

LINCOLN LOG 2017

June

Lincoln Amateur Radio Club



JUNE MEETING

19:30, WEDNESDAY, JUNE 14

NORTHERN LIGHTHOUSE CHURCH, 6131 NORTH 14TH STREET, LINCOLN, NEBRASKA

JUNE CLUB MEETING

HAMVENTION: THE BIG MOVE

Joe will cover why Hamvention moved, what obstacles needed to be overcome in the new location, and how things went for the first Hamvention held at the Greene County Fairgrounds. Some things went great, and some things did not. He has lots of photos to show to tell the story.

—Joe Eisenberg, KØNEB

COMING EVENTS

June

Sa	06/10	11:00	HPQRP Homebrewers	Bredeaux Pizza	1425 Silver St, Ashland
W	06/14	12:00	QCWA Luncheon	The Eatery	2548 S 48th
W	06/14	19:30	LARC Meeting	Northern Lighthouse Church	6131 N 14th St
Tu	06/20	23:59	LOG Deadline	Email articles & ads to log@k0kkv.org	
W	06/21	19:00	LARC Board Meeting	Red Cross	220 Oakcreek Dr
Th	06/22	19:30	SATERN Meeting	Salvation Army	2625 Potter St
Sa	06/24	13:00	Field Day begins	Mahoney City Park	70th & Fremont
Su	06/25	13:00	Field Day ends		
Su	06/25		Trail Trek		Lincoln
M	06/26	19:00	LOG Folding	Red Cross	220 Oakcreek Dr

July

Th	07/06	18:30	VE Exams	Northside Café	2701 N 48th St
Sa	07/08	11:00	HPQRP Homebrewers	Bredeaux Pizza	1425 Silver St, Ashland
W	07/12	12:00	QCWA Luncheon	The Eatery	2548 S 48th
W	07/12	19:30	LARC Meeting	Northern Lighthouse Church	6131 N 14th St
Sa	07/15		Cornhusker State Games (Adventure Race)		
W	07/19	19:00	LARC Board Meeting	Red Cross	220 Oakcreek Dr
Th	07/20	19:30	SATERN Meeting	Salvation Army	2625 Potter St
F	07/21		Cornhusker State Games Begin		
Tu	07/25	23:59	LOG Deadline	Email articles & ads to log@k0kkv.org	
Su	07/30		Cornhusker State Games End		
M	07/31	19:00	LOG Folding	Red Cross	220 Oakcreek Dr

Lincoln Amateur Radio Club, Inc.

PO Box 5006

Lincoln, NE 68505

Club Repeater KØKKV 146.760 (-)
Packet APRS KØKKV 144.390
DX Packet Cluster telnet://cluster.k0gnd.net

LARC Web Site <http://k0kkv.org>
Facebook www.facebook.com/LARCLincoln

2017 BOARD OF DIRECTORS

President	Ed Holloway	KØRPT	402/326-1139	k0rpt@arrl.net
Vice President	Bryan Leavitt	WØBCL	402/310-1686	w0bcl@arrl.net
Secretary	Dale Douglas	KDØWVD	402/629-4543	kd0wvd@gmail.com
Treasurer	Marlene McLaughlin	KDØHYM		kd0hym@gmail.com
	Greg Brown	KTØK	402/937-3540	gwbrownx@inebraska.com
	Mike Arter	W9LG	402/770-6460	w9lg@yahoo.com
	Mike Lauver	KØLVR	402/580-4602	mlauver@neb.rr.com
	Mike Long	KØSHC	402/770-2427	k0shc13@yahoo.com
Executive Director and Club Station Trustee	Reynolds Davis	KØGND	402/488-3706	reynoldsd1@aol.com

