

OLE VIRGINIA TIMES

October 2023

Next Monthly Meeting: Tuesday, October 17, 2023

PRESIDENT'S LETTER:

Hello All, Fall-like weather Finally!

September came in like a (temperature) lion, and then took its own sweet time moderating. But here we are in October, and we are once again with seasonal temperatures. While not a fan of the "s" word (snow), I am looking forward to the cooler seasons and the smaller electric bills. However, I am not yet thinking of the upcoming gas bills. Heavy sigh.

Earlier this year, I was once again invited to be part of the 2023 Warrior Bike Ride Executive Planning Committee. This year's kickoff meeting was back on February 1st. A tremendous amount of planning, work & three county coordination went into a one-day event. It is always a privilege and a pleasure to work with men & women who are so very good at their jobs. Once again, I learned quite a bit.

Having said that, I have some new numbers for the SOWW Warrior Bike Ride that took place back on September 9th, 2023.

- 264 riders took to the roads, raising \$97,612 dollars for the Retreat.
- This will fund 38 Warrior family stays.
- Frank Yurkovich, founder of Golden Seal Enterprises and 18-year U.S. Navy Special Warfare Veteran, was the honorary Ride Marshall.
- It took 120 volunteers to support the ride with 1,000 hrs. of manpower for event day alone.
- The Ole Virginia Hams fielded 28 operators as bike route spotters.
- Warrior Ride Committee preparations began last December with a 2022 after action report in preparation for this year's ride (2023).



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Ole Virginia Hams Amateur Radio Club, Inc.

Post Office Box 1255
Manassas, Virginia 20108

OFFICERS

President:	Ken Brant	KN4DD	622-2638
Vice Pres:	Gil Thompson	KM4OZH	369-0431
Secretary:	John Heartney	KG4NXT	257-3566
Treasurer:	Don Meyerhoff	WA2SWX	597-3211

DIRECTORS

Don (Butch) Blasdell	W4HJL	369-2877
Arthur Whittum	W1CRO	791-4330
Charlie Dale	WA4YGI	361-3091
Bob Zaepfel	K4HJF	282-2451

WEEKLY FM REPEATER NET COORDINATOR

JOHN	KG4NXT	257-3566
Thurs - 8:00 PM Local Time		

TAILGATE (HAMFEST) 2023 - CHAIRMAN

Don	WA2SWX	597-3211
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FIELD DAY 2023 - CHAIRPERSON

Cat otohime.1978@gmail.com	KM4PBD	571-213-2179
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CLUB ROSTER / DATABASE

Arthur	W1CRO	791-4330
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EDUCATION

Mark	WA4KFZ	818-8033
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CLUB EMERGENCY COORDINATOR

Open - volunteer needed!

ARES - EMERGENCY COORDINATOR

David Lane	KG4GIY	628-3868
See http://pwcares.org	email: kg4giy@arrl.net	

FINANCE

Arthur	W1CRO	791-4330
Mark	WA4KFZ	818-8033
Don	WA2SWX	597-3211

GENERATORS

Byron	AK4XR	222-2095
Al	KB4BHB	368-4794

TRI-IT-NOW & WARRIOR BIKE RIDE - CHAIRMAN x2

Andy andy@gamponia.com	KJ4MTP	785-4651
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WEB COMMITTEE — W4OVH.NET + Twitter & Facebook

Kevin	W4RKU	540-445-5183
John	KG4NXT	257-3566
Ken	KN4DD	622-2638

Web Committee "help request" email: webmaster@w4ovh.net

EMAIL REFLECTOR — w4ovh@googlegroups.com

John	KG4NXT	257-3566
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MANASSAS CHRISTMAS PARADE - OVH COORDINATOR

George	K4GVT	791-5956
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LEGAL

Bob	K4HJF	282-2451
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MEMBERSHIP CHAIRMAN

Luther	WA3FMO	361-4885
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NEWSLETTER

Paul	W4ZB	754-0910
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CHRISTMAS / YEAR END PARTY - CHAIRPERSON

Theresa.	KG4TVM	257-3566
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PROGRAMS

Tony	KM4KLB	331-3705
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QUARTERMASTER

Open - volunteer needed!

REPEATER CONTROLLERS

John	KG4NXT	257-3566
Ken	KE2N	753-8587
George	K4GVT	791-5956
Arthur	W1CRO	791-4330
Butch	W4HJL	369-2877
David	KG4GIY	361-3042
Cat	KM4PBD	571-213-2179

W4OVH — TRUSTEE

Wayne	N7QLK	571-237-0520
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W4PVA — TRUSTEE

Arthur	W1CRO	791-4330
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SCHOLARSHIP 2022

Ken	KN4DD	622-2638
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SUNSHINE

Andrea	KI4SXM	868-5363
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TECHNICAL COMMITTEE

Ken	KE2N	753-8587
Andy	KJ4MTP	786-4651
George	K4GVT	791-5956
Arthur	W1CRO	791-4330
Butch	W4HJL	369-2877
Bob	K4HJF	335-1939
David	KG4GIY	628-3868
Gil	KM4OZH	369-0431

