

# 2016 SBE Membership Drive ...through May 31



May 2016

Society of  
Broadcast Engineers  
Chapter 24  
Newsletter  
Madison, Wisconsin

## Next Meeting

Wednesday, May 25

### NAB WRAP-UP

SBE members in attendance at the annual 6-day Las Vegas National Association of Broadcasters convention will condense the event in a series of short presentations.

There will be plenty of slides and photos of the interesting high points and general review of the mood and future direction of broadcasting.

You can bring a laptop with a VGA output (bring any adapters needed to get a VGA output) or a USB stick if you would like to share your NAB experience with the chapter.

Due to the ongoing construction of the new WMTV broadcast facility, parking will be limited to the Forward Drive Street.

Tom reminds us not to park in the reserved spaces normally occupied by the news vehicles.

Dutch Treat Dinner at 5:30pm  
Babe's Bar & Grill  
5614 Schroeder Road  
Madison, WI

Meeting and Program at 7:00pm  
WMTV Studios  
615 Forward Drive  
Madison, WI

## Coming Up

- Thur., June 16 SBE Summer Picnic
- Tues., July 19 WVMO LPFM  
Studio Tour
- Wed., Aug. 24 Remembering the  
Hi-Fi Fad

## Election Results

>>> submitted by Steve Paugh,  
Elections Chair

The Chapter 24 election ballots were counted and certified on April 27, 2016. There are currently 56 voting members in Chapter 24. A total of 10 ballots were cast electronically. This compares to last year when a total of 12 ballots were cast when we had 51 voting members. We thank everyone who took part in the election process.

**Congratulations** to all of our newly elected officers:

**Chairperson Kevin Ruppert**  
**Vice Chair Richard Wood**  
**Secretary Mike Norton**  
**Treasurer Leonard Charles**

The nomination committee members were Steve Paugh, Mike Kulis and Leonard Charles.

## EAS Test Form Released

>>> by Tom Smith

The FCC released on April 18 instructions ([http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2016/db0418/DA-16-419A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0418/DA-16-419A1.pdf)) on the implementation of the new EAS test forms. The 14-page notice gives instructions on filling out both the registration form and the test results form. The registration form asks for information on the location of a station's transmitter, monitoring assignments and EAS equipment. Stations need to register in order to access the website to report the results of the test. Stations will be required to file the test form within 24 hours of the test and note if they received the test and had any issues, and if they rebroadcast the message and if they had any issues with the retransmission.

## Auction Target Announced

>>> by Tom Smith

On April 29, the FCC announced ([http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2016/db0429/DA-16-453A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0429/DA-16-453A1.pdf)) the amount of spectrum that they are targeting in the upcoming Incentive Auction to be released for wireless broadband use. The amount of spectrum to be freed for wireless broadband use is 126 MHz. This will reduce the UHF band for broadcast use to 16 channels with the highest channel available being channel 29.

>>> **AUCTION** continued on page 5

## FCC Seeks Comment on ATSC 3.0

>>> by Tom Smith

On April 26, FCC Chairman Tom Wheeler made good on a promise he made at the NAB convention and released a notice ([http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2016/db0426/DA-16-451A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0426/DA-16-451A1.pdf)) calling for comments on a petition for the approval of the ATSC 3.0 standard from the National Association of Broadcasters (NAB), the Consumer Technology Association (CTA), the American Public Television Stations (APTS) and the AWARN Alliance.

>>> **ATSC** continued on page 4

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## Chapter Contacts

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## Committee Appointees

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program committee!*

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# Meeting Minutes

from the April 2016 Business Meeting

The monthly meeting of Chapter 24 of the Society of Broadcast Engineers was held Tuesday April 12 at WISC TV in Madison, WI.

There were 10 members and 1 guest present and 5 members were certified. Vice-Chair Richard Wood called the meeting to order at 7:00 PM.

A motion to approve the minutes as published in the newsletter was approved.

