CAARA NEWS



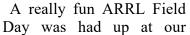
Cape Ann Amateur Radio Association Gloucester, Massachusetts JULY- 2023 EDITION

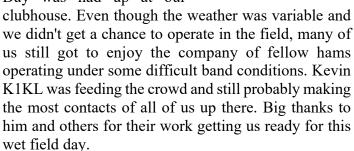


PRESIDENT'S COLUMN

by Brandon-NQ1W

Dear Members,





Speaking of contacts. I personally got to make a few while getting a chance to work the new training rig in the main room of our clubhouse. It is a really nice setup and I highly encourage all members to get checked out on it's operation and give it a run for yourselves. The training station was made possible by money made available to the club via our ARRL grant and purchased by the hardware committee. Larry, Jon, and Cutter got it setup and an antenna system installed for it. Thanks to them for their hard work on that project.

By the time this email reaches you Special Events will have helped out up at the Fishtown Horribles parade July 3rd. I thank them and all the special events participants from CAARA for helping to make this an exceptional community service year for us. You all are doing a great job representing CAARA and helping the Cape Ann community during these events.

Finally let me remind all of us that we will not be having a club meeting or board of directors meeting in the month of July but will return in August. At that meeting we will be talking about the upcoming September club election for officers and board members. If you are interested in becoming a part of the governing body of CAARA please let me or the

current board know. We have positions of import on the house committee and others needing dedicated support. Please consider offering your time to help our organization thrive and grow!

Please continue to enjoy this amazing summer and look forward to some outdoor meetups over the next few weeks. More information to follow.

Regards and thank you for your generous patronage,

Brandon Hockle NQ1W

President Cape Ann Amateur Radio Association

THE EMCOMM MINUTE

By Dean- KB1PGH

So the only way I can operate HF is by going portable so obviously I need power sources. I have a Honda 2000i portable generator but I also like to use batteries.

I like having multiple sources of power for HF and VHF/UHF emergency communications and for use at home in case of blackouts and I can use a battery with my 1000 watt pure sine wave power converter as well.



The batteries are the most quiet power source RF wise on HF. The Honda is pretty quiet as well but I have always liked to have a back up power source. So for years I have always used a 100 amp hour flooded lead acid deep cycle battery and it was getting time to replace it since it is a few years old. The flooded batteries last 4 years or so before as you may know from when they all of a sudden die in your car.

So it was time to buy a new one but I wanted to do a bit of a upgrade this time to a AGM deep cycle battery. As you can see in the photo on the left is the old flooded Champion wet cell battery and on the right is my new VMAX AGM deep cycle battery with the orange sticker

CAARA Newsletter
Cape Ann Amateur Radio Association
6 Stanwood Street
Gloucester, MA 01930

CAARA Newsletter is a monthly publication of the Cape Ann Amateur Radio Association (CAARA).

It is the policy of the editor to publish all material submitted by the membership provided such material is in good taste, relevant to amateur radio and of interest to CAARA members, and space is available. Material is accepted on a first come, first serve basis. Articles and other materials may be submitted by internet to Jon at jpcrockport@gmail.com . If possible, material should be in Word format. Material may also be submitted as hard copy to Jon-K1TP or any Club Officer.

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Jon Cunningham- K1TP Editor Dean Burgess- KB1PGH Reporter

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Welcome to CAARA:

CAARA, an ARRL affiliated club, operates the 2 meter W1GLO repeater on 145.130 MHz with antennas located on the ATT cell tower in the Blackburn Industrial Complex in Gloucester Massachusetts. It has an average effective radius of 60 miles, and serves Eastern Massachusetts, Cape Cod, Rhode Island, Southern New Hampshire, and maritime mobile stations.

CAARA also operates the W1GLO repeater on 224.900 located at the CAARA clubhouse.

The 443.700 repeater is now on the ATT cell tower in the Blackburn Industrial Complex with greatly enhanced performance running in fusion mode and linked to 10 other repeaters in the New England area.

