

LARK NEWS May 2025



Livermore Amateur Radio Klub LARK is an ARRL affiliated club dedicated to Public Service Volunteer Emergency Communications. Meetings are once a month on the 3rd Saturday 9:30AM

***VENUE: City of Livermore Meeting Hall
1016 S. Livermore Ave., Livermore CA 94550***

Available live via zoom by invitation only. Visitors Welcome

Editor: Gregory Kiyoi KN6RUQ

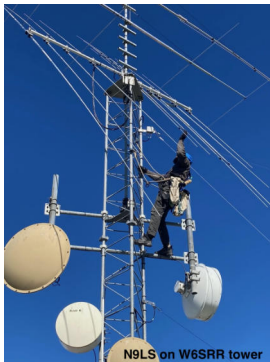


Photo by Gary NA6O

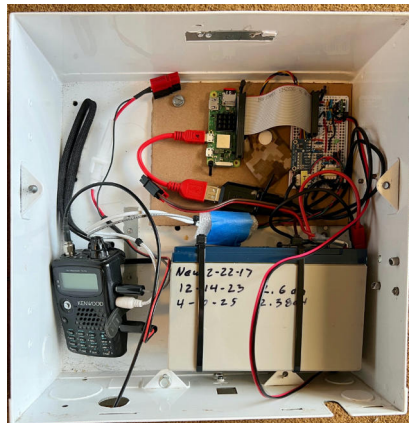
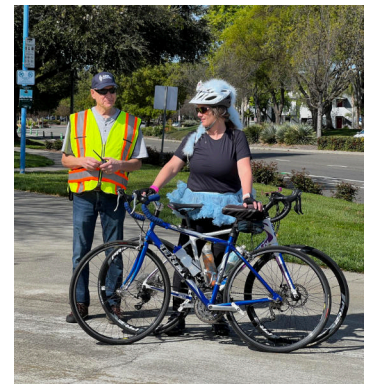


Photo by Arnold, KQ6DI



John WX6G by Tony KF6JS



Photo by Jim N4TMM



Photo by Brian KA6ZED

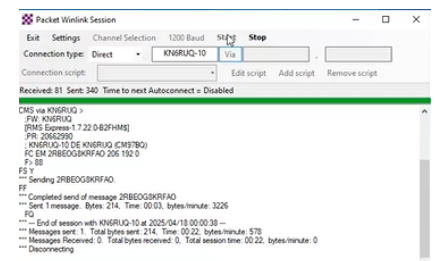


Photo by Greg KN6RUQ

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Presidents Message

I want to thank **Noah N6TW** for making the coffee and picking up the refreshments for monthly meetings. This effort is appreciated by all who attend the meeting.

We are also looking for a volunteer to take over this position from Noah. He will be moving in June, so the sooner the better. If someone can volunteer so they can start working with Noah to learn what he does each meeting.

I wanted to let you know that the Events Chairperson (me) is following the upcoming events for 2025, and I have an update. The following events will be happening:

- **Devil Mountain Double Century, Saturday, April 26th**
- **Devil Mountain Run, Sunday, May 4th**
- **Patterson Pass Road Race, Sunday, August 3rd**

We are in need of volunteer radio support for all events and any level of experience is welcome.

There are two other events that LARK does not sponsor but we do help with support:

- **Berkeley Hills Road Race on Saturday, April 26th**, if interested contact Mark Walsh, mark@km6xu.com to volunteer.
- **Boy Scouts Hike on Saturday, May 17th**, if interested contact Dave Shaw, wb6wrm@arri.net

As more events are confirmed you will be kept advised. Make sure to sign up on the LARK website for these events for which LARK supports.

The yearly LARK elections were held at the April meeting. The nominated slate of officers and board members were elected.

I want to thank **Rich KN6HSR** and **Greg KN6RUQ** for this months presentation on Winlink.

I wanted to thank **Ron AD6KV** and **VE Team** for continuing to provide a way for hams to get their testing completed.

Ian W6TCP continues to work on enhancing the repeaters for use by all of us so please report any issues to Ian by email.

I encourage you to check in with the LARK Monday, Wednesday (10.10 Windfarms Net), and Thursday night nets, held every week. There are other nets available, and they can be found on the LARK website. It is good experience getting on the air.

I want to thank **Ed AE6D** for coordinating the weekly nets. By participating in the nets, you'll hear what is going on in our Ham community.

We are meeting In-Person at the Livermore City Meeting Hall each month on third Saturday, and we are also offering the meeting on Zoom for those who prefer that way to attend.

Wishing you all stay healthy and stay safe.



George KG6GEM
(kg6wui1@comcast.net)

Notes from the Editor

Thank you to **Rich Combs KN6HSR** for the Winlink presentation at the club meeting. This is the recording - <https://www.youtube.com/watch?v=OnSO-9ywCHs>.

Congratulations to Ryan W6RAM and Ashley (soon to be XYL) on their wedding nuptials, May 3, 2025. They will exchange vows in the Sierra Foothills. LARK wishing them a bright future.

Joke provided by Rich KN6HSR XYL

Two antennas got married. The ceremony was good.

But the reception was incredible!



May 2025 Events

- 7th Call Area, Indiana, Delaware, New England QSO Party - May 3-4th - <https://www.contestcalendar.com/stateparties.php>
- Canadian Prairies QSO Party - May 10-11th - <https://www.contestcalendar.com/stateparties.php>
- Arkansas QSO Party - May 17-18th - <https://www.contestcalendar.com/stateparties.php>
- APRS Summit 2025 - May 10th (postponed to Fall 2025) - <https://www.aprsfoundation.org/aprs-summit-2025/>
- Dayton Hamvention, May 16-18th - <http://hamvention.org>
- CQWW WPX Contest - CW, May 24-25th - <https://www.cqwpw.com>

The newsletter is a collaborative process, please keep sending me your articles and ideas.

[Gregory KN6RUQ](#)



Monthly Meeting Minutes



LARK General Meeting | April 19, 2025 | Minutes

Call to Order

1. Meeting called to order by George KG6GEM at 9:32am.
2. George started introductions, first of in-person attendees and then Zoom attendees.
3. Members: 37 / Zoom: 3 / Guests: 0 = 40 Total attending the meeting.

Annual Elections

1. George presented the proposed slate of officers and asked for any nominations from the floor. There were no nominations from the floor.
2. Ron AD6KV moved to accept the nominations as presented.
3. David KG6WIR seconded the motion.
4. Motion passed unanimously.

Presentation

1. George introduced Rich KN6HSR and Greg KN6RUQ for their presentation "Winlink: Below the Tip of the Iceberg".

Treasurer's Report – Peter AI6RG

1. Nothing to report

Activities – George KG6GEM

1. The club is looking for activities for monthly meetings for the rest of the year contact Jerry or Steve.

Events – George KG6GEM

1. April 26th DMD still looking for a few volunteers.
2. April 26th Berkely Hills Road Race contact Mark Walsh directly
3. May 4th Devil Mountain Run
4. May 17th 20 Mile Scout Hike contact organizer directly
5. Livermore July 4th Run signups available soon
6. August 3rd Patterson Pass Road Race
7. Cinderella ride was successful

Approval of the Minutes – George KG6GEM

1. The March minutes accepted as written.

Repeaters – Nate N8MOR

1. Utility power is insufficient to run the repeater under load. If able, please use AD6KV to preserve battery power.

VE Testing – Ron AD6KV

1. No VE testing today, if you wish to take a test at a future meeting contact Ron to make sure there are VEs available.

Technical Interest Group – Ron AD6KV

1. Trying to meet every other Tuesday, meeting at the Five Rivers FBO at 6PM.
2. Looking at building APRS trackers with custom circuit board.

**Operating**

1. Veterans Memorial Centennial in Danville. Neal presented photos of their activation. They had a really good turnout, including scouts and two lark members participated from home.
2. Bernie has a few great deals on some 3D printers.
3. There are three ham shack hotline phones available.

Silent Key

1. A new silent key Varsha Clare KJ6TIU.
2. The club is providing a sympathy basket to her family.

Swap-N-Shop

1. Mark has his truck here with equipment to look at after the meeting.
2. Took 3 members to go through Jack Cutting's estate, be careful if you are taking equipment out it might have more than a few power sources.