HISTORIAN

Theresa	KG4TVM	257-3566
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All telephone numbers listed above are for Area Code 703 unless otherwise noted. This is the official monthly publication of the Ole Virginia Hams Amateur Radio Club, Inc., a §501(c)(3) organization, dedicated to the promotion and enhancement of Amateur Radio. Copyright © 2023 by the Ole Virginia Hams which holds its regular monthly meetings at 7:30 p.m. every third Tuesday at the Buckhall Volunteer Fire Department Station, 7190 Yates Ford Road, Manassas, Virginia except during the COVID pandemic (in 2020-2021) during which the monthly meetings were held online. The Newsletter will have login details for monthly online meetings if applicable. Members, prospective members and other interested persons are invited to attend without obligation. Local information can also be obtained through the OVH's FM repeaters on 146.970-, 224.660-, 442.200+ and 443.500+ MHz. Up to date information about OVH activities and its meetings is also available during the OVH's nets on its FM Repeater each Thursday night at 8:00 p.m. or through the OVH's web site at <http://w4ovh.net>. Articles in this newsletter may be reprinted if credit is given to the OVH ARC and other source(s) noted. Proposed materials for publication, classified ads, notes about specific errors, complaints or the like are solicited. Forward such items to the Newsletter Editor: paul@w4zb.com. Approx. Circ.: 170. Last Rev: 20230316

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- 75% of our riders have some military affiliation either as active duty, Veteran or military family member.
- Several groups have been with us from the beginning including The Farm Brewery, Nam Knights, Great Falls Volunteer Fire Department and of course, the Ole Virginia Hams.

Speaking personally as a US Army Veteran, I continue to be proud of our club member's continuing support, and of our association with this very worthwhile charity.

The proposed date for the 2024 Warrior Bike Ride is Saturday, September 7th.

You don't have to wait until our next monthly meeting to see everyone again. Our monthly breakfast is this Saturday, October 14th at 8:00 AM. Pioneered by Byron, AK4XR, we get together every Saturday before our meetings at a table or two in the back of Yorkshire Restaurant, 7537 Centreville Rd, Manassas for some good food and good conversation.

The very last Tri It Now will happen this Sunday. We will be celebrating the 26 seasons of Tri It Now! The "SEASON WRAP UP" will be held on October 15th @ 8:45 AM, at The Freedom Aquatic & Fitness Center, Manassas, VA 20110. See, <https://trititnow.com/>

The Season Wrap Up will start with the run, then do the bike, and finally end up with a "snake swim" at the pool. We'll do the swim last instead of first because late October can be mighty cold for racing with a wet head!!

Categories include: triathlon, duathlon, aquabike, aquathlon, tri-relay teams & a new race category – DU-Relays (2 or 3 person teams with each person completing 1 or 2 legs of the triathlon or duathlon) – ages 10 through adult. We need 7 or 8 volunteers as I write this. As always, to volunteer contact Andy, KJ4MTP via e-mail andy@gamponia.com Be there as Tri It Now wraps it up!

Our next monthly meeting will be on Tuesday, October 17, 2023 at the usual place and time: Buckhall VFD Hall, Manassas, 7:30 PM – 9:00 PM EDT.

This presentation at the upcoming October meeting will be one for all of our DIYers. Authored by Jeff / WB4TT and Gil / KM4OZH, they have, for the last several months, been working on a 60-foot tilt over tower for Jeff. It weighs over 900 lbs. and can be raised or lowered with just an electric drill. An awful lot of planning and hard work went into this venture. Now, they will be telling and showing us how they did it. Please plan on attending.

Please note that the Ole Virginia Hams have also scheduled another VE Session for November 4, 2023 from 8 AM until 12 noon, once again at the Lord of Life Lutheran Church, Clifton Campus, 13421 Twin Lakes Dr., Clifton, VA 20124. Keep in mind that this church has two campuses, and the VE Session will be at the Clifton campus ONLY. Please circulate this information to anyone you know who is looking to take a new or upgrade FCC license examination. OVH and other VEs are asked to please volunteer to assist with this.

The 77th Greater Manassas Christmas Parade will be on Saturday, December 2, 2023 at 10 AM. Planning is already underway for the OVH's participation in that; the OVH is still looking for more volunteer spotters - so, if interested and available, please contact George / K4GVT via e-mail george@k4gvt.com.

The OVH year end Holiday Party is once again being organized by Theresa / KG4TVM. Once again the party will be held at the Yorkshire Restaurant, this year on Sunday

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evening, December 10, 2024. For our new members, that means no regular monthly OVH meeting in December. This party event will be it. The party will run from 6 PM until 8 PM. Please bring a covered dish, as ham and turkey will be provided by the club. And bring an unwrapped gift (or two) for the Marine Corps Toys for Tots.

A reminder to check in to the OVH's Thursday night VHF/UHF repeater net at 8 PM which is held each Thursday. Details for that are on the OVH's web site: <https://w4ovh.net> Checking in on that net is a great way to stay in touch.