The Association is one of the few amateur radioclubs that has its own clubhouse. Located at 6 S tanwood Street in Gloucester, with a variety of HF stations with beam, vertical, or G5RV antennas.

Amateur radio exams are held on REQUEST at the CAARA clubhouse. Anyone who is considering a new license or an upgrade, is welcome to test with us. Currently pre-registration is necessary. Contact the head of our VE team Bill Poulin- WZ1L if you have any questions about monthly testing.

Monthly member meetings are held on the second Saturday of each month at noon except for July and August.

Each Sunday evening at 9:00 PM, the club operates a 2 meter fm net on 145.130. This is an open and informal net which disseminates club news and prepares operators for emergency communications work. All are invited to check into the net as club membership is not a requirement.

The club is open most Tuesday's from 5-8PM for CAARA members and interested parties to stop by and socialize, as well as use the extensive collection of ham radio gear.

This newsletter is published under the auspices of the Cape Ann Amateur Radio Association (CAARA), However, all content is the work of individual contributors and may contain ideas, opinions or views not necessarily shared or supported by the CAARA Board of Directors or the membership.



color. So there are pro's and con's to each type of battery but there are many advantages to AGM batteries over the flooded wet cell ones. So lets take a look at both batteries and the

advantages of AGM batteries over the regular old fashioned flooded ones. The flooded Champion battery on the left is about 4 years old and costs about \$150.

The new VMAX AGM fluid battery on the right that I just got costs \$300 so AGM's are more expensive but there are a bunch of reasons why. If your wondering why I didn't get a lithium ion battery since the same 100 amp hour size would cost almost \$800-YIKES!.I can't justify that expense for how much operating I do.

So anyway did you know that AGM battery technology came out in 1980 while the older flooded batteries came out in 1859? AGM batteries were first made for airplanes since they can handle shocks and vibrations but now everyone uses them for motorcycles to ATV's and boats since those machines bounce around a lot. The AGM means "Absorbable Glass Mat" .So what that means is the electrolyte in the battery which holds the charge is held in the fine glass fibers between the positive and negative plates in the battery-imagine the glass mat acting like a sponge to hold all the electrolyte. So if you have ever held a regular car battery you can hear the battery acid sloshing around inside which can cause problems.

The big problem with older flooded batteries (especially if you use them for ham radio like I do)-you have to constantly keep them charged up on a trickle charge of they will lose all there charge in a few months and you constantly have to refill the electrolyte inside the older style flooded battery by adding distilled water every 3 months. You see-when you keep older flooded

batteries constantly charged the battery acid emits hydrogen gas and that reaction leads to a loss of the fluid in the battery over time.

I found that out the hard way when I had my son as a new born I got so busy I forget to add distilled water back into the cells and the battery dried out too much and the fluid went below the plates that

held the lead inside the battery so I destroyed it-oops! So with AGM batteries there is none of that nonsense-they are completely maintenance free. There is no fluid level to inspect or hydrogen gas being released and no fluid splashing around and escaping when I use it leading to no corrosion at all. There are many other advantages to buying AGM batteries.

The older flooded batteries last about 4 years and AGM batteries last about double that so I might have spent over \$100 more compared to the cheaper flooded battery but I will make that up over time. Now it all depends on what power needs you want or need. This VMAX battery I got is 110 amp hours which will last me over 10 hours out in the field. The only trade off is that this VMAX battery is quite heavy coming in at 70 pounds so it takes a bit of effort to lug around but it will be a lot safer since I won't have to worry about battery acid spilling out anymore. I will say that there is quite the difference in construction and feel between the old flooded batteries and the AGM batteries.

This VMAX battery has a nice solid feel to it. It's weird not having any battery fluid sloshing around anymore. So if you decide to buy a AGM battery please make sure that its a deep cycle battery so you can power your radios longer with the deep discharge cycle. Of course you can get a smaller battery with less amp hours-you'll have to shop around.