Ask the Elmer – Lee KI6OY

1. To attach your grounding rod, they make special teeth clamps.
2. How do you decrease the noise floor? Get an AM radio and turn off power to your house and see if the noise floor changes. It might be solar panels, wall warts, lighting, do some detective work. If you can't get rid of the noise, you can use the online SDR radios as a receiver. Contact Gary Johnson NA6O for additional information on RFI.

Adjournment

1. George thanked Rich for being the Swap N Shop chair.
2. George KG6GEM adjourned the meeting at 11:24 AM.

Minutes submitted by:

Ryan Mahoney (W6RAM) – LARK Secretary

Board Meeting Minutes



LARK Board Meeting | April 14, 2025 | Minutes

Call to Order

1. Meeting called to order by George at 7:33 PM.

Treasure's Report – Peter

1. The treasury is stable.
2. The Livermore Business license is current, he had received a statement from Livermore about the license, Peter called the city and verified all was in order and LARK is current.

Repeaters – Nate

1. ODP is having power issues and can't maintain service for very long.
2. Ian has offered to be consider linking AD6KV with W6SRR.

Activities – Jerry

1. Presentation at the meeting will be about Winlink.
2. Still working on future presentations and activities for the monthly meetings. Any suggestions contact Jerry or Steve.

Events – George

1. DMD on Saturday, April 26th, John Street is coordinating
2. Devil Mountain Run on Sunday, May 4th in Danville
3. Sunday, August 3rd is the Patterson Pass Road Race.

Membership – George

1. 141 paid members.

Elections – George

1. We have nominations for all positions for the election.

Silent Key – George

1. Silent Key: Varsha Clare KJ6TIU passed away at the end of March per her husband Dennis. They have been members of LARK and have been very active over the years.
2. LARK will be sending a sympathy basket to the family.

Adjournment

1. George adjourned the meeting at 8:28 PM.

Minutes submitted by:

George Moorehead (KG6GEM) for Ryan Mahoney (W6RAM)– LARK Secretary

Community Activities



We NEED You!
Sign Up NOW



Devil Mountain Double Century - Saturday, April 26, 2025

Signup <https://www.signupgenius.com/go/10C0844AEAD28A6FA7-2022>

The event is 200 mile, one day, bike ride for about 50 riders. LARK's help is requested for the Mines Road segment (where cell phones don't work) starting South of Livermore to the summit of Mt Hamilton.



Devil Mountain Run - Sunday, May 4, 2025

Signup <https://www.signupgenius.com/go/10C0844AEAD28A6FA7-devil1>

This event takes place in downtown Danville and is a foot race - 5K, 10K, and One Mile fun run.



Patterson Pass Road Race - Sunday, August 3, 2025

Signup <https://www.signupgenius.com/go/10C0844AEAD28A6FA7-patterson1>

This event takes place in the hills east of Livermore. The races start at 8am and finish about 1pm. As a ham radio volunteer, you are there to provide emergency communications at planned stationary posts from 7am to approximately 1pm.

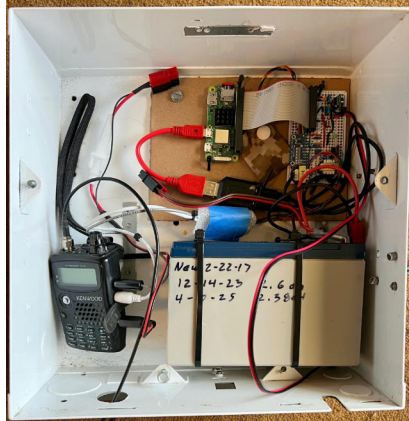
APRS Portable Digipeater

Arnold Harding, KQ6DI

Just in time for the upcoming Devil Mountain Double Century, I made a second portable digipeater.

Yes, it is assembled with cardboard and Ty-wraps! The lid was removed for assembly and the photo.

The plan, **John WB6ETY** and I had is to place it at a hilltop on the road about 3 miles toward Livermore from the Junction.



John did a test on Thursday, April 17th. He had his own tracker sending a position every 30 seconds, and two LARK trackers.

In the portable, I have logging enabled so I can download anything it received and figure out what happened.

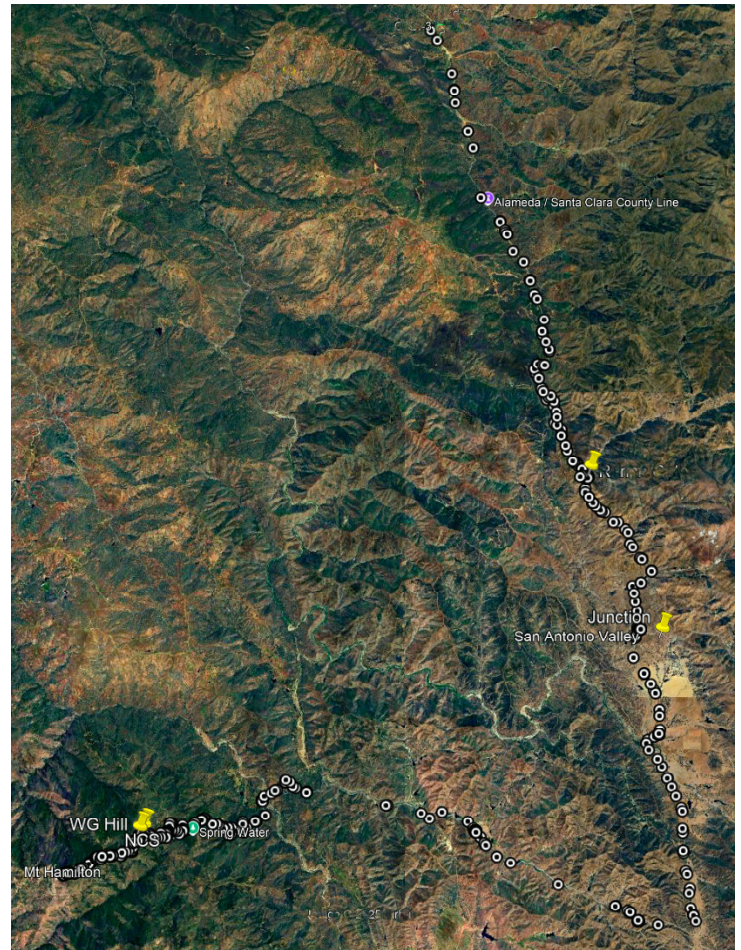


John placed the tracker with antenna, then drove toward Livermore to the "corral", then turned around and went to the top of Mt. Hamilton and back.

I was able to download the data after John returned home. The map has dots where trackers were heard directly by this portable.

You can see it covered a considerable area which is nice (The corral is very near where I have a marker "**kq6di-3**", nothing to do with *mine14center*) It also fills-in South of the Junction

where the road is shaded from Mt. Hamilton by the hills.



Rotate Your Yagi

Gary Johnson, NA6O

Everyone knows how to rotate their Yagi antenna: Just turn the knob and away it goes. But this article isn't about *that* rotation, it's about rotating it a different way, for maintenance.

When your beam has a problem way out where you can't reach it, the usual expectation is that the whole thing is going to have to come down off the tower. Many of us have seen balun failures or lost the tip off of an element or had an element twist on the boom, and there's no obvious or easy way to reach it. It's bad enough that we have to hire a climber, and even worse when the work involves tramping the whole shebang down to the ground and back up.

Thankfully, professional tower busters have tricks that save us much time and effort. The first time you see it, the light goes on and it's obvious... If only you had thought of it first!

The simplest trick is to rotate the Yagi by loosening the boom in the boom-to-mast clamp, allowing the boom itself to rotate. This lets the elements swing down alongside the tower. Now it's possible to climb up or down and reach at least the elements that are close to the tower.



Our local climber **Mark, N9LS**, did a service call at my station **W6SRR** where some plastic clips out on the elements had slipped out of position. He was able to reach them and fix the issue easily.

The more elaborate and flexible trick is to

dismount the Yagi entirely while temporarily supporting it at its balance point with some combination of slings, ropes, and a come-along.

At **N6RO**, we had a balun failure on a long 20m Yagi and **Hector, AD6D**, used this method. Once the antenna is free-floating, it's easy to position it at any angle along the tower, allowing access to anything that needs attention.



So be sure to consult the pros when you have a problem up the tower. They may even show you a different way to rotate.

