

April 2015

Society of Broadcast Engineers Chapter 24 Newsletter Madison, Wisconsin

Next Meeting

Tuesday, April 7

IPv6 – THE FUTURE OF THE INTERNET IS HERE

Elections

The global Internet has been transitioning to IPv6, the replacement protocol to IPv4, since 2009. Asia, Europe and the Americas have run out of new IPv4 addresses. LTE4 mobile networks are IPv6-only; by the end of 2014, so were Facebook's datacenters. Google fiber customers already do 70% of their traffic on IPv6. The future of the Internet belongs to IPv6, and it is already here. Join us for an explanation by the UW-Madison's Jim Leinweber of what IPv6 is, how it works including a live demo - and what broadcast engineers should be doing with it.

Dutch Treat Dinner 5:30 PM
Culvers Frozen Custard
2102 W. Beltline (north frontage road)
Madison, WI
(no reservations - just gather together)

Meeting and Program at 7:00PM Wisconsin Public Broadcasting Center 3319 W. Beltline Hwy Madison, WI

Visitors & Guests are welcome at all Chapter 24 events!

Cast Your Ballot!

>>> submitted by Steve Paugh,
Nominations Chair

We now have on-line voting for your convenience! To cast your ballot on-line simply visit www.sbe24.org and follow the links to on-line voting. You simply enter your last name and your SBE Membership number. The official ballot for the SBE Chapter 24, 2015 election of officers is also being published in this month's newsletter. If you prefer to mail in your ballot you can print out the ballot and mail it to:

Steve Paugh – c/o WISC-TV Ballot 7025 Raymond Road Madison, WI 53719

Please indicate "Ballot" on the envelope and we will hold your ballot unopened until the official counting process. Your ballot must be in our possession before we begin the counting on April 22. Remember that your membership must be current to be eligible to vote. Your membership number must be entered on the printed ballot for it to be valid, on-line voting will automatically verify your membership number.

The deadline for getting your ballot to the nomination chair or completing the online ballot is at noon on Wednesday, April 22, 2015. The nominations committee will count and certify the ballots on the afternoon of Wednesday, April 22, 2015 at WISC-TV.

You may turn in your ballot in person during the April 7, 2015 chapter meeting. I will have additional ballots available at the April 7th business meeting. A big thanks goes to Leonard Charles for writing the program that allows on-line balloting, to Mike Kulis for serving on the nominations committee and to all the members of SBE Chapter 24 who have volunteered their services to Chapter 24.

With A Little Help From My Friends

>>> from Bill Hamilton, WBUW-TV

As some of you may know, WBUW-TV lost its STL and went off the air early one Saturday morning in March. While I was scrambling to get us back on, I reached out to the local broadcast engineering community and the response was amazing! With the help of my friends, I was able to get the station back on the air. I would like to publically thank all of those who helped out and show my appreciation for their efforts.

Tom Weeden of WMTV loaned me a 2 GHz system and came out that weekend to help me set it up and troubleshoot it, getting me back on the air.

Kevin Ruppert and Leonard Charles of WISC-TV let me borrow their 13GHz system so I could work on my system and stay on the air.

I also had offers of assistance from ECB and WKOW-TV.

Finally, thanks to Tom Smith for helping me with the repairs.

It makes me proud to be part of a community that will not hesitate in helping another member out when needed.



Wed., May 6 NAB Wrap-Up
Thur., June 11 SBE Summer Picnic
Tues., July 14 Mic Systems for
Sports

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Meeting Minutes

from the March 2015 Business Meeting

Chapter 24 of the Society of Broadcast Engineers met at the studios of WMSN TV in Madison. Vice Chair Kevin Ruppert called the meeting together at 7:02pm.

The minutes of the previous meeting were approved as printed in the newsletter. The Treasurer, Leonard Charles, reported that there was no new activity since last month's meeting and the balance remains in the black.

Fred Sperry, the Sustaining Member Chair reported recent renewals from WMTV-TV, AVI Systems, Scharch LLC, and Ross Video. Our Sustaining Member total remains at 16.

