Tunnel of Blooms

The Aero Aerial

The Newsletter of the Aero Amateur Radio Club
Middle River, MD
Volume 15, Issue 4
April 2019

Editor Georgeann Vleck KB3PGN

About the Aero Amateur Radio Club

Meetings

The Aero Amateur Radio Club meets at 7:30 pm on the first and third Wednesdays of the month at Essex SkyPark, 1401 Diffendall Road, Essex. Meetings begin at 7:30 p.m. local time. Meetings are canceled if Baltimore County Public Schools are closed or dismiss early.

Repeaters

W3PGA **2 M :** INPUT : 147.84 MHz, OUTPUT : 147.24 MHz, PL 123.0
W3PGA **70 Cm:** INPUT : 444.575 MHz, OUTPUT : 449.575 MHz, PL123.0
W3JEH **1.25 M:** INPUT : 222.24 MHz, OUTPUT : 223.84 MHz

Club Nets

Second Wednesday Net – 10 Meters (28.445 MHz) @ 8 p.m. Local Time
Fourth Wednesday Net – 2 Meters (147.24 MHz Repeater) @ 8 p.m. Local Time
Fifth Wednesday Net – 70 Centimeters (449.575 MHz Repeater) @ 8 p.m. Local Time

Radio License Exams

The Aero Amateur Radio Club sponsors Amateur Radio License Exams with the ARRL VEC. Examination sessions are throughout the year. Walk-ins are welcome; arrive no later than 30 minutes after start time. $15 charge.

2019 Examination Schedule

Time:		1:15 pm	12 noon
Dates:		Sunday, May 5	Saturday, June 22
Where:		White Marsh Library	Essex SkyPark, FBO Bldg.

White Marsh Library, 8133 Sandpiper Circle, White Marsh, MD
Contact: Patricia Stone AC3F, email: ac3f@juno.com, landline: 410-687-7209

LOCAL AREA NETS

Day	Time	Freq. (MHz)	Net Name
Daily	9 – 10 am	145.330	Oriole Net
Daily	6 pm	3.820	Maryland Emergency Phone Net
Daily	6:30 – 7 pm	145.330 no PL	Balto. Traffic Net (b/u 146.670 PL 107.2)
Daily	7 pm & 10 pm	3.643	MD/DC/DE Traffic Net
2nd Tue	7:30 pm	146.670	Baltimore County RACES Net
2nd Wed	8 pm	28.445	Aero ARC Net
4th Wed	8 pm	147.240	Aero ARC Net
5th Wed	8 pm	449.575	Aero ARC Net
Fridays	7:30 pm	145.330	Back in the Day Net
When activated by NOAA		147.030	SkyWarn (primary)

From the President's Desk

Upcoming Aero Club Events

All,
Welcome to the first part week of Spring. With over 3" of rain and 40+ mph winds, hope everyone is safe and has found their trash can lids?

Wed **4/3** After-Action Report about FD 2018 and planning for FD19. Special Time 19:00 at the FBO. Everyone is invited.

Sat **5/4** The Essex Skypark holds its annual Fly-in Pancake Breakfast, held in the community hanger. The event runs from 8:30 till about noon. The cost is free but donations are accepted. This is a great event for the Aero club to show up and support. Parking is free.

Sun **6/16** the Baltimore Amateur Radio Club is having a Hamfest at the Arcadia Carnival Ground in Upperco, MD. It runs from 8:00 am to 2:00 pm and costs $5.

Fri **6/21 thru Sun 6/23** ARRL Field Day 2019 event, This year as in the past we will be set up in the community hanger for the weekend. Setup up is Friday the 21, Sat the 22, we do VE testing in the FBO, and remember this is the last of the old General test. The new General test starts on 7/1/19. FD19 starts at 14:00 local and runs for 24 hrs. Need help for setup, operating, and breakdown. On any support you can provide.

