



The Greensboro Amateur Radio Association

Feed Line

Providing Amateur Radio News for the Triad



Julia Toth, Editor

www.w4gso.orginfo@w4gso.org

This Month's Program

This month's meeting will begin at 7:15pm, when we will check-in on the 145.15 GARA repeater, as we have done before.

The program will highlight FT8, the newest digital protocol. FT8 is an excellent mode for HF DXing and for situations like communicating over great distances via VHF modes such as EME (Earth-Moon-Earth) communication, meteor scatter, and Sporadic E where deep QSB (fading of signals) may make fast and reliable completion of QSOs necessary. Scott Toth, ND4L will describe the hardware and software that is required to operate FT8 and will demonstrate this mode using a video feed. He will provide the necessary link/URL/invitations for the video portion of the program, however we will continue to communicate with him via the repeater. I encourage those of you who have used or tried to use FT8 to join in the conversation.

Respectfully,
Carl Fenske, KC4WGA

INSIDE THIS EDITION

Meeting Minutes
President's Message
Engineering Report
Treasurer's Report
VE Testing
Calendar

NEXT MEETING May 25, 2020

The next meeting of the Greensboro Amateur Radio Association will be held on the W4GSO 145.150MHz repeater at 7:15pm.

MEETING TOPIC:
How to use FT8

GARA Board Meeting Minutes

Started at 7:00pm on Monday, May 11 via Google Hangouts video meetings

Scott

David said it's OK for him to include free GARA membership offer when he sends new hams their call signs

Who will do the May GARA meeting presentation?

Presented a new potential option for a Field Day site

Carl

FT8 meeting for May. Send Carl callsigns of active FT8ers.

Drawing for all members who are paid by January 30 to have membership refunded

David

Insurance is slow because of COVID

Should have property insurance renewed this week

Purchased liability insurance for events through ARRL

Checking out Easter's Promise for Field Day

Survey to gauge member interest in attending Field Day in person?

Yakov- not in attendance

Matt

New amps inline for both VHF and UHF repeaters

Installed newer laptop for remoting into repeater site

Keep DMR enabled on the UHF repeater? Applied to be sysop for W4GS0.

John- on standby via telephone

Drew- no report

Jesse- no report

Ended at 7:45pm

Respectfully submitted,
Scott Toth, ND4L

GARA Meeting Minutes

Started at 7:15pm on Monday, April 27 on W4GSO 145.15MHz repeater

- Board Check-Ins
- Board Reports
 - Scott, ND4L
 - Carl, KC4WGA
 - Jesse, K4AX
- General Check-Ins (including "Do you have a Faraday Cage?")
 - N4BYU, Roy
 - W4AYO, Roger
 - W1GY, Bill
 - KN4ODM, Brad
 - KQ3H, Tommie
 - N2LGH, Dan
 - N8KSG, Bill
 - KN4YFL, Charlie
 - KN4WMC, Will
 - KX4PZ, Mark
 - W4JLH, Jim
 - KN4YQK, Leamon
- Presentation on Emergency Preparedness by Will Glasgow, KN4WMC
 - Wheat berries- Summerfield feed mill, Field corn, Rice, Beans
 - 100# per adult
 - Rainwater collection- 4x350 gallon totes
 - Self-defense

Ended at 8:20pm

Respectfully submitted,
Scott Toth, ND4L

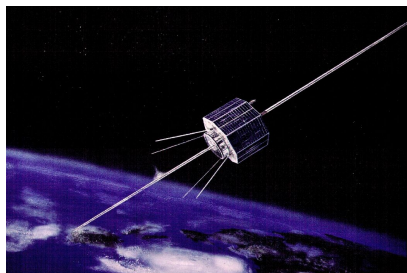
The Greensboro Amateur Radio Association

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 WD4IHY 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 Continues to Deliver**

<http://www.arrl.org/news/venerable-ao-7-satellite-continues-to-deliver>



5/22/20

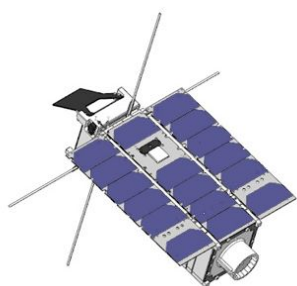
The nearly 46-year-old AO-7 amateur satellite made a remarkable contact possible on May 4 between Diego Feil, LW2DAF, in Buenos Aires, Argentina (GF05rk), and Tom Ambrose, ZS1TA, in Cape Town, South Africa (JF95fx). The contact spanned 4,329 miles across the South Atlantic, with both stations aiming at only 2 or 3 degrees above the horizon.

