadcasting and related organizations to join the SBE.

Their chapter is very involved in the Golden Eye Festival, which recognizes the contributions of camera operators. This year, the festival solicited entries from various countries and selected recipients of awards for Best Student Work, Best Risk Shot, and Best TV Camera Operator, as well as related awards. Throughout the festival, we were able to meet

highly recognized camera operators, photo-journalists, and cinematographers, and tell them about our organization, its members, and its important role in the broadcasting industry. As a part of the Golden Eye Festival, masterclasses were provided at the Batumi Art Teaching University to students who are pursuing degrees in broadcasting. Among the presenters was our own Vice President Kevin Trueblood.

Chapter 148, Eastern Europe, is committed to growth in membership and has developed a five-year plan to reach out to the broadcast engineers in the countries of Eastern Europe, telling them about the valuable education and certification services that the SBE has developed. They have also taken the bold step of creating an office in Tbilisi with classroom space to teach their fellow broadcast engineers, using material from the *SBE Broadcast Engineering Handbook*, Webinars by SBE, and SBE University. They believe in the value of the SBE MemberPlus membership, with the resources that it provides.

Chapter Chair Davit Robakidze, Vice Chair Zurab Gegenava, and Secretary/Treasurer Nino Koberidze are passionate about the outreach to their peers. They have applied for an educational grant from the U.S. Agency for International Development (USAID) for the purpose of establishing a broadcast engineering training program with

the Georgian Technical University. This may take several years to bear fruit, but should multiply their efforts to develop the broadcast engineering field as a career in their region. They have many ideas about how to expand training and certification services to people who are working in broadcasting, but do not know about the SBE.

SBE Board member Fred Willard also joined us for a couple days in Tbilisi. Before joining us in Europe, Fred attended the first day of the NAB New York Show to represent the SBE in an exhibit booth shared with the IEEE/BTS. We appreciate the opportunity to share the space at the NAB New York with IEEE/BTS and talk to attendees, telling them who we are and what we offer to the industry. Immediate Past President Andrea Cummis was also able to attend the NAB New York and represent the SBE. Chapter 15 New York was very involved with the NAB New York and represented the SBE well.



A discussion between SBE National leaders and the Chapter 148 leaders was held in the training facility classroom. Left to right: Davit Khvartskia, Jim Ragsdale, Davit Robakidze, Nikoloz Nadirashvili, Fred Willard, Kevin Trueblood.

Azerbaijan, and Moldova. They are continuing to grow with additional members from these countries and are committed to adding chapter members from other countries in the



Kevin Trueblood participated in the masterclass presentations at the Golden Eye Festival at the Batumi Art Teaching University.

In addition to attending the Golden Eye Festival in the Republic of Georgia, last week we began a discussion with the Community Media Training Organization, which provides training services to public radio broadcasters in Australia. We are exploring ways that we can support our two organizations with training and certification opportunities. That discussion began with working to understand the public radio environment of our two countries.

There are many opportunities to connect with broadcasters and multimedia professionals, most of whom are not acquainted with the SBE. We must be looking for these connections and pursue working with and for these peers. Through this effort, we can strengthen the industry and develop opportunities for our members.

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ENGINEERING PERSPECTIVE

Davit Robakidze, CTO
CTO, Innovator; Chair, SBE Chapter 148 Eastern Europe
drobakidaze@sbe.org

Broadcast Updates at the Georgian Parliament

In 2022, SBE Chapter 148 Eastern Europe was authorized by the SBE Board of Directors. Our chapter leaders live in the Republic of Georgia, but we encourage broadcast engineers from surrounding countries to join the SBE and our chapter. I recently worked on a project that I wanted to share that shows how broadcast technology in Eastern Europe is not that different than North America.



To save time, most equipment was configured and tested off-site before installation.

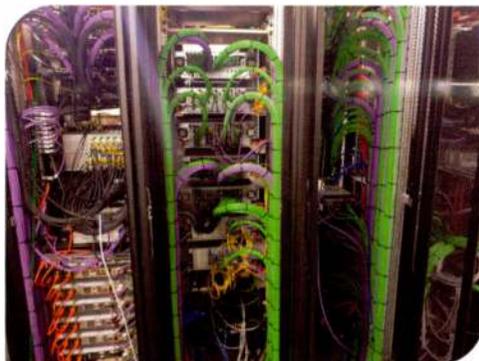
The Parliament Building in the Republic of Georgia is a symbol of political decision-making in the country. However, to keep the public informed about the crucial decisions being made, there was a pressing need for a modern media center within the Parliament building. This center needed to act like a small TV station, capable of providing live video and audio signals from more than four remote locations within the historic building.

