

September 2014

Society of **Broadcast Engineers** Chapter 24 Newsletter Madison, Wisconsin



Next Meeting

Thursday, September 18 **UNDERSTANDING ATSC** A/53C ANCILLARY DATA



The ATSC signal carries a lot of ancillary data in addition to the normal video and audio data. Mike Schmidt of Heartland Video Systems shows us how to decode and interpret these hidden signals and some of their uses. Handout and an interactive demonstration.

Chapter 24 will provide Pizza & Soda - 6:00 PM WISC Conference Room B 7025 Raymond Road Madison, WI

Meeting and Program at 7:00PM. Park in front parking lot; enter via front lobby entrance. Visitors & Guests are welcome to join us!

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Wed.,	Oct. 22	Broadcasters Clinic-	
		SBE 50th Year	
		Calabration	

Wed., Nov. 19 Closed Captioning Live Demonstration

Thur., Dec. 18 Holiday Party-

Fitzgerald's in Middleton

Auction Rulemaking **Short Version**

>>> by Tom Smith

On August 15th, the Incentive Auction Rulemaking was published in the Federal Register. The publication of the rules set the date when most of the rules will become effective, which is October 14th. There are some amendments to the rules that will not become effective until approved by the Office of Management and Budget. For those who may be interested in looking at the rulemaking, but do not want to wade through the 484 pages of the Full Report and Order, the Federal Register version is only 105 pages. Normally the Federal Register version of a rulemaking omits the footnotes and shortens some of the discussion. The Federal Register version of the Incentive Auction Rulemaking can be found at (https://www.federalregister. gov/articles/2014/08/15/2014-18423/ expanding-the-economic-and-innovationopportunities-of-spectrum-throughincentive-auctions). The full text can be found on the FCC website at (https://apps. fcc.gov/edocs public/attachmatch/FCC-14-50A1.pdf).

The Broadcasters Clinic

>>> by Leonard Charles, Clinic Chair

The TV Spectrum Auction, the AES67 standard, an all-digital AM band, Building an AM Directional from scratch, Video on your LAN, and ATSC 3.0 are just some of the cutting edge subjects that will be covered in depth at this year's Broadcasters Clinic. You'll want to reserve your seat early so you don't miss out on the latest industry technology advances and updates, as well as a strong vendor exhibit floor. It's the next best thing to attending the annual NAB conference, and its right here in Madison.

By now you should have received the Clinic packet in the mail from the WBA

which includes the session agenda (also included in this newsletter) and a registration form.



Electronic registration and the expanded agenda are available at http://www. wi-broadcasters.org/events/broadcastersclinic/.

Mark your calendar now for October 21st, 22nd, and 23rd at the Madison Marriott West. The good seats are going fast. The Clinic Committee looks forward to seeing you there.

Certification Drive

>>> by Kevin Trueblood, Chapter 24 Chair

If you have been considering getting certified by the SBE, or adding another certification to your collection, we'll give you another reason to. We'll help you pay for it!

In 2009, the Chapter created a "Certification Drive" seeking to help members partially recover the cost of a certification. The chapter will pay up to half of the cost of any new certification. This is perfect for members whose employers will not cover the costs of getting certified.

Whether you're thinking about becoming a CBRE, CSTE, or a specialty like AMD, they're all covered under our Certification Drive.

All you have to do is be a Chapter 24 member in good standing, pass the test, and submit a copy of the congratulatory letter as soon as possible to the Chapter Chair. We'll cut you a check!

Cha

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Meeting Minutes

from the August 2014 Business Meeting

MEETING PLACE: WISC TV

PRESIDING OFFICER: Kevin Trueblood, Chapter Chair

TOTAL ATTENDANCE: 13 # SBE MEMBERS: 13 # SBE CERTIFIED: 9

BUSINESS: The meeting was called to order at 7pm. Last month's meeting minutes were approved, the Treasurer reported the checkbook payments and balance, and the Sustaining Members Chair reported 18 Sustaining Members with the recent renewal of Resonant Results.

The Program Chair said next month's meeting will be Troubleshooting Ancillary Data for which he is looking for a meeting site. The October meeting is at the Broadcasters Clinic (the 50th Anniversary of the SBE). November will have a live Closed Captioning demo with pizza and soda provided.

Expanding our meeting sites next year was also discussed with suggestions taken from attendees.

The Frequency Coordinator reported on coordination for UW wireless cameras and the Oregon WI race track.

The National report urged members to complete national elections and gave details on the NAB Radio show SBE membership discount.

The Secretary and Certification/Education reports were not available.

