



*ISS transmission. 80th birthday of Yuri Gagarin
(courtesy Frank Stone)*

The Aero Aerial

The Newsletter of the Aero Amateur Radio Club
Middle River, MD
Volume 12, Issue 3
March 2015

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Editor Pro Tem Georgeann Vleck KB3PGN

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Website: <http://home.comcast.net/~frank-stone/Aero%20ARC/aero.htm>

Facebook: <https://www.facebook.com/pages/Aero-Amateur-Radio-Club/719248141439348>

About the Aero Amateur Radio Club

Meetings

The Aero Amateur Radio Club meets on the first and third Wednesdays of the month at Essex SkyPark, 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
W3PGA **70 Cm:** INPUT : 444.575 MHz, OUTPUT : 449.575 MHz
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.

2015 Examination Schedule

Where: White Marsh Branch
 Baltimore County Public Library
 8133 Sandpiper Circle, White Marsh, Md. 21236

Time: 1 p.m.

Dates: March 14, May 23, August 22, October 24

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	146.670	Baltimore Traffic Net
Daily	7 pm & 10 pm	3.643	MD/DC/DE Traffic Net
2 nd Tue	7:30 pm	146.670	Baltimore County RACES 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
When activated by NOAA		147.030	SkyWarn (primary)

A Note from the President

Because of the weather this winter, we have had to be flexible about our meeting and net nights. The following is the operating plan devised to date. We'll see if it still needs to be tweaked.

Plan A – No Changes, meeting as scheduled;

Plan B – Meeting or Activity canceled: when Baltimore County Schools are closed; or weather conditions or Airport access road/parking lot condition are poor. Net on 147.240 repeater at 20:00 local;

Plan C – Due to weather conditions no meeting this Wednesday, instead a 2 meter net at 20:00, but there will be a meeting the following Wednesday (which would normally be a net night).

Confused? Call me at 443-956-0197.

Joe Miko, Club President

AERO Club 2015 Contest Results 25 Days & 25 Nights of Fun *submitted by Bob ND3D*

I am happy to report that Chuck KB3EK is the winner of this year's club operating contest! Chuck utilized PSK31 for all of his contest work! His most productive band was 10M which yielded 60% of his total contacts. He also made 3 point contacts on 15, 20 and 40, resulting in a total score of 250 points.

Bob ND3D made a good showing as a guest operator during the CQ 160M CW contest, making 800 one-tenth point contacts for a total score of 80 AERO contest points.

Following club custom, Chuck will facilitate next year's contest!

NET REPORTS

1-28-15: 2 meter net, 20:00 to 20:50 local.

W3PGA (NCS) Joe Essex, KCV3ANJ Charles Dundalk, N3VBJ Jerry Dundalk, KB3JVP Ken Middle River, AC3P Frank Middle River, AC3F Pat Middle River, W3JEH Ron Perry Hall, KB3VAE Richard Middle River

Jerry N3VBJ was via a satellite link from Jupiter Fla, temp 72° at net time. Weather at the NCS was listed as 32°F with 2 mph winds from the W.

2/11/15: 28.445 MHz, 20:00 to 20:34 local.

W3PGA NCS Joe Essex, AC3P Frank Middle River, AC3F Pat Middle River, W3JEH Ron Perry Hall, W3VRD Phil Essex, KA3SNY Dave Essex, KB3PGN Georgeann Essex

SNOW NET 2-18-15: 147.240, 20:00 to 20:45 local.

Baltimore County Schools canceled after-school activities for 2/18/15 due to the expected show showers, wind and low temperatures. The Club meeting scheduled for 2/18/15 was canceled, and a 2 meter net was held.

W3PGA NCS Joe Essex, W3JEH Ron Perry Hall, KB3VAE Richard Middle River, N3VBJ Jerry Dundalk, KA3SNY Dave Essex, W3JMI John Baltimore, W3VRD Phil Essex, AC3P Frank Middle River, KB3PGN Georgeann Essex

Weather from the NCS was listed as 22 F with 12 mph winds from the NW.