2017 COMMITTEE CHAIRS

COMMITTEE	LIAISON	CHAIR/CO-CHAIR
Activities	KDØHYM	Bruce Wood, WAØRIM
Bylaws	KØRPT	Jeff Bennett, WØWKP
Christmas Party	KØRPT	Heather Chesnut, KDØBXA
Club Awards	KØRPT	Heather Chesnut, KDØBXA
Club Station	KØLVR	Bruce Steyer, KBØKA
Convention 3/11/2017	KDØHYM	Marlene McLaughlin, KDØHYM
Education	WØBCL	Aaron Rogge, NØADR Richard Mulder, ACØLN
Emergency Cord. ARRL	KØRPT	Ed Holloway, KØRPT
Estate Assistance	KTØK	Gordon Trout, WØKBS
Facebook	KDØWVD	Dale Douglas, KDØWVD
Field Day	KDØWVD	John Mardock, KRØP Mike Walsh, KBØQH Larry Frisch, KDØRTK
LOG Editor	KDØWVD	Aaron Rogge, NØADR Jeri Lyn Rogge NØJLR
Merchandise	W9LG	
Nets	WØBCL	Connie Zehr, NØGMA
Public Relations	KØRPT	Bob Mitchell, WBØRJJ
Public Service	KØSHC	Mike Long, KØSHC
QSL Cards	KTØK	Greg Brown, KTØK
Repeater	KØRPT	Ed Holloway, KØRPT
Transmitter Hunts	KØLVR	
Web Site	KØRPT	Aaron Rogge, NØADR
Equipment Inventory	W9LG	Larry Frisch, KDØRTK



PRESIDENT'S COLUMN



If you weren't at the May club meeting at Northern Lighthouse Church, you really missed out! Many thanks to Mary, NØTRK, and members of the Ak-Sar-Ben Amateur Radio Club for coming from Omaha to present their program about Amateur Radio on Wi-Fi.

Joe, KØNEB, will present in June on all the inside details of Hamvention 2017. In talking with him, I learned he has many great photos to share.

Here's a huge shout out to the fine folks at Northern Lighthouse for hosting our club meetings, and thanks to Dan Pratt for running lights, audio, and video.

Welcome Brent Welch of Brent's Flatwork, Steve Wight of Bob's Tavern, and John McManus of Heidelberg's Sports Bar to the list of Supporting Business Members (see pg. 15). Thank you very much for your support!

Speaking of supporting the club, have you rejoined the club by sending in your dues? We need you! We have not met our budgetary goal as of the last Board meeting. You can meet with any Board member, click the PayPal link on the k0kkv.org website, or better yet, come to a club meeting and see us in person. We have many great programs this year and would love for you to join us.

Public service is in full swing. Mike, KØSHC, and his team have been actively soliciting volunteers for upcoming events. See Mike at the club meetings or call him if you can help. The Field Day committee has been working on antennas and arranging details. Mark your calendars—don't miss out on the fun of Field Day.

On the ARES front, we had two call outs in the month of May. Many of you took an assignment and helped protect Lancaster County. Thank you for your willingness to venture out and be part of ARES. I recently tested the storm spotter text messaging system and got a great response from many of you.

We could use some help with LOG folding each month. If you would like to join us, we would love it! You can then honestly say you know what it's like to watch a bunch of old dogs fight over "bones." Don't believe me? Come out for the next LOG folding to see for yourself. We'll even let you fold a few copies as our thanks for stopping by. :)

I can't say it enough folks—we have a great group of folks on the Board this year, and we're getting things done. Your feedback is great, needed, and appreciated.

That's all for this month. See you at the club meeting, Wednesday, June 14.

—Ed Holloway, KØRPT

2017 ANNUAL FLEA MARKET

CQ, CQ, CQ, all Hams wanting to clear out some old equipment they no longer want. The annual Ham Radio Flea Market, held at in the driveway of Reynolds Davis's home, on Saturday, June 17, 8:30 to 12:00. The address is 3901 S. 42nd St.

Bring your table and Ham equipment, and you may come away with some cash! If you don't have equipment to sell but are looking for a bargain, come on over. You may find just what you're looking for! And if you're just curious, we love to have company. Bring a friend or as many friends as you want. They may be looking for something.

Please bring Ham equipment only for this flea market. We hope to see many Ham folks. You may walk away with a bargain or some cash—or both!

—Mike Long, KØSHC

LARC PROGRAMS

JUNE – JOE EISENBERG, KØNEB

JULY - LES

AUGUST – ED HOLLOWAY, KØRPT
"HISTORY OF LARC"

SEPTEMBER – GLENN JOHNSTON, WØGJ

CLUB MEETING LOCATION

MEETING LOCATION THROUGH AUGUST

Northern Lighthouse Church

6131 N 14th St

Lincoln, NE 68521

GOOGLE MAPS

<https://goo.gl/maps/J6jkihqyNg>

There is plenty of parking and the building is handicap accessible.

