



The Greensboro Amateur Radio Association

# Feed Line

Providing Amateur Radio News for the Triad



Julia Toth, Editor

[www.w4gso.org](http://www.w4gso.org)[info@w4gso.org](mailto:info@w4gso.org)

## This Month's Program

This month, we will conduct our monthly GARA meeting using Google Meet and we will not meet on the 145.150 repeater. (Connection details in the blue box below.)

Keith Thomas (KA4JAH) has prepared a presentation for this month's program about the early history of ham radio and modes of communication leading up to and including Single Side Band (SSB) operations. We generally associate SSB with HF operations, but it is not limited to HF. Keith is an Amateur Extra Class operator and an experienced HF operator. He also hosts two local SSB Activity Nights. If you have a 2m/6m SSB capable radio, please consider joining us on one or both Activity Nights:

2m Activity Night      Every Thursday at 9:00PM      144.200 MHz USB.

6m Activity Night      Every Sunday at 8:30PM      50.155 MHz USB.

The SSB Activity Nights usually last for at least one hour so you will have time to join in after the GARA nets are concluded.

Respectfully,  
Carl Fenske, KC4WGA

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### Monthly Meeting

**Monday, September 28 at 7:15pm**

Join us via Google Meet to hear about SSB communications from Keith Thomas, KA4JAH.

To join, go to [meet.google.com](https://meet.google.com/jgd-jovp-wcd) and type in code: **jgd-jovp-wcd**

# GARA Meeting Minutes

Started at 7:15pm on Monday, August 24 on W4GSO 145.15MHz repeater

- Board Check-Ins
- Board Reports
  - Scott, ND4L
  - Carl, KC4WGA
  - David, AC4A
  - Jesse, K4AX
- General Check-Ins
  - KQ3H, Tommie
  - N4BYU, Roy
  - W4AYO, Roger
  - KJ4ADX, Chan
  - K2CPR, Patrick
  - KE4KKG, Phil
  - N2LGH, Dan
  - N2WOB, Melinda
  - KQ4BR, Tom
  - KN4WMC, Will
  - KM4UHU, Bobby
  - KX4PZ, Mark
  - KA4JAS, Jeff
  - W4JLH, Jim
  - W4VU, Dave
  - KA4JAH, Keith
  - KD8TUS, John
  - KN4VQE, Phil
  - W1GY, Bill
  - KC4ZZE, Tommy
  - W8CCW, John
  - KN4ODM, Brad
- Presentation on Virtual Hamfest by Carl Fenske, KC4WGA
- Comments about the virtual hamfest
  - KA4JAH
  - KQ3H
  - KN4VQE
  -

Ended at 8:00pm

## GARA Board Meeting Minutes

No September Board Meeting

## From the President's Shack

I hope you've all been enjoying the recent cooler weather. This is a good time to get outside and check your antenna lines, adjust angles, re-tension cables, and all sorts of other things that can be done before the cold weather of winter sets in. Keeping outdoor gear maintained should help it last long into the future, ensuring good performance and enjoyable operating for a long time.

I'm very thankful that our engineering committee, lead by Matt Trull, KX4GG, has done such a great job keeping our repeaters on the air even when there have been hardware problems that could have caused significant outages. There are a number of organizations that rely on them on a regular basis, so having good performance, reliable operation, and backup gear and plans is critical to keeping everyone on the air. It's a real testament to the work and effort of the engineering team that the VHF repeater is used for many hours each night now and that the capabilities of the UHF repeater continue to be expanded. If you haven't been on the digital repeater in a while, I encourage you to fire up your D-star, Fusion, or DMR HT and have a conversation with someone locally. While I appreciate its ability to connect to distant reflectors, local digital QSOs have died off dramatically and it would be fun to revive them.

This month's meeting is going to be a little different in that we will use Google Meet instead of meeting on the VHF repeater. The board has used this to conduct a couple of board meetings and it has worked great so I expect it to work well for our general meetings also. You'll find the connection information in the blue box on the front page of this Feed Line edition, but we will e-mail it out also so that you have it directly. Please make sure to enable your microphone and/or webcam if you'd like to interact with us or the presenter.