For example this VMAX AGM battery size I got from Amazon is a GROUP 27 type which can fit into my battery case I have. Please check the size of the battery you need before you buy especially if you are putting it in a car or boat or auto. I would also recommend looking into the Optima brand of batteries as well as the Duracell and Interstate brand of batteries as they are the most popular brand names out there. You can take a good look around Amazon to find all sorts of AGM batteries and



sizes. Don't forget to get a "DEEP CYCLE" type of battery as you will get a longer time of discharge thus a longer run time on your ham radios One last thing. Please use only a AGM type battery charger on AGM batteries since they need a higher voltage to recharge properly since they are built to recharge faster than the cheaper flooded batteries. I will show you next month a NOCO battery charger that I am using. That's it for now. See you next month!



We want to thank Peter Chadbourne- K1LJO for a generous donation of radio equipment and accessories including a complete Elecraft station and several transceivers. Some will be put into service on the second floor.

We would like to thanks Hank- W4RIG for donating a Yaesu FT-950 which is now in service on the first floor.

Thanks to Bill- W1WMM and Jon- K1TP for housekeeping and watching over the club.

Thanks to Larry- AJ1Z and Jon- K1TP for setting up rigs and antennas and keeping things running at the repeater site.

2023 ARRL Field Day Was a Success

2023 ARRL Field Day is in the books and from all indications, it was a success!

Social media is buzzing with stories and photos from around the country.

Results are coming in, and so far, 2,548 Field Day entries have been received. You can see a live, up-to-the-minute count of the entries, comments, and photos on the Field Day Entries Received web page.

Participants have been submitting photos and descriptions of their stations and setups to the SOAPBOX column. Below are just a few of the many Soapbox received so far.

William Roy, K1YOR:

"I used a Yaesu FT-450D, 100, and an

[MFJ] G5RV Junior [antenna] in the near vertical incidence skywave configuration. It was basically horizontal. The average height was about 14 to 18 feet above the ground, broadside was north/south, and the ends were pointing east and west. Because I was inside, the antenna could not be extended in a normal fashion. I used rubber standoffs and non-metal furniture to support the antenna.

Thomas Hardy, NN7O:

"This was my first year participating in Field Day. [I] operated CW [low power] from eastern California. I am still a new CW operator, and while I am getting better, I appreciate everyone's patience. I was using my KX2 into a 40-meter [end-fed-half-wave] setup as an inverted v. [It] seemed to work well. [I got] more east coast contacts than I expected!"

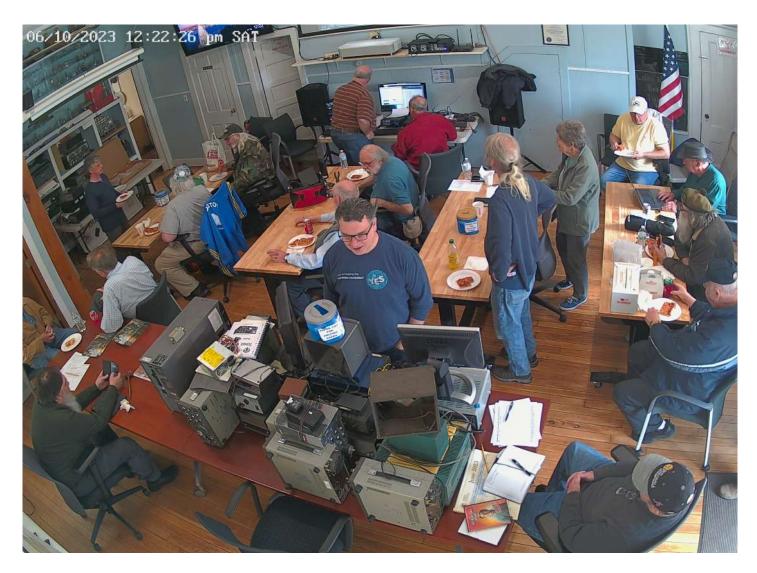
Thomas G. Azlin, W7SUA:

