

J U N E 2 0 1 5

N4LNR

News & Views

P. O. Box 3276
Lenoir, NC 28645
<http://N4LNR.ORG>



*Serving Amateur Radio
In Caldwell County*



Save the Date!

Next LARC Meeting

June 11, 2015

Thursday, 7:00 PM

**2806 Gamewell Fire Dept
Morganton Blvd SW,
Lenoir**

LARC Weekly Net

Thursdays 9:00 PM

146.625 MHz Minus PL 94.8

Alt 147.330 MHz Plus PL 141.3

Caldwell ARES Net

Sundays 9:00 PM

147.330 MHz Plus PL 141.3

COMING
June 27-28, 2015

Field Day 2015 At June 11 Meeting!

The Lenoir Amateur Radio Club next monthly meeting is Thursday June 11th, 7:00 p.m. at the Gamewell Fire Department. Planning for Field Day 2015 will be the main subject for the meeting. There will be a video of the 2004 W3AO Field Day station titled, "The Last Big Field Day". This station operated as class 51A, the number of transmitters on the air.

The Lenoir Amateur Radio Club and the Caldwell Amateur Radio Emergency Service will be participating in Field Day 2015 with the help of Caldwell Emergency Management and the Caldwell Community Emergency Response Team (CERT). Field Day 2015 will be held at Redwood Park in Hudson on June 27th to June 28th, operating for 24 hours continuous starting at 2:00 p.m. on Saturday. Setup begins at 7:30 am, Saturday.



www.arrl.org

2015 ARRL FIELD DAY

HAM RADIO



Presidents Message

"Bus to Dayton"

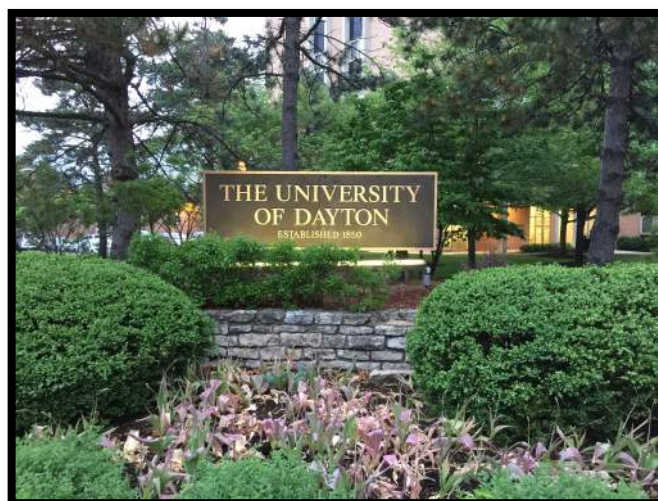
I arrived in Winston Salem with enough time to gather my thoughts and prepare my self for the Dayton Hamvention.

What was it going to be like? How big would it be? Would it live up to what I had built it up to in my mind? I saw the charter bus roll around the Lowes foods parking lot and I rolled my suitcase over to a few others that were waiting. Bill Lundy NC4BL walked down from the steps and welcomed me on board.

As I walked up the steps to the bus I thought to myself, I may be the youngest guy here. Would the other hams befriend me or would I spend the next 7 hours looking out the window hoping to get there. My expectations of this trip had been so built up, I didn't know what to expect. After I boarded that bus, everything that I thought was going to happen never came true.

The bus ride to Dayton was one filled with laughs and good stories. The other hams took me in as one of their own, like I had been on every bus ride in the last 17 years. Every time we stopped I made an effort to speak with a different group on the trip. My goal was to meet them all and what I found out was that each one had an interesting story to tell. There were several stops between Winston and Dayton, mainly to pick up others along the way. Each stop began by a welcome to all of the new operators joining the ride. The ride was fairly normal, we watched a few films, a few took naps, and stories were swapped.

After finally arriving on the campus of the University of Dayton I looked around and admired the scenery. It was a pretty campus, mostly brick, with trees and sidewalks abounding. Each of us were assigned a room and a Wi-Fi password and sent on our way. Bill mentioned to be back at the bus at 7 to go to breakfast and I spent the remainder of the night unpacking my things, making sure my batteries were charged and setting three different alarms on my phone. I was sure that I did not want to be late! The night passed and the alarm clock went off. After getting everyone back on the bus, we headed off to the Dayton Campus cafeteria for breakfast. We ate then we loaded back on the bus and started the drive to Hara Arena.



