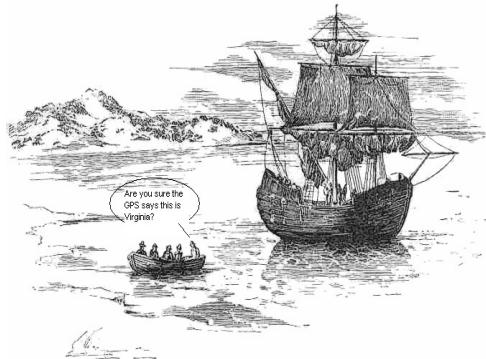


THE AERO AERIAL



The newsletter of the Aero Amateur Radio Club
Middle River, Md
Volume 9 Issue 11
November 2012

Editor Frank Stone AC3P

Officers

Joe Miko	WB3FMT	President	Repeater
Bob Venanzi	ND3D	Vice-President	VE Testing
Lou Kordek	AB3QK	Recording Secretary	Public Service
Pat Stone	AC3F	Corresponding Secretary	Webmaster
Warren Hartman	W3JDF	Treasurer	Trustee
Ron Distler	W3JEH	Resource Coordinator	Club Nets Contests

Committees

Phil Hock W3VRD
Pat Stone AC3F
Bob Landis WA3SWA
Al Alexander K3ROJ
Frank Stone AC3P
Joe Miko WB3FMT
Bob Venanzi ND3D

ABOUT THE AERO AMATEUR RADIO CLUB

Meetings: First and Third Wednesdays at 7:30 pm at Coffman's Diner
(Middle River and Orem's Rd.)

Nets: See Local Area Net Schedule

Repeaters: W3PGA (147.24 MHz - / 449.575 MHz -)
W3JEH (223.84 MHz -)

LOCAL AREA NETS

Day	Time	Frequency (MHz)	NET NAME
Daily	9 – 10 am	147.33	ORIOLE Net
Daily	6 pm	3.820	Maryland Emergency Phone Net
Daily	6:30 – 7 pm	146.670	Baltimore Traffic Net
Daily	7 pm and 10 pm	3.643	Maryland/DC/Delaware Traffic Net
2 nd Tues	7:30 pm	146.670	Baltimore County <u>RACES</u> Net
2 nd Wed.	8 pm	28.445	AERO ARC Net
4 th Wed	8 pm	147.240	AERO ARC Net
5 th Wed.	8 pm	449.575	AERO ARC Net

Aero Net Reports

September

28.445 Mhz AC3P(NCS) W3JEH

147.24 Mhz. WB3FMT(NCS) AC3P W3JEH KB3VAE KA3SNY

VE Corner by AC3F

After a summer hiatus the Aero ARC VE Team returned to the White Marsh Library for the September Test Session on the 22nd. There were three examinees. Two successfully earned their Tech license. One upgraded to Extra.

Congratulations to new Techs, Nathan Grogan KB3ZGP, Rick Zubrowski KB3ZGQ and returning Extra, Mike Stebbins KB3ZFN.

Thanks to WB3FMT, KB3KRV, AB3QK, and AC3P.

Station Activities

KA3SNY, KB3PGN and **W3PG** were at the Westminster Swapmeet. **AC3F, ND3D** and XYL. Mary Carol, watched **AC3P** perform at the Baltimore Jam in Timonium. **W3JEH** continues work on the new vertical. **W3VRD** is back from 4-land. Congrats to **N3RXD**, harmonic of AC3F and AC3P on the birth of his harmonic, Henry.

Whence Public Service?



Baltimore Marathon 2007



Boy Scouts JOTA 2010



Diabetes Walk 2008

In previous November editions of *The Aerial*, our readers would find an article or two about Aero members either participating or organizing a net to provide support communications for a walkathon or bike tour. Occasionally one would read about an emergency communications exercise or actual response. In the last few years these articles have dwindled to virtual extinction. What happened?

Back when this publication began, The Baltimore Amateur Radio Club provided amateur radio help for a 5k run, the March of Dimes Walks and the Baltimore Running Festival. The BRATS group did the same with various Multiple Sclerosis Society event. And the Aero ARC was lead on the American Diabetes Association Walks in Havre de Grace and Baltimore as well as their Harford County Bike Tour. Additionally many Aero ARC members were involved with the local ARES/RACES group and helped with monthly drills and local government sponsored events.

With the passage of time many events like March of Dimes, ADA, and the Baltimore Marathon developed their own communications systems, either via cell phones or commercial networks. Some events were moved to areas too distant for our members to help. Others were canceled altogether. The local RACES group re-organized under the umbrella of Homeland Security and has been less involved. All in all the opportunities for amateur radio in public service have appear to become rare.

