Giardina, Hand and Hoffman Named SBE Fellows

Three SBE members have been elevated to the membership rank of Fellow. The SBE Board of Directors elected Frank Giardina, CPBE; Ted Hand, CPBE, 8-VSB, AMD, DRB; and Robert Hoffman, CPBE; at its meeting held during the 2017 NAB Show.

Frank Giardina is the director of engineering/IT for Cumulus Media Birmingham, AL. His career includes working at Rockwell-Collins and working at Birmingham stations including WAQY, WBRC-AM/FM, WSGN, WAPI-AM/FM, WZRR and WJOX. He is a past chair of SBE Chapter 68 Birmingham, and is currently frequency coordinator. He is an instructor in the Alabama Broadcasters Association’s Engineering Academy.

Ted Hand is director of engineering/operations at WSOC-TV, Charlotte, NC, Cox Media Group. His TV career also includes working for stations in Norfolk and Hampton Roads, VA. He has served SBE Chapter 54 Hampton Roads, VA, as webmaster, and is active in SBE Chapter 45 Charlotte, NC. Ted served 11 years on the SBE Board of Directors, five of those as secretary. He has served on the SBE’s Executive Committee, and he has chaired the SBE Frequency Coordination Committee.

Robert Hoffman is the chief engineer of Hubbard Radio St. Louis and stations WIL-FM, WARH-FM and WXOS-FM. His radio career has taken him to stations in Murphysboro, IL; Mt Vernon, IL; and Cape Girardeau, MO; before he moved to St Louis. He is active in Chapter 55 St. Louis as the meeting coordination and program chair, a role he has filled since 1995.

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. The three will be recognized during the SBE National Awards Dinner on Oct. 26, 2017, in Denver, during the annual SBE National Meeting, which will be held in conjunction with the Rocky Mountain AV Expo.

Read more about the new SBE Fellows in SBE News and Headlines at sbe.org.

Denver is Site of 2017 SBE National Meeting

The Society of Broadcast Engineers will bring its 53rd annual national meeting to Denver, CO Oct. 25-26, 2017. The event will be held in conjunction with the Rocky Mountain Audio/Video Expo (AVX), an annual regional exposition and educational event. The conference includes a media equipment and services tradeshow and multiple technical sessions of interest to all media engineers, technicians, post-production and media IT personnel.

Serving as event host is SBE Chapter 48 of Denver and the Colorado Front Range. The SBE National Meeting begins on Wednesday afternoon, October 25, with the fall meeting of the national SBE Certification Committee from 2 to 4 p.m. The fall meeting of the SBE Board of Directors will take place from 6 to 10 p.m., and attendance is open to any SBE member. On Thursday, activities begin with the annual SBE Fellows Breakfast, a reunion of SBE Fellow members including this year’s inductees, Robert Hoffman, CPBE; Ted Hand, CPBE, 8-VSB, AMD, DRB; and Frank Giardina, CPBE. In the afternoon, the SBE Annual Membership Meeting will be held from 2 to 3 p.m., with a live webcast available to members around the world.

see MEETING, p. 3
Greater encoding performance, better bandwidth utilization, and incredibly power efficient: the new line of Teradek HD and UHD H.265 codecs offer unprecedented value for broadcasters and independent content creators alike.
MEETING from p. 1

The SBE Annual Awards Reception and Dinner will take place on Thursday, beginning with the reception at 4 p.m. and dinner at 5 p.m. The dinner will feature a guest speaker and the presentation of the society’s major awards, including the Robert L. Flanders SBE Engineer of the Year and James C. Wullimbe SBE Educator of the Year awards. The dinner program will conclude with the presentation of the Fellow honor to Hoffman, Hand and Giardina.

In addition, to be presented are awards recognizing individual member and chapter achievement. For chapters, they include the Best Chapter or Regional Educational Event, Best Chapter Communications, Most Certified Chapter, Highest Member Attendance and Greatest Growth in New Members.

Individual 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 new Freedom Award.

The AVX begins on Wednesday with the trade show and educational sessions. AVX session topics and speakers will be announced in the coming weeks.

The SBE National Meeting and the AVX will be held at the Crowne Plaza Denver International Airport Hotel. The hotel has complimentary shuttle service to and from the Denver International Airport. The hotel is about 20 miles from downtown Denver and can be reached by Denver’s new light-rail system. A station is near the hotel.

AVX registration can be made through the AVX show website. The expo and most educational sessions are free to those who pre-register. The expo includes more than 100 exhibiting companies and annually hosts more than 1,400 visitors.

Registration for the SBE National Awards Reception and Dinner will be through the SBE website. Reservations are required ($16) and made online at the SBE website, sbe.org, or by calling the SBE National Office at 317-846-9000. There is no cost to attend the SBE Annual Membership Meeting.

Make reservations at the Crowne Plaza Dia by calling 866-378-1583, and use the booking code XVA. A limited number of guestrooms with a special rate of $122 per night plus tax has been reserved for the event.

