

THE AERO AERIAL

Our Tenth Year of Publication



Merry Christmas and Happy New Year from the staff at The Aero Aerial

The newsletter of the Aero Amateur Radio Club
Middle River, Md
Volume 10 Issue 12

December 2013

Editor Frank Stone AC3P

Officers		Committees	
Joe Miko	WB3FMT President	Repeater	Phil Hock W3VRD
Bob Landis	WA3SWA Vice-President	VE Testing	Pat Stone AC3F
Lou Kordek	AB3QK Recording Secretary	Public Service	Bob Landis WA3SWA
Frank Stone	AC3P Corresponding Secretary	Webmaster	Al Alexander K3ROJ
Warren Hartman	W3JDF Treasurer	Trustee	Frank Stone AC3P
Ron Distler	W3JEH Resource Coordinator	Club Nets	Joe Miko WB3FMT
		Contests	Bob Venanzi ND3D
		FAR Representative	Charles Ester III KC3ANJ

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	145.33	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 REPORT

28.445 MHz: WB3FMT (NCS) W3JEH KA3SNY AC3P

147.24 MHz: WB3FMT (NCS) W3VRD KB3JVP AC3P AB3QK KA3VAE KC3ANJ KC3APF

449.575/223.84 MHz. AC3F(NCS) KB3VAE W3JEH KA3SNY KC3ANJ KB3QAX

Station Activities

The WX Station at **AC3F** evidently was collateral damage during the JUNO experiment. Thirty second key downs on 10 meters at 100 watts may have done it in. Welcome back **W3VRD**. Congrats to new great-uncle **WB3FMT**. **KC3ANJ** and **KC3APF** tested the waters of contesting with **ND3D**.

Dues Are Due

It's that time again. Treasurer Warren wants you. The club dues are due at the first meeting in January. Due for 2014 remain at \$24 for regular membership and \$2 for family members.

AERO AMATEUR RADIO CLUB
33 DAYS AND 33 NIGHTS OF FUN

REVISED November 20, 2013

When: 0000 UTC Sunday 01 January 2014 (1900 EST Saturday 12/31/13)
to
2359 UTC Sunday, 02 February 2014 (1859 EST Sunday 2/02/14)

Eligibility: All current AERO members.

Station: You may operate from any amateur radio station...from your home, a guest's home, terrestrial mobile, maritime mobile, aeronautical mobile, here or abroad.
A station may even be operated remotely!

Bands & Modes: Work any legal mode and band allowed by your license class.
Echo Link and IRLP contacts are *not* permitted.
Repeater contacts *are* OK.

Scoring:

One (1) point per CW contact.
Two (2) points per AM contact
Three (3) points per SSB or FM contact
Four (4) points per RTTY contact
Five (5) points per DIGITAL contact
Six (6) points per SSTV contact
Ten (10) points per ATV contact

Bonus Points:

Any contact via remote operation	100 points per contact
Any contact above the 70 cm band	250 points per contact
Any satellite contact	500 points per contact
Any EME (earth-moon-earth) contact	1000 points per contact per team member
Any HAR (high altitude ballooning mission)	100K points per mission per team member

Other Info: The same station may be worked any number of times.
Winner(s) of this contest will run the contest next year.

Results: E-mail log sheets to nd3d at arrl.net by Sunday February 9, 2014. Contest results will be reported at the February 20, 2014 meeting of the AERO Club!

HAVE FUN - - TRY SOMETHING NEW !

Antenna Maintenance Follies by AC3P



*Mini Quad on roof with 2 meter/440 Yagi and
Cushcraft Dual Band Ringo stacked above.*



Butternut H6V

With cold weather looming I thought it would be a good idea to do some maintenance on the antenna farm at the AC3F/AC3P communications complex. In question were the 2 element hybrid mini-quad and the Butternut H6V Vertical.

With the 2 element antenna mounted on the roof, I enlisted the aid of my son, KB3BUW to climb onto the roof and inspect the beam. Upon looking at the 11 foot driven element, he found some connection that he thought were corroded and in need of cable replacement. He then proceeded to dismantle the driven element from the boom but before that he needed to remove the boom's end cap. At this point a torrent of water gushed from the boom. My belief that the purpose of the end boom caps was to prevent water leakage was dispelled.