Winlink Setup

Greg Kiyoi, KN6RUQ

There are many options for a winlink client. A windows PC, Linux, phone/tablet, etc. Options continue with radio interface as well as radio. This article will provide steps to setup Winlink on a Windows laptop with a Digirig and Baofeng radio. This will allow you to send and receive messages via radio.

Required Items

- Windows PC
- Digirig Sound card with USB/Radio Cables
- Baofeng UV-5R
- Winlink Express Installer
- SoundModem Software

Download Software (links below)

- SoundModem - [Packet-Radio - UZ7HO](#)
 - [soundmodem114.zip](#)
 - [ptt-dll.zip](#)
 - [user guide v114 EN.pdf](#)
- Winlink Express - [Winlink Express installer](#)

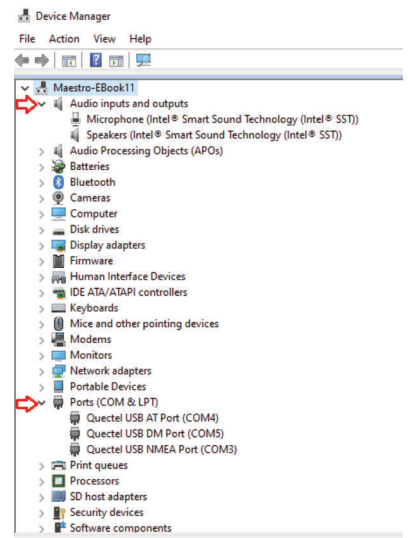
Baofeng UV-5R Radio Configuration

- Set **RF Squelch** to **0** (Menu, 0, Menu, 0, Menu)
- Set **Transmit Power** (Menu, 2, Menu, 3, Menu – sets to High)
- Set **Frequency** to **145.630**
- Firmly Plug Digirig K-Plug end cable into Radio

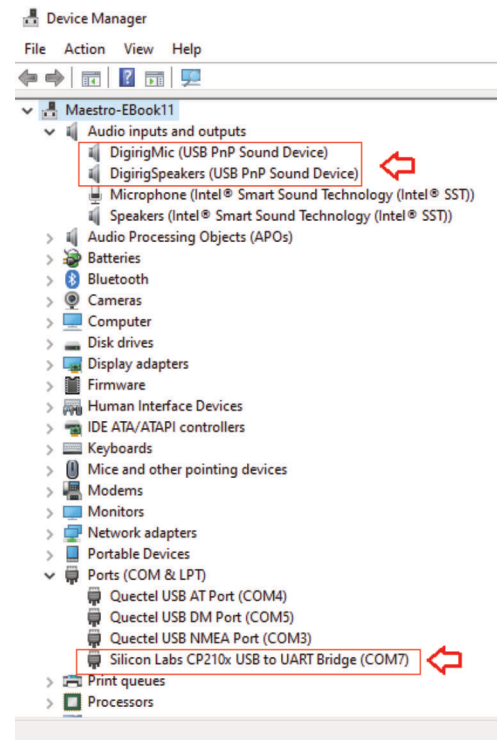
Windows PC Configuration

1. Create a new Directory called SoundModem. I created on my Desktop, but could be anywhere.
2. Unzip the soundmodem114.zip and ptt-dll.zip files into SoundModem directory.
3. Unzip Winlink Express and run the installer as “Administrator”
4. Run Winlink Program
 - Provide callsign, password, recovery email, grid square, etc. information
 - If this is the first time it will create your winlink account
 - Exit the Program

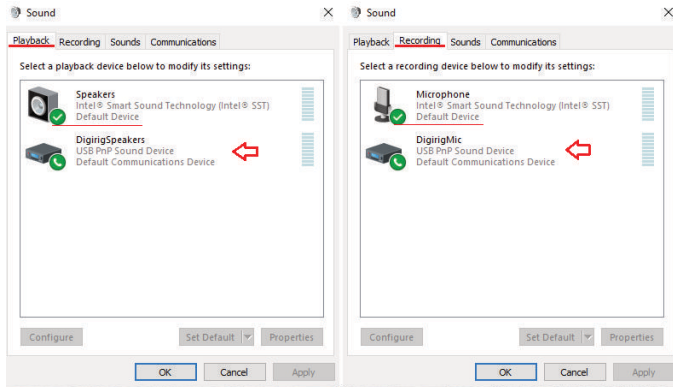
5. Open Device Manager (right mouse click on Windows start button and select “Device Manager”) and Expand “Audio inputs and outputs” and Ports (COM & LPT) sections.



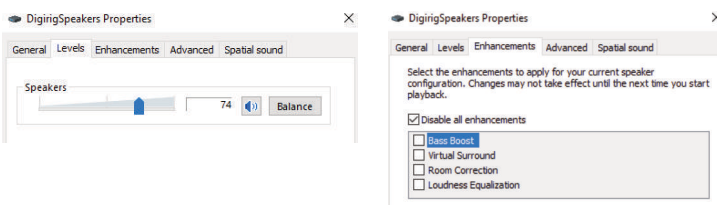
6. Plug in usb cable with Digirig connected. You will see the devices refresh and now see a new COM port and two “USB PnP Sound Devices” added.



7. In the Windows tray, right click on the “speaker” icon and select “sounds”. On *Playback* and *Recording* tabs you should see a new device “USB PnP Sound Device”



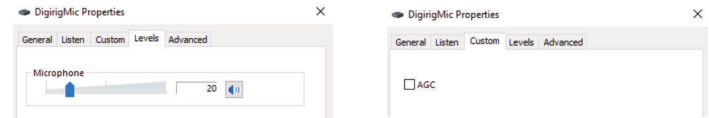
- On the **Playback** tab
 - Right mouse click on PC Speaker and make “default” if not already the default (so PC sounds are not played in the digirig speaker)
 - Right mouse click on new “USB PnP Sound” device and select properties
 - Rename to “*DigirigSpeaker*”. You can choose a new icon for the device too. This makes it easier to identify the Digirig.
 - Click Levels tab, Set Playback level to ~70%
 - Click on Enhancements tab, Disable all enhancements
 - Click OK button



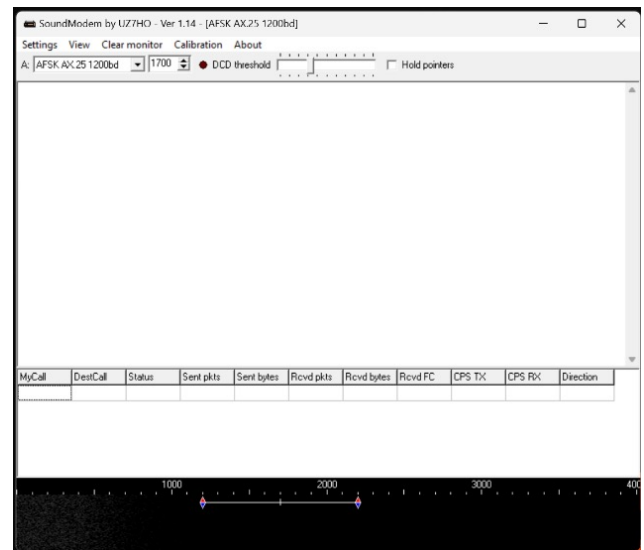
- Click on **Recording** tab
 - Right mouse click PC Mic and make “default” if not already the default (so PC sounds are not sent to the digirig mic)
 - Right mouse click on new “USB PnP Sound”

device and select properties

- Rename to “*DigirigMic*”. You can choose a new icon for the device too. This makes it easier to identify the Digirig.
- Click on Levels tab, Set Mic level to ~20%
- Click on Custom tab, unchecked AGC
- Click OK button



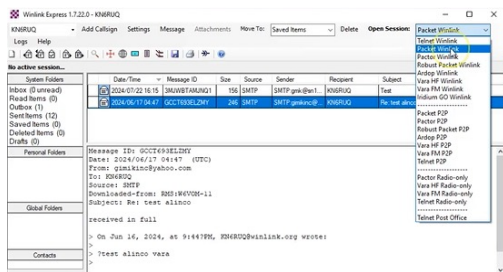
8. Plug the other end of the radio cable into the *Digirig “Audio” jack*
9. Turn on the Radio and adjust volume knob about ¼ turn from off position
10. In the SoundModem directory, double click on “soundmodem.exe” to run.