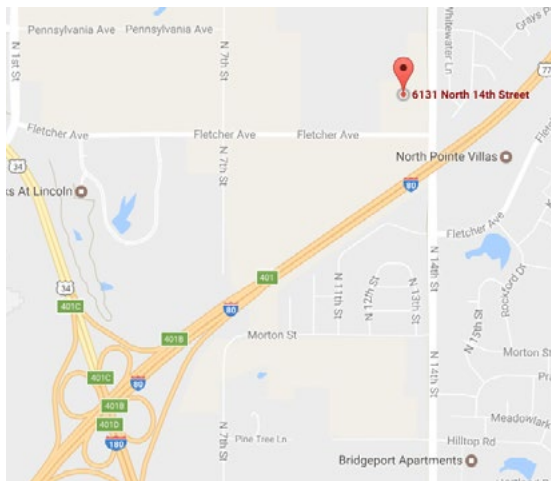
MAY LOG ASSEMBLY CREW



Each month a great crew prepares the LOG for mailing to approximately 800 addresses. Thank you to NØADR, WØBCL, NØDGR, KDØDIU, NØJLR, KBØKA, KØLVR, KBØPTF, KBØQH,

KDØRIY, KØRPT, Kathryn Boldt, and Emmett Boldt for your help prepping the May 2017 LOG!

—Aaron Rogge, NØADR



—Ed Holloway, KØRPT

VE EXAM SESSIONS



**ARRL
VEC**

This month we had two exam sessions. The first was at the Northside Café on Thursday, May 4. The

second was at Union College on Tuesday, May 23, at the conclusion of the Technician class. Between both sessions, we had five candidates, of which all passed for a new or upgraded license.

TECHNICIAN

- ♦ Joan Nelson, KEØNGO, Edgar
- ♦ Kathleen Rogge, (pending), Lincoln
- ♦ Kevin Austin, (pending), Lincoln

GENERAL

- ♦ Andrew Grupp, NEØNGN, Beatrice
- ♦ Lacey Grupp, KEØNGM, Beatrice

Volunteer Examiners (VEs) who participated this month are KØKTZ, KØSIL, KCØDHM, KCØPJR, KDØRTK, NØJWS, WØBMB, and WØBCL.



Upcoming exams are July 6, August 3, and September 7 at the Northside Café. For testing details, please visit

<http://k0kkv.org>.

—Chris Evens, KCØPJR

HAVE A GREAT IDEA FOR LARC?

Have you brewed up a great idea for education, social outings, fundraisers, club meetings, or more? Email your ideas to log@k0kkv.org.

SKYWARN #2

MAY 16, 2017

Spotter season has begun! Thank you to NØADR, WØBCL, KEØBHQ, NØBTY, KDØDEU, KDØDIU, WØDMS, KEØELM, KEØEQX, KEØEQY, KEØIBW, KEØJVS, KEØJVT, KTØK, KEØKWV, KBØMKS, KEØMWV, KDØONM, KDØONN, NØOSB, KDØPTF, WBØRJJ, KØRPT, KDØRWT, KBØRZP, KØSIL, KCØSVX, KEØTAS, KDØTPM, N8VRX, KDØWDP, NØWLX, KBØWZG, KDØZNM, and WØZNS for helping out.

—Ed Holloway, KØRPT

BEST CHOICE UPC LABELS



Please bring UPC labels from Best Choice products purchased at Russ's or Super Saver to club meetings.

SKYWARN #3

MAY 17, 2017

And then, the very next day, we were out "on the hill" again. Thank you to KEØBHQ, KDØDIU, NØDIZ, KEØEQY, KEØJVS, KYØK, KTØK, KØKPH, KCØMIE, KEØMWV, KDØPTF, KØRPT, KBØRZP, KCØSVX, KEØTAS, N8VRX, KCØWZG, KBØWZG, KDØZNM, and WØZNS. We appreciate your gift of time and talent to protect the citizens of Lincoln and Lancaster County.

—Ed Holloway, KØRPT

2017 PUBLIC SERVICE CALENDAR

Month	Date	Event	Location
June	25	Trail Trek	Lincoln
July	15, 21 – 23 29 & 30	Cornhusker State Games	Lincoln/Lancaster County
August	3 – 12	Lancaster County Fair	Lincoln
	26	Mud Run	Lincoln
	27	Heat Stroke 100 Bicycle Ride	SAC Museum
September	9	MS Bike Ride	Lancaster County
	17	Last Blast Y-Tri Triathlon	Branched Oak Lake
	30	Market to Market Relay	Cass Cnty/Lancaster Cnty
October	21	Oregon Trail Run	Hebron
	29	Good Life Halfsy	Lincoln

All dates are confirmed, so feel free to mark your calendar. Sign up sheets will be available at upcoming club meetings.