More details will be released beginning in July. Save the dates and plan to make your way to Denver for this year’s SBE National Meeting and the Rocky Mountain Audio/Video Expo.
The SBE: Meeting With and Working For You

Since our last Signal a lot has taken place. Of course, the most noted is the 2017 NAB Show, which included the Ennes Workshop and the national SBE Membership Meeting and reception. It was my honor to meet many of you at these events and to discuss your thoughts on the SBE and the industry. Your comments are important to the continued strengthening of the SBE and the broadcast industry in particular. Thank you all for taking your valuable time to visit the SBE booth and attend the sessions and the national meeting and reception!

The SBE Board of Directors met on Sunday preceding the NAB Show and voted on your recommendations for our new Fellow members. Being elevated to the membership rank of Fellow this year are Frank Giardina, CPBE; Ted Hand, CPBE, 8-VSB, AMD, DRB; and Robert Hoffman, CPBE. These SBE members are highly regarded by you and I offer my congratulations to each on this well-deserved recognition.

The second SBE Compensation Survey was conducted from April 1 to May 13 to determine salary levels and benefits among broadcast and media technology engineers. The SBE conducted its first survey last year. With this second survey, it will establish a baseline for subsequent surveys to establish compensation trends. Thanks to each of you who participated in this survey.

During the NAB Show, it was my honor to speak to the NAB Technical Apprentice Program candidates on the values of the SBE and how we can assist them in their future in broadcasting. Later in May, I also spoke to the Georgia Association of Broadcasters Radio Talent Institute students on broadcast engineering and the SBE. It is always great to see such eager students that want to join our industry and become the leaders of the future. I wish them well as they set out on their broadcast future and they now know that the SBE will be there to assist them.

Also during the NAB Show, your SBE was providing information about new EPA regulations that apply to stationary internal-combustion engine emissions. The RICE-NESHAP regulations cover emergency generators, pump engines or other devices powered by an internal combustion engine. SBE Director Mike Hendrickson has prepared a report on the regulations, which is posted at the SBE website. We will also publish that report in the next issue of The Signal.

Renew Your Membership

While I am on the subject of membership, I encourage each of you to encourage your technology professional associates who are not SBE members to become members. The SBE can strengthen them in their broadcast careers through certification and education. No other organization has the capability to do what the SBE can do for its members. Your Board of Directors and officers are always spreading the word about the SBE but we need you to do the same as members.

Elections for your national officers and Board of Directors is coming up soon. As I am on my last year as your president, let me encourage you to participate in this year’s election. The SBE Nominations Committee has come up with a slate of very qualified SBE members who are willing to dedicate their time and energy to represent you in the coming SBE year. When you receive the notice that elections are open, please take the few minutes necessary to vote for your future representatives.

Looks like this is going to be a hot summer, so I trust you will keep cool and keep safe. As always, we are open to your thoughts and comments so be sure to communicate with me or any other officer or board member.

Ornellas Appointed to Fill SBE Board Vacancy

SBE President Jerry Massey has appointed Jason Ornellas, CBRE, CRO, to fill an open position on the SBE Board of Directors. The SBE Executive Committee ratified the appointment during a conference call meeting on March 21. The Board seat opened when Mark Simpson, CPBE, AMD, DRB, CBNE, resigned from the Board. Ornellas fills Simpson’s unexpired term that will end in the fall 2018.

Ornellas is director of engineering at CBS Radio, Sacramento, CA. He has been an SBE member since 2008, first as a Student Member. He was involved with SBE chapters in Indianapolis, San Francisco and New York City before moving to Sacramento. He is a member of Chapter 43 Sacramento.

On the appointment, Massey said, “Jason expressed interest in serving on the Board in previous SBE elections, so it was a natural choice to ask him to join the Board now. I’m glad to have him with us. At the same time, I’m sorry that Mark Simpson has decided to step down, but I understand his reasons.”

Mark Simpson was recently promoted to VP of engineering of Townsquare Media. He was elected to the Board in 2016. He has stepped down from the Board to focus his energy on his new position.

Ornellas
The Cybersecurity Conundrum

The dictionary defines conundrum as “a confusing and difficult problem or question.” I can’t think of a better noun to describe Cybersecurity in general and especially in the broadcast environment. Accounts of data breaches, ransomware, and service disruption through various network hacking exploits focused on the broadcast and media provider have surfaced since 2015. Once in the past, often relying on obscurity, the broadcast technical plant is simply no longer immune from Cybersecurity as an option. Cybersecurity is a must! Incidents involving the broadcast station network exploits can lead to revenue loss, media protection liability, service disruption, license regulatory violation, and public embarrassment. Cybersecurity begins with the proper design of the broadcast network that employs techniques such as internal network segmentation, firewall protection, encryption, and believe it or not, often some common sense.

Tools in Your Cybersecurity Toolbox

The firewall and the VPN are two essential tools that become the foundation of a secure technical facility. The firewall should be the starting point for implementing network security policy. Firewalls are available in many forms from open-source software packages to self-contained security appliances. Each has its own advantages and disadvantages ranging from expertise required to setup and maintain to features offered. All share a common trait of packet filtering. As an OSI Layer 3 device, firewalls work by inspection of the IP packet header information. Based on the source and/or destination addresses, the protocol utilized, and/or the TCP or UDP port information within the header, the firewall performs a decision to pass or deny the packet based on an established rule set. In some cases, the rule set is static such as filtering Internet Control Message Protocol (ICMP) from entering your internal broadcast network from the Internet at large. This easily implemented stateless tactic prevents someone from outside your network from exploring your internal network by utilizing the Ping command, which is based on ICMP. Other rule sets are dynamically based, where an internal host governs the IP address and port is opened by the stateful firewall for the duration of a TCP/IP conversation between the internal and external hosts.

