

the milliwatt

The award-winning monthly publication of
The Baltimore Radio Amateur Television Society
P.O. Box 5915 Baltimore, MD 21282-5915



AUGUST, 2015

ARRL Board Approves Dues Increase, Band Plan Amendments

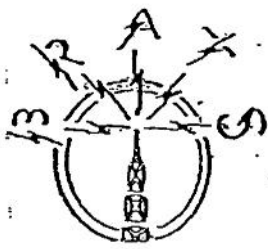
Meeting over the weekend (7/18-19) in Windsor, Connecticut, the ARRL Board of Directors has approved a \$10 increase in the League's annual dues rate, effective January 1, 2016. In doing so, the Board adopted a recommendation of the Administration & Finance Committee. ARRL basic dues have been held at \$39 a year since 2001. In addition, the Board adopted amendments to the ARRL HF Band Plan — with some tweaks, okayed a National Parks On The Air (NPOTA) operating event in 2016 to celebrate the National Park Service centennial, began the search for a successor to ARRL CEO David Sumner, K1ZZ, who will retire next May, and named several ARRL award recipients. Sumner said the League has done as much as it can to hold off a dues increase for more than a decade, but now it's a necessity, not an option.

FCC CLOSURES

It was announced on Thursday, July 16th that the FCC would close 11 field offices. The closures are in the cities of Anchorage, Buffalo, Detroit, Houston, Kansas City, Norfolk, Philadelphia, San Diego, San Juan, Seattle and Tampa. This list is scaled back dramatically from the original plan to close nearly all of the FCC's field offices. It's a tough decision?, said FCC Chairman Tom Wheeler, He continued saying Congress has ordered that we spend less. We've been told to do with less.? The vote was 5-0.

QRZ.com Website Undergoing Major Upgrade

The popular QRZ.com website has been undergoing a major upgrade since last Friday, (7/17) and things are going a bit more slowly than initially anticipated. "The QRZ forums are still down as we work on the software known as *vBulletin 5*," QRZ Founder and President Fred Lloyd, AA7BQ, announced on the site. "We're devoting maximum effort to this and, in the meantime, feel free to browse the rest of the site. We hope to have things up soon. How long will it take? About as long as it takes to catch a fish. We're hopeful." **The outage does not affect call sign lookups** and other site features. Lloyd told ARRL that he hoped to have the QRZ.com forums running today. He said the site will have a fresh, new look, once the upgrade is complete. (ARRL)



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The award-winning monthly
publication of The BRATS.
Items herein may be reprinted
with appropriate credit.

Mayer D. Zimmerman, W3GXX, Editor

Some Thoughts

Thanks to Kevin, KB3PLX and Ed, N3GXH for getting our Northwest repeater receive site back in operation on Saturday, July 25. We appreciate the immediate and excellent work it took to complete the job. It is gratifying to know that we have the expertise in house to diagnose and fix problems such as these.

The BRATS has always had a reputation for technical Expertise and it is nice to know that it continues.

Thanks, guys!

73,

Mayer, W3GXX

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The Baltimore Radio Amateur TV Society, Inc.

P.O. Box 5915 Baltimore, MD 21282

A non-profit organization under section 501 (c) (3)
of the internal Revenue Code and a non-profit
corporation in the State of Maryland

Member: ARRL, Foundation for Amateur Radio

Home Page: <http://www.bratsatv.org>

Email: brats@bratsatv.org

Meetings: 2nd Monday, 7 PM at the
Greene Turtle, Owings Mills, MD or
The Pikesville Library; 1301 Reisterstown Rd.

