



*Supermoon of Jan. 1, 2018
photo by Bob Thompson, KC8BOB
taken with a 80 mm Celestron refractor at 400 mm f.l. and 1/640 sec*

The Aero Aerial

The Newsletter of the Aero Amateur Radio Club
Middle River, MD
Volume 14, Issue 12
January 2018

Editor Georgeann Vleck KB3PGN

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Website: <http://w3pga.org>

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

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.

2017-18 Examination Schedule

Time:		1:15 pm	
Dates:		Sunday, January 14	
Where:		White Marsh Library	

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
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
Fridays	7:30 pm	145.330	Back in the Day Net
When activated by NOAA		147.030	SkyWarn (primary)



From the President's Desk

2017 – A Year in Review *By Joe Miko WB3FMT*

The Aero Amateur Radio Club had a remarkable year. The membership continued to increase we went from 45 members in 2016 to 49 in 2017. The members were engaged in many operating activities and public service events.

The year kicked off with the club's 25 Days and 25 Nights of Fun Contest. And this year's winner was Joe WB3FMT.

Business at the Aero Club monthly Nets was brisk! There were 28 nets throughout 2017. The numbers of nets were 10 meters, 12; 2 meters, 10 and .7 meters, 5 and 1 Snow Net on 2 meters. All total 192 people checked in and the nets ran a combined 17 hrs 01 minute. Along with local check-ins we also had check-ins from, Florida (Jerry N3VBJ via a remote).

But, the members weren't only busy with our Nets, a number of members were regulars on the morning Holly Net but sadly Miss Holly N3MB passed away on 12/10/17, the members of the Holly Net will continue that net. And the BTN is proud to have 4 net control operators working during the daily nets. Those ops are Keon KE3HAY, Jerry N3VBJ (also the North East Region SKYWARN Coordinator), Joe WB3FMT, and the newcomer this year Rob KC3ROB. And to the delight of father Al, Rob has taken up pounding brass!

The VE Testing Program was successful. For the 2017 year Pat AC3F and her VE's tested worked at 6 test sessions, 5 at the White Marsh public library and 1 at the Fix Base Operator (FBO) building at the Essex Skypark on Field Day Saturday. All told we tested 37 candidates, 32 were successful. The breakdown was 17 techs, 10 generals and 5 extras. Of these 17 were new hams. Following the Field Day test session, Jerry gave away 4 HTs to new hams; the HTs were donated by the Boy Scouts.

On the Public Service front Aero member, Bob WA3SWA continued to assist BRATS for various Multiple Sclerosis Bike Tours and Walks and also participated in other area clubs activities. Other Public Service Activities the club helped with this year were: The American Diabetes Association held on May 6, 2017, where at least 9 members from the club and 4 people from other clubs assisted in this 10, 22, 38 and 63 mile bike ride in Boring, MD. The next event was the MCVET on May 29th and was held in Baltimore City; It ran from the War Memorial Plaza to Fr. McHenry, four Aero members were able to help out on that event.

We also worked the North American QSO Party on Saturday August 18th; on this contest we had more help and operators than signals. The band on 40 did not open until after 4 pm. We were allowed to operate from 2 pm to 2am local, limited to 10 hrs. Band conditions were poor at best.

Jerry took a phone call at 7 pm and had to catch a jet out of Martin's at 8:30 pm, barely enough time to get the Royal Farm chicken for the flight crew. Keon and I had to stop operations by 9 pm due to thunderstorms. We had fun with only a handful of contacts, even with the touch screen. Hi Hi. Hope for better luck next year.

Field Day 2017 results are official -- nationwide there were 75 stations in the 5A class, we came 50 out of 75 entries. Our score of 2,684 with QSO of 1,034 and Bonus Points of 1,650 with 445 contacts was much more than that. We had 25 AERO members participate, 4 Guest and 9 visitors join us at the Essex Skypark as well as a number of people who took tests at the VEC session. During the 24 contest hours we made 445 contacts, 65 CW, 7 Digital and 373 on Phone. We were able to contact 42 States, Canada, Puerto Rico and Great Britain. I am looking forward to FD18 the weekend of June 23rd - 24th.