—Mike Long, KØSHC
Public Service Chair

ESTATE SALE

FROM THE ESTATE OF ROGER WAY, KCØFLA

Item	Category	Brand	Model	Asking
101	HF Radio	Yaesu	FT-990	\$600
102	Power Supplies	FDK	M0031	\$40
103	Accessories	Heath	SB-600 w/HP 23 PS	\$20
104	HF Radios	WRL	SB-100HF	\$50
105	Microphones	WRL	SB-44	\$20
106	Accessories	Koss	Pro/4AA	\$25

Contact Reynolds Davis, KØGND (402-488-3706) or Gordon Trout, WØKBS (402-484-7656) for more information.

REPEATER LOG

As I sit here at my desk, I am listening to the repeater being "kerchunked." This is where the repeater is being keyed with no identifying station, and it's happening a lot.

I suspect that users are testing their radios or antennas and are not aware that it would be a better idea to use a dummy load if working on a transmitter. Testers can also use a simplex frequency if working on an antenna. You might be surprised to find that many folks are listening on various simplex frequencies and some use them regularly. As an example, Gene, KDØOVK, lets us know about his use of simplex.

Whenever you key the repeater, you must identify your station every ten minutes and at the end of your transmission. That's all from the repeater committee.

—de KØRPT

REVIEW TIME

Under what circumstances is it safe to climb a tower without a helper or observer?

- A. When no electrical work is being performed
- B. When no mechanical work is being performed
- C. When the work being done is not more than 20 feet above the ground
- D. Never

Answer on page 9.

PUBLIC SERVICE

Oh boy! We sure had fun in the month of May serving our community and sharpening our radio skills. Thank you to each one who assisted with the Lincoln Marathon!

KEØBHQ, KDØBXA, KEØCIY, KEØCJD, KEØCJE, KDØDIU, NØDIZ, NUØE, K9EMR, NØFER, KEØJBT, KEØJVS, KBØKA, KØKPH, W9LG, KØLVR, KØNEB, KDØONQ, KDØPTE, KDØPTF, KBØQH, KDØRIY, WBØRJJ, KDØRTK, KØSHC, NØWLX, KCØWWR, KDØZNM, and WØZNS.

My hat's off to these Hams who helped with the Spring Fling Bicycle Ride: KDØDIU, NØDIZ, KØKPH, KDØPTF, KDØRIY, and KØSHC. We had a blast!

Did you miss out helping with these events? There's more to come! Next month is Trail Trek on Sunday, June 25. The day begins at Haymarket Park and the participants take to Lincoln's trails and beyond. The longest ride is to Cortland, and there will be music, food, and fun for all.

Before we know it, the Cornhusker State Games will be here. We need many more volunteers who can offer radio support or deliver lunches. Did you know the CSG sport directors give a round of applause every time they learn LARC is involved with the games? You bring a lot of joy to these directors. Thank you!

Sign ups for upcoming events will be at the club meeting Wednesday, June 14. See you there!

—Mike Long, KØSHC
Public Service Chair

FIELD DAY



What's the biggest event LARC participates in every year?

- A. Lincoln Marathon
- B. Cornhusker State Games
- C. Market to Market
- D. None of the above

If you surmised "none of the above," you would be correct. The largest event this club participates in every year is ARRL Field Day. Ongoing since 1933, and now with more than 40,000 Amateurs across the United States participating each year, Field Day is the premier event for Amateur Radio each year. Most Amateurs mark their calendars, reserving the last full weekend in June for this huge event.

What is Field Day? It's a public demonstration of our capabilities to erect antennas and create working communication stations in a defined time period. We will begin on Friday, June 23. Early in the day, we will begin moving equipment, supplied by the Lincoln-Lancaster County EOC and the Salvation Army, to Mahoney City Park. Around noon on Friday, we will begin assembly and erection of the HF antennas. Saturday, June 24, at 13:00, we begin operations. Station operation continues through 13:00 Sunday, June 25. We then undo all we have created and restore Mahoney Park back to the way it was when we arrived.

Field Day is a huge undertaking, and it's a great deal of fun as well. The best part is

you are invited to participate. Whether it is the moving of equipment, setting up of generators, cabling, equipment, setting up radios, erecting antennas, operating radios, greeting the public during the event, or preparing food, we can find a place for you.

You do not have to be an expert in Ham Radio to participate in Field Day activities. If you want to learn, we have Elmers to assist. In fact, ARRL Field Day is set up to encourage new Amateurs or recently licensed Amateurs to get on the air with a special operating station and scoring. Yes, ARRL Field Day is a contest, but it is not about the score. It IS about getting our members, friends, and community involved in Amateur Radio and having fun while doing it.