President: Oryx Gazaella, K0RYX

Vice Pres.: Kevin Sherwood, KB3PLX

Secretary: Ted Bauer, WA3AER

Treasurer: Jim Sherwood, KB3SKN

Chairman of the Board:

Mayer D. Zimmerman, W3GXX

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BRATS REPEATERS

Linked, WB3DZO

147.03+, 224.96-, 448.325-

Stand alone:

443.350+, 224.8-

Packet Nodes:

W3GXT=5 145.05

W3GXT-10 224.52

ATV repeaters W3WCQ

inputs: 426.25, 1253.25

Outputs: 439.25, 911.25

BRATS WEEKLY NETS

Monday 9 PM Traffic and Info

Tues. 11:45 Informal ATV

Wednes. 9 PM CATS ATV

Thurs 9 PM BRATS ATV

Sat. 1 PM Weekly News Bulle

Sun 8 PM BRATS ATV net

AS Needed: Skywarn

BRATS Board of Directors

Through December, 2015

K2GZL, N3GXH

Through December, 2016

W3MSR, K9FXV

BRATS MEETINGS

Monday, August 10:

at the Pikesville Library

1301 Reisterstown Road

All meetings start at 7:00 PM

Please plan to join us

Baltimore Radio Amateur TV Society
MINUTES of the 13 July 2015
Monthly Meeting

OryxG, K0RYX, chaired the meeting, held at Pikesville Library.

/REPORTS

- Minutes: Secretary's Minutes from the June meeting accepted, approved.
- Treasurer: Treasurer's report accepted and approved. Net accounts decrease: \$2902.89.

Repeater/Equipment: Repeater work day on June 21: made cables. All (7) 2M, 440 Rx units received. 220MHz repeater project not yet underway. ATV controller behavior has changed to rapid cycling (W3WCQ, Will, may have reference paperwork for controller).

It was proposed that the ATV Preamp purchase be funded by ATV supporters. KenM, K3UQQ, will take this back to the ATV group.

- Events: nothing to report

/OLD BUSINESS

- Dues/Web site: no renewals; new system has not been placed on Web site to date. Oryx will follow up with Kevin (work has reportedly been completed).
- Balloon Project: taking a back seat while satisfying BGE grant work.
- FD/Aero: had to shut down for 3 hours due to flooding in hangar. Est. 30 participants; 5A operation. 45 states worked and 5 DX entities.
- FD/KA3ZMN: site set up on Fri. MarkR reports 5A (?) operation. 5 participants.
- GSH/Nextel room: Oryx will call GSH Facilities Mgr. on Tue, 7/13. No response to letter, email.
- Meeting Venue: we lose BCPL meeting space after August. Fr. Skip believes we can get meeting space through American Legion or rec center at Morrell Park. Oryx will look at sites on line and follow up with Fr. Skip. Viable options will be circulated to group for feedback.

/NEW BUSINESS

- Grants: Fr. Skip noted there may be other grant opportunities available.
- ATV Ownership: The question was raised about moving ATV ownership to CATS. Rationale: few BRATS are ATV operators these days. Future discussion.

Ted, WA3AER,
Secretary

August, 2015.

The Milliwatt, Page 3.

How NASA beams Pluto images 3 billion miles to Earth

NASA's New Horizons spacecraft is delivering amazing images of Pluto, but receiving them from 3 billion miles (4.8 billion kilometers) away is no easy feat. The strength of the radio signals, the time it takes the signal to travel back and forth and the speed of the data flow all present challenges, but it's all in a day's work for NASA's Deep Space Network. Think of it as the long-distance phone company for the solar system and beyond.

The DSN consists of a network of huge satellite dishes spread across three sites—near Barstow in California; near Madrid in Spain; and near Canberra in Australia. Those locations are about 120 degrees in longitude apart to give wide coverage of the skies, so before a spacecraft is lost by one antenna, another one can pick it up.

The sensitive antennas work alone or in groups and communicate with about 30 space probes each month, said Jeff Osman, contact technical manager for the Deep Space Network, in an interview.

For New Horizons, the first images of its closest Pluto fly-by will be received by 70-meter antennas at the Madrid and Barstow sites, he said.

Data is coming down at a speed of approximately 1,200 bits per second—about as fast as a dial-up Internet modem in the early Nineties—and it takes 4.5 hours for the signal to travel the distance from New Horizons to Earth.

This slow speed, coupled with the mission's science needs, which mean the spacecraft is not always pointing towards Earth, explains why the images from the closest point of the fly-by won't be received on Earth until more than a day after they were taken. It also explains why video from the edge of the solar system won't be possible any time soon.