Questions, comments or war stories can be directed to my e-mail: KN4DD@arrl.net

73 Ken KN4DD



Sunshine Corner

Happy Birthday wishes to our club members celebrating this October month: Chris / KN4IJF; Ray / KM4EKR; Rob / KC4VDN; Phil / AC4PL and Richard Eisenhart / No Call. Hope you all have wonderful birthdays with lots of candles!



Congratulations Corner: Kudos to Gil / KM4OZH, our National Competitor as a rover in ARRL's September VHF Contest. Little birdie told me that he was running up to Pennsylvania and down to southern Virginia to collect multiplier grids. So, with OVH's outpouring, he achieved a personal best claimed score of 11,319. WAHOO!!!!!!

Help Needed: Volunteers in the VA/DC/MD area to assist with the "X-STEM NOVA" event on Friday, October 20th, presented by the USA Science and Engineering Festival. The event will be held at the National Conference Center near Leesburg, VA. We're short of volunteers, so if you're willing and able, it would be terrific. About the event: this one day event is for middle and high school students designed to empower and inspire kids about careers in science, technology, engineering, and mathematics. Attendees will be inspired by presentations from leading STEM role models, participate in Q&A sessions, learn by doing in hands-on workshops, interact with students from all over the county, and have fun while learning about exciting career opportunities in STEM! More on the X-STEM NOVA is at: <https://usasciencefestival.org/x-stem-nova-2023/> For further info, contact: Bruce / KN4TS, email: bruce@thematthews.net Tel: 703 774-4816

The upcoming regular October OVH Meeting: If you want to know more about the OVH, please attend one of our meetings that are held on the third Tuesday of the month. Our next scheduled meeting will be on Tuesday 10/17/2023 at 7:30 PM at the Buckhall Volunteer Fire Department, 7190 Yates Ford Road, Manassas 20111. You are welcome to attend without obligation. From the parking lot, you will see a wing wall projecting from the building with signage that reads "Training Room". The single door to the room where we usually meet is at the left end of the wing wall on the corner of the building. If you are able to attend, we ask you to tell us a little about your amateur radio biography, but only if you are comfortable doing so. OVH is a friendly, welcoming

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club and we hope you will attend. Our meetings often start with a presentation on a radio-related topic and this may be my favorite part. Please contact Luther WA3FMO wa3fmo@gmail.com with any questions or concerns.

TRI_IT_NOW: The “Season Wrap Up” will be on Sunday, October 15, 2023, which will also be the last one. See, <https://tritnow.com> or contact Andy at andy@gamponia.com to sign up. The Tri It Now event schedule is also on our W4OVH web site event calendar.

Amateur Events in December, 2023

Rookie Roundup is a contest aimed at Amateurs licensed for three years or less. This six-hour event is held three times per year (April, August and December). Rookies can contact anybody, while “Old Timers” make contact with only Rookies on Sunday, December 17, 2023, using CW. WHY? Mentoring is a big part of this event! Please see <http://arrl.org/rookie-roundup> for more details.

Concerns Corner: Theresa / KG4TVM lost a very close family member, and we offer our deepest sympathies and condolences.

NET NIGHT: Every Thursday at 8 PM, we have the club’s weekly VHF/UHF FM radio net. Please join us, say hello and hear up-to-date information on club news. See W4OVH.NET web site for details.

Having issues with your radio equipment or need help with anything ham radio? This is a great forum to ask questions and hear the latest news on current club events.

Please send me your news for Sunshine Corner. Happy Ham’In! And, enjoy the amazing solar activity!



73 Andrea / KI4SXM sunnybeach4us9@gmail.com

Minutes of the Ole Virginia Hams Amateur Radio Club Informal Meeting held on Tuesday, September 19, 2023:

OVH President Ken / KN4DD called the meeting to order at 7:30 pm on September 19, 2023 at the Buckhall Volunteer Fire Department Station, Manassas in the usual meeting room.

After the Pledge of Allegiance, all present stated their names and callsigns.

Marcel Stieber / AI6MS gave a video presentation on “Everything You Need To Know About Lithium Batteries.” .

The minutes of the August 15, 2023 OVH meeting were approved.

Don / WA2SWX gave the Treasurer’s report and it was approved.

Luther / WA3FMO gave the membership report. There was three vote-ins: Luis Ramos / KQ4GBC; Daniela Daraban-Ramos / KQ4IKQ; and Paul Giovanni / KO4UOO.

ARES Report by David KG4GIY: Thanks to Gerald and Bob for their help at PW

Community Outreach and Preparedness Fair that was held on Saturday 16 September. There will be a tabletop on Wednesday September 20 to address issues from the exercise at MCB Quantico in May. City of Manassas Preparedness Fair will be held Saturday 23 September. City of Manassas Park will hold an open house and preparedness event on Saturday 7 October. There will be no SET this year. Still need help for MCM event on Sunday 29 October. Don't forget about the Turkey Trot in November!

Repeater Report by Ken / KE2N: All systems are currently working. Discussed APRS App. Training Report. No report this month.

Tailgate/Hamfest Report. No report this month.

Field Day Report. Cat / KM4PBD will do Field Day at Nokesville in 2024.