The challenge we faced was monumental. The Parliament building, constructed in 1938, was not designed with broadcast requirements in mind. We embarked on a months-long quest for solutions, and the journey took us to major industry events such as the NAB Show in Las Vegas and IBC in Amsterdam.

Seeking Modern Solutions

Among our needs was the ability to transport multiple high-definition signals. We implemented the Matrox Encoder Decoder system, enabling the transmission of 72 high-definition (HD-SDI) 1920x1080 i50 signals. These systems leveraged TCP/IP networks because our hands were tied, as installing new SDI or fiber cables was not an option within the building's constraints. With this, we have high-quality video and audio transfer with a remarkable 50ms processing time.

All of the cameras used in the setup are pan-tilt-zoom (PTZ), allowing the operator to smoothly change camera positions in real-time. A critical requirement was less than 100ms end-to-end latency, ensuring the joystick movements felt seamless and the video remained uninterrupted. Rigorous testing was conducted at Innovator headquarters,



One of several server racks.

the system integrator, in Tbilisi, Georgia, to ensure the system could meet these stringent demands.

Despite the success with video and audio transmission, we encountered another challenge: sending analog synchronization signals from the server room to multiple remote locations. Our hands were tied, here as well and we have to use an existing 1Gb network infrastructure.

After rigorous testing, we adopted the Evertz Scorpion, which could receive analog sync signals from the sync pulse generator and transmit them to cameras and encoders via the existing TCP/IP network.

Small Spaces, Limited Timeframe

The installation process was nothing short of challenging. The remote locations within the Parliament building were not ideal for server rooms, often resembling cramped corners within conference or voting rooms.

Wiring cables was simply not feasible. To further complicate matters, we had a mere two-week window in August to complete the installation while the building was vacant.

To make the most of this limited timeframe, we pre-configured encoders, decoders, networks, and other devices in our office. Upon commencing installation, these devices required additional adjustments. Nights turned into working hours as we resolved issues, but by the end of August, the system was fully operational.

In addition to solving the network and transmission challenges, we installed a full suite of broadcast equipment, including a video router, video switcher, signal processing boards, embedders, and de-embedders. The most daunting task, however, remained managing 72 cameras on a 1Gb network without the possibility of upgrading to dark fiber.

Our overall goal was ambitious: To maintain an end-to-end signal with a latency of 100ms or less. SDI-to-fiber converters and video over IP were not viable options due to cable limitations and a 1Gb network speed, and the network can't be changed.

Today, we are proud to report that the system has been in operation for more than three months without a hitch. The Georgian Parliament now boasts a modern media center that can deliver high-quality live broadcasts to the nation.



The Parliament control room.

We extend our heartfelt thanks to all team members at Innovator and the Georgian Parliament team for their dedication and hard work. I served as the technical specialist behind the system's design and installation.

This project exemplifies what can be achieved when innovation meets determination. We look forward to sharing more Eastern Europe chapter success stories and innovations in the future.

Have a topic or a project for the Engineering Perspective?

Send it to us.