"I set up at our family cabin on the Mogollon Rim [Trail] near Show Low [in Arizona]. [I] used an [Elecraft] K3, [a] Goal Zero Yeti 1500X battery/inverter, [a] 200 -W solar panel for daytime charging, and an [MFJ] G5RV Junior [antenna] strung up in pine [trees] with pre-existing ropes and pulleys. [I] split my time between JS8 and FT8 on 40, 20, and 15 meters. [It was a] nice Field Day, [and] fun!"

Like many ARRL Field Day sites, the Hampden County Radio Association (HCRA) in Massachusetts welcomed guests to their event. They got more than they bargained for, though, when a black bear showed up and started helping itself to their food!



CLUB ACTIVITY AT THE JUNE MEETING



The June meeting was a briefing on how we would operate on Field Day at Hospital Hill in Rockport. As it turned out we held our Field Day at the clubhouse due to the wet weather.

At the meeting we placed some older equipment on the front table that the equipment committee found to be to heavy to sell & ship using EBay and instead made it available to members for a donation to the club funds.

We will hold Board of Directors meetings in July and August but there will be no members lunch or planned meeting. All are still welcome to come over to the meeting and use the club stations afterwards. It is your club! If you have any ideas for meeting topics, etc, for the fall meetings please let a board member know. If you would like to help with a member lunch setting up or cooking on the barbeque we are always looking for volunteers to help us.

Amateur Radio Newsline Report

OFCOM PROPOSES SWEEPING CHANGES FOR UK LICENSES

NEIL/ANCHOR: Our top story takes us to the UK, where Ofcom is proposing a major overhaul of amateur radio licensing and operations. Jeremy Boot G4NJH brings us those details.

JEREMY: Stating it wants to provide amateurs in the UK with greater access to licences while delivering greater operating freedom, the communications regulator Ofcom is proposing sweeping changes to its ham radio licence framework.

None of these changes affects the frequencies or bands amateurs can use but it does increase the maximum permitted power for transmitting across the three classes of licence. The proposed maximum allowances are 20 watts for Foundation; 100 watts for Intermediate in most bands and 1,000 watts for Full licence holders who are operating where ham radio has a primary allocation. Ofcom is also proposing low power airborne transmission on some bands.

Beacons, repeaters and gateways would no longer require a Notice of Variation in most cases -- the holders of a Foundation licence would be permitted on the 2.4 GHz and 5 GHz bands. Foundation licence holders would also be allowed to build their own equipment.

In another change, hams advancing to a higher class of licence would be required to surrender their lowerlevel licence and call sign, holding only a single personal licence. This requirement would not apply to clubs.

This is just a sample of what Ofcom is suggesting. The regulator is seeking feedback and has set a deadline of the 4th September for comment. For a link to the document please see the text version of this week's newscast script at arnewsline.org

This is Jeremy Boot G4NJH.

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OH BABY! WHAT A GREAT FIELD DAY!

NEIL/ANCHOR: So you think you had a great Field Day? Sorry....but no matter how amazing a time you had, no matter how many QSOs you and your club logged, it can never compare to the experience of one amateur in Alabama who helped organize his club's big weekend. Jim Damron N8TMW tells us more.

JIM: Patrick Nagle, N4GLE, was ready. Field Day weekend couldn't come soon enough for this member of the Muscle Shoals Amateur Radio Club. Patrick has been part of the organizing committee for the club's Field Day for the past three years and everyone was ready to put the club callsign, W4JNB, on the air.

This year, Rhett Allen Nagle was also ready. In fact, on June 23, 2023, just as Field Day prep was under way, he was so ready that he was born. With the doctor's help, Rhett's mother, Kaitlyn Hendrix Nagle, brought him into this world and into Patrick's arms.

