



**Our November General meeting will be held today, Wednesday, November 16th, at 6:30 pm via Zoom.**

**As this is an election meeting, we need every member to either attend, or fill out the proxy for the election. You can find it on the Menu bar after you have logged into w0eno.org. Fill it out and then Submit it.**

**Please join us!**

**Our President, Chuck, will be speaking about our activities held in 2022, and discussing plans & ideas for 2023.**

**Nov. Meeting will be on Zoom on Wed, November 16th, at 6:30 pm.**

<https://us06web.zoom.us/j/81928642821?pwd=WXNSTjdEdHd5emZaaDRaaENQdnFWZz09>

**See p. 2 for more info.**



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## Please Join Us for our General Meeting

**Our Nov. General Meeting will be held on Wednesday, November 16th, at 6:30 via Zoom.**

Elections will be held at this meeting! Please join us or submit your proxy!

Some requests for when you join our meetings:

- When you fill out your name, please add your call sign **after your first name**. (Example: Chuck (KØITP) Poch). If you don't have a call sign yet, just put "no call." *You can change your name field with the 3 little dots at the top right corner of your screen.*
- You will be muted automatically. (If you need help getting in, call out on our club repeater via VHF, UHF, or on EchoLink). Be sure to have your video going and your volume up, so we can see, hear, and interact with you!

The Zoom meeting will start at 6:30 pm with social time, ask an Elmer, meet a Board member, and general questions. The *actual meeting* begins at 7:00 pm, with intros & elections, and then Chuck, our President, will speak about our activities in 2022 and plans & ideas for 2023.

***Going forward, this Zoom info will be the same for all Monthly General Meetings.***

**Our Zoom Meetings are held and found on this link:**

<https://us06web.zoom.us/j/81928642821?pwd=WXNSTjdEdHd5emZaaDRaaENQdnFWZz09>

**Meeting ID: 819 2864 2821**

**Passcode: 787437**

Find your local number: <https://us06web.zoom.us/u/kcsybGuZpe>.

**If you have to miss this meeting, you can see our meetings at**  
<https://w0eno.org/meeting-presentations/>.



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## Ham Jargon

### Digipeater

Short for digital repeater (sometimes called packet repeater), packet radio repeater node dedicated to receiving, storing, then re-transmitting (forwarding) digital data packets; *see also digipeater on Wikipedia.*

## LARC's YouTube Channel

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Check out videos of many of our previous meetings and activities at:

<https://www.youtube.com/channel/UC0bX61lXfLHEvix6msKzITg> or by going to the club web site at [w0eno.org](http://w0eno.org) and selecting Presentations under the LARC History menu. Subscribe to our channel so you don't miss out!

If you miss a meeting or you don't drive after dark, you will still be able to watch them here!



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### Help Support your Club with your Online Shopping! \*

Did you know your purchases can make a difference? *When you shop for anything at [https://smile.amazon.com/gp/chpf/homepage/ref=smi\\_chpf\\_redirect?ie=UTF8&ein=84-1056239&ref=smi\\_ext\\_ch\\_84-1056239\\_cl](https://smile.amazon.com/gp/chpf/homepage/ref=smi_chpf_redirect?ie=UTF8&ein=84-1056239&ref=smi_ext_ch_84-1056239_cl), Amazon Smile donates to the Longmont Amateur Radio Club — at no cost to you!* Last quarter, they sent LARC \$50.84 as their donation from our members' shopping. Every last dollar helps! *You can also just click on the picture below to log into your Amazon account to shop and to help your Club at the same time.*



When you go to this link, you enter your own username and password, just like you normally do. You can also go to [smile.amazon.com](http://smile.amazon.com) and select Longmont Amateur Radio Club. *Shopping with this Amazon link doesn't cost you anything – Amazon provides this donation, and every little bit helps our club!*

*\* Currently only 11 LARC members/families are using this link — please join them to help raise funds for our club repeaters and activities! We need your help too!*

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### Useful Ham Radio Web Site

<https://www.eham.net/>

News and resources by eHam.net, a community site designed and operated by and run for active hams.

*“Autumn carries more gold in its pockets than all the other seasons .” Jim Bishop*

Since the end of the year is coming fast upon us, we will start doing in-person meetings and presentations after the first of the new year. We will use Zoom as well. *Please remember that our club elections are this month, and we either need your presence or your proxy for this meeting on Wednesday, Nov. 16th, at 7:00 pm.*

LARC Upcoming Events:

- Saturday, Nov. 12th, 8:30 am. Turkey Trot Race. Altona Middle School. Volunteers needed. \*
- Saturday, Dec. 10th, 5:00 pm. Longmont Parade of Lights. Volunteers needed. \*

**Looking for old radio equipment and test equipment. I know a guy. Contact me for info.**

Join the Monday night (6 Meters), Tuesday night, and Thursday night nets for fun and educational talk! Want to try being a net control station (NCS)? [Contact Jerry \(NØOUW\)](#) or me for details! We have a challenge for you!

Do you have an idea for a presentation? Know someone who would like to present to your club? Contact a board member and let's get them in front of LARC! We are looking for presenters for all of our 2023 General Meetings.

Keep your ideas coming for new events and/or activities for the club. I ask that if you have an idea, that if you could run it (with help if needed), it would be a big help to make it successful.

I always mention the appreciation award I do for our club members. If you know someone who deserves an extra “Thank you” or “Above and Beyond,” please let me know! I’m looking for recipients for our 2022 awards and recognition. Please tell me your thoughts.

*Congratulations to the 2022 Above and Beyond recipients so far:*

- January “Above & Beyond” recipient Steve Shearer (KØSTE) - for all the monetary and volunteer hours you put in to support the club.
- April “Above & Beyond” recipient Doug Altman (KEØSI) - for all his service as Event Planner for our Club through many years.
- April “Above & Beyond” recipient Richard “Dick” Paige (KEØVT) for putting together a HAM-FEST with fewer than 30 days notice!
- April “Above and Beyond” recipient Sebastian Wessels (NSØW) for supporting the club with activities, all on his own.
- May “Above and Beyond” recipient Harlan Olson (WØHLO) - helping a silent key widower.
- June “Above and Beyond” recipients Bob Smith (NØZFY) and Richard “Dick” Paige (KEØVT) for putting on a Summer Field Day Event for the club to remember.
- October “Above and Beyond” recipient Mark Le Blank (N7PUR) for giving back to the community in support of our community events.

Who can YOU recommend for their service to LARC to get this Award?

I have always said that this is your club. How can you help? We’re looking for individuals to help with committees and general volunteering for our LARCFest 2023 Committee (already in planning stage), Christmas Party, and other club events. If you can help or want to become more involved with your club, please [contact a board member](#). Please [contact me](#) with any questions or ideas.



### Take our Poll!

Please take LARC's quick and fun Poll by answering this question. Feel free to add any comments you would like. After you have finished and submitted it, you will be given the option to see a summary of all the responses so far. Your answers and identity are completely anonymous if you wish. Please select the answers that apply! If clicking on the polls below doesn't take you to the poll, please go to: <https://vote.pollcode.com/57516564>

#### Your Thanksgiving Plans

- Have big meal at home
- Have big meal at restaurant
- Have friends coming
- Have family coming
- Traveling by car
- Traveling by airplane
- Get active on my ham radio
- Play games with family and/or friends
- Work around house
- Study for ham radio exam
- Work on ham projects
- Watch football
- Add others in comments

Vote

View

### Net — Monday Night 6 Meter Net, 6:30 pm

The Club sponsors an informal net on Monday evenings at 6:30 pm at 50.160 MHz. Check-ins and discussions of interest to 6m enthusiasts are the main topics. Dick Paige (KE0VT) is the net control. There is no net on the Mondays that are holidays. *Hams with new or renewed interest are encouraged to participate. Get on the "Magic Band!"*

### Net — Tuesday Night Hamlet Net, 7:00 pm

The Club sponsors an informal net for newer ham radio operators on Tuesday evenings at 7:00 pm. Learn how to use nets, ask questions, discuss ham radio topics, get familiar with your radio & make new friends on the club's linked repeaters on 147.270 and 448.800 MHz, Tuesday nights at 7:00 pm. *For more information about this net, click on the title above. You can also reach our nets on the internet via [EchoLink!](#)*

### Net — Thursday Night Club Net, 8:00 pm

The Club also sponsors an informal net each week on Thursday evenings at 8:00 pm to chat about whatever is on your mind and to announce upcoming Amateur Radio Club activities. You will find the net on 147.270 and 440.800 MHz on Thursday nights at 8:00 pm. *Click on the title above for more information.*

**STAY CONNECTED TO YOUR FELLOW HAMS!  
GET ON OUR LARC NETS!**



### TAKE OUR NOVEMBER POLL!

Either click on the poll on the left, or go to:  
<https://vote.pollcode.com/57516564>

We want to know your thoughts! Please also add your comments!