cscherer@sbe.org

AC Video Solutions • 2014 Andrea Cummis 201-303-1303 Consulting, Systems Design/Integration	Davicom, Division of Comlab, Inc. • 2014 Louis-Charles Cuiquier 418-682-3380 x512 Remote Site Monitoring and Control Systems	Linkup Communications Corporation • 2017 Mark Johnson 703-217-8290 Satellite Technology Solutions	Shure Incorporated 2012 Bill Ostry 847-600-6282 Microphones, Wireless Systems, Headsets
American Amplifier Technology/ Shively Labs • 1996 Steve Wilde 916-978-1899 Quality Broadcast Products	Dielectric • 1995 Cory Edwards 207-655-8131 Radio & TV Antenna Systems and Monitoring	LumenServe • 2023 Bear Poth 512-423-8323 Tower Lighting	Sierra Automated Systems and Eng. Inc. • 2011 Al Salci 818-840-6749 Routers, Mixers, Consoles, Intercoms
American Tower Corporation • 2000 Tiffany Yu 603-930-9091 Development/Construction/Management	Digital Alert Systems, LLC • 2005 Bill Robertson 585-765-1155 Emergency Alert Systems	LYNX Technik • 2007 Steve Russell 661-251-8600 Broadcast Terminal Equipment Manufacturer	Staco Energy Products Co. • 2010 Paul Heiligenberg 937-253-1191 x128 Manufacturer of Voltage Regulators, UPS
Barnfind-USA, Inc. • 2021 George Gonos 919-748-7373 Fiber Transport Solutions	DoubleRadius, Inc. • 2012 Jeffrey Holdenrid 704-927-6085 IP Microwave STL	MaestroVision • 2021 Claude Turcotte 888-424-5505 Broadcast Automation Software	SuiteLife Systems • 2019 Nigel Brownett 310-405-0839 Manage. Monitor. Control
BB&S Lighting • 2023 Tom Yuhas 800-820-6610 Manufacturer and Developer of High-end LED Lighting	Drake Lighting • 2015 Dave Sheppard 270-804-7383 FAA Obstruction Lighting - Medium and High Intensity	Markertek • 2002 Adam June 845-246-2357 Specialized Broadcast & Pro-Audio Supplier	Sutro Tower Inc. • 1989 Raul Velez 415-681-8850 Broadcast Tower Leasing
Birns & Sawyer • 2022 Jim Alcantara 323-466-8211 Systems Integration, Sales, Rentals	DTS Inc./HD Radio Technology • 2014 George Cernat 443-539-4334 HD Radio Technology	Micronet Communications Inc. • 2005 Jeremy Lewis 972-422-7200 Coordination Services/Frequency Planning	Synthax Inc. • 2020 Brittany Hilton 754-206-4220 Audio Codecs and Converter Solutions
Blackmagic Design • 2012 Terry Frechette 408-954-0500 Production Switchers, Digital Cameras, Routers, Video Editing and Monitoring, Color Correction, Video Converters	du Treil, Lundin & Rackley, Inc. • 1985 Jeff Reynolds 941-329-6030 Consulting Engineers	Moseley Associates Inc. • 1977 Bill Gould 805-968-9621 x785 Digital STLs for Radio and Television	TBC Consoles • 2023 Steve Struhs 631-293-4068 Technical Furniture for Broadcast/AV
Bracke Manufacturing LLC • 2012 Patra Largent 949-756-1600 RF & Microwave Components	The Durst Org. - 4 Times Square • 2004 Tom Bow 212-997-5598 TV/FM/Microwave Tower Site	MusicMaster • 2014 Jerry Butler 352-231-8922 Advanced Music Scheduling Solutions	Technical Broadcast Solutions, Inc. • 2018 Robert Russell 302-414-0055 Engineering and Consulting Services
Broadcast Depot • 2018 Tim Jobe 305-281-7540 TV, Satellite, Radio, IP	Econco • 1980 Debbie Storz 800-532-6626 530-662-7553 New & Rebuilt Transmitting Tubes	Nascar Productions • 2014 Abbey Kielcheski 704-348-7131 Live/Post Production Services	Telestream • 2013 Bryn McFadden 530-470-1300 Video and Workflow Solutions
Broadcast Devices, Inc. • 2015 Robert Tarsio 914-737-5032 Audio/RF Support Products	ENCO Systems Inc. • 2003 Samantha Bortz 248-827-4440 Playlist and Automation Solutions	National Association of Broadcasters • 1981 Industry Trade Association 202-429-5340	Televest USA, LLC • 2021 Andy Ruffin 937-475-7255 Antennas Transmitters Measurement Distribution
Broadcast Electronics Inc. • 1978 Perry Priestley 217-224-9600 Radio Equipment Manufacturer	ERI - Electronics Research • 1990 Zachary Bailey 812-925-6000 Broadcast Antennas, Transmission Line, Filter Combiners, Towers and Services	National Football League • 1999 Ralph Beaver 813-282-8612 Game Day Coordination Operations	Telos Systems/Omnia/Axia • 2003 John Bisset 216-241-7225 Talk-Show Systems