11. Click Settings menu and select Devices
 - Select Digirig for the **Output** and **Input** devices
 - Select “**COM7**” port that was added when you plugged digirig into PC
 - Confirm other selections are the same as the screenshot
 - Click OK button

15. Open Session

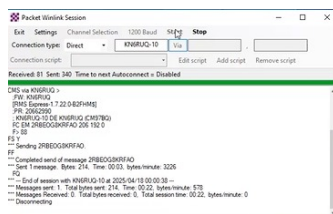
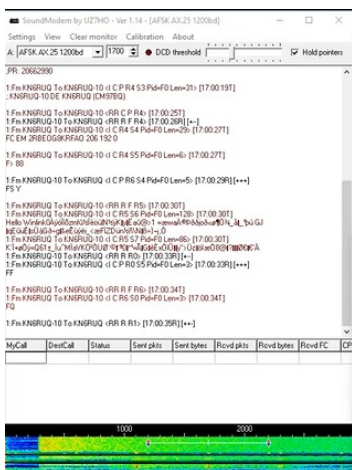
- Select “*Packet Winlink*” from menu



- Click *Open Session*
- Click Select Channel and choose **KN6RUQ-10** (should be 1st in the list if you are in Tri-Valley)

Select Channel						
Stations found within 185 miles of your grid square.						
Callign	Frequency (MHz)	Baud	Grid Square	Group	Distance (mi)	Bearing (Degrees)
KN6RUQ-10	145.630	1200	CM97BG	PUBLIC	000	000
W6VOM-13	145.070	1200	CM87WP	PUBLIC	014	259
W6VOM-11	145.630	1200	CM87WR	PUBLIC	014	282
KE2A-10	145.630	1200	CM87XU	PUBLIC	014	322
K2YE-10	144.910	1200	CM87VT	PUBLIC	020	295
K6DQ-10	144.910	1200	CM87VU	PUBLIC	020	295
K2YE-10	145.630	1200	CM87VT	PUBLIC	020	295
W6EOK-10	441.500	1200	CM87JW	PUBLIC	027	303
K2RDX-10	145.630	1200	CM97AH	PUBLIC	027	190
KC88M-10	145.630	1200	CM87JW	PUBLIC	027	303
N6ZX-10	145.630	1200	CM87JW	PUBLIC	028	233
W6KGB-10	441.500	1200	CM87JW	PUBLIC	028	308
KB8EOC-10	145.730	1200	CM88WB	PUBLIC	029	332
W6SCF-10	145.630	1200	CM87WH	PUBLIC	030	208
N2SL-10	144.910	1200	CM87RS	PUBLIC	032	280
K6RICA-11	144.350	1200	CM87XF	PUBLIC	033	195
W6HMS-10	145.630	1200	CM87SL	PUBLIC	035	246

- Click *Start*. You should see activity in the Session window, SoundModem, and Radio is transmitting.
- Should say 1 message was sent (if there is pending mail it would retrieve those messages too)



What if it doesn't work?

Always make one adjustment at a time and keep track of the changes you make.

- Have another radio on 145.630 to confirm you hear transmission. If not, confirm
 - Frequency is correct on the Baofeng
 - RF Squelch is set to 0
 - Confirm plug it firmly inserted into the radio and in the “Audio” jack of the digirig
 - Confirm volume knob position (Soundmodem is blue-green, not yellow or red). You might need to change to 144.390 if there is no traffic on 145.630 to adjust.
- Sound/SoundModem Configuration
 - SoundModem: Confirm (Settings->Devices) the correct sound device is selected for Output/Input Device
 - SoundModem: Confirm (Settings->Devices) has the correct COM port
 - Windows Sounds: Confirm the “Digirig” devices are not the “default” for Windows
 - Adjust the Digirig “volume” (Mic/Speaker might need to be increased/decreased)

Document Final “Known Good”

- Digirig Speaker and Mic Levels
- Mark the radio volume knob position
- Any other adjustments you made during setup process

This will help if you have problems in the future or do any “fine tuning”.

Resources

- Winlink.org
- Digirig.net
- Youtube search for “winlink”

A Ham Radio Station for Jenna

Gary Johnson, NA6O, and Jim Ewing, N4TMM

We hams are famous for helping one another in many ways such as education, setting up equipment, or group operating events such as Field Day and emergency communications. Our team recently had a very successful experience helping a young CW op who was in need.

Twenty year old **Jenna Hurley, N4JEH**, is a blind student at the E.H. Gentry Facility, a component of the Alabama Institute for Deaf and Blind (AIDB).

Adopted from an orphanage in China along with five siblings by her parents in Alabama, Jenna received excellent home schooling from her father, David.

They even learned Braille together. David eventually discovered ham radio and started learning Morse code. That caught Jenna's ear and together they used online resources to study and obtain their licenses when she was 17.

They had a station set up at home, so Jenna was able to get on the air. CW was (and is) her passion and she quickly became highly skilled at it. So skilled and active in fact, that she was soon invited into both CWops and FOC, which is an honor for any telegrapher especially someone so new to the hobby. This led to numerous friendships worldwide.

After moving into the dorms at E.H. Gentry, Jenna was left without her own station to operate. With some difficulty due to poor blind accessibility, she was able to access some RemoteHams stations, and also did some POTA operating with her boyfriend, **Gunner, KK7DEU**. But every active ham really needs a proper station with a good radio and antenna. This is when those ham radio friendships really paid off.

There are many blind hams just like Jenna who may not be able to fully enjoy their hobby for various reasons, often financial. **Gary, NA6O**, started making friends with blind hams several years ago after realizing this need [Ref 1]. Specific radio models are of value to blind operators because they have a built-in voice guide and relatively easy-to-use controls. This is known as accessibility. The Kenwood TS-590S is perhaps the most accessible

and popular. Gary started buying these radios on the second-hand market, outfitting them with the speech module, and then donating them to needy blind hams. One of his beneficiaries, **Dave, W4CI** (who is also an FOC member), mentioned that Jenna was a good candidate for a radio. That started the ball rolling.

Gary and Dave started working with **Fred, KT5X** (FOC of course!), who already knew Jenna, and in turn he recruited **Jim, N4TMM**, who turned out to be the key player in our success. Jim, who lives in Atlanta, would be in Sylacauga Alabama the first week of April to participate as a stone sculptor in the Alabama Marble Festival. Sylacauga is only a few miles down the road from Talladega, the location of E.H. Gentry and AIDB. So Jim was in perfect position to help set up Jenna's station.

Jim approached the president of AIDB, **Dr. Dennis Gilliam**, and also **Ms. Jessica Edmiston**, who offered their full support. Meanwhile, Gary had sent Jim a power supply for the TS-590S that Dave was sending Jim. And Jim ordered a MyAntennas end fed halfwave wire antenna, a proven commercial design that will typically tune acceptably on several bands.

On Thursday, April 3rd, Jim met with EH Gentry maintenance people **Joe Hutto, Don Llewellyn**, and **Tony Adams**. Tony was there with his truck full of tools, ladders and other maintenance equipment, and Jim brought his radio toolbox and all the equipment for Jenna's station that he had collected.

After surveying the surroundings, Jim and Tony concluded that the best option was to lay the wire antenna, about 140 ft long, on the roof of the three-story dormitory where Jenna lives. So Tony got out his ladder and he and Jim installed the antenna on the roof and connected it to the radio in Jenna's room.

Thankfully they allowed a wall penetration for the coax, something that had been a concern for a long time.

At that point, Jim got on the phone with Gary, who was listening on his radio in California and also watching the Reverse Beacon network, gave

feedback while Jim tuned and transmitted on various bands. The antenna and the station turned out to be excellent performers on 40 through 10 m, tuning fine and getting reports from NA as well as DX.

The roof where the antenna is located is the highest point around, and the dorm is on a hill. The antenna lies generally in a Northeast to Southwest direction, and it propagates well in all directions. As a bonus, her noise floor is very low. We should all be so lucky in our modern age of rampant RFI.

In all of this, Jim was amazed and gratified at the support and assistance from AIDB and E.H. Gentry people in helping their student Jenna get on the air from her dorm and continue her excellent trajectory as a well-known CW operator. Jenna, in turn, takes great joy in operating from E.H. Gentry, thus adding to the fame and furthering the cause of this well known and highly regarded institute for the deaf and blind.