There was no old business and in new business the proposed by-laws changes published in the chapter newsletter were approved. A professional announcement was made that Jarett Liddicoat is now the Chief Engineer of WKOW TV.

The meeting was adjourned at 7:15 when Gerard Tassone from AJA gave a presentation on the AJA lines of products.

ML Deets, Sec'y.











FINAL RULEMAKINGS

WT Docket No. 10-88

2004 and 2006 Biennial Regulatory Reviews - -Streamlining and Other Revisions of Parts 1 and 17 of the Commission's Rules Governing Construction, Marking and Lighting of Antenna Structures

RM 11349

Amendments to Modernize and Clarify Part 17 of the Commission's Rules Concerning Construction Marking and Lighting of Antenna Structures

On August 8th, the FCC adopted and released a Report and Order (http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0808/FCC-14-117A1.pdf) concerning the rules for tower registration and maintenance. The purpose of the rulemaking was to harmonize its rules with the FAA's.

Changes include the FCC adopting the FAA no-hazard determination, in most instances for antenna structures lighting and marking requirements, and eliminate its references to older FAA circulars in Part 17 of the FCC's rules. The FCC reserves the right to add additional or different requirements if they determine there is an aviation hazard.

They will not require updating to new lighting standards unless the FAA mandates it. Conservation groups wanted the FCC to mandate that steady burning sidelights be extinguished as a result of a FAA study on side markers and bird deaths. The FCC will wait on this issue until the FAA makes a final determination on this issue.

There are many other rule changes. They include requiring an application for a new Antenna Structure Registration (ASR) when changing the height of an antenna structure by one foot or more and changing the location by one second or more, changing the notification period for ownership changes and completion of construction or dismantlement from 24 hours to five days and continue to allow voluntary registration of towers that normally do not require registration. The FCC will only require the posting of the Antenna Structure Registration at all entrances to the tower site for single tower facilities. Multiple tower sites will require the posting of the ASR at the entrance and at each of the towers. Tower owners will now be allowed to e-mail or use other electronic means to notify tenants of an ASR change by providing a link to a copy of the registration instead of providing a paper copy.

There were changes to the monitoring requirements of lighting systems with the elimination of the quarterly light system inspection, if there is a robust monitoring system that can notify a manned operation center 24 hours a day of lighting failures. Also, they eliminated the rule requiring the FAA being notified by telephone or telegraph of a lighting failure. Notification of a lighting failure will now be subject to means that are acceptable to the FAA which is currently a toll-free telephone number. Any notification of a lighting failure must be renewed every 15 days if not repaired. The FCC declined to set a deadline for making lighting repairs but stated that they should be made as soon as practicable. Lighting monitoring logs must now be keep for two years. There was no retention period in the rules other than the logs had to be saved.

Finally, the FCC adopted the FAA's "In-Service Aviation Orange Tolerance Chart" as a reference for checking paint on a tower. To determine if the tower needs to be repainted, the paint color on the upper half of the tower should be compared with colors on the chart.

The rule changes should make many tower regulations easier to understand and to comply with. Tower owners should check the new rules to see what changes affect them.

Expanding Online Public Files

>>> by Tom Smith

On August 7th, the FCC released a notice asking comment on a petition to expand the requirement for cable systems and satellite TV providers to provide online public and political files. This petition was made by The Campaign Legal Center, Common Cause and The Sunlight Foundation.

The Commission also asked for comment on requiring radio stations to provide online public files. Comments were due on August 28th and replies on September 8th. The release can be found at: (http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0807/DA-14-1149A1.pdf).





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compiled by Tom Weeden, WJ9H

• The Broadcasting Board of Governors, the independent federal agency that oversees all U.S. civilian international media, foresees a dim outlook for the medium of shortwave radio, according to the BBG's Special Committee on the Future of Shortwave Broadcasting. The Committee released its assessment of the current and projected use of shortwave radio as a platform for programming by US international media.

"United States international media must optimize delivery by audience/market," one main finding concluded. "While there is still a critical need for shortwave in key countries, it is a medium of marginal and continuously declining impact in most markets." The report said that even in countries where shortwave radio will enjoys significant usage levels, "audiences will migrate to other platforms as they become more accessible."

The report said that its evidence suggested that declining use of short-wave radio is primarily due to the availability of high-quality content on "preferred platforms" such as AM and FM radio, podcasts, and mobile streaming, which are more widely used for audio consumption.

The committee found that shortwave use does not increase during times of crisis. "Audiences continue to use their existing platforms (TV, FM, and the Internet) or seek out anti-censorship tools, including online firewall circumvention, private chat software, flash drives, and DVDs to access content," the report said.

