FEBRUARY 2014

N4LNR News & Views

P. O. Box 3276
Lenoir, NC 28645
http://lenoir-arc.org

Serving Amateur Radio in Caldwell County

Save the Date!

68th Orlando HamCation
February 7, 8, 9, 2014
Central FL Fairgrounds

Next Meeting & CARES Meeting
Thursday, 7:00 PM
February 13, 2014
Gamewell Fire Dept
2806 Morganton Blvd SW
Lenoir

NC QSO Party
February 23, 2014

LARC Weekly Net
Fridays 9:00 PM
146.625 MHz Minus PL 94.3
Alt 147.330 MHz Plus PL 141.3

CARES Net
Sundays 9:00 PM

LARC Seeking A Tower Climber

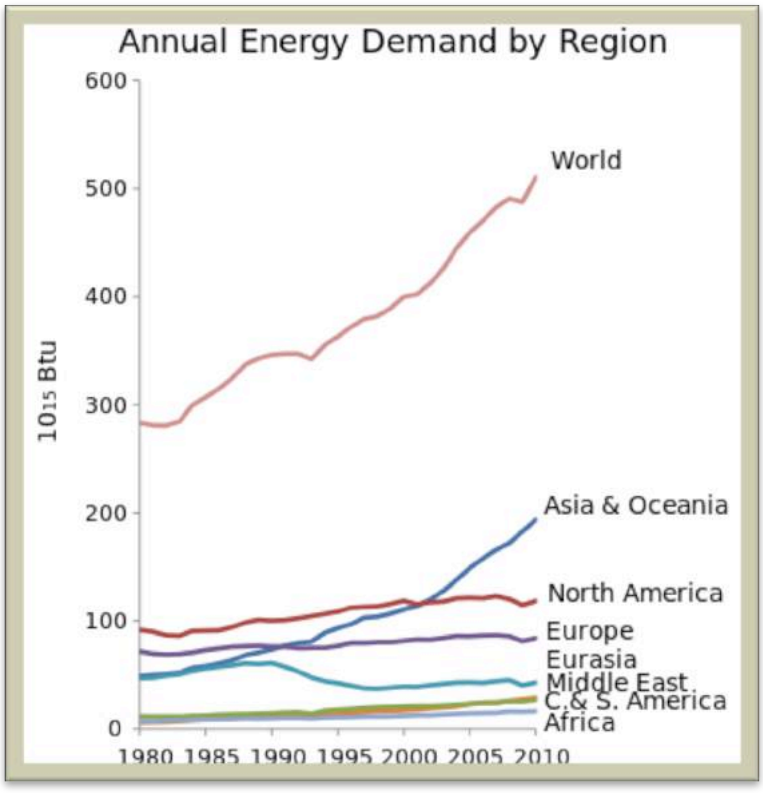
The Club is looking for a professional tower climber to install coax and a better antenna on the Club's repeater tower.

If you know of anyone qualified and insured to do such work, please contact Ted KF4FLY. Suggestions and sources for a good two-meter repeater antenna are also welcomed.

Tom KA4HKK, ARRL ARES EC for Caldwell County has announced a Caldwell County ARES meeting to follow the regular LARC meeting February 13. The agenda will include a discussion of issues for Area 12 coming out of the October Western Branch Meeting.

President's Message

As usual, I checked the weather when I got up this morning and noticed the weather-advisory message of preparing for another wave of the "arctic blast" expected to bring in some unusual cold and windy conditions. There were also a couple of additional bits of information that went beyond just the weather warning. These were in the areas of 1) preparedness and 2)energy usage/consumption/availability. Both of these topics strike an interest to me (and most likely you as well) because those are topics that typically draw the attention of those involved with amateur radio. Preparedness is easy to identify as a concern, but we don't always give as much attention to the energy topic. When we participate in Field Day we even get additional points for alternative energy dependency. The previous arctic blast resulted in over 7,800 customers dropping power in Catawba County alone. The problem was due to the spike of power usage in the early hours as people began their day. The additional load of electrical heat coupled with the normal demands of hot water, lights, and other morning start-up routines taxed "the grid" to maximum. At these times the provider (aka Duke) have in reserve gigantic generators to surplus those needs. Unfortunately, the need continued to escalate so Duke initiated their next level of conservation, the "Standby-generator" program. Those businesses that participate (my employer included) have agreed to fail-over to generator if requested and run as long as necessary to help alleviate the grid demands. We ran on generator about 4 hours 2 weeks ago and I expect we'll be requested to do so again this week. I'm not sure if the graph I include will be viewable, but the world usage of energy is escalating, especially in formally underdeveloped regions. Just as the phrase "no single drop of water feels responsible for the flood", we need to manage our global energy by managing individual usage. I encourage you to do a walk-through of your home and think about your power usage and be "frugal". Do you leave converters/transformers powered on unnecessarily? Do you transmit on high power when not absolutely necessary? There are many things you can do individually to help "the grid" without having to go to extremes and get "off the grid". I personally wish I could be power-independent, but until that day arrives, I'll settle for being a good steward of the power I use.