Program Committee Chair Steve Paugh reported that next month's meeting will be a tutorial on Internet Protocol IPv6 on Tuesday April 7th. NAB is also in April so our May meeting will be the annual NAB recap. Any member attending the conference is asked to take a lot of pictures and notes then participate in the May program. The Summer Chapter Picnic is scheduled for June and the schedule for the rest of the year is full.

Certification Chair Jim Hermanson congratulated three recent certification achievements. Melanie Miexner, Gerrit Marshall, and Craig Wood all passed the Certified Television Operator exam. The next exams are at the NAB show with application deadline March 20th. The next local exams are June 5th thru 13th with application deadline April 10th.

There was no activity in Frequency Coordination.

John Poray from the National Office was in town for a pre-Clinic meeting because the National will be holding their Fall Meetings at the 2015 Clinic. John congratulated the Wisconsin Chapters on the continued success of the Clinic and asked for help to man the SBE booth at the Clinic on Tuesday evening as his staff will be tied up with the Board meeting. National events during the Clinic include the Fellowship Breakfast, annual Membership Meeting (which will be live streamed), and the National Awards reception and banquet. Members are invited to attend the National Meetings.

John said that the SBE is working on two books. The first will be Advanced TV Operations and Master Control co-written by Fred Baumgartner and Nick Grbac. The second is the SBE Broadcast Engineering Handbook. Jerry Whitaker will be the senior editor plus 60 different expert authors. The book is approaching 1000 pages.

The SBE is working on Professional Liability Insurance for contract engineer's to replace the offering that was dropped a few years ago. Also there will be an RF Safety webinar coming up in May. In addition there are many free recorded Webinars available on the web site.

There was no old or new business. In professional announcements Kevin Ruppert congratulated Kerry Maki as the new Chief Engineer at WKOW TV.

The meeting was adjourned at 7:15 at which time Matt Mommaerts and Jamie Nelson of WMSN TV gave a presentation of the new hubbing system which puts the station's Master Control in Milwaukee.

Minutes written by Leonard Charles







COMMENT SOUGHT

GN Docket No. 12-268 Comment Sought on Defining Commencement of Operations in the 600 MHz Band

On March 26th, The FCC released a notice (http://transition.fcc.gov/Daily Releases/ Daily Business/2015/db0326/FCC-15-38A1. pdf) asking for comment on defining when operation of wireless broadband operation in a location was beginning. While fullpower and Class A TV stations must cease operation on the 600 MHz band being reallotted for broadband use within 39 months of the Channel Reassignment Public Notice, non-Class A LPTV and translator stations, as well as TV White Space operations and fixed broadcast auxiliary stations, have until wireless broadband operations begin. Non-Class LPTV and translator stations in the 600 MHz wireless guard bands must also cease operation at the end of the 39-month transition period. The FCC is asking for comment on a definition of when wireless broadband operations are considered to be commencing and the current occupants must be notified to cease operation.

The FCC asked in the notice if commencement of operation should begin when construction is completed at a site, including completion of all tower work, installation of transmission equipment. transmission lines, antennas, and backhaul connections are made. Notification of commencement of operation would be made to those affected and testing of the site or sites could begin. The FCC also asked if there was an earlier stage of construction where testing could begin and operation could be considered to have commenced and if the entire service area of the licensee needed to be notified or just areas within the licensee's service area where actual operation is beginning. Some licenses will have very large service areas that they won in auction and may only initially build out their system to follow a highway corridor or serve densely populated areas at first.

Comments are due on May 1st with replies due on May 18th.