Virtual Private Network (VPN) technology should be utilized anytime remote access from a public network is required to an internal network where the remote login is the transmitter site or chief engineer’s home PC. The VPN provides the three essential characteristics defined by the CIA Triad to insure network security: Confidentiality, Authentication, and Integrity. The VPN creates a secure tunnel between the remote host and the internal network by use of secure protocols such as Internet Protocol Security (IPsec) or Transport Layer Security (SSL/TLS) to encapsulate an encrypted or secure IP packet within an IP packet. The SSL based VPN is often utilized in situations where Network address Translation (NAT) is involved. Even when deep packet inspection sniffing techniques might be utilized by a hacker, the resultant information obtained is simply an encrypted packet thus providing the confidentiality.

Tools can only go so far, and a human social aspect comes into play. Users must be aware of network phishing attempts and employ some common sense by changing default login information for your network’s host devices. And always use strong passwords. Tips and resources to create strong passwords are abundant. One such reference from the SANS Institute is included in references section of this article.

RF101 Webinars

The SBE RF101 webinar series continues and is likely to be the most attended webinar of all SBE offerings. If you missed any of the previous webinars, remember that all SBE webinars are available on-demand so that you can take part on your own schedule. The multi-part RF101 Webinar Series was developed and conducted by industry consultant, Dennis Baldridge. Dennis’ focus is on those with minimal RF experience, but feedback to date has shown that there is something for the experienced broadcast engineer to learn.

Your SBE Education Committee wants know your career professional development needs. Consider providing your expertise and knowledge to your SBE peers through one of many program delivery platforms. Lend your advice and guidance to the SBE Education Committee. Continuous learning is a key trait of the successful technology professional and the SBE Education team is dedicated to bringing you quality professional development programs covering relevant broadcast industry topics delivered in different mediums to meet your needs.

For more information on any SBE education program, contact Education Director Cathy Orosz at the SBE National Office at 317-846-9000 or corosz@sbe.org.
Change Is A Good Thing

As was reported in the April issue of The Signal, the National Certification Committee has been asked on various occasions over the years to allow electronic devices to be used when taking certification exams. For some time, the committee has allowed on a limited basis the use of e-book readers, tablets, calculators and smart phones with calculator function as long as they were put into airplane mode and not connected to the internet for the multiple choice portion of the exam. Exams with essay questions are closed book, and do not allow the use of peripheral resources.

In reality, everyone uses internet resources in daily work. Most manuals are not printed, but are supplied as PDF or DOC files. A great wealth of information is posted on manufacture websites. The Certification Committee has been asked to consider this in relation to the existing certification exam procedures.

During the National Certification Committee meeting on April 22, the results of the yearlong beta testing program were discussed. In short, the data revealed that allowing the use of the internet during testing did not have an appreciable effect on the pass/fail rate for the exams. All levels of certification exams were sampled during the yearlong study. Because of this finding, the committee voted to allow the use of internet-connected devices, PDF books and notes along with the existing open-book policy starting with the June exam period and going forward.

At the SBE board meeting on April 23, the national board was notified of the change in test procedure. The national committee will monitor the results of exams and reserves the right to change or modify this procedure as necessary. Even though individuals may use the internet while taking exams, neither the SBE nor its proctors can guarantee that connectivity will be available at testing sites, and the examinee should be prepared to complete the exam by other means if connectivity is unavailable.

Maintaining the integrity of the question database is critical to the success of the certification program. We want to be certain that the questions are not removed from the examination room. During the exam, any handwritten notes created during the exam must be turned in with the exam package. Electronic note taking during the exam is prohibited.

Just as the Certification Committee has an ongoing review of exam questions to be sure what is being tested is relevant and timely, this procedural change also ensures that the exam process itself remains timely.

The answer is B.

Part 17.48(a) of the FCC Rules states that the owner of any antenna structure, “Shall report immediately to the FAA, by means acceptable to the FAA, any observed or otherwise known extinguishment or improper functioning of any top steady burning light or any flashing obstruction light, regardless of its position on the antenna structure, not corrected within 30 minutes.”

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SBE Certification Achievements

CONGRATULATIONS

LIFE CERTIFICATION

Certified Professional Broadcast Engineer (CPBE) - Robert Daly, Eagan, MN - Chapter 17
Applicant 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.