After Tim, lowered the driven element down the ladder, I inspected the connections. They were loose but the corrosion wasn't too bad. So after some cleaning and tightening the lugs Tim raised the element back to the roof and re-bolted it to the boom.

After the work was completed, I ran several tests. The antenna which for the last few years exhibited erratic S.W.R. Readings had stable reading on all bands. In fact the S.W.R. On 20, 15, 12 and 10 meters was under 2:1. On the other hand the 17 meter reading was higher than 3:1 as was the 6 meter reading, but both could be accommodated with a trans-match.

After testing, I was able to complete QSOs on 10 meters to Scotland and Alaska and on 12 meters to Cuba.

Satisfied with the results with the beam, I turned my attention the Butternut. Since the vertical is ground-mounted, I took this project on myself. The vertical has several sections that are bolted together. Also, there is an 11-foot wire stub that is attached to stand-off. Finally the RG-11U had corroded badly and needed replacing.

Murphy shows up.

First a trip to Baynesville Electronics revealed there was no RG11 in stock. Fortunately I was able to find the "safe place" where I had stored a run of the coax years before. So I prepared the matching stub, soldering the lug nuts to one end and a PL-259 to the other.

But Murphy was not to be deterred. While dis-assembling the bolted sections, several of the stand-offs for the 15 meter section broke. With that the process came to a halt.

I called in Pat AC3F, to repair the stand-off. With her extensive experience in crafting, she was able to superglue the insulators so that the breaks were virtually undetectable.

With the repairs to the cable and the insulators finished, I proceeded to clean all the joints and replace corroded hardware where needed. I then placed the H6V back on its mount.

Later that evening AC3P went on 40 meter CW and sent out a CQ. A French station returned a call and reported a 559 RST. Other bands were checked and the trans-match was able to handle 160 through 6 meters with no problems.

With that the antenna maintenance is complete. Now to keep our fingers crossed that there are no ice storms to challenge the AC3F/AC3P antenna farm through the coming winter.

From T-MARC

October 2013

Applications in Process:

KB3AVZ - Received Application for Coordination for 2 meter pair in Oakland,Md. Sent Notice of Proposed Coordination to neighboring coordination groups. Sent Construction Coordination for 146.7000-. Received notice that repeater is in operation. Sent Final Coordination

KA4DCS - Received request for change of frequency to un-published UHF repeater in Washington, D.C. Sent Notice of Proposed Coordination for UHF pair to neighboring coordination groups.

Sussex ARA - Received application for move of 145.2500 from Bethany Beach to Selbyville, Delaware. Sent Notice of Proposed Coordination to neighboring coordination groups.

AE4ML - Received notice that 442.5750+ is operational at Madison, Va. Sent Final Coordination

E-STAR Reagan - Received Application for Coordination for narrowband VHF pair in Washington, D.C. Sent Notice of Proposed Coordination to co-channel and adjacent channel systems in TMARC area and also to neighboring coordination groups. Initial proposed pair withdrawn.

K3OCM - Received Application for Coordination for narrowband UHF pair in Mechanicsville, Md. Sent Notice of Proposed Coordination to neighboring coordination groups.

Network Engineers Repeater Assoc. - Received applications for link at Fork Mtn., Va. and Front Royal, Va. Sent coordinations.

N3VSI - Received Application for Coordination for UHF pair in Edgewood, Md. Proposed system would be rather low profile. Recommendation was to utilize SNP pair of 447.8750-.

On Air Status Requests sent to:

51.9000-	K5JMP	Stafford, Va.
53.1300-	Alex RC	Alexandria, Va.
53.5700-	AMROS	New Castle, Del.
442.4000+	K7SOB	Moorefield, W.Va.
444.4250+	McHenry ARC	McHenry, Md.
444.6000+	Alex RC	Alexandria, Va.
444.7500+	K7SOB	Berkeley Springs, W.Va.
447.1750-	BEARS-DC	Washington, D.C.
900 Link	AMROS	Port Penn, Del.

Coordinations Withdrawn / Cancelled:

51.9000-	K5JMP	Stafford, Va.
UHF Link	Tri-County	White Oak, Md.
442.6500+	N3CDY	Whiteford, Md.
444.4250+	McHenry ARC	McHenry, Md.