## Upcoming Special Events and Contests

Here are some selected upcoming QSO Parties and Special Events that you could get on to pass the time this spring. See the links below for more information, rules, logs, and QSL card information. They all present a great opportunity to get on the air and have some fun, and are great for beginners as well! The contest rules tell you what you have to say. Plan your calendar! Lots of radio fun coming right up!

| Start Date | End Date | More Info   |
|------------|----------|---|
| 11/15      | 11/15    | Worldwide Sideband Activity Contest <a href="https://wwsac.com/rules.html">https://wwsac.com/rules.html</a>   |
| 11/17      | 11/17    | NTC QSO Party <a href="https://qsl.net/ntc/party.html">https://qsl.net/ntc/party.html</a>   |
| 11/19      | 11/20    | LZ DX Contest <a href="http://lzdx.bfra.org/rulesen.html">http://lzdx.bfra.org/rulesen.html</a>   |
| 11/19      | 11/21    | ARRL Sweepstakes Contest, SSB <a href="http://www.arrl.org/sweepstakes">http://www.arrl.org/sweepstakes</a>   |
| 11/19      | 11/20    | South American Integration Contest CW <a href="https://sacw.cwsp.com.br/en/2021/09/21/for-reading/">https://sacw.cwsp.com.br/en/2021/09/21/for-reading/</a>   |
| 12/01      | 12/01    | NRAU 10m Activity Contest <a href="https://nrrlcontest.no/index.php/nrrl-contests/nrau-nac/10m/nrau-nac-10m-english-rules/278-nrau-nac-10m-english-rules.html">https://nrrlcontest.no/index.php/nrrl-contests/nrau-nac/10m/nrau-nac-10m-english-rules/278-nrau-nac-10m-english-rules.html</a> |
| 12/06      | 12/06    | Worldwide Sideband Activity Contest <a href="https://wwsac.com/rules.html">https://wwsac.com/rules.html</a>   |
| 12/10      | 12/11    | ARRL 10-Meter Contest <a href="http://www.arrl.org/10-meter">http://www.arrl.org/10-meter</a>   |
| 12/17      | 12/17    | RAC (Radio Amateurs of Canada) Winter Contest <a href="https://www.rac.ca/contesting-results/">https://www.rac.ca/contesting-results/</a>   |
| 12/18      | 12/18    | ARRL Rookie Roundup, CW <a href="http://www.arrl.org/rookie-roundup">http://www.arrl.org/rookie-roundup</a>   |
| 12/24      | 12/31    | CW QRS Xmas Activity <a href="https://cwqrs.it/en/xmas-activity-2022-rules/">https://cwqrs.it/en/xmas-activity-2022-rules/</a>  |
| 12/26      | 12/26    | DARC Christmas Contest <a href="https://www.darc.de/der-club/referate/conteste/weihnachtswettbewerb/en/">https://www.darc.de/der-club/referate/conteste/weihnachtswettbewerb/en/</a>  |
| 12/30      | 12/30    | YOTA (Youth on the Air) Contest <a href="https://www.ham-yota.com/contest/">https://www.ham-yota.com/contest/</a>   |
| 01/05      | 01/05    | NRAU 10m Activity Contest <a href="https://nrrlcontest.no/index.php/nrrl-contests/nrau-nac/10m/nrau-nac-10m-english-rules/278-nrau-nac-10m-english-rules.html">https://nrrlcontest.no/index.php/nrrl-contests/nrau-nac/10m/nrau-nac-10m-english-rules/278-nrau-nac-10m-english-rules.html</a> |
| 01/07      | 01/07    | Marconi Club ARI Loano QSO Party Day <a href="http://www.ariloano.it/marconiclub/marconiclubday2023/regolamentomcday_ENG2023.pdf">http://www.ariloano.it/marconiclub/marconiclubday2023/regolamentomcday_ENG2023.pdf</a>  |
| 01/07      | 01/07    | ARRL Kids Day <a href="http://www.arrl.org/kids-day">http://www.arrl.org/kids-day</a>   |
| 01/08      | 01/08    | Midwinter Contest <a href="http://midwintercontest.veron.nl/contest_mw_eng.htm">http://midwintercontest.veron.nl/contest_mw_eng.htm</a>   |
| 01/14      | 01/15    | North American QSO Party, CW <a href="http://www.ncjweb.com/NAQP-Rules.pdf">http://www.ncjweb.com/NAQP-Rules.pdf</a>  |
| 01/21      | 01/22    | North American QSO Party, SSB <a href="http://www.ncjweb.com/NAQP-Rules.pdf">http://www.ncjweb.com/NAQP-Rules.pdf</a>   |

- You can see much more QSO Party and Contest Information at: <https://www.contestcalendar.com/contestcal.html>
- You can see many more Special Event station information and dates at: [http://www.arrl.org/special\\_events/search/page:1/model:Event](http://www.arrl.org/special_events/search/page:1/model:Event)
- To learn more about having fun with QSO Parties, take a look at this link: <http://www.arrl.org/files/file/QST/This%20Month%20in%20QST/April2019/KENNEDY.pdf>



## 2022 BOARD OF DIRECTORS

President: Charles Poch, KØITP  
Vice President: Michael Ritchie, WØKKI  
Secretary: Pat Engstrom, W1PGE  
Treasurer: Don Lewis, KEØEE

### ADDITIONAL VOLUNTEERS:

Membership: Steve Shearer, KØSTE  
Technical: Mark Skelton, N7CTM and  
Bryan Gonderinger, AFØW  
Publicity: Steve Haverstick, KFØAGY  
Splatter Editor: Kat Gonderinger, WØUM  
Planning/Special Events: Dick Paige,  
KEØVT & Mark Mollenauer, KDØGOC  
BCARES Representative: Jerry Schmidt,  
NØOUW  
Repeater Trustee: Bryan, AFØW  
Education: Kat, WØUM & Bryan, AFØW  
LARCfest Chair: Dick Paige, KEØVT  
VE Team Leads: Aaron, AJ7R & Kat, WØUM  
LARC Photographer: Raman Sinha, KVØN

### Contact Us:

Email to: [board@w0eno.org](mailto:board@w0eno.org) will reach all members of the Board.

Board meetings are held on the first Wednesday of each month at 6:30 pm. General Club meetings are held on the third Wed. of each month at 6:30 pm.

Current Club meetings are held online using Zoom and are open to all. Join us!

If you have a suggestion for a topic or for a guest speaker, or would like to present a topic yourself, please send email to [Chuck, KØITP](mailto:Chuck.KØITP).

If you have a general interest article about ham radio that you would like to see in a future issue of Splatter, please email it to [Kat, the Splatter Editor](mailto:Kat,theSplatterEditor).

Articles received by the 25<sup>th</sup> of the previous month will be considered for publication in the issue for that month.

Longmont Amateur Radio Club  
P.O. Box 86  
Longmont, CO 80502

LARC is a non-profit organization organized exclusively for one or more of the purposes as specified in Section 501 (c)(3) of the Internal Revenue Code Vol. 17. No.6.

### Repeaters:

#### VHF:

147.270 MHz (+) 600 kHz, 100 Hz CTCSS

#### UHF:

448.800 MHz (-) 5 MHz, 88.5 Hz CTCSS

#### Echolink:

WØENO-R, Station #8305

## Visit & Post on our Facebook Page!

Our club has a Facebook page — did you know that? Feel free to share your ham-related posts, projects, activities, and news at:

<https://www.facebook.com/LongmontAmateurRadioClub/>.

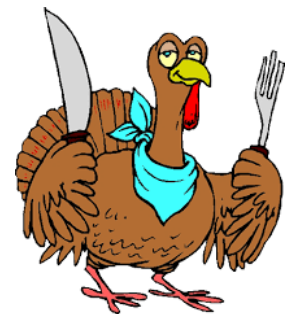
We'd love to have our members active on both our LARC web site at [w0eno.org](http://w0eno.org) AND on our Facebook page, so check it out, share, and post today! Tell all your ham operator friends!

Find us on 

## Thank You!

**Many thanks to our special contributing authors for this month's Splatter:**

- Ralph Bilal, WDØEJA
- Bryan Gonderinger, AFØW
- Dr. Bob Heil, K9EID
- Ed Mohrman, WA7EM
- Chuck Poch, KØITP
- Steve Shearer, KØSTE



## Call for Articles!

I am constantly looking for articles to publish in the Splatter monthly newsletter. Topics should apply to Amateur Radio, or other closely-related topics of interest to most ham operators. Tell us about your ham radio activities and projects. Articles (250-500 words) detailing things you have done and/or built (with pictures!) are always of interest.

Submissions may be edited for spelling, grammar, content, or length if necessary. The deadline for submissions is the 25th of each month; however, submissions received after the deadline will be considered if they fit into the newsletter. If a late entry doesn't make it into the current month's news, it may be used in one of the following months.

[Kat, WØUM, Splatter Editor](mailto:Kat,WØUM,SplatterEditor)

## LARC VE Exam Session Information

LARC sponsors a VE Exam Session every month. Our *LARC (ARRL VEC) Exam Sessions* are given on the fourth Saturday of the even-numbered months — (but on the 2nd Saturday for December), and our *LARC/Patriot VE Exams* are given on the third Sunday of the odd-numbered months — (but on the 2nd Sunday in November). April has two sessions.

### October 22nd VE Exam Session Results

A LARC ARRL VE Exam Session was held on Saturday, June 25th. Led by Aaron Rees (AJ7R), the additional Volunteer Examiners (VEs) were Jeanne (AC0XA), David (AD0UF), Lloyd (KF0UOC), Dick (KE0VT), and Robert (WC0R).

At this session, 8 applicants were tested, which resulted in 2 new Technicians, 5 Generals, and 1 Amateur Extra. There were a total of 12 passed exams in all.

Congratulations to everyone who passed their exams!



| License      | #        |
|--------------|----------|
| Technician   | 2        |
| General      | 5        |
| Extra        | 1        |
| <b>Total</b> | <b>8</b> |

### Next Exam Session is SAT., December 10th @ 10 am

Our next VE Exam Session will be on Saturday, December 10th, at 10:00 am in the Professional Building, 350 Terry Street, Longmont, 80501.

As this will be an ARRL session, this test fee is \$15. You may pay with check (made out to the ARRL) or cash.

To pre-register for this session, please go to <https://w0eno.org/2021/10/12/contact-us/> and fill out the contact form so we can contact you if we must cancel this event due to bad weather.