Thanks, and I hope to see you Monday evening!

Best,  
Scott, ND4L

### The Greensboro Amateur Radio Association

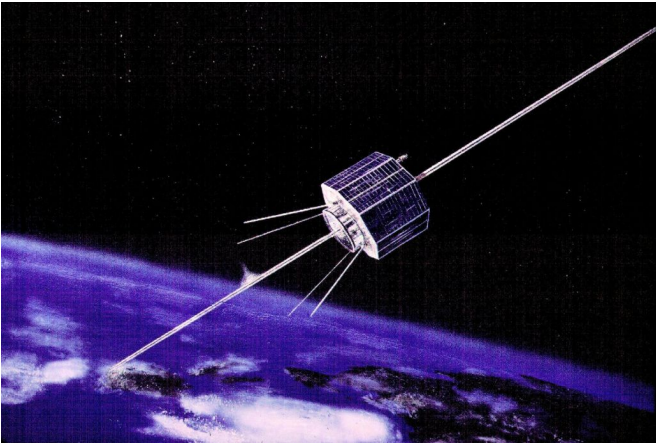
**President** Scott Toth ND4L | **Vice President** Carl Fenske KC4WGA | **Treasurer** Dave McLin AC4A | **Secretary** Yakov Rokhlin KN4RBN  
**Financial Committee Chair** John Strandberg W4DX | **Engineering Chair** Matt Trull KX4GG | **Operations Chair** Open  
**Members-at-Large** Drew Paschal WB4IHY and Jesse Lindley K4AX  
**Appointed Positions: Public Information Officer/Newsletter Editor** Julia Toth

*The Feed Line* is ©2020 by the Greensboro Amateur Radio Association and published monthly. Our address is P.O. Box 39829, Greensboro, NC 27438. The purpose of the newsletter is to provide the club and prospective members information about the club and amateur radio in general. Material and information should reach the editor by the first Friday of the month for the next edition of the newsletter. Opinions expressed in "The Feed Line" do not necessarily represent the views of the officers, directors, editor or members of the Greensboro Amateur Radio Association. Material may be reproduced, provided proper credit is given to GARA.

## *From ARRL...*

### **Venerable AO-7 Satellite Approaching a Return to Full Solar Illumination**

<http://www.arrl.org/news/venerable-ao-7-satellite-approaching-a-return-to-full-solar-illumination>



**09/22/2020**

AMSAT-OSCAR 7 (AO-7), the oldest amateur radio satellite still in operation, is nearing a return to full illumination by the sun, which should take place around September 25 and continue until around December 26. AMSAT's vice president of operations Drew Glasbrenner, KO4MA, says that during this period, AO-7 likely will switch between modes A (2 meters up/10 meters down) and B (70 centimeters up/2 meters down) every 24 hours. He reminded users to use only the minimum necessary power and to avoid "ditting" to find their signals in the

passband, which can bounce the entire passband up and down and sometimes even cause the transponder to reset to mode A.

"Try to find yourself with very low power, or on SSB, or best, with full Doppler control," Glasbrenner said. "If you have to use high power to find yourself, your receive antenna and system probably needs improvement."

Last May, the nearly 46-year-old AO-7 made possible a contact between Argentina and South Africa — a distance of more than 4,300 miles. Both stations were aiming just 2° or 3° above the horizon. AO-7 only works when it's receiving direct sunlight and shuts down when in eclipse.

Launched in 1974, AO-7 surprised the amateur satellite community by suddenly coming back to life in 2002 after being dormant for nearly 30 years and periodically re-emerging. AMSAT considers AO-7 "semi-operational." Theory is that AO-7 initially went dark after several years of operation when a battery shorted, and it returned to operation when the short circuit opened. With no working batteries, AO-7 now only functions when it's receiving direct sunlight, and it shuts down when in eclipse.