Jenna's first contact with her new station was **George, NE5A**, who was also her advisor in the CWops CW Academy when she was starting out. A delightful coincidence! Since then, she's been on the air every day, making contacts worldwide and is now a CWops advisor herself. And she is indeed a first-class operator, including QRQ, something that many hams only dream of achieving. Check out her YouTube channel, **QRQ Maniacs** [Ref 2.].

Jenna has a bright future ahead. She's currently taking classes at Central Alabama Community College, focusing on computer science. She then plans to attend a university to obtain her BSCS degree, and has a particular interest in assistive technologies. Jenna wishes to thank some of her Elmers, particularly CWops advisors **NE5A** and **AJ1DM**, and her dad, **KO4WSU**. We in the ham radio community are glad to have helped her along in some small way.



Jenna, N4JEH, showing off her new TS-590S and one of her favorite bugs.

Photo by **N4TMM**

References

1. Gary Johnson, NA6O, "*Summer's Legacy.*" *Solid Copy*, No... 177, October 2024. https://cwops.org/wp-content/uploads/2024/10/Solid-Copy_2024_October_FINAL.pdf
2. "QRQ Maniacs" YouTube channel. <https://www.youtube.com/@QRQmaniacs>

About the Authors

Gary Johnson, NA6O, enjoys station building, contesting, and anything to do with CW. A retired engineer, he lives in Livermore, CA.

Jim Ewing, N4TMM, is a retired patent attorney in Atlanta, GA who primarily enjoys CW on the HF bands using bugs."

In the **LARK January 2024 Newsletter** Gary wrote "The Smelly Radio" about a TS-590S restoration. The radio's former owner was a "heavy smoker"!

Improving FT8 Reception at Modest Home Stations

Don Reynolds, W2DON

Like many of us, my neighborhood suffers from a high RF noise floor. For those with modest operating space and height-challenged simple wire antennas, this problem can be crippling. Height truly is might and we shed RF noise by gaining wire antenna elevation.

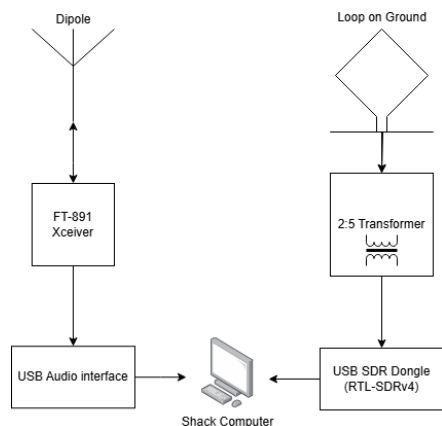
Having raised my own 40/20m fan dipole antenna as high as I could bargain for (15 feet) but still hearing more noise than I liked, I turned to a receive-only antenna to do more. My first goal was to dig out more distant 40/20m FT8 contacts. I also wanted better SSB copy on East Coast stations during 40m “work all states” late nets.

Doing the Fastest, Easiest Thing Possible

My choice became the Loop on Ground (LoG), because I am cheap and it is easy. This antenna was chosen to enhance SNR of low angle, distant signals. It assumes the noise floor is absorbed more than those signals by the ground it lays on. The physical principles behind the LoG’s design are well covered elsewhere, this discussion is mostly about operating results.

I built it as per KK5JY spec, laying 19 meters of wire down in a box shape. This connected to a feedbox containing a hand-wound 2:5 isolating transformer, which fed 75 Ohm coax along a 50 ft run into the shack. An SDR dongle picked this up and SDR++ gave me the nice waterfall that my shack was missing.

Varying some of the loop’s parameters (50 Ohm coax, larger 100 foot wire loop, 9:1 commercial SDR balun) mostly broke the LoG’s 40 or 20m output



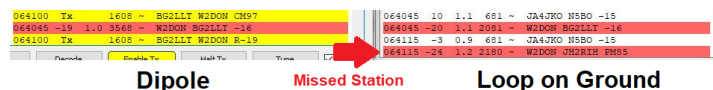
while adding an Rx-only MFJ tuner was a waste of money.

FT8 Performance

All of the discussion I’ve seen around the LoG centers on human listeners but machine listeners benefit too. FT8 is a very popular low-SNR digital mode that enables modest setups to make distant contacts with ease. Based on the linked analysis (showing no decline in SSB/CW QSO’s alongside skyrocketing FT8) it’s a net positive to the hobby. Strategies to enhance the mode’s use should come to the forefront.

This mode is where the LoG shined at my modest station. Not finding an open source SDR program that interprets FT8, I had to use audio loopback software which feeds one program’s audio output to another program’s input. Using “Virtual Audio Cable”, I avoided plugging anything in physically to route SDR++ audio out to WSJT-x in.

While operating I would often run two instances of WSJT-x, each with different Rx audio inputs. The LoG’s FT8 could contain distant stations I was deaf to on my dipole. Here’s a time-aligned example of a QSO with Chinese station BG2LLT. The LoG surfaced a call from Japanese station JH2RIH that the dipole missed. A QSO was then made with the JA station using LoG Rx after the CN station reappeared and completed.



Demonstrating that this is not a cure-all, neither antenna heard a reply from the BG station’s @ 064115. In fairness, I could share examples where dipole outperforms LoG. That said, monitoring two FT8 Rx streams provided dozens of otherwise missed FT8 QSO’s throughout EU, Oceania and the US over months of operating.

SSB Performance

The LoG had mixed results on 40m. Generally, it was not a night-and-day change for phone Rx. Very near-field RFI was still present; there was no escape from Christmas decorations spreading their seasonal RF joy. At times, 40m A/B testing on SSB mode between my dipole and the Loop would have a clear SNR advantage for the loop, as much as 1-2 dB¹. Even if SNR was the same, the LoG could still have an intelligibility edge when trying to dig out signal reports². At other times, it lost to the dipole entirely and mostly it was a wash³. I can't say it led to otherwise missed SSB QSOs.

Conclusion

Eventually I made some progress on my dipole SNR issue by finagling more antenna height, but I can still dig out missed FT8 replies with the LoG. For those of us stuck in the RF soup of a city, running low-SNR digital modes to get distant contacts, a simple Rx-only antenna is worth the time to investigate. The Loop is dirt cheap but effective at my station but there are other rx-only antennas that could surpass it.

1. Meager broadband SNR improvements on a radio meter can be misleading; important speech subbands for consonants (1-4 kHz) don't always contain much energy to sway SNR but improvement in them will still drive better listening outcomes.
2. Speech quality and intelligibility are usually correlated with SNR changes but not always.
3. It should be noted that the LoG solution is intended more for lower bands like 120/80m vs. 40m but I don't operate down there for lack of space, creativity or desire.

Cinderella Bicycle Ride

George Moorehead, KG6GEM

There were 41 radio operators who volunteered from LARK and MDARC who helped support the Cinderella Classic Bicycle Ride held on Saturday, April 5th, 2025.

This year there were a total of 565+ riders on the road. The riders were on the following courses: Lite Course, Classic Course, and the Short Course. There were two injuries that required medical attention and transport.

The Amateur Radio operators were at the Start/Finish, Course Splits, and covered the Classic, Short, and Lite routes and at each of the Rest Stops along the way, additionally we had 22 in support vehicles, Net Control had 4 hams, and Stationary Posts had 19 hams supporting this event.

A safety and radio protocols meeting were held at 7:15am at Net Control. Roll Call was performed by Net Control at different times of the day.

We had 17 APRS (GPS) trackers being utilized in vehicles this year, considerably more than the last year. Since the computers at Cinderella Net Control were connected to the Internet, the phone APRS trackers did have their position on our maps.

(This only works where cell phone coverage is available, and data rates do apply.) We wish we could have had trackers in many more vehicles as this aids Net Control in dispatching vehicles to incidents and requests for assistance.

The weather was cool in the morning and nice and warm in the afternoon this year. The Start /Finish of the ride was located at the Dublin Senior Center.

Net Control was set up in the San Ramon Valley Fire Protection District Communications Vehicle (CS-131) this year with ample space for operations.