### Upcoming LARC VE Exam Session Schedule

| Date    | Day | Time     | Exam Session Info | Exam Options                                    |
|---------|-----|----------|-------------------|---|
| Dec. 10 | Sat | 10:00 am | LARC ARRL VE Team | In person on paper                              |
| Jan. 15 | Sun | 9:00 am  | LARC/PVET VE Team | In person on your laptop or tablet, or on paper |
| Feb. 25 | Sat | 10:00 am | LARC ARRL VE Team | In person on paper                              |



## Ham Enthusiast Breakfast Every Saturday Morning

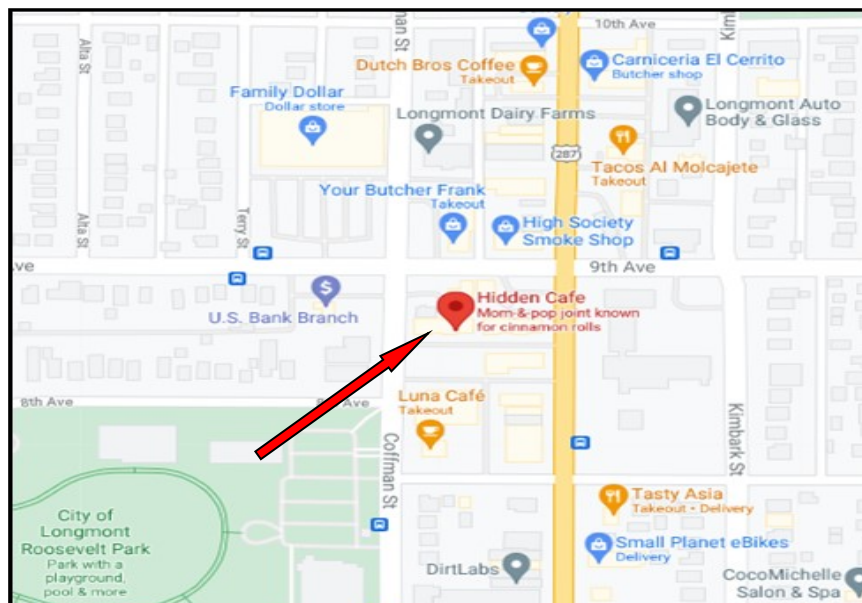
Want some social time with other ham radio operators in a small group? Join us for breakfast!

### Saturday morning breakfasts meet at 8:00 am every Saturday.

Join us on Saturday mornings at the **Hidden Café in the Towne Square Shops, at 829 Main Street, #5 in Longmont.** It's easiest to enter the parking lot from Coffman Street, just south of 9th Avenue.

These are hosted by Don Lewis, KE0EE.

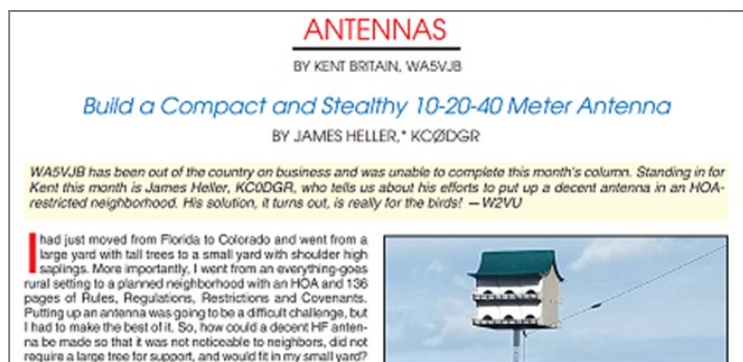
We hope you will join us on a regular basis for breakfast. If the group gets much larger, we will relocate to a larger restaurant. Get on the 8 pm Thursday Night Net to confirm the location, and/or check our website to see if the location has changed.



## One of Our Members Published in the ARRL QST Magazine!

LARC member, Jim Heller (KC0DGR) had an article published in the June issue of QST magazine. Below is a picture of the beginning of the article:

The article is on pages 86-91 and it provides details for an end-fed half-wave antenna that uses a Birdhouse for one support and the house for another. Great article, Jim!



We had one new member join the LARC in October: Mike Exner, WØICH.

The Annual meeting will be held on November 16, 2022, where Active Members of the Club vote to elect the Officers for the upcoming year. The updated bylaws will also be voted on. All meetings are open to anyone with an interest in ham radio, so invite a friend or neighbor who has ever asked you a question about your hobby. If you have any question(s) about your membership status, interest in joining, or renewing your membership, feel free to contact Membership listed below.

The Club is always looking for additional donations of door prizes to give away at the meetings. If you have something to donate for the drawing(s), you can contact me at the email or cell number below. It does not have to be a ham radio item — but anything that could be beneficial to another member.

Stay safe, and hope to see and/or hear you at the next LARC General Meeting this Wednesday, November 16th. Any questions or issues, feel free to contact me.

73,

Steve Shearer (KØSTE)  
Membership Chairman  
[KØSTE@WØENO.ORG](mailto:KØSTE@WØENO.ORG)  
[membership@w0eno.org](mailto:membership@w0eno.org)  
303-915-9942



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## Einstein's Theory of Relativity Proven

A century-old theory of gravitational phenomenon that was predicted by Albert Einstein has just been proven by scientists. Using the Laser Interferometer Gravitational-Wave Observatory (LIGO) in the U.S. and Virgo gravitational wave sensors in Italy, researchers confirmed that a spinning black hole was turning 10 billion times faster than any previously-observed black hole. This caused it and another nearby black hole to wobble – or precess – in their orbits. The larger black hole is estimated to be about 40 times larger than the mass of the sun.

Read more about this discovery at [https://www.livescience.com/black-hole-merger-precession-einstein?utm\\_campaign=368B3745-DDE0-4A69-A2E8-62503D85375D](https://www.livescience.com/black-hole-merger-precession-einstein?utm_campaign=368B3745-DDE0-4A69-A2E8-62503D85375D).

Also read about the fastest-spinning black hole discovered to date at <https://www.livescience.com/first-black-hole-detected-fastest-spinning.html>

On the above websites, you can see a visualization of two merging supermassive black holes.

While researching an article for the Splatter, I came across an interesting kit from MFJ. If you've spent any time browsing ham radio sites, you've probably come across a saying similar to "All MFJ projects should be treated as kits, as you may have to rework a solder joint, connect a wire, or replace a bolt when you receive one of their products."

While this may or may not be true in all cases, there is at least one item where this will definitely be your experience – and that is the MFJ-941EK Tuner Kit.

This is a manual tuner covering 1.8 – 30 MHz with a max power level of 300 watts that you assemble yourself. It includes a dual-needle lighted SWR/power meter, two switched coax antenna connections, one dummy load connection, a balanced antenna connection, as well as a random wire connection and an internal 4:1 balun.

I have a similar MFJ tuner that we use as a demo in our amateur licensing classes. The components on the MFJ web site for the 941EK kit look very similar to my tuner, and the construction seems very straightforward – no surface mount components, the case already includes all the holes and labels, etc. You can download the construction manual from the MFJ product page (below) and see if it is something you want to attempt. If it's a bit above your level of kit-building experience, there are very likely club members who would be happy to help you through it!



If you need an HF tuner and don't mind getting your hands dirty, you might want to give it a look!

More info:

- <https://mfjenterprises.com/products/mfj-941ek>
- [https://www.youtube.com/watch?v=2NWfg\\_01VFA](https://www.youtube.com/watch?v=2NWfg_01VFA)
- <https://www.eham.net/reviews/view-product?id=1520>  
(reviews of the pre-built 941E)



Well — maybe...

In a previous article I overviewed WSPR (Weak Signal Propagation Reporter) and how it might help me find a low-cost stealthy antenna that would truly outperform my existing house mounted inverted V.



Well, I give you the punch line up-front. Despite the optimism in my previous article, WSPR is not very good for testing Antenna A vs Antenna B from an individual ham's station. I ran a handful of A vs B tests from my station and was pretty optimistic that I was going to have high-confidence data upon which to pick my next antenna project. But then I found I got substantially different results when I repeated any A vs. B test. And, some receiving stations showed very strong positive results on A vs B while others showed strong negative results. I could find no correlation of the data to direction or distance from my station. So, I became skeptical of the validity.

If you read <http://www.arrl.org/files/file/History/History%20of%20QST%20Volume%201%20-%20Technology/QS11-2010-Taylor.pdf> more carefully, you see that the major strength of WSPR is in propagation studies. All the data for all the WSPR'ing stations is public on <https://www.wsprnet.org/drupal/wsprnet/spots>.

If you are interested in understanding how propagation shifts around the world from day to day, from region to region, there is a lot of data to show how various stations are getting out (or not!) while others are doing the opposite. It is true you can get a general sense of how well your station is getting out, what direction and distance is working for you, etc. But to try to get down to a few dB difference between antenna A and B is not going to succeed.

The reason why A vs B testing will not succeed is that, at any instant of time, there are 1000s

>> Continued >>

of other stations WSPRring. So, at any instant in time, one may be transmitting on exactly the same frequency as another and the strong signal “clobbers” the weak one or the two interfere to the point that neither is intelligible.

Also, last month, I wrote an article promoting rapid prototyping, experimentation and not being upset if some ideas end up in the junk box. So, how does one quickly prototype and evaluate new antenna ideas? Setting aside the precise measurements I hoped for from WSPR, following are what I consider key elements of my antenna comparison project:

1. A place to easily, quickly string test antennas. Its important to remember that this is temporary. It does not need to be weatherproof or strong. It does not need to be pretty. For example, feedlines may run across the lawn or patio. The masts to support the antenna may be flimsy.
2. A consistent “reference antenna.” This is probably the antenna you use for your day-to-day operation. Don’t tear down your reference antenna to erect your test antenna.
3. Tune around looking for strong and weak, near and distant stations. Use an antenna switch or some other way to very quickly switch from the reference antenna to the test antenna. Listen for signal strength and noise floor. Try to discern on which antenna you hear better. Listen to multiple stations. Be objective and fight the tendency to be enthusiastic about the new antenna and be swayed by whatever advertisements and glowing reviews you may have read

The beacon network (<https://www.ncdxf.org/beacon/>) is a way to objectively judge antenna performance. You listen to a series of world-wide beacons while watching your “S” meter. However, the beacon network is most focused on demonstrating if bands are open, rather than how good any individual station is working.

Following are the antennas I quickly prototyped, in roughly the order of their performance. I have yet to find one that outperforms my inverted V mounted at about 25 ft. to the peak of my roof.


1. Inverted V at back of lot
2. Full size 20M vertical, elevated 8 ft., 2 radials
3. 100 ft. delta loop
4. Full wave 20M delta loop
5. G5RV Jr.
6. Hamstick dipole
7. 20M End Fed
8. Ground Mounted Hamstick Vertical with 8 radials
9. Garage Attic Shortened Vertical



John Stringer shared a link on the AMSAT Facebook group that points to an information sheet for FM and linear amateur satellites which was created by Salvador Garcia, EA1PA, from Venta de Banos in Spain.