February Exams

Certified Senior Radio Engineer (CSRE) - Sam Wallington, Auburn, CA - Chapter 43
AM Directional Specialist (AMD) - Dennis Graiani, New City, NY - Chapter 15
Certified Audio Engineer (CEA) - James Lidberg, Mesa, AZ - Chapter 9

NAB Show Exams

Certified Broadcast Radio Engineer (CBRE) - Steven Balzer, Tairung Bunga, Penang, Malaysia
Certified Broadcast Networking Engineer (CBNE) - Vincent Atwood, Fort Meade, MD - Chapter 37
Certified Broadcast Television Engineer (CBTE) - Junta Tokuruga, Walipau, HI - Chapter 63

Special Proctored Exams

Certified Broadcast Networking Technologist (CBNT) - Brian Alfred, Nampa, ID - Chapter 115
Alabama Broadcasters Association - Certified Senior Broadcast Engineer (CSBE)
Certified Broadcast Radio Engineer (CBRE) - Alex McKenzie, Hays, KS - Chapter 3
Certified Broadcast Networking Engineer (CBNE) - James Kim, Vass, NC - Chapter 147

Certified by License

Certified Broadcast Operator (CBO) - Daniel Gonzales, Simi Valley, CA - Chapter 47
Navapadol Tabkum, Escondido, CA - Chapter 36

SBE Certified School Course Completion

Certified Broadcast Operator (CBO) - Ashley Batts, Long Beach, CA - Chapter 47
James Jones, Fort Meade, MD - Chapter 132
Kimberly Robinette, Westminster, MD - Chapter 46

Certified Radio Operator (CRO)

Oquinde Bennett, Fayetteville, NC - Justin Bandy, Pasadera, CA
Ben Johnson, Cave City, AR
Mesquite ISD - Cole Shaffer, Mesquite, TX
Johnny Angel Vasalo, Mesquite, TX
Rachel Williams, Mesquite, TX

Certified Television Operator (CTO)

Oquinde Bennett, Fayetteville, NC - North Shore Senior High School
Michelle Davies, Sweet Valley, PA
David Holmes, Orange, CA
Mary Pierce, Portland, OR

Recertification

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

Certified Professional Broadcast Engineer (CPBE) - Mario Hieb, Salt Lake City, UT - Chapter 62
Certified Broadcast Operator (CBO) - Arthur Reis, New Lenox, IL - Chapter 26
Certified Broadcast Networking Engineer (CBNE) - Paul Claxton, Moreno Valley, CA - Chapter 131
Certified Broadcast Television Operator (CTO) - Mario Hieb, Salt Lake City, UT - Chapter 62
A: The SBE, in its new location in the North Hall lobby, still attracted quite a crowd. B: A daily booth drawing was held Monday through Wednesday. Ben Nemser of Nemal (Monday's sponsor) drew the day's winner. C: Raoul DeSota (r) with reception Gold Sponsor EMP Solutions holds the company's lightning suppressor. D: The SBE Member Reception on Tuesday was the place to meet and socialize. E: The annual SBE Membership Meeting on Tuesday provided an update on all the SBE's activities. F: The SBE Board of Directors met Sunday morning. G: The Ennes Workshop, held on Saturday was a deep-tech kickoff for the convention.
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[Graphical representation of integration components]

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Users of wireless microphones and UHF Low Power Auxiliary devices at the close of FCC Auctions 1001/1002 have significant options for continued access to the UHF television band. The auction closed formally at the end of March of this year. On April 13, 2017, the FCC released a Closing and Channel Reassignment Public Notice (DA 17-314), which determines the order in which television stations that participated in the auction should move to the spectrum below TV Channel 37 (i.e., below 608 MHz). The issuance of that public notice started a 39-month transition period, which is scheduled to end on July 13, 2020. At the end of this transition period, all television stations that participated in the auction will have cleared the spectrum between 614 MHz and 698 MHz. The good news for wireless mic and intercom users, however, is that even after the 39-month transition period, there will still be significant spectrum at UHF available; well more than was originally expected.

During the 39-month transition period, wireless microphones, intercoms and other low-power broadcast auxiliary devices can continue to operate normally in the entire 614-698 MHz band. However, it will be necessary during this entire period to protect any broadband systems that begin operations during the transition time. And there will be many of these, because the TV station relocation during this 39-month period, vacating the band 614-698 MHz for broadband use, will occur in stages. The early stages of TV station repacking will occur in TV markets that are isolated from other markets, such as Salt Lake City, UT. Adjacent markets, such as Washington, DC, and Baltimore, MD, will be later in the process. The largest auction winner in the process, T-Mobile, promises that it has “a track record of purchasing new spectrum and deploying it at break-neck speed,” which it has every right to do, and broadcasters and wireless mic users have to accommodate it. In fact, T-Mobile has been a good communicator with the SBE about this process, and we expect that to continue.

And that is a really good thing, because the difficulty for broadcasters in the use of wireless microphones and low-power auxiliary devices in the 614-698 MHz band during the transition is that we have no way of knowing when a particular auction winner plans to light up in a given area. There are parts of states such as Arizona, for example, in which there are no TV stations to move and T-Mobile or other auction winners could simply light up tomorrow. The only way to coordinate that is by communication with the broadband provider auction winners. The SBE will do as much of that as we can with the auction winners.

Almost Business as Usual

Though the 614-698 MHz band will be unavailable anywhere for wireless microphones after the 39-month transition, the band 470-608 MHz (TV Channels 14-36) will continue to be available without interruption, though TV stations that migrate from above Channel 37 to below channel 37 will gradually make some of that spectrum unusable. Wireless microphones, however, can operate as close as 4 km outside the actual service contour of a TV station, regardless of the location of the TV antenna. Licensed wireless microphone users are permitted to operate closer to, or even within the service contour, if they are indoors and the TV signal strength is less than -84 dBm. TV Channel 37 (608-614 MHz) is not and never has been available for wireless mic and intercom use; that channel is used for radio astronomy and medical telemetry devices and it will stay that way. However, wireless microphones will after the transition period operate in the duplex gap between the broadband uplink and downlink bands. This is a 10 MHz segment at 653-663 MHz. This 10 MHz will be divided between licensed wireless microphones and intercoms (4 MHz at 653-657 MHz) and unlicensed wireless microphones and intercoms and TV white spaces devices (6 MHz at 657-663 MHz).