It was unanimously (or almost so) that The Blimp is to blame for everything that doesn't go according to plan.

2/25/15: 147.240 MHz, 20:00 to 20:40 local.

W3PGA NCS Joe Essex, AC3P Frank Middle River, KB3PGN Georgeann Essex, KC3ANJ Charles Dundalk, KA3SNY Dave Essex, KC3APF Kelly Dundalk, AC3F Pat Middle River

The parking lot and porch at the Skypark were sheets of ice, so the planned make-up meeting was canceled and a net substituted.

Margaret NOCALL/2 is recuperating nicely from a hip replacement. Now we can't decide whether the Blimp is to blame or the Coffman Curse for our snowed-out meetings. Charles & Kelly are busy with ham projects.

STATION ACTIVITIES

By Frank Stone, AC3P

N3VBJ is portable/4 from Jupiter, Fla. **AC3P** is pinging the International Space Station. **ND3D** may be getting another lamp. **N3VBJ** is portable/6 from Pomona, Ca. Congrats to **KA3SNY** on retiring to the ham shack. **WB3FMT** is surveilling the surveillors. Oh Yeah! **N3VBJ** is portable/4 from Jupiter, Fl. Speedy recovery to **KB3PGN**, **W3JDF** and Margaret Holy. And **N3VBJ** is portable/6 from Pomona, Ca. **KC3ANJ** is exploring amateur television. Oops! **N3VBJ** is portable from another warm weather location.

DUES ARE DUE

The yearly dues per individual member are \$24.00, or \$24.00 plus \$2.00 per each additional member for the family membership. If you have not paid for 2014 you owe that amount plus the \$24 for 2015. Any member not yet paid up can see Warren at the next regularly scheduled meeting (weather permitting). If you have any question you can contact Warren at W3JDF@arrl.com .

Upcoming Second Wednesday Presentations – Revised

These presentations will be given at the Essex SkyPark FBO building following a short business meeting. The schedule has been revised due to the weather cancelations.

Date	Topic	Presenter
3/4	Repeater How-Why & New	Phil
3/18	A Skywarn Presentation	Jerry
4/15	Aero Earth Moon Earth Prep/Astronomy	Joe
5/20	Field Day Best Operating Practices	Bob V
6/17	ISS Sighting and Contacting	Frank
7/15	Contest Logging w/N1MM	Bob V

March 4, 2015 Presentation -- Radio Repeaters by Phil Hock, W3VRD

The presentation is about what a repeater consists of, different types and ham bands, and our club repeaters.

March 18, 2015 Presentation – SKYWARN by Jerry Cimildora N3VBJ

How Does Skywarn Work? How Does The Skywarn Amateur Radio Net Work?

For the full description see last month's Aerial.

Jerry N3VBJ Northeastern Coordinator for SKYWARN. For further information contact him at n3vbj1@gmail.com

April 15, 2015 Presentation - Earth Moon Earth (EME) – Joe Miko

A power point presentation providing information on: the processes and preparations required to bounce a signal off of the Moon; basic astronomy information required to find the optimum time to shoot the Moon; Earth geography - where and when the Moon is and what Earth cities are covered; the transmitting antenna array designed and constructed by Phil W3VRD; basic radio information as to transmitter requirements and

the need for scheduling and pre-planning.

The EME is tailored to Aero Club requirements and expected weather conditions. EME data was utilized from Amateur EA6VA coupled with my Astronomy background and the assumptions from the AERO club, which together have produced a list of possible club EME dates for 2015. With the basic concepts in place the Astronomy parts can be updated on a year by year basis.

If you have any questions please call Joe Miko at 443-956-0197.

Presenters who wish to submit a description of their talk may email it to Georgeann at KB3PGN@reagan.com for inclusion in the Aerial.