Both stations had been watching orbital predictions for several weeks, and times when both stations could “see” AO-7 at the same time occurred only occasionally. Electrical noise, particularly in Cape Town, had hampered earlier efforts, but on the morning of May 4, noise levels were low, and a perfect contact was possible with full call signs and reports exchanged.

In 2016, Dave Swanson, KG5CCI, in Arkansas, and Eduardo Erlemann, PY2RN, in Brazil, achieved a distance milestone on AO-7, completing a scheduled contact that covered a calculated distance of approximately 4,979.2 miles, which Swanson said was “way beyond the theoretical range of AO-7” and a feat that “the math said shouldn’t be possible.” – Thanks to AMSAT News Service

HuskySat-1 (HO-107) Transponder is Open

<http://www.arrl.org/news/huskysat-1-ho-107-transponder-is-open>



5/14/20

The transponder on HuskySat-1, now designated as HuskySat-OSCAR 107 (HO-107), has been activated and is open for use and testing, AMSAT Vice President – Operations Drew Glasbrenner, KO4MA, reports.

“It’s fairly sensitive, and 5 – 10 W is plenty most of the time. There are some fades due to satellite orientation, and some passes are definitely better than others. Strong signals may impact the beacon strength.”

HuskySat-1 is the first CubeSat from the Husky Satellite Lab at the University of Washington and the first mission with AMSAT’s linear transponder module (LTM-1), a V/u transponder and integrated telemetry beacon and command receiver. University researchers recently completed their Part 5 (Experimental) operations and have opened up the amateur radio transponder, which is available for use in educational CubeSat missions that are willing to enable the transponder for worldwide use.

The HuskySat-1 V/u transponder is inverting, with an uplink passband of 145.910 – 145.940 MHz, and a downlink passband of 435.810 – 435.840 MHz. The 1200-baud BPSK telemetry beacon is at 435.800 MHz.

From ARRL...

ARRL Announces New Life 70+ Membership

<http://www.arrl.org/news/arrl-announces-new-life-70-membership>



5/14/2020

The ARRL Board of Directors recently voted to create a special Life Membership opportunity for individuals who are at least 70 years old. Starting on June 1, the Life 70+ Membership will be available to individuals who have turned 70 and have a combined 25 years of paid annual ARRL membership.

Life 70+ Members receive all benefits of an annual membership, including their choice of print magazine delivery (QST or On the Air), and digital access to these publications, plus the digital versions of QEX and National Contest Journal (NCJ). In addition, each Life 70+

Member will receive a Life Member pin and a window decal and may purchase an exclusive Life Member plaque.

Qualifying members selecting this level of membership will enjoy the convenience of having to make a single payment for their entire tenure as an ARRL Member and not be subject to any future ARRL dues increase.

To apply for Life 70+ membership, individuals must complete the special Life 70+ Member application — available on June 1 — and submit proof of date of birth, if this information is not already on file with ARRL. The Life 70+ membership fee must be made in a single payment. Past membership dues payments will not apply toward Life 70+ Membership, but a credit will be applied for applicants who paid their dues in full between April 1 and May 31, 2020.

Life 70+ Membership Dues Rates

\$750	US Life 70+ Membership
\$750	International Digital Life 70+ Membership
\$1,515	International Life 70+ Membership with a Print Subscription
\$250	Family Life 70+ Membership as an add-on to a paid Life 70+ membership

ARRL reserves the right to change or substitute the benefits, products, or services associated with a member's original Life 70+ Member package at any time during the membership. Dues are non-refundable.

Life 70+ membership applications will be available for download beginning on June 1.

From the President's Shack

One of the modes I've used so much recently, especially since the lockdown began, is FT8. With the sun being at its minimum, propagation isn't very good and sideband suffers. Digital modes have been shining because they still seem to work well enough to be able to work new countries when the other modes are dead. I've personally worked (and confirmed) a lot of southeast Asian countries like Mongolia, Thailand, East Malaysia, Korea and China, along with other countries like Kenya, Sardinia and the United Nations HQ using FT8 since the lockdown began. That shows you the power of digital in HF radio.

I'll be presenting on the fundamentals of FT8 at our meeting on the W4GSO VHF repeater at 7:15pm on Monday evening. My plan is to present via YouTube livestream so that you can see what I'm doing, but still hold the conversation via the repeater. You can go to www.w4gso.org and click the May meeting link, or visit this link directly, to view the video: <https://www.w4gso.org/news/gara-may-meeting-ft8/>. I'm by no means an FT8 expert, so I'll be happy to have any and all comments and ideas to contribute to the discussion. I'm looking forward to meeting you virtually on Monday!