In the most crucial phase of the Pluto fly-by on Monday evening, during a series of radio experiments, the Deep Space Network had six dishes pointed toward New Horizons. Some acted as back-ups in case of problems sending command signals to the craft, which travel away from Earth at the even slower rate of 500bps.

The Deep Space Network isn't confined to NASA craft. Because of its sensitivity, it also plays a supporting role to international missions, such as those launched by the European Space Agency and Japan's space agency.

At any one time, the DSN is talking to between 12 and 15 craft. A real-time view of this setup can be found on the Web at DSN Now. The page details which antenna is talking to which space probe, and even the data rate and frequency in use.

Most spacecraft use a portion of the X-band at 8.4-8.5GHz, which is set aside globally for deep space communications. Because the signals coming back to Earth are so weak, agencies like NASA need a dedicated frequency band to avoid interference from terrestrial sources. Noise is also part of the reason space agencies are now eyeing even higher frequencies, around 32GHz, for future generations of craft.

If you keep a watch on the DSN Now page, you might see the DSN in communication with Voyager 1. That craft launched in 1977 and is now 25 billion miles from our planet—the farthest a man-made object has ever traveled.

That's about a 36-hour radio round trip.

"We send a signal to Voyager one day, and we come in the next day for the answer," Osman said.

WA7BNM Contest Calendar

Aug 1	European HF Championship
Aug 1-2	Int'l Lighthouse-Lightship Contest Weekend North American QSO Party, CW ARRL August UHF Contest
Aug 2	SARL HF Phone Contest
Aug 6	NRAU 10m activity Contest CW, FM, SSB, Dig
Aug 8-9	WAE DX Contest, CW MD DC QSO Party 50 MHz Fall Sprint
Aug 15-16	SARTG WW RTTY Contest ARRL 10 GHz and Up Contest Russian District Award Contest North American QSO Party, SSB CVA DX Contest, CW SARL HF Digital Contest ARRL Rookie Roundup, RTTY
Aug 22-24	Hawaii QSO Party2
Aug 22-23	Ohio QSO Party CVA DX Contest, SSB
Aug 29-30	ALARA Contest YO DX HF Contest WVE Islands QSO Party Kansas QSO Part
Aug 30	North American Sprint, SSB SARL HF CW Contest

ARRL DX BULLETIN

CHINA, BY. Operators Chen, BA7CK and Wu, BA7IA are QRV from Yongxing Island, IOTA AS-143, for about 6 weeks while on a business trip. Activity is in their spare time on 20 to 6 meters using CW, SSB and RTTY on IOTA frequencies. QSL BA7CK via BA4TB and BA7IA to home call.

BOSNIA-HERZEGOVINA, E7. Members of the Nikola Tesla Radio Club are QRV as E7TESLA until August 10. Activity is on the HF bands. QSL via E77E.

ETHIOPIA, ET. Andy, UR4LRQ, Yaroslav, UW7LL and Igor, UY5LW are QRV from club station ET3AA until August 21. Activity is on the HF bands. QSL this operation via US0LW.

DJIBOUTI, J2. Jean, F5LCI is QRV as J20JM until September 15. Activity is with QRP power on the HF bands using CW and JT65. QSL to home call.

Next BRATS Meeting
Monday, August 10th
7:00 PM,
Pikesville Library

ARRL BOARD MEETS JULY 17-18

(Rule Making Petition to FCC)

The Board authorized the preparation of a rule making petition to the FCC, seeking changes in the 80 and 75 meter bands that are consistent with majority opinion among more than 1000 responses to an online membership survey. The petition would seek to shift the boundary between the 80 meter RTTY/data subband and the 75 meter phone/image subband from 3600 to 3650 kHz. It also would restore privileges in the 3600-3650 kHz segment to Advanced, General, Technician, and Novice licensees. In addition, the League will ask the FCC to shift the automatically controlled digital station (ACDS) band segment from 3585-3600 kHz to 3600-3615 kHz, consistent with the IARU Region 1 and Region 2 band plans, and authorize Technician and Novice licensees to use RTTY/data emissions in their 15 and 80 meter band segments, the latter change contingent on expansion of the 80 meter band.

