LARK NEWS July 2024



<u>Livermore Amateur Radio Klub LARK</u> is an ARRL affiliated club dedicated to Public Service Volunteer Emergency Communications.

Meetings are once a month on the 3rd Saturday 9:30AM

<u>VENUE</u>: 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





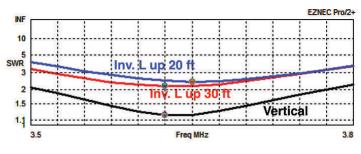


Diagram by Gary, NA6O

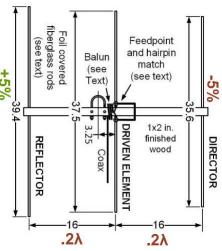


Diagram by John W6NBC

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Presidents Message

I want to thank Noah N6TW for making the coffee and picking up the refreshments for monthly meetings. I would like to have someone help him if possible. This effort is appreciated by all who attend the meeting.

I wanted to let you know that the Events Chairperson (me) is following the upcoming events for 2024, and I have an update: The following events will be happening:

- ARRL Field Day, June 22-23rd at the Livermore Airport. Any questions please contact Nate N8MOR.
- Patterson Pass Road Race on Sunday, August 4th.
- Pacificon LARK Booth on Saturday & Sunday, October 19th and 20th
- Pacificon Swap Meet on Sunday, October 20th

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

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.

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

lan W6TCP continues to work on enhancing the repeaters for use by all of us

so please report any issues to lan 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 Diemer 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 (kg6wiu1@comcast.net)

Notes from the Editor

Thanks to John Portune W6NBC for presenting at the June 15th meeting. His presentation was on "Designing Home-Brew Yagis is Easy". Here is a <u>link</u> to his presentation.

Thank you Steve K8YIP for arranging the club presentation.



Photo by Jerry, N5KA

The 16th Annual 13 Colonies Special Event for 4th of July week. It runs July 1st @ 6am Pacific through July 7th @ 9pm Pacific.

You can work 1 or more of the 13 stations to get a certificate. Working all 13 stations is a "clean sweep".

All bands including WARC, except 60m. All modes may be represented - SSB, CW, RTTY, Digital, etc. This is up to the individual colony state station.

Click http://13colonies.us/ for more event information.

There are a lot of exciting projects on LARK discord:

- A batch of Ham Radio all-in-one-cable (AIOC) were ordered, setup, and distributed for all the requested/paid for them. Thanks Nate N8MOR
- Based on last meeting presentation on yagi antennas, there is discussion about organizing a group build.

Hope to see articles in future newsletters.

Please send any ideas and content to me.

Gregory KN6RUQ



Monthly Meeting Minutes



LARK General Meeting | June 15, 2024 | Minutes

Call to Order

- 1. Meeting called to order by George KG6GEM at 9:29am.
- 2. George started introductions, first of In-Person attendees and then Zoom attendees.
- 3. 42 Members present / 8 on Zoom = 50 Total attending the meeting.
- 4. George welcomed all the new hams attending today.

Presentation

- George KG6GEM introduced W6NBC via Zoom for his presentation "Designing Home-Brew Yagi's is Easy".
- 2. You can access the presentation slides at www.W6nbc.com/slides

Treasure's Report - Peter AI6RG

- 1. Bank account balance is stable
- 2. Peter will not be here next month so if you need anything contact Peter.

Activities - Jerry N5KA

- 1. July: Show and tell so please bring in your projects
- 2. August: Zoom only
- 3. September: Lee KI6OY will talk about State QSO parties
- 4. Pt. Reyes Station Field Trip details coming soon
- Need suggestions for future <u>months</u> presentations, please contact Jerry N5KA or Steve K8YIP with ideas.

Events Update - George KG6GEM

- LARPD on July 4th will host Independence Day Dash, signups are online, any questions contact Nate N8MOR
- 2. August 4th is Patterson Pass Road Race
- 3. Pacificon SWAP MEET and LARK BOOTH, October 19th and 20th
- 4. Cycle for Hope in Dublin October 20th

Newsletter - George KG6GEM

1. Monday night deadline for the newsletter, get articles to Greg KN6RUQ

Membership - Julian WB6BDD

1. 153 members

Old Business

1. Minutes from the May meeting approved unanimously.

Repeaters - Nate N8MOR

 For any repeater issues please make a note of the date and time of occurrence, troubleshoot your gear, check offset and PL tones, if able monitor input frequencies.

Technical Interest Group

Nate N8MOR has been building AIOC boards.

VE Testing - George KG6GEM



- 1. There will be no testing after today's meeting.
- 2. If there is a VE test everyone will clear the room and socializing can continue outside so test takers can focus on the testing process without distractions.