Broadcast Software International • 2016 Mara Summers 541-338-8588 Radio Automation, Audio Logging	Floral Systems • 2008 Shawn Maynard 877-774-1058 Television Broadcast Automation	Nautel Inc. • 2002 Jeff Welton 877-662-8835 Radio Broadcast Transmitter Manufacturer	Teradek • 2011 Jon Landman 949-743-5783 Camera top ENG Solutions
Broadcast Supply Worldwide • 1986 Brian Walker 800-426-8434 Audio Broadcast Equipment Supplier	GatesAir • 1977 Mark Goins 513-459-3713 Radio TV Transmitters, STL Codecs	Nemal Electronics Int'l Inc. • 2011 Benjamin L. Nemser 305-899-0900 Cables, Connectors, Assemblies and Fiber Optic	Tieline The Codec Company • 2003 Dawn Shewmaker or Jacob Daniluck 317-845-8000 Audio Codec Manufacturer
Broadcasters General Store • 2004 Shane Finch 352-622-7700 Broadcast Audio Video Distributor	Heartland Video Systems, Inc. • 2011 Dennis Klas 920-893-4204 Systems Integrator	Orban Labs, Inc. • 2011 Mike Pappas 480-403-8300 Audio Processing AMFMTV	Unimar Inc. • 2001 Thad Fink 315-699-4400, 813-943-4322 Tower Obstruction Lighting Designer, Manufacturer, Distributor
Burk Technology • 2019 Matt Leland 978-486-0086 x703 Transmitter Facility Control Systems	Hitachi Kokusai Electric Comark • 2013 Jack McAnulty 413-998-1523 Manufacturer Broadcasting Transmission Equipment	Potomac Instruments • 1978 Zachary Babendreier 301-696-5550 RF Measurement Equipment Manufacturer	Vizrt Group • 2022 Anne Hrubala 917-771-8330 More Stories. Better Told.
Calrec Audio • 2016 Helen Carr 703-307-1654 Audio Mixing Equipment	Indiana Broadcasters Association • 2019 Dave Arland 317-701-0084 Indiana Association for Radio & TV Broadcasters	ProAudio.com - A Crouse-Kimzey Co. • 2008 Mark Bradford 800-433-2105 x560 Proaudio Broadcast Equipment Distributor	Wheatstone • 2010 Jay Tyler 252-638-7000 IP Consoles, Routers & Processors
Cavell, Mertz & Associates Inc. • 2011 Gary Cavell 703-392-9090 Consulting Services	Inovonics Inc. • 2012 Gary Luhrman 831-458-0552 Radio Broadcast Equipment	Propagation Systems Inc. - PSI • 2010 Doug Ross 814-472-5540 Quality Broadcast Antenna Systems	WideOrbit • 2012 Brad Young 415-675-6700 Radio Automation and Playlist
Comrex Corporation • 1997 Chris Crump 978-784-1776 Audio & Video Codecs & Telephone Interfaces	Jampro Antennas Inc. • 2011 Alex Perchevitch 916-383-1177 DTV, FM-HD Radio, DVB-T/T2, ISDB-T, DAB	Quintech Electronics and Communications Inc. • 2002 James Herbstritt 724-349-1412 State-of-the-art RF Hardware Solutions	Wireless Infrastructure Services • 2006 Travis Donahue 951-371-4900 Repacking Services - West Coast Turnkey Services
Continental Electronics • 1976 Dale Dalesio 412-979-3253 TV and Radio Transmitters	Kathrein USA Inc. • 1985 Les Kutasi 541-879-2312 Antennas for Broadcasting & Communications	QVC • 2011 Kevin Wainwright 484-701-3431 Multimedia Retailer	
Crawford Broadcasting Company • 2021 Cris Alexander 303-481-1800 Media Company	Kintronc Labs, Inc. • 2015 Brad Holly 423-878-3141 Radio Broadcast Antenna Systems - ISO9001 Registered Company	Rohde & Schwarz • 2003 Walt Gumbert 724-693-8171 Transmitters, Test & Measurement, Video	
CueScript • 2014 Michael Accardi 203-763-4030 Teleprompting Software & Hardware	Latakoo • 2021 Paul Adrian 214-683-0791 Media Workflow Automation	Ross Video Ltd. • 2000 Jared Schatz 613-228-0688 Manufacturer, Television Broadcast Equipment	
Cumulus Media, Inc. • 2021 Conrad Trautmann 212-419-2940 Audio Media Company	LBA Technology Inc. • 2002 Jerry Brown 252-757-0279 x228 AM/MW Antenna Equipment & Systems	Sage Alerting Systems Inc. • 2010 Harold Price 914-872-4069 x113 Emergency Alert Systems Products	
		SCMS Inc. • 2000 Bob Cauthen 800-438-6040 Audio and RF Broadcast Equipment Supplier	