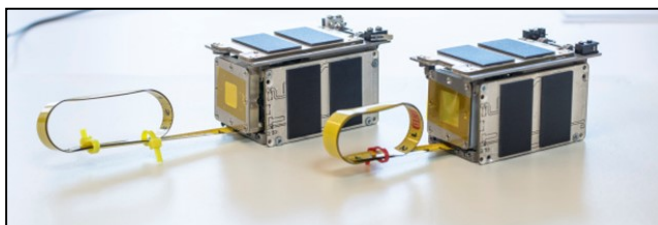
The information includes the usual frequencies and CTCSS tones, as well as satellite details, contact distance records, and an indicator of the current status of the satellites.

The data is available in PDF and Excel formats, and can be downloaded by clicking on the square icon with an arrow pointing up and right that is at the top right corner of the two different formats on the web page.

| <a href="#">Created by: EA1PA - Salva</a>               |         |  |       | <a href="#">Sources:</a>                |     |
|---|---------|---|-------|---|-----|
| <a href="#">Last update: 07/09/2022</a>                 |         |   |       | <a href="#">AMSAT Satellite Status:</a> |     |
| <b>VOICE FM LEO SATELLITE</b>                           |         |   |       |   |     |
| SATELLITE   | LOTW ID | UPLINK  | CTCSS | DOWNLINK                                | MOD |
| AO-27 (Eyesat-1)  | AO-27   | 145.850 MHz   | -     | 436.795 MHz                             | FM  |
| ISS Crossband Repeater<br>(International Space Station) | ARISS   | 145.990 MHz   | 67 Hz | 437.800 MHz                             | FM  |
| SO-50 (SaudiSat-1C)                                     | SO-50   | 145.850 MHz   | 67 Hz | 436.795 MHz                             | FM  |

## AMSAT-EA's GENESIS Satellites were Lost in Firefly Alpha Launch Failure

Firefly's first launch attempt for their Firefly Alpha rocket ended approximately 2.5 minutes after liftoff on Friday, September 3rd. The AMSAT-EA Genesis-G and Genesis-J digital amateur radio satellites were among the payloads that were lost.





Noise is always a challenge on HF. However, there are things to do that can help.

Antennas are a passive device. If the noise signal is there, it will send it down the line to your radio. Where can you start?

Try to identify the noise. Is it a static, buzz, pulsing, or other? Your radio can give you a hint by the affect the Noise Blanker has on the noise. Noise Blankers are mainly for atmospheric and power line static. It consists of many harmonics at random which the Noise Blanker is designed to reduce. Turning the Blanker off and on will confirm this.

There are other sources of noise that your Noise Blanker was not designed to address. Many times a switching power supply, wall wart (power adapter plug), dimmer switch, LED bulbs, and more can generate noise. This can be induced into the feed line also. This type of noise will have different characteristics that the Noise Blanker will not affect. There are many devices that we use that can make lots of noise. Try isolating the devices to see if any are the culprit.

If you have ground wires to the radio and other attached equipment, temporarily disconnect them. Observe the noise level ungrounded. Leave it this way while looking for the noise.

Where the antenna connects to the radio, slide the barrel back so only the center conductor is connected. Observe if the noise increases, it should. If not, the source of the noise may be close by. Can you tilt the antenna so it is close to the ground? Signal strength will decrease, but if the noise stays the same or worse, then you can get an idea that the noise is generated close by. This might be more effective during the time when the band is closed. If it is possible, the location of the antenna may need to be changed.

Another source is the utility service. They may be using electronic devices for their monitoring that are causing noise or signals on the HF band. If you can identify the offending source, hopefully your company will be cooperative.

Various antennas may receive noise more than others. This can be due to the polarization of the signal it favors. However, if the noise source is generated by man-made equipment you will need to address this source.

For actual atmospheric static, there are some very effective ferrite bead and filter kits that can be attached to the coax. You can find these by doing an internet search.

Keep in mind that the coax is seldom the problem. Noise can enter the coax by disrupting the balance of the cable. Coax keeps your RF signal from emitting by maintaining a balance or cancellation of 180 degrees between the center conductor and the shield. The nomenclature "shield" is really a misnomer. It does not shield the RF, it only cancels it. The surrounding braid allows the cable to come close to other surfaces without becoming unbalanced.

Keep in mind any antenna will receive a generated signal that is emitting hash, pulses, power line or atmospheric noise. It is still a passive device. Hopefully an organized search for your noise issue will have results.

While there may be some argument over whether EchoLink is "real ham radio," there is no question that it can be helpful when you are away from your home repeater. One of the busier activities you can undertake is to be Net Control (or a NCS – Net Control Station) for a net.

This involves keeping track of a number of things (who's next on the list to speak, the overall net script, repeater timeouts, and the 10 minute ID interval to name a few). I've worked as NCS for both LARC weekly nets a number of times, but I had not had to do this remotely until I took an extended trip to Texas recently.

Luckily, LARC's repeater system is available via EchoLink, allowing remote users to access the repeaters over the Internet. We usually have at least one participant using EchoLink on most of the Tuesday Night Hamlet nets – sometimes from as far away as Alaska!

I was able to run the net successfully using EchoLink, but I did run into a few issues. The first was the push-to-talk (or PTT) function. By default, EchoLink on Windows is set to use the space bar as a "locking" PTT – pressing it toggles between transmit and receive. This is not intuitive, as typical PTT buttons on actual radios need to be held down to transmit and released to receive.

Luckily, the EchoLink application gives you some control over this behavior. You can access these settings on Windows by selecting PREFERENCES from the TOOLS menu, then clicking on the CONNECTIONS tab, and then the PTT CONTROL button.

To change the behavior to mimic an actual PTT button, select the MOMENTARY checkbox. Now, you will hold the space bar down when talking, and release to receive.

The next issue I ran into is that I typically have other applications running while controlling the net – typically web browsers to view the script, maintain a list of check-ins, and also the material I'm presenting, as well as monitoring the repeater.

What happens is that if EchoLink is not the active application, then it will ignore the PTT key, so you have to quickly click it to the foreground to start or stop transmitting. To fix this, you can check the SYSTEM-WIDE checkbox on the PTT SETTINGS dialog box. Of course, this now means that if you're taking notes in another application, every time you hit the space bar, it will toggle EchoLink into transmit mode.

I addressed this by changing the KEYBOARD KEY setting in the PTT SETTINGS dialog box to be the right CTRL key, as I typically do not use this key.

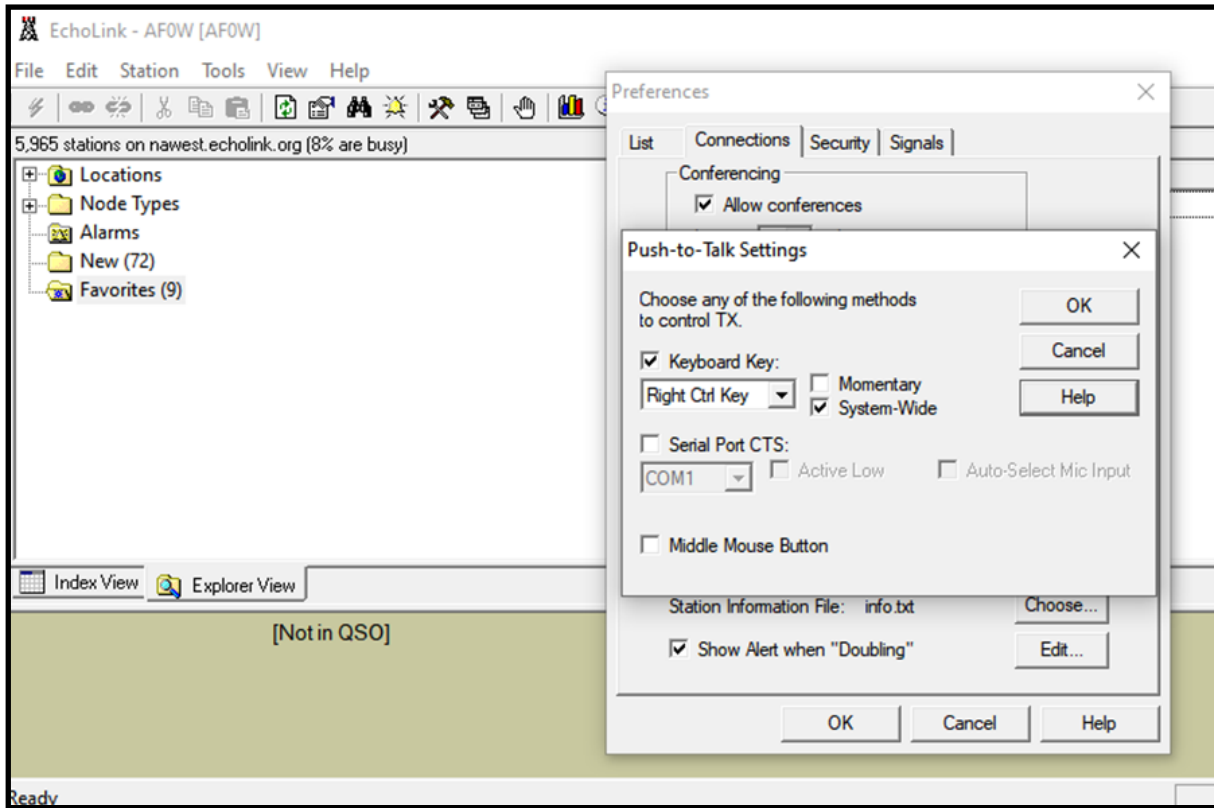
I eventually ended up clearing the MOMENTARY checkbox, but otherwise, this configuration has worked well for me both when participating in and when running nets.

There are some other options available related to PTT – you can set it to a pin on a serial port, which would allow you to use an external physical switch to control the PTT function – like a foot pedal. You can also set it to use the middle mouse button.