(ARRL Letter) {see also page 1}

BARC VE Exams

Our Savior Lutheran Church
141 Lavern Ave. Landsdowne
Register at 1:30; exams at 2:00
Saturdays: Aug 8, Sept 12, Oct. 3,
Nov 7, Dec. 5 ; no one admitted
after exams begin; walk-ins okay.

LARC VE EXAMS

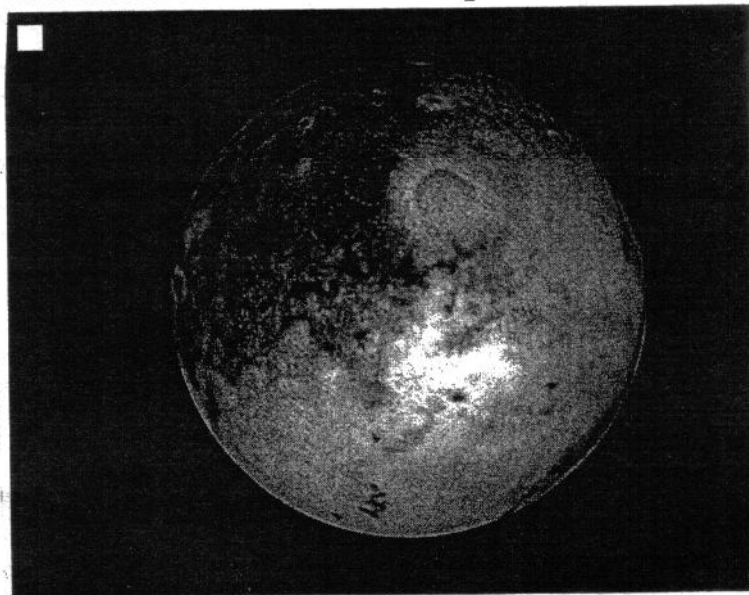
364 Main St. Laurel,
3rd Sat. at 9 AM;
John, WB3GXW,
301-572-5124

MD Mobileers VE Exams at National Electronics Museum, Linthicum

4th Tuesday at 6 PM
Mike, KA2JAI, 443-310-4902
KA2JAI@arrl.net

News > Science

Will Pluto be reinstated as a planet?



Harvard-Smithsonian Center debate comes to conclusion that Pluto IS a planet

How NASA beams Pluto image, story on Page 4

Party Balloon Carrying Ham Radio Payload Circles Southern Hemisphere a Second Time:

After traveling for more than 110,800 km (68,696 mi) aloft, the record-setting pico Balloon PS-46, carrying an Amateur Radio payload, completed its second circumnavigation of the Southern Hemisphere, before descending into the Indian Ocean on July 18 due to bad weather. The helium balloon and its solar-powered 25 mW payload were launched on May 23 by Andy Nguyen, VK3YT.

"It was an exciting but also an exhausting eight weeks for many hard-core trackers," Nguyen said. "Their perseverance ensured the balloon was tracked almost around the clock. It was hard work, and the little party balloon was becoming part of the daily routine for many of us." More than 20 "regulars" were among those who tracked the high-altitude flight, monitoring the payload's 20 meter signals in WSPR and JT9 modes. Stations in Virginia and Florida, as well as in Peru and Argentina were among those hearing the balloon's beacon. The last station to hear the balloon was Vince, ZS6BTY, in Pretoria, South Africa. The balloon had been at an altitude of about 9000 meters (29,530 feet), but quickly descended into the ocean. PS-46 had circumnavigated the Southern Hemisphere the first time in 12 days, and it was starting its third trip around when it went down. -- Thanks to Jim Linton, VK3PC, The ARRL Letter (via ARNewsline)

Milliwatt Swap Shop

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Baltimore, MD 21282-5915 or

email to w3gkxk@verizon.net

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HRO price \$199. N3BHE
410-299-5931

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charger, 12vDC, 200 ma for ICOM
T8A or equivalent, cost \$46,
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order PC ONLINE.
<http://www.jadecomputers.us>

Antique radio repair, restoration
Eric WA3TAD, audio visual service,
Retro radio, 3401 Chestnut Ave.
Balto. 21211, 410-467-3620
wa3tad@comcast.net

WANTED AC Gilbert erector sets:
Old, new, large, small, need not be
Complete. CASH PAID!
Lewis, 410-296-4874.