PROPOSED RULEMAKING

MB Docket 15-71

Amendment to the Commission's Rules Concerning Market Modification, Implementation of Section 102 of the STELA Reauthorization Act of 2014

On March 26th, the FCC issued a Notice of Proposed Rulemaking (http://transition.fcc. gov/Daily Releases/Daily Business/2015/ db0326/FCC-15-34A1.pdf) to allow stations to redefine their Designated Market Areas (DMA) to allow or dis-allow carriage by satellite in areas served be stations from adjacent markets. Currently satellite carriers must carry all stations in a market that wish to be carried. Congress amended the law in 2014 to allow for DMA's to be modified to allow stations that are adjacent to and whose coverage overlaps a particular DMA to be included for purposes of carriage in the local-to-local service of a satellite carrier. This law was modified for two reasons mainly. One was to harmonize the rules to those that cover cable. The other is to allow viewers to receive in-state stations when they live in a DMA that is served by out-of-state stations and do not receive news relating to their state or regional governments. An example would be counties in Western Wisconsin in the Minnesota Twin Cities DMA and unable to receive Eau Claire or La Crosse stations. The bill would also allow the satellite carriers to carry stations from two markets where signals overlap and were traditionally received over the air or by cable but are in one DMA or the other. An example in Wisconsin would be the Sheboygan and Fond du Lac areas which are covered by both the Green Bay and Milwaukee stations, but are assigned to one of either of the DMA's for satellite carriage, but receive both markets over the air and on local cable.

The proposed rules would not allow for distant carriage of stations that are nationally distributed to provide broadcast network coverage when local-into-local is unavailable. Comments are due 30 days after publication in the *Federal Register* with replies due 15 days later.

CS Docket 98-120

In the Matter of Carriage of Digital Television Broadcast Signals: Amendment to Part 76 of the Commission's Rules

The FCC released a Notice of Further Rulemaking (http://transition.fcc.gov/Daily_Releases/Daily_Business/2015/db0312/FCC-15-29A1.pdf) on March 26th in response to a petition by the American Cable Association (ACA) to extend the exemption that small cable companies with less than 2,500 subscribers be required to provide HD broadcast signals on their systems. They claimed that there were systems that were unable to afford the cost because of low subscriber numbers of which a number of them have under 400 subscribers or having less than 550 MHz of bandwidth or being analog only.

The FCC concluded that they would extend the exemption for another three years, ending at June 12, 2018, but wanted more information on the possible costs of upgrading, other upgrades that some systems have made to carry other HD programming and issues concerning analog-only systems and the possible passing of HD signals on analog systems.

There will be a 20-day comment period followed by a 10-day reply period starting after publication in the *Federal Register*.



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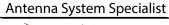




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compiled by Tom Weeden, WJ9H

• A small band of Amateur Radio volunteers in Utah's Salt Lake Valley successfully used a broadband Wi-Fi network set up on the 2.4 GHz amateur band to help coordinate the Boy Scouts of America's (BSA) "Scouting for Food" project on March 21. Scouting for Food is the Boy Scouts' annual community service event, in which Scouts collect items for donation to a food bank. Local radio amateurs provide both voice and digital mode communication.

This year for the first time they used a Broadband-Hamnet (BBHN) system that coupled modified wireless router gear operating on amateur frequencies to create a peer-to-peer Wi-Fi network to share audio and video over a generous patch of real estate. BBHN is a descendent of the former American Radio Relay League's High Speed Multimedia (HSMM) Working Group efforts, earlier known as the "Hinternet" and pioneered by the late John Champa, K8OCL, and others in the early 2000s.

"[W]e would call it Wi-Fi on steroids!" said David Bauman, KF7MCF. The Utah hams linked 13 nodes across the valley to form a network "that is like a mini private Internet," Bauman explained. They then used this network to send live video and audio back to the BSA Headquarters, showing them what was happening at food drop-off sites and at the [truck dispatch] headquarters. Bauman called it "a huge step forward in technology from the old days of Morse code." Retired clergyman Robert Jelf, KG7OHV, of Magna, headed up the team.

Just outside BSA Headquarters near the University of Utah, Brandon Bauman, KG7RWO, was able to watch via his laptop as volunteers miles away dropped off canned food items and as YRC freight dispatched trucks to pick-up sites around the valley. Brandon was part of an Amateur Radio group that assists the Boy Scouts in the Scouting for Food Project each year by providing communications.

This marked the first time BBHN technology was used to support the project in the Salt Lake Valley. Their Wi-Fi network, known as a wireless mesh network, was able to cover a large portion of the valley.