There is one ray of hope for those wishing to use their ham radio skills for the public good. The MS Society and SKYWARN still use amateur radio support. We will continue to publicize their requests for help in this newsletter and encourage our readers to volunteer whenever possible.



Hurricane Hunters RACES 2005



Baltimore County Waterfest 2004



Havre de Grace Diabetes Walk

2008



St. Joseph's Hospital Drill

2004

222 Mhz Repeater To Go Offline

Ron, **W3JEH**, reports that the 223.84 MHz repeater will be down for a few weeks. Ron will be relocating the repeater antenna and increasing its height.

W3PGA to the Moon?

At the October 17th meeting Frank, AC3P, made a suggestion for a club project to attempt a Moonbounce operation, either in conjunction with Field Day or as a separate event. There are several high power Moonbounce stations on the air that will set up schedules with lower power stations. Even if no contact was made just recording the echoes would be an accomplishment.

Phil, W3VRD, said that he had a 2 meter kilowatt amplifier that could be used, as well as the materials for three 2 meter yagis. Joe, WB3FMT, said that he has a 2 meter yagi that might be used.

It was agreed that further research was needed to determine the requirements for such a project.

Anyone interested in helping with this project, contact Joe or Frank.

X Class Solar Flare = Radio Blackout

NASA reported that an X1.8 Solar Flare erupted on October 20th. Radio blackouts were reported in Asia, Australia and New Zealand. There were no reports of blackouts locally but club members have been reporting good conditions on the 12 and 10 meter bands.

The sun continues to work toward its maximum sunspot cycle which is predicted to peak in 2013. So now is the time to be on the air.

T-MARC

The Middle Atlantic Repeater Council, Inc.

P.O. Box 1022
Savage, Maryland 20763-1022
<http://www.tmarc.org>

Proposed 440-450 Band Plan Changes

As you have been hearing for some time, two meter frequency pairs for new repeaters are in virtually non-existent in most places and UHF pairs are in very limited supply. In the case of two meters the limitation comes from a combination of limited authorized spectrum and propagation both of which conspire to limit the proximity of co-channel and adjacent channel repeaters, both physically and spectrally. There's not much that we can do about that.

UHF repeater coordination presents somewhat different challenges. There is more spectrum available, although input to output frequency offset is also larger. However, differences in band plans between adjacent coordination groups does have an effect on the number of available frequency pairs. This may not be a critical issue today, but it will certainly affect future coordination efforts. Realigning our band plan to match those of our neighbors needs to begin now.

We will begin to address this issue at the general membership meeting on October 7.

Here are the details:

For decades the UHF bandplan, particularly in the northeast US, has consisted of using non-inverted pairs (Hi in / Low out) and inverted pairs (Low in / Hi out). This was done years ago because equipment at the time was not of the quality that is available today. The intent was to put the repeater inputs as far as possible away from the commercial 450-470 band. Today, equipment is of better quality and can generally coexist in those environments where commercial transmitters are nearby.

For a number of years, the South East Repeater Association (SERA) and the Western Pennsylvania Repeater Council (WPRC) have been using all non-inverted pairs as do the commercial licensees in the 450-470 band. These two coordinating groups are adjacent to the TMARC area. Because of this, coordinating inverted pairs for TMARC and non-inverted (44x.x25 or 44x.x75) pairs for SERA or WPRC has been difficult near our mutual borders. There stands a MOU between TMARC and SERA where we both agree not to coordinate .x25 or .x75 pairs within 50 miles of the border. That creates a huge void where we could be using those pairs.

Using a mix of inverted and non-inverted pairs does not make the most efficient use of the spectrum. Geographic spacing between an adjacent inverted pair and noninverted pair needs to be maintained to prevent adjacent channel interference from the output of one to the adjacent input of the other. Finding available UHF pairs is becoming increasingly difficult. Some would think that fewer and fewer UHF systems are being

Page 2 of 2

coordinated. This is certainly not the case. Applications for UHF repeaters continue to come in.

Another advantage of using all non-inverted pairs is that it would eliminate the repeater-to-repeater interference that is experienced during times of enhanced band conditions. Several of the coordinating groups in the northeast are considering converting all of their inverted systems to non-inverted. Our immediate adjacent coordination group to the northeast, the Area Repeater Coordination Council (ARCC), is among those considering this conversion as well. Because we already have two of the three coordination groups that border the TMARC area using all non-inverted pairs, that puts TMARC in a unique position. If the rest of the northeast moved forward with converting, then TMARC would be in a position of having to follow with the same plan.