Sat **9/14** The Essex Skypark Wings and Wheels Fly-in. This event has airplanes and vintage cars on display. There are aircraft rides, for a fee, and food for sale. The Aero Club will also set up a communications display, running a radio, and information on Skywarn. We also need Aero member support for this event to staff and setup and breakdown. Cost is $5.00 a car load.

Any questions please give me a call.

Joe Miko 443-956-0197

NET REPORTS

3-13-19: 28.445 MHz, 20:00 to 20:13 local

W3PGA Pat AC3F NCS, Jim KC3FBL Parkville

3-27-19: 147.240 MHz, 20:00 to 21:03 local

W3PGA NCS Joe Essex, KB3JVP Ken Middle River, KC3IPK Dave Baltimore City, WA3RQD Coz Lutherville, AC3F Pat Middle River, KB3TBH George White Marsh, KC3FBM Franklin Parkville, KC3FBL Jim Parkville, KC3CMS Dan Baltimore Guest, WA3QLY Thomas Joppatown, K3TEL Arnold Towson , K3ANG Greg Lutherville Guest

10 members and 2 guests on the net

VE CORNER

by Pat Stone, AC3F

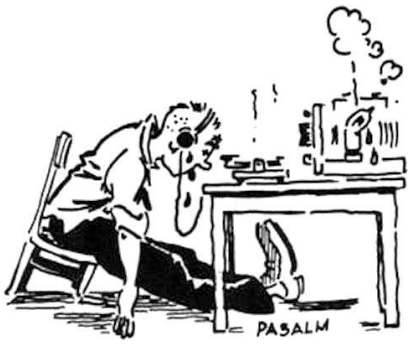
The AERO VE Team held its second session of 2019 on March 10th. We served 7 applicants. Congratulations to new Extra: Ray Augustyniak N3RES, new General Mike Ford KC3MYZ and new Techs: Connie Thomas KC2NCW, Lester Thomas KC3NCX, Jichul Kim KC3NCY and Paul Joyce KC3NCZ.

Many thanks to VE's: WB3FMT, KC3FBM, AC0LP, KC3FBL, AB3QK, KD3TP and our newest VE AC3DX for assisting me with our second session of 2019. We couldn't do this without you. Hope to see you in May. It's always it is a joy working with you.

Our next test session of will be held on Sunday, May 5th at 1:15PM in the White Marsh Library. Hope to see you then.

AERO Brass Pounders Team

by Pat Stone (AC3F)



Since mid- August 2018 AERO has sponsored a CW training net designed to help its members learn Morse code. For the past 7 months a dedicated group of operators have faithfully checked into our tri-weekly nets to challenge themselves in the art of CW.

I am proud to report that Frank KC3FBM, Ken KB3JVP, Jim KC3FBL, Dave KC3IPK and Rob KC3ROB have successfully mastered the all of the required CW characters and are now working on building their speed to be ready for Field Day 2019.

Congratulations to Rob, Dave and Jim who have bravely put their brass pounding skills to work on the air waves. Great job everyone!

If anyone would like to join our team let me know. Everyone is welcome even if you don't know a dit from a dah.

For New Hams

Spring 2019 Operating Class - Free - Registration Requested -

Amateur Radio Operating Course -
National Electronics Museum - 1745 W Nursery Rd, Linthicum Heights, MD 21090
Starting Thursday, April 18, 2019 at 6:30 PM EDT, lasting 10 weeks

Wide-range of guest speakers
Learn more about all aspects of ham radio - partial list includes: DXing, Contesting, Digital modes, working through the Satellites, VHF/UHF/Microwave "weak signal" operating and roving, selecting a logging program, ham radio operating awards, ham radio organizations (clubs, special interest groups, etc.), QSLing, propagation, EMComms and traffic/message handling, ham TV, etc.

