



# The Society of Broadcast Engineers

**Fox Valley Wisconsin SBE Chapter 80**  
**PO Box 1519**  
**Appleton, WI 54912-1519**

**January 2011**

The next meeting of SBE Chapter 80 will be at the Out O' Town Club in Kaukauna, at Noon on January 18<sup>th</sup>. Our program will be by Heartland Video Systems.

Chairman's Corner

Happy New Year

Our next meeting of Chapter 80 will be on Tuesday, January 18, 2011 at noon at the Out O' Town Club in Kaukauna. Heartland Video Systems will be presenting the discussion topic at the January meeting. We will be talking about an inexpensive way to add an IP wayside channel to 7GHz microwave links using unlicensed 5.8GHz radios.

Our last meeting was December 14, 2010, starting at 6:00 p.m at the Out 'O Town Club in Kaukauna for our annual Holiday gathering. My apologies for not attending, the flu got the best of me. We had nearly a dozen in attendance, including spouses and guests.

As you are aware, the Newsletter is now switched over to an electronic version. We are still missing email addresses for a few of our members. We need your current email address if you wish to continue to receive our Newsletter. If you know of any member who is not receiving the new version, please send us their email address. The Newsletter will also be posted on our website <http://www.sbe80.org> , and archive copies, as well as other Chapter 80 and SBE information are available as well.

Upcoming events:

Tuesday, February 15, 2011 – SBE Chapter 80 – TBA

Tuesday, March 15, 2011 – SBE Chapter 80 – TBA

I look forward to seeing you on Tuesday January 18, 2011 at our first Chapter 80 meeting for 2011 in Kaukauna provided I don't have to serve on Jury Duty.

Best wishes for a Healthy, Prosperous and Happy New Year!

Regards,  
Timothy J. Laes

## **Certification Exams**


<b><u>Exam Dates</u></b>	<b><u>Location</u></b>	<b><u>Application Deadline</u></b>
April 12, 2011	NAB Convention	March 25, 2011
June 3-13, 2011	Local Chapters	April 15, 2011
August 5-15, 2011	Local Chapters	June 3, 2011
November 4-14, 2011	Local Chapters	September 16, 2011



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**New SBE University Course on Broadcast Audio Processing released (January 3, 2011)**

A new course was released on SBE University on Audio Processing in early December. This course is for the intermediate-to-experienced broadcast engineer who is already familiar with the basics of good broadcast engineering. The course has nine chapters and depending on your knowledge of the subject, could take 5-8 hours to complete. Topics include loudness and the human ear, the basics of broadcast audio processing, the basics of gain control, limiting and clipping, adjusting a wideband processor for voice and multi-band processing. The Society thanks SBE Member Stephen Poole, CBRE, AMD, CBNT for his work in developing this course. The cost is \$80 for SBE Members and \$105 for non-members. Click here for more information on the course.

**VHF/UHF Narrowbanding** On January 1, 2013, all public safety and business industrial land mobile radio systems operating in the 150-512 MHz radio bands must cease operating using 25 kHz efficiency technology, and begin operating using at least 12.5 kHz efficiency technology. This deadline is the result of an FCC effort that began almost two decades ago to ensure more efficient use of the spectrum and greater spectrum access for public safety and non-public safety users. Migration to 12.5 kHz efficiency technology (once referred to as Refarming, but now referred to as Narrowbanding) will allow the creation of additional channel capacity within the same radio spectrum, and support more users.

After January 1, 2013, licensees not operating at 12.5 KHz efficiency will be in violation of the Commission's rules and could be subject to FCC enforcement action, which may include admonishment, monetary fines, or loss of license.

**What frequency bands are subject to the Narrowbanding mandate?**

The 150-174 MHz and 421-512 MHz bands are subject to the Narrowbanding mandate.

**What will happen if I fail to comply with the FCC Narrowbanding mandate? Can I continue to operate at**

**25 kHz efficiency on a secondary status after January 1, 2013?**

No. Licensees are prohibited from operating 25 kHz efficiency equipment after January 1, 2013. Non-compliance will be considered a violation that could lead to FCC enforcement action, which may include admonishment, monetary fines, or loss of license.