The club provided an Amateur Radio Exhibit for the Essex Skypark Wings and Wheels fly-in event held on September 16th. Our club provided a working Ham radio display along with SKYWARN information and weather interments. We had 14 members show up to setup and operate, and meet and greet the public. It was a good PR event for Ham Radio.

Georgeann KB3PGN went to Prescott, Arizona in early October to work her fourth Prescott Forest Rally.

On October 20 and 21st the Boy Scouts had a Jamboree at the B&O Museum located off West Pratt Street. The club was asked to set up a demonstration of Ham Radio for the scouts. Pat AC3F took the charge; she set up a display on CW and an exercise for the scouts to do. We had all ages of scouts from pre-school thru high school. I set up an HF rig and with Larry's KB3QWC help was able to allow scouts talk to WV, FL, KA, and other states and to the USS Savanna, docked in Baltimore, on 2 meters. We were visited by at least 50 scouts. While working at the Kansas Speedway Jerry N3VBJ was able to make 15 contacts using Dstar Digital, 14 in the U.S. and 1 in San Paolo, Brazil letting the scouts experience amateur digital communications.

I didn't forget about the club's election held on May 17th it happen so fast it anyone remembers please send me a note! As I recall Old Engine 88 never slowed down in the Essex area. The entire election with recounts lasted about that long...!

A brief note about the Aero 2017 Christmas Party, WOW!! We had Great food, tasting and quantity and fantastic friends. We had about 24 members and 2 XYLs attend. As promised last year there was no business meeting. The club had a double drawing for the 50/50, Larry KB3QWC and Russ W3WFI won. We had another raffle for a multi band (2 & 440) Baofeng HT donated by Israel W1ASA. And guess what, Larry KB3QWC won the HT, congrats to Larry for the double win.

Before I close I would like to thank everyone who made and helped with the monthly presentations. All were interesting and some were timely and spot on, for example the December talk by Keon KE3HAY for what Ham radio can do for you and others in need. The 2017 hurricane season is now over, now is a good time to reflect and make any needed changes.

Again, thanks to all of the members of the Aero Amateur Radio club, for all your help and continued support. A club is only as good as its members want it to be!

So we say "ДО СВИДАНИЯ" and "С БОГЕМ" to 2017 and look ahead to the challenges of the New Year.

73,
Joe M.

NET REPORTS

12-13-17: 28.445 MHz, 20:00 to 20:13 local.

W3PGA NCS Joe Essex, W3JEH Ron Perry Hall

Two people on the net.

Note: Don N1TTX has a new call -- his original call sign WA3FSE.

12-27-17: 147.420, 20:00 to 20:33 local.

W3PGA NCS Joe Essex, W3JEH Ron Perry Hall, KB3QWC Larry Middle River, AC3F Pat Middle River, KC3FBM Franklin Parkville, KB3JVP Ken Middle River.

6 members on the net

Franklin has a new granddaughter. Larry was using his new HT.

Upcoming Second Meeting Presentations

<i>Date</i>	<i>Topic</i>	<i>Presenter</i>
TBA	Contest Logging with N1MM	Bob ND3D
TBA	The Acu-rite Weather Station	?Kelly KC3APF

These presentations will be given at the Essex SkyPark FBO building after the business meeting.

Any questions 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.



VE CORNER

by Pat Stone, AC3F

The AERO VE Team held its sixth test session for 2017 on Sunday, November 19th, 2017 at the White Marsh Library. We served 10 applicants. Congratulations to new Technicians Steve Kleeman KC3KJF, Thomas Burger KC3KJG and Chris Murray KC3KJH and new Generals Stanley Max KC3KJE, James Howard KC3KJI, Lewis Evans KC3KJJ, and Joel Wrighton KC3HXL.

A very special thanks to VE's: WB3FMT, KD3TP, KB3VAE, KC3FBL, KC3FBM, K2ODG and AB3QK for assisting me with this session. You all did a great job. It was a pleasure working with all of you.

Our first test session for 2018 will be held at 1:15PM on Sunday, January 14 at the White Marsh Library. Hope to see you then.