Updated information will be posted to http://k3nem.org/ when available. The class is free of charge, registration is requested, via email to: roland.anders@comcast.net

MA3K8GH [sic]
Source: ARRL Maryland-DC Section, Section Manager: Martin J Pittinger, KB3MXMkb3mxm@arrl.org

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UPCOMING HAMFESTS and EVENTS

Saturday, April 27, 2019: Delaware State Convention (Delmarva Radio & Electronics EXPO)
Location: Cheer Community Center, 20520 Sand Hill Road, Georgetown, DE 19947
Sponsor: Sussex Amateur Radio Association
Website: http://radioelectronicsexpo.com
Talk-In: 147.090+ (PL 156.7), WS3ARA Millsboro, DE - Sussex ARA
Contact: Herbert Quick, KF3BT, Phone: 302-629-4949, Email: herb@hamiltongraphics.com

Saturday, April 27, 2019, 8 am to 1 pm: York Hamfest
Location: Elicker's Grove Park, 511 Roth Church Road, Spring Grove, PA 17362
Sponsor: York Hamfest Foundation
Website: http://www.yorkhamfest.org
Talk-In: 147.330+ (PL 123.0), W3MUM PennMar, PA
Contact: Duane Sterner, KB3QLQ, Phone: 717-332-1385, Email: duane.sterner@yahoo.com
GENERAL ADMISSION at 8 am, $5 per person, Children Under 16 FREE when accompanied by an adult, Unlicensed Spouses FREE
RAIN OR SHINE

FREE VE TEST – Registration starts at 10:30 AM – Testing at 11:00 AM (Admission fees paid can be refunded upon registration for testing, full ticket and stub are required)
FOOD VENDOR will be Available
CARD CHECKING for DXCC/WAS/VUCC/WAC
DOOR PRIZES (Don't have to be present to win grand prize)
FLUSH TYPE BATHROOMS ARE BACK

You may view upcoming Hamfests at: http://www.arrl.org/hamfests-and-conventions-calendar

President's Report: Fixing the Aero 2-Meter Repeater

by Joe Miko, WB3FMT

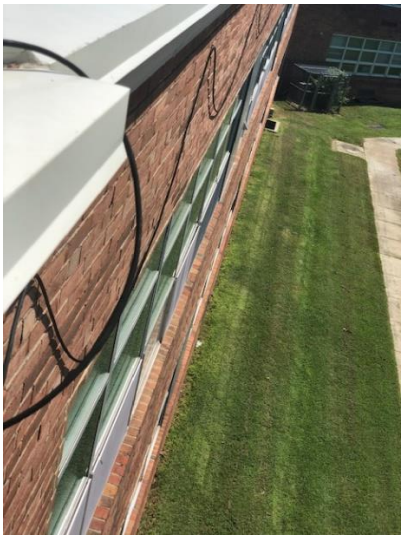
As you all know, we lost the use of our 2 meter repeater in the middle of August last year. For some unknown reason it was transmitting noise for about 9 seconds, stop, and then start again. We were unable to key up the repeater, we only got the yoyo up and down. We were able to shut down the repeater. I was able make it to the roof of Kenwood High School on August 23rd and found that the roof of the school looked like the picture of an oil refinery, conduits and pipes running all over the roof. You may recall from the news a number of Baltimore County schools did not have air conditioning. Well, Kenwood was one of the three schools in Essex.

I found out that, during the installation of water chillers and air handler, about 30 feet of our cable from the receive site to the transmit site was run over, dragged and otherwise mangled. What followed was an old-timer brain storm session about what was there and what could be done. The cable run from the elevator penthouse to the gym wall was about 600 feet. It had to be determined where the damaged parts were. We determined that all the damage was limited to the 30 feet running to the back wall near the athletic field.