If you would like to get involved, learn more contact one of these Amateurs who serve on the Field Day committee:

- Mike Walsh, KBØQH
- Larry Frisch, KDØRTK
- John Mardock, KRØP

GOTA Operation:

- Dale Douglas, KDØWVD

Saturday Night Dinner/ Sunday Breakfast:

- Bruce Wood, WAØRIM

Publicity/Media Coordination:

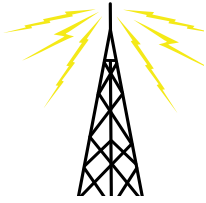
- Bob Mitchell, WBØRJJ

—John Mardock, KRØP



LINCOLN REPEATER CLUB

146.850 — KØLNE/R



2017 is a great year for Amateur Radio. The FCC authorized and approved two new bands, 630 and 2200 MHz; however, the bands are not yet available.

It should be interesting as manufacturers start production on radios for these frequencies.

We are going to raffle off two radios this year. One will be a new BaoFeng UV-5R dual band handheld two-way radio (black), and the other will be a new Yaesu FT-2900 VHF mobile radio. Raffle tickets are \$2.00 each or three for \$5.00. The drawing will be held this fall. Good luck!

Please see Chris, KCØAOO, at the LARC meeting to start or renew your 2017 LRC membership. Membership cost is \$10.00/year.

We encourage you to use our repeater as much as you like. It is an open repeater. If your part of the hobby would like to hold nets on the repeater, please contact Lonnie, WDØAOP (wd0aop@arrl.net), and we will get your net reserved, advertised, and on the air.

Lincoln Repeater Club
C/O WØCHV
6705 W Mill Rd
Raymond, NE 68428-4308

Thank you, LARC members, for your support.

—Lonnie Rech, WDØAOP

JOIN LARC TODAY!

LARC membership is yearly, January through December. See the back cover of this LOG for additional details.

RADIO HUMOR

There's some sort of joke here about RF on my straight key. I can't put my finger on it.

—KJØJK



REVIEW TIME

Answer: D. Never!

Always keep safety in mind and have a helper or observer involved whenever climbing a tower.

—Jeri Lyn Rogge, NØJLR

VOLUNTEER EXAMINER

Interested in helping out and hold a General or higher license? Become a Volunteer Examiner. The process is easy: Review a short manual, fill out an application and open-book review, and submit it to the ARRL.

See <http://www.arrl.org/become-an-arrl-ve> for full details.

ON THE BANDS WITH NW7US: IT'S ALL ABOUT THE NOISE (PART 1)

One of the most frustrating parts of listening to shortwave radio—be it while hunting for military communications, trying to catch pilots as they are flying over an ocean and communicating with a ground station, or just trying to catch an elusive International Shortwave Broadcast station—is being plagued with noise.

Can you relate to this scenario? It is early evening, and signals on the shortwave are picking up. However, there's a strong, consistent noise making reception a stressful endeavor. You've heard that noise could be man-made, so you begin to try and locate the source of this noise. Finally, after turning off and on many appliances around the house, from computer to desk lamps, you turn off the new television unit only to find the noise has stopped! Well, now you must negotiate with other family members who were watching their favorite show so that you can listen to your odd-sounding shortwave radio.

I've had to get extreme by shutting down the entire house by manually tripping all circuit breakers to test water heaters and space heaters, then turning on each circuit, one by one. Once I found a circuit where most of the noise came back, I started unplugging all the devices on that circuit. Many devices don't truly turn off; they just go into standby mode. I've found that computer networking devices, cordless phones, power transformers and power supplies, dimmers, fans, and even water heaters are to blame. There have also been places where I've lived that, after turning off everything in the house via circuit breakers, still had noise problems. In those cases, I've found noise coming from the house next door, or other apartments nearby, even street lights at night, or carport lighting that only turns on at night. Using portable AM radios, I can often track down the street light or another source.

When my local area has a complete power outage (not that often, unfortunately), the radio spectrum gets much less noisy, if not amazingly quiet. Those moments are excellent since the weakest signals are easier to hear. Any noise remaining at this point is that from a more distant source and has been propagated either by groundwave or skywave propagation.

Groundwave propagation describes how a radio wave travels away from the source (for instance, an electric motor coupled with a long enough wire that is acting as a radiator/antenna, or a radio transmitting station), along the surface of the Earth—in a sense hugging the surface—for great distances. Groundwave propagation is most efficient at lower frequencies, especially in the medium frequency (MF), low frequency (LF, or longwave) bands and below.

