



Field of Daffodils

The Aero Aerial

The Newsletter of the Aero Amateur Radio Club
Middle River, MD
Volume 16, Issue 4
April 2020

Editor Georgeann Vleck KB3PGN

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Vice-President	Rob Ballou KC3ROB
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Corresponding Secretary	Pat Stone AC3F
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Club Nets	Joe Miko WB3FMT
Contests	Bob Venanzi ND3D

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

2020 Examination Schedule DUE TO COVID19 May and June DATES May be **Canceled!**

Time:	1:15 pm	1:15 pm	
Dates:	Sunday, Mar. 8	Sunday, May 3	Saturday, June 27
Where:	White Marsh Library	White Marsh Library	FBO, Essex SkyPark

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	449.575	Aero ARC Net
4 th Wed	8 pm	147.240	Aero ARC Net
5 th Wed	8 pm	28.445	Aero ARC Net
Fridays	7:30 pm	145.330	Back in the Day Net
When activated by NOAA		147.030	SkyWarn (primary)

SK



On March 16, 2020 Alvin Gale Alexander passed away; beloved husband of Mary Katherine Alexander (*nee* Sobota); devoted father of Karla Henry, Denise Mihavetz and her husband Rob, the late Brent Henry and Shane Henry and his wife Zolita; loving grandfather of 8 grandchildren and 3 great-grandchildren; dear brother of Michael Oldaker.

Alvin K3ROJ was an avid ham radio operator and a long-time member of the Aero Radio Club. Services and Interment are private.



Field Day



At old clubhouse, Wilson Pt. Rd.

Net Reports

2-26-20: 440 net, 20:00 to 20:46 local.

W3PGA NCS Joe Essex, N3FQC Don Perry Hall, N3RES Ray Lutherville, W3JEH Ron Perry Hall
4 people on the net.

3-18-20: COVID-19 Special Net, 147.24r, 20:00 to 20:31 local.

This was a special net because the Balto. Co. Schools are temporally closed due to the Covid 19 virus.

W3PGA NCS Joe Essex, KB3JVP Ken Middle River, AC3F Pat Middle River, K3TEL Arnold
Towson, N3RES Ray Lutherville, K3DON Don Joppatowne, KB3QWC Larry Middle River, W3VRD
Phil Essex, KB3VAE Richard Middle River, AC3DX Bill Rosedale, KB3KRV Dave White Marsh,
AA3GG George Parkville, W3JEH Ron Perry Hall, KC3NMT Lou Baltimore, KB3TBH George White
Marsh, K3ANG Gregg Lutherville -- 16 people on the net.

Discussed the passing of Al K3ROC; he had been an Aero ARC member since the mid-sixty's.
Provided info on expanded open times for Geresbeck's, Food Lion, and Weis food markets. NOAA
stations deleted the 2020 ARRL repeater directory, the current directory is almost 200 pages smaller.
A request from our MDC Section manager: "if you are on the radio and giving info about the Covid
19 virus, or related info, please be able to cite the source." This will assist in keeping incorrect info
off the ham bands.

3-25-20: 147.24r, 20:00 to 20:59 local.

W3PGA NCS Joe Essex, N3RES Ray Lutherville, K3TEL Arnold Towson, K3DON Don
Joppatowne, KB3QWC Larry Middle River, N7JKR Jon Rosedale, KC3NMT Lou Baltimore, N3FQC
Don Perry Hall, WA3RQD Coz Lutherville, KB3VAE Richard Middle River, W3JEH Ron Perry Hall,
KB3TBH George White Marsh, AC3EO Dave Baltimore City, K3ANG Gregg Lutherville, K3MBY
Gene Baltimore -- 15 people on the net

Joe announced that due to the continued problems with large group (over 10) concerning COVID 19,
the Aero Arc meeting at the Skypark slated for April 1st at 19:00 is cancelled. The club will attempt to
hold a video conference call meeting instead. Rob AB3E has access to a package called "ZOOM" that
works on multiple platforms. He is putting an informational instruction sheet, to be emailed to each
member. Just think about it as a club presentation in which each participant becomes part of the
presentation. The topic of this meeting will be our participation at Field Day 2020. I want to go over
the good/bad/ugly, and agree on a corrective action or change. Due we want to be a 4A or 5A setup
-- Stuff like that!