**If I need to Narrowband, do I need to implement digital technology?**

No. Licensees can operate in either analog or digital formats as long as they operate at 12.5 kHz efficiency.

**Does Narrowbanding require me to change frequencies or obtain new channels?**

No. Narrowbanding does not require moving to another frequency band or different channels. Licensees stay on the same channel center(s), but reduce the bandwidth of the channel(s) currently used, from 25 kHz to 12.5 kHz and change the emission designator on the license. Alternatively, licensees may stay on the same 25 kHz channel but implement a 12.5 kHz equivalent technology on that channel.

**What is the difference between the January 1, 2011 interim deadline and the January 1, 2013 final deadline?**

After January 1, 2011, the Commission will only accept applications for new licenses or modification applications that expand an existing service area for systems that operate using 12.5 kHz efficiency.

After January 1, 2011, the Commission will not certify VHF/UHF equipment that has a 25 kHz mode. Providers may still sell equipment with a 25 kHz mode after that date, if it was manufactured/imported prior to January 1, 2013.

After January 1, 2013, all licensees must operate in at least 12.5 kHz efficiency.

After January 1, 2013, the Commission no longer allows manufacturing or importation of equipment that includes a 25 kHz mode.

<http://www.fcc.gov/pshs/public-safety-spectrum/narrowbanding-faq.html>  
(fcc.gov)



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**Galaxy 15 Status Update** On 23 December, the power from the Galaxy 15 battery completely drained during its loss of earth lock and the Baseband Equipment (BBE) command unit reset, as it was designed to do. Shortly thereafter Galaxy 15 began accepting commands and Intelsat engineers began receiving telemetry in our Satellite Operations center. We have placed Galaxy 15 in safe mode, and at this time, we are pleased to report it no longer poses any threat of satellite interference to either neighboring satellites or customer services.

After completing initial diagnostic tests, we will load updated commanding software to the satellite. We

expect to relocate the satellite to an Intelsat orbital location where engineers at our Satellite Operations Control Center will initiate extensive in-orbit testing to determine the functionality of every aspect of the spacecraft. We will provide an update through normal sales channels, and [MyIntelsat](http://MyIntelsat), if and when the satellite recovery mission is successful. (intelsat.com)

The SBE Chapter 80 Newsletter is published monthly. Members are welcome to contribute articles or ideas. Please have your submissions in by the 4<sup>th</sup> of the month to Dave Driessen or Bill Tessman

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## WISCONSIN PUBLIC RADIO'S 2011 EAS SCHEDULE

The Required Monthly Test (RMT) will occur on the First Wednesday of the month. Wisconsin stations should receive an RMT from their regional NOAA weather station on odd months at approximately 8:50am. On even months stations should receive an RMT either from the Educational Communications Board (ECB) Telecommunications Operations Center or from the Wisconsin Emergency Management office (WEM) at Truax Field in Madison, through the State Relay stations at approximately 11:50pm.

If an RMT is carried by the Wisconsin Public Radio stations, they will normally NOT carry a Weekly Test since only one test per week is required. If for some reason a Required Weekly Test is missed or impaired, it will be "made up" on the Friday of that week at the same scheduled time of day.

DAY/DATE TIME COMMENT.....

W 5 Jan 0850 Routine Monthly Test initiated by NOAA

R 13 Jan 1259

M 17 Jan 1459

T 25 Jan 1059

W 2 Feb 2350 Routine Monthly Test initiated by WEM

R 10 Feb 1459

M 14 Feb 1059

T 22 Feb 1259

W 2 Mar 0850 Routine Monthly Test initiated by NOAA

R 10 Mar 1059

M 14 Mar 1459

T 22 Mar 1259

W 30 Mar 1059

W 6 Apr 2350 Routine Monthly Test initiated by ECB

R 14 Apr 1059

M 18 Apr 1459

T 26 Apr 1259

W 4 May 0850 Routine Monthly Test initiated by NOAA

R 12 May 1059

M 16 May 1259

T 24 May 1459

W 1 Jun 2350 Routine Monthly Test initiated by WEM

R 9 Jun 1459

M 13 Jun 1259

T 21 Jun 1059

W 29 Jun 1459

## Galaxy 15 Satellite - Frequently Asked Questions

### What is Galaxy 15's current in-orbit state?

- We are now receiving telemetry from Galaxy 15's Baseband Equipment (BBE) command unit and the satellite is accepting commands from the ground.
- The satellite is currently sun-pointed, and the spacecraft's batteries are fully charged and the satellite is thermally balanced.
- We reset the spacecraft configuration and loaded software that will allow us to reset the redundant BBE units.
- Once initial diagnostic testing has been completed, we will attempt to capture earth lock and stop the drift of the satellite. This phase could take as long as two weeks to complete.