Skywave propagation describes how a radio signal is reflected (or more accurately, refracted) by the ionosphere back toward the Earth, causing a radio wave to reach very distant areas. Think of the reflection of a beam from a flashlight off of a reflective surface such as a wall-mounted mirror. When you stand off to the side and shine the flashlight at an

angle toward the mirror, the beam will be reflected at the same, but opposite angle, toward a distant spot in the room. When shortwave, and sometimes mediumwave radio signals, spread out away from their source and reach the ionosphere, they are often reflected back toward the Earth. It is even possible that these signals might then be bounced back toward the ionosphere by the Earth, repeating this skip several times or more. In this way, skywave propagation allows a signal to reach around the world.

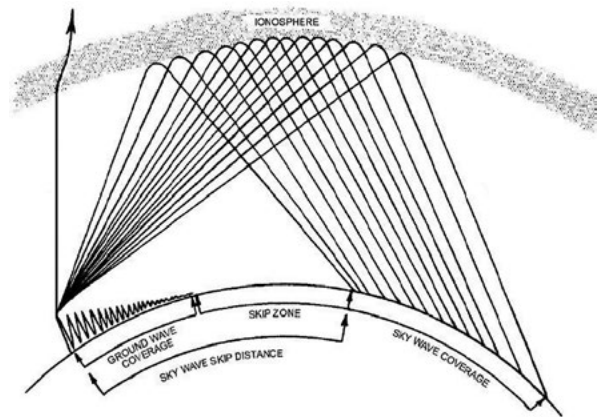
Groundwave tends to lose its energy through the loss it experiences traveling along the surface of the Earth. While skywave can be absorbed at certain frequencies in the lower regions of the ionosphere, skywave experiences much less attenuation because much of its journey is through the atmosphere.

In the case of manmade noise, it is possible to hear the neighbor's arc welder as it generates strong noise that reaches your radio's receiver by way of groundwave propagation. The nearby power transfer station may also be a source of neighborhood radio noise. All of these noise sources present themselves by way of groundwave.

At night, the strongest of manmade noise sources may propagate farther than the reach of groundwave, in the same manner that mediumwave and shortwave transmissions travel better by skywave. In that case, it could be that the noise you are hearing has been propagated from distant sources, such as industrial plants, power transfer stations, or other non-rural areas.

In addition to man-made noise, there are atmospheric noise sources, such as electrical storms, winter storms where static electricity is generated, and so on. You may have heard the static crashes of a lightning storm, even though local weather was clear and calm. Such storms, especially during the summer, can raise the overall noise in the shortwave spectrum, as hundreds of these storms might be active at that moment. Skywave propagation is bringing all of that natural noise to your receiver.

More likely, though, your noise is locally generated within your house or neighborhood. How can you reduce that noise? The choice of antenna and grounding is a key component of your radio system in your fight against noise. For instance, the telescoping antenna found on many handheld shortwave receivers are the most susceptible to noise, from local electrical



Groundwave propagation hugs the Earth, and is quickly absorbed as the radiowave moves away from the transmitting source. On the other hand, when a radio signal is refracted from the ionosphere, it can "skip" over great distances, reaching far-off locations around the world.

circuits and devices to signals around the neighborhood. Dipoles are also notably noisy, as they tend to pick up atmospheric noise and manmade noise more than alternatives like a loop antenna. The quietest antenna might well be the closed-loop antenna, horizontally polarized. (For a great resource on antennas, check out L. B. Cebik's compendium at www.cebik.com)

It is also important to look at how you ground your receiver, a critical part of any radio station. Proper grounding can nearly knock out significant noise problems. Grounding to an electrical ground in your house's electrical circuits does not solve noise problems but will likely increase them. You will want to run a large diameter grounding strap to an eight-foot grounding rod driven into moist soil, for the best ground. That run should be as short as possible. Anything longer than a dozen feet becomes a compromise. Not everyone can obtain such an effective radio ground. But, do the best you can with a good earth ground, and use a loop antenna (say, 160 feet of wire running around the perimeter of your property, with the two ends connected to a coax cable that then is run into your radio shack). This should significantly reduce local noise problems.

Next month, we will look at how noise affects your reception of radio signals. Noise matters!