VE CORNER

by Pat Stone, AC3F

The AERO VE Team held its second session of 2020 on March 8th. We served 6 applicants. Congratulations to new Generals KC3JVZ Matt, KC3PCX Jarrick, KC3PCY Gary, and new Techs: KC3PCW Jeff, KC3PCU Iaroslav, KC3PCV Rich.

Many thanks to VE's: WB3FMT, KC3FBL, N3RES, KB3VAE and WA3QLY for assisting me with our second session of 2020. We couldn't do this without you. Hope to see you in May. It's always a joy working with you.

Here's the latest one from the BCPL. Right now the library has canceled all reservations through May so we are not certain when our next session will be. For the time being I am not officially canceling the May session until Joe contacts the Library on March 30th.

Our next test session of will be held on Sunday, May 3th at 1:15PM in the White Marsh Library. Hope to see you then.

CLUB ACTIVITIES

ARRL Phone International DX Contest - March 6-8, 2020

Joe Miko, WB3FMT

Club members were invited to the annual "ARRL Phone International DX Contest." The contest started Friday night March 6 at 20:00 local and ran to Sunday 19:59 local. Our plan was to setup Saturday afternoon and run to about 16:00 on Sunday.

It came together thanks to Ron W3JEH, who provided the information about the contest run by ARRL. The operating place was easy, all it took was an email to the Dean and Mandy of the Skypark Association. I brought my trusty Off Center Fed Dipole (OCD) that works 80-10.

Dave AC3EO's brought his rig, a YAESU FT DX101MP, a radio with dual SDR's, a 3-Dimensional Spectrum Stream that can view up to the last 25 seconds of band conditions in real time. It has filters for its filters. Oh, it's a 200-watt rig that happens to have a Touch Screen.





A set up crew consisting of Dave AC3EO, Molly KC3OUU, Tod and Liza, Ray N3RES, and Joe WB3FM was onsite at the Fix Base Operation (FBO) building at noon on the 7th.

We had two antennas to use, a G5RV and an Off Center fed Dipole (OCD). Erecting the antenna we encountered problems with the weather. Clear skies, mild temps but the wind speed in the teens made it difficult to put up one, let alone two. The performance characteristics of the OCF made it the antenna of choice. The antennas were setup and we were operational by 13:30 EST on Saturday.

Using one of the club's towers, the OCD Antenna was set up at the side of the Fix Base Operator (FBO) building, my OCD, an MFJ fiber glass pole was used at the center. The end connection was held up with 2 10-foot sections connected to a fence pole. One 100 foot of RG 8 was run and connected to the FTDX101MP. The rig was turned on and no, I mean NO, static at all. The digital noise filters and roofing filters did their job superbly.



We got on the air about 13:30 EST, Dave AC3EO made the first contact, a station in Germany at 13:38 EST, and we were on our way.

Dinner consisted of a couple of Pizza John's Pepperoni Pizzas. Throughout the evening a series of operators came and went, but some how managed to stay off the pizza, No Problem!

The crew consisted of Larry KB3QWC, Ray N3RES, Dave AC3EO Tod and Lisa, Molly KC3OUU, Bob WA3SWA, Pat AC3F, Tom WA3QLY, Don K3DON his driver friend Gordon, Jerry N3VBJ, Jim KC3FBL his XYL Donna and myself WB3FMT.

The rig was continuously manned from then to about 03:00 EDT and was at 75 contacts when Jerry left the building. I got back on the radio about 07:30 EDT and the rig was maned till we shut down at 16:45 EDT. Dave AC3EO also made the 100th contact at 11:57 EDT to a station from Lithuania.

We all had a lot of fun and are looking forward to doing another contest in the Fall. Come on, as for any club activity any and of the members are welcome to attend to watch, snack out and participate if you want.