The groups adjacent to the TMARC area are either presently using (SERA & WPRC) or are considering (AARC) this plan. It is the right thing to do to make more efficient use of our spectrum. There seems to be a feeling that no one wants to be the one that "pulls the trigger". However, if there is a consensus among coordinators to move forward with this plan, then TMARC would have to follow suit. It will be much easier to be proactive while there is time for affected repeater owners to be able to make the necessary changes to their systems at a reasonable pace.

Obviously, this plan is going to come with some resistance. There will be many that feel that everything should be left alone and continue with how things have been done for years. Others will say that the effort and expense of changing is too significant.

As I, Bryan, consider my three inverted pair repeaters that are part of a larger linked system, I would need to re-crystal all three repeaters and several separate receivers that are used in my system. It would change the method by which I link my repeaters today. However, I know this is the right thing to do and I am willing to invest the time, money, and effort to make the change because it makes sense and makes more efficient use of the spectrum available.

We would like you to be prepared to discuss the technical and cost impact of this change on your systems at the general membership meeting. If you have questions before the meeting, please feel free to contact us.

73,

Dave Prestel, W8AJR

TMARC President

Dave.prestel@gmail.com

Bryan Dorbert, N3ST

T-MARC Frequency Coordinator

N3ST@TMARC.org

From the Skies over Mt. Essex

SKY Events for November 2012

Jupiter by Jove See and Hear it!

Nov 1st- Jupiter is 0.9° N of the Moon at 19:00 EDT.

Nov 4th – DST ends starts next March 10, 2013 to Nov 3, 2013.

Nov 6th - Last Quarter Moon

Nov 11th – Spica is 0.8° N of the Moon 22:00EST

Nov 13th -New Moon

Nov 14th – Total Solar Eclipse northern Australia into the South Pacific.

Nov 27th – Leonid meteor shower, prospects are excellent expect about 20 meteors per hour, these meteors come from 55P/Tempel-Tuttle. The Moon is about 16% full.

Nov 27th - Venus and Saturn are 0.6° apart, note the Moon is 0.5° at 01:00 EST

Nov 20th – First Quarter Moon

Nov 27th- Saturn is 0.8° above Venus 01:00 EST.

Nov 28th - Full Moon “Time of Much Poverty” for the Native American Mohawk tribe and the “Dark Moon” for the Celts. Penumbral lunar eclipse Far East and Australia.

Nov 28th – Jupiter is 0.6° N of the Moon 20:00EST

Planet Lookout at mid-Month

Mercury – End of month. Low in the SE at dawn. Mag +3.8 Size 9.2 arc sec 2% disk.

Venus – Morning Star, at dawn, Mag -4.0 Size 12.6 arc sec, 85% disk.

Mars – Low in Southwest at twilight. Mag +1.2 Size 4.5arc sec

Jupiter - ENE early-evening, Mag -2.8 Size 47.9 arc sec

Saturn - Low in dawn sky, left of Venus, Mag +0.6 Size 15.6 arc sec

Uranus - Visible most of the night, Mag +5.7 Size 3.6 arc sec

Neptune –Visible most of the night, Mag+7.9Size 2.5 arc sec.

Jupiter is the largest planet in our Solar System, it's 11 times wider than the Earth and it would take over 1,000 Earths to fill its volume. This planet is the 5th one from the Sun, and takes 11.86 years to make one orbit around the Sun. This planet has 66 moons(as of 3/27/12) of which 4 are visible in small telescopes or even a good pair of binoculars. These 4 Jovian satellites are Io, Europa, Ganymede and Callisto; they appear like stars circling the planet.