Reminder: VE Testing Snow Plan

If Baltimore County Libraries are closed for a testing day (Saturday or Sunday) the VE Testing session for that day will be canceled. Testing applicants that have pre-registered will be notified by phone. Due to the scheduling requirements of Baltimore County Library, we can't schedule a makeup session. Testing will resume on the next scheduled testing date. VE's will be notified by phone in the event of a closure.

UPCOMING HAMFESTS and EVENTS



Glenn L. Martin Aviation Museum

All Aboard! Next Stop, Martinville – in the Gallery

The Martinville train crew has been working nonstop on the museum's fourth train garden.

This year's will be the biggest yet—we will be running four trains over the river and through the woods, or should we say over the

hills and through the mountains. New this year we've added two mountain tunnels. There is also a set of tracks that goes over a trestle and runs completely around the garden. Of course, the airport is still with us.

Look for us in our new home—the museum's Gallery. For 2017, head engineer is Charlotte Radu, and her crew is: Jeff Michael, Janet Kivett, Joan Kramer, Rick Spacek, Ted Cooper, Joe Cortea, James Hayes, Dorsey Boyle, Fred Fahdt, Robert Meier and William Herting.

[Note: Last day of the Train Garden is Jan. 13, 2018. Check website for days and times.]



If it's called Martin, it has to have a seaplane.



Charlotte Radu, Joe Cortea work on landscaping.

Source: Glenn L. Martin Maryland Aviation Museum, *The Maryland Flight Log, Winter 2017-2018*, p. 1.

Hamfests

Saturday, April 21, 2018: Delaware State Convention (Delmarva Amateur Radio & Electronics EXPO)

Cheer Community Center, 20520 Sand Hill Rd., Georgetown, DE 19947

Website: www.radioelectronicsexpo.com

Sponsor: Sussex Amateur Radio Association

Type: ARRL Convention

Talk-In: 147.090 (CTCSS: 156.7 Hz), Sussex County ARES® Primary Repeater, Millsboro, DE

Contact: Herb Quick, KF3BT, PO Box 1431, Seaford, DE 19973, Phone: 302-629-4949, E-mail:

herb@hamiltongraphics.com

Saturday, June 30, 2018: Harrisburg Radio Amateurs Club Firecracker Hamfest

Harrisburg Area Community College, 3599 Industrial Road, Harrisburg, PA 17101

Website: <http://www.w3uu.org>

Sponsor: Harrisburg Radio Amateurs' Club

Talk-In: 146.76 (CTCSS 100.0 Hz)

Contact: Tim Lehman, KB3OZA, PO Box 453, Hummelstown, PA 17036, Phone: 717-461-3398, Email:

kb3oza@arrl.net

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



Feature Article

SYMBOLS using Alt Codes

JMM 10/30/17

I was looking for some ALT codes to use with Astronomy and Math and went searching the internet. I came up with a group that might be helpful.

The one page is from Tim Woolfson an ALT Code Reference Sheet, the MS Word doc is my compilation of multiple searches and trial and error. I am running Windows 10 and each of the special ALT characters work for me.

Alt codes are computer codes in Hex, Unicode, or Decimal that contain special characters and designs. A few are listed as being special characters in Microsoft Word type fonts, such as Arial, Symbols and Wing Dings.

To use Press and hold the ALT key while pressing the numbers using the number key pad. The character or figure will appear once you finish the last number.

I went looking for some special figures I wanted to use in Math and Astronomy. I went on the internet to locate the symbols that I needed and a lot more. I selected the ALT codes that did not require extra key strokes or special characters to produce these characters. Hope you can use this as a handy guide.

Planet Symbols

♿	Mercury	ALT 9791
♀	Venus	ALT 9792
♁	Earth	ALT 9793
♂	Mars	ALT 9794
♃	Jupiter	ALT 9795
♄	Saturn	ALT 9796
♅	Uranus	ALT 9797
♆	Neptune	ALT 9798
♇	Pluto	ALT 9799
☼	Sun	ALT 9737
☾	Wax Moon	ALT 9789
☾	Wan Moon	ALT 9790
☄	Comet	ALT 9732
☆	Wt Star	ALT 9734
★	Bk Star	ALT 9733