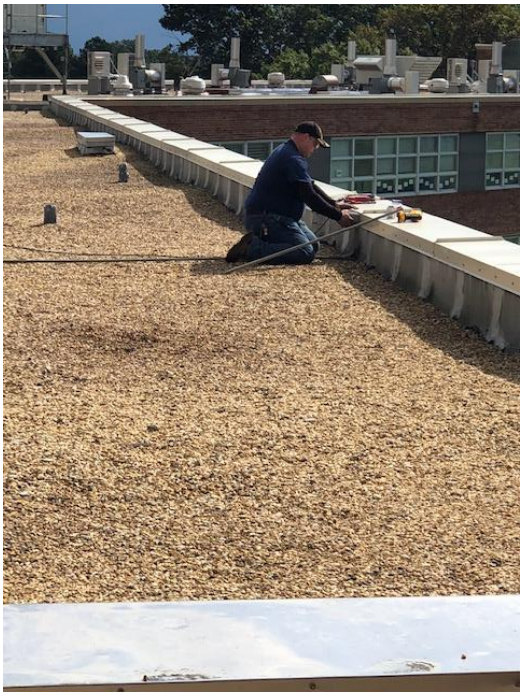
On the morning of Saturday, October 13th, Dave KC3IPK, my son Mike, and I made it to the roof and replaced the damaged section. We also ran a new section of conduit and redressed cables running into the cabinets. The following are pictures of the repeaters antennas and work group.

AERO ARC Repeater: Location Kenwood High School, Essex, MD

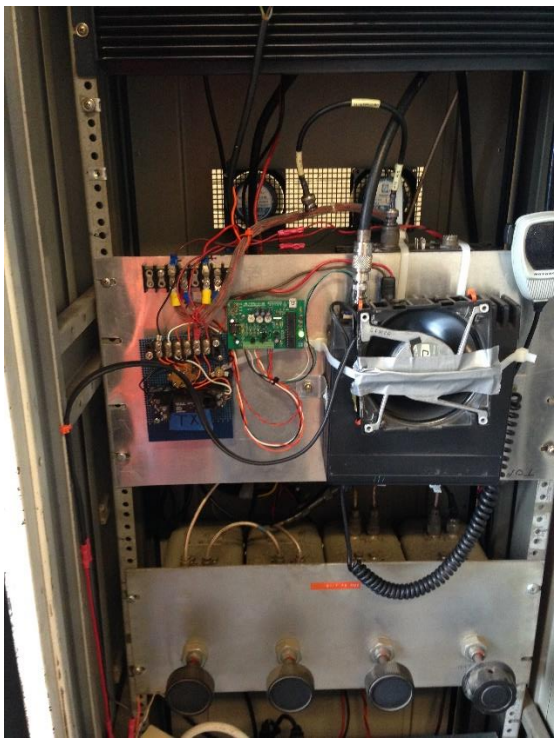
Kenwood HS Repeater located in the elevator penthouse building.



Newly installed AC
On 8/15/18 we lost the receive site due to a damaged cable. (Damaged during AC installation) The cable ran from the elevator penthouse across the roof to the side of the building, and then strung about 500+ feet to the receiving antenna, mounted on a tower at the gym.



On Saturday 10/13/18 a work party was able to replace the damaged cable, installed a conduit for the new cable and removed the old cable. One hundred plus feet of bad cable was replaced. New junction boxes were installed at the parapet and by the front door. Wire connections were soldered and shrink rapped. The power connector was replaced on the repeater control board below.