FYI: we are working on a new site to hold Field Day activities that is in the same area as Hagan-Stone Park. We should know soon whether it's a viable option, but in the meantime, we would like to get an idea about how many of you may be interested in participating in person. If you have a second, could you please complete this survey to let us know your interest in attending? It will help us to prepare better!

<https://bit.ly/GARAFIELDDay2020>

73,
Scott Toth, ND4L
GARA President

For ARRL News Regarding COVID-19

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

Engineering Report

This month we have a couple of significant accomplishments to report. Jesse (K4AX) and I had for some time been discussing replacing the VHF 2 meter amplifier due to the issues with needing periodic tuning and the power output was just not where we wanted it to be. After locating a suitable replacement, at a great deal, the board approved the replacement. The replacement amplifier is a modified GE Mastr III amplifier that has been performing very well. It has been modified to accept input in the 5w range, and it outputting in the neighborhood of 115 watts. This is close to double what the output power was previously. On the UHF (multi mode digital) repeater, you may recall that we had purchased a new Henry amplifier last year. When testing with that amplifier we discovered a desense issue and subsequently we were not able to utilize it. To fix the desense issue we then purchased another UHF duplexer. You may recall from a previous article that we took the new and existing duplexers over to Qorvo, where Rick NM3G, was gracious in helping us tune the new duplexer. After performing that tuning, and comparing it to the existing duplexer, it appeared that the new duplexer did not have any more separation than the existing one. Rick did mention that at higher power levels (new amp), that the existing duplexer may have an internal defect that would present itself. Now fast forward back to the last month where we were working at the repeater site. Jesse and I went ahead and swapped in the new duplexer and put the amplifier back online and tested. We were pleasantly surprised that there was no desense issue! It just goes to show that sometimes the test bench data doesn't tell the whole story. With the new duplexer and amplifier inline for the UHF repeater, we have effectively doubled the output power of that one also, to roughly 100 watts. I would like to thank Jesse for all of this work to help make this all happen. Since we have all been stuck at home, I hope you get a chance to get on the repeaters and enjoy the upgraded performance.

73,
Matt Trull KX4GG

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!

Treasurer's Report

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

Checking:

Beginning Balance:	\$1059.49	
Deposits:	\$0.00	
Withdrawals:	-\$119.98	Repeater Internet Connection
Ending Balance:	<u>\$939.51</u>	

Money Market:

Beginning Balance:	\$9047.07	
Deposits:	\$0.08	Interest
Withdrawals:	\$0.00	
Ending Balance:	<u>\$9047.15</u>	

PayPal:

Beginning Balance:	\$3749.32	
Deposits:	\$72.00	Membership Renewals
Withdrawals:	-\$3.00	PayPal Payment Fee
Ending Balance:	<u>\$3818.32</u>	

Totals: **\$13,804.98**

The club's liability insurance was renewed this month, and the application for our equipment insurance was submitted, but the policy has not yet been issued. We should see it in the next few days. These expenses, as well as the new repeater amplifier Matt mentioned in his report, will appear in the June Feedline.

Dave
AC4A

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](https://smile.amazon.com)

amazonsmile

From ARRL...**Federal Judge Okays Retrieval of Titanic Marconi Wireless Equipment**

<http://www.arrl.org/news/federal-judge-okays-retrieval-of-titanic-marconi-wireless-equipment>



5/22/2020

A US federal judge in Virginia has given permission to retrieve the ill-fated RMS Titanic's Marconi wireless gear, which transmitted distress calls from the sinking ocean liner during its maiden voyage. Judge Rebecca Beach Smith of the US District Court in Norfolk ruled that the radio gear is historically and culturally important and could soon be lost within the rapidly decaying wreck. The Titanic sank after striking an iceberg some 370 miles off the coast of Newfoundland in 1912.

"The Marconi device has significant historical, educational, scientific, and cultural value as the device used to make distress calls while the Titanic was sinking," Judge Smith wrote in her ruling. She said the company would be permitted

"minimally to cut into the wreck" to access the radio room.

David Concannon, a lawyer for R.M.S Titanic Inc., which the court has recognized as the steward of the vessel's artifacts, said the company would try to avoid cutting into the ship, noting that the radio room may be reachable via a skylight that was already open. More legal wrangling may lie ahead. The National Oceanic and Atmospheric Administration (NOAA) contends that the retrieval expedition is still prohibited under US law and under an international agreement between the US and the UK.

R.M.S Titanic has said the radio transmitter could unlock some of the secrets about a missed warning message and distress calls sent from the ship.

"It tells an important story," Concannon said. "It tells of the heroism of the operators that saved the lives of 705 people. They worked until water was lapping at their feet."