My Experiment With A Multi-Band Dipole

By Irv Kanode W4IWK

At the last LARC meeting, Tom KA4HKK presented a video on building a multi-band dipole. Since I have been working on constructing a multi-band dipole, I wanted to share some of my research and experience. This article is not a "how-to build" rather it's intended to get you thinking as you experiment with your own fan dipole.

The video mentioned that a multi-band dipole is hard to prune and tune because of interaction among the wires for the various bands. This problem can be eliminated by increasing the spacing between the wires per research by the Stanford Research Institute (SRI).

They found that there's little to no interaction if the wires at the center feed point are separated by at least 5 1/2 inches vertically and the ends separated by 38 inches for bands in the 2 to 18 MHz range. See the article at <http://www.hamuniverse.com/multidipole.html>

Recently, I put up an 80/40 multi-band dipole using this technique. Preliminary results confirm the lack of interaction. I'm playing with the height of the antenna so it's still a "work in progress." I'll probably add a 20-meter section. I used 2" wide electric fence polytape for the wires. This gives a wide bandwidth due to the large surface area. There are fourteen stainless steel wires woven into the polytape.

I got the idea from a vendor at one of this summer's ham fests. <http://www.kf4bwg.com/#file01>

The electric fence polytape and clamps are available at Tractor Supply. The polytape is $60 for 500 feet and has a breaking strength of 890 pounds.
<http://www.tractorsupply.com/en/store/zarebareg%3B-poly-tape-2-in>
<http://www.tractorsupply.com/en/store/zarebareg%3B-polytape-to-polytape-connector>

The support poles are from Max-Gain Systems
<http://www.mgs4u.com/fiberglass-push-up-mast.htm>

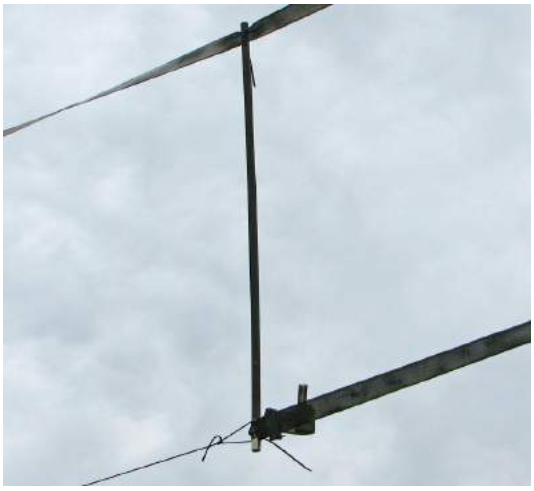
They sell fiberglass poles in various lengths and diameters so you can custom build telescoping poles or use one of their stock configurations. They have six-inch sample packs available for $5 to $12. I used 4 eight-foot sections at 2.5", 2.25", 2.0", and 1.75 for the center. The end supports are each made from 2 eight-foot fiberglass poles at 2.5" and 2.25" plus four feet of 2".

Note, the sections must overlap. I'm currently using a two-foot overlap because I live in a high wind area and the polytape has a higher wind load than typical antenna wire. The minimum overlap depends on the poles but it ranges from about 6 inches to a foot.

The first picture is of one of the end supports. The short section at the top is there to match the 2" inside diameter of the flagpole pulley. <http://www.amazon.com/dp/B0014CDT6A/ref=pe_385040_30332190_TE_3p_M3T1_ST1_dp_1>

The excess polytape is rolled up until I decide on a final length. (The clothespins have held for a month)

For the spreader, I used 1/2" CPVC pipe. I fastened the polytape to the pipe by drilling a hole in the pipe on either side of the polytape and used a wire tie through the holes and around the tape. I was spray-painting the tape and CPVC a dark green when it started raining. It was too much rain to continue painting but not enough to stop me from putting up the antenna. I'll finish it later.