Web Committee Report by Ken / KN4DD. Ken is continuing to deal with the 'demon plug#ins' issues. Several (Russian source?) attacks were foiled by the web site software.

Sunshine Report

Happy Birthday wishes to our club members celebrating this September – Gus/N4MLE; Scott/WB6EFW; Al/KB4BHB; Jim/WE4JJ; Kyle/No Call Sign; Maury/W4HYB; Luis/KQ4GBC; Ron/N4RDZ; Mark/WA4KFZ; Lori/KC0EWN and Bill/AF4LL. Hope you all have wonderful birthdays with lots of candles!

- Special Happy Birthday to Chick, KC1PIA whose 90th birthday was at the end of August.
- Special Happy Birthday to Al, KB4BHB who had his 90th birthday September.

Congratulations Corner: Many thanks to the OVH volunteers who helped the Willing Warriors community with their 6th Annual Warrior Bike Ride back on September 9. Fun times, and all went well, except some riders and runners went off course several times. But helping them get re-routed back to the course is part of the job. Thank you Andy / KJ4MPT, for the doughnuts.

Also, a big shout out for all the OVH Team, below, who helped out at the TRI-IT-NOW event held at George Mason University on Sunday, September 10th.

Kudos to John / KG4NXT for 2,000 POTA activation. This is special. That you get to see the national and local parks in the area and get to make contacts is truly awesome. Hope to see more pictures of the parks visited and you and your gear.

Kudos to Gil / KM4OZH, our National Competitor as a rover in this past weekend's VHF contest. Little birdie told me that he was running up to Pennsylvania and down to southern Virginia to collect multiplier grids. As Gil mentioned in his latest email – ” many thanks for the OVH pileup Sunday evening. Even with poor conditions resulting in lower multiplier count, each 6m or 2m contact was worth 49 points and each contact on 220 MHz or 440 MHz is worth 98 points. Even 1 contact makes a difference. So with OVH's

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outpouring I achieved a personal best claimed score of 11,319” WAHOO!!!!!!!

Ina, who has done an outstanding job coordinating the Mini-Tri activities, will be retiring soon. A card was passed around for signatures. She will be missed!

Thank you to all that helped Andy and Theresa with the SOWW bike ride.

Old Business: The club trailer will be in the Manassas Christmas Parade this year. Theresa is handling the application. The fee has been waived. James has volunteered to pull the trailer with his truck.

Ina would like the participants to wear an old Mini-Tri shirt on 15 October. Would also like to get a group shot before the race. Does anyone have access to a golf cart to enable us to drive Ina around on her last day?

New Business: None this month.

The meeting was then adjourned at 8:30 P.M.

Reminders about some upcoming events / calendar dates:

HAMFESTS, VE SESSIONS AND OVH CLUB EVENTS:

October 22, 2023 - Sunday - Carroll County MD Hamfest in Westminster, Maryland. See, <https://k3pzn.net/hamfest> and Flyer later in this Newsletter for more details. Note to check carefully because both the web site and the Flyer show “2022” rather than “2023” per the ARRL Hamfest listings. A bad mistake for an important event like this - better proofreaders needed!

November 4, 2023 - Saturday - VE Session of FCC Exams, 8 AM to Noon at the Lord of Life Lutheran Church, Clifton Campus, 13421 Twin Lakes Dr., Clifton, VA 20124. (Note: the VE Session will be at the Clifton campus ONLY!) This should be of interest for everyone needing an FCC VE examination for a new or upgraded FCC Amateur Radio License.

December 10, 2023 - Sunday - 6PM to 8PM. The OVH Year End Holiday Party to be held again at the Yorkshire Restaurant. Save the date for this, a major OVH Club social annual event, family and friends invited. Check out the OVH web site for more updated details about this.

HAM RADIO OPERATING / CONTEST EVENTS:

December 17, 2023 - Sunday - Rookie Roundup which is a contest aimed at Amateurs licensed for three years or less. This six-hour event is held three times per year (April, August and December). The December event is CW only. Rookies can contact anybody, while “Old Timers” make contact only with Rookies. See, <http://arrl.org/rookie-roundup> for more info.

The ARRL maintains a Contest web page at its web site at ARRL.org, but a much more comprehensive, up-to-date, and long range planning contesting calendar with links to the rules for the various events is maintained at <http://contestcalendar.com> by WA7BNM. If you get the radio contesting bug or just want to find out and how much is going on - a lot is going on, these are very good places to look!

PUBLIC SERVICE / ARES EVENTS

October 15, 2023 Sunday TRI_IT_NOW: See <https://tritnow.com> for more info; also, email andy@gamponia.com to sign up to participate with the OVH. This is expect to be the last and final TRI_IT_NOW event.