Built by a multinational team under AMSAT's direction, AO-7 carries a non-inverting Mode A transponder (145.850 – 950 MHz up/29.400 – 500 MHz down) and an inverting Mode B (432.180 – 120 MHz up/145.920 – 980 MHz down) linear transponder. It has beacons on 29.502 and 145.975 MHz, used in conjunction with Mode A and Mode B/C (low-power mode B), respectively. A 435.100 MHz beacon has an intermittent problem, switching between 400 mW and 10 mW.

# Radio & Electronics History: Famous Scientists » Electronics Notes

Please visit <https://www.electronics-notes.com/articles/history/> for information concerning this month's program.

## Engineering Report

Both the backup DR-1X and the UHF amplifier have been repaired. It appears that we need to do a bit more work on the newer VHF amplifier, but for now the old amplifier is in place. We have begun discussing a method of having the UHF repeater automatically link up for the D-Star nets on Tuesday night. That would automate the linking so that no manual intervention would be required. More to come on this in the near future.

73,  
Matt Trull KX4GG

## GARA Merchandise

Interested in buying GARA-themed merchandise?

Visit the GARA shop at:

<https://shop.spreadshirt.com/gara>

A portion of every sale is donated back to the club.



# Treasurer's Report

Our account balances as of the end of August 2020 are:

## Checking:

Beginning Balance:	-\$1.65	
Deposits:	\$74	Memberships
Withdrawals:	-\$104.98	Repeater internet connection payment
	-\$15.00	Bank Maintenance Fee
Ending Balance:	<u>\$968.25</u>	

## Money Market:

Beginning Balance:	\$9047.31	
Deposits:	\$0.07	Interest
Withdrawals:	- \$1000.00	Transfer to checking account
Ending Balance:	<u>\$8047.46</u>	

## PayPal:

Beginning Balance:	\$3702.53	
Deposits:	\$48.00	Membership Dues
Withdrawals:	-\$43.45	Replacement repeater power transistor
	-\$2.00	Paypal Fees
Ending Balance:	<u>\$3705.08</u>	

**Totals:** **\$12,720.79**

Dave  
AC4A

# GARA Monthly Program Survey



**Let Us Know  
What You  
Think!**

In an effort to serve our membership better, we would like to get your input into which presentations and programs you'd like to see. Please complete the form at <https://www.w4gso.org/news/gara-monthly-program-survey/> to let us know!

## *From ARRL...*

### **MARS Communications Exercise will Involve Amateur Radio Community**

<http://www.arrl.org/news/mars-communications-exercise-will-involve-amateur-radio-community>



**09/21/2020**

Military Auxiliary Radio System (MARS) volunteers will take part in the Department of Defense (DOD) Communications Exercise 20-4, starting on October 3 and concluding on October 26.

The MARS focus is interoperability with ARRL and the amateur radio community. "Throughout the month of October, MARS members will interoperate with various amateur radio organizations that will be conducting their annual simulated emergency tests with state, county, and local emergency management personnel," said MARS Chief Paul English, WD8DBY.

"MARS members will send a DOD-approved message to the amateur radio organizations recognizing this cooperative interoperability effort." MARS members will also train with the ARRL National Traffic System (NTS) and Radio Relay International (RRI) to send ICS 213 general messages to numerous amateur radio leaders across the US. "This exercise will culminate with MARS Auxiliaries sending a number of summary messages in support of a larger DOD communications exercise taking place October 20 – 26," English added.

Throughout October, MARS stations will operate on 60 meters, and WWV/WWVH will broadcast messages to the amateur radio community. English assures no disruption to communications throughout the month-long series of training events.



## *From ARRL...*

### International Telecommunication Union Releases 2020 ITU Radio Regulations

<http://www.arrl.org/news/international-telecommunication-union-releases-2020-itu-radio-regulations>

**09/23/2020**

The International Telecommunication Union (ITU) has published the 2020 ITU Radio Regulations — the international treaty governing the global use of RF spectrum and satellite orbits. The publication contains the complete texts of the Radio Regulations adopted during World Radiocommunication Conference 2019 (WRC-19), held last year in Sharm el-Sheikh, Egypt. Available in all six of ITU's official languages, the 2020 ITU Radio Regulations are in effect for all signatory parties on January 1, 2021. Electronic versions are free, and the "traditional four-volume boxed set," as well as a multilingual DVD, will be available for purchase in the coming weeks, the ITU said.



