FEEDLINE

Volume 29, Number 7 July 2020

The Greensboro Amateur Radio Association

Feed Line

Providing Amateur Radio News for the Triad

Julia Toth, Editor www.w4gso.org info@w4gso.org

This Month's Program

I hope that many of you were able to join Dr. Marv Hoffman for a videoconference last month. His presentation motivated me to re-join the ARRL and support their support and advocacy of our hobby. (Join ARRL for one year and get 3 additional months of membership free. Use web code 3MEM. Applies to one-year membership only. Special offer ends July 27, 2020.)

For those who were unable to participate in ARRL Field Day last month, Dave McLin, AC4A, will recap the event: the preparation, the equipment, the participants, and the contest. And because of COVID-19, we had to make additional accommodations. But isn't that what Field Day is all about? It gives us a chance to adjust our operating procedures to meet the needs of the changing circumstances. Please join us at our July 27 monthly club meeting.

Respectfully,

Carl Fenske, KC4WGA

Monthly Meeting

Monday, July 27 at 7:15pm

Join us on the 145.15MHz W4GSO repeater for a Field Day Recap with David McLin, AC4A

INSIDE THIS EDITION

GARA Meeting Minutes

No June meeting due to Field Day.

GARA Board Meeting Minutes

The board did not meet in July.

From the President's Shack

I hope everyone is having a nice summer and is taking advantage of the air conditioning to turn on the radio and make some contacts! I have been working a lot of FT8, especially on 6m. It's fun to see the conditions change from local to regional and then to DX and back. A few of us have also started to get interested in working amateur satellites including the International Space Station. If you haven't had a chance to go outdoors after sunset to see the ISS fly across the starry sky, I encourage you to use an app like ISS Detector or a website like https://spotthestation.nasa.gov/sightings/index.cfm to find the next time it will come over. It's always beautiful to see that tiny white oasis in space fly above you knowing that there are people inhabiting it. I also hope you had a chance to see the Neowise comet this month; with the weather, it was challenging to find a suitable sky, but it was quite spectacular when you did see it.

Many of us enjoyed Field Day at Hagan-Stone in June, and this Monday we will find out how well we did. The GARA board knows how challenging it's been to have our meetings on the repeater or via the internet and we hope to be able to get back together soon, but we are also cognizant of the fact that many members are in higher risk categories and we want to make sure that everyone stays safe. So, for the time being, we will continue to have our general meetings on our VHF 145.150MHz W4GSO repeater. I hope we will hear you on Monday!

73,
Scott, ND4L

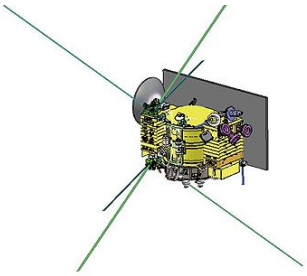
The Greensboro Amateur Radio Association

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

From AARL...

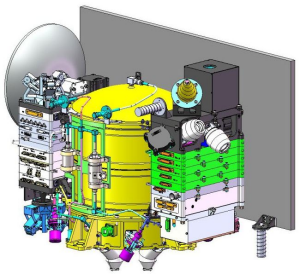
Nature Communications Article Features LO-94, First Lunar-Orbiting Ham Radio Spacecraft.

http://www.arrl.org/news/nature-communications-article-features-lo-94-first-lunar-orbiting-ham-radio-spacecraft



7/17/2020

Nature Communications Article Features LO-94, First Lunar-Orbiting Ham Radio Spacecraft A July 9 Nature Communications article, “Design and flight results of the VHF/UHF communication system of Longjiang lunar microsatellites,” describes the Longjiang-2/Lunar-OSCAR 94 (LO-94) spacecraft, which carried the first amateur radio communication system into lunar orbit.



As a part of China’s Chang’e-4 lunar far side mission, two lunar microsatellites for low-frequency radio astronomy, amateur radio, and education — Longjiang-1 and Longjiang-2, were launched as secondary payloads on May 20, 2018, along with the Queqiao L2 relay satellite. Five days later, Longjiang-2 successfully inserted itself into an elliptical lunar orbit of 357 × 13,704 kilometers (221 × 8,496 miles) to become the smallest spacecraft to enter lunar orbit with its own propulsion system. The satellite carried a VHF/UHF SDR, designed for operation with small ground stations.