Patrick told Newsline that he and his wife had hoped for Rhett's birth to take place a few days after Field Day but the doctor wasn't available on their chosen date of June 26th. So June 23rd it was going to be! Holding strong at the Field Day site was brand-new grandfather, Papa Roy Nagle, KI4UX, who kept things running smoothly and stayed in touch with his son.

The happy new father may have been away from the club's operating site this year but he told Newsline he knows he had the best QSO of Field Day weekend. While it may not have been made over the air, he said that all those eyeball QSOs with his new son included plenty of snuggles.

This is Jim Damron N8TMW.

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HUNT A WRTC COMPETITOR AND COMPETE FOR AN AWARD

NEIL/ANCHOR: So you want to be part of the World Radiosport Team Championship but you didn't qualify and you're not in Italy right now? That's a small point, really, if you want to get in on the action. Graham Kemp VK4BB explains.

GRAHAM: While amateur radio teams from all over the world compete in the WRTC on July 8th and July 9th, hams from all over the world can now compete right along with the competitors: Organisers have announced the WRTC 2022 Competition Award-yes, it's still known as WRTC 2022 because of the one-year COVID delay. Hams who have had QSOs with competing stations in the championship can work toward this award by getting on the air during the contest and listening for the action. Organisers recommend that those seeking the award submit their complete logs within six hours after the contest ends, which will be at 1800 UTC on Sunday the 9th of July.

The WRTC 2022 Competition Award is the latest event created in support of the championship. THE WRTC 2023 Award, offered earlier, challenged radio operators to make contacts with special event stations in 12 regions throughout Italy, all ending with the suffix WRTC. There were also special event stations around the world - most of them also ending with the suffix.

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FCC SETS APPLICATION WINDOW FOR LOW-POWER FM STATIONS

NEIL/ANCHOR: The FCC is getting ready to accept applications for new low-power FM stations. Kent Peterson KCØDGY brings us up to date.

KENT: As Newsline reported in February, the FCC has made room on the spectrum for the operation of new, low-power FM broadcast stations in the US. The agency has now announced that a filing window for permit applications will be open between November 1st and November 8th of this year.

The commission will accept proposals for frequencies anywhere in the FM band, from Channel 201 to Channel 300. The last time the FCC opened a filing window for low-power FM broadcast operation was in 2013.

FCC data lists a little fewer than 2,000 such stations operating in the US since the year 2000, when the FCC created the service for 100-watt stations engaged in noncommercial educational broadcasts. Commercial operations and individuals are ineligible for operation of these stations.

When competing applications are filed, an auction may need to occur before the allotments are decided.

The FCC will release filing procedures and other relevant details later. Meanwhile, prospective applicants are encouraged to monitor the Audio Division Web Page on the agency website.

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SATELLITE ENTHUSIASTS REGISTER FOR CONVENTION IN INDIA

NEIL/ANCHOR: Satellite fans, get ready for a big weekend in India devoted to your favorite subject. Registration has opened, as we hear from Jim Meachen ZL2BHF.

JIM: Registration has opened for satellite enthusiasts and other amateurs planning to attend the OSCAR Convention in West Bengal, India on September 23rd and 24th. The website is also accepting registration for the radiosport portion of the weekend: a CW contest and some fox-hunting activity.

The weekend theme is simple: "Get on the Air." OSCAR is an acronym that stands for Orbiting Satellite Carrying Amateur Radio.

While the full schedule is not yet posted, the organiser, OSCAR India, has said the event planners are making special efforts to support and encourage youth to get more involved in amateur radio. Various licence exams will be offered at the venue. The programme of presenters is expected to showcase the latest technologies and assist attendees in broadening their knowledge of operating techniques, antenna design, digital modes and signal propagation.

There will also be plenty of opportunity to socialize.