In an April court filing, NOAA argued against the salvage effort, saying that any benefit to be realized from cutting into the vessel to recover the Marconi equipment would not be "worth the cost to the resource and not in the public interest."

RMS Titanic sought permission to carry out what it called a "surgical removal and retrieval" of the Marconi radio equipment. As might be expected, the deteriorating Marconi equipment is in poor shape after more than a century under water. The undersea retrieval would mark the first time an artifact was collected from within the Titanic, which many believe should remain undisturbed as the final resting place of some 1,500 victims of the maritime disaster. The wreck sits on the ocean floor some 2 1/2 miles beneath the surface, and remained undiscovered until 1985. R.M.S. Titanic said it plans to use a manned submarine to reach the wreck and then deploy a remotely controlled sub to retrieve the radio equipment.

From ARRL...**ARISS Multipoint Telebridge Contact via Amateur Radio Concept Proving Successful**

<http://www.arrl.org/news/ariss-multipoint-telebridge-contact-via-amateur-radio-concept-proving-successful>



5/21/2020

Judging by the outcome of two tests so far, the new Amateur Radio on the International Space Station (ARISS) Multipoint Telebridge Contact via Amateur Radio concept appears to be a winner. ARISS completed the second test of the new-style radio contact called Multipoint Telebridge Contact via Amateur Radio on May 15, when Airdrie Space Science Club members in Airdrie, Alberta, Canada, interviewed International Space Station Commander Chris Cassidy, KF5KDR, via ham radio.

“What makes this contact a little different from the usual ARISS contact is [that] everyone involved will be speaking from their homes in Canada, as we all shelter in place,” said the contact

moderator John Kludt, K4SQC, in introducing the event. The multipoint telebridge concept was developed to make it possible for students — now at home and engaged in distance learning due to the COVID-19 pandemic — to take part in scheduled ARISS contacts. An ARISS telebridge ground station operated by John Sygo, ZS6JON, near Johannesburg, South Africa, made direct contact with NA1SS onboard the ISS, then passing overhead. Sygo then patched two-way audio into the telebridge network for distribution to each student’s home by telephone.

Each student then took turns asking questions of Cassidy, and their families, faculty members, and the public could also listen from home. One of the participants, Lucas, wanted to know how the COVID-19 pandemic has affected life aboard the space station.

“The pandemic has affected us because it’s affected our families,” Cassidy responded. “Our daily life here on the space station is largely the same, with or without the pandemic.”

The initial multipoint telebridge contact earlier this month, while successful, suffered from some issues on the space station that were unrelated to the new multipoint system. During the more-than 11-minute contact on May 15, some of the students got to ask more than one question.

Prior to the restrictions imposed by the COVID-19 pandemic, the Canadian students had engaged in lessons about space and radio communication, such as launching balloons carrying ham radio payloads and building model rockets to launch.

One of the Airdrie Space Science Club leaders — Brian Jackson, VE6JBJ — said the pandemic had interrupted opportunities to develop the students’ interest in space. “This ARISS contact gets them looking back up, towards the sky, and imagining themselves as an astronaut one day,” he observed. — Thanks to ARISS

VE Testing

All W4VEC exam sessions in Greensboro and High Point may be resuming prior to July. Please check <http://www.w4vec.org> for details.

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>

May 25	GARA General Meeting on the repeater
June 13-15	ARRL June VHF contest (http://www.arrl.org/june-vhf)
June 20	ARRL Kids Day (http://www.arrl.org/kids-day)
June 26-28	GARA Field Day (Location TBA, 2pm on 26th until 5pm on 28th)
June 27-28	ARRL Field Day (http://www.arrl.org/field-day)
July 11	VE Testing, Greensboro, Hinshaw Memorial United Methodist Church
July 11	Firecracker Hamfest, Salisbury (http://www.rowanars.com)
July 11-12	IARU HF World Championship (http://www.arrl.org/iaru-hf-world-championship)
July 18	47th Annual Cary Mid-Summer SWAPFEST, Cary (http://caryarc.org)
July 25	VE Testing, High Point, Hickory Chapel Wesleyan Church
July 25	WCARS Hamfest, Waynesville (http://www.wcars.org/wcarshamfest.htm)
July 27	GARA General Meeting
Aug. 8	VE Testing, Greensboro, Hinshaw Memorial United Methodist Church
Aug. 8	22nd Annual Cape Fear Amateur Radio Swapfest, Fayetteville (http://www.cfarsnc.org)
Aug. 24	GARA General Meeting
Aug. 29	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.

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, 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 Newslines. 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

**Exam sessions will be
resuming soon.**

**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

The Official Publication of GARA