Finally, wireless microphones and intercoms can operate in the guard band just above TV Channel 37 on an unlicensed basis (2 MHz between 614 and 616 MHz). The power limit for wireless microphones operating in the duplex gap and in the guard band after the transition period is 20 milliwatts effective isotropic radiated power (EIRP). There will be no operation permitted in the 1 MHz segments just below and above the broadband downlink segment (616-617 MHz and 652-653 MHz) after the transition period. The table summarizes the UHF bands still available for wireless microphones and intercoms.
Strategic Planning, By-law Changes, Highlight April Board of Directors Meeting

More than 103,000 people attended the recent annual NAB Show in Las Vegas. A good number of SBE members were among them and found their way to our new booth location in the upper level lobby of the Las Vegas Convention Center North Hall. We were pleased to welcome six new members to the SBE who signed up during the show and another 28 current members who renewed their memberships.

The national SBE Board of Directors met on Sunday during the event, led by SBE President Jerry Massey, and I’d like to share with you a few items the Board discussed.

The first item was a decision to hold a one-day strategic planning conference in 2018. Details, including the date and location, will be determined in the coming months, but the primary focus is likely to be on the society’s membership. With the technical skillsets and knowledge needed in the media field changing at a rapid pace, the Board will discuss what the Society must do to keep pace and provide for the changing needs of both current and future members.

SBE Certification Committee Chair Ralph Hogan reported to the Board a decision made by his committee at its meeting the previous evening to allow internet access to resources during SBE certification exam sessions. This comes after more than a year of beta testing, research and discussion. Read more about this in Ralph’s Certification Update column in this issue of The Signal.

The Board approved two changes to the Society’s By-laws. The first change expands the scope of an existing by-law providing the Board with authority to institute travel cost reimbursement for members of the board to attend Board meetings. The change expands the authority to meetings of the Executive Committee. The intent is to ease the financial burden for those who serve on the Board and Executive Committee, and not make the financial commitment to attend meetings a deterrent to running for the Board. Because of budget constraints, this is starting with a maximum of just $100 per year allotted to each director and officer to offset a small portion of their travel expenses.

The second change adds an indemnification clause to the SBE Bylaws. Indemnifying officers, directors and staff minimizes their exposure and personal liability when working in good faith on behalf of the society. It is very common in non-profit associations. The new text of the By-laws may be found on page 15 of this issue of The Signal.

The Board also discussed the RICE-NESHAP rules, which regulate operations of reciprocating internal combustion engines. An article about RICE-NESHAP by board member Mike Hendrickson is posted on the SBE website, and I encourage everyone to read it to see if these regulations affect your facilities.

The Board voted to elevate three members to the SBE membership rank of Fellow. They were nominated by members and reviewed by the national SBE Fellows Committee, chaired by Troy Pennington, and then the Board. They too, are in this issue of The Signal. Our congratulations to members Robert Hoffman, Ted Hand and Frank Giardina!

Lastly, I would like to recognize SBE Fellow member, John Lyons of The Durst Organization in New York City. John was recognized by the NAB with its Television Engineering Achievement Award during the NAB Technology Luncheon held during the convention. John has made tremendous contributions to television broadcasting in his career and has been an outstanding supporter of the SBE. We were pleased to see him recognized for his work.

Jerry Massey (l) and John Lyons just before the NAB Technology Luncheon.
EAS Security Notes

Intrusions into computerized equipment have been around since the internet began. It is no surprise that these invasions have made their way into radio and television stations. Most recently, EAS devices have been a major target. To comply with FCC rules, these devices must have internet access to receive information from FEMA via IPAWS. Security for EAS and other station devices should be a high priority for station engineers. As a result, the SBE EAS Advisory group has put together basic security guidelines to aid stations in assuring that all equipment is protected from these outside intrusions.

Broadcast station equipment intrusions are more than an inconvenience. They can cost you to repair the systems that were compromised. They can cost you revenue for lost airtime. They can cost you credibility in your audience and community. Moreover, it will eventually cost all of us if the government feels it necessary to step in with additional regulations and requirements on broadcasters.

At the same time, it’s challenging for many broadcasters to keep up with the wide range of potential cyberattacks. Many broadcasters don’t know they have become vulnerable to attackers until it’s too late.

The Problem
Recent events had plainly shown that broadcasters are a low-hanging fruit for internet mischief-makers and cybercriminals. All too frequently, this involves key station equipment and computers left vulnerable to the internet, not changing default passwords, or even not having passwords at all.

The results have included the entire programming stream disrupted by IP streamers redirected to offensive, political and/or obscene content, the issuance of false or simulated EAS messages, the creation of fake messages and alerts via RDS encoders, the wholesale disruption of station operations when computers are locked via malware and viruses, and more. These are issues that have already happened, repeatedly.

In many cases, the threats boil down to simple vulnerabilities that could have been easily addressed beforehand.