The OSCAR Convention is supported by Parks on the Air India and Beaches on the Air India

For details or to submit your registration, visit the website address that appears in the text version of this week's newscast at arnewsline.org

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CHINESE TEAM DEVELOPING NEW LUNAR-ORBIT SATELLITE

NEIL/ANCHOR: In China, a development team is working hard on the next satellite destined to enter

lunar orbit with an amateur radio payload. John Williams VK4JJW explains the project.

JOHN: The creators of the first amateur radio satellite to operate in lunar orbit are in the process of developing a second one with the hope of launching it in 2024 from Wenchang, China. The development team consists of students at the Harbin Institute of Technology in China and ham radio operators from around the world. Known as Lunar OSCAR II, it will have telemetry, a digipeater with a JT4G uplink and downlink along with a digital image downlink from an infrared camera.

The satellite will also be useful for various amateur radio orbit determination experiments and communications relay research.

Harbin Institute students built the first ham radio satellite to operate in lunar orbit in May of 2018. The tiny satellite had a big following among hams around the world who used it to download images of the Earth and the moon.

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FOLLOW THE RULES FOR NEWSLINE'S HAIKU CHALLENGE

NEIL/ANCHOR: We hope our listeners have been enjoying the Amateur Radio Newsline haiku challenge. We certainly have! In the spirit of fun and perhaps a little bit of literary adventure, we've been inviting listeners to channel their most creative selves and share the joy of ham radio in the form of a haiku. On our website, arnewsline.org, you will find a submission form for sending your most poetic offering. To qualify, you need to follow traditional haiku form: The first line is five syllables, the second line is seven syllables and the finishing third line has another five syllables. We cannot accept any other formats.

Our team will pick from the best submissions that follow the 5/7/5 syllable rule and represent the love of amateur radio. Your prize? For now, bragging rights -- and a featured spot for your haiku on the Amateur Radio Newsline website. We may have a surprise for you at the end of the year, however. So visit our website at arnewsline.org and take a look at this week's winning ham radio haiku.

US NAVY TO UPGRADE HF RADAR SYSTEM

NEIL/ANCHOR: The US government's long-range surveillance system, which operates on the HF bands, is in line for a major upgrade. Andy Morrison K9AWM tells us to get ready.

ANDY: The United States Navy knows what almost every amateur radio operator knows too: that sometimes the software that enhances your transmissions on HF needs a major upgrade. In this case it's a \$87.5-million upgrade for the Navy and the work will be done on a long-range surveillance system by Raytheon Technologies Corp. The system is known as ROTHR, which is short for Relocatable Over-the-Horizon Radar, and it detects and tracks surface ships and aircraft by using long-range radar in the HF part of the spectrum.

The four-year contract will provide software enhancements, maintenance, installation, removal, integration and testing, among other things, and will be conducted mainly in Chesapeake, Virginia and Marlboro, Massachusetts.

Unlike hams, the Navy puts the ROTHR systems on the air for an important enforcement mission: the systems have been used to track drug-smuggling and are, in fact, considered the government's primary form of surveillance in the war on drugs.

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40 YEARS FOR NATIONAL INSTITUTE OF AMATEUR RADIO

NEIL/ANCHOR: Congratulations to the National Institute of Amateur Radio, which marked its 40th anniversary with a big celebration in its Hyderabad (hydra-bod) headquarters. The NIAR is a nongovernmental organisation that holds training sessions and workshops and advocates for India's radio amateurs. Founded on June 21st, 1983, it is also home to an active club station VU2NRO, which participates in contests and special events. The NIAR plays a big role in helping individuals and learning institutions in forming their own ham radio clubs throughout India. All the best from us at Newsline for the next 40 years - and beyond.

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WORLD OF DX

In the World of DX, listen for the special callsign IL3P on the air between the 1st of July and the 30th of September throughout the Italian region of Veneto. Be listening especially on the 28th through the 31st as the team activates Pellestrina Island, IOTA number EU-131, holiday style and participates in the IOTA contest. See QRZ.com for QSL details.