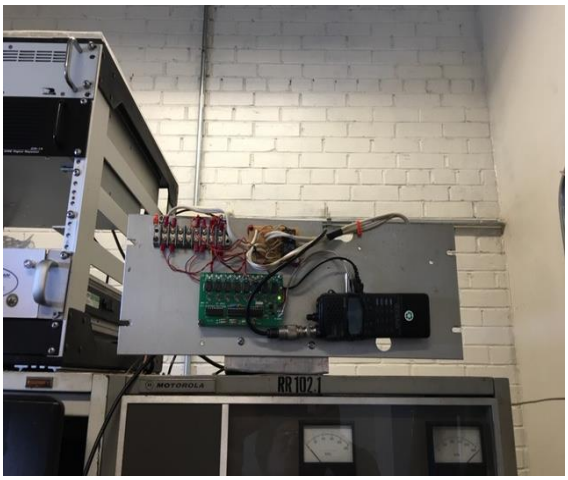


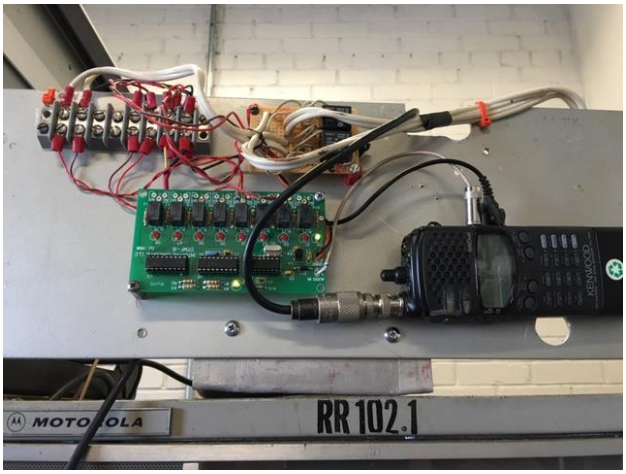
Inside the cabinet of the 147.24 repeater (mid-1970 vintage). Looking back to the transmitter site from the High School GYM) about 500 feet. This is a split site repeater, having separate transmitting and receiving antennas. This repeater has been at Kenwood High School since 1976. The 2 meter repeater run at 35 watts with no amp.

Receiving antenna at the gym.

Receive site receiver and notch filter.

Repeater Power Shut Down/ Power Up Control Link unit.

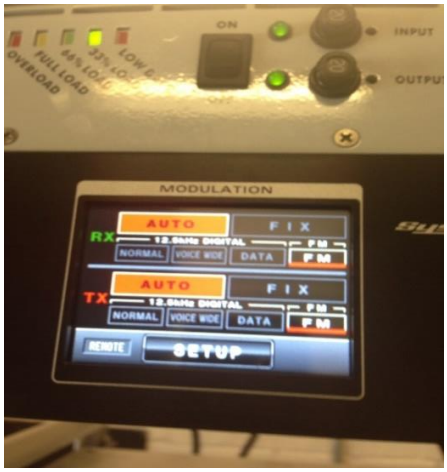




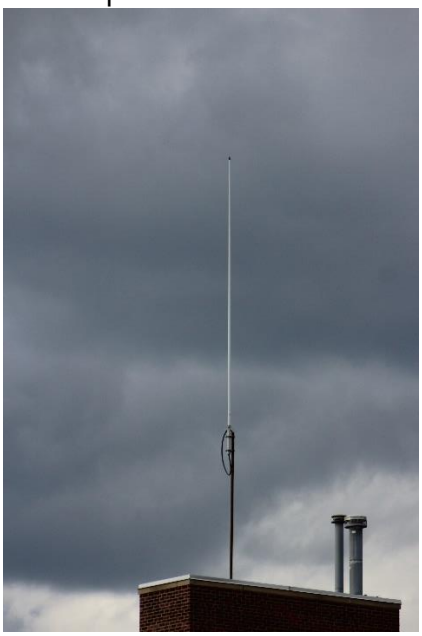
Repeater Power Control unit w/receiver HT.

Control cable to AC power for both repeaters. Outside antenna for the control frequency. The control link allows a control operator to shut down the repeater(s) in the event of a problem.

The Aero ARC's newest repeater is Yaesu DR-1X Fusion Repeater. This repeater was installed in November 2014. This repeater replaced the existing 440 repeater that was installed in 1980. This is the club's first digital repeater, it can run either analog FM or Digital C4FM (Fusion). The transmitter will transmit either analog or digital depending on the input signal. This repeater is also so a dual band repeater with the capability of running either 2 meters (144 MHz) or 70 centimeters (420 MHz). Unlike the 24 machine this is a single site repeater. The 70 cm repeater is running 5 watts to an amp with 100 watts output at the antenna.



Black box is the Yaesu DX-1 repeater. The gray box above the repeater is the UPS system for both repeaters.