Field Day - Nate N8MOR

- Field Day is June 22nd and 23, at the Livermore Airport
- Will not be collecting points as a club but you can still participate as an individual to collect points
- If you plan on attending, please contact Nate so there is enough food and drinks
 Operating
 - Roberto K6KM yesterday 6m was open, On FT4 he contacted WA6YOU in Fairfax, Virginia and found out he was a Livermore high grad and past member of LARK. Roberto also was using 100mw and got a -4-signal report from Aaron N6ACA

Ask the Elmer - Lee KI6OY

- Rich AD6X asked Lee what was in the envelope. Lee explained he was awarded silver level last year by Northern California Contesting Club participating in 17 contests. This year he has achieved gold level. Lee really has been enjoying RTTY.
- Lee says yes you can phone patch using a repeater.

Adjournment

- 1. August Club Meeting will be Zoom only.
- 2. George KG6GEM adjourned the meeting at 11:04 AM

Minutes submitted by:		
Ryan Mahoney (W6RAM) – LARK Secretary		

Board Meeting Minutes



LARK Board Meeting | June 10, 2024 | Minutes

Attendees: George, Chris, Ryan, Julian, David, Peter, Bernie, Jerry Absent: Nate, Roger,

Call to Order

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

Treasure's Report - Peter

The club's finances are solid.

Repeaters - Nate

1. Asked people experiencing issues to keep a log and details and report to Nate.

Activities - Jerry

- 1. Steve K8YIP found John W6NBC to hold zoom talk about Simple Yagi Antenna
- 2. Field Trip to visit Pt. Reyes Maritime Historical Radio planning
- Bill and David would like to do a talk on APRS with a Raspberry Pi and all in one chips.
- 4. September: Lee KI6OY will talk about State QSO Parties

Events - George

- Field Day on June 22nd and 23rd, 2024 at the Livermore Airport
- 2. July 4th LARPD 5K Run
- 3. August 4th Patterson Pass Road Race, sign up available on LARK website
- Looking for someone to lead SWAP MEET and LARK BOOTH at <u>Pacificon</u> in October 2024

Membership - Julian

- 153 paid members
- 75 of paid members are not on Groups.IO forms with <u>same</u> emails they registered with. Working with Ian to make sure they are getting updates.
- Some of these members have two emails.
- 4. Julian is working on sending flyers to new Hams

Field Day - George

- Reaching out to City to remind them to mow the grass, seems to have good cooperation with the city and airport staff
- 2. Bought a BBQ that will be kept with LARK equipment
- 3. Working with Scout Troops to drive up participation

501c3 - Bernie

- 1. Paid for the application
- 2. Can take up to 180 days for IRS to process

Key Access - Bernie

Adjournment
 George adjourned the meeting at 8:13 PM.
<i>5</i> ,
Special meeting following the 6/15 Regular Meeting:
Bernie proposed to shred financial documents that are older than 7 years, Nate motioned
• •
Roger seconded, Peter, George, Chris, Roger, Ryan voted in favor. Motion passed
unanimously.
Minutes submitted by:
Ryan Mahoney (W6RAM)– LARK Secretary

1. Noah still does not have key card access yet. George will follow up with Noah.

Community Activities



We <u>NEED</u> You! Sign Up NOW



ARRL Field Day, June 22-23, 2024 http://www.arrl.org/field-day/

This event takes place at the Livermore Airport. <u>Click</u> for additional details. Please contact Nate N8MOR for questions.



Independence Day Dash, July 4, 2024 https://www.signupgenius.com/go/10C0B44ACA62EA5FFC70-50042648-independence

This event takes place at Sycamore Grove Park. Setup time will be 7:30am, Race starts at 8:15am. Expected to be done around noon. Because this is sponsored by LARPD, we'll also need to be in their volunteer system as well, so their insurance covers volunteers. the Livermore Airport. Click for race info. Please contact Nate N8MOR for questions.



Patterson Pass Road Race - Sunday, August 4, 2024 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. There will be a radio check-in at 7:30am. The ham radio volunteer should be able to handle this assignment with a hand held.



Pacificon 2024, Sat & Sun, Oct 19 & 20, 2024

LARK Booth: Opportunity to tell people about LARK and encourage them to join LARK. Sat (9am-6pm) & Sun (9am-2pm) 2-3hr shifts. You can sign up for multiple shifts. https://www.signupgenius.com/go/10C0844AEAD28A6FA7-44377069-lark#/

Swap Meet: LARK has hosted this event for the MDARC Radio Ham Club in the past years. We have been requested to support this event again this year. There are two shifts on Sunday (4am & 9am). https://www.signupgenius.com/go/10C0844AEAD28A6FA7-pacificon1#/

Antenna of the Month

Inverted L by Gary, NA60

Long wavelengths mean long antennas, and when you're trying to put up something for 80 or 160 meters, you can quickly run out of real estate and altitude. A popular and effective solution is the inverted L. It's simply a vertical with the top bent over and running roughly horizontally. The vertical part does most of the work since high current is present nearer the base. The horizontal part can be thought of as more of a loading or matching device if it doesn't dominate the overall length. Unless you have a very tall tower to support a high dipole, a vertical antenna of some sort will typically be your best bet for DX performance on these low bands. (Fig. 1).