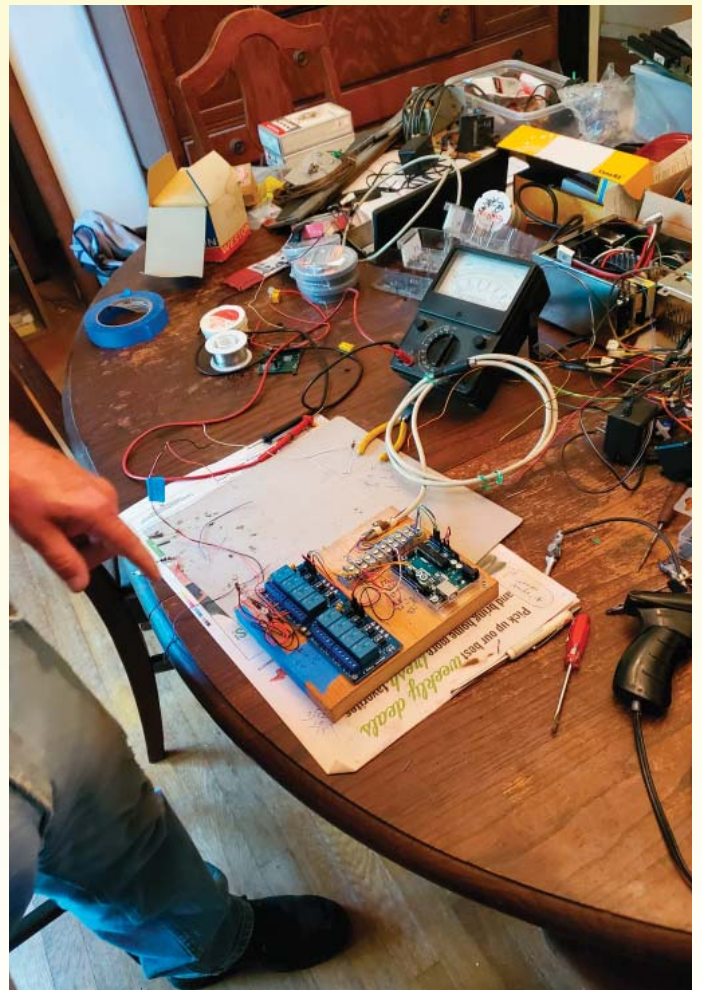
December 2, 2023 - Saturday - 10 AM - The 77th Greater Manassas Christmas Parade, which the OVH will supporting with communications and also participating in as a Club event. Contact George / K4GVT [email: george@k4gvt.com], who is cordinating OVH's participation. For more info about the parade, see <https://gmchristmasparade.org/parade>
Also check the online Calendar on the OVH's web site at W4OVH.NET for information about upcoming OVH related events. Also, check the online Calendar maintained by David / KG4GIY at <http://pwcared.org> for the latest PWC ARES updates. Complete direct contact information for David KG4GIY also appears on page 2 of this Newsletter.

Some Techniques Used By Gil To Achieve A High Contest Score

The ARRL September VHF contest was from September 8th to 11th in 2023. OVH member, Gil / KM4OZH, participated again in the Limited Rover class in that contest which mean he was operating with a mobile radio station, and also doing quick setups at many different locations; also, he had four VHF/UHF bands to work with: 50 Mhz, 144 Mhz, 220 Mhz and 440 Mhz.

Gil always spends a lot of time and effort getting his car ready for mobile and roving radio operation during this contest, improving and refining things. This year, Gil and his adult Ham son, Jordan, created an automatic antenna switching system based on one of the Arduino microprocessor systems. As a result, when Gil changed bands on his radio(s), the correct and optimied antenna was automatically selected for that band, a time saver when a considerable number band switches are needed to be in the running for a high score. To the right is a photo of the antenna switching system as it was breadboarded before being installed in Gil's car.

Also, Gil always has had to plan his routes carefully to allow for sleep time because he is typically "on the road" for two consecutive days during the contest and sleep is needed. Gil has scored high before , but this time is was a person best and his raw score was second nationwide!!



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The OVH also “helped” out again this year per the contest rules by providing an OVH member “pile up” for Gil to work when he returned to the local area on Sunday, shortly before the contest ended. By then Gil had all of his multipliers and each new contact was worth at least 48 points!

I don’t have a complete list but I heard the following OVH members calling Gil on that Sunday night: Cat/KM4PBD, Theresa/KG4TVM, Butch/W4HJL, James/KQ4CAX, Wayne/N7QLK, Byron/AK4XR, Ron/K3FR, George/K4GVT, Jeff/WB4TT, John/KG4NXT and Duane/KK4BZ.

The payoff for all this effort, a high level of personal satisfaction for Gil in achieving the second highest score as the ARRL contest page screen capture (below) shows. --John/KG4NXT

2023 ARRL September VHF Contest - Raw Scores

Raw scores as calculated **before** log checking.