SKYWARN CLASS

Thursday, April 2, 2015, SKYWARN BASIC TRAINING

6:30 – 9:00 pm

Robinson Nature Center, 6692 Cedar Lane, Columbia, MD 21044

You will be trained by NWS personal to recognize features associated with rapidly developing, mature, and dissipating thunderstorms which cause hazardous weather such as lightning, flooding, hail, tornadoes and downbursts. We will also review the basic organization of the National Weather Service and our Watch/Warning/Advisory system.

At the end of the course, you will be assigned a SKYWARN spotter number which we will maintain in our official database. You will also be directed how to report this vital weather information. For those who have attended in the past but want a refresher, please feel free to attend.

Sponsored by the Howard County Office of Emergency Management.

To sign up, visit skywarnhoward.eventbrite.com

For more classes, check weather.gov/lwx/skywarn



VE CORNER

by Pat Stone, AC3F

Aero ARC VE 2015 Test Schedule

Where: White Marsh Library, 8133 Sandpiper Circle, White Marsh Md. 21236

Time: 1 P.M.

Dates: March 14, May 23, August 22, October 24

Contact: Patricia Stone, AC3F, phone: 410-687-7209, email: ac3f@juno.com

Neither snow nor sleet nor freezing rain prevented the Aero VE Team from conducting the first test session of 2015 on the 24th day of January. Luckily it was because the wintery storm arrived earlier than expected and left the same way leaving the roads to the White Marsh Library in fairly good shape.

Seven applicants were expected for testing, however a total of eight presented themselves. There were five new Technicians, one new General and one upgrade to Extra. Congratulations to Techs John Furchert **KC3EGO**, Daniel Roehm **KC3EGP**, Brian Rivera **KC3EGQ**, Christopher Fitzgerald **KC3EGR**, Gary Becker **KC3EGS**, and Extra Michael Cahill **KB3EMY**. Michael Williams who passed his Tech and General at this session also passed his Extra at a Laurel VEC session the following Monday and received the call **AB3WN**.

Thanks to VE's WB3FMT, AC3P, AB3QK, and special thanks to returning VE Doug Wittich, N3VEJ.

Doug has informed us that he is forming a Laurel VEC group that will be testing in Forest Hill, Harford County on even months during the year.

EXTRA LICENSE CLASS BY CARA

Tuesday, March 10, 2015 through June 9, 2015

Calvert County Services Bldg, 150 Main St, Prince Frederick, MD 20678

For a full description, see last month's Aerial.

WEBSITE for UPCOMING LICENSE CLASSES:

<http://www.arrl.org/find-an-amateur-radio-license-class> you will find information on clubs or other groups who are holding a licensing class.

UPCOMING HAMFESTS

Monday, March 16, 2015, INDOOR TAILGATING EXPO

The Frederick Amateur Radio Club will be sponsoring an "Indoor Tailgating Expo" on, Monday, March 16, 6-9 pm (setup at 5 pm), at Independent Hose Company, 310 Baughmans Ln., Frederick 21701.

VE testing, MESH demonstrations, etc., and 2 large tailgating tables will be available for \$20 for the pair. Admission is free.

Website: <http://www.frederickarc.org> Talk-In: 146.520 simplex

Contact: Jeff Fishman, KB3FIO, 905 Twin Oak Court, Frederick, MD 21701, 240-285-6596, ljfish1@comcast.net

Saturday May 2, 2015, Hagerstown Hamfest (Antietam Radio Association)

Washington County Agriculture Center, 7313 Sharpsburg Pike (Route 65 South), Boonsboro, MD 21713

<http://w3cwc.org/Menu/Hagerstown-Hamfest>

Talk-In: 147.090 (PL 100) + Repeater & 146.94 - backup

Contact: Brian Umbrel, W3PDW, 235 E. King St., Chambersburg, PA 17201, 717-264-6403, w3pdw@earthlink.net

Sunday, June 21, 2015: BARC Hamfest, Arcadia VFC, Upperco, MD.