We ended our Skypark DX-pedition at 16:45 EDT and everything was wrapped up, car loaded. We left the Airpark at 17:30 Sunday afternoon.

Below are the stats from the contest.

Total Contacts = 136

DX Contacts 135

US State HI 1

80 meters 24 18%

40 meters 39 29%

20 meters 73 54%
136

Total Points = 37,905

Total DX miles (QSOs in USA not counted) = 537,027

Average miles per DX QSO 4,008 miles

Continents worked Africa, Europe, North America, South America and the Central Pacific Ocean countries.



Photos by Dave AC3EO

Again, special thanks for helping to make this a fun event.

Radio Amateurs Team Up to Help University Design Low-Cost Ventilator



Amateur radio volunteers from around the world have volunteered to assist University of Florida Professor Sam Lampotang and his engineering team in their quest to rapidly develop an open-source, low-cost patient ventilator that can be built anywhere from such commonly available components as PVC pipe and lawn-sprinkler valves.

The amateur radio volunteers are developing Arduino-based control software that will set the respiratory rate and other key parameters in treating critically ill coronavirus victims.

Multiple volunteers responding to a call for help from Gordon Gibby, MD, KX4Z, include noted software developer Jack Purdum, W8TEE, and uBITX transceiver maker Ashhar Farhan, VU2ESE. University of Florida physicians are working to address the critical legal aspects as the design moves closer to fruition. The ventilator's valves would precisely time compressed oxygen flow into patient breathing circuits under Arduino control, allowing exhausted patients with "stiff" lungs impacted by viral pneumonia to survive until their body can clear the infection.

The software design team is also adding simple features such as an LCD display, encoders to choose parameters, and watchdog safety features.

Source: *The ARRL Letter*, March 26, 2020

Hamfests

CANCELED - Saturday, April 18, 2020: Delmarva Amateur Radio and Electronics Expo

Location: CHEER Community Center, 20520 Sand Hill Rd., Georgetown, DE (intersection of Rte. 9 and Sand Hill Rd)

Sponsor: Sussex Amateur Radio Assn.

CANCELED: Saturday, April 25, 2020: York Hamfest/Convention

Location: Elicker's Grove Park, 511 Roth Church Rd, Spring Grove, PA 17362

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

Sponsor: York Hamfest Foundation

CANCELED - Saturday, May 2, 2020: The Great Hagerstown Hamfest

Location: Washington County Agricultural Education Center, 7313 Sharpsburg Pike, Rte. MD-65 South, Boonsboro, MD 21713

Website: <https://w3cwc.org/hamfest>

Sponsor: The Antietam Radio Association

NO NOTICE OF CANCELLATION AS OF 4/1/20 Sunday, May 24, 2020: Memorial Weekend Hamfest

Location: Howard County Fair Grounds, 2210 Fairgrounds Rd, West Friendship, MD 21794

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

Sponsor: Maryland F.M. Association, Inc

Talk-In: 146.76, 224.76, 444.0 all use CTCSS 107.2

Public Contact: John Elgin , WA3MNN

NO NOTICE OF CANCELLATION AS OF 4/1/20 Sunday, June 21, 2020: Father's Day Hamfest at Arcadia

Location: Arcadia Fairgrounds, 16920 Carnival Avenue, Upperco, MD 21155

Website: <http://W3FT.com> & Facebook

Talk-In: 146.67 (PL 107.2)

Public Contact: David Shadwell , AB3TE, P.O. Box 120 Reisterstown , MD 21136, Phone: 410-252-2878,

Email: W3ft67@yahoo.com

NO NOTICE OF CANCELLATION AS OF 4/1/20 Sunday, Oct. 4, 2020: CARAFest 2020

Location: Howard County Fairgrounds, 221 Fairgrounds Rd., West Friendship, MD 21794

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

Sponsor: Columbia Amateur Radio Association

Talk-In: 147.390/R+ (PL 156.7)