Treasurer Leonard Charles reported that minor expenses had been paid and the chapter's bank balance is in the black.

There was no membership or newsletter report.

There are 16 sustaining members.

Program Committee Chair Steve Paugh reported the next meeting will be May 25 at WMTV in Madison and will be the NAB Wrap-up. June 16 will be our summer picnic at Badger Prairie Park in Verona and the July meeting will be on the 19 at LPFM WVMO in Monona.

Certification Chair Jim Hermanson sent a report stating the next local exam session will be June 3-13 with a registration deadline of April 15. The following exam session will be August 5 through the 15 with a registration deadline of June 3.

Frequency Coordination Chair Tom Smith reported no local activity but he received a message from National noting that they will be conducting a survey of current 2 GHz ENG use to be used in coordination with the Department of Defense.

Under Old Business Nominations Chair Steve Paugh said voting for local officers is under way with balloting to close at noon on Wednesday April 20. Steve also thanked Mike Kulis and Leonard Charles for their help in the nomination and election process.

National Liaison report: The new SBE Broadcast Engineering Handbook is out and there is a substantial discount for early buyers. Retail price will be \$199 with the SBE member price at \$159. Now through April 22 a special price of \$139.30 is offered either through the on-line SBE Bookstore or at the NAB show at either the SBE Booth or NAB Bookstore. The SBE Compensation Survey is underway and all members actively working in the industry are encouraged to complete the survey. Links to the survey have been sent via the SBE-news.

There was no new business or professional announcements.

The meeting was adjourned at 7:13PM.

Respectfully submitted,  
M.L. Deets, Sec'y.

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Mark Bartolotta

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# Amateur Radio News

compiled by Tom Weeden, WJ9H

• The recent commemorative Amateur Radio on the International Space Station (ARISS) slow-scan television (SSTV) transmissions from April 11 to April 14 were successful, with images received by many stations around the world. The SSTV transmissions marked the 15th anniversary (in 2015) of continuous Amateur Radio operations on the International Space Station. The first ISS crew conducted its inaugural ham radio contact from NAISS in November 2000, and the first ARISS school/group contact took place the following month. Since then more than 1000 ARISS school/group contacts have been completed. The commemorative SSTV images showed a few of the radio amateurs who have served aboard the ISS.



ISS SSTV image received by Mike Rupprecht DK3WN April 12, 2016 (courtesy AMSAT-UK)

• A Slow Scan TV (SSTV) CubeSat developed by students at Saint Thomas More Cathedral School (STM) in Arlington, VA, is set to be deployed from the International Space Station in mid-May. STM is thought to be the first Elementary school to build their own satellite, even Pre-Kindergarten, Kindergarten, and First Grade students

were involved in the project.

The satellite, a CubeSat called STMSat-1, will transmit a SSTV Robot36 mode signal on 437.800 MHz.

Middle School Students took the initiative to begin exploring how to receive data from the CubeSat and formed a Ham Radio Club. There, they learned the basics of operating a ham radio station and explored Slow Scan Television as an option for receiving images once the satellite is deployed.

Watch the CBS This Morning show report on the satellite:  
<http://www.cbsnews.com/videos/satellite-built-by-elementary-students-to-be-deployed-in-space/>

• The FCC has put on public notice and invited comments on a Petition for Rule Making (RM-11767), filed on behalf of an amateur amplifier distributor, which seeks to revise the Amateur Service rules regarding maximum permissible amplifier gain. Expert Linear America LLC of Magnolia, Texas, which distributes linear amplifiers manufactured by SPE in Italy, wants the FCC to eliminate the 15 dB gain limitation on amateur amplifiers, spelled out in §97.317(a)(2).

Expert asserts that there should be no gain limitation at all on amplifiers sold or used in the Amateur Service.

“There is no technical or regulatory reason [that] an amplifier capable of being driven to full legal output by even a fraction of a watt should not be available to Amateur Radio operators in the United States,” Expert said in its Petition.