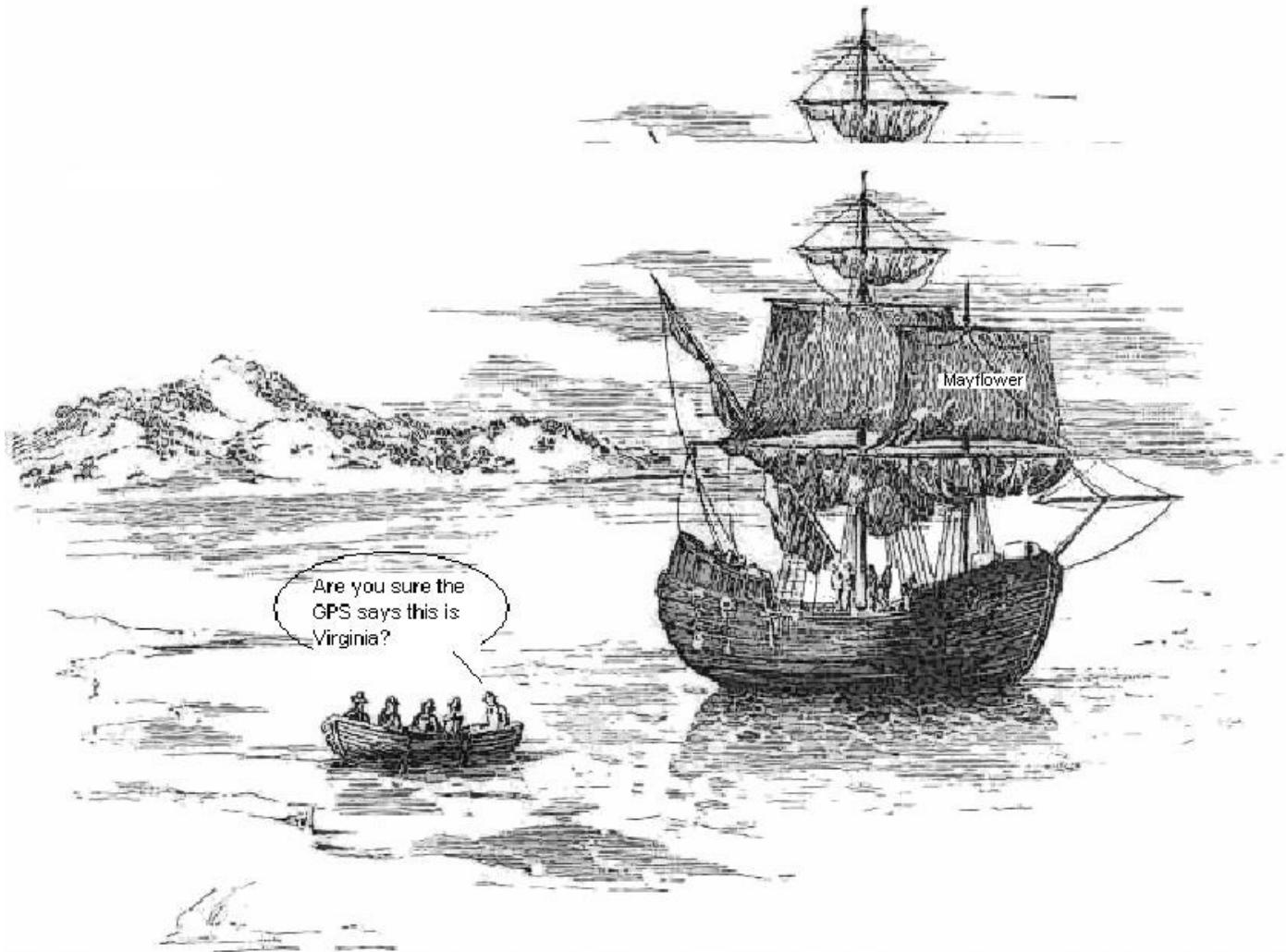
Jupiter rotates every 9 hrs 50 mins at its equator. It is also 460 to 507 million miles from the sun that's an average of 43.5 light minutes from the Sun, here on Earth we are 8.3 light minutes from the Sun.

Jupiter's magnitude ranges from -1.9 to -2.94, while its apparent size goes from 29.8 to 50.1 arc seconds. Using virtually any type of telescope 50mm or larger it will show a planet with cloud bands, and at least 4 moons. Larger telescopes 6 inches or larger will show the Great Red Spot a South Tropical Storm which has lasted over 300 years. It is always a lovely sight to see and starts to gain prominent in the eastern sky after sunset during November and reaches opposition on December 2nd.

But that's not all you can also hear Jupiter and other celestial objects using HAM radio gear. As stated in a QST article (July 2012), using an HF rig, PC or Laptop and free software you can hear and plot sounds from Jupiter. You need to have a two dipole array tuned to 20.1 MHz. You will be able to hear static crashes as the planet passes over your antenna site. More information can be obtained from NASA at <http://radiojove.gsfc.nasa.gov/>

Photos by Frank Stone, Middle River MD.





November 2012

					1	2	3
ARRL Sweepstakes ARRL EME Competition			Meeting Coffman's 7:30 pm				
4	5	6	7	8	9	10	
			28.445 Mhz Net 8 pm				
11	12	13	14	15	16	17	
			Meeting Coffman's 7:30 pm	Happy Thanksgiving			VE Testing White Marsh 1pm CQ DX Contest CW
18	19	20	21	22	23	24	
CQ DX Contest CW			147.24 Mhz Net 8 pm		ARRL 160 Meter Contest		
25	26	27	28	29	30		