Other:

Received 1 Notice of Proposed Coordination for a 900 pair from South East Repeater Association.

Received 1 Notice of Proposed Coordination for a 440 pair from the WesternPa. Repeater Council

T-MARC

The Mid-Atlantic Repeater Council

www.tmarc.org

Christmas and New Years Cancelled!

(Club events, that is)

Christmas this year falls on the the 4th Wednesday of the month, so the 2 meter Net is cancelled. Coincidentally New Year's Day is the 1st Wednesday in 2014 and the club is shifting the January Schedule.

The meeting will be on the 2nd and 4th Wednesdays while the 10 meter net will be on the 3rd Wednesday. The 2 meter net for January is cancelled.

The normal schedule returns in February.

A Good Showing

The official Field Day Results are in and the club made a respectable showing.

The final score for the Aero ARC was 3552 points. Aero placed 72 out of 310 nationally for the 3A Category. The club placed 3rd out of 27 in the Atlantic Division and 2nd out of 6 for the Maryland/DC Section.

Congratulations and thanks to all who help make FD 2013 a successful endeavor.

"The Night Before Christmas", Ham Radio-style by Robert J. Long

'Twas the night before Christmas, when all through the town,
The snowstorm was raging, the phone lines were down;
The wind it did howl, the tree limbs did crack,
I hope that St. Nick isn't forced to turn back.
The wife making cookies, the kids making noise,
While away in the shack, by my rig I was poised.
The finals were glowing, the mike gain was set,
I was chasing DX to see what I could get.
The bands were all empty, the frequencies clear,
Except one lone station that sounded quite near.
He was calling CQ and my interest did pique,
When he ended transmission with the words,
"Old St. Nick".
I answered back quickly, I used great dispatch,
If this were St. Nicholas, good God, what a catch!
We exchanged information, it was really quite graphic,
Then he came back and said,
"I've emergency traffic!"
His reindeer were tired, his elves in a grump,
If he didn't land soon, then his sleigh he would dump.
I thought very carefully, I thought very hard,
Then I gave him directions to my snow covered yard.
As he flew past my window, his hair like a mane,
He reined in his chargers and called them by name:
"Whoa, Anode! Whoa, Cathode! Whoa, Zener! Whoa, Diode!
Stop, Heater! Stop, Grid leak! Stop, Bias! Stop, Triode!
You're flying too low! you're flying too fast!
Look out, you dumb reindeer, his antenna mast!"
So into the backyard the reindeer did drop,
St. Nick, the elves, and the sleigh went kerplunk!
Then at the back door, I heard this loud knocking,
"Open up in there, or I won't fill your stocking!"
As I turned off the light and was leaving the shack,
Into the house Saint Nicholas came from the back--
His two-meter rig held to his hip with a strap,
"Hams do it in the shack" on the front of his cap.
The sack that he carried made his aged brow furrow,
And he handed me a card that read,
"QSL Via Bureau".
His clothes were all sooty, from his shoes to his vest;
I felt like a novice taking his test.
His fingers were calloused and from what I could tell,
This came from a straight key that I'll bet he used well.
I offered him coffee, I offered him smokes,
I tried easing the tension by telling ham jokes.

Then he nodded his head and raised up his thumb,
He smiled like an Elmer, did I ever feel dumb.
He grabbed up his sack and went straight for the tree,
And placed in it a large present for me.
When he finished his work, he stood up, took a bow,
Then out the back door to his team he did plow.
But I heard him exclaim as he flew o'er the land,
"Beware the FCC, friend, we were both out of band!"

Merry Christmas from my house to yours!

Rockets over Mt Essex

On November 19th, a Minotaur booster carrying 23 satellites was launched from Wallops Island, Va. The exhaust plume was visible up and down the Eastern Seaboard.

Joe WB3FMT and Frank AC3P were observing the launch from both the Middlesex and Middle River Mt. Essex Observing Stations while coordinating on the 147.24 MHz repeater.

Joe captured a video of the spacecraft en-route to orbit. Here is a frame from the video.