Expert maintains that the 15 dB gain limitation is an unneeded

holdover from the days when amplifiers were less efficient and the FCC was attempting to rein in the use of Amateur Service amplifiers by Citizens Band operators. While the FCC proposed in its 2004 Notice of Proposed Rulemaking and Order in WT Docket 04-140 to delete the requirement that amplifiers be designed to use a minimum of 50 W of drive power and subsequently did so, it did not further discuss the 15 dB amplification limit in the subsequent Report and Order in the docket.

(Excerpts from the American Radio Relay League’s <arrl.org> and the Amateur Satellite Corporation’s <amsat-uk.org> web sites)






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MADISON

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>>> ATSC continued from page 1

In the petition (<http://www.nab.org/documents/filings/NextGenTVPetforRulemaking041316nm.pdf>), the petitioners ask for approval to use the Next Generation transmission standard as an option, allow simulcasting of multiple stations on a single ATSC 1.0 channel during the transition to ATSC 3.0.

By allowing simulcasting, stations would still be available in the current DTV standard for current TV receivers while some of the stations start operation on the new standard. When the transition is completed, the simulcast station would transition to the new standard. The final request would place the new standard on the same parity with the existing standard and would require the new standard to meet the same emission requirements that currently exists.

Comments are due on May 26 and replies are due on June 27.

## Member News

### Welcome and Congratulations to:

- New member Sean Eberle
- Returning member and Recertification Mark Baldrige, CBNT
- Returning member Lloyd Berg
- Steve Paugh for achieving Life Certification, CPBE
- Tom Weeden recertified as Certified Professional Broadcast Engineer, CPBE
- Paul Stoffel, CPBE, retirement, Wisconsin Public Television, June 10 (Contact me if you are interested in taking over as Chapter 24 Newsletter editor.)
- Chapter 24: 56 Members  
32 Certified

Source: SBE Signal



7847 BIG SKY DRIVE  
MADISON, WISCONSIN 53719  
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## WBA Media Technology Institute Scholarships

How would you like to offer an opportunity to a Student to attend the WBA Media Technology Institute June 20-13 at the Radisson in La Crosse? The WBA is offering two scholarships to attend this year's Institute. Scholarships include Hotel and Registration. The WBA provides most meals as well. To apply, contact Linda Baun at [lbaun@wi-broadcasters.org](mailto:lbaun@wi-broadcasters.org). Keep in mind that only two scholarships to this program will be awarded.

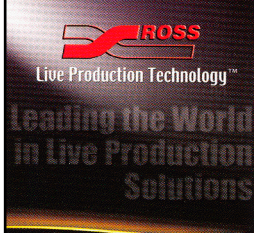


More about the Institute.... Media Technology Institute (MTI) (see next page) offers practical, instructional courses suitable for prospective, beginning, intermediate, and senior broadcast/media engineers. This four day program is presented by experienced broadcasting professionals. The program consists of three days of instructional content, one additional day of technical seminars and a broadcast equipment exposition as part of the WBA Summer Broadcast Engineering Conference, and concludes with an opportunity to tour a radio/TV technical facility near La Crosse. Underwriting for MTI is provided by the Wisconsin Broadcasters Association and Midwest Communications.

### Society of Broadcast Engineers



The Association for Broadcast and Multimedia Technology Professionals



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Richard Wood (608)839-3950



>>> **AUCTION** continued from page 1

This will leave broadcast television with 28 channels or one third of the 81 channels originally allotted for use by television use. The new wireless band will consist of ten pairs of 5 MHz blocks totaling 100 MHz with 26 MHz of spectrum reserved for guard bands which will also be used for unlicensed use. Channel 37 will still be reserved for radio astronomy use.