[>> continued >>](#)

This article just scratches the surface on all the options and setting available inside EchoLink. Check out all the settings and preferences dialog boxes – click on the HELP buttons for explanations of what each option does.

If you happen to be out of repeater range, don't let that prevent you from participating on or even running a net!



## ARRL Scholarships Available

The ARRL Foundation Program is sponsoring 100 college scholarships that range from \$500 to \$25,000 to be awarded to amateur radio operators pursuing higher education for 2023.

Scholarship recipients will be notified by the end of May 2023. All applicants must be active, FCC-licensed amateur radio operators who have been licensed for at least one year. High school seniors, undergrads, and graduate students are welcome to apply.

Read more at the following link: <https://apply.mykaleidoscope.com/scholarships/ARRLGeneral2022>.



Here are some exam questions from the current exam pools. Go ahead and answer them, and then check your answers on page 21. Let's see how you do! We highly recommend [hamstudy.org](http://hamstudy.org) to study with flashcards and also to take your practice tests. It keeps track of your weak areas for you! Study & take practice tests until you hit 90%!



### Technician Exam Review -- Question T8B08

What is meant by the statement that a satellite is operating in mode U/V?

- A. The satellite uplink is in the 15 meter band and the downlink is in the 10 meter band
- B. The satellite uplink is in the 70 centimeter band and the downlink is in the 2 meter band
- C. The satellite operates using ultraviolet frequencies
- D. The satellite frequencies are usually variable

### General Exam Review -- Question G8B08

Why is it important to know the duty cycle of the mode you are using when transmitting?

- A. To aid in tuning your transmitter
- B. Some modes have high duty cycles that could exceed the transmitter's average
- C. To allow time for the other station to break in during a transmission
- D. The attenuator will have to be adjusted accordingly

### Extra Exam Review -- Question E8B08

What describes Orthogonal Frequency Division Multiplexing?

- A. A frequency modulation technique that uses non-harmonically related frequencies
- B. A bandwidth compression technique using Fourier transforms
- C. A digital mode for narrow-band, slow-speed transmissions
- D. A digital modulation technique using subcarriers at frequencies chosen to avoid intersymbol interference

*Check your answers on page 21!*

## Upcoming Hamfests and Conventions

You can use this info to plan some of your upcoming travel to get away from home. You will find the neighboring local events in bold print. To see nationwide ones, go to <http://www.arrl.org/hamfests-and-conventions-calendar>.

Some conventions and hamfests may have been canceled or postponed — check the hamfest event calendar on the ARRL website calendar to be sure it's still being held.

| Date(s)      | Description   | Location            |
|--------------|---|---------------------|
| 12/03/22     | Superstition Superfest <a href="http://https://superstitionsuperfest.org/">http://https://superstitionsuperfest.org/</a>  | Mesa, AZ            |
| 01/07/23     | Online Event Ham Radio University—ARRL <a href="http://hamradiouniversity.org">http://hamradiouniversity.org</a>  | Online              |
| 01/14/23     | Thunderbird ARC Hamfest <a href="https://www.tbirdfest.org/">https://www.tbirdfest.org/</a>   | Glendale, AZ        |
| <b>01/21</b> | <b>NCARC Winter Hamfest 2023</b> <a href="https://ncarc.net/node/68">https://ncarc.net/node/68</a>  | <b>Loveland, CO</b> |
| 01/22-01/28  | Quartzfest <a href="http://quartzfest.org">http://quartzfest.org</a>  | Quartzsite, AZ      |
| 01/28        | 27th Annual Albuquerque Winter Tailgate <a href="http://www.arrl.org/hamfests/27th-annual-albuquerque-amateur-radio-winter-tailgate">http://www.arrl.org/hamfests/27th-annual-albuquerque-amateur-radio-winter-tailgate</a> | Albuquerque, NM     |
| <b>02/19</b> | <b>The Swapfest ARRL Hamfest</b> <a href="http://rmham.org/swapfest">http://rmham.org/swapfest</a>  | <b>Brighton, CO</b> |
| <b>04/01</b> | <b>LARCfest! (our own club's) website coming soon!</b>  | <b>Longmont, CO</b> |

## LARC Calendar of Events for 2022

Chuck, KØITP

I would like LARC to host at least one club event each month. Some are still in planning, but this is what we have planned so far. If you would like to host an event, or have ideas for an event you think would be of interest to club members, please contact me at [k0itp@w0eno.org](mailto:k0itp@w0eno.org). Let's get involved in these events, and come up with ideas for other events that sound fun!

*\*volunteers needed!*

| Date    | Day  | Event                          | Contact  |
|---------|------|--------------------------------|--|
| Nov. 16 | Wed. | LARC General Meeting ELECTIONS |  |
| Dec. 10 | Sat. | Longmont Parade of Lights *    | Dick Paige, <a href="mailto:gwabi2@hotmail.com">gwabi2@hotmail.com</a> |
| Dec. 10 | Sat. | LARC ARRL Exam Session         |  |
| Dec. 14 | Wed  | LARC Holiday Party *           | Dick Paige, <a href="mailto:gwabi2@hotmail.com">gwabi2@hotmail.com</a> |
| Jan. 18 | Wed  | LARC General Meeting           |  |

### Fundamental Components and Circuits

Using Air Force terminology, Amateur Radio is “a target rich environment.” There are a wide range of targets to shoot at. One can engage in contesting, rag chewing, software integration, antennas, etc, etc.

Having said that, there are still questions on the FCC license test focused on the function of low level individual components. And, some of us are fascinated with how low-level circuits produce some of the building blocks in our radios. Even if these low-level circuits are buried inside a complex chip, it is still fun to understand how they work.

In the spring of this year, a few of us engaged in the study of low-level circuits and components. We started with some study topics on simple DC networks of resistors and power supplies. We then progressed to studying simple AC networks. The final event for that spring “semester” was to design, build and test a one-transistor audio amplifier.

This article is a call for participation in the fall 2022 “semester.” We will continue studying low-level circuits. A lot of what we do comes from the “Hands-On Radio Experiments” book published by the ARRL.

The team members will influence the projects we select. Tentatively, the first couple I am interested in are:

1. An SCR “crowbar” circuit to protect complex, expensive circuits from power supply over-voltage
2. Low pass filters built from inductors and capacitors
3. Active filters built from operational amplifiers

Our “semester” has already started, but if you are interested in this sort of study, you can catch up, as only a couple of assignments have happened so far.

If you are interested, reply to Ed Mohrman, WA7EM, [ejmohrman@yahoo.com](mailto:ejmohrman@yahoo.com) as soon as you can. Come join us as we study and build our projects.

Hope to work with you on this fun project!





Jonathan Hare, G1EXG, constructed an antenna he calls the "X-Antenna" that can be used on 2, 4, and 6 meters (while US hams do not have any frequency allocations in the 4m band, there is an experimental 4m / 70 MHz beacon station in the US located in Virginia on 70.005 MHz – see <https://www.grz.com/db/WG2XPN> for more info).

The antenna consists of four telescopic rods arranged in an X formation wired in pairs to form an X-shaped broadband dipole. The length of the rods can be adjusted to resonate in the three different bands.

See the details at: <http://www.creative-science.org.uk/xantenna.html>.



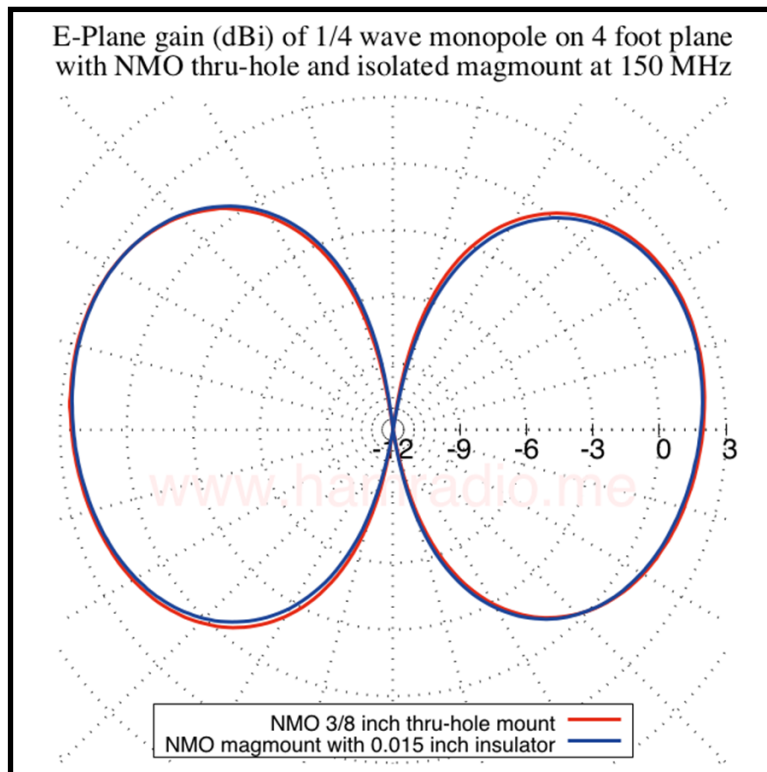
### Answers to The Fifth Degree — What Do YOU Know — Questions from p. 18

| Exam Level | Question | Answer |
|------------|----------|--------|
| Technician | T8B08    | B      |
| General    | G8B08    | B      |
| Extra      | E8B08    | D      |

Beside grounding, vehicle antenna mounts are a source of disagreement between amateurs. My understanding (based on what I've read) is that a through-hole NMO (New Motorola) mount will give you better performance than the same antenna mounted with a magnetic base, so I was surprised to see a web page titled "VHF magmount vs. hole-mount performance comparison" that seems to show that under their test conditions, the actual performance was nearly identical!

The author, John S. Huggins, KX40, actually tested antenna radiation patterns to see what operators could expect in real-world use. He was also able to vary the thickness of the insulation under the magnetic mount (representing vehicle paint, finish, etc.) and what effect adding chokes to the feedline (to prevent it from being used as the antenna's counterpoise) has.

He also has an earlier article titled "Magnetic Mount Antennas Don't Suck" (<https://www.hamradio.me/antennas/magnetic-mount-antennas-dont-suck.html>), as well as other NMO-related articles at: <https://www.hamradio.me/interests/nmo>.