The article describes and evaluates the design of the VHF/UHF radio and the modes used. Flight results of the VHF/UHF radio are also presented, including operation of the radio, performance analysis of downlink signals, and the first lunar orbit UHF very-long-baseline interferometry (VLBI) experiment.

For ARRL News Regarding COVID-19

Please visit www.arrl.org/coronavirus or www.arrl.org/COVID-19

From ARRL…

Hurricane Watch Net Activities for Hurricane Hanna

http://www.arrl.org/news/hurricane-watch-net-activates-for-hurricane-hanna

7/25/2020

The Hurricane Watch Net (HWN) has activated for Hurricane Hanna, the first hurricane of the Atlantic Hurricane season. The storm is poised to make landfall along the Gulf of Mexico. A Category 1 storm, Hanna has maximum sustained winds of 75 MPH. As of 1200 UTC, the storm was about 90 miles east-northeast of Port Mansfield, Texas, and about 100 miles east-southeast of Corpus Christi, Texas.

"The year 2020 has been a strange year in every way, and the weather is no different," HWN Manager Bobby Graves, KB5HAV, said. "Just a few hours ago, it looked as though we would be activating for Hurricane Gonzalo. Well, that storm had other ideas. The same can be said for what had been Tropical Storm Hanna in the Gulf of Mexico. All along, it looked as though this storm would make landfall as a Tropical Storm."

Graves said the net activated today at 1130 UTC on 14.325 MHz — its primary net frequency. "If conditions require, and they most likely will, we will operate simultaneously on 14.325.00 MHz and 7.268.00 MHz," Graves said. The HWN will remain active until 2200 UTC, "or until no longer required by the National Hurricane Center."

Via its amateur radio volunteer members, the HWN gathers observed ground-truth weather data from those in the affected area. "We are also available to provide back-up communication to official agencies such as emergency operations centers, Red Cross officials, and storm shelters in the affected area," Graves added. "We will also be interested to collect and report significant damage assessment and storm surge data back to the forecasters as well as FEMA officials stationed in the National Hurricane Center."

WX4NHC at the NHC also has activated for Hanna, and will participate in the HWN on 14.325 MHz, as well as on the VoIP Weather Net, WX-TALK Conference node 7203 / IRLP node 9219). Contact WX4NHC via Winlink (subject must contain "//WL2K") or complete a WX4NHC online Hurricane Report Form.

Due to COVID-19 precautions, WX4NHC operators are operating from their homes.

From ARRL…

ARRL Members to Lead New 30-Minute Amateur Radio Webinar Series

http://www.arrl.org/news/arrl-members-to-lead-new-30-minute-amateur-radio-webinar-series

7/22/2020

ARRL is launching a new webinar series to help introduce more members to the variety of activities and opportunities that radio amateurs enjoy. The ARRL Learning Network will offer live presentations by member-volunteers, for members. Like hamfest forums and radio club presentations, the webinars are intended to help participants get more active, involved, and engaged in amateur radio.

Presentations are 30 minutes each, making them easy to fit into a lunch break or as a short evening activity. A 15-minute question-and-answer period follows each presentation for those who can participate longer. The webinars will be hosted initially using GotoWebinar. Webinars will be recorded, and presentations will be available for future viewing by members and ARRL-affiliated radio clubs as part of an ARRL Learning Network library.

A running list of upcoming live presentations is available. The web page is the place to register to attend each webinar and requires members to log onto the ARRL website.

Relay Stations and the Art of Traffic Handling

Fun with Digital Signal Modes FT4 and FT8

HF Wire Antennas

Introduction to Digital FM Modes

Introduction to Computer Logging

Capture the Magic of 6 Meters

The Sport of Finding Hidden Transmitters on Foot

The webinars continue a string of new ARRL benefits introduced in 2020 that has included On the Air magazine, expanded member access to all ARRL digital magazines, and the new On the Air and Eclectic Tech podcasts.