- Stations with unconfigured firewalls - or even no firewalls.
- Station equipment left exposed and unprotected to the open internet.
- Station equipment left with default or easily guessable passwords – or even no passwords.
- Email attachments open, which introduced malware across the station network.
- Presenting the potential for reaching a wide audience with inappropriate or political content, broadcasters present an irresistible opportunity for internet bad guys. Some broadcasters have opined that cybersecurity is too expensive or difficult. However, as we outline below, broadcasters can take preventative steps that are often a minimal expense, or no expense at all.

Technical Solutions
Know Your Systems. Know what systems are connected to your network and to the internet, and know which systems should not be. If it is connected to the network, it needs to be protected. This includes equipment at the business office, studios, transmitter sites, remote control points, and other remote sites.

Firewalls to Defend Your Network. The one security item every company needs is a firewall, a security appliance that attaches to your network and acts as the protective shield from the outside world. A firewall continuously inspects traffic and matches it against a set of predefined rules. Just about everything in a broadcast facility should be behind a firewall if it is connected to the internet. Make sure any software or firmware is up to date, and don’t leave ports open.

Equipment Passwords and Account Management. Broadcast equipment may come with a default password. Change default passwords on any equipment in your operation and delete unused accounts. A password alone does not fully protect equipment access by other means. Equipment needs to be behind a firewall.

Updates and Patches. Equipment manufacturers may contact you periodically regarding software patches and updates. Apply these updates in a timely manner. Make it a practice to check with manufacturers to see if software updates have been released. These updates and patches may include not only feature improvements and bug fixes; they may also contain critical security patches.

Secure Networks. A virtual private network (VPN) securely and inexpensively uses the public internet instead of privately owned or leased lines to provide secure access to a network. Consider, for example, a VPN link as part of the STL, if that link relies on an IP stream from the studio to transmitter.

Safe Web Browsing and E-Mail Habits. Email and suspect websites are an easy entry point. Consider a software security solution that includes e-mail security, Web gateway security, and URL filtering.

Social Solutions
Security fundamentally involves a social aspect. Internally, you may need to reorient your employees and colleagues around safe email and web browsing habits. Teach them to be wary of scam and phishing emails, and to beware of potentially dangerous attachments to emails from unknown or suspicious senders. Reinforce safe web browsing habits, such as not downloading content from unknown or suspect websites.

Broadcasters are a community. Externally, you may find opportunities to share information about what you are doing to improve security, what threats you see, and how you are addressing them.

Some tasks may be beyond your own ability or resources. When you need to conduct a risk assessment, or get assistance in setting up network and IT security solutions, it may be money well spent if you don’t have the expertise to do it yourself.

The Bottom Line
- Know your Systems. If it’s connected, it’s at risk.
- Defend your Network. Everything connected to the network or the internet must be behind a firewall.
- Protect your Equipment. Change default passwords and usernames. Install software upgrades or patches.
- Use Common Sense with Email and the Internet. Use caution when opening email attachments or downloading from websites.

MORE ONLINE
The SBE’s online EAS information: sbe.org/eas
Member Spotlight: John A. Graham

Member Stats
SBE Member Since: 1982
Certifications: CSRE
Chapter: 33 Southwestern Ohio
Employer: Strong Tower Christian Media, WFCJ, WEEO
Position: Engineering Director
Location: Dayton/Springfield, OH
I’m Best Known For: Dealing with RF issues at the transmitter sites and audio issues at the studios.

Q. What do you value most about your SBE involvement?
A. I have enjoyed the training that SBE has offered with the Ennes program.

Q. What got you started in broadcast engineering?
A. When I was young, my father gave me a little yellow crystal radio for Christmas. I tuned in WLW at night and our local station WWHO (Washington Court House) during the day. At 13, my father let me use an old tube radio, and I listened to all the AM stations at night. After that, I started to study his home course on electronics.

Q. Who was your mentor?
A. Dave Johnson, with whom I worked at Mortensen Broadcasting Company as an announcer, helped me in my start into engineering. When Dave worked for Salem in Cleveland, he took the time to teach me about AM directional antennas.

Q. What do you like most about your job?
A. Each day is different with a new set of problems to solve. Also, I enjoy working with new equipment that is being developed for our industry.

Q. When I’m not working I...
A. ...love to watch and attend NASCAR races. I love to photograph landscape scenes and sporting events.

Q. You may not know this, but...
A. ...I was the guy who stood on a Logitek console for an ad several years ago when the Mosaic consoles were introduced.

Q. Do you have a nickname?
A. Years ago, an announcer started to call me Johnny Be Good after the Chuck Berry song. Later it was shortened to Johnny BG and its hung around over the years.

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 10 will be added to the ballot. The election will take place June 24 through August 23. 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.

For more information about candidacy, contact Secretary Wayne Pecena at wpecena@sbe.org or Executive Director John Poray at jporay@sbe.org or 317-846-9000.