One large aspect of amateur radio is experimentation. The FCC allows hams to build and modify the equipment they use, including radios – something that is not allowed in the other radio services such as FRS, GMRS, CB, and commercial.

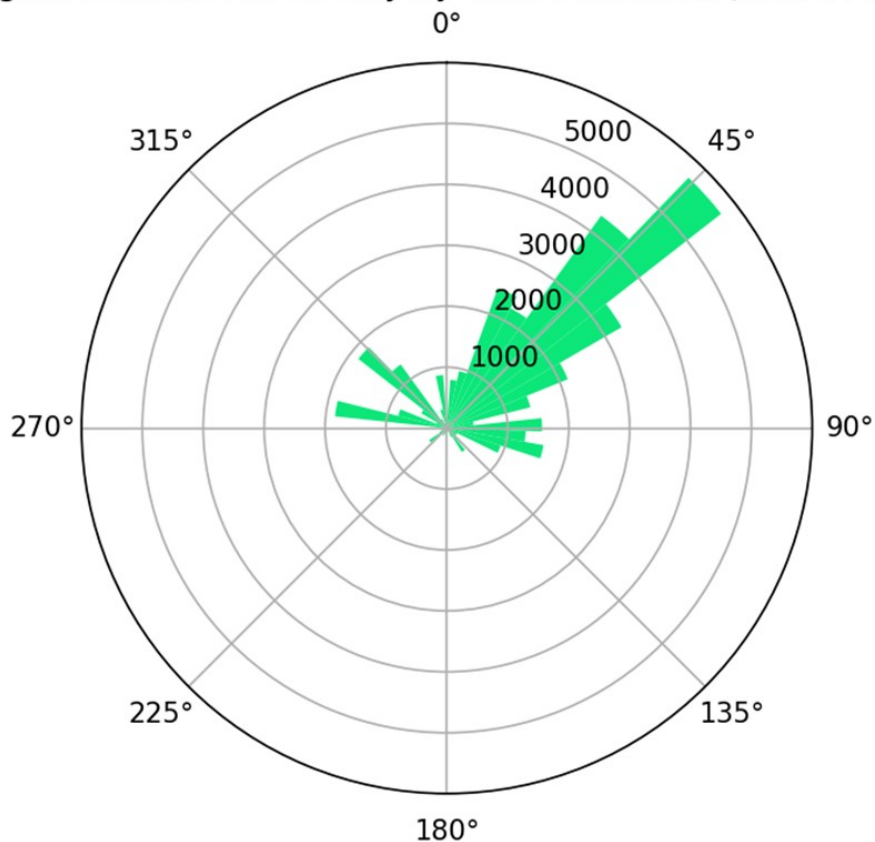
I recently came across a web page that details one ham's experiment where he compared FT8 signals received by two antennas – an inverted L antenna and a terminated 3-element folded dipole (<https://web.archive.org/web/20220605180259/http://hflink.com/antenna/#T2FD>) using the Python language to collect and analyze the data.

He includes notes on how he controlled GQRX and WSJT-X to collect the data and well as the code he used to analyze it and the raw data he collected.

Hopefully this page gives you some ideas for experiments you can try yourself (or get together a group of like-minded club members for a team effort)!

You can read the article at: <http://www.hydrogen18.com/blog/comparing-shortwave-antennas-with-python.html>.

Signal count received only by 40m L antenna (7.074 MHz)



VETERANS DAY



If you use the WSPR (Weak Signal Propagation Reporter) digital mode to check propagation conditions from your station, you might be interested in a web page that can convert the WSPRnet spot listing web page (use <http://www.wsprnet.org/drupal/wsprnet/spotquery> to create a query) into a CSV (comma-separated value) file that can be imported into applications like Excel or Google Sheets for analysis.

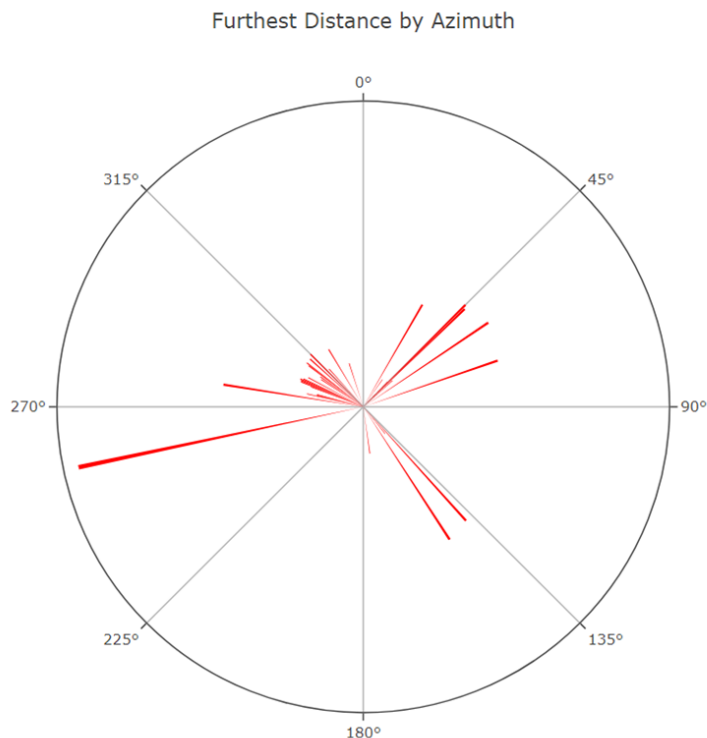
The web site (<https://ve3sun.com/WSPR/HTML2CSV.php>) requires you to save the WSPRnet spot page HTML into a file, and then upload it to the site. It will display a number of graphs (bands, frequency distribution, daily and hourly distributions of signal reception, and polar graphs showing azimuthal distribution and furthest distance by azimuth).

The last two graphs are especially interesting – the azimuthal distribution gives you a graphical indication of the number and direction of receiving stations, while the furthest distance shows you how far your signal propagates in different directions.

There are also other WSPR-related maps and data linked to from the WSPRnet web page – scroll down on the main page and look for the section titled 3<sup>RD</sup> PARTY MAPS AND DATA on the left.

More info:

- WSPR: <https://physics.princeton.edu/pulsar/k1jt/wspr.html>
- WSPRnet: <https://www.wsprnet.org/>



WHERE THERE'S A PROBLEM, CALL UPON A 'HAM' TO SOLVE IT

( Or, a \$1200 VFO? )

So, my main power amplifier, (a Kenwood 922) decided to take a vacation this morning. Some of the rectifiers went south while three, only 3 diodes went to diode heaven. This means I will be off the air to enjoy the morning AM gathering on 3885 - right in the middle of the AM window each weekday 9:00 - 10-11 am. What am I going to do? I can run my Eico 720 transmitter and Eico 730 modulator but to get my signal to all of the group, from Kansas to Indiana, I need some more RF output.

Wouldn't you know that my backup amplifier is on the bench in pieces getting new 3-500Z final tubes, etc. I just had happened to talk with my good 'Harvey Wells' buddy, Wayne WA4FTY last week and he related that his Harvey Wells VFO died. He got to looking at his 7300. We all know what an extremely versatile transceiver that little jewel is. Since it has a variable output from 1 watt to 100 watts, he backed the power level down to 1 watt, make up the proper output cable to connect to the crystal socket of his TBS 50D Harvey Wells and - 'Bingo' .... He was back on the air with the most expensive VFO ever!

I thought about that for a bit. I have a Central Electronics 600L amplifier that is a cathode-driven 813 that only requires 5 to 8 watts for full 600 watts output. It normally works with my Central Electronics 20A but its VFO only works on 20 through 10 meters. I connected all of the necessary cables and Dow Key antenna relay to the 7300. YES! 5 watts from the 7300 drove the 600L to a nice 200 watts output. Hot dog, I am back on the air until my Kenwood 922 amplifier decides to come back home.

The moral of this story is, you should always have an iCOM 7300 around as one never knows where it may be needed. It also is pretty dang good as a main station. As I say many times, 'Don't be afraid to try anything. It just may work!' I must run as several calls are coming in after the morning MOKAN net. Take a listen sometime - might be able to work us some morning.

73, Dr. Bob Heil, K9EID



## Santa on the Air

LARC is holding its third annual Santa on the Air Event for kids to be able to talk to Santa on the radio. We are teaming up with the Northern Colorado Amateur Radio Club in Fort Collins, and this year's program will run two weeks instead of one. All of the children who talk to Santa on the radio will receive a Santa Claus QSL card with Santa's call sign, NØP, which will be mailed from the North Pole.

Santa on the Air will run 5-7 p.m. on Nov. 27th; 6-7:30 pm on Nov. 28th to December 3rd; 5-6 pm on December 4th; and 6-7:30 pm from Dec. 5 through Dec. 9th.

**We still need volunteers to help with this event — [contact Chuck \(KØITP\) to sign up!](#)**

## Winter Field Day is Coming Up!



Winter Field Day is a communications exercise that is held on the last full weekend in January. This is a world-wide event, and contacts may be made on HF, VHF, or UHF bands. You are allowed to use any mode that you like, within your band plan privileges. It can be worked remotely or from the comfort of your home. Just like the ARRL annual Field Day in June, this field day gives operators practice for portable emergency communications.

LARC will be having an event for this Winter Field Day on January 28th & 29th. To volunteer to help put this together, contact Dick Paige (KEØVT), our event planner. More information will come soon.

Be sure to join us!

You can read more about this event at [https://winterfieldday.com/..](https://winterfieldday.com/)

## QSO Today Virtual Ham Expo

You can see all the presentations from the QSO Today Virtual Ham Expo on their YouTube channel at <https://www.youtube.com/channel/UCDR2LM0Hg4Vltuf30ERNIiQ/playlists>. They are adding new videos every day from their recent Expo.





## Our September Fox Hunt was a Success!

Sebastian Wessels (NS0W) set up another Fox Hunt for our club members on Saturday, September 10th. A lot of fun was had by all.