Bo, OZ1DJJ is using the callsign OX3LX from Qaanaaq, Maidenhead locator FQ57jl, from Greenland, IOTA number NA-018 until the 18th of July. He will be operational on 4 and 6 metres, but he will also be active on the HF bands. He may include a side trip to Herbert Island, IOTA number NA-134 or Meteorite Island. See QRZ.com for QSL details and some great pictures.

Dave, G4OSY will be active holiday style as VP9/G4OSY from Hamilton Parish, Bermuda, IOTA number NA-005, until the 8th of July. He'll be using SSB most of the time and operating on 40 through 10 metres. You may also hear him on 6m. QSL direct to his home call.

Several operators in Germany will be using the special callsign DL0SOP for the month of July, marking the 65th edition of the Sea of Peace award. A small silk pennant is to be given for QSOs with the Baltic neighboring states and regions all month long. Annual stickers are available for hams participating during other years. See QRZ.com for QSL details.

(425 DX BULLETIN)

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KICKER: MEET 2023'S YOUNG HAM OF THE YEAR, KEES VAN OOSBREE WOAAE

NEIL/ANCHOR: And, for our final item this week, we're proud to announce the winner of the 2023 Amateur Radio Newsline Bill Pasternak Memorial Young Ham of The Year award. Amateur Radio Newsline's Mark Abramowicz (Abram-oh-vich) NT3V is chairman of the award program and he spoke with our latest honoree.

KEES: "Oh my gosh! Thank you so much. Yes, that is so cool. Thank you so much!"

MARK: And that was the reaction of Kees Van Oosbree, W0AAE, of Maple Grove, Minnesota, in suburban Minneapolis upon learning he had been selected as the Young Ham of the Year. Kees recently turned 19 years old – just making the cut-off for the award. He is the son of Mark and Jean Van Oosbree.

He is a recent honors graduate of Heritage Christian Academy in Maple Grove and was the valedictorian for his class. Kees says when he was 12, during a museum visit he spotted a fascinating exhibit that sparked is curiosity about amateur radio.

KEES: "And I saw this cool amateur radio shack there. There was this cool map with all of their markers where they made contacts and I saw Antarctica."

MARK: He says that prompted some online research.

KEES: "I got a book on Amazon, studied and took the two licenses [Technician and General] and it was on from there. I got a Baofeng Handie Talkie. I still have it."

MARK: But Kees says he wanted to explore more.

KEES: "HF was my life. I got involved with a few radio clubs the Minnesota Wireless Association which is contesting. Contesting is pretty much my main thing that I do in Amateur Radio although I do branch out and do other things."

MARK: Among those other things was getting connected to youth in amateur radio through the Youth on the Air – Americas program where he has taken up leadership roles in training of operators, QSL manager and sharing his interest in remote operating.

Kees says he did some on-line research on remote operating and found a mentor - Ray Higgins W2RE - who opened a door to a whole new world.

KEES: "He gives us unlimited access to these highly competitive stations that use FlexRadios. I was able to do very, very well through that and contesting through DX contesting...He gave us the tools and we branched off of there. I was one of the five youth that kind of started the program. And now we have over 80, 100 youth."

MARK: Kees says he taught himself Morse Code through on-line computer programs. And, while he says his ability to copy CW exceeds 35 words per minute, his sending speed is a little slower and he prefers a key to paddles. Kees has picked up several awards for his DX and domestic contest SSB and CW entries over his short time in ham radio.

MARK: He's only been licensed for nearly five years.

His favorite contest, he says, is the North American QSO Party.

KEES: "It's just 12 hours long and it's just on Saturday only and I love that because I can work on homework on Sunday."

MARK: Kees will begin college in August at Iowa State University.

KEES: "I'm really excited because they have a really great aerospace engineering program three-a-half hours away from me so not too far away. There are only a few colleges in the country that do this particular major."