Zodiac Signs

♈	Ares	ALT 9800
♉	Taurus	ALT 9801
♊	Gemini	ALT 9802
♋	Cancer	ALT 9803
♌	Leo	ALT9804
♍	Virgo	ALT 9805
♎	Libra	ALT 9806
♏	Scorpio	ALT 9807
♐	Sagittarius	ALT 9808

♑	Capricorn	ALT 9809
♒	Aquarius	ALT 9810
♓	Pisces	ALT 9811

Currency

¢	Cent	ALT 0162
£	Brit Pound	ALT 0163
€	Euro	ALT 0128
¥	Yen	ALT 0165
ƒ	Dutch Florin	ALT 0131
⌘	Generic	ALT 0164
‰	Per Mill	ALT 0137

Religious Symbols

†	Latin Cross	ALT10113
✠	Greek	ALT 9769
✙	Greek Orth	ALT9766
✙	Maltese	ALT 10016
✡	Star of David	ALT 10017

MISC Symbols

☕	Coffee	ALT 9749
🍩	Donut	ALT 127849
✈	Airport	ALT 9992
🕒	Watch	ALT 8986

⌚	Stopwatch	ALT 9201
💀	Skull Bones	ALT 9760
⚠	Caution	ALT 9761
☢	Radioactive	ALT 9762
☣	Biohazard	ALT 9763
%	Care of	ALT 8453
™	Trademark	ALT 0153
©	Copyright	ALT 0169
®	Registered	ALT 0174
§	Section	ALT 0167
℞	Medical	ALT 8478
-	en-dash	ALT 0150
—	em-dash	ALT 0151
†	Dagger	ALT 0134
‡	Dble Dagger	ALT 0135
Ⓢ	Tape	ALT 9991
¶	Paragraph	ALT 0182
☐	Check Box	ALT 9744

☑	Box Checked	ALT 9745
☎	Telephone	ALT 9742
☎	Telephone	ALT 9990

Math Symbols

⊥	Right Angle	ALT 8735
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∠ Angle ALT 8736

⌵ Measured ALT 8737

⊥ Rt Angle ALT 8894

◻ 3D Angle ALT 10176

⊥ Rt Angle ALT 10652

∠ Acute ALT10655

∠ Oblique ALT 10652

Ω Omega ALT234

Δ Delta ALT 8710

μ Mu ALT 230

ε Sigma ALT 228

π Pi ALT 227

∞ Infinity ALT 0236

≥ EQ Greater ALT 242

≤ Less Equal ALT 243

≈ Approx ALT 247

□ Long Div ALT 10188

÷ Heavy Div ALT 10135

÷ Division ALT 0247

° Degree ALT 0176

≠ Not ALT 0172

√ Sq Root ALT8730

∛ Cube Root ALT 8731

∜ 4th Root ALT 8732

≠ Not Equal ALT0172

± Plus/Minus ALT 0177

μ Micro ALT 0181

$\frac{1}{4}$ Fraction ALT 0188

$\frac{1}{2}$ Fraction ALT 0189

$\frac{3}{4}$ Fraction ALT 0190

∅ Zero ALT 0216

≡ Equality ALT 240

Weather Symbols

° Degree ALT0176

°C Centigrade ALT 8451

° Fahrenheit ALT 8457

☀ Sun ALT 9728

☁ Clouds ALT 9729

☂ Umbrella ALT 9730

☃ Snowman ALT 9731

☄ Comet ALT 9732

★ Bk Star ALT 9733

☆ Wt Star ALT 9734

⚡ Lightening ALT 9735

⚡ Thunder Sm ALT 9736

☀ Sun ALT 9737

☾ Moon ALT 9789

☾ Moon ALT9790

☃ Snowman ALT9924

❄ Snowflake ALT 10053

❄ Snowflake ALT 10054

☂ Umbrella ALT 127746

☂ Rainbow ALT 127752

Wave ALT 127754

🌋 Volcano ALT 127755

🌌 Milky way ALT 127756

☾ Moon ALT 127763

☾ Moon ALT 127769

💧 Rain Drop ALT 128167

Wind ALT 128168

🔥 Fire ALT 128293

Download a PDF reference sheet of ALT codes at:

www.usefulshortcuts.com/alt-codes

From the Skies over Mt. Essex

SKY Events for January 2018

January 1st **HAPPY NEW YEAR** 13.0.4.1.12 Aztec

Jan 3-4th – Quadrantids Meteor shower approx 60 -120 meteors per hour, look NE toward Bootes after mid-night. 4th latest sunrise of the year.