"The farthest point from our hub site was 8.5 miles across the city through a narrow path lined with lots of manmade objects for signals to bounce off," Jelf said. "While the mesh group was used to show video of the dispatch of trucks and of truck trailers at collection points within the hub site path, collection took place throughout the Wasatch Front area and elsewhere in Utah."

• Lambda-Sat — the first Greek CubeSat — was released from the International Space Station on March 4, and its developers have invited radio amateurs around the world to listen for the Lambda-Sat signal and file reports.

"You can help us to track and get the data from the Lambda-Sat while [it is] flying above areas not covered by our ground stations," the Lambda-Sat team said. The 1U CubeSat transmits AX.25-protocol UI packets at 1200 bps AFSK on 437.465 MHz. The 1 watt transmitter identifies as KK6DFZ. link: http://lambdasat.com/>

Lambda-Sat was constructed entirely by young volunteers from Greece, who traveled to Silicon Valley to participate in this project. Members of the Lambda-Sat team contributed to the construction of the satellite system through their knowledge in robotics, electronics, software development, and telecommunications.

"I want to motivate the youth in Greece to continue to dream," said the project's initiator, Periklis Papadopoulos, an aerospace engineering professor at San Jose State University. "My goal is to demonstrate the capabilities of young people in Greece."

Lambda-Sat carries an experiment that measures the radiation effects

on graphene in a low-Earth orbit environment. It also carries an Automatic Identification System (AIS) receiver for tracking all marine vessels within its footprint around the globe, employing an Iridium Short Burst Data (SBD) modem and making use of the Iridium constellation.

(Excerpts from the American Radio Relay League's <arrl. org> web site)

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CANDIDATE BIOGRAPHIES

Kevin Ruppert – Candidate for Chairperson

I have a Bachelor of Science degree in Communications Arts (Radio, TV, Film) from the University of Wisconsin. I started my broadcasting career at WNNO radio in Wisconsin Dells where I was a staff announcer, news reporter, and part time engineer. My job at WISC-TV started as a master control operator. I later became a maintenance engineer there and am now Engineering Maintenance Supervisor.

My other experiences in broadcasting include engineering at WORT-FM.

I have served as Chapter 24 Program Chair, Special Events Chair, a previous stint as Chapter Vice-Chair and Chapter Chair. I am on the Program Committee for the Wisconsin Broadcaster's Clinic.

My wife and I have two sons and a granddaughter. We enjoy camping, kayaking and other outdoor activities around the state.

Richard Wood – Candidate for Vice Chair

Rich has been working with antenna systems and towers since 1979. His firsthand experience includes building multiple AM, FM and TV transmitter facilities. Testing and troubleshooting of these type of sites has taken all over the US, doing on site work in 46 of the lower 48 states. Along with Broadcast project management and system testing, Rich also does infrared testing of switch gear for many industries.

Pete Deets – Candidate for Secretary

Pete has been in broadcasting since starting part time in 1977 at WSDR Sterling, IL while attending the University of Wisconsin-Platteville. Upon graduation in 1980 he was a radio chief engineer at WATK/WRLO-FM Antigo, KRVR Davenport and then WFRH/WWRW Wisconsin Rapids. In 1991 he took his current staff engineer position at WMTV. He joined SBE in 1982 while working in Iowa and was the treasurer for the Quad Cities Ia/II chapter for 3 years.

Along with a BS in Broadcasting with an Engineering Emphasis from UW-P, Pete holds an SBE CBT certification, FCC General Radiotelephone Operator License and Amateur Extra.

To get completely away from electricity in his off hours Pete is qualified as a steam locomotive fireman and holds an FRA Railroad Locomotive Engineer's License through the Mid-Continent Railway Museum in North Freedom. He is also currently president of the Wisconsin Historical Steam Engine AssociationK

Leonard Charles – Candidate for Treasurer

Leonard has been in Broadcast Engineering for over 40 years and currently holds the position of Director of Engineering for Morgan Murphy Media's Midwest Division. In that capacity he oversees the technical facilities of its TV, Radio, and Multimedia operations in the Upper Midwest.