THURSDAY EDITION: Charged up and ready to go, fogged in as usual here on the island....band conditions have not been very good during daylight hours but seem better at night, go figure....

Solar Cycle 25 has been underway since April 2019. Ever since the cycle began, the sun has become more active, unleashing solar flares, coronal mass ejections, and geomagnetic storms, with at least one scientist warning solar maximum could arrive ahead of schedule, and that's not great news for the digital economy here on Earth.

The current solar cycle has a forecasted peak sometime in 2025. In December 2022, the total number of sunspots was at its highest in eight years, indicating solar activity was ramping up. Earlier this year, scientists observed twice as many sunspots -- red flags that solar maximum could be nearing.

Another indication of increased solar activity is the number and intensity of solar flares:

In 2022, there were fivefold more C-class and M-class solar flares than there were in 2021, and year on year, the number of the most powerful, X-class solar flares is also increasing, according to

SpaceWeatherLive.com. The first half of 2023 logged more X-class flares than in all of 2022, and at least one has directly hit Earth. (Solar flare classes include A, B, C, M and X, with each class being at least 10 times more powerful than the previous one.) -- Live Science

Over the years, we've explained solar flares can spark geomagnetic storms and cause disruptions to satellites and even power grids. The Next Big Geomagnetic Storm Poses An Astronomical Risk To Modern Man

Digital Economy Disruption Possible As "Terminator Event" Suggests Strongest Sunspot Cycle On Record ImminentRisks Solar Storms Pose On Modern Economy

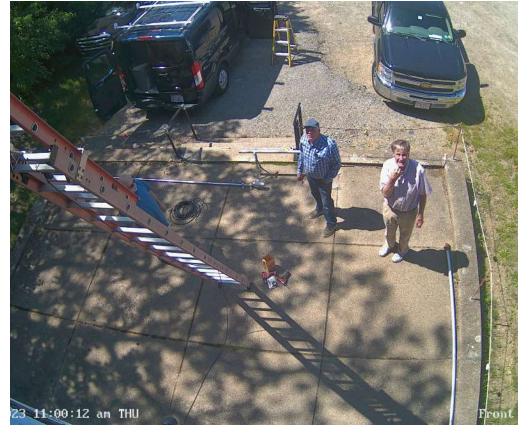
The table below shows the top 100 countries by ham radio population	The table below s	hows the top 100	countries by ham re	adio population.
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Rank	Country	Amateur Radio Licenses
1	Japan	1296059
2	USA	679864
3	Thailand	141241
4	RO Korea	141000
5	Germany	79666
6	Chinese Taipei	68692
7	Spain	58700
8	ÜK	58426
9	Canada	44024
10	Russia	38000
11	Brazil	32053
12	Italy	30000
13	Indonesia	27815
14	France	18500
15	Ukraine	17265
16	Argentina	16889
17	Poland	16000
18	Australia	15328
19	Netherlands	14529
20	Sweden	10817
21	India	10679
22	Venezuela	10600
23	Denmark	10060
24	Hungary	9000
25	Czech Rep.	7086

FYI No Member Meetings in July or August.

NEW ANTENNA AT CLUB





Cutter- KC1JKJ and Jon-K1TP checking out the new 10-80 meter vertical just mounted on the front of the building. Larry- AJ1Z was feeding coax out the second floor window.

We will be installing a new Cushcraft vertical at the rear of the building in early July and rehabbing the Cushcraft R5 vertical currently on the rear of the kitchen roof.

We are slowly adding and repairing antennas so we can use more of the radios we have ready to go on the second floor.





Get Well Quick!

Our monthly article from Curt- AA3JE living in Littleton, NH (formerly of Rockport) will be postponed until he fully recovers from a severe hand injury. We all wish you a speedy recovery.

Curt was past president and very active in promoting hands on activities for club members and sponsored many club improvements over the years.

I remember one class where we built a FM radio from a kit, tested and aligned it, ...I still have it!





Field Day Photos