Arrow points to Minotaur plume

Ed Note:

Aboard the Minotaur was the first High School CubeSat, TJ3Sat. This satellite operated AFSK crossband. Uplink: 145.98 MHz. Downlink: 437.32 MHz. 1200 bps AFSK.

Complete information on the bird can be found at <http://www.tjhsst.edu/students/activities/tj3sat/>.

From the Skies over Mt. Essex

SKY Events for December 2013

Dec 1st - 17th – Comet C/2012 S1 ISON visible in the dawn sky. On 12/3 the comet rises at 05:59 EST Sunrise is 07:09 EST. Saturn is 1.3° N of the Moon.

Dec 2nd - New Moon.

Dec 4th – Earliest end of evening twilight.

Dec 6th – Venus at greatest brilliancy Dusk Sky -4.9 mag.

Dec 7th – Earliest sunset

Dec. 9th - First Quarter Moon

Dec 13th – Geminid Meteor shower, look SSE after Moon set. Predictions for a Fair shower up to 100 meteors per hour.

Dec 17th - Full Moon “[Eccentric Moon](#)” for the Shawnee American Indian tribe and the “[Christmas Moon](#)” Traditional Full Moon Names, smallest Full Moon of 2013. 29.30'

Dec 21st – Shortest day of the year 9hrs 20mins also, the first day of Winter at 12:11am EST.

Dec 22th – Ursid Meteor shower, look N, the Little Dipper, Predictions up to 10 meteors per hour.

Dec. 25th - Last Quarter Moon. Merry Christmas

Dec 27th - Spica is 1.1° S of the Moon

Dec 28th – Saturn is 0.9° N of the Moon

Planet Lookout at mid-Month

Sunrise 07:19 EST and Sunset 16:16:44 EST

Mercury – Dawn sky Mag -0.7, size 4.9 arc sec. Illum. 98%

Venus - W Sky, Mag -4.9 Size 43.8 Arc sec. Illum. 18%

Mars – Dawn E . Mag +1.1, size 6.0 arc sec, Illum. 92%

Jupiter – Evening W . Mag -2.6, size 45.8 arc sec

Saturn - In dawn sky Mag +0.6size 15.5 arc sec.

Uranus – .Eastern sky at sunset. Mag+5.8 size 3.6 arc seconds.

Neptune - Western sky at sunset. Mag +7.9 size 2.5arc seconds.