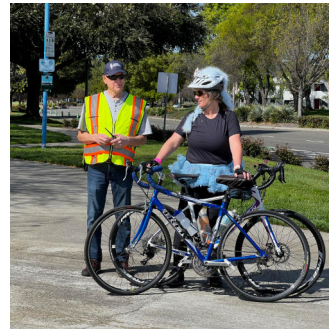


Steve, K8YIP with San Ramon CERT. Photo by Ryan W6RAM

Net Control as well as other Hams were on duty from 6:00 am until 4:00 pm. The SRVFPD Comm Unit CS-131 was on-site supporting the event. Thank you for your time and being able to use the Comm Unit for this event.

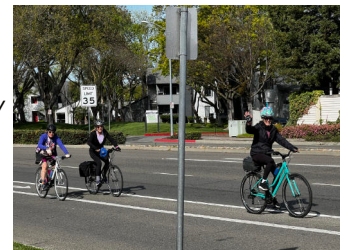


CS131 and Ham Volunteers. Photo by Ryan W6RAM



John WX6G and a rider, photo by Tony KF6JS

Always time for a photo-op, photo by Tony KF6JS



Happy riders cruising along, photo by Tony KF6JS

How many cyclists does it take to change a tire?, Photo by Tony KF6FS



I want to thank everyone who helped:

John WB6ETY, Chris W6CJQ, Mark KM6XU, Dave C KG6WIR, Ryan W6RAM, Daniel KB6FF, Clancy N6FQQ, Kim N6LVQ, Bill N6SGT, Nate N8MOR, David K6WOO, Bill AJ6UU, Sean KK6SM, Michael K6MWM, Steve K8YIP, Sri KN6INK, Alan KM6BRQ, Rand W6TRM, Ron AD6KV, Allen AK5FB, Noah N6TW, William NJ6O, Tony KF6JS, Jerry N5KA, Tony KK6CPC, Bernie NJ6W, George KO6EYE, Edward KN6MBF, Adrian AK6FR, Mike KO6HUE, Jonathan KO6EBH, Bernie AC6MX, Bill KO6FAE, John W6JMK, William K7WDS, Jadine KO6EYW, John KI6DMD, Roger KK6RD, Mike K6MWM, and John WX6G.

I also want to recognize Workday and MDARC for their volunteers that helped support this event. COMM Reserves: **Ryan Mahoney, Rand Mahoney, Chris Quirk, Steve Nissen, Bill Shaffer**, and CERT volunteers, **Elizabeth, Krissie, and Seema** worked as Scribes and radio support. It should be noted that 5 of the Comm Reserves also have their ham licenses and not only helped at Net Control but also were in the field as SAG/Sweep support.

Thanks to all the volunteers for their flexibility with all the changes that occurred for this event.

Looking forward to your help again next year.

Member Spotlight

This month member spotlight is our Activities Co-Chair.

Name/Call Sign: *Steve Nissen K8YIP*
(Grandfather's Callsign)

Past call(s): *KM6FNM*

Home Location: *Martinez*

Property/Lot size: *House on 3500 sq ft lot under HOA*

Antenna(s): *All mobile or portable antennas due to HOA*

What's in your shack?

No shack, all portable. Car: Anytone 578, Harris XG-100M, Yaesu FT-857D / Jetstream JT-270 Gobox. Anytone 578 Gobox, Yaesu FT818 Go Bag with linked EFHW, Xiegu X6100 Go Bag with linked Dipole, Harris XG-100P and XG-75, Anytone 868 and 878 (no room for passengers!)

What is your career (or what was your career)?

Journeyman Stationary Operating Engineer, San Francisco.

What type of operating do you do?

Portable or mobile EmComms, Public Service Events, NCS for CCC Emergency Communications Net, CERT radio comms, SRVFPD Communications Reserve, GMRS, and DMR.

Any other hobbies besides ham radio?

Hiking, Cycling, Golf, Shooting Sports, Hunting.

W6SRR APRS Restored

Arnold Harding, KQ6DI

APRS working again at W6SRR Site!

Monday evening, March 24, **Ian W6TCP** and **John WB6ETY** reinstalled the **W6SRR-3** APRS Digipeater and IGate at the **W6SRR** site.

It was taken out last December for some needed upgrades which I completed without any issues.

Scheduling and weather were challenging to have an opportunity to get back in operation.

The photos show the installed unit, and a view toward Livermore from the site.

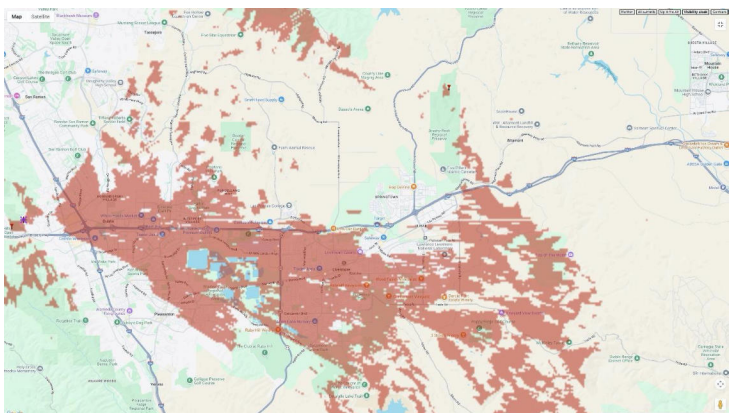


April Foxhunt Report

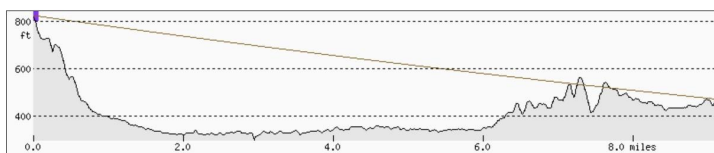
Brian Zoraster, KA6ZED

This month's www.rdf-sf.org driving foxhunt started in Dublin; The transmitter can be hidden anywhere in the Dublin, Pleasanton, Livermore area. Every foxhunt needs a fox master, someone to plan and hide the transmitter. It was my turn this month to be the fox master. These are the steps that I took to prepare:

The first thing I did was to use <https://www.heywhatsat.com/> to make a propagation map from the start point. This will give me a better idea of where I can hide and make sure the fox can still be heard from the start. Here is the propagation map I got:



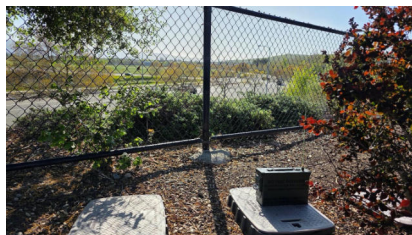
I looked around the map for places I could park, had enough room for the hunters to park after they found me and almost had a line of sight to the start. After a little clicking around within the propagation map, I settled on Cayetano Park in Livermore because it met all of my criteria. The line of sight map shows there is minor blockage between the start point and the hiding location but it should work.



Nest step is to choose what fox (transmitter) I am going to use. I have a modified UV-5R, A Hackerbox 1w fox, Byonics foxes in 700mW, 50mW and

15mW. I decided to use the Byonics MicroFox PicCon the 700mW fox because it's been my most reliable and transmits just enough power for the hunters to hear from the starting point. I placed the transmitter inside a metal ammo can, my foxbox, and placed a signal stick antenna on top.

Saturday April 12th, I drove to Cayetano Park and found a great parking spot behind a large SUV which will help hide my car. I walked the area before locating an area between a bush and chain link fence to hide the fox. The chain link fence is in between the fox and starting point, I'm hoping this will maybe reflect some of the signal back to the hill behind me and make the signal sound like a reflection.



Right at 4pm, I switch on the fox and call out on the repeater to announce that the foxhunt has started.

In these hunts we use milage to determine the place everyone came in.

33 minutes later **Bob KF6VSE** walked past my car with his Yagi antenna and found the fox. He drove straight to me and his milage and the most direct route were the same, 10.2 miles

Rich KN6FW showed up at the 52-minute mark and drove 15.1 miles, he missed the offramp and had to drive up the freeway which tacked on more miles.

Then **Ron N7TVE** pulled a few minutes later at the 56-minute mark. He only clocked 13.3 miles.

Even though I was not one of the hunters I had a great time planning and hiding from the hunters. It was great to hear their strategies and how they changed after they left the start point!

The next fox hunt will be **May 10th @5pm** in Fremont. For more information visit <http://rdf-sf.org> or feel free to contact me

Volunteer Examiner

Rich Combs, KN6HSR



If you are a licensed HAM you probably remember your first, and maybe second and third exam session. You may vaguely remember that there were at least three Volunteer Examiners, or VE's.