"The publication of the Radio Regulations is the culmination of the hard work and intense deliberations that took place during WRC-19," said ITU Secretary-General Houlin Zhao. "Efficient and

economical use of the naturally limited radio-frequency spectrum is key to ensuring we bring the benefits of connectivity and digital transformation to people everywhere. The ITU Radio Regulations are a vital vehicle for this endeavor."

The ITU said that, when it comes to allocating radio frequencies, including sharing and harmonizing their use for different purposes, the Radio Regulations are the ultimate tool. "They ensure the use of the RF spectrum is rational, equitable, efficient, and economical, all while aiming to prevent harmful interference between different radio services," the ITU said.

The ITU Radio Regulations also play an important role in promoting access to affordable broadband for all, the ITU said. The Radio Regulations govern 40 radiocommunication services, and are designed to protect existing radio services while enabling the introduction of new and enhanced services.

## For Sale!

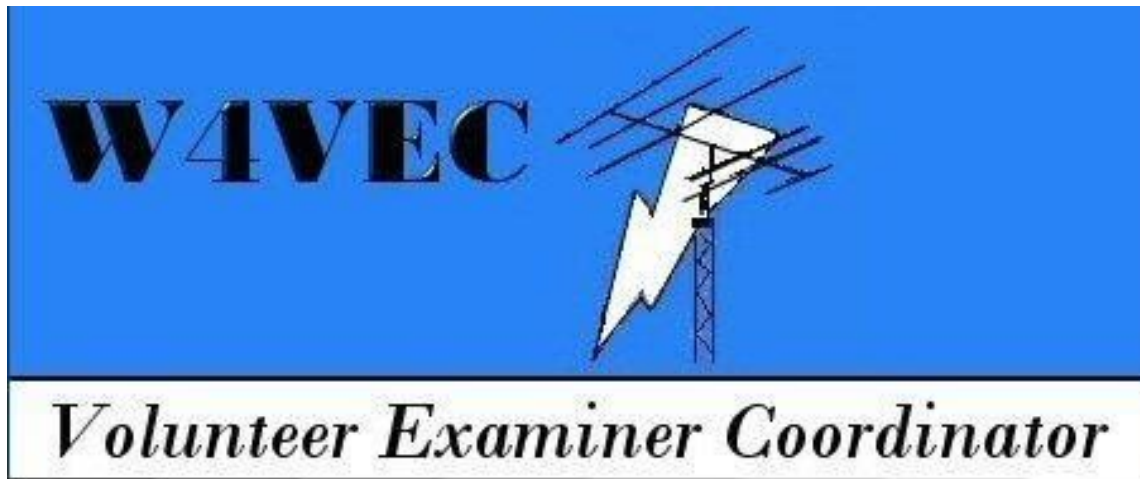
GARA is selling gear that was donated by local hams. All proceeds go into the club's general account to be used for club activities. Click the link below to see all of the gear we have for sale!

[https://drive.google.com/file/d/1h8foiMA6fguciv-NBI4qXOIAMtoHNIbD/view?usp=drive\\_web](https://drive.google.com/file/d/1h8foiMA6fguciv-NBI4qXOIAMtoHNIbD/view?usp=drive_web)



# VE Testing

When you're ready to take your exam, the local volunteer examiner organization, W4VEC, offers local (Greensboro and High Point) testing every month most months on Saturday mornings. See this link for detailed schedules and information: <http://www.w4vec.org/ar.html>



In Greensboro, exams are held the 2nd Saturday of each month (except March) at Hinshaw United Methodist Church, 4501 Gate City Blvd (High Point Road) Greensboro, NC at 9:00 AM. For more information contact: David Macchiarolo AJ4TF at [aj4tf@arrl.net](mailto:aj4tf@arrl.net), 336-420-9424. Walk-ins allowed; but pre-registration is preferred.