Leonard currently serves on the NAB TV Technology Committee and its Next Generation Broadcast Platform Committee. He has also served on the former MSTV Engineering Committee, Mobile DTV OTAG Committee, and on numerous FCC EAS related Industry Committees including the National Advisory Committee and the first Communications Security, Reliability & Interoperability Council as a broadcast EAS representative.

As Chairman of the Broadcasters Clinic he works closely with the Wisconsin Broadcasters Association. He was also the Broadcast Engineer Liaison to the WBA DTV transition effort and has represented Broadcast technology in discussions with State Legislators.

He sits on the State of Wisconsin Emergency Communications Committee, the Wisconsin Amber Alert Committee, and the Dane County (WI) EAS Committee.

Leonard is a Society of Broadcast Engineers (SBE) Fellow with Lifetime Certification as a Professional Broadcast Engineer. He has served two terms on the National SBE Board of Directors and was the first National SBE EAS Committee Chair. In that capacity he wrote the SBE EAS Primer. Leonard has won several local and National SBE awards, including a two time recipient of the Robert W. Flanders SBE Engineer of the Year. He now serves as a Trustee of the SBE Ennes Educational Foundation. In 2013 Leonard was awarded the NAB's Engineering Achievement Award for Service to Broadcast Engineering. Leonard and his wife Judy live in Madison, WI. They are very proud of their two sons and their families, including four grandchildren.

2015 SBE Chapter 24 Election Ballot (For use by members not using the on-line ballot)

ou must be a current member of SBE Chapter 24 to be eligible to vote.
Please include your SBE member number: Voter names will not be identified.
OTE FOR ONE FOR EACH OFFICE. MARK AN "X NEXT TO YOUR SELECTION.
CHAIRPERSON
Kevin Ruppert
(write-in candidate)
VICE CHAIR
Richard Wood
(write-in candidate)
SECRETARY
Pete Deets
(write-in candidate)
TREASURER
Leonard Charles
(write-in candidate)

Elections will take place during the April chapter meeting. If you cannot attend that meeting, you may send your completed ballot to the address below. Please vote only once.

Steve Paugh - c/o WISC-TV Ballot 7025 Raymond Rd. Madison, WI 53719

Certification Exam Schedule

Exam Dates	Location	Application Deadline
June 5-15, 2015	Local Chapters	April 10, 2015
August 7-17, 2015	Local Chapters	June 5, 2015
November 6-16, 2015	Local Chapters	October 2, 2015

Congratulations to Melanie Meixner, Gerrit Marshall, and Craig Wood of WISC-TV! They passed their SBE Certified Television Operator (CTO) exam given during the February 2015 Local Chapter exam session.

When you are ready to take an SBE exam, please fill out the appropriate application and send it into the SBE National office (see address below). You will be notified once your application has been approved. Approximately 3 weeks before the exam time, your local certification chairman will receive a list of applicants in his/her area. He/she will then contact those applicants to schedule a date, time and place for the exams. The exams will be mailed back to the National office for grading. The pass/fail grades will then be mailed directly to the applicants.

You may mail, email or fax your applications to:

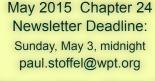
Megan E. Clappe Certification Director 9102 N. Meridian St. Suite 150 Indianapolis, IN 46260

(317) 846-9120 Fax mclappe@sbe.org









edited using Adobe InDesign 2014





Thanks to Leonard Charles for maintaining the Chapter 24 web site and to Steve Paugh for mailing the meeting reminder postcards.



Recent Renewal:

Sound Devices, LLC

Thanks to all our Sustaining Members:

Alpha Video **AVI Systems** Belden, Inc. Clark Wire and Cable **Full Compass Systems** GEPCO International, Inc. Heartland Video Systems Resonant Results, Ltd.

Ross Video

Scharch Electronics Token Creek Productions

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WMTV-TV 15

WKOW-TV 27

WMSN-TV 47