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Member Spotlight: John-Erik Rempillo

Member Stats

SBE Member Since: 2008

SBE Certifications: CPBE

Employer: Canadian Broadcasting Corporation (CBC)

Position: Senior Remote Transmitter Technologist

Location: Toronto, ON

Chapter: 100 Canada

I'm Best Known For: My ability to identify problems and find solutions, using my attention to details.

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

A. It provides me the opportunity to meet members of SBE around the world and build network of fellow professionals. Also, the timely information that the organization provides helps me remain on the cutting edge of the field.

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

A. Growing up, radio drama was very popular in the Philippines, and I loved listening to it. When our TV broke, a local technician repaired it in our house. I was always fascinated with how he made our TV work again. I also remember when my dad and I installed a very long bamboo pole on our roof and attached the antenna so we could pick up distant TV channels.



John-Erik and his three Johns: John-Clyde (eldest son), John-Christean (second son) and John-Cembrant (youngest son) at the university graduation of the eldest in computer science.

Q. *Who was your mentor or who in the industry do you admire?*

A. I have had many mentors, but Engr. Nelo Toriaga played a significant role and made an impact on my career and personal growth. He was the director of the Engineering Department in Manila Broadcasting Company when I started my first job there as a broadcast engineer. He was knowledgeable and an effective teacher, and he instilled a lifelong love of learning in me.

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

A. Our work ensures that information is transmitted, heard and seen by our listeners and viewers. Information is transformed to knowledge. Being a part of that process gives me real satisfaction.

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

A. ...love to volunteer and do good for others. Doing so gives me a natural sense of accomplishment, pride and identity. For example, I helped generate income by selling hotdogs to support victims of typhoons and volcano eruptions in the Philippines.

Q. *What's something people don't know about you?*

A. During the pandemic, I worked as an UberEats delivery driver and helped serve my community during the lockdown.

Q. *What's your favorite gadget?*

A. I like to always have a multimeter with me for troubleshooting.

Q. *Do you have a nickname?*

A. Big Boy. I was very junior in my first job (a boy), but I learned what was important, which made me a reliable, go-to person in my department. However, I personally think that the nickname was due to my physical size.

LEGAL, from p. 10

not been released, they are reported to be largely identical to the drafts published earlier. The Order immediately allows unlicensed access to portions of the 6 GHz band for very low power (VLP) devices operating both indoors and outdoors, while the FNPRM seeks comment on FCC proposals to permit increased power operations for VLP devices under certain circumstances. To facilitate the increased-power operations, broadcasters may be required to register their BAS receive sites in the band. Last, the Commission denied the NAB's proposal to create a dedicated portion of the 6 GHz Band for broadcast operations, after being required to reconsider the proposal by a court remand.

Brief Background. Back in 2020, the FCC adopted a Report and Order and Further Notice of Proposed Rulemaking that expanded unlicensed broadband operations in the 6 GHz Band. Specifically, this opened the 6 GHz Band for indoor and outdoor operation of unlicensed devices, subject to automated frequency coordination, and indoor-only operation for certain low power (LPI) devices. The 2020 Order was a setback for broadcasters, who already have deployed – and rely on – significant electronic newsgathering operations in the 6 GHz Band and who had warned the Commission that permitting expanded unlicensed broadband operations in the band could cause harmful interference to those electronic newsgathering operations. For years, broadcasters have used the 6 GHz Band for essential

broadcast auxiliary services, including video relays and the operation of certain wireless microphones.

The NAB and others within the broadcast industry challenged the 2020 order in the D.C. Circuit Court of Appeals. Although the D.C. Circuit largely upheld the 2020 order, it remanded one aspect of the proceeding back to the FCC for reconsideration – specifically, the NAB's argument that broadcasters' experience of interference received from unlicensed devices in the 2.4 GHz Band warranted reserving a portion of the 6 GHz Band for exclusive mobile broadcast operations. The FCC briefly reopened the comment window on that remand point in early 2022.

The Order. The Order will immediately expand the types of devices permitted in the 6 GHz Band by authorizing VLP unlicensed devices to operate in the U-NII-5 (5.925-6.425 GHz) and U-NII-7 (6.525-6.875 GHz) portions of the band. These VLP devices are not yet deployed in the market, but are expected to primarily include wearable devices that gather and provide large quantities of data in real-time. Within the U-NII-5 and U-NII-7 sub-bands, VLP devices may now operate at power levels of 14 dBm EIRP, with a power spectral density of -5 dBm/MHz EIRP PSD, and may operate both indoors and outdoors without AFC management. Notably, however, VLP devices may not be deployed as part of a fixed outdoor structure – they must remain mobile so as to minimize the possibility of ongoing interference by a device installed at a fixed outdoor location.