In High Point, exams are held on the last Saturday of the month (except June, November, and December) at Hickory Chapel Wesleyan Church, 301 Hickory Chapel Road, High Point, NC, at 10:00am. Pre-registration is required at least 3 days before the exam date. For more information contact: David Macchiarolo AJ4TF at [aj4tf@arrl.net](mailto:aj4tf@arrl.net), 336-420-9424.

**Please continue to check the W4VEC website for updates.** <http://www.w4vec.org>

**\*FCC Extra Class Question Pool was revised as of July 1, 2020\***

Download or print Question Pools at <http://www.arrl.org/question-pools>  
For free exam practice, visit <http://www.arrl.org/exam-practice>

Upgrading?:

<http://www.arrl.org/upgrading-to-a-general-license>  
<http://www.arrl.org/upgrading-to-an-extra-license>

## New Hams



## Greensboro- September 12, 2020

Edelman, Ian  
KO4HGF  
Greensboro, NC  
Earned Technician

Elliott, Daniel R.  
KO4HGG  
Greensboro, NC  
Earned Technician

Griffin, James A.  
KO4HGX  
Graham, NC  
Earned General

Haga, Austin C.  
KO4HGH  
Lexington, NC  
Earned Technician

Perry, Michael T.  
KO4HGI  
Randleman, NC  
Earned Technician

## *From ARRL...*

### **Hams Help Find Kids by Monitoring FRS Radios**

<http://www.arrl.org/news/hams-help-find-kids-by-monitoring-frs-radios>



**09/24/2020**

Late on the afternoon of September 16, the police department in Post Falls, Idaho, received a 911 call that two juveniles — ages 9 and 11 — were missing from a Post Falls residence for about an hour. According to the report, the pair had left home intending to play in the neighborhood with some Family Radio Service (FRS) radios. Several patrol cars were dispatched to the area to conduct a visual search, and detective Neil Uhrig, K7NJU, responded as officer in charge due to his training and experience with missing persons investigations. The initial search focused on a 2-mile radius from the missing kids' residence.

One officer received information from witnesses that the pair was probably using FRS Channel 1 (462.5625 MHz). An officer returned to police headquarters to retrieve some FRS radios for distribution to the patrol officers, in the event they might be able to hear the youngsters talking.

Uhrig, meanwhile, pulled out his VHF/UHF handheld with the thought of setting up FRS Channel 1 as an auxiliary frequency, but without the manual at hand, he wasn't able to execute the channel setup. But Uhrig did hear the Northwest Traffic Net (NWTN) that had begun at 6:30 PM on the local 2-meter repeater.

Checking into the net at about 6:45 PM, Uhrig explained the missing persons situation to net control station Shannon Riley, KJ7MUA, and asked if net participants in the Post Falls area with FRS capability could listen for the youngsters talking.

A number of stations promptly checked in to say they had FRS radios and were monitoring FRS Channel 1. It was assumed that only stations located near the missing youngsters would hear them, given the limited range of FRS radios.

Not long after 7 PM, Jim Hager, KJ7OTD, reported hearing children talking on FRS Channel 1. Uhrig went to Hager's home to confirm his observation, and the patrol units were redirected to the new search vicinity. A short time later, the missing pair was found safe and returned home.

Uhrig said the most remarkable thing about the incident was that the missing youngsters were some distance from the original search area, and in the opposite direction from where it was expected they might have been headed.

Net Manager Gabbee Perry, KE7ADN, said, "I'm so proud of what a superior job NWTN NCS Shannon and all the operators did last Wednesday. It was a very unusual situation, but everyone had excellent focus and used their resourcefulness to help quickly find the missing kids." — Thanks to ARRL Assistant Idaho Section Manager Ed Stuckey, AI7H

# Calendar of Events

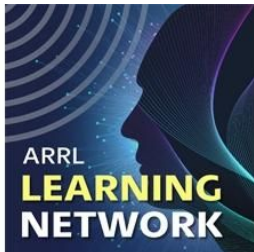
Please check Hamfest websites for possible cancellations.

GARA Meetings will be held on the repeater until further notice.