At the center feed point, I duct taped a 1:1 balun to a PVC pipe and added four eyebolts to support the fence tape. I made a loop in the tape using the polytape connectors and then put a carabineer between the loop and the eyebolt. I ran wires from the polytape connectors to the balun. The PVC pipe (with a cap) fits over the top of the fiberglass pole.

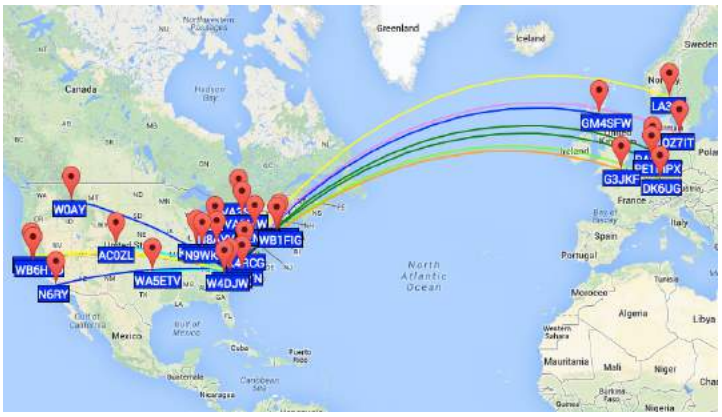
The end supports are adjustable from eight to about 14 feet and the center is adjustable from eight to 24 feet (with 2' overlap). I plan to use this antenna mostly for regional digital communications. I have a 20-meter vertical for DX.

I've been able to consistently check into digital nets out to 500 miles. Past there out to 800 miles, it's inconsistent.

The following WSPR screen captures for 40 and 80 meters <http://wsprnet.org/drupal/> show the stations that heard me when transmitting with 5 watts. (There are very few WSPR monitors or digital nets in the center of the country.)

I intend to play with the heights of the center and ends to see how that affects my range and pattern.

80-meters at night



40-meters during daytime. The clusters from NNE Texas approximate my ability to check-in to digital nets on both 40 and 80 meters.

I set the polytape lengths when the lower antenna was only 3' off the ground so neither band is pruned to the perfect length. After I try the antenna at various heights, I'll cut the polytape for minimum SWR at the center of the bands. Currently, I can tune the entire 40 and 80-meter bands to a 1.1 SWR with my Kenwood TS-480, which only has a 3:1 range. Without the tuner the SWR is:

40-meters
7.005 2.75
7.200 3.0
7.295 3.0

80-meters
3.505 3.5
3.800 2.0
3.995 1.75

When cut for the center of the bands, I expect to be below a SWR of 1.5 across all of both bands without using the tuner.

Know A Ham With A Kindle, Borrow a Book

Many Kindle books purchased from Amazon.com can be loaned from your Amazon.com account to a friend for two weeks at no cost. A number of ARRL books are available on Kindle, and most or all of them are marked as "Lendable" in the Details section for each book. If you have a "ham" buddy that uses a Kindle, maybe he or she has purchased some amateur radio books on their account, and just maybe they will let you borrow them!

To get a list of ARRL books that are available for Kindle, search on Amazon.com for: *ARRL Kindle*. For a broader list of books about amateur radio for Kindle, search for: *Ham Radio Kindle*.

The person borrowing the book doesn't need a Kindle--they can download a free Kindle reader for their computer. Just ask your Kindle owner to go to their "Manage Your Kindle," click the "Actions" tab next to the book title you wish to borrow, and complete the "Loan This Title" information. The title is automatically returned to the Kindle owner in 14 days.

NC QSO Party – February 23

Thanks to the hard work of its sponsoring club, the Raleigh Amateur Radio Society (RARS), the NC QSO Party this year will be bigger and better than ever. Digital modes have been added to phone and CW, and there are new categories of portable and roving operations, and even an emergency communications (EmCOMM) challenge award for which you need to pre-register. Full rules and details can be found at www.ncqsoparty.org The contest runs on Sunday, February 23rd, from 10:00 AM local (1500Z) to 8:00 PM local (0059Z). So far only 38 of North Carolina's 100 counties have stations agreeing to participate. In 2013, 97 of NC's 100 counties were activated. Let's get all 100 counties on the air!! This is the one time each year we can all pull together as North Carolina operators and let Hams around the world know that Tar Heels command the waves!

FCW Schedules Technician License Class

Foothills Community Workshop will be holding a Technician License amateur radio class on Friday, March 7, 14 and 21 and a licensing test on Saturday, March 22. Sessions will be 6:00-8:00 PM. Topics include Rules and Regulations, Station Setup, Basic Electronics, Operation, Radio Theory and Safety. The class sessions are FREE and the license test cost is $10.