Todd Springsteen (KE0IOC) had his antenna out to find the fox!

Thanks to everyone who attended and to those who planned and set this up! Stay tuned for future Fox Hunts!



## LARC Christmas Party

Our annual Christmas Party is being held on Wednesday, December 14th, at the Niwot Grange Hall. Stay tuned for more information, and [send your RSVP](#) for yourself (and a guest if you'd like) to Dick Paige, our event planner, as soon as possible.



## LARC Logo Apparel

Order your items today at <https://forms.gle/AgZQSMhrRtR1tLEG8>.

|   |   |   |  |   |  |
|---|---|---|--|---|--|
|  |  |  |  |  | <br>2.5"<br><br>1.5" |
| <b>Short-sleeved<br/>Shirt \$32</b>   | <b>Long-sleeved<br/>Shirt \$40</b>  | <b>Fleece<br/>Jacket \$43</b>   | <b>Soft-shell<br/>Jacket \$55</b>  | <b>Cap \$16</b>   | <b>Patches<br/>SM \$4<br/>LG \$6</b>   |

## Are Your LARC Dues Current?

Did you know that your dues and/or annual renewals can be paid online at the club website ([w0eno.org](http://w0eno.org)) using PayPal? You don't have to have a PayPal account; you can pay with a credit card (Visa, MC, Discover, AmEx), or select 'bill me later.' You can also join or renew by mailing a check to the club (LARC, P.O. Box 86, Longmont, CO, 80502), or by giving payment to Steve Shearer (K0STE) at a club meeting when we start having them in person again. *If you aren't current on your dues, you are moved to a different mailing list and may not get club info, emails & this Splatter newsletter. Get them paid up, send email, and you're back on the list!*

Yearly dues are only \$20 per year for an individual or for a family at the same address. You can find membership information by clicking on the Membership link on our club web page. Contact Steve at [membership@w0eno.org](mailto:membership@w0eno.org) if you need to know your current dues status.

## Calling All Businesses, Restaurants, Services, and Retail Shops!

### Advertise with LARC in the Splatter!

The Splatter newsletter is published once a month. You can advertise your business with us at very reasonable prices!

Your ad will run for a one-year period (12 months) from when your first ad runs.

Get more business by offering a special promotion code for our readers, or by offering a deal on certain products — or just advertise your business!

### Donate to LARC for Monthly Drawings

When you donate products or gift cards to our club for the drawings at our monthly meetings, we will run a business-card sized ad for you or for your business in our next monthly Splatter for free!

You also will be mentioned in the next month's Splatter newsletter and in the final issue of the year as a donor to our Club for the year, as well as on our [w0eno.org](http://w0eno.org) web site. You will also get a donation receipt from our Treasurer.

If you can make a donation, please send your information to Steve Shearer at [k0ste@w0eno.org](mailto:k0ste@w0eno.org).

### PROMOTE YOUR BUSINESS WITH SPLATTER ADVERTISING

Ad size and cost – *per year.*

|               |                |       |
|---------------|----------------|-------|
| Business Card | 2"h x 3.5"w    | \$100 |
| Quarter Page  | 4.2"h x 3.25"w | \$200 |
| Half Page     | 4.25"h x 7"w   | \$300 |
| Full Page     | 8.5"h x 7"w    | \$500 |

The above prices are per year – not per month. (12 months of ads)

Your advertisement will be seen by amateurs throughout Colorado, the Rocky Mountain States, and even the rest of the United States. Splatter circulation is approx. 1,500.

Send Ad and/or Contact us for more details at:

[Splatter@w0eno.org](mailto:Splatter@w0eno.org)

Checks are to be Made out to Longmont Amateur Radio Club. LARC is a 501(c)(3) corporation.

## Support Your Club!

Usually, our annual April LARCFest (hamfest) is our biggest fundraiser each year for LARC. In 2020 and 2021, however, they were both cancelled due to the Covid-19 pandemic. We are trying to raise funds for the club in other ways to be able to support more activities and events for our members, support our community, and also to keep our repeaters up-to-date and add new technology.

1. Get a King Soopers or City Market card and link it to our club. Every time you shop, LARC earns a small portion donated by the grocery store! See the directions at: <https://www.kingsoopers.com/i/community/community-rewards>. Select Longmont Amateur Radio Club as your charity (organization # VW736).
2. Do all your Amazon Ordering on Amazon Smile. Doesn't cost you a cent extra! For every order you submit, Amazon sends LARC a small percentage of your sales amount. Go to [https://smile.amazon.com/gp/chpf/homepage/ref=smi\\_chpf\\_redirect?ie=UTF8&ein=84-1056239&ref=smi\\_ext\\_ch\\_84-1056239\\_cl](https://smile.amazon.com/gp/chpf/homepage/ref=smi_chpf_redirect?ie=UTF8&ein=84-1056239&ref=smi_ext_ch_84-1056239_cl)
3. Donate directly to our club on our LARC website at [https://www.paypal.com/donate/?hosted\\_button\\_id=3Y4UZGXSRC9W](https://www.paypal.com/donate/?hosted_button_id=3Y4UZGXSRC9W). You can use PayPal or a debit or credit card, and you will be sent a receipt from our club treasurer.
4. Volunteer to participate in or to lead ham-related activities for the club members. Your specific skills and knowledge will be a big help to enrich our club! You'll have a lot of fun, too!
5. Advertise your biz or skills with the Splatter. See page 27 for more details. We want your business!
6. Purchase or gift our LARC Logo Wear, and LARC receives a small percentage of your sale! So far, we have a cap and shirt — more items coming soon! These are a great fundraiser for our club! Be proud to wear to ham radio events everywhere! These are purchased, embroidered, and patched by a local business owner who is also a LARC member! These make great Holiday Gifts



Click here to shop at AmazonSmile and Amazon will donate to LARC

**amazon**smile  
You shop. Amazon gives.

*See them all on page 27! Reduced Prices!  
Get your items now!*

- Short-sleeve Shirts (\$32) embroidered with your call sign, name if desired, and our LARC Logo patch.
- Long-sleeve Shirts (\$40) embroidered with your call sign, name if desired, and our LARC Logo patch.
- Fleece Jackets (\$43) embroidered with your call sign, name if desired, and our LARC Logo patch.
- Soft-shell Jackets (\$55) embroidered with your call sign, name if desired, and our LARC Logo patch.
- Caps (\$16) emblazoned with our LARC Logo patch on the front with your call sign embroidered on the back.
- Individual Patches \$4 (2.5") and \$6 (3.5")
- See the pictures of these new items on page 26 of this Splatter.
- To order any of our LARC Logo Items, go to <https://forms.gle/AgZQSMhrRtR1tLEG8>

## Editor's Note

I welcome and thank you for any news items you submit for publication in the LARC Splatter.

Please note that all articles submitted may be edited for spelling, grammar, and length. Files in the form of DOC, DOCX, RTF, PDF, and TXT are all accepted.

If you would like picture(s) included, please send them in separate files, in JPG or PNG format. If you would like a caption under the picture, please specify what you would like your caption to say.

## Longmont Amateur Radio Club

LARC is organized for educational and scientific purposes and to provide public communication services to the local community and adjacent areas through the operation of Amateur Radio. The Club holds regular meetings for the business of the Club, for the presentation of papers, amateur radio topics and their discussion.



## Longmont Amateur Radio Club 2022 Leadership Team & Committee Chairs

| Position                         | Name                              | Call Sign |
|----------------------------------|-----------------------------------|-----------|
| President                        | <a href="#">Charles Poch</a>      | KØITP     |
| Vice President                   | <a href="#">Michael Ritchie</a>   | WØKKI     |
| Secretary                        | <a href="#">Pat Engstrom</a>      | W1PGE     |
| Treasurer                        | <a href="#">Don Lewis</a>         | KEØEE     |
| Technical Committee              | <a href="#">Mark Skelton</a>      | N7CTM     |
| Membership Committee             | <a href="#">Steve Shearer</a>     | KØSTE     |
| Past President                   | <a href="#">Jerry Schmidt</a>     | NØOUW     |
| Publicity Committee              | <a href="#">Steve Haverstick</a>  | KFØAGY    |
| Planning Committee               | <a href="#">Dick Paige</a>        | KEØVT     |
| Repeater Trustee                 | <a href="#">Bryan Gonderinger</a> | AFØW      |
| LARCFest Committee               | <a href="#">Dick Paige</a>        | KEØVT     |
| Special Events Coordinator       | <a href="#">Mark Mollenauer</a>   | KDØGOC    |
| License Exam Coordinator (ARRL)  | <a href="#">Aaron Rees</a>        | AJ7R      |
| Education Coordinator/Instructor | <a href="#">Kat Gonderinger</a>   | WØUM      |
| Education Coordinator/Instructor | <a href="#">Bryan Gonderinger</a> | AFØW      |
| Splatter Newsletter Editor       | <a href="#">Kat Gonderinger</a>   | WØUM      |
| LARC Photographer/Videographer   | <a href="#">Raman Sinha</a>       | KVØN      |



## Please Visit LARC's Sponsors & Supporters

*(there's always room for more!)*

Spaces for entrepreneurs to set up an office, as well as meeting and conference rooms available.



**COWORKING**  
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350 Terry St.  
Longmont, CO. 80503

Contact us at [support@cosolve.co](mailto:support@cosolve.co) for more information



Shop with King Soopers to have them donate to LARC!  
Read more about it on page 28.