As we made our last turn, the arena started to come into view. We pulled up to the gate and I started getting excited. There was flea market as far as the eye could see and antennas and



towers scattered around the parking lot. I teamed up with another ham that had never been to Dayton. His name is David Hooper from the Watauga club. We decided to start in the east flea market area so we spent 4 hours walking the rows. There were all sorts of equipment for sale from the new to the very old. It was fun browsing though all of the old equipment, some rigs older than me. I thought to myself of all the QSO's that might have happened in the lifetime of the equipment.

Lunchtime arrived so we finished the east flea market and made our way back to the bus. Bill furnished sandwiches from the University cafeteria and the air-conditioned bus was a pleasant oasis after the warm sun of the morning. After eating and getting our energy back, we decided to check out some of the exhibits in the arena. There were booths for all the big names in ham radio, Kenwood, ICOM, Yaesu and many more. There were dealers from all around selling their wares. As we walked down the rows we saw new antenna designs, software defined radios and CW keys that were touch operated. We spent another 4 or so hours roaming several of the buildings. As the time neared for us to head back to the bus, we wondered how much of the Hamvention we had finished. After looking at the map, we figured out we had only seen about half of the Hamvention. We still had another half to go and we still had not checked out the many different forums they had!



After dinner we headed back to the rooms and talked with each other about the good deals we had found and what we had bought. I took a shower and lay in the bed looking through magazines collected from various vendors. We started to plan out how we might start the next day and finally we went to bed, eager to wake up and do it again.

Day Two. We left the dorms for Golden Coral for breakfast. After filling ourselves with the various food options, we headed back to the grounds. Today I struck out on my own, confident that I would be able to tackle the rest of the Hamvention. I started out looking at the flea market section that I missed the day before. I could not believe how much stuff was for sale. Everything from computer parts to various models of used equipment. As one ham on the bus put it, "If they don't have it here, you don't need it!" It took me a few hours to finish the rest of the flea market. It was good thing to, as rain began to sprinkle in and out. When one shower started to throw down steadier rain, I ran inside and started looking through the vendors once again.



There was something new around every corner. So many new inventions and at the same time so many favorites of years past. I turned the corner to see a booth manned by Gordon West himself. He was congratulating a ham on getting his general and tech license that day. Many of you may have gotten your license with the help of one of his guides. Around another corner was the Heil booth where Bob Heil was chatting with someone about microphones.

As I made my way back into the final hall, I saw a large antenna. It was made by LUSO, a company based out of Japan. A ham in the states ordered it and they brought it to the Hamvention to show. It was crank up tower standing 145ft tall. When I stood beside it was as wide as I am tall. I got someone to take my picture beside it where I saw the price tag,



Walking back through the hall, I was pleased to find the Connect Systems booth. I saw the CS800 mobile radio everyone is talking about and asked Jerry Wanger and his partner about the features of the new CS750.



Making my way back to the main arena I breathed a sigh of relief. I had gotten to see most everything at Dayton. It took me almost two days but my mission was complete.

I decided to try to go to some of the forums in the afternoon. On the way to the forums, I noticed the ICOM booth was taped off and it looked like they were getting ready to record something. This peaked my interest and I realized that they were soon going to record a “Live from Dayton” episode of *AmateurLogic*! The show began with a few technical hiccups and I stayed around long enough to get in the shot of the crowd that they put on the show! Look for me on episode 78!

I headed to a forum about Digital Radio on HF. The presenters were announcing a new radio that would hit the market soon. The radio ran a webserver, which you could connect to with your computer, tablet or smartphone. They said this was going to revolutionize the radio market and they were hopefully ushering a new era of radio. We will see if their prediction comes true.



Wow, the day went fast! Before I knew it, it was 4:00. I wanted to check out the flex radio systems booth one more time so I stopped by there and realized after that I only had about 30 minutes left at my first Hamvention. I was a little sad as I walked through the parking lot and what was left of the wares in the flea market. I slowly made my way back to the coach soaking in every minute of time I had left. As I boarded the bus, many of the hams asked me how I liked my first Dayton Hamvention. I told them how amazed I was and they smiled. I knew that they had that same feeling the first time they went. We headed to the pizza place we ate at the first night and enjoyed another meal as a group. Bill made some final announcements on the way back to campus and we all hauled our scores back up to the rooms. We began to pack up our things and get ready for bed. Tomorrow morning we left for home.