Baltimore Amateur Radio Club Father's Day Hamfest will be held on Sunday, June 21st 2015 at the Arcadia Volunteer Fire Company Grounds. The address is 16020 Carnival Ave, Upperco, MD 21155. It is just a few miles north on Route 30 from the top of I-795. The show will be from 8 am until 12 noon and it will be a TAILGATE hamfest. The prices will be \$5 admission and \$10 per tailgate spot. More information will follow soon. Bill Dobson, N3WD

PAPERLESS LICENSES FCC

ARRL Bulletin 7 ARLB007

From ARRL Headquarters

Newington CT February 17, 2015

To all radio amateurs

SB QST ARL ARLB007

ARLB007 FCC "Paperless" Amateur Radio License Policy Now in Effect

Starting today, February 17, the FCC no longer routinely issues paper license documents to Amateur Radio applicants and licensees. The Commission maintains that the official Amateur Radio license authorization is the electronic record that exists in its Universal Licensing System (ULS), although the FCC had routinely continued to print and mail hard copy licenses until this week.

In mid-December, the FCC adopted final procedures to provide access to official electronic authorizations, as it had proposed in WT Docket 14-161 as part of its "process reform" initiatives. Under the new procedures,

licensees will access their current official authorization ("Active" status only) via the ULS License Manager. The FCC will continue to provide paper license documents to all licensees who notify the Commission that they prefer to receive one. Licensees will also be able to print out an official authorization - as well as an unofficial "reference copy" - from the ULS License Manager.

"We find this electronic process will improve efficiency by simplifying access to official authorizations in ULS, shortening the time period between grant of an application and access to the official authorization, and reducing regulatory costs," the FCC Wireless Telecommunications Bureau (WTB) said. According to the WTB, the new procedures will save at least \$304,000 a year, including staff expenses.

Source: MDC Section News

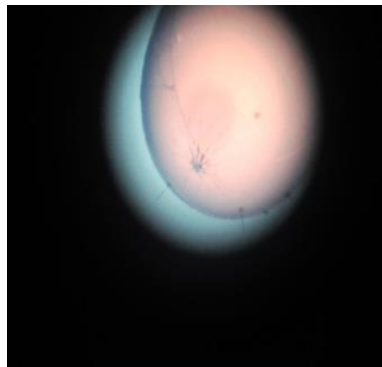
FEATURE ARTICLE

Middle River UFO Identified

by Frank Stone, AC3P



"UFO" from Essex photo by WB3FMT



Telescopic View

For the last couple of months the people of Eastern Baltimore County have observed a mysterious object hovering in the sky. The white torpedo-shaped structure does not move other than to change altitude. The strange visitor from who-knows-where could be seen from Essex, Dundalk, Parkville and even adjacent Harford County.

To make things even more puzzling, strange things were happening on the airwaves. Local two meter repeaters began to squawk unusual noises. VHF scanners were locking up.

What is this interloper? It's not a bird. It's not a plane. It's certainly not the guy with a red cape sporting an S.

Gradually reports have begun to come in.

Many Aero members reported on the new arrival. Joe WB3FMT said that the "UFO" seemed to be located near the state park. He added that the view in the telescope showed it loaded with VHF antennas. Ken NE3A said that the visitor was running spread spectrum in the 138 – 149 MHz range which was causing interference to two meter repeaters and locking up his scanner. Rich KA3VAE said that the "blimp" was not a transmitter but a receiver. He added that in order to calibrate the equipment a Civil Air Patrol aircraft is flying a pattern and

transmitting an amplitude-modulated carrier in that frequency range. Jerry N3VBJ noted that filing an interference complaint with the FCC would be a waste of time since it's a government project. Jerry added that when he was in Florida he saw these objects near the airport there too. Eric WA3TAD recounted his experiences with similar systems when he worked for Westinghouse. Georgeann KB3PGN did some research and found a URL from Raytheon Corporation which gives detailed information about the mystery.

http://www.raytheon.com/news/feature/10-things-about-jlens.html#.VL6h_LrwHpk.facebook

The visitor dominating the sky to the East is a part of an army radar project. It is an aerostatic device or tethered balloon called JLENS. But this is no ordinary balloon. The lighter-than-air craft is part of a new surveillance system to help defend against incoming hostile threats. Aboard the craft is sophisticated electronics which can track threats and send their locations to another JLENS several miles away which in turn locks on and targets the threat.