**Jim Andrews, KH6HTV**

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om/2021/02/an-55a-atv-  
handbook-1.pdf](https://kh6htv.files.wordpress.com/2021/02/an-55a-atv-handbook-1.pdf)

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Clint Bradford, K6LCS

[work-sat.com](http://work-sat.com)



Harlan Olson, W0HLO

[atomicprints.com](http://atomicprints.com)

## September Puzzle Solution

### Ham Radio Vocabulary

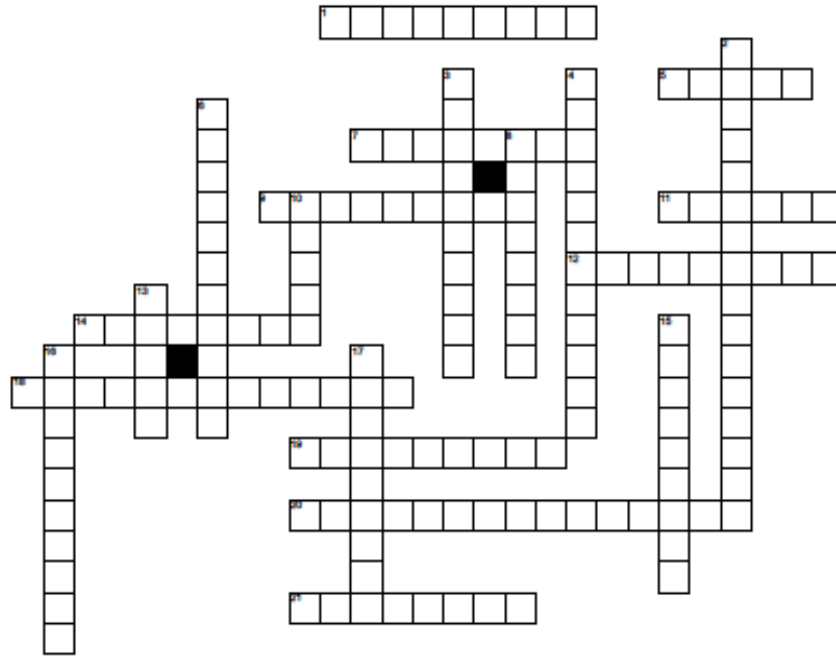
Please unscramble the words below

|     |                 |                 |
|-----|-----------------|-----------------|
| 1.  | oraid           | Radio           |
| 2.  | ceunfyegr       | Frequency       |
| 3.  | ctcneinaud      | Inductance      |
| 4.  | umdnntitooailre | Intermodulation |
| 5.  | cettoginsn      | Contesting      |
| 6.  | liroosctal      | Oscillator      |
| 7.  | sidiorottn      | Distortion      |
| 8.  | apoerotr        | Operator        |
| 9.  | lmtuidaep       | Amplitude       |
| 10. | treytab         | Battery         |
| 11. | nceihotp        | Phonetic        |
| 12. | ltetlsiae       | Satellite       |
| 13. | eeratttwm       | Wattmeter       |
| 14. | netru           | Tuner           |
| 15. | neledife        | Feedline        |

Created on TheTeachersCorner.net Scramble Maker



# Thanksgiving Crossword



**Across**

- 1. Turkey eats duck, duck eats chicken?
- 5. What you need to make sure you clean after Thanksgiving
- 7. The penultimate school day
- 9. What does the thanks in Thanksgiving express
- 11. A large group of people
- 12. in 1953, Swanson had too much extra turkey left after thanksgiving (260 tons). What new product did that lead to?
- 14. Traveling religious people
- 18. The turkey of the west coast sometimes

- 19. What you don't eat during the feast
- 20. Who said the idea of thanksgiving was, "The most ridiculous idea I have ever heard"
- 21. Who celebrated the first Thanksgiving with "Tejas"

**Down**

- 2. The money worth a breadstick and 2 bagels wanted the USA's national bird to be a turkey
- 3. "Horn of Plenty"
- 4. Where the Pilgrims landed
- 6. What makes turkey topping

- 8. Stuffing or \_\_\_
- 10. Fresh baked \_\_\_ go well with your dinner
- 13. What the average person spends a third of their life doing
- 15. Libby's canned pumpkin is not pumpkin, but is another squash. What is the name of the squash?
- 16. 3.1459265358 + Halloween symbol
- 17. The pilgrims' ship

**Longmont Amateur Radio Club**

P.O. Box 86

Longmont, CO 80502-0086

w0eno.org

**Membership Application**

Tax Deductible Donation to LARC: \$20 per year [ ] New Member: [ ] Renewing Member Payable via PayPal with [sent application](#).

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_ Birth Year: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_ - \_\_\_\_\_ Call Sign: \_\_\_\_\_ Class: \_\_\_\_\_

E-mail: \_\_\_\_\_ (needed for correspondence)

H-Phone \_\_\_\_\_ C-Phone: \_\_\_\_\_ B-Phone: \_\_\_\_\_

I am a member of: [ ] ARRL [ ] BCARES [ ] VE

**DISCLAIMER AND WAIVER:** I apply for membership in LARC. I understand that some LARC activities are potentially hazardous. If I am injured or killed while participating in a LARC activity, I and my heirs agree to hold harmless LARC and its officers, directors, and members.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OTHER LICENSED FAMILY MEMBERS (Same Address) (No extra cost)**

Name: \_\_\_\_\_ Call: \_\_\_\_\_ Signature: \_\_\_\_\_

Name: \_\_\_\_\_ Call: \_\_\_\_\_ Signature: \_\_\_\_\_

Name: \_\_\_\_\_ Call: \_\_\_\_\_ Signature: \_\_\_\_\_

Note: A tax deductible receipt will be provided.

**THE CHECKED MEETING TOPICS ARE OF INTEREST TO ME**

Training Class for [ ] Technician [ ] General [ ] Extra [ ] Volunteer Examiner

Band: [ ] HF [ ] VHF [ ] 222 [ ] UHF [ ] 900MHz [ ] Other \_\_\_\_\_

Mode: [ ] CW [ ] SSB [ ] AM [ ] FM [ ] ATV [ ] Other \_\_\_\_\_

Digital: [ ] SSTV [ ] PSK31 [ ] MFSK [ ] PACKET [ ] FT8 [ ] APRS [ ] Other \_\_\_\_\_

Electronics: [ ] Components [ ] Circuit Analysis [ ] Amplifiers [ ] Other \_\_\_\_\_

Other Topics: [ ] Antennas [ ] Propagation [ ] Satellites [ ] Kit Building [ ] Fox Hunts [ ] Soldering

[ ] DSP [ ] DX [ ] ARES [ ] Contests [ ] QRP [ ] HamFests [ ] Emergency Preparedness

[ ] Community Service Events [ ] Other \_\_\_\_\_

[ ] Other \_\_\_\_\_ [ ] Other \_\_\_\_\_



**ARRL** The national association for  
**AMATEUR RADIO®**

# Membership Application

Application for use by ARRL Affiliated Clubs

## Contact Information

I am a brand new member or my membership has been lapsed for 2 or more years. My club will keep \$15 of my dues.

I am renewing (includes lapsed members of less than 2 years). My club will keep \$2.00 of my dues.

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

Email \_\_\_\_\_ Phone \_\_\_\_\_

Date of Birth \_\_\_\_/\_\_\_\_/\_\_\_\_ Get an annual birthday coupon (US only)

My Family Member is Joining or Renewing: (\$10 per member)

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

## Your Annual Membership Dues – Circle Your Choice/s.

|  | 1 Year | 2 Years | 3 Years |   |
|--|--------|---------|---------|---|
| US                                       | \$49   | \$95    | \$140   | Monthly QST or On the Air via standard mail for US members  |
| Youth                                    | \$25   |         |         | Must be 21 years old or younger AND the oldest licensed Radio Amateur in the household                          |
| Canada                                   | \$62   | \$120   | \$177   | Monthly QST via standard mail for Canadian members  |
| International                            | \$76   | \$147   | \$217   | Monthly QST via standard mail for International members   |
| International/Canada – no print magazine | \$49   | \$95    | \$140   | Digital magazines   |
| Family                                   | \$10   | \$20    | \$30    | Must reside with primary member and have corresponding membership dates; no extra copies of magazine            |
| Blind                                    | \$10   | \$20    | \$30    | No delivery; all other member benefits apply. Requires a one time signed and dated statement of Legal Blindness |

Additional membership options available online at [www.arrl.org/join](http://www.arrl.org/join). US Memberships include \$21 per year for magazine subscriptions. Dues are subject to change without notice and are non-refundable. Memberships may not be combined with any other promotion or special offer.

I do not want my name and address made available for non-ARRL related mailings.

## Choose your print magazine:

QST, ARRL's membership journal for active radio amateurs (12 monthly issues)

On the Air – New! Beginner-to-intermediate-level help and advice (6 bimonthly issues)

All members can access the digital edition of both magazines

## Payment Information

Please charge my ARRL dues less my club's commission. I have paid the commission directly to my club.

\$ \_\_\_\_\_ Total Charge to:  Visa  MasterCard  Amex  Discover  Check Enclosed

Card Number \_\_\_\_\_ Expiration Date \_\_\_\_\_

Card Holder's Signature \_\_\_\_\_

ARRL ■ 225 Main Street ■ Newington, CT 06111-1400 ■ USA  
Toll free (US) 1-888-277-5289 or 860-594-0200 ■ [www.arrl.org/join](http://www.arrl.org/join)

# Northern Colorado Amateur Radio Club (NCARC) Presents:

Larimer County Fairgrounds—Thomas McKee 4H Building

Saturday, January 21, 2023



## Winter 2023 Hamfest



Open To Public 8:00 AM To 1:00 PM!

Admission \$7.00

[www.ncarc.net](http://www.ncarc.net)



Colorado's First Hamfest of the Year  
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### This Year Featuring:

Great Door Prizes Given Out During Event

Must Be Present To Win

- Fantastic prizes for drawings and door prizes
- Guided tours of the event for folks new to Hamfest
- Exhibits and Demonstrations
- New and used amateur radio, computer related equipment for sale

### Radio Talk In:

448.025 (-) 100Hz tone



For Advance Table Reservations:

Visit: [WWW.NCARC.NET](http://WWW.NCARC.NET)

Or Contact Joe Hawley KD0TYU

970-689-0828 [president@ncarc.net](mailto:president@ncarc.net)

Admission: \$7.00

8 Ft. Tables: Pre-Registration: \$13 to \$17

A special thanks to our sponsors

### Amateur Related Presentations

Free License Exams - 9:30AM

Admission Fee not required

Licensing Opportunity!

If Upgrading—Be Sure To Bring A Copy Of  
Your Current License!

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Visit Our Web Page—Just For You!

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