VE's are simply that, certified volunteers, who have chosen to give back to amateur radio by providing the opportunity for interested individuals to get licensed.

Each testing session requires at least three certified VE's. A VE with an Extra license can support an Extra, a General, and a Technician exam, but a General licensed amateur can only support a Technician exam. Technician licensees cannot be a VE until they upgrade their license.

Becoming a VE is not difficult, but there is a test involved. Start by reviewing the Volunteer Examiner Manual <http://www.arrl.org/files/file/VEs/VE%20Manual%20Web%20Final%202022.pdf>

You can review this online, or order a hard copy from the ARRL. Chapter 2 outlines the requirements for becoming a VE. There is an application form, and an open book exam.

The VE accreditation is good for 5 years and automatically renews if you participate in a VE session. This is just a brief overview and all the details are in the Volunteer Examiner Manual referenced above.

Participating in an exam session as a VE is an easy, enjoyable task. I've made new friends, and felt like I have made a contribution to the hobby. Nothing feels better than to tell an applicant "You passed! Welcome to the world of Amateur Radio!"

Varsha Clare KJ6TIU (SK)



Varsha Clare, KJ6TIU
1952 - 2025

On March 28, 2025 Varsha Clare passed away peacefully in her sleep. She was at home and surrounded by her family.

Varsha was diagnosed with leukemia in April of 2024 and battled courageously until the end.

Varsha became interested in Ham Radio and LARK after completing her CERT training courses. She realized the importance of communication in emergency situations and the valuable connection to CERT.

She served as LARK treasurer for several years and enjoyed the meetings, topics and white elephant exchanges.

Varsha also volunteered for local community and non-profit organizations. She served on the American Red Cross Alameda County Leadership Council as well as numerous other positions within the American Red Cross.

She also served on a number of the City of Pleasanton committees, including Human Services, Senior Advisory, Youth Master Plan Operations, and PUSD Local Control Advisory Council and others.

She enjoyed volunteering at the Pleasanton Senior Center and the Livermore-Pleasanton Fire Department.

Before her time with LARK, Varsha was employed in software and leadership roles for over 30 years in technology based companies including: Mostek, Ericsson, Airtouch Communications, Verizon Wireless and Cisco Systems.

When Varsha wasn't working or participating in her numerous extracurricular activities, She enjoyed gardening, cooking, traveling (road trips, cruises, RVing, National Parks) and spending time with her family. She left us too early will be missed dearly.

Training

One-Day Ham Radio Class

Once again, volunteers from Benicia Amateur Radio Club will conduct a One-Day Ham Radio Class. This class is intended for those wishing to get an entry level technician license or existing Techs wishing to upgrade to General.

When May 3, 2025 8:30am-5pm

Where Benicia Senior Center
1201 East 2nd St.
Benicia, CA 94510

Cost \$35 includes all study material, venue, refreshments, handouts, and exam fee. After the application is Processed by the FCC you will need to pay a separate \$35 fee directly to FCC.

Info/Signup <https://beniciaarc.com/hamclass/>

Questions hamradioclass@beniciaarc.com or contact class coordinator Bob Fentress at 707-742-3227



MDARC Amateur Extra Class

Beginning June 24, 2025, Mount Diablo Amateur Radio Club is offering a 10-week course. Extra Class License test on September 2, 2025. Course cost is \$15.

When Starting June 24, 2025 7-9pm,
10 sessions through August 26th

Where Clayton Valley Presbyterian Church
1578 Kirker Pass Rd.
Clayton, CA 94517 or Zoom

Questions See <https://www.mdarc.org/education-and-testing/class-details> for more information.

Crossword Puzzle

by Chris Codella, W2PA

3/10/2008

CQ Contest

Across

1. Radiation pattern part
5. Contest off-time ender, possibly
10. The "Olympics" of contests
14. IOTA item
15. Unusual object
16. "Long ____" (DX)
17. VE8 mobile?
18. Hammerin' Hank
19. 1091 using 44-across
20. An advantage of being weak?
23. In early radio, some rotated and some didn't
24. Foot part
25. Wayward circuit paths
28. Knight neighbor
30. 3W holiday
33. QTH on the range
34. 160 meter Stew
35. The one with QTC
36. Sheltered, when /MM
37. They don't count, and may count against you

38. CW parts
39. Plating material
40. Typewriters (in ham speak)
41. Military cap
42. The only CW many people know
43. One way to stand by
44. Abbreviated figs. (abbr.)
45. AMSAT launch partner
46. Currency used by 45-across, mostly
47. Predatory contesting?
55. EI-land, in EI-speak
56. VQ9 first name
57. They make the 45, sometimes for big guns
58. Western competing org.
59. 3:1 dash to dot ratio, say
60. "Yikes!"

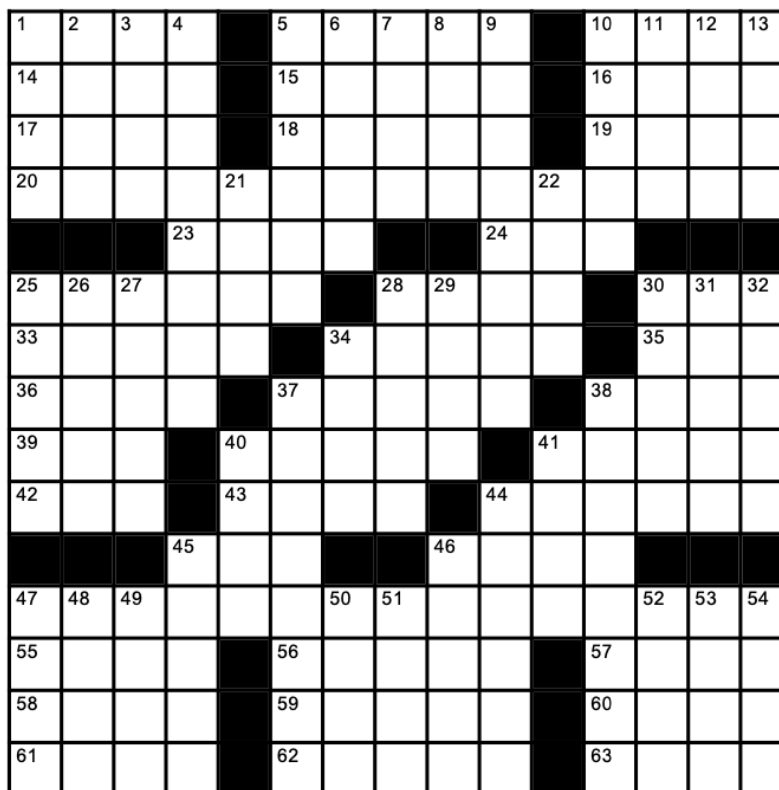
61. Biblical verb
62. Prefix with -cotta
63. Xtal filter replacements

Down

1. Daffy Duck's programming language?
2. LA city
3. A fuse maybe did this
4. Many hams also have one
5. Bidirectional flow
6. KH6-fests
7. June VHF QSO Party sponsor
8. Funny one
9. Non-op hams at 10-across stations
10. Large cetacean
11. Suffix with glitte- or lite-
12. Twiddle the big knob

13. Yaesu front panel marking
21. Contesters try to maximize it
22. 21-down, for a first-time contestant?
25. "Test results figs.
26. Prefix with centric or sphere
27. A band sometimes does it at dawn
28. CQ answer
29. Valuable minerals
30. Region net for NNJ and others
31. Gourmand
32. NAQP, CQWW and others, briefly
34. Push-____
37. Response to a contest exchange, say

38. Took an alternate route
40. Catchall abbr.
41. QSL handler, slangily
44. Vaulted roof
45. Construct, as a tower
46. "Nevermore" quote quoter, informally
47. Transmit
48. Kit maker, once
49. Ominous noises from the amp, maybe
50. Assistant
51. At no time, poetically
52. Holiday drinks
53. OM in G-land
54. High V points on a dipole



Crossword Solution

S	P	S	D		A	R	R	T		T	S	O	D
D	A	G	E		L	E	I	D		C	C	N	C
N	H	R	O		O	E	D	I		E	R	E	I
E	C	N	O	P	D	A	H	C	R	A	R	S	E
			O	R	E		A	S	E				
S	R	N	T	C		Y	L	D	I		S	O	S
T	E	R	B		S	L	L	M		N	T	I	T
S	T	O	D		S	P	D		E	E	A	L	A
E	A	W		Y	R	R	P		E	E	P	T	T
T	E	T		K	O	R		S	T	R	O	S	S
			E	O	T		S	P	A	G			
R	E	L	P	I	T	L	M	R	E	W	P	O	P
A	N	A		N	R	A	A		D	E	S	L	S
L	U	A	H	O	R	C	C		E	S	L	I	I
C	T	R	W		M	A	A		E	B	O	L	L

Swap n' Shop Cave

Welcome the New Shop Keeper **Mark Bowers, KK6UKU**. Featured deals coming soon.