Using balloons for surveillance and fire control is not a new thing. Except for the modern electronics, it's really 19th and early 20th century technology. During the Civil War the Union Army Balloon Corps used aerostatic devices to observe troop movements and direct artillery fire from 1861 to 1863. They named their aircraft like naval vessels. One in particular was the USS Intrepid (sounds classier than JLENS). These observation posts also contained a dedicated air-to-ground communications line sending digital signals (American Morse Code). In fact the first anti-aircraft action was by a Confederate artillery unit in Virginia firing on a Union aerostatic device.



USS Intrepid 1861

During the First World War both the German army and the American Expeditionary Force employed observation balloons to observe the enemy and direct artillery. However this practice was quickly replaced by heavier-than-air machines.



German Observation Balloon

Even spread-spectrum is not new. The frequency-hopping concept was developed by 1940's movie actress, Hedy Lamarr, during World War Two for torpedo control, for which she was inducted to the Inventors Hall of Fame.



Hedy Lamarr

The reports of strange signals appearing on the 2 meter band call to mind incidents during the Cold War involving Russian over-the-horizon radar on the HF bands. This technology, affectionately called “The Russian Woodpecker”, would appear on 40 meters during the night and 20 meters during the day. The signal sounded like a woodpecker sending bursts at a specific rate and would move up and down the band. Some of the CW operators would set their keyers to the rate of the clicks and send a series of dots back on the same frequency. The effect was that the interlopers would move off frequency and out of the ham band. We were lucky the Russians didn't think they had incoming ICBMs.

<http://en.wikipedia.org/wiki/Duga-3>

To paraphrase what they say on television, “Do not try this on 2 meters.”



From the Skies over Mt. Essex

SKY Events for March 2015

Mar 4th – Venus is 0.1° N of Moon at 14:00 EST (19 UT), Uranus is 0.3° from Venus.

Mar 5th - Full Moon “**Chaste Moon**” for the English Medieval and the “**Fish Moon**” for the Colonial American. Smallest Full Moon in 2015.

Mar 8th Daylight Saving Time begins..ends on 11/1/15.

Mar 11th Mars is 0.3° N of Uranus.

Mar 13th - Last Quarter Moon

Mar 16th – Robert Goddard launches first liquid-fueled Rocket in 1926.

Mar 17th – Mercury 1.6° S of Neptune, **St Patrick's Day**

Mar 20th – New Moon, Total Solar Eclipse, North Atlantic, circling Greenland. Not visible in U.S.

Mar 20th Spring Equinox 18:45 EDT(22:45 UT)

Mar 21st – Uranus is 0.1° S of the Moon 08:00 EDT (11 UT), Mars is 1° of the Moon at 18:00 EDT (22 UT).

Mar 27th – First Quarter Moon

Planet Lookout at mid-Month

Sunrise 07:15 EDT and Sunset 19:15 EDT

Mercury Low in Dawn at sunrise, magnitude -0.1; 5.8 arc seconds

Venus High at Dusk magnitude -3.9 and 12.5 arc seconds.

Mars In the West at Dusk, magnitude +1.3 and 4.1 arc seconds wide.

Jupiter Visible all night, magnitude -2.5 size 43.7 arc seconds.

Saturn Morning sky. Magnitude +0.4 size 17.2 arc seconds.

Uranus In the West sets by 20:30 EDT. Magnitude +5.8 size 3.4 arc seconds.