“The ARRL Learning Network puts experienced member-volunteers at the forefront as a regular source of knowledge-sharing in amateur radio,” ARRL Lifelong Learning Manager Kris Bickell, K1BIC, said. “We hope members participating in the ARRL Learning Network — including presenters — will find it particularly rewarding to share experiences and learning that will motivate more of our community toward lifelong journeys as radio amateurs.”
Members who would like to be considered for future ARRL Learning Network webinars should have experience in delivering presentations, including familiarity with online webinar technology, live video, and screen sharing. Prospective presenters may complete a Call for Speakers form.

Engineering Report

Work is progressing on repairing a few pieces of equipment for the repeater site. Our DR-1X that was previously damaged by lightning has been shipped to Yaesu for repair and we await the estimate. We also have a 2m and a 70cm amplifier that will need repair. Jesse, K4AX, and I are looking at those now to determine if there is anything we can do before shipping them. In the meantime we have placed back in service our previous 2m amplifier and our 70cm repeater is running on the internal PA. Things are still operating well and we hope to have the amplifiers repaired soon.

Thanks and 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.

Support Greensboro Amateur Radio Association.

When you shop at **smile.amazon.com**, Amazon donates.

Go to smile.amazon.com

amazonsmile

Treasurer's Report

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

Checking:

Beginning Balance:	$637.64	
Deposits:	$0	
Withdrawals:	-$27.74	Face masks for Field Day
	-$104.98	Repeater Internet Connection Payment
	-$15.00	Bank Maintenance Fee
	-$20.00	Repeater Equipment Insurance Premium
Ending Balance:	$287.62	

Money Market:

Beginning Balance:	$9047.23	
Deposits:	$0.08	Interest
Withdrawals:	- $0.00	
Ending Balance:	$9047.31	

PayPal:

Beginning Balance:	$3561.59	
Deposits:	$72.00	Membership Dues
	$50.00	Donation
Withdrawals:	-$3.00	Paypal Fees
Ending Balance:	$3680.59	

Totals: $13,015.52

Field Day was very successful this year, even with the COVID-19 precautions we put in place. Several club members participated, and we made a total of **540 QSOs**, a mix of digital (FT8), phone, and one satellite FM contact. Matt (KX4GG) was able to make the satellite QSO just as the satellite was moving out of range. Our final score was **2,586 points**, including several 100 point bonuses. For comparison, last year we made 681 QSOs with a final score of 2,954 points.

Dave
AC4A

Special Note:
The Radio Amateur's Code

http://www.arrl.org/amateur-code

Given the polarizing events taking place, we ask everyone to be cognizant of how they represent the ham radio community when on the air, especially when using local repeaters. Conversations that may be taking place between a couple of folks, or a small group of individuals, are broadcast for anyone to hear. There are a lot of people who listen much more than they transmit. New hams and those working towards being licensed are often listening in, anxious to make a QSO, but also nervous and trying to gauge the climate and etiquette of those conversations. We can all agree that preserving the rights we are granted as amateur radio operators depends on sustaining the hobby in a healthy way, and that means fostering an environment that is welcoming to anyone and everyone. The Radio Amateur's Code was written in 1928 and the first line speaks directly to this.

"The Radio Amateur is CONSIDERATE...He/[She] never knowingly operates in such a way as to lessen the pleasure of others."

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!

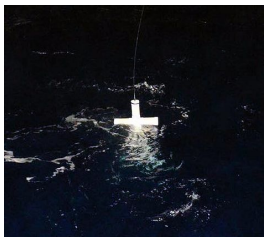
For Sale!

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-NBI4qXOlAmtoHNiBD/view?usp=drive_web

From ARRL…

High School Marine Buoy Transmitter Now Active on 20-Meter WSPR

http://www.arrl.org/news/high-school-marine-buoy-transmitter-now-active-on-20-meter-wspr



7/23/2020

Phil Karn, KA9Q; Randy Standke, KQ6RS, and members of the Mount Carmel High School Amateur Radio Club (MCHSARC) in San Diego have constructed and deployed an amateur radio marine buoy in the Pacific. The buoy, which transmits WSPR on 14.0956 MHz USB, has already been heard around the continental US, Brazil, Hawaii, Japan, Costa Rica, Australia, and South Africa.