HF PROPAGATION FOR JUNE

June is a month of typical summer-time radio propagation on the High-Frequency bands. Solar absorption is expected to be at seasonally high levels, resulting in generally weaker signals during the hours of daylight when compared to reception during the winter and spring months. Nighttime usable frequencies to most parts of the world are higher than at any other time of the year, while the usable daytime frequencies are generally lower than are those during winter. At the highest end of the HF spectrum, propagation from DX locations east and west is a rare event, except via Sporadic-E propagation, which can provide shorter-range openings. Openings via the F-layer will not likely occur, so worldwide east/west paths on the highest HF bands are dead.

North and South paths may open on some higher HF bands, especially around sunrise and sunset. 20 and 17 meters will likely be the most reliable daytime DX bands, while 40 and 30 may offer nighttime openings.

30 meters will be fair in the evenings and mornings. The most reliable band for both daytime and nighttime should be this band.

40 and 60 meters should offer good DX conditions during the night despite higher static. Look for Europe and Africa as early as sunset. After midnight, start looking south and west for Pacific, South America, and Asia. Short skip should be possible out to about 750 miles during the daytime.

Expect some openings on 75 and 80, similar to how 40 Meters will be acting. Frequent short-

skip openings up to 1000 miles are possible during darkness, but expect very few daytime openings with all the static and absorption. Top-band (160 Meter) propagation is rough in the summer due to the high static and higher overall absorption caused by the short nights and higher D-Layer ionization.

Thunderstorm noise increases considerably during June and the summer months. As we just discussed, this can degrade the ability to receive exotic DX signals. This can make catching weak DX signals a true challenge.

VHF CONDITIONS

The summertime Sporadic-E (E-skip or Es) season for the Northern Hemisphere begins in force in May, with June seeing strong and frequent Es openings. Within the normal E-layer region of the ionosphere, regions of abnormally intense ionization are formed. Through June, you can expect to see 20 to 24 days with some Es activity. Usually, these openings are single-hop events with paths up to 1000 miles, but double-hop is possible during June. Look for Es on lower VHF frequencies throughout the day but especially in the afternoon.

It might be possible to catch a Tropospheric ducting event. Watch for high-pressure weather systems, where ducting is most likely to develop. If the weather forecast maps show mean-sea-level atmospheric pressure in millibars, look for Tropospheric possibilities when a stalled high-pressure cell in your area reaches 1025 millibars over the path you are interested in. Of course, it is most likely to occur when this high-pressure cell develops over moist air.

If you know that conditions are favorable for Tropospheric ducting, try tuning around the VHF weather channels to see if you can hear stations way beyond your normal line of sight reception. It is possible to hear stations over 800 miles away. Amateur Radio repeaters are another source of DX that you might hear from the other end of the duct.

These openings can last for several days, and signals will remain stable and strong for long periods during the opening. The duct may, however, move slowly, causing you to hear one signal well for a few hours, to then have it fade out and another station takes its place, from another area altogether.

THE NUMBERS, PLEASE

The Royal Observatory of Belgium, the world's official keeper of sunspot records, reports a monthly mean sunspot number of 19.6 for April 2017, a nice bump up from 10.6 for March 2017. The mean value for April results in a 12-month running smoothed sunspot number of 18.8 centered on October 2016. Following the curve of the 13-month running smoothed values, a smoothed sunspot level of 21 is expected for June 2017, plus or minus 14 points.

Canada's Dominion Radio Astrophysical Observatory at Penticton, British Columbia reports a 10.7-cm observed monthly mean solar flux of 80.9 for April 2017. The twelve-month smoothed 10.7-cm flux centered on October 2016 is 82.5. A smoothed 10.7-cm solar flux of

about 79 is predicted for June 2017.

The geomagnetic activity as measured by the Planetary-A index (A_p) for April 2017 is 13. The twelve-month smoothed A_p index centered on October 2016 is 11.6. Geomagnetic activity this month should pick up a bit over the level seen in May 2017. Refer to the Last-Minute Forecast for the outlook on what days we might witness degraded propagation (remember that you can get an up-to-the-day Last-Minute Forecast at SunSpotWatch.com on the main page).

Please check out my educational tweets on Twitter.com; you can follow @hfradiospacewx ([Twitter.com/hfradiospacewx](https://twitter.com/hfradiospacewx)) for hourly updates that include the K index numbers, as well as @NW7US ([Twitter.com/nw7us](https://twitter.com/nw7us)) which will provide the daily dose of educational tidbits about the Sun and propagation. You can also check <http://SunSpotWatch.com> for the latest numbers.

Your thoughts, questions, and experiences regarding this fascinating science of propagation are welcome. E-mail or write a letter; if you are on Facebook, check out www.facebook.com/spacewx.hfradio and www.facebook.com/NW7US.

