The Aero Aerial

The Newsletter of the Aero Amateur Radio Club
Middle River, MD
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Editor Georgeann Vleck KB3PGN

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.

2022 Examination Schedule

Time:	12 noon	12 noon	
Dates:			
Where:	American Legion, Rosedale	American Legion, Rosedale	

American Legion Post 180, 1331 Seling Ave., Rosedale, MD 21237
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	449.575	Aero ARC Net
4th Wed	8 pm	147.240	Aero ARC Net
5th 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)

Net Reports

No reports.

VE CORNER

by Pat Stone, AC3F

No report.

Hamfests

Sunday, October 2, 2022: CARAFest
Location: Howard County Fairgrounds, 221 Fairgrounds Road, West Friendship, MD 21794
Website: https://carafest.org/
Sponsor: Columbia Amateur Radio Association (CARA)
Type: ARRL Hamfest
Talk-In: 147.390 MHz /R+ CTCSS 156.7 Hz
Public Contact: Michael Olson, K3RMO, P.O. Box 911 Columbia, MD 21044, Phone: 410-497-4125
Email: carafest@columbiaara.org

HAM NEWS

Thinking of Buying an EV? Watch Out for QRM

If high gas prices and/or environmental concerns have you considering the purchase of an electric vehicle (EV), here's one more consideration to include in your decision-making: Will you be able to operate a mobile HF ham rig without debilitating interference from the car itself? *Radio World* magazine reports that the subject of electromagnetic interference (EMI) from EVs was a forum topic at June's conference of the Audio Engineering Society.

RW reports that interference to analog AM signals is so bad in some vehicles that the manufacturers are not including AM radios with their cars, opting only for FM and digital, both of which are more

resistant to electrical noise. Such noise would likely be broadbanded enough to seriously degrade analog SSB and CW signals on the HF bands as well. VHF/UHF FM is less likely to be affected.

Apparently, not all EVs are created equal in this regard. One of the AES forum speakers on the subject was Xperi Corp. communications system engineer Pooja Nair, who wrote in a previous *RW* commentary (<https://tinyurl.com/yckay4fk>) that "EMI can be suppressed in EVs using well-known mitigation techniques such as shielding cables and electric motors, installing filters and carefully locating electrical components within the vehicle. Within receivers, EMI can be limited by isolating and shielding antenna and RF sections, filtering connections and carefully grounding and placing receiver components." Some manufacturers, Nair writes, do work hard to mitigate EMI while others take the easier path of leaving out the AM radio.

Takeaway for hams who operate HF mobile and are considering an EV purchase: Do your homework. Find out the steps taken by the manufacturer of each vehicle you're considering to control EMI within the vehicle. Step 1: Does the car include an AM radio?

Posted by CQ Newsroom at 12:53 PM
Tuesday, June 21, 2022 http://cqnewsroom.blogspot.com/

Power By Radio?

A "rectifying antenna" connected to the receiving antenna converts the 10-GHz RF energy into electricity. (NRL Photo by Gayle Fullerton)

It was an unrealized dream of Nikola Tesla, but the U.S. Naval Research Laboratory says it has successfully transferred 1.6 kilowatts of electric power over a distance of one kilometer using a 10-GHz beam.

According to *Newsline,* transfer of electrical energy from point to point via microwaves is an emerging technology that could eventually open the door for transmitting power from space to earth. The project leader, by the way, is KJ4IKI, so care is presumably being taken not to fry any amateur satellites sharing the 10-GHz band with the military.

Posted by CQ Newsroom at 1:08 PM
Monday, May 23, 2022 http://cqnewsroom.blogspot.com/

- *I hope no one dares to submit an article to ARRL who has not written a piece for The Aerial! – The Editor.*

New QST Column – "Club Station"

ARRL invites you to be part of "Club Station," the newest column in *QST*. This column, written by clubs, for clubs, is a designated space to share specific and practical ideas about what has contributed to successful clubs to help others grow and thrive. In each issue, a different club will share how they undertook a specific activity or project, how and why it was successful, and any challenges they may have had to overcome throughout the process. Some examples include successful community club projects, creative ways to attract new members, or getting youth involved with ham radio.

If your club has developed a creative way to get around common challenges, we want to hear from you! In order to help you tell your story, we have published a new version of the ARRL Author's Guide that is geared toward "Club Station," and includes a club profile form. Both of these documents can be found here. You don't have to have writing experience to be published in *QST*, and if your submission is accepted, our editorial staff will work with you to get your story ready for publication.