Neptune Low in East at Dawn rises at 06:30 EDT. Magnitude +8.0 size 2.4 arc seconds.

The Firsts of March

Our third month of the year (March) has had many firsts.

Early Roman calendar: March 1st Rings in the New Year

The early Roman calendar designated March 1 as the new year. The calendar had just ten months, beginning with March. That the new year once began with the month of March is still reflected in some of the names of the months. September through December, our ninth through twelfth months, were originally positioned as the seventh through tenth months (septem is Latin for "seven," octo is "eight," novem is "nine," and decem is "ten."

January Joins the Calendar

The first time the new year was celebrated on January 1st was in Rome in 153 B.C. (In fact, the month of January did not even exist until around 700 B.C., when the second king of Rome, Numa Pontilius, added the months of January and February.) The new year was moved from March to January because that was the beginning of the civil year, the month that the two newly elected Roman consuls—the highest officials in the Roman republic—began their one-year tenure. But this new year date was not always strictly and widely observed, and the new year was still sometimes celebrated on March 1.

Julian Calendar: January 1st Officially Instituted as the New Year

In 46 B.C. Julius Caesar introduced a new, solar-based calendar that was a vast improvement on the ancient Roman calendar, which was a lunar system that had become wildly inaccurate over the years. The Julian calendar decreed that the New Year would occur with January 1, and within the Roman world, January 1 became the consistently observed start of the new year.

Middle Ages: January 1st Abolished

In medieval Europe, however, the celebrations accompanying the New Year were considered pagan and unchristian like, and in 567 the Council of Tours abolished January 1 as the beginning of the year. At various times and in various places throughout medieval Christian Europe, the new year was celebrated on Dec. 25, the birth of Jesus; March 1; March 25, the Feast of the Annunciation; and Easter.

Gregorian Calendar: January 1st Restored

In 1582, the Gregorian calendar reform restored January 1 as New Year's Day

(A History of the New Year, A move from March to January-by Borgna Brunner)

Astronomy & Space first occurring in March
March 1, 1966 - Venera 3 USSR first spacecraft to impact on Venus
March 3, 1969 – US Tested Lunar Module in Lunar Orbit McDivitt/Scott/Schweickart Apollo 9
March 5, 1979 – Voyager 1 flies past Jupiter
March 7, 1792 – John Herschel born
March 10, 1977 – Rings of Uranus discovered
March 13, 1781 - William Herschel discovered Uranus
March 14, 1879 – Albert Einstein born
March 16, 1926 – Robert Goddard launches first liquid-fueled rocket
March 16, 1966 – U.S. First docking w/Agenda target vehicle Armstrong/Scott Gemini VIII
March 17, 2011 – MESSENGER spacecraft orbits Mercury
March 18, 1965 – Alexei Leonov USSR, first space walk
March 23, 1965 –First US 2 person crew Grissom/Young in Gemini 3
March 23, 1840 – First photograph of the Moon
March 25, 1655 – Christiaan Huygens, discovers Titan, moon of Saturn
March 28, 1802 – Heinrich Olbers discovers Pallas (asteroid)
March 29, 1807– Heinrich Olbers discovers Vesta (asteroid)
March 29, 1974 – Mariner 10, first Mercury flyby



March 2015

			Meeting Skypark 7:30 pm			ARRL DX PHONE CONTEST
1	2	3	4	5	6	7
ARRL DX PHONE CONTEST 8	9	10	28.445 Mhz Net 8 p.m. 11	12	13	VE Testing White Marsh 1 p.m. 14
15	Frederick ARC Frederick Tailgate Feet 6 - 9 pm 16	17	Meeting Skypark 7:30 p.m. 18	19	20	21
Annadale VA WINTERFEST www.vlennawireless.org 22	23	24	147.24 MHz Net 8 p.m. 25	26	27	CQ Mag WPX SSB CONTEST 28
CQ Mag WPX SSB CONTEST 29	30	31				