"Over the past year, Randy and I have mentored the MCHSARC in designing and constructing a simple marine buoy that was deployed from the RV Sally Ride [on July 16], about 700 kilometers off the coast of southern California," Karn said in a post on the AMSAT Bulletin Board. "It is up and transmitting WSPR on 20 meters using the call sign KQ6RS, and is being received all over the US and into Canada and Brazil." Karn is blogging about the project with updates.

The electronics are the 20-meter WSPR version of the WB8ELK "pico tracker" that has been flown on long-duration balloons. "We removed the solar panels and substituted 21 ordinary alkaline D cells, wired to supply 4.5 V," Karn explained. "We estimate battery lifetime will be 6 months."

Karn said that the project made use of everyday hardware. The buoy — essentially a spar buoy — was constructed using a 5-foot section of 4-inch PVC pipe, with sufficient ballast in one end of the pipe to permit it to float vertically in the water. The top is closed using a sewer pressure test plug, which has a bolt in the center that acts as a convenient feed-through and antenna mounting point. The antenna is a stainless-steel CB whip with a matching network.

"We use the sea as a counterpoise, but to avoid direct metal/sea water contact, we lined the inside of the pipe with copper tape to form a capacitive connection," Karn said.

During initial flotation testing, the project team found that the ballasted pipe alone was remarkably stable in pitch, roll, sway, and surge, but oscillated a lot in heave — i.e., up and down movement. Cross arms were at the water line to add drag in the vertical direction, to counter the issue.

"It wasn't our intent to mimic a religious icon, but that's where the physics went," Karn said. Because sea water was required to tune the antenna, Standke floated the buoy off a dock in Mission Bay.

"We tried to make this thing as rugged as we could," Karn recounted, offering his favorite saying to the students: "The sea always wins in the end, but we can delay that long enough to be useful."

Deployment was to be from a NOAA vessel in April, but the trip was canceled due to the COVID-19 pandemic. Standke secured a trip on the RV Sally Ride, a research vessel operated by Scripps Institute of Oceanography.

The first reception report was on July 16 at 12:52:30 UTC from grid square CL89eu, although the current carried the buoy east into CL89fu at 20:32:30 UTC. The buoy (KQ6RS-1) can be tracked on the APRS and WSPRnet sites.

Karn said the project team is already planning its second buoy, which may include two-way links, satellite tracking, and sensors.

More than 12,000 Register Early for QSO Today Virtual Ham Expo

http://www.arrl.org/news/more-than-12-000-register-early-for-qso-today-virtual-ham-expo

7/22/2020

More than 12,000 have registered to attend the first QSO Today Virtual Ham Expo, August 8 – 9, QSO Today host Eric Guth, 4Z1UG, said this week.

"Since the Expo is a completely new experience for the ham radio community, it's great that so many people are excited and already registered," he said. "And with almost 3 weeks before the event, the number of registrants continues to increase." Attendance is free, and there are early-bird prize incentives for registering by July 24.

More than a typical web meeting, the Expo is built on a live virtual platform commonly used by Fortune 500 companies and major universities. The platform simulates a convention experience with an exhibit hall and booths staffed by live attendants, a speaker auditorium, and even a lobby. Attendance just requires an internet connection and a computer, tablet, or smartphone.

The Expo will offer four separate speaker tracks focusing on a range of topics. Speakers will also be able to provide related material, such as slides and white papers, that attendees can download. Every session will have a Q&A where attendees can submit questions in real time via chat.

More than 30 booths will be open for attendees to visit, and exhibitors will have different options to engage with attendees. Exhibitor booths can provide downloadable content, such as videos, spec sheets, and manuals, and attendees can save content in a virtual briefcase to read later. Visitors will also be able to interact one-on-one with booth representatives, using a Skype-like system.

"The experience of a virtual expo is not meant to replace in-person conventions," Guth said. "However, I strongly believe that virtual events in our community are here to stay. Given COVID-19 and its likely lasting impact on travel, especially given our demographic, this virtual expo enables the ham community to continue coming together to learn and engage."