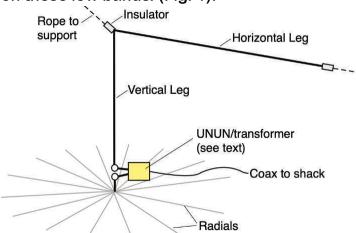


Figure 1. Typical inverted L construction.

Like any vertical (monopole), this antenna requires a ground radial system. It can consist of a large number of radials on or slightly under the ground, or a modest number of elevated radials.

For ground radials, generally more is better; 32 is a good target. One thing about them is that they are non-resonant so length is not very critical. Elevated radials are resonant and will directly affect antenna tuning, but you can get

by with just a few. For best performance, elevated radials should be up about 8 feet on 80 m and almost twice that on 160 m. See the ARRL Antenna Handbook for in-depth advice on design trade offs for any kind of radial system.

Our reference antenna is a wire vertical, 66 ft tall and with 32 shallow-buried radials 45 ft long. The inverted Ls use the same radial system. I varied the length of the vertical portion of the L, choosing 20 and 30 ft for comparison. The remainder of the wire ran horizontally, 46 and 38 ft, respectively.

Figure 2 compares the SWR. A properlyinstalled vertical ends up around 42 ohms at resonance, a good match to our regular coax. Inverted L antennas are always a lower impedance because of the coupling between the horizontal wire and ground, usually around 20 ohms, and that's what my simulation shows. The shorter the vertical segment, the lower the impedance. For a better match, some guys add a transformer or some other matching network at the feedpoint. Note: You should always place a common-mode choke at the feedpoint of any of these antennas. (In this case, it's sometimes called an UNUN for unbalanced to unbalanced. but really, it's just a choke). That will prevent the outside of your coax from becoming another radial with unknown properties.

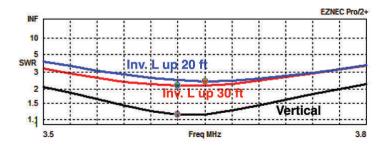


Figure 2. SWR comparison over average ground conditions. An inverted L at resonance is typically around 20 ohms with a good radial system.

A good radial system is extremely important. If it's inadequate, there will be excessive loss due to current flowing through the lossy Earth rather than copper wires. Curiously, this loss can actually improve your SWR! That's because the added loss appears in series with the antenna's radiation resistance. If your inverted L looks like 50 ohms, you probably have upwards of 25 ohms of loss in your radial system and literally half your power is being dissipated there. So don't be fooled: SWR is not a direct indicator of antenna performance.

Looking at the pattern in azimuth, it's going to be omnidirectional with a slight bias in the pattern away from the horizontal wire's direction. For the 20 ft vertical case, it's about 3 dB. The better news is that the elevation pattern (Fig. 3) is very good compared to the baseline vertical with excellent low-angle radiation. "Forward" gain is nearly identical, with only the small decrease off the back. Also the horizontal wire gives you some radiation straight up which can be useful for shorter-distance QSOs.

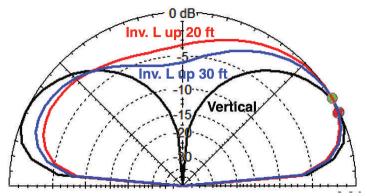


Figure 3. Comparison of elevation patterns. Outer ring is 0.0 dBi.

The last simulation I did was with four elevated radials. The elevation pattern has a bit more energy at higher takeoff angles, and a greater front-to-back ratio, on the order of 5 dB, but it's

still excellent at low angles. The other difference is that the impedance is even lower, on the order of 12 ohms. A 4:1 impedance transformer would be a good idea here. As I mentioned, elevated radials are resonant and tuning is required. Adjusting the relative length of the vertical-horizontal wire vs. the radial length can walk the impedance around a bit for a better match but it will still be pretty low. For instance, shortening the radials by 10% increased the impedance to about 18 ohms.

In conclusion, the inverted L is a well-respected antenna for low band DXing when space is limited, especially if you can lay down a good radial field. Don't be afraid to route the horizontal wire to fit your property. It can slope downward and bend in odd directions without seriously degrading performance.

Next Month: Squalo

Everyone should explore EZNEC a free and very powerful program, available from https://www.eznec.com/ and discussed in the ARRL Antenna Handbook among other places.