Jan 3th – Earth at Perihelion (closest to the Sun)
91,404,320 miles at 13:00 EST.

Jan 5th – First Quarter Moon

Jan 8th - Latest onset of morning twilight

Jan 12th - Full Moon “Winter Moon” for the Traditional American and the “Old Moon” for the English

Jan 12th –Venus elongation East 47° at 0*:00 EST.

Jan 15th – Regulus is 0.8° N of the Moon at 00:00 EST.

Jan 19th – Mercury at greatest elongation West 24° 05:00 EST.

Jan 19th - Moon at Last Quarter

Jan 28th – New Moon

Planet Lookout at mid-Month

Sunrise 07:24 EST and Sunset 17:06 EST

Mercury in the East at sunrise, magnitude -0.2; 7 arc seconds

Venus Dusk, Sets 21:07EST, magnitude -4.6 and 26.8 arc seconds.

Mars Evening, sets 21:40 EST, magnitude 1.1 and 5.4 arc seconds wide.

Jupiter Morning, rises 00:13EST, magnitude-2.0 size 37.1 arc seconds.

Saturn Morning sky. Rises 05:09 EST, Magnitude +0.5 size 15.3 arc seconds.

Uranus Sets 00:11 Magnitude +5.8 size 3.4 arc seconds.

Neptune Sets 20:45 EST. Magnitude +7.9 size 2.4 arc seconds.

Upcoming Events for 2018

Planets – Mercury and Venus in 2018

Maximum Eastern and Western Elongations

		Date	°		Date	°
Mercury	EE	3-15-18	18.4	E WE	1/1/18	22.7
		7/12/18	26.4		4/29/18	27
		11/06/18	23.3		8/26/18	18.3
					12/15/18	21.3

Venus	EE	8/17/18	46	E WE	None '18	W
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Moon - 2018

Blue Moon – (2 Moons in a month) - Jan 1-30, Mar 1-30

Black Moon – (2 New Moons in a month) - None in 2018

Harvest Moon - 09/25/18

Super Moons - Full Moon on Monday January 1, 2018

Lunar Eclipses in 2017 – (2) One Penumbra - 02/11/2017
Visible in the US at Moonrise. **One Partial - 08/07/2017 -**
Not visible in the US, East Africa and Asia.

Sun -

Solar Eclipses in 2017 (2) - One Annular 02/26/17, Not visible in the US, Southern part of South America, South Atlantic Ocean and South Africa.

Meteor Showers for 2018

	Predictions -	4Good, 4 Poor
Quadrantids 1/3/18	Full Moon	Poor 60-120 per hr
Lyrids 4/22/18	First Quarter	Good 10 per hr
Eta Aquarids 5/6/18	Last Quarter	Poor 45 per hr
Delta Aquarids 7/30/18	Full Moon	Poor 16 per hr
Perseids 8/12/18	New Moon	Good 60-80 per hr
Orionids 10/21/18	Full Moon	Poor 18 per hr
Leonids 11/17/18	First Quarter	Good 15 per hr
Geminids 12/14/18	First Quarter	Good 120 per hr

Seasons in 2018

Earth Perihelion	01/03/2018	01:00 EST	6:00 UT
Earth Aphelion	07/03/2018	13:00 EDT	17:00 UT
Vernal Equinox	03/20/2018	12:15 EDT	16:15 UT
Summer Solstice	06/21/2018	06:07 EDT	10:07 UT
Autumnal Equinox	09/23/2018	21:54 EDT on 9/22	01:54 UT
Winter Solstice	12/21/2018	17:23 EST	22:23 UT

Daylight Saving Time 2018

Begins 03/11/2018 - Ends 11/4/2018

Easter Dates 2018 Full Moon 03/31/2018

Easter Christian (Western) 4/1/2018
Eastern Greek (Orthodox) 4/8/2018