Nominations Committee Candidate Slate

Officers:
President: James Leifer, CPBE; Chapter 11 Boston; Andover, MA
Vice President: RJ Russell, CPBE; Chapter 18 Philadelphia;
Secretary: Wayne Pecena, CPBE, 8-VSB, AMD, DRB, CBNE;
Treasurer: Jim Bernier, CPBE, CBNE; Chapter 5 Atlanta; Alpharetta, GA
Treasurer: Ched Keiler, CPBE, CBNE; Chapter 53 South Florida;

Directors: (top six vote getters will be elected):
David K. Bialik, CBT; Chapter 15 New York City; New City, NY
Andrea Cummis, CBT, CTO; Chapter 15 New York City; Roseland, NJ
Mark Fehlig, CPBE, 8-VSB, CBNT; Chapter 99 Bryan, TX, College Station, TX
Treasurer: Jim Bernier, CPBE, CBNE; Chapter 5 Atlanta; Alpharetta, GA
Treasurer: Ched Keiler, CPBE, CBNE; Chapter 53 South Florida;

Mike Hendrickson, CPBE, CBN; Chapter 17 Minneapolis; Lakeville, MN
Stephen H. Lampen, CBRE; Chapter 40 San Francisco; San Francisco
Kim Sacks, CBT; Chapter 48 Denver; Loveland, CO
Dave Siegler, CPBE; Chapter 5 Atlanta; Atlanta
Barry Thomas, CPBE, DRB, CBNE; Chapter 48 Denver; Denver
Kevin Trueblood, CPBE, CBNT; Chapter 90 SW Florida; Estero, FL

Leifer
Russell
Pecena
Bialik
Cummis
Fehlig
Bernier
Keiler
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WELCOME TO THE SBE

NEW MEMBERS

Ashley E. Batts - Long Beach, CA
Joel L. Bellik - Manitou Springs, CO
Francisco J. Bernues - Torrance, CA
Joe S. Calkins - Pensacola, FL
Eric B. Carter - Tallahassee, FL
John A. Chenault - Inglewood, CA
Douglas B. Crall - Tallahassee, FL
Robert H. Cram - Spokane, WA
Joao Paulo Cruz Araujo - Uberlandia, Minas Gerais, Brazil
John Cruzat - Brooklyn, NY
Benjamin D. Davis - Fort Meade, MD
Jonathan E. Ferraro - Shrewsbury, CT
Miki S. Ferreiro - San Jacinto, CA
Kristen Fierro - San Jacinto, CA
Logan C. Elmore - Port Orchard, WA
Tyler L. Cox - Gig Harbor, WA
Markell Lambright - Brooklyn, NY
Russell Laferty - Auxier, KY
Harold M. Hallikainen - Arvada, CO
Mikie S. Fierro - San Jacinto, CA
Benjamin Datin - New Port Richey, FL
Joao Paulo Cruz Araujo - Uberlandia, Minas Gerais, Brazil
John Cruzat - Brooklyn, NY
Carl Kissner, Royal Oak, MI
Rick Levy, Cambridge, MA
James Linn, Altamonte Springs, FL
John Lyons, New York, NY
Kevin Plumb, Trumbull, CT
Eric Wright, Marietta, GA

RETURNING MEMBERS

Edward I. Amana - Abuja, Nigeria
David B. Beach - Houston, TX
Brendan C. Bedolla - Puebla, Mexico
George W. Blessing - Murray, NE
Michael J. Boucher - Lake Park, GA
Robert F. deBettencourt - Gaithersburg, MD
Mike Felt - El Mirage, AZ
Karl M. Fontenot - Crowley, LA
Scott Russell - Columbus, GA
Jason M. Godzetez - Aurora, CO
James K. Hobbs - Lincoln, NE
Mindy Hoffman - East Brunswick, NJ
Frederick K. Humphreys - Altonch, TN
Gary D. Inks - Fishers, IN
Michael Jamnick - Minneapolis, MN
Robert F. Kelley, Jr. - Tampa, FL
Eric D. Kuglin - New Bern, NC
Keith J. Leitch - Santa Rosa, CA
Julio C. Lopez Garcia - Mexico City, Mexico
Paul Lyons - Dayton, OH
John E. Mackey - Beaverton, OR
John D. Mathews - Holts Summit, MO
Tedd A. McCullar - Esley, SC
Aaron T. McCauchan - Grand Blanc, MI
James R. Martin - Tusca, OK
Robert A. Meuser - New York, NY
Drew D. Pinkney - Lebanon, PA
Stephen C. Porter - Hammond, LA
Marcus O. Potier - Katy, TX
James R. Prinath - Washington, DC
Oscar R. Quintana - El Cajon, CA
Michael R. Randolph - Abilene, TX
Glen Rewal - Castalia, OH
Kimberly K. Sacks - Loveland, CO
Garth J. Sims - Clio, MI
Monde D. Staton - College Park, MD
Barry A. Walters - Irving, TX
Jason Wilson - Ocala, FL
Junvel A. Yanez - Quezon City, Philippines

NEW STUDENT MEMBERS

Douglas P. Berry - Auburn, WA
Rachael Boruta - Wilmingon, DE
Tyler C. Cox - Gig Harbor, WA
Logan C. Elmore - Fort Orchard, WA
Pedro L. Franqui - Tacoma, WA
Mindy Hoffman - East Brunswick, NJ
Frederick K. Humphreys - Altonch, TN
Gary D. Inks - Fishers, IN
Michael Jamnick - Minneapolis, MN
Robert F. Kelley Jr. - Tampa, FL
Eric D. Kuglin - New Bern, NC
Keith J. Leitch - Santa Rosa, CA
Julio C. Lopez Garcia - Mexico City, Mexico
Darian T. Nieves - Puyallup, WA
Talatu Oyefeso - Compton, CA
Christopher F. Rees - Tacoma, WA
Steven R. Surerus - Puyallup, WA
Tronston R. Tomaras - Gig Harbor, WA
Alden C. Torg - Tacoma, WA
Calon D. King - Tacoma, WA