From the list below, select the contest or call sign for which you want to view scores and then click on Go. If you believe an

2023 ARRL September VHF Contest

All Categories or

Classic Rover		Limited Rover	
1. VE3OIL/R	101,032	1. KG9OV/R	29,757
2. K2QO/R	81,756	2. KM4OZH/R	11,319
3. KF2MR/R	80,344	3. AA2SD/R	8,756
4. KA9VVQ/R	35,190	4. N6GP/R	7,134
5. W9FZ/R	34,544	5. KA7RRA/R	2,888
6. AG4V/R	16,120	6. VA7OTC/R	2,538
7. KV2X/R	14,960	7. WE7X/R	1,921
8. KC0P/R	11,417	8. K0LTC/R	1,863
9. KE2BUY/R	9,405	9. KE5HDE/R	1,809
10. N0HZO/R	9,064	10. NN6U/R	1,406

Some Possibly Interesting or Useful Information

In a recent item on the OVH Members Only email reflector and posted on W4OVH.net too, OVH member, Don/WA2SWX, advised that he had operated and made several FT8 contacts remotely through his home ham station in Virginia over an Internet connection available to him while flying in a aircraft at 35,000 feet over or near Mexico. Further details were a bit sketchy but Don kindly provided more information. He had been on a commercial flight and on the aircraft he simply connected to the publicly available, Internet connected, WiFi system using his Windows 11 laptop. Don’s home station in Virginia included a Windows 10 computer connected to the Internet and running the VNC server software which controlled the FT8 software that was connected to and controlling his IC-7300 ham station transceiver. I asked Don what uplink/downlink speeds, and link dropout/reconnecton and latency problems he had experienced, but learned that Don had not done such testing because his initial hookup simply worked! In the early 1990s using Internet link speeds under 2.4 Kb, I did a series of remote control (slow speed) HF ham radio digital mode operating tests over terrestrial Internet links - why I was curious about the speed, dropout and latency issues which had been major issues. Obviously, Internet connectivity has greatly improved over the past 30+ years, but aircraft based Internet systems still pose latency problems which limit remote control operation if the system requires full duplex connectively.

Introduction to Greencube and the S.A.T. Controller -- Bruce / KN4GDX

The amateur radio and amateur satellite hobby has been a popular and innovative niche for many years. When I started in amateur radio in the 1980s packet was a very popular digital mode for terrestrial communications, with growing amateur satellite packet options. That continues today but many hams are more familiar with packet use in popular applications such as APRS. Since then there has been a large global deployment of digital-repeaters globally and especially in the US, supporting the packet digital hobby and increased satellite-packet options. Today, the terrestrial packet hobby coexists with other advanced forms of digital HF and VHF communications such as VARAC and Winlink. And short satellite packet contacts of several minutes have been normal. What has been missing in the US are longer dwell satellite contact opportunities which are only possible through satellites deployed to higher altitude orbits.



Two recent developments have fueled additional ease of access for amateurs with popular transceivers, such as the IC-9700; and at the same time offering much longer contact times with a versatile packet-enabled satellite. These are the S.A.T. device and the recent Greencube amateur satellite, also known as IO-117. In the case of the S.A.T. device, WiFi access to the unit's web-page-enabled controls provides ease of access to transceiver and rotor/antenna controls; while the IO-117 satellite provides trans-oceanic packet access at 1200 baud with 'passes' of 70+ minutes – plus a variety of user features. Let's take a closer look.

The S.A.T. Device

CSN Technologies (csntechnologies.net) offers the Self-Contained Antenna Tracker for ~\$275. I bought mine from DX Engineering which is a primary provider. This price is a little steeper than other rotor controllers but requires no tethering to a local computer. WiFi enablement of the S.A.T. web page offers all the features normally available with popular applications such as SatPC32; but without the local computer in the loop, and with less operator effort to update ephemeris files or satellite communications parameters.

The S.A.T. is generally optimized for integration with the IC-9700 transceiver and Yaesu rotor controllers, but other solutions are possible. That combination



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was my existing setup; so, in my case, the choice was simple. Your applications may vary. The interfaces to the S.A.T. are 1) USB 5v power, 2)GPS dongle (optional), 3) rotor interface, and 4) transceiver remote access. All cables are supplied. The important feature here is the transceiver's USB computer interface is unused and that frees up the transceiver for interface with your local computer applications with both comm ports available. All recent Icom radios have the remote/CAT feature as a 3.5mm plug. Below is a screen shot of the S.A.T.'s web page and control console as accessed at my remote operating location.

The screenshot displays the S.A.T. web interface with the following sections:

- MAP:** A world map showing satellite tracks with various call signs and coordinates.
- POLAR:** A polar projection map showing the satellite's path relative to the Earth's poles. Legend includes Antenna (red square), AOS (green circle), LOS (red circle), and Satellite (black diamond). Data: 4AZ -0.8, 4BL -0.9, KN4GDX-FM18CS, ©CSN Technologies S.A.T.
- GROUND:** A graph showing the satellite's elevation angle over time. Legend includes AOS (green circle), LOS (red circle), Antenna (red square), and Satellite (black diamond).
- TRACK:** A table of satellite data for IO-117:

NAME	IO-117
SAT POS	AZ: 297.9° / EL: 29.3° to
ANT POS	AZ: 298.7° / EL: 30.2°
RANGE	7761.4 Km / 4822.7 Mi
AOS	08:39:59 @ 337.4°
LOS	09:43:59 @ 212.9° (TTGO 39:44)
MAX EL	32.1°
TIME	9/29/2023 09:04:13
LAST MSG	RADIO ENABLED
GPS STAT	4 SATS FM18CS
- RADIO:** Control panel with buttons for ENABLE, LOCK VFO, CENTER, ADD, QUICK CW, Report Status, and various frequency and mode settings.
- LOG:** A table for logging satellite contacts with columns for #, DATE, SAT, CALL, GRID, and COMMENT.