**Initial Clearing Target Band Plan**



Number of Paired Blocks: 10      Total Megahertz: 126

The FCC stated that 97 % of the blocks offered for the forward auction will be Category 1 blocks, with 0 to 15% impairments (areas with interference), with 99% of those blocks with no impairments. The remaining 3% of the blocks to be offered will have impairments of 15 to 50 percent. The areas with the greatest impairments are along the Mexican border and the Canadian border in the Northeast from Michigan to Maine. Mexico has agreed to only reduce their TV band to channel 36. The impairments along the Canadian border are mainly due the number of stations on both sides of the border. The FCC released a spreadsheet ([http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2016/db0429/DA-16-453A2.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0429/DA-16-453A2.pdf)) giving the amount of impairments in each of the market areas that the wireless providers will place bids on.

The amount of spectrum that is freed up after the reverse auction depends on how many stations remain after the auction ends. The FCC did not release the number of stations that are participating in the auction, but the number of stations that committed to the auction must be sufficient for the FCC to think that they can free 126 MHz of spectrum. Some of the stations that committed to the auction may be hedging their bets and only stay in if they can get top dollar or to guarantee a better channel position during repacking as the FCC has stated that stations participating in the auction will not be repacked in the new wireless band. These stations may drop out of the auction in the early rounds and thus reduce the amount of spectrum that the FCC can free up.

The reverse auction is to start on May 31 with a single round of bidding on May 31 and June 1 and two rounds a day starting on June 2. Stations should have received a confidential letter giving their status in the auction which could be that they are either qualified to participate in the auction, that they are not needed in order to free spectrum, that their option to go to a lower band cannot be accommodated or they did not qualify because they did not commit to the auction after applying. Stations that qualify were mailed a user guide on May 5, with an online tutorial on May 18, a bidding preview on May 23 and a mock auction on May 24 and 25.

For stations that have decided not to participate in the auction or stations that are eliminated in the auction or may be eliminated, the FCC issued a ruling ([http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2016/db0418/FCC-16-47A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0418/FCC-16-47A1.pdf)) on April 18 that they may seek reimbursement for planning expenses before the final reallocations are made, but with the caveat that if a station does not end up being repacked, they will not be reimbursed.




**SBE Bookstore**

Browse books by title at:  
[http://www.sbe.org/sections/store\\_books\\_listings.php](http://www.sbe.org/sections/store_books_listings.php)

June 2016 Chapter 24  
Newsletter Deadline:  
Friday, June 3, midnight  
[paul.stoffel@wpt.org](mailto:paul.stoffel@wpt.org)  
*edited using Adobe InDesign CC*

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

 A Riva Technologies Co. <i>Broadcasters One Stop Shopping</i> Connecting Quality, Experience and Value <a href="http://www.josephelectronics.com">www.josephelectronics.com</a>	Christopher Annella
	6633 W. Howard St. Niles, Illinois 60714-3305
	Phone: 847-588-3800 800-323-5925
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	Fax: (608) 274-9514

## SBE Chapter 24 Certification News

<u>Exam Dates</u>	<u>Location</u>	<u>Application Deadline</u>
August 5-15, 2016	Madison Area	June 3, 2016
November 4-20, 2016	Madison Area	September 30, 2016

An idea for consideration... Our chapter has many talented engineers with experience in a variety of specialties — Networking, Radio Engineering and Operation, Television Engineering and Operation, Audio, Video, 8-VSB, AM Directional Systems, and Digital Radio.

To assist those preparing for certification exams, would there be any volunteers to help with a review a week or so before a certification exam? This could help an examinee better understand specific material from experts, and for other individuals to learn as well. There's no formal plan for this: it's just a chance to help share technical information that could be quite helpful for someone studying for an exam.

Please let me know if you might be available, interested, or have any suggestions or questions.

Jim Hermanson, CPBE, CBNT  
SBE Chapter 24  
Certification Chair  
services@jimhermanson.com



### SBE RF Safety Webinar is May 12

The SBE [RF Safety webinar](#) will be presented live on Thursday, May 12 from 1 - 4:30 p.m. ET by RF safety expert Richard Strickland of RF Safety Solutions. The course provides an overview of RF radiation issues and practices for broadcasters. Course content is updated regularly.