NEW YOUTH MEMBERS

Liam M. Salvage - Streetsboro, OH

NEW ASSOCIATE MEMBERS

Paul A. Fitts - Hagerstown, MD

SBE Board Adopts By-laws Changes

The SBE Board of Directors approved two changes to the Society By-laws at its meeting on April 23, 2017. The changes took effect upon passage. The first expands the scope of an existing by-law that provides the Board with authority to institute travel cost reimbursement for members of the board to attend Board meetings. The change expands the authority to meetings of the Executive Committee. The new by-law reads as follows:

Article 3, Section 10

“In the discretion of the Board of Directors, the Board may permit reimbursement of Board members for some or all travel and lodging expenses reasonably incurred in their attendance at meetings of the Board or the Executive Committee. At the discretion of any Chapter of the Society that Chapter may reimburse individual members of the Board of Directors for their otherwise unreimbursed out-of-pocket expenses necessarily incurred in pursuing Society business.”

The second change adds an indemnification clause to the by-laws. The intent is to indemnify national officers, directors and staff to minimize their exposure and personal liability when working in good faith on behalf of the Society. The new by-law reads as follows:

Section 14

“The Society shall, to the extent legally permissible, indemnify each person who may serve or who has served at any time as an officer, director, or employee of the corporation against all expenses and liabilities, including, without limitation, counsel fees, judgments, fines, penalties and settlement payments, reasonably incurred by or imposed upon such person in connection with any threatened, pending or completed action, suit or proceeding in which he or she may become involved by reason of his or her service in such capacity; provided that no indemnification shall be provided for any such person with respect to any matter as to which he or she shall have been finally adjudicated in any proceeding not to have acted in good faith in the reasonable belief that such action was in the best interests of the corporation; and further provided that any compromise or settlement payment shall be approved by a majority vote of a quorum of directors who are not at that time parties to the proceeding. The Society may maintain insurance, at its expense, to protect itself and any such person against any such liability, cost or expense.”

ENNES SCHOLARSHIP

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

Ennes Scholarship

Jason Brown, Seminole, FL
John Byrne, Jr., Lyndell, PA
Ronald Capan, Pittsburgh, PA
Timothy Carroll, Lancaster, PA
Cristian Caughill, Honolulu, HI
John Demshock, Altamonte Springs, FL
Maria Dudzak, Ketchikan, AK
Andrew Funk, Atlanta, GA
Philip Hartman, San Francisco, CA
Kent Hatfield, Rochester, NY
Michael Johnson, Oklahoma City, OK
Martin Jury, Little Chute, WI
Carl Kissner, Royal Oak, MI
Karl Lahm, Lake Villa, IL
Kate Landow, Englewood, CO

Youth Scholarship

John Demshock, Altamonte Springs, FL
Andrew Funk, Atlanta, GA
Martin Jury, Little Chute, WI
Carl Kissner, Royal Oak, MI
Kate Landow, Englewood, CO
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John Demshock, Altamonte Springs, FL
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Carl Cutforth, Mountain Lakes, NJ
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Carl Kissner, Royal Oak, MI
James Linn, Altamonte Beach, FL
John Lyons, New York, NY
Kevin Plumb, Trumbull, CT
John Turner, Mountain Lakes, NJ
Eric Wright, Marietta, GA

FUTURE SCHOLARSHIPS

John Lyons, New York, NY
Scott Pendergraft, Wrightsville, PA
Kevin Plumb, Trumbull, CT
Jason Quintana, Hudson, CO
Matthew Saplin, Altamont, NY
Larry Will, Glen Mills, PA
Eric Wright, Marietta, GA

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Webinar: RF101 Module 5
Online
June 15, 2017  sbe.org/webinars

Webinar: IP Networking Part 3
Online
June 20, 2017  sbe.org/webinars

SBE Certification Exams
Local Chapters
Aug. 4 - 14, 2017  sbe.org/certification
Application deadline is June 5, 2017.

SBE National Meeting
Denver, CO
Oct. 26 - 27, 2017  sbe.org

MARK YOUR CALENDAR

Have a new job? Received a promotion? Let your fellow SBE members know.
Send your news to Chriss Scherer at cscherer@sbe.org.

Members On The Move

SBE Vice President
James Leifer, CPBE, is the
senior manager broadcast
operations at American
Tower, Woburn, MA.

Steve Sauer is the assistant engineer at
Beasley Media Group in Estero, FL.

Steve Hendrix, CBT, has
left Oregon Public Broad-
casting and is now the
chief engineer of KPXE,
Kansas City.

Jon Hardee, CPBE, is a
broadcast maintenance
engineer with North Caro-
olina Public Radio-WUNC.

Kim Sacks, CBT, is director of engi-
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Loveland, CO.

Leonard Charles, CPBE, has
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