In the case of remote operating, which has been my experience to date, my IC-9700 is accessed via the RS-BA1 software; and the S.A.T. is accessed via WiFi/Lan. So far, I have only done packet receive testing.

The Greencube/IO-117 Satellite

Western Hemisphere amateur satellite enthusiasts have been waiting for a very long time for reprise of long dwell orbit capabilities such as Highly Eccentric Orbit (HEO) or Geosynchronous Orbit (GEO) options. Eastern Hemisphere amateurs have been enjoying GEO access for a few years now via the QO-100 satellite.

Greencube was launched in 2022 by Sapienza University, Rome, through coordination with the Italian Space Agency and via a European Space Agency launch. The satellite is a '3U' cubesat which translates to about



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4 inches square by 12 inches long. It's in a Medium Earth Orbit (MEO) with a period of about 4 hours and inclination of about 70 degrees. That means it is visible multiple times daily from anywhere on earth. Visibility times can be over 75 minutes and regularly feature access across the US – all 50 states – as well as Asian, European, and South/Central American contacts.

Greencube also carries out other scientific missions such as biology experiments. Much more data is available here: <https://stationproject.blog/2023/07/04/greencube-io-117-overview/>

Here are some typical Greencube contact opportunities from the SatPC32 AOS program.

WinAos QTH: -77.8/38.8 T#: 16706 Sat.: 1 [Standard]

Day	Objects	AOS	(L) LOS	Period	maxEl	AZ
28.09.2023	IO-117	02:20	03:35	75	37	303 - 104
28.09.2023	IO-117	06:24	07:39	75	78	334 - 172
28.09.2023	IO-117	10:22	11:06	44	10	333 - 251
28.09.2023	IO-117	16:44	17:39	55	20	129 - 023
28.09.2023	IO-117	20:20	21:36	76	84	200 - 029

My tracking antennas are more modest ('Leo Pack') than those in the IO-117 overview link but work fine for copying the UHF packet traffic; and some operators have reported success with fixed antennas such as 'eggbeaters'.

Greencube Software

Various software options are available. I have been using the Greencube Terminal program which works in concert with the popular Soundmodem software. The Soundmodem option required is the SSB version. Yes, Greencube transmits Upper Side Band on the 440 MHz band. Extensive detail on downloading and using these free software options are available at: <https://www.moonbounce.dk/hamradio/greencube-terminal-program.html>

Join in the fun! In time other groups are likely to launch amateur long-dwell satellites. See, for example, AMSAT/GOLF which is a "Greater Orbit, Larger Footprint" project.

This is an example Greensat packet capture from Soundmodem.

```
1: [GREENCUBE] [20:30:51R]
[priority:2 src:1 src_port:34 dest:9 dest_port:29 len:59 RS_err:4]
82 97 62 00 1D 03 59 56 35 4E 45 41 3E 4B 4A 37 53 58 52 2C 20 47 72 65 65 6E
43 75 62 65 2C 20 53 54 4F 52 45 3D 30 20 37 33 20 64 78 20 54 6E 78 20 51 73
6F 2E 20 4C 4F 54 57
```

And here are examples of decoded user packets from the Greencube Terminal program.

```

18.04.23 14:42:41.122 G0IIQ CQ IO93VN RX:0
18.04.23 14:42:42.181 K0EKL M5JFS 59 EN37 QSL? RX:0
18.04.23 14:42:49.404 K9JKM M5JFS 599 EN52 Illinois RX:2
18.04.23 14:42:50.422 GW0POA CQ IO81KM RX:0
18.04.23 14:42:58.692 KI0KB GW0POA UR 599 DN70 Colorado QSL? RX:0
18.04.23 14:43:03.431 K0EKL GW0POA 59 EN37 QSL? RX:0
...
18.04.23 14:44:07.534 DJ7ZZ CQ CQ JO30WK RX:0
18.04.23 14:44:14.136 KC9ELU 4A9O 599 EM79 INDIANA RX:0
18.04.23 14:44:17.085 VA7LM M5JFS CO54qb RX:0
18.04.23 14:44:23.526 G3OUA 4A9O 599 IO90tu QSL? RX:1
...
18.04.23 14:46:06.171 4A9O OZ9AAR R DL80 LGD 73 RX:0
18.04.23 14:46:08.271 N8RO GW0POA EM00 Texas QSL? RX:1
18.04.23 14:46:12.101 OZ9AAR 4A9O R 73 LoTW RX:0
    
```

The screenshot below shows the Greencube Terminal program and a remote access configuration using the IC-9700 in RS-BA1 configuration. The Soundmodem decoding is on the lower right side of the screen. The blue trace on the upper right side of the terminal program shows the packet decoding quality as a function of the satellite local elevation during the pass.