All clubs are welcome to participate. If you have any questions, contact us at clubs@arrl.org.
Source: ARRL Club News for June 21, 2022

Now for those who still can't get enough FD… And some photos

Special Field Day Announcement
Join ARRL live from W1AW for 2022 ARRL Field Day! See all of the fun involved with Field Day or ask your questions about the event in the Live Chat and get them answered in real time. Watch at https://youtu.be/RN8mc3NVdwg starting on June 25, 2022, at 1:30 PM.
[This 4-hour video can still be accessed at the above address.]
Source: The ARRL Letter for June 23, 2022


W3PGA
PRIORITY
MAIL


VOLUNTEER
VOLUNTEER


WIPGA


Essex SkyPark Airpo
Wheels

Everyman and Everywoman at the end of a hard FD

Photos courtesy Harry Rundall AC3EK and Jerry Cimildora N3VBJ

From the Skies over Mt. Essex

SKY Events for July 2022A

Jul 4th – Happy birthday U.S.A. 246 Years. Earth at aphelion at 07:11UT 03:11 EDT, 94,509,598 miles from the Sun. Crab Nebula Supernova first seen in 1054 AD, 968 years ago.

Jul 6th- – First Quarter Moon

Jul 13th-- Full Moon, "Summer or Hay Moon" for Traditional and "Ripening Moon" for the Passamaquoddy (Great Lakes Tribes) Also a Super Moon. ***Largest Moon in 2022..***

Jul 15th- Saturn 4° N of Moon 20UT, 16 EDT

Jul 18th – Neptune 3° N of Moon 01UT, 21EDT 7/17.

Jul 19th – Jupiter 2° N of Moon 01UT, 21EDT 7/18.

Jul 20th- - Last Quarter Moon, Apollo 11 lands on the Moon in 1969; Venus 1.5° S of M35 0UT 20EDT 7/19

Jul 21st – Mars 1.1° S of Moon 17UT, 13 EDT

Jul 28th - New Moon, Delta Aquarid meteor shower

Jul 29th – NASA founded in 1958.

Planet Lookout at mid-Month

Sunrise 05:54 EDT and Sunset 20:22 EDT

Days are starting to get shorter!

Mercury Morning Rise 05:42 Set 20:23; Mag-2.1, Size 5.0 arc seconds.

Venus Morning 03:58, Sets 18:33 Mag -3.9 and 11.4 arc seconds.

Mars Morning Rises 01:10, Sets 14:30, Mag +0.3 and 7.7 arc seconds wide.

Jupiter Morning, rises 23:50, Sets 12:10, Mag-2.5 size 42.7 arc seconds.

Saturn Evening, 21:56, Sets 08:33, Mag+0.5 size 18.5.8arc seconds.

Uranus Morning **Rises** 01:37 Sets 15:27; Mag +5.8 size 3.3 arc seconds.

Neptune Evening Rises 23:17 Sets 11:07; Mag +8 size 2.4

A New Star – NOVA! **Supernova "DB Difference between.net"**
Nova and supernova are two features of the universe. A nova is defined as "A star that suddenly becomes much brighter and then gradually returns to its original brightness over a period of weeks to years" (1). On the other hand, a supernova is "a rare celestial phenomenon involving the explosion of most of the material in a star, resulting in an extremely bright, short-lived object that emits vast amounts of energy" (2). From the definitions both nova and supernova result in tremendous amount of brightness.

The major difference between a nova and a supernova is that in a supernova a lot of the object's **mass** is ejected with the explosion. The amount of this mass is more than the mass of the sun. Whereas in a nova, very less mass is ejected as compared to that in a supernova.

A nova does not destroy its host star whereas a super nova does. Since so much mass is ejected in a supernova it disrupts the star in which it occurs. This results in another difference which is that a nova can be seen at the same place multiple times, on the other hand, a supernova cannot.

A nova is the result of "eruption of a very old dying star"(3); supernova is also the result of a dying star, but it is the result of a "violent" explosion of the star (3). Meaning the amount of energy released in a supernova is much greater than that released in a nova; usually this value is about 1044 Joules (4).

Additionally, **a supernova lasts longer than a nova**. A nova is generally of a period between a few weeks to years. **Per Astronomy Magazine there have been 7 now 8 Neked-eye Supernovae throughout human history.**

1 RCW86 - In 185 A.D.
2. 6347.03-0.5 - In 393 A.D.
3 SN1006 - In 1006 A.D.
4. SN1054 - In 1054 Known as the Crab nebula (M1)
5. 3C58 -In 1181
6. SN1572 - In 1572 – Tycho's SN
7. SN1604 -In 1604 Kepler's SN
8. RS Ophiuchi - On 8/8/21

Summary:
1. Supernova releases much more mass than a nova.
2. Supernova destroys its host star; whereas a nova does not.
3. Supernovae cannot occur at the same place more than once.
4. More energy is released in a supernova than in a nova.
5. Supernova lasts longer than a nova.
6. Novae occurs more often than supernovae.
7. A nova usually occurs in binary star systems when a white dwarf absorbs a lot of matter.