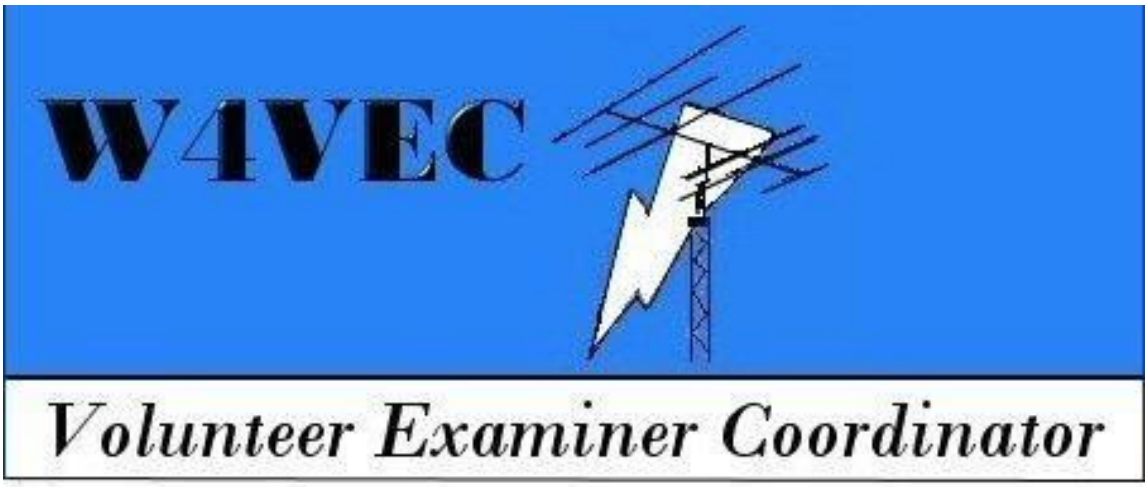
Guth said that younger hams who have grown up with the internet will feel comfortable with the Expo platform, "making it easier for them to participate and find their place in this remarkable hobby."

Access to all speaker presentations and exhibitor booth content will remain on the Expo site for 30 days following the event.

The QSO Today Virtual Ham Expo is an ARRL-sanctioned hamfest.

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, 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, 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, July 11, 2020

Branch, Travis W.
Greensboro, NC
Earned Technician

Eaton, Mollie E.
Mount Airy, NC
Earned Technician

Hill, John M.
WP4DMV
Winston Salem, NC
Earned General

Jacky Jr., Germaine F.
Greensboro, NC
Earned General

Vaughn, Anthony D.
Mount Airy, NC
Earned Technician

Vernon, Faron S.
Greensboro, NC
Earned Technician

Webster, Jeffery D.
KN4VNP
Tobaccoville, NC
Earned Extra

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

July 27	GARA General Meeting on the repeater
Aug. 1-2	222 MHz and Up Distance Contest
Aug. 8	VE Testing, Greensboro, Hinshaw Memorial United Methodist Church
Aug. 15-16	10 GHz & Up – Round 1 Contest
Aug. 16	Rookie Roundup – RTTY Contest
Aug. 24	GARA General Meeting
Aug. 29	VE Testing, High Point, Hickory Chapel Wesleyan Church
Sept. 12	VE Testing, Greensboro, Hinshaw Memorial United Methodist Church
Sept. 12-13	EME - 2.3 GHz & Up Contest
Sept. 12-14	September VHF Contest
Sept. 19-20	10 GHz & Up Contest- Round 2
Sept. 26	VE Testing, High Point, Hickory Chapel Wesleyan Church
Oct. 10	VE Testing, Greensboro, Hinshaw Memorial United Methodist Church
Oct. 10-11	EME - 50 to 1296 MHz Contest
Oct. 19-23	School Club Roundup Contest
Oct. 31	VE Testing, High Point, Hickory Chapel Wesleyan Church

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.

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, please visit http://www.arrl.org/arrl-learning-network

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, moved to the repeater until further notice)

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

August 8 in Greensboro

August 29 in High Point

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

FIRST CLASS MAIL