The bus ride home was a little quieter than the way up. Everyone was tired after walking 5-10 miles in the last couple days. We stopped at a few rest stops and then made our way back through the longest leg of the trip through West Virginia. I had never been through West Virginia prior to this trip so on the way through I admired how beautiful the mountains around us were. After a few hours of driving, Bill announced that we were stopping for lunch. We pulled into Tamarack in Beckley, West Virginia.

The building had an interesting shape almost in the shape of a star. It features wares and crafts made by people from West Virginia. We soon found out that the food pretty tasty too and then we made our way back to the bus. We watched a movie to pass some time and soon enough we were dropping people back off at their stops. Each time the bus door opened a few got out and the bus got a little quieter. As the bus made its way back into the parking lot, I gathered my things and said bye to the group. My first trip was over but it will never be forgotten.



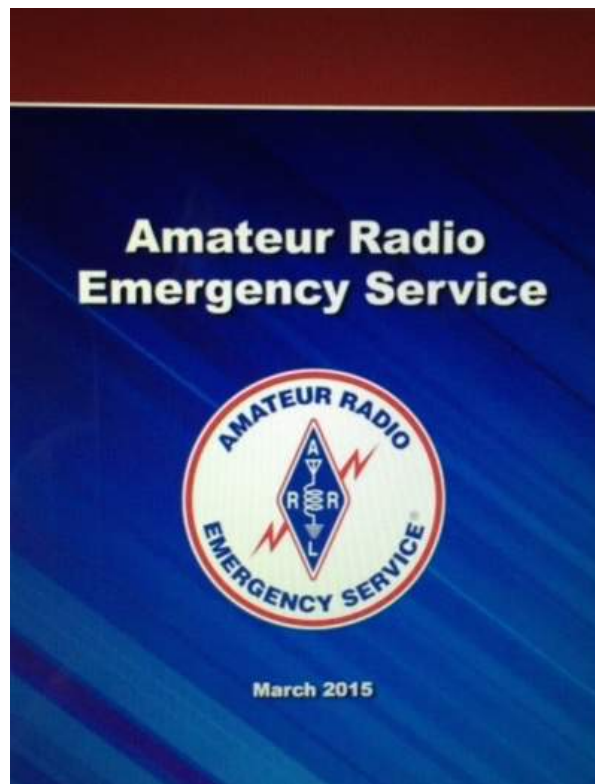
Dayton Hamvention. It is everything everyone has ever told you. There is a huge flea market and all of the major and minor vendors are there. It really is an impressive thing to go to and something that should be on every ham's bucket list. If you every get a chance to go, I urge you to take it. I would love for us to take a Club trip up there next year. If anyone is interested in doing that, let me know and I will start trying to get information together.

The one thing that surprised me about the trip was how much I was inspired to get even more into the hobby by seeing all the different aspects and avenues that exist. This month try something new into the hobby. Get on the air, and learn something new!

73 Tanner Greer KK4SZI

Updated Amateur Radio Emergency Service Manual Now Online

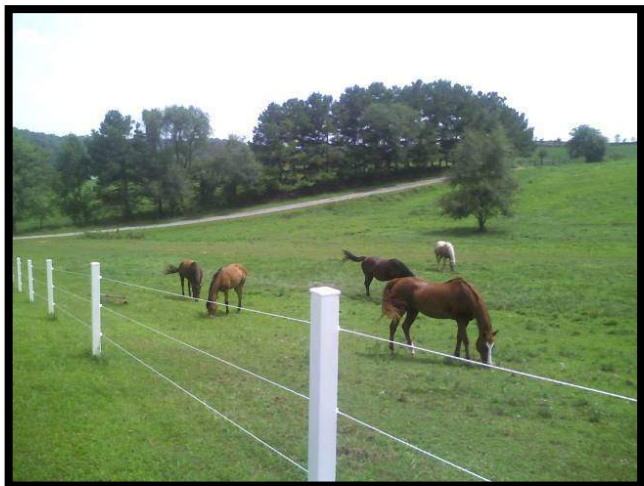
The [latest edition](#) (March 2015) of the *Amateur Radio Emergency Service® (ARES) Manual* now is online. This edition includes various Incident Command System (ICS) forms for ARES use, clarifies the role of the Radio Amateur Civil Emergency Service (RACES), contains an improved chapter on ARES training, and includes all current ARRL memoranda of understanding/agreement. ARES consists of Amateur Radio licensees who have voluntarily registered their qualifications and equipment for communication duty in the public service, when disaster strikes. Every licensed amateur, regardless of ARRL membership, is eligible to apply for ARES membership.