At the License Test session, attendees can take not only the Technician test, but also the General and Extra tests. You do not have to have attended the classes to set for any of these tests.

Foothills Community Workshop is located in the old Shuford Mills building in Granite Falls, 10 Falls Ave, Bldg. 10B, Suite 1, 828-351-4225 http://foothillscommunityworkshop.org. Contact Michelle 828-754-5002 828-729-4071 michellesuddreth@bellsouth.net

FCC.GOV

The FCC has announced that it is transitioning away from its "transition website" page, which has been in place for the last 3 years. The Commission said the move, starting February 3, is in line with its plans to gradually wean users from the transition website.

"All content formerly on the old transition page, including links to popular tools and resources, is available on the FCC.gov home page, and personal bookmarks to items once featured on the old page will continue to work," the FCC has said. "Starting February 3, the transition page will redirect automatically to the FCC.gov home page at http://www.fcc.gov/. "

Work Continues on LARC Mobile Command

The "hammers" finished sanding the ceiling of the communications trailer and applied the first coat of paint at the January 11 workday. Additional hands are always needed so come one out to help on the next workday – it's great entertainment!

Caldwell County Kicks Off 2014 CERT Training

On January 23, Caldwell County Emergency Services kicked off its 2014 CERT Training series with FEMA IS-200.B: ICS for Single Resources and Initial Action Incidents. The class was well attended with 16 participants representing diverse interests of the County. Among the attendees were amateur operators Irv W4IWK, Tom KA4HKK, Ro K4HRM and Gene K1AVE.

Tentative dates for CERT classes are:
March 22, 1:00-4:00 pm, Mass Feeding, First United Methodist Church
May 12, 6pm, First Aid Training, Smith Memorial Church, 426 NW Woodsway Lane, Lenoir
June 21, 1:00-4:00 pm, Disaster Triage, Bethel Colony, 1675 Bethel Colony Rd, Lenoir
Future topics include CPR and a two-night Refresher class for current CERT members.

Class notices are posted to the CERT website several weeks in advance of a class. You can sign up for email notifications of these notices at <http://caldwellcountycert.com> Scroll down the home-page just a little and you'll see the email sign-up on the right-hand panel.

Everyone is welcome but please register with Kenneth Teague (828) 757-1419 kteague@caldwellcountync.org two weeks in advance of the scheduled date so that a class isn't canceled for lack of interest.

Links to CERT Manuals and Emergency Numbers
The CERT website has links to CERT manuals and training materials, plus a Countywide list of emergency contacts. You may want to print out the list of emergency contacts. One of the training modules is for CERT Emergency Communications. In this class, CERT members will learn: 1) the role of CERT in communications during activation; 2) how to use a communications plan; 3) the use of different communication modes and strategies; and, 4) how to use communication devices.

Both LARC and Caldwell County Emergency Services are welcoming ham involvement in CERT and encouraging CERT members to become hams.

Groups of roughly ten or more may request basic CERT classes to be held at their location. Classes have been held for church groups, clubs, and other organizations. CERT teams are needed in the southern part of Caldwell County so if you know of a possible group, please contact Kenneth Teague.