The FNPRM. While the Order established baseline authorization for the operation of VLP devices, the FNPRM proposes several ways to expand unlicensed operation in the band, and seeks comment on the benefits and challenges of doing so. Two proposed expansions are of particular interest to broadcasters – permitting VLP devices

LINKS

6 GHz Expanded Availability Draft

docs.fcc.gov/public/attachments/DOC-397315A1.pdf

R&O, FNPRM Expanding GHz Band Operations

docs.fcc.gov/public/attachments/FCC-20-51A1.pdf

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to operate across the entire 6 GHz Band, and allowing increased power for VLP operations subject to certain conditions.

First, the FNPRM proposes expanding unlicensed VLP authorization to the U-NII-6 (6.425-6.525 GHz) and U-NII-8 (6.875-7.125 GHz) portions of the band – in other words, across the entire 6 GHz band. Notably, broadcasters' BAS operations are otherized in the U-NII-6 and U-NII-8 portions of the band, so expanding VLP access to these sub-bands may increase the possibility of broadcasters' ENG operations experiencing interference from these devices if/when they are deployed. Remember, at power levels authorized in the Order, VLP devices would be permitted to operate without any frequency coordination.

Second, the FNPRM proposes allowing VLP devices to operate at increased power subject to some geofencing limitations. While the Order authorized VLP operations at 14 dBm EIRP, with power spectral density of -5 dBm/MHz EIRP PSD, the FNPRM proposes increasing that to a maximum of 1 dBm/MHz EIRP PSD (with the same maximum total power of 14 dBm EIRP). However, under the proposed rules devices operating at this higher power level would be subject to geofencing requirements. The proposed geofencing rules are not fully detailed by the FNPRM (which calls for comments and recommendations of how best to implement such a system), but at its core, geofencing would prevent VLP devices from operating within geographic exclusion zones on the same channels as licensed incumbents. Geofencing is envisioned to be similar to, but less active than, AFC systems in the band – rather than actively coordinating frequency use, geofencing would establish certain blanket areas and channels where higher-powered VLP devices could not operate.

Given the mobile nature of broadcaster's licensed use of these

bands, under the FNPRM proposal, BAS operations would be protected by geofencing across the entire band and area where they are licensed (unless more information about actual operations is known). Of course, the Commission must have accurate information on incumbent broadcast operations in the band if those operations are to be protected. As such, the FNPRM proposes to require BAS licensees to register their receive sites for mobile operations so that geofencing tools may create accurate exclusion zones. If/when this proposal is adopted, we will expect further detail from the Commission on how to complete such registrations and what information will be required.

Memorandum Order Regarding Remand. Included with the Order and FNPRM is a Memorandum Opinion and Order on Remand addressing the remand ordered by the D.C. Circuit. The Commission reviewed the original and subsequent comments filed by NAB, SBE, and other broadcast groups on whether past experience in the 2.4 GHz band warrants reserving a portion of the 6 GHz band for mobile broadcast operations or any other modification to the adopted 6 GHz rules, but determined that there was not sufficient evidence presented to substantiate the assertions of interference issues in the 2.4 GHz band. The Commission therefore declined to establish a reserved portion of the 6 GHz band for broadcasters.

As noted above, the foregoing summary of the FCC's recent actions in the 6 GHz Band are based solely on public drafts, given that the FCC has not yet released the final text (i.e., official versions) of the relevant documents adopted at their October open meeting. We will be reviewing the final version of the documents once released and will notify SBE members of any meaningful, material changes from the draft versions synthesized above.

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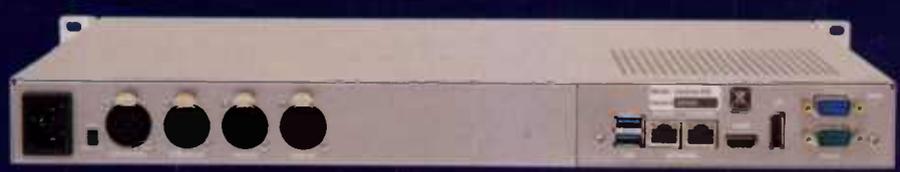
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