### AM Ground Systems Webinar May 19

[AM transmission systems](#) require the use of a specific ground system that is designed as part of the antenna. These systems are often a source of mystery to the uninitiated. In this webinar we will focus on understanding AM antenna systems and the need for ground systems. We will discuss theory, design standards, FCC requirements, good engineering practice, installation process, maintenance and troubleshooting.

### HD Radio Diversity Delay Field Observations Webinar is June 1

The [HD Radio Diversity Delay Field Observations](#) webinar will be held on Wednesday, June 1 beginning at 2 p.m. ET and will last for 90 minutes. It is available FREE to SBE members thanks to the sponsorship of HD Radio. Non-member fee is \$55. Everyone must [register in advance](#). The hybrid digital and analog broadcasting solution deployed in the United States, FM and AM IBOC, more commonly known as HD Radio (a trademark of DTS), allows simultaneous transmission of broadcast radio signals in both the analog and digital domain. A key component is that receivers can immediately acquire the analog signal and then transition (or blend) into the digital signal after it has acquired and buffered.

### Recruit a new SBE Member by May 31

The annual SBE member drive, this year themed as [The Road to Success](#), ends May 31. New members are welcome throughout the year, but by recruiting even just one new member during the drive, you'll be eligible to win some great prizes. For more information on how to find and recruit a new member and the full list of prizes available, visit the member drive webpage.



## CHAPTER 24 SUSTAINING MEMBERS

### *Thanks to all our Sustaining Members:*

Alpha Video

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Clark Wire and Cable

Full Compass Systems

GEPSCO International, Inc.

Heartland Video Systems

Joseph Electronics

Resonant Results, Ltd.

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Token Creek Productions

WISC-TV 3

WMTV-TV 15

WKOW-TV 27

WMSN-TV 47

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**Wisconsin Broadcasters Association  
2016 SUMMER CONFERENCE  
MTI & ENGINEERING DAY**

*The Radisson, La Crosse WI*

**ENGINEERING DAY - JUNE 22**

**8:45 AM: Risk Management in a Broadcast Enterprise**

**Mike Epstein, Sr. Director of Risk Management, Scripps**

What are the risks in a broadcast complex and how to address them will be discussed in this session. Mike will also cover business continuity and physical security including active shooter situations.

**9:30 AM: Tower Site Security and FAA Lighting Changes**

**Rich Wood, President, Resonant Results**

Out of sight doesn't have to mean less secure. Rich will talk about ways your tower site is threatened and what you can do to make it more secure. Rich will also describe the latest FAA circular and what it means for your tower.

**10:15AM: BREAK**

**10:30 AM:**

**Information Security: What Are the Hackers Up to Now?**

**Dave Kieper, Interim Chief Information Officer, UW Green Bay**

David will describe the current motivation and methods used by the internet hacker community and discuss defense strategies to mitigate their attacks.

**11:15 AM:**

**An Amber Alert Incident Debrief**

**Jennifer Price, Director, Special Operations Bureau, CART Commander, WI DOJ-DCI**

**Michelle DuBois, Coordinator, Wisconsin Clearinghouse for Missing & Exploited Children & Adults**

**Detective Donald Henning, Eau Claire County Sheriffs Office**

We will dissect an actual child abduction incident that resulted in an Amber Alert in Wisconsin. What were the steps that lead up to the Alert and what process was used to determine an Alert was needed.

**12:00 PM: LUNCH**

**1:30 PM: The Growing Impact of Ambient Noise on Broadcasting**

**Steve Johnston, Director of Engineering and Operations, Wisconsin Public Radio**

Growing levels of unintended "noise" are interfering with reception of RF signals from radio and television stations. This presentation will discuss the problems we face, pinpoint common sources of the noise, and propose possible resolution.