From The Last Meeting…

Attendees. Ted KF4FLY, Tom KA4HKK, Irv W4IWK, Phil KG4BCC, James N4NIN, Susan N4OJN, Tanner KK4SZI, Michelle KD4YTU, Scott KC4SWL, Ro K4HRM, and Rusty Jones K4SAA (guest)
Club Roster, Bank Accounts, Callsign Trustee. The new officers are working to transition the Club business matters pursuant to tax and legal requirements. Updates are underway on the membership roster, signatories for the bank accounts, and an address change for the Callsign trustee.
Club Billboard. Has been located on Hwy 321S below Hudson.
Club Trailer. Good progress is being made. A workday was set for Saturday, January 11, 8 AM to do a final sanding on the ceiling and start the painting process. Members were encouraged to come out on the workday even if they did not plan to work.
Club Equipment Inventory. An inventory list of all Club equipment is needed as part of tax reporting obligations. If you have any Club equipment in your possession, please make a list and get the list to Ted KF4FLY <Ted.Manuel@alexlee.com> or Irv W4IWK <kanode@mindspring.com> at or before the February 13 meeting. You don't have to return the equipment, just provide a list so we know what we have and its location. If you know of any inactive members with equipment, please forward this request to them.
Repeater Upgrade/Professional tower climber. The Club Repeater is in need of replacement coax cable and a new antenna. Agreed to explore replacement cable (James to get piece stored at Repeater, locate connectors, tools, tower climber and antenna. A professional tower climber to install the coax and antenna on the repeater tower is needed. Also, suggestions or sources for a 2-Meter repeater antenna are also welcomed.
Website. Further work is needed. Tanner KK4SZI and Phil KG4BCC agreed to get with Buck NP4PGWand Michelle KD4YTU to make recommendations.
Constitution/Bylaws Committee. The Committee was asked to present suggestions for resolving an amendment conflict between the Constitution and Bylaws at the February 13 meeting.
ICS 200 Class. Caldwell County CERT is offering an ICS 200 class at 6 pm on Jan 23 in the Health and Human Service Building training room. For more details visit the Caldwell CERT website. <http://caldwellcountycert.com> Both the Club and Caldwell County Emergency Services are welcoming ham involvement in CERT and also encouraging CERT members to become hams.
ARRL Centennial Yearlong QSO. The Centennial QSO Party is made-up of two main activities: (1) W1AW operating portable in each state and most territories; and (2) The Centennial Points Challenge which is the accumulation of points from qualifying contacts made throughout 2014. <http://www.arrl.org/centennial-qso-party>
Public Service. Discussed identifying local events where radio support is needed since the **Bridge**-to-Bridge event has been cancelled. Suggested follow-up at next meeting.
Program. Video on how to build a multi-band dipole.

Have pictures of your shack, station, and ham gear or radio adventures?

Send them to the Newsletter Editor! **We want to brag on you!** Also, we could use more photos of friends and faces from any recent or past ham radio gathering, meeting, or event.

Renew your LARC membership for 2014

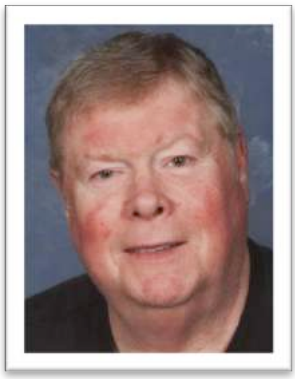
Pay your dues in person to the Treasurer or by mail at the LARC address shown on Page 1

Full Member $15/year Family Member $25/year
Associate Member $10/year Family Associate $15/year
Life 10 times/year

Know someone who is interested in amateur radio? Invite them to come with you to the next LARC meeting. Send their email address to the Newsletter Editor so they can receive the monthly Newsletter. Membership in LARC is not a requirement to receive the Newsletter.

LARC 2014 Officers

Ted Manuel
President
KF4FLY



Tom Land
Vice President
KA4HKK

Irv Kanode
Secretary
W4IWK

Phil Crump
Treasurer
KG4BCC

Editor for a Final

Ever think about why you should be a member of LARC? I can name at least 10 almost without thinking. Public service, Networking, Promoting Awareness, Assistance, Volunteer, Brotherhood, Enrichment, Exposure, Growth, Social.

Club participation is the best way to plug into the amateur radio hobby and to make a positive impact on the greater community. LARC can help you form relationships with peers who share the broad spectrum of radio interests, give you an opportunity to become a leader or contribute as a team member, raise awareness of the importance of amateur radio in the community, and make a lasting impact during emergencies.

Club participation can provide a creative outlet to share what you have learned in the hobby or to learn from others who have "been there, done that." Sticking with LARC for multiple years can provide a rewarding experience as you watch the Club and its members grow, and help shape the organization with your individual vision. Membership in LARC is NOT a requirement to attend meetings, programs, and events. If you are not a "joiner," you are still welcome to participate in every way (except you can't vote on Club matters).

Your involvement with LARC is what you make of it. While personal fulfillment is the principle aim, engaging in the amateur radio hobby can lead to you acquiring substantial skill, knowledge, and experience. Being a part of LARC is a natural stage for sharing this skill, knowledge, and experience by participating in programs and events that focus on the various aspects of amateur radio. Are you doing your part?

In this Newsletter, Irv W4IWK is sharing his experience with building a multi-band antenna. He wrote his article after seeing a LARC program and had resolved several of the issues notes in the program as being problematic. Several hams are working to complete the LARC communications trailer and exploring the upgrade of the Club repeater. Get involved with LARC, you will be surprised how much you can contribute and learn while enjoying your hobby!

Send comments concerning the LARC NEWSLETTER
to Ro K4HRM hrmaddox@nettally.com
Suggestions for articles are appreciated.