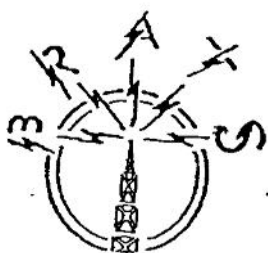
WANTED: Manual for MFJ 1452,
WB2LOO, gkm313@verizon.net

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if you sent it to us. Send your ad to
w3gkxk@verizon.net

VTs Video Taping Service
video, DVD duplications,
Video tape transferred to DVD,
Standards, conversions,,,
1-877-891-1002. BRATS
member Rob Shapiro, K2MYS
<http://www.videotapingservice.com>

AN ALTERNATE SATELLITE FREQUENCY

A panel of international advisors has been encouraging radio amateurs and satellite developers and builders to return to the practice of satellite uplinks and downlinks on 29 MHz, as a way of providing alternatives to overcrowded band segments elsewhere on the spectrum. One panel member, Ray Soifer W2RS, noted that 29 MHz had a solid history for those purposes going back several decades: The segment of the band between 29.300 MHz and 29.510 MHz was used for downlinks beginning with Australis-OSCAR 5 in 1970, followed by AMSAT's first communications satellite, AMSAT-OSCAR 6, two years later. AMSAT-OSCAR 7, launched in 1974, is the sole amateur satellite today actively using a 29 MHz downlink. The older satellites were, of course, larger than the CubeSats in use today. But many of today's CubeSats, in use by science researchers and universities, are utilizing amateur frequencies and overcrowding band segments at 145 MHz and 435 MHz. The International Amateur Radio Union envisions 29 MHz as a way of relieving some of that traffic. (EE Publishers. QRZNOW, via ARN^wsline)



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AUGUST, 2015

BRATS MEETINGS

August 10:
Pikesville Library

BARC Meetings

Wednesday
June 17 at 11:17 at
Wegmans Hunt Valley
upstairs dining room

Other Clubs

CARA

4th Tuesday at 7:30 PM
Columbia Gateway Center
Room 401; Columbia, MD

AARC

Thursday, April 2, 7:30 PM
Davidsonville Family Rec.
Center, 3789 Queen Anne
Bridge Rd. Davidsonville

Amateur Radio Satellite Pioneer's Estate Will Boost ARRL Endowment Fund:

The ARRL will benefit from the largesse of the late Amateur Radio satellite pioneer Cliff Buttschardt, K7RR (ex-W6HDO), and his late wife Mable Vierthaler. The League this month received the first major installment of its portion of the couple's estate. Buttschardt also designated AMSAT to receive a similar share. Buttschardt died in 2006, and his wife in 2013. The funds will go into the ARRL Endowment Fund. ARRL Development Manager Lauren Clarke, KB1YDD, has estimated that the ultimate gift will be in the vicinity of \$280,000. Buttschardt, a long-time Project OSCAR leader, AMSAT member, and ARRL Life Member lived in Morro Bay, California. He was 75 when he died on July 30, 2006. Just days before, the Project OSCAR Board of Directors awarded him with its Lifetime Achievement Award –

its highest honor -- for his contributions to Amateur Satellite Radio. In 2001, while he was teaching at Cuesta College in San Luis Obispo, California, Buttschardt -- with Ed English, W6WYQ -- began work on the CubeSat project. After Buttschardt moved to Cal Poly, he and English continued to mentor students who were involved in developing the initial CubeSat designs. "Cliff was a skilled and passionate radio amateur, as devoted to maintaining the traditions he valued as to exploring the frontiers of space communications," said ARRL CEO David Sumner, K1ZZ. -- Thanks to AMSAT for some information in this report (ARRL Letter, via EHam.net)

Renew: Regular \$15; retired/student/disabled \$10; Family \$20

Name _____ Call _____ e-mail _____

MAIL TO: BRATS, P.O. Box 5915; Baltimore, MD 21282-5915