This is the club's 440 transmit and receive antenna atop the elevator penthouse. Google map image of Kenwood HS. The penthouse in the middle of the school between the auditorium and football field. The receive site is the lower left at the gym.
Jmm 10/21/18

From the Skies over Mt. Essex

SKY Events for April 2019

Apr 1st - Double Shadow Transit on Jupiter 7:45 EDT.

Apr 5th – New Moon

Apr 10th – Venus 0.3° S of Neptune at 00:00 EDT

Apr 11th – Mercury at greatest elongation W 28° 16:00 EDT

Apr 12th – First Quarter Moon, Space shuttle Columbia first STS-1 launched in 1981.

Apr 13th - Moon in Beehive (M44) 17:00 EDT

Apr 19th – Full "Pink" Moon, for Traditional and the "Moon when Geese Return in scattered formation" for the Dakota Sioux American Indian. Good Friday

Apr 22rd - Lyrid meteor peak Approx. 18/hr. at 20:00 EDT

Apr 25th – Saturn is 0.4° N of the Moon 10:00 EDT, Hubble Space Telescope was deployed in 1990.

Apr 26th – Last Quarter Moon

Planet Lookout at mid-Month

Sunrise 06:28 EDT and Sunset 19:38 EDT

Mercury Morning Rise 05:31 EDT, Sets 17:19 EDT**;** Mag -0.3 and 7.3 arc seconds.

Venus Morning Rise 05:16 EDT, Sets 17:02 EDT, Mag -3.9, Arc Sec 12.4

Mars Evening Rises 08:44 EDT Sets 23:18 EDT, Mag 1.5 and 4.4 arc seconds wide.

Jupiter Midnight, rises 00:15 EDT, Sets 09:53 EDT; Mag-2.3 size 41.6 arc seconds.

Saturn Morning. Rises 2:03 EDT Sets 11:46 EDT; Mag 0.5 size 16.3 seconds.

Uranus Evening **Rises** 6:50 EDT Sets 22:00 EDT; Mag 5.9 size 3.3 arc seconds. **Too close to the Sun to be seen.**

Neptune Morning Rises 05:00 EDT Sets 16:24 EDT; Mag +7.9 size 2.4 arc seconds

What's In a Comet Name?

Bad Astronomy by Phil Plait Nov 27, 2013

First off, comets are hard to pin down as a category. They are icy objects that tend to have a lot of rock, gravel, and dust embedded in them. Some are really active when they get near the Sun, and some don't. Some asteroids look an awful lot like comets, and vice-versa. Some orbit the Sun on short orbits, some on very long orbits, and some drop down into the inner solar system, scream back out, and never return.

But we have to name them! So there's a system.

First comes a letter. **P** is used for a comet on a known, **periodic** orbit. **C** is for comets on paths that are **open**, that is, higher than the Sun's escape velocity. Those usually only make a single pass before heading out into interstellar space. **D** is used (rarely) if a comet breaks up, **disintegrates**, or is lost after the initial discovery. Finally, **X** is used for comets where **no orbit is known**; usually ones seen long ago before the mathematics of orbital mechanics was invented.

Next comes the year of discovery. Simple enough. Although for comets on periodic orbits where the discovery date is unknown (historic comets, usually), the last apparition (return of the comet) can be used for the date.

After that is a letter/number pair. The letter represents the part of the year the comet was discovered, divided up by half-months (or, more accurately, from the 1st to the 15th, then the 16th to the end of the month). **A** is the first half of January, **B** the second half, **C** the first half of February, and so on. **I is not used**, (since it can be confused with the number **1**), and this means Z never will either (think it through…). The number represents the order in which the comet was discovered in that period. So the fourth comet discovered in the first half of January would be A4.

Finally, in parentheses, there's the last name of the discoverer (up to three can be listed, separated by hyphens). Many comets are now found in automated surveys, so the observatory or survey name is used there.

So C/2012 S1 (ISON) is a comet that made one pass before heading out forever, discovered in 2012 in the second half of September (on the 21st, to be exact), the first such comet found in that period, and was made at the Russian International Scientific Optical Network (or ISON) observatory.