Public Contact: David Parkison , KB3VDY, P.O. Box 911 Columbia, MD 21044, Phone: 443-492-9501

Email: vendorsales@carafest.org

MARYLAND GOVERNMENT - MD House Bill 1225 - Amateur Radio Antennas 2020 -

Local Government - Regulation of Amateur Radio Station Antenna Structures, sponsored by Delegates Boteler, Ciliberti, Grammer, and Impallaria, passed the House by a vote of 132-0. Go to <http://mgaleg.maryland.gov/2020RS/votes/house/0548.pdf> to see the vote tally. The bill was referred to the Senate Education, Health, and Environmental Affairs Committee. 2020 Session ended early due to COVID-19; Maryland lawmakers ended the legislative session early and plan to reconvene in a special session. A quick look-up of the bill status can be found at:

<http://mgaleg.maryland.gov/mgaweb/Legislation/Details/HB1225?ys=2020RS>

Source: MDC Section News, Vol. 16, No. 03, Wednesday, March 18, 2020

FEATURE ARTICLE

What and Where Radio Components!

by Joe Miko, WB3FMT

The following components (some if not all) can become part of an Amateur Radio Station. The following components make up a radio station and have a positional location where it is connected to the radio system.

A list of components are: Transceiver, Transmitter, Receiver, SWR Bridge, Antenna Tuner, HF Filter, TVI Filter, External Tuner, Antenna Relay, Personnel Computer, Antenna Switch, HF Amplifier, Power Supply, Microphone, Headset w/mic, Foot Pedal, Patch Panel, Antenna/Transceiver Switch, Duplexer, Triplexer, HF Antenna, VHF/UHF Antenna, Antenna Rotor, Antenna Mast, Antenna Tower, Coax, Remote Antenna Tuner.

The preferred connection sequence is as follows:

1. Transceiver equals a combined Transmitter and Receiver.
2. Microphone, Headset, Speaker(s) **Connects to the transceiver.**

3. Code Key or Bug, Foot Pedal **Connect to the transceiver.**
4. Radio Power Supply (additional supplies for other equipment) **Connects to the transceiver.**
5. Computer Interface if required **Connects between the transceiver and computer.**
6. Antenna/Radio connections Duplexer or Triplexer **(Combines antenna connections from 1-3 outputs to 1 output connector. Dupe and Tri's are frequency dependent.)**
7. HF Filter (**Band Specific**) is the first component connected to the transmitter/transceiver following a Duplex or Triplex switch. **(Must meet or exceed the transmitter's power rating. If you change bands you must also change the HF Filter.)**
8. The Amplifier for HF or VHF/UHF
9. Antenna Tuner goes next. **(Must meet or exceed amplifier power rating.)**
10. Coax per antenna
11. Antenna Mast or Tower **(Mast must support the antenna's weight and wind load factor.)**
12. Remote Antenna Tuner if used.
13. Antenna Rotor **(Rotor must support the antenna's weight and wind load factor.)**
14. Antennas **(Must meet or exceed amplifier power rating.)**
15. Grounding of Equipment **in the Radio Shack!**
16. External Grounding of Mast and outside antennas

Any components placed in line must be able to handle the base unit power plus any other power increase due to an amplifier. A personnel computer is used for logging, for digital communications and software defined radio (SDR). You can even connect your radio to the internet.

You should use a tuner with your HF rig, the tuner's power rating should be greater than the Transmitter or Transmitter's Amplifier's rated output power.

Note: A Tuner, transmatch or whatever you may call it, does not affect the output of the antenna. It only makes the transceiver see a 50 Ω load regardless of what the SWR was when you started tuning. Example An 80-meter antenna connected a Kenwood TS 570D shows a 3:1 SWR. You insert a Tuner and get a 1:1 on 3550 MHz, the antenna is still a 3:1 SWR. As long as there is no arcing in the transceiver or tuner you should be good to go. The 2000 HB pg 19.14 states that on HF if you use reasonable length of good coaxial or open-wire line, truth be told you need not be overly concerned if the SWR is kept below 6:1.