The report also said that shortwave radio was "a relatively expensive platform to operate and maintain" and that digital shortwave radio (ie, Digital Radio Mondiale or DRM) "is unlikely

- to become an established mass media distribution methodology in enough of the BBG's current or future markets to justify the costs."
- According to a news report, the Japan Aerospace Exploration Agency (JAXA) Havabusa 2 asteroid mission, now scheduled to launch in December, will carry the Abyss 2 (Shin'en 2) Amateur Radio satellite. A 17 kg, 50 cm diameter polyhedron, Shin'en 2, built by students at Kyushu Inistitute of Technology, makes extensive use of carbon-fiber reinforced plastic materials that can be bonded by heat to reduce its weight and the number of hardware fasteners. In addition to a Mode J linear transponder for Amateur Radio communication, Shin'en 2 will include CW and WSJT beacons. The inclusion of the transponder will offer an opportunity for earthbound radio amateurs to test the limits of their communication capabilities.

"For confirming the operational status of the spacecraft in deep space, the know-how of the Moon-reflecting communication technology can be applied. By using an Amateur Radio service transponder, amateur stations can communicate with each other when the spacecraft is in near-Moon orbit," a project outline on the Shin'en 2 website explains. "Beyond this distance, signal detection by Morse code and telemetry data transmitted from the spacecraft will be performed." The project is expected to help pave the way for future lunar rover missions.

Hayabusa 2 will make a round trip to the C-type asteroid 1999 JU3, arriving at the asteroid in mid-2018. It then would survey and take samples of the asteroid before departing in December 2019, and return to Earth in December 2020.

The frequencies for Shin'en 2 are: CW beacon, 437.505 MHz; WSJT telemetry, 437.385 MHz; Inverting SSB/CW transponder, 145.940-145.960 MHz uplink (LSB)/435.280-435.260 MHz downlink (USB). The project also is hoping to gather listener reports. Link: http://kit-okuyama-lab.com/en/sinen2/sinen2-outline/

• In a similar project from China, a lunar flyby with a ham radio payload transmitting JT65B mode on 145.990 MHz is expected to take place toward the end of this year, giving earthbound radio amateurs the opportunity to receive some otherworldly DX signals as the payload flies around the Moon.

China has announced plans to launch a lunar orbiter carrying a 14 kg battery-powered payload known as 4M-LXS, which was developed at LuxSpace. Signals from the Amateur Radio payload can be decoded using the free WJST software http://physics.princeton.edu/pulsar/K1JT/ by Joe Taylor, K1JT.

The orbiter is one of the test models for Beijing's new lunar probe Chang'e-5, which will land on the moon, collect samples, and return to Earth. The launch, planned for 4th quarter 2014, is aimed at testing technologies that are vital for the success of the spacecraft. The orbiter will be launched into Lunar Transfer Orbit and then perform a lunar flyby before re-entering Earth's atmosphere after 9 days.

The orbiter, which arrived by air in Xichang, Sichuan on August 10 has been transported to the Xichang Satellite Launch Center.

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



EBU Releases Spectrum Datasheet

>>> by Tom Smith

At the same time the US TV broadcasters have mounted a campaign to protect over-the-air TV, the European Broadcasting Union has released a two-page data sheet (http://www3.ebu. ch/files/live/sites/ebu/files/Knowledge/ Publication%20Library/Fact%20sheets/ Fact%20sheet%20-%202014-07%20 Spectrum.pdf) promoting broadcast TV and questioning the need for converting more of the UHF TV band for broadband use. The EBU represents European broadcasters much like the NAB does US broadcasters. The EBU also sets technical standards and distributes programming.

In the datasheet, they point out that half of the population in Europe relies on broadcast TV, that much of wireless broadband usage is via Wi-Fi and the UHF band is better for TV broadcasting and the wireless broadband services can better use their higher frequencies.

The EBU website has a number of papers on spectrum that can be found in their publications section. Their website has many interesting articles on issues that affect both European and US broadcasters. It makes one realize that many of our issues are also shared by other broadcasters around the world. The EBU website can be found at (http://www3.ebu. ch/home). Some sections and publications are restricted to EBU members only, but there is still a lot of interesting material that can be accessed.



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Don Borchert Broadcasters Clinic Fellowship

>>> by Leonard Charles, Clinic Chair

Applications are now being accepted for the 2014 Don Borchert Broadcasters Clinic Fellowship. This Fellowship will provide all expenses to attend the Clinic in Madison enabling someone who would not have otherwise been able to attend. The program is possible through the financial support of all four Wisconsin SBE Chapters. In addition the WBA will provide complimentary Clinic registration.

If this is the ticket you need to attend the 2014 Broadcasters Clinic please go to http://www.sbe24.org and click on the "Broadcast Clinic" button to find an application. If you know of someone who might benefit, please pass this information along to them.