### Now that Galaxy 15 is responding to ground commands, what measures will Intelsat take to ensure commanding of Galaxy 15 is not lost?

- We have loaded updated software that will allow us to reset the redundant BBE units.
- Once the satellite is earth pointed we will send updated commanding software to the satellite.
- All updated software has been previously tested on our other in-service Orbital spacecraft.

### Is there a possibility that the payload can regain power automatically, and return Galaxy 15 to an interference causing state?

- No. The payload is designed to only power up when commanded by engineers and cannot automatically regain functionality.
- Currently, Galaxy 15's C- and L-band payload is off and in a state similar to that of a decommissioned spacecraft.

### Does Intelsat anticipate recovering Galaxy 15?

- There is a possibility that full functionality of Galaxy 15 could be regained.
- The most critical phases of Galaxy 15's recovery have been successfully completed.
- After we complete the initial diagnostic tests on Galaxy 15 and the drift of the satellite stopped, we expect to relocate the satellite to an Intelsat orbital location where we will assess the viability of the payload, and conduct extensive in-orbit testing to determine the functionality of every aspect of the spacecraft.

### If fully recovered, what is the operational life remaining of Galaxy 15?

- Galaxy 15 was designed to operate through 2020. We will reassess the potential service life if and when the spacecraft is recovered.

### What is Intelsat's new in-orbit protection plan for the Galaxy fleet?

- The potential recovery of Galaxy 15 is still a factor in determining our future in-orbit protection plan. At present, we are still evaluating our replacement strategy.
- Customers with in-orbit protection plans have been offered interim backup capacity on other Intelsat satellites with North America coverage.

**Prepared Remarks of Chairman Julius Genachowski at the Federal Communications Commission 2011 International Consumer Electronics Show (excerpt)**

“Under the proposal, which was developed in the National Broadband Plan, the FCC would auction spectrum for flexible wireless broadband, with the spectrum in the auction supplied on a voluntary basis by current licensees like TV broadcasters or mobile satellite operators, who would receive some portion of the proceeds of the auction. It relies on market-based incentives -- so, “incentive auctions.”

In the case of TV broadcasters, under our plan, a broadcaster could choose to contribute the 6 MHz channel it is using, or continue to broadcast by sharing a channel with one or more stations, or simply not participate and continue to broadcast as they do today. Keep in mind that, while about 300 MHz of prime spectrum is set aside for TV broadcasting across the country, the percentage of viewers who watch broadcasting over the air – that is, who use that spectrum to watch TV instead of watching broadcast programming through cable or satellite – has declined from 100% to under 10%.

Since the DTV transition, some broadcasters are moving to make effective use of the capabilities of DTV spectrum, but others are not. Voluntary incentive auctions would not preclude digital multicasting or mobile TV; they would simply bring in the discipline of the market. Especially given the need for mobile broadband, how can we justify shielding broadcast spectrum from market forces?” (fcc.gov)

**FCC CHAIRMAN JULIUS GENACHOWSKI COMMENDS PASSAGE OF LOCAL COMMUNITY RADIO ACT**

“The Local Community Radio Act signed by President Obama is a big win for radio listeners. Low power FM stations are small, but they make a giant contribution to local community programming. This important law eliminates the unnecessary restrictions that kept these local stations off the air in cities and towns across the country. I commend Congressmen Mike Doyle and Lee Terry and Senators Maria

Cantwell and John McCain for the successful passage of this legislation and their longstanding commitment to local community radio. The FCC will take swift action to open the dial to new low-power radio stations and the valuable local service they provide.” (fcc.gov)

<http://www.gpo.gov/fdsys/pkg/BILLS-111hr6533eh/pdf/BILLS-111hr6533eh.pdf>

Commenting on the amended bill's passage, NAB President and CEO Gordon Smith said:

“The revised legislation will expand the number of LPFM stations in the U.S. while providing full-power radio stations with the protection and clarity we have long sought. NAB salutes today's House action and offers its support for Senate passage as well.” (nab.org)

**FCC ACTS TO PRESERVE INTERNET FREEDOM AND OPENNESS**

Chairman Genachowski voted for the Order; Commissioner Copps concurred and Commissioner Clyburn approved in part and concurred in part. Commissioners McDowell and Baker dissented.