May Calendar

<u>Monday</u>	<u>Tuesday</u>	<u>Wednesday</u>	<u>Thursday</u>	<u>Friday</u>	<u>Saturday</u>	<u>Sunday</u>
			1 Tech Net	2	3	4
5 Net	6	7 10-10 Net HH Net	8 Tech Net	9	10	11
12 Net	13	14 10-10 Net HH Net	15 Tech Net	16	17 LARK Meeting	18
19 Net	20	21 10-10 Net HH Net	22 Tech Net	23	24	25
26 Net	27	28 10-10 Net HH Net	29	30	31	

LARK MONDAY NIGHT NET
147.120 MHZ + offset, PL 100 AD6KV
Every Monday 7 PM local time
Visitors welcome to join in

Net Control Operator Schedules

Monday Night Net Control Operator Schedule

April

Date	Net Control
4/7/2025	Ed / AE6D
4/14/2025	EOC
4/21/2025	John / WB6ETY
4/28/2025	Jon / WB6AEA

May

Date	Net Control
5/5/2025	Ron / AD6KV
5/12/2025	EOC
5/19/2025	Ed / AE6D
5/26/2025	John / WB6ETY

June

Date	Net Control
6/2/2025	Jon / WB6AEA
6/9/2025	EOC
6/16/2025	Ron / AD6KV
6/23/2025	Ed / AE6D
6/30/2025	John / WB6ETY

EVERYONE is invited to check in to the net. Please contact AE6D ae6d@sbcglobal.net if you need more information or would like to become a Net Control Operator. After the net please call Ed AE6D with the AC/DC statistics or send him the information by email.

Thursday Night Net Control Operator Schedule

Date	Primary Net Control	Backup Net Control
4/3/2025	Brian / KA6ZED	Rich / KN6HSR
4/10/2025	Don / W2DON	Bill / AJ6UU
4/17/2025	Peter / AI6RG	David / K6WOO
4/24/2025	Nate / N8MOR	Noah / N6TW
5/1/2025	Rich / KN6HSR	Brian / KA6ZED
5/8/2025	Bill / AJ6UU	Don / W2DON
5/15/2025	David / K6WOO	Peter / AI6RG
5/22/2025	Noah / N6TW	Nate / N8MOR
5/29/2025	Brian / KA6ZED	Rich / KN6HSR
6/5/2025	Don / W2DON	Bill / AJ6UU
6/12/2025	Peter / AI6RG	David / K6WOO
6/19/2025	Nate / N8MOR	Noah / N6TW
6/26/2025	Rich / KN6HSR	Brian / KA6ZED

Regularly Scheduled Nets

LARK/LIVERMORE NET	Every Mon	1900 local 147.120+	PL 100
RACES Net	Every MON.	1900 local	
Windfarms 10-10 NET	Every WED.	1930 local 28.485	USB
HamShack Hotline Net	Every WED.	1900 Bridge 363	PIN 0331
LARK TECH NET	Every THURS.	1930 local 147.120+	PL 100
LLNL Retiree Net	Every FRI 8:30 am	0830 local	7.2630 LSB
SWOT	Every Sun. & Tues.	2000 LOCAL	144.250 USB
THE NOON TIME NET	EVERYDAY	1200-1400 LOCAL	7.2685 LSB & 3970 LSB
RV RADIO NET	MON - FRI	0800-0930 LOCAL	7.2685 LSB

LARK Contacts

LARK-LIVERMORE AMATEUR RADIO KLUB P.O. BOX 3190
LIVERMORE, CA 94550-3190 Web: <http://www.livermoreARK.org>
E-mail list: livermoreark@groups.io

GET YOUR HAM LICENSE OR UPGRADE. LARK conducts all levels of license testing (upon request) at the Livermore City Council Chambers following club meetings (3rd Sat. each month). Contact Ron Kane, AD6KV (AD6KV at arrl.net) 2 weeks in advance.

OFFICE	CONTACT	CALL	E-mail	Phone
President & Events	George Moorehead	KG6GEM	kg6wui1@comcast.net	925-516-2676
Vice President	Chris Quirk	W6CJQ	w6cjq@yahoo.com	925-202-1198
Secretary	Ryan Mahoney	W6RAM	ryan.andrew.mahoney@gmail.com	925-786-0640
Treasurer	Peter Bedrossian	AI6RG	p.bedrossian@comcast.net	925-606-1342
Board (PP)	Roger Deming	KK6RD	rogerdeming@yahoo.com	925-484-1285
Board	David Counts	KG6WIR	dlcounts@sbcglobal.net	925-895-4698
Board	Nate Moore	N8MOR	nate@nateandamy.org	925-577-4916
Activities	Jerry Benterou	N5KA	benterou@gmail.com	925-321-3263
	Steve Nissen	K8YIP	s.nissen55@gmail.com	650-270-3796
Repeater Chair	Ian Parker	W6TCP	w6tcpian@gmail.com	
Web Site	Arnold Harding	KQ6DI		
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RFI	Gary Johnson	NA6O	gwj@me.com	
T-Hunts	Brian Zoraster	KA6ZED	ka6zed@gmail.com	925-786-8412
	Rich Harrington	KN6FW		
Swap n Shop	Mark Bowers	KK6UKU		925-339-4212
Ask the Elmer	Lee Zalaznik	KI6OY	lee.zalaznik@sbcglobal.net	925-699-5998
Hospitality	Noah Evans	N6TW		
	Brian Zoraster	KA6ZED	ka6zed@gmail.com	925-786-8412



Facebook—<http://www.facebook.com/LivermoreARK>
 Twitter link : <https://twitter.com/LivermoreARK>



Special interests: View: AREDN Mesh <http://www.aredn.org>.

CERT NEWS: CERT contact - Email: cert@lpfire.org or (925) 454-2361
 Meetings 3rd Wednesdays. Remillard RM 3333 Busch Rd. Pleasanton.

LARK Membership Form



LARK LIVERMORE AMATEUR RADIO KLUB.

P.O. BOX 3190, LIVERMORE, CA 94551-3190

An ARRL Affiliated Club

LARK MEMBERSHIP FORM - Print, fill out, mail in with check.

Circle all that apply: New / Renewing / Family **Today's Date:** _____

NAME: _____

CALL SIGN: _____

ARRL MEMBER? Yes / No

Address: _____

PHONE: () -

UNLISTED? ____YES ____NO

Enter your E-mail here and stay connected: _____ **LARK NEWS** featuring upcoming club events and articles is available monthly via email. <http://www.livermoreark.org/> Access the current and back issues on our website.

ADDITIONAL FAMILY MEMBERS (At the same mailing address, only \$2. membership per person)

NAME

PHONE

EMAIL

AARL MEMBER

ANNUAL DUES # ____ **PRIMARY** (\$20.00) **ADDITIONAL MEMBERS #** ____ (\$2.00 each)

TOTAL: \$ MAKE CHECKS PAYABLE TO: LARK. Thank You.

Membership is \$20.00. per calendar year starting on Jan 1 through Dec. 31. To complete membership by mail: print and fill out this form, include a check payable to LARK, and mail to: LARK Membership Chairman, P.O. Box 3190, Livermore, CA, 94551-3190. Please be sure your complete mailing address, e-mail, and call sign are on your check. Questions? Contact the Membership Team via email: membership@livermoreark.org You may also complete membership application and payment by: Bringing this form filled out and pay by cash or check to either the Membership Chairman or Treasurer at any general meeting. Or: pay with a credit card or PayPal account on the Club's membership page: <http://livermoreark.org/membership/membership.html>.

Thank you and welcome aboard from LARK and the Membership Team.