All applicants and recipients are kept confidential.

SBE President at the Clinic

>>> by Leonard Charles, Clinic Chair

The featured speaker at the All-Chapter SBE meeting at the Broadcasters Clinic will be SBE President Joe Snelson. The meeting will take place on Wednesday evening October SBE. 22nd at the Madison Marriott West. President Snelson will join Clinic attendees who represent many Chapters across the country. He will lead a discussion of the past 50 years of the SBE on this golden anniversary of the Society.

A specially-produced anniversary video will be played which features many early SBE leaders and details the beginnings of the organization back to the first meeting in Chicago. Registration at the Clinic is not required to attend this special meeting. Guests are always welcome at any SBE meeting.

> October 2014 Chapter 24 Newsletter Deadline: Friday, October 3, midnight paul.stoffel@wpt.org





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BROADCASTERS CLINIC

October 21st thru 23rd, 2014 *Madison Marriott West, Middleton*

AGENDA

Tuesday October 21

9:00 AM: FM Filters Plus (The Second Edition), Shivley

9:45 AM: Transmission Challenges/Solutions for All Digital AM IBOC, Nautel

10:45 AM: Dense Node Architecture for IP Audio Networks, Logitek

11:30 AM: Rapidly and Cost Effectively Expand Your Remote Capability, Tieline

1:15 PM: New AM Detuning Requirements, Jeremy Ruck & Associates

2:00 PM: From Cow Pie to Contour, Morgan Murphy Media

3:00 PM: Emergency Alert System Text Messaging by Radio, WPR

3:45 PM: NextRadio, Emmis Communications

4:30 PM: Equipment Exhibits Open

7:00 PM: Nuts N Bolts

Wednesday October 22

8:30 AM: Evaluating Pipe Leg Structures/Controlled Demolition, ERI

9:15 AM: Audio Over IP: An Undiscovered Country, Wheatstone

10:00 AM: Equipment Exhibits Open

1:30 PM: NAB Regulatory Update, NAB

2:15 PM: Broadcast Propagation (Coverage and Interference Issues), V-Soft

3:15 PM: Bridging the Gap Between the All IP Studio and Transmitter Site, Double Radius

4:00 PM: Green Broadcasting (Saving Money and the Environment), Nautel

4:45 PM: High Speed Internet and Video Entertainment on the Same Network, IP Action Partners

6:00 PM: All Chapter SBE Meeting, The SBE 50th Anniversary, A Look Back

Thursday October 23

8:30 AM: The Evolution of Cellular Bonding, LiveU

9:15 AM: Closed Caption Verification in a File Based Workflow, Telestream

10:15 AM: Getting the Best from Your Inductive Output Tubes in DTV, e2V

11:00 AM: ATSC 3.0 (What Is It and When Will We Have It?), GatesAir

1:00 PM: Closed Captioning for the Web, WPT

1:45 PM: Loudness vs Speech Normalization in Broadcast, TC Electronics

2:30 PM: Repacking (Preparing of Antennas, Combiners, and Transmission Line), Dielectric

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



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Certification Exam Dates Location Application Deadline

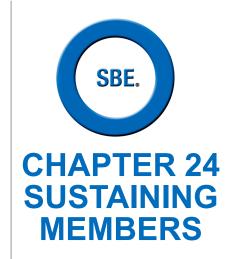
October 12, 2014	AES convention Los Angeles, Calif.	September 19, 2014
November 7-17, 2014	Local Chapters	October 6, 2014
February 6-16, 2015	Local Chapters	December 31, 2014
April 14, 2015	Exams at the NAB Show	March 20, 2015
June 5-15, 2015	Local Chapters	April 10, 2015
August 7-17, 2015	Local Chapters	June 5, 2015
November 6-16, 2015	Local Chapters	October 2, 2015

SBE Certification is valid for a period of five years. Applications for recertification will be accepted six (6) months prior to the expiration date on your certificate.

Some Examples of Credit Earnings

- Attendance at local SBE meetings and other local technical conferences and seminars: 1/2 credit per local meeting
- Attendance at regional or national conferences (e.g., Broadcasters Clinic), seminars and workshops of one or more full day's duration: 1 credit per day
- Conference on Chapter of the Air (HAMnet): 1/2 credit per session (Maximum 6 credits per year)
- Game Day Coordination (GDC): 1/2 credit per game (Maximum 10 credits)
- Active participation in the SBE Roundtable (e-mail discussion group): Determination of credits granted will be based upon hardcopy evidence of such participation.

Check your meeting attendance records at www.sbe24.org.



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