Tower Modification at AA6F

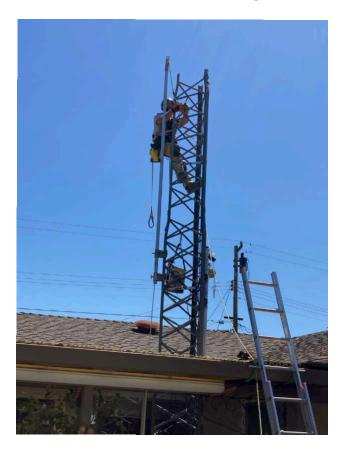
Gary, NA60

Jim AA6F needed to remove a four-element Yagi and several sections of his 48-foot Rohn BX tower.

He hired our local climber Mark Brenner, N9LS, who is fully qualified to do this type of work.

Since I had worked as ground crew with Mark before, I joined in and the three of us got the job done in a few hours.

Each item was hoisted on a gin pole and then lowered to the roof without risking life or limb.





Jim later put up a telescoping mast, supported by the remaining tower base, to support his dipole.

Swap n' Shop Cave

You can never have too many antennas, but I do. Monoband, dual band, and triband, 2 meters to 70 cm. As always, dirt cheap prices for LARK members. Stop by and browse the Swap 'N Shop Cave.

Rich kn6hsr@arrl.net



July 2024

<u>Monday</u>	<u>Tuesday</u>	<u>Wednesday</u>	<u>Thursday</u>	<u>Friday</u>	<u>Saturday</u>	<u>Sunday</u>
Net	2	3 10-10 Net HH Net	4	5	6	7
Net	9	10 10-10 Net HH Net				14
Net	16	17 10-10 Net HH Net	Tech Net		LARK Meeting	21
Net	23	10-10 Net HH Net	Tech Net	26	27	28
Net	30	31 10-10 Net HH Net				

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

July*

Date Net Control 7/1/2024 John / WB6ETY 7/8/2024 EOC 7/15/2024 Jon / WB6AEA 7/22/2024 Ron / AD6KV 7/29/2024 Ed / AE6D

August*

Date	Net Control
	John / WB6ETY
8/12/2024	EOC
8/19/2024	Jon / WB6AEA
8/26/2024	Ron / AD6KV

September*

Date	Net Control
9/2/2024	Ed / AE6D
9/9/2024	EOC
9/16/2024	John / WB6ETY
9/23/2024	Jon / WB6AEA
9/30/2024	Ron / AD6KV

*Confirmation Pending

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	
7/4/2024	Holiday - No Net	NA
7/11/2024	Brian / KA6ZED	Peter / AI6RG
7/18/2024	Nate / N8MOR	Brian / KA6ZED
7/25/2024	Rich / KN6HSR	Nate / N8MOR
8/1/2024	David / K6WOO	Rich / KN6HSR
8/6/2024	Bill / AJ6UU	David / K6WOO
8/15/2024	Noah / N6TW	Bill / AJ6UU
8/22/2024	Peter / Al6RG	Noah / N6TW
8/29/2024	Brian / KA6ZED	Peter / AI6RG
9/5/2024	Nate / N8MOR	Brian / KA6ZED
9/12/2024	Rich / KN6HSR	Nate / N8MOR
9/19/2024	David / K6WOO	Rich / KN6HSR
9/26/2024	Bill / AJ6UU	David / K6WOO

Regularly Scheduled Nets LARK/LIVERMORE NET Every MON. 1900 local 147.120+ PL 100 **RACES Net 7pm** Every MON. Windfarms 10-10 NET Every WED. 1930 local 28.485 USB Every WED. 1900 Bridge 363 PIN 0331 **HamShack Hotline Net** Every THURS. LARK TECH NET 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 7.2685 LSB & 3970 LSB **EVERY DAY** 1200-1400 LOCAL **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

<u>GET YOUR HAM LICENSE OR UPGRADE</u>. 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	kg6wiu1@comcast.net	925-516-2676
Vice President	Chris Quirk	W6CJQ	w6cjq@yahoo.com	925-202-1198
Secretary	Ryan Mahoney	W6RAM	ryan.andrew.mahoney@gm ail.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
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Board	Nate Moore	N8MOR	nate@nateandamy.org	925-577-4916
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	Steve Nissen	K8YIP	s.nissen55@gmail.com	650-270-3796
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Web Site	Arnold Harding	KQ6DI		
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T-Hunts	Brian Zoraster	KA6ZED	ka6zed@gmail.com	925-786-8412
	Rich Harrington	KN6FW		
Swap n Shop	Richard Combs	KN6HSR	kn6hsr@arrl.net	
Ask the Elmer	Lee Zalaznik	KI6OY	lee.zalaznik@sbcglobal.net	925-699-5998

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



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

CERT NEWS: Tracy Hein CERT contact. Email: thein@lpfire.org or (925) 454-2317 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?YESNO
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
ARRL 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.