Happy DX!
—Tomas Hood, NW7US

RESTING PLACE OF KEEL FROM MARCONI'S FLOATING LAB *ELETTRA* TO BE "MUSEUM SHIPS" EVENT SITE

The resting place of the keel from wireless pioneer Guglielmo Marconi's floating laboratory — the yacht *Elettra* — will be the site of a special event in conjunction with the annual Museum Ships Weekend Event, June 3-4, sponsored by the Battleship New Jersey Amateur Radio Station NJ2BB.

Marconi named his youngest daughter after the *Elettra*, which means "electron" in Italian.

The *Elettra* special event, under the sponsorship of the Guglielmo Marconi Foundation, will use the call sign IQ4FE. The *Elettra* operation will be part of a technical-cultural event at Villa Griffone, near Marconi's birthplace in Bologna, Italy. Members of the Italian Amateur Radio Association (ARI) Fidenza Radio Club will operate from the vicinity of the Marconi Museum in Pontecchio, where the vessel's keel is kept.



Marconi's Yacht 'Elettra'

— Thanks to Cristiano Cornini, IW4CLV, ARI Fidenza Radio Club President

USED EYEGLASSES NEEDED



The Lions Clubs International of Lincoln will have a used glasses collection box at the June 14 club meeting. Donated glasses are cleaned, graded, and provided to Doctors Without Borders (<https://donate.doctorswithoutborders.org>) and other distribution organizations to be given to people in the Third World, with some distribution in North America.

Please bring any broken or used glasses to the next meeting for donation to the Lions Clubs.

—Dale & Kay Softley, KDØPTE / KDØTPP

ADVERTISE

Your advertisements not only allow you to reach out to potential customers, they also help offset the cost of producing the LOG.

For more information and a current rate sheet, email log@k0kkv.org.

—Aaron Rogge, NØADR



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RADIO SPORT

JUNE

- ◆ 10-12 June VHF
- ◆ 18 Kids Day
- ◆ 24-25 Field Day

JULY

- ◆ 8-9 IARU HF World Championship

AUGUST

- ◆ 5-6 222 MHz & Up Distance Contest
- ◆ 19-20 10 GHz & Up – Round 1
- ◆ 20 Rookie Roundup – RTTY

—ARRL Contest Calendar

SUPPORTING BUSINESS MEMBERS

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6212 Havelock Avenue

BRENT'S FLATWORK

1525 North 58th

HEIDELBERG'S SPORTS BAR

4620 Bear Avenue

NORTH CREEK CAR WASH

6000 Telluride Drive

ABOUT

Supporting Business Members help offset the cost of producing this LOG and maintaining the LARC website, K0KKV.org. So check them out and let them know you appreciate their support.

ABOUT THE LINCOLN AMATEUR RADIO CLUB

The Lincoln Amateur Radio Club, Inc. (LARC), is a nonprofit organization devoted to the promotion of Amateur Radio. The club sponsors activities and programs to promote growth in Amateur Radio, as well as furthering the experience of those already licensed, and to create international good will.

The *Lincoln LOG* is mailed monthly to all paid members of LARC and to all Lancaster County, Nebraska, Hams.

If your label says, "COMPLIMENTARY," please consider joining the club and supporting its activities. Even if you are not currently active, your contribution will help to ensure the future of Amateur Radio. Annual dues are only \$20. For your convenience, please join by completing and mailing in the form below or visit <http://k0kkv.org> and use PayPal.

The *LOG* solicits your input. If you have an idea for an article, wish to contribute an article or photo, or want to place an ad in the *LOG*, contact the editors at log@k0kkv.org. The deadline for each issue is generally the last Tuesday of the previous month.



The *LOG* and other Lincoln Amateur Radio Club information are available at <http://k0kkv.org> and at [facebook.com/LARClincoln](https://www.facebook.com/LARClincoln) and may be used freely.

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Lincoln Amateur Radio Club Registration Form

Personal Information

Name: _____ Call Sign: _____

Address: _____

City: _____ State: _____ Zip+4: _____

Phone: _____ Email Address: _____

License Class: Novice Tech General Advanced Extra

Membership Information

LARC (\$20 / Calendar Year: Jan - Dec) Year: _____

ARRL: National Association of Amateur Radio (\$49 / year)

New Renewal

Optional Donations

Equipment fund \$: _____

Social activities \$: _____

Make checks to: Lincoln Amateur Radio Club, Inc.

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