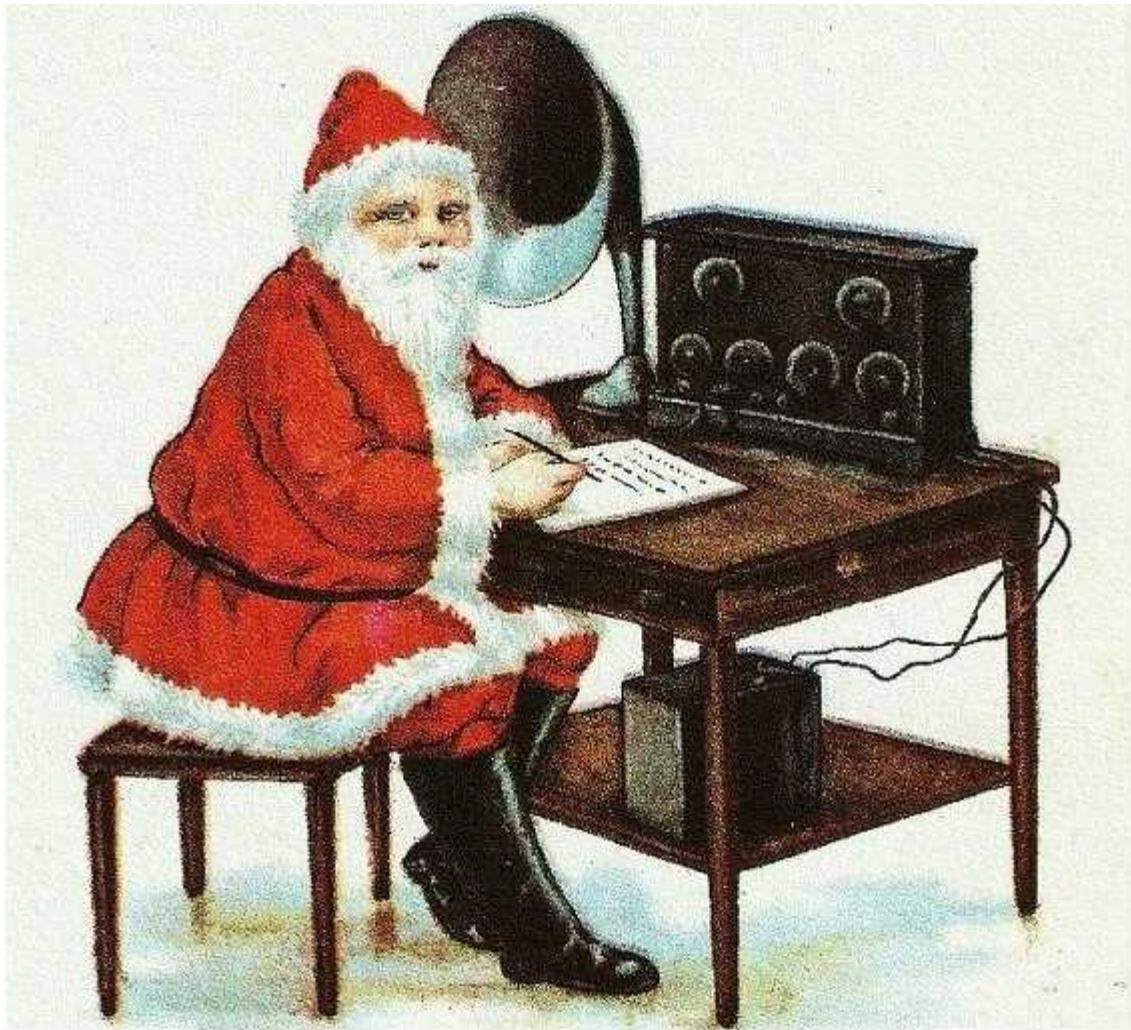
Hot and cold spots

Global warming, massive storms, ice age it only a matter of time. But time in this case is the problem and maybe the cure? What catastrophic storms will the sun produce? Well we really can't tell, you see we have only been studying the sun for about 400 years on a routine basis. In 1755 we started to record daily sunspot numbers. During that period we have seen a rise and fall in the daily number of sunspots, and we have grouped them into solar cycles of about 11 years. We are currently in solar cycle 24. With a sun that is between 5 and 6 billion years old 267 years of recording is a blip in it's life time. We can only make educated guesses on what it may do. The little ice age 1645 to 1715 there were almost no sunspots, therefore no spots cooler planet?

Weather keeping and forecasting, weather keeping started with the Babylonians in 900B.C., when they kept track of wind directions. But, modern weather keeping did not start until 1846 in Britain and 1849 in the U.S. This is when records were kept on a daily basis. The first modern media weather forecast by radio was made in 1921 by the University of Wisconsin. This gives us 165 years of record keeping for selected parts of the county. With the advent of satellites weather could be seen from above and day and night, ground based NEXRAD radar showers advancing weather within 150 miles of a location. If it's raining west of you, you are properly going to get wet, but will it snow next February 20, 2014...who knows?

Solar cycle, solar storm prediction as well as weather daily forecasting and future predictions is based on past performance. And as one commercial states that is no indication of future gains. Scientists try to make the best guestament, based on the information at the time and past trends or events. But keep in mind that the more data points we have the smoother the circle.

To paraphrase Mark Twain about the Mississippi River ... In the space of 176 years The Mississippi River has shorten itself 242 miles. Therefore in the Old Silurian period the Mississippi River was 1,300,000 miles long... 742 years from now the river will be 1 3/4 miles long. There is something fascinating about science. One gets such wholesome returns of conjectures out of such a trifling investment of facts.



December 2013

1	2	3	Meeting Coffman's 7:30 pm	4	5	6	ARRL 160 Meter Contest
ARRL 160 Meter Contest			28.445 MHz Net 8 pm				ARRL 10 Meter Contest
8	9	10	11	12	13	14	
ARRL 10 Meter Contest			Meeting Coffman's 7:30 pm				
15	16	17	18	19	20	21	
22	23	24	Merry Christmas 	25	26	27	28
29	30	31	ARRL Straight Key Night AERO Club Contest 7 pm				