Following are key excerpts from the Report and Order adopted by the Commission to preserve the open Internet:

**Rule 1: Transparency**

A person engaged in the provision of broadband Internet access service shall publicly disclose accurate information regarding the network management practices, performance, and commercial terms of its broadband Internet access services sufficient for consumers to make informed choices regarding use of such services and for content, application, service, and device providers to develop, market, and maintain Internet offerings.

**Rule 2: No Blocking**

A person engaged in the provision of fixed broadband Internet access service, insofar as such person is so engaged, shall not block lawful content, applications, services, or non-harmful devices, subject to reasonable network management.

A person engaged in the provision of mobile broadband Internet access service, insofar as such person is so engaged, shall not block consumers from accessing lawful websites, subject to reasonable network management; nor shall such person block applications that compete with the provider's voice or video telephony services, subject to reasonable network

### Rule 3: No Unreasonable Discrimination

A person engaged in the provision of fixed broadband Internet access service, insofar as such person is so engaged, shall not unreasonably discriminate in transmitting lawful network traffic over a consumer's broadband Internet access service. Reasonable network management shall not constitute unreasonable discrimination. (fcc.gov)

### FCC CHAIRMAN JULIUS GENACHOWSKI COMMENDS PASSAGE OF THE CALM ACT

"The CALM Act, a pro-consumer measure signed into law yesterday by President Obama, will help lower the volume on TV commercials. I commend the bill's main sponsors, Representative Anna Eshoo and Senator Sheldon Whitehouse, for proposing the legislation, and thank the House Energy and Commerce Committee and Senate Commerce Committee for their leadership. The FCC will now focus on implementing the law to give consumers back the volume control on their TVs." (fcc.gov)

[http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111\\_cong\\_bills&docid=f:s2847es.txt.pdf%20](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:s2847es.txt.pdf%20)

### CONGRESS PASSES TWO ACTS AFFECTING BROADCASTERS

Congress has passed two Acts affecting broadcasters and one has been signed into law. The Act that President Obama signed into law on December 15th was the CALM ACT

<http://frwebgate.access.gpo.gov/cgi->

[bin/getdoc.cgi?dbname=111\\_cong\\_bills&docid=f:s2847es.txt.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:s2847es.txt.pdf))

which requires the FCC to set standards on audio loudness. The FCC will have one year to write the rules. The Act affects TV stations, cable operators and multichannel video providers such as satellite services and the phone companies. The act requires that all those affected by the law to follow the ATSC standard A/85,

Recommended Practice and Techniques for Establishing and Maintaining Audio Loudness fro Digital TV. To be in compliance, video providers will have to install, maintain and utilize equipment that meets the standards requirements. The FCC may grant waivers to the law for good cause to any video provider or class of provider such as TV stations or cable systems under a certain size.

The second Act

<http://www.gpo.gov/fdsys/pkg/BILLS-111hr6533eh/pdf/BILLS-111hr6533eh.pdf>)

passed by

Congress is not yet law, but has been passed by both houses. The law allows for low-power FM stations to operate on the 3rd adjacent channel to a full-power or FM translator station. Stations providing reading services to the blind will continue to receive 3rd adjacent protection. New LPFM stations will have to make periodic announcements for the first year of operation concerning filing interference complaints from their operation and notify the FCC of those complaints and take actions to address those complaints.

The FCC will also be required to accept interference complaints from those by the transmitter site of a LPFM station, mobile reception interference complaints and accept informal evidence and engineering reports on interference issues. FM translator stations will also receive protection from interference on input signals that are 3rd adjacent to the LPFM stations. The bill passed the House on December 20th and a similar bill had passed the Senate earlier last fall. (by Tom Smith sbe24.org)