The screenshot displays three windows from a remote control session:

- Greencube Terminal - by OZ9AAR (version 1.0.0.75) - [IO-117]**: Shows a list of decoded packets. The top of the list includes:

Time (UTC)	From	To	Message	Delay
13:21:14	GreenCube	ALL	[TUNE] eps/obc/radio boot=159/8334/503, vbat=8.298V	0 (31 %)
13:21:24	R09GH/WH	P32BR	RRR	2 (54 %)
13:21:29	N8RN	P32BR	EM00 - pse for DKCC - LotW	0 (69 %)
13:21:37	KB6LTY	P32BR	DM14ZL	0 (75 %)
13:22:07	VA7LM	P32BR	CO54	0 (19 %)
- RS-BA1 Remote Control**: Shows a control panel with various settings and a graph of signal quality. The graph shows a blue trace representing the signal quality as a function of the satellite local elevation during the pass.
- Soundmodem by UZ7HO - Ver 0.09b - [GreenCube 1200bd]**: Shows decoding settings and a list of decoded packets. The top of the list includes:

Call	Grid	T.Since	#CQ	Elev	State	LoTW
N8RN	EM00	00:21	1	31.1°	*	
KB6LTY	DM14	00:25	1	50.4°	*	
AB1OC	FN42	00:35	4	16.6°	*	
R09GH/WH	FK24	00:42	1	28.3°	*	
N8RO	EM00	00:45	0	53.5°	*	
N7R3	DN73	00:53	3	30.0°	*	
XE1UYS	EK10	00:53	2	62.5°	*	
W1GK	DM14	00:58	0	50.8°	*	
W9SV	EM52	01:06	6	30.5°	*	
K5ENG	EL20	01:15	0	50.6°	*	
N3RZ	EL20	01:16	1	50.6°	*	
W5CBF	EM30	01:17	0	47.2°	*	
P32BR	FK52	01:25	0	20.2°	*	
KP3V	FK78	01:33	2	16.3°	*	
N6PAZ	DM05	01:34	0	48.7°	*	
N3G5	EM28	01:35	0	39.4°	*	
VA7LM	CO54	01:53	1	18.7°	*	
KE9AJ	EN50	01:54	2	32.6°	*	
KG0D	CN88	01:59	0	27.9°	*	
N8JCM	EN72	02:13	0	27.6°	*	
N7AY	DN13	02:48	2	36.1°	*	
N1RCL	EL87	03:07	2	37.1°	*	
K7PT	DM46	04:25	2	33.0°	*	45 days
VE2PLE	FN46	04:47	0	14.3°	*	
AGZ3	FM20	04:57	1	20.5°	*	
KE2T	FM10	05:42	2	23.4°	*	
UC7V	DM45	06:35	0	34.5°	*	
W4BCX	EL98	07:22	0	32.4°	*	
W3AVP	FN10	09:00	1	22.7°	*	
KB2M	FM20	11:03	1	21.6°	*	
FG80J	FK96	11:43	0	11.6°	*	
N2MTH	EL96	14:50	0	35.0°	*	
K04RA	EL88	16:34	0	36.6°	*	
N8LR	EM88	17:24	1	29.5°	*	
XE2YVAH	DL92	19:41	2	66.6°	*	
NR13BR	--	21:37	0	--	*	

NNNN



Carroll County Amateur Radio Club, Inc.
A nonprofit, equal opportunity organization

Mason-Dixon HAMFEST

October 22, 2022

TYPO?
This should be
2023 ??



Location: Masonic Lodge 46 Monroe St.
Westminster MD

Vendor Set-up: 6 am

Gates Open: 7 am - noon

Donation:

Outside Vendors/tailgaters \$10

General Admission \$5

Talk in: CCARC Repeater, 145.41 MHz, - 0.600 MHz

Food provided by Masonic Lodge Auxiliary.
Limited electricity is available.

Policies:

1. Overnight stays are allowed.
2. Tables are not provided. Extension cords are not provided.
3. Closing is 12:00, noon. All vendors must be clear of the spaces by 1 pm.
4. See the attached Parking Guidelines for additional information.
5. All spaces first come, first served.
6. No weapons, pornography, or pets.
7. **Due to limited space, preregistration is strongly recommended.**
8. This is an outside-only hamfest.

For additional information or to preregister for space email ccarc.k3pzn@gmail.com



Parking Guidelines

Due to limited parking, the following guidelines will be used to ensure a safe and enjoyable hamfest experience.

1. General admission parking is in the regular spots on the left of the image and in the parking lot below, as labeled. Please park from back to front to ensure sufficient tailgater space is available.
2. Tailgater parking/setup begins on the right side of the building in the spaces closest to the front. Tailgaters will fill in, moving towards the back of the building.
3. Electricity – one outlet – is available on the long side of the building. Tailgaters requiring these spaces should preregister.

Note to All

The Carroll County Amateur Radio Club, Inc, a nonprofit, equal opportunity organization, is grateful to the Door to Virtue Masonic Lodge, #46, for permission to use their facility for our hamfest.

Please be respectful of the facility and endeavor to leave it as you found it.