Old story – it, the transmitter, is happy, everyone is happy!

From the Skies over Mt. Essex

SKY Events for April 2020

- Apr 1st* - First Quarter Moon
- Apr 3rd* - Moon is 1.3° N of Beehive (M44) at 03EDT and Venus is 0.3° S of Pleiades M45 at 03EDT
- Apr 7th* - Full Moon, "Pink Moon" for Traditional and the "Half Moon" for the Shawnee American Indian. It's also, a Super Moon.
- Apr 10th* - Good Friday
- Apr 14th* - Last Quarter Moon; Jupiter 2° N of the Moon at 16EDT
- Apr 15th* - Saturn is 2° N of Moon at 9UT, 05EDT
- Apr 22nd* - New Moon and Lyrid meteor shower peaks approx. 20 per hour, (near Vega in Lyra)
- Apr 27th* - Moon is 0.7° S of M35 Open Cluster
- Apr 28th* - Venus at its Greatest illuminated extent -4,7 at 01UT, 20EDT on Apr 27.
- Apr 30th* - First Quarter Moon also 1.6° N of the Beehive M44 at 14UT 10EDT

Planet Lookout at mid-Month EDT

Sunrise 06:27 EDT and Sunset 19:37 EDT

Mercury Morning Rise 05:51 Set 18:02; Mag -0.4; Size 5.6 arc seconds

Venus Evening Rise 08:24, Sets 23:26; Mag -4.6 and 30.9 arc seconds.

Mars Morning Rises 03:17, Sets 13:24, Mag 0.6 and 6.9 arc seconds wide.

Jupiter Morning, rises 02:23, Sets 12:12; Mag -2.2 size 38.6 arc seconds.

Saturn Morning, rises 02:41, Sets 12:39; Mag 0.6 size 16.5 arc seconds.

Uranus Evening **Rises** 06:57 Sets 20:22; Mag 5.8 size 3.5 arc seconds.

Neptune Evening Rises 05:02 Sets 16:36; Mag +7.9 size 2.4 arc seconds.

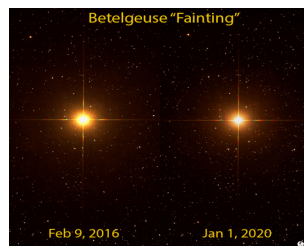
Betelgeuse... Betelgeuse... Betelgeuse oops!

Next to the Big Bear (Ursa Major) or Big Dipper and Scorpius, the Orion is the most widely recognized of all the 89 constellations in the sky. It is also one of the oldest known to humans. The Ancient Egyptians called it Osiris as long ago as 2000 BC!

The brilliant stars that make up this rectangular star pattern seem to be close-by because they are so bright, but in fact they are very far away. Astronomers measure distances using a unit called the **light year**, which equals about 9.5 trillion kilometers, or 63,240 times the distance from Earth to the Sun! At the speed of light, we are 500 seconds, 8 minutes and 20 seconds from our Sun.

The bright star in Orion called Betelgeuse is located 650 light years from Earth.

A strange thing is happening to this star. It is getting dimmer



THE FAINTING OF BETELGEUSE: One day, perhaps in our lifetimes, perhaps a million years from now, the red giant Betelgeuse will dim a little—and then explode. The resulting

supernova will rival the full Moon and cast shadows after dark, completely transforming the night skies of Earth. No wonder astronomers are closely tracking the current "fainting of Betelgeuse."

Currently this is the faintest the star has been during our 25+ years of continuous monitoring." Not long ago, Betelgeuse was the 10th brightest star in the sky. Now it is the 21st. Astronomers have long known that Betelgeuse is on the precipice of an energy crisis. It's about to run out of fuel in its core. When that happens, the star will collapse and rebound explosively, producing the first bright supernova in the Milky Way since 1604. Experts in stellar evolution believe Betelgeuse could die at any time during the next million years—a blink of an eye on time scales of astronomy.

Ref NASA and SpaceWeather.com