Info about ARRL contests can be found on <http://www.arrl.org/contest-calendar>

Oct. 10	VE Testing, Greensboro, Hinshaw Memorial United Methodist Church
Oct. 10-11	ARRL EME - 50 to 1296 MHz Contest
Oct. 19-23	ARRL School Club Roundup Contest
Oct. 31	VE Testing, High Point, Hickory Chapel Wesleyan Church
Nov. 7-9	ARRL Nov. Sweepstakes - CW
Nov. 14	VE Testing, Greensboro, Hinshaw Memorial United Methodist Church
Nov. 21-23	ARRL Nov. Sweepstakes - Phone
Nov. 28-29	ARRL EME 50 to 1296 MHz Contest
Dec 4-6	ARRL 160 Meter Contest
Dec. 12	VE Testing, Greensboro, Hinshaw Memorial United Methodist Church
Dec. 12-13	ARRL 10 Meter Contest
Dec. 20	ARRL Rookie Roundup Contest - CW

The purpose of this calendar is to provide information on events in and around our area that might be of interest to our readers. As you might expect, there are many more events (public service, hamfests, flea markets, etc.) taking place in North Carolina and around the Greater Greensboro Area. If you know of an event that would be of interest to our readers, please contact the Board of Directors at [info@w4gso.org](mailto:info@w4gso.org).



The ARRL Learning Network is a webinar series featuring live online presentations from member-volunteers who want to help you become more active, involved, and engaged in ham radio. For a schedule of upcoming Webinars for ARRL members or to access recordings of previous Webinars, please visit <http://www.arrl.org/arrl-learning-network>

## FEEDLINE

**FOURTH MONDAY** – at 6:30 p.m., the Greensboro Amateur Radio Association has a regular monthly meeting at Sarah's Kabob Shop, 5340 W. Market., Greensboro, NC 27409. Please plan to gather at 6:30 p.m. for dinner. The meeting is scheduled to start at 7:15 p.m. **(Due to COVID-19, September's meeting will be held via Google Meet)**

### CLUB NETS:

**SUNDAYS** – at 8:30 p.m., the GARA Sunday evening net. This features a rag chew followed by News and Information including Amateur Radio Newsline. It is on the 145.150, W4GSO repeater. Scott Toth, ND4L is always looking for net controls.

**TUESDAYS** – at 8:30 p.m. The Triad SkyWarn Net meets on the 147.225, K4ITL repeater, no tone required

**TUESDAYS** – at 9 p.m., the D-Star Net meets on 442.8625 (W4GSO B and Reflector 54C)

**WEDNESDAYS** – at 8:45 p.m., The Guilford Amateur Society Rag Chew Net holds their weekly net on the 145.250 W4GG repeater. Jim Hightower, W4JLH is the net control.

**THURSDAYS** – at 9 p.m., The Guilford County ARES Net meets on the 145.150 repeater (100 Hz tone)

### OTHER ACTIVITIES:

**FIRST MONDAY** – The Guilford County ARES monthly meeting is held at 1002 Meadowood St. off W. Wendover Ave, in the EMS building, beginning at 7 p.m.

**THIRD MONDAY** – The Guilford Amateur Society is currently looking for a new venue for their meetings. When found, that information will be posted here.

**THURSDAY** – at 11:15 a.m., Greensboro Hams get together for lunch. Thursday lunch group is meeting at the K&W Cafeteria, 300 Forum VI Mall at Friendly Shopping Center. Talk-in is on the 145.150, W4GSO repeater with a 100 Hz tone.

**EVERY FRIDAY** – at 8 p.m. (approximately) Greensboro Hams get together for coffee at Starbucks at Edney Ridge Rd.

## The GSO W4VEC Testing Schedule 2020

**October 10**

**November 14**

**December 12**

**Check the W4VEC website  
for updates.**

<http://www.w4vec.org>

## GARA REPEATERS

145.150 MHz - offset, 100 Hz tone, FM and Fusion

442.8625 MHz + offset, D-Star and Fusion



**Greensboro Amateur Radio Association**

P.O. Box 39829

Greensboro, NC 27438

[www.w4gso.org](http://www.w4gso.org)

## FIRST CLASS MAIL

***The Official Publication of GARA***