**2:15 PM:**

**Ask the Manager**

In this session the audience will have a chance to ask non engineering managers questions about anything. On the panel will be:

HR Manager: Jeff VerVoort, Morgan Murphy Media

Radio Manager: Nancy Douglas, CTJ Communications

Finance Manager: Paul Rahmlow, Midwest Communications, Inc.

TV Manager: Steve Lavin, WBAY TV

**3:15 PM: BREAK**

**3:30 PM: The Round Tables**

Everyone's voice is heard in this session. We will split the audience into four subgroups and talk about four timely topics. Then we'll hear a report of each discussion. These are the topics:

Table 1: The Broadcast Sales Tax Exemption, Kevin Ruppert, Chair

Table 2: The FM Translator Buildout, Greg Dahl & Jason Mielke, Co-Chairs

Table 3: X-OIP, Clif Groth & Matt Sperling, Co-Chairs

Table 4: Working with Millennials, Kent Aschenbrenner & Bill Hubbard, Co-Chairs

**4:30 PM: Exhibits and Reception**



# MEDIA TECHNOLOGY INSTITUTE

June 20-23, 2016

Radisson Hotel & Convention Center  
La Crosse, Wisconsin



*Media Technology Institute (MTI) offers practical, instructional courses suitable for prospective, beginning, intermediate, and senior broadcast/media engineers, in a four day program presented by experienced broadcasting professionals. The program consists of three days of instructional content and one additional day of technical seminars and a broadcast equipment exposition as part of the WBA Summer Broadcast Engineering Conference.*

## MONDAY, JUNE 20

Location: Illinois Room

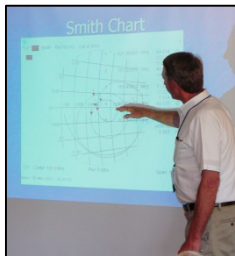
- 10:00 am: Welcome by Michelle Vetterkind, WBA President/CEO, followed by a discussion of the schedule by Terry Baun
- 10:15 am: "A brief Introduction to the history and challenges of Broadcast/Media Technology" with Terry Baun
- 10:30 am - 12:00 pm: "Big iron-Antennas, towers, and transmission lines" with Richard Wood
- 12:00 pm: Lunch
- 1:30 pm: "Engineering Your Career in a Broadcast Station" with Bill Hubbard
- 3:30 pm - 5:00 pm: Welcome Reception



## TUESDAY, JUNE 21

Location: Illinois Room

- 9:00 am: "RF Fundamentals" with Terry Baun
- 12:00 pm: Lunch
- 1:30 pm: "Facility Design" with Bill Hubbard
- 3:30 pm: "Understanding Audio levels and Measurement Standards" with Jim Klas
- 5:00 pm: Dismiss



## WEDNESDAY, JUNE 22 - JOIN WBA ENGINEERING DAY

Location: Zielke Suite 1, La Crosse Center

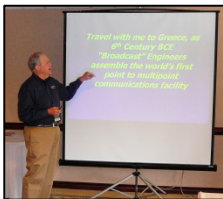
- 8:45 am: WBA Engineering Day Sessions
- 12:00 pm: Engineers Luncheon at the WBA Summer Conference
- 1:30 pm: WBA Engineering Day Sessions Continued
- 5:00 pm: WBA Equipment Exhibits, Reception and Dinner



## THURSDAY, JUNE 23

Location: Illinois Room

- 9:00 am: "Engineering on a (no) budget and Site Grounding/Safety issues" with Jeff Welton
- 11:00 am: "Business Basics for Broadcast Engineers" with Jim Klas
- 12:00 pm: Lunch
- 1:30 pm: "The Continuing Confluence of IT and RF Technologies" with Terry Baun
- 2:00 pm: Field trip to WHLA FM/TV site in Minnesota



The WBA is offering two scholarships to attend this year's Institute. Contact Linda at [lbaun@wi-broadcasters.org](mailto:lbaun@wi-broadcasters.org).



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