Mobile Emergency Shelter Deployment

Caldwell County CERT deployed a 12' x 16' emergency shelter, including power and air conditioning, to demonstrate their ability to be operational onsite within 30 minutes when needed during an emergency. CERT will set up the shelter for use during Field Day 2015 so the community can see this new capability.





My Search for Quiet!

By Gene Rozea K1AVE

What could this beautiful peaceful view possibly have to do with what was supposed to be a simple search and quiet mission that turned into my month long adventure?

Let's start at the beginning. My life on HF was difficult if not impossible on some days – raspy buzzing noise wiping out HF bands, sometimes 25 Db/S9 from 75 through 15 meters, the strongest around 7 Mhz. The external signal had a strong 60 120 Hz audio component. There is generally high background level (S7-S9) in the area that has lots of power lines crisscrossing all over the place. The noise problem is worse on dry days.

So, was my noise problem local in my house or external, or both? I needed a plan to sniff out RFI. I started with a walk around the house with a broadcast AM radio — getting close to any switching power supplies -- wall warts for phone, cabinet lights, cable modem, router, tv cable box, CFL and LED lights and controllers are all suspect.

I found a several really ugly sources.

Under the counter LED strips – great lights, but a roar on 40 and 30 meters! Solution: Keep them off!

A bad power supply for one wireless phone – measured 9.7 VDC unloaded, supposed to be 12 VDC loaded. Solution: Replaced with a new one!

The Hutch light in the kitchen was a serious offender. This is one of those “Touch on-Touch off” interior lights. Really trashy broadband noise when just plugged in. Solution: Unplug!



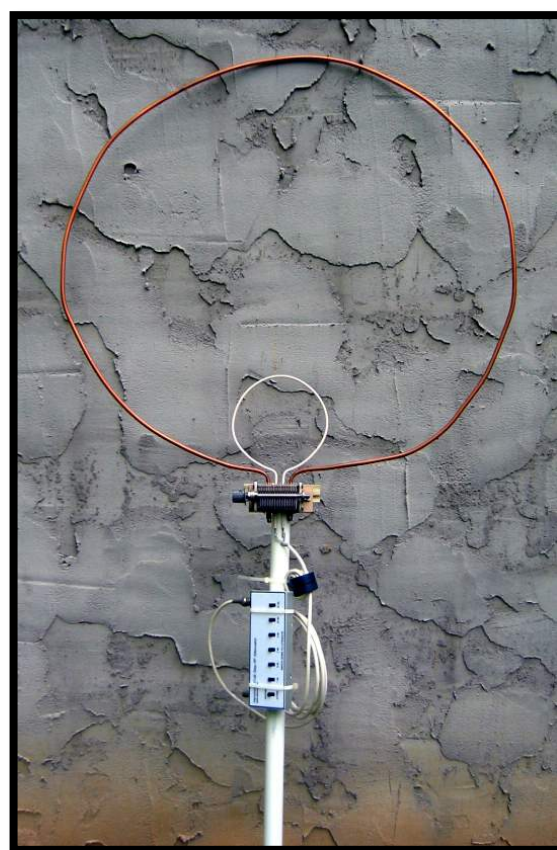
Next, I set up a shortwave receiver tuned for maximum noise around 7 MHz and turned off the house circuit breakers one by one. It appeared that the noise level didn't appreciably change. There was a broad, buzzing noise that could be heard from about 3.5 MHz up to 17 MHz and it peaked in the low end of 40 meters around 7.05Mhz. I took a look at the audio with the **Spectran** program and saw peaks at 60 Hz increments – 60, 120, 180, 240 and on up. That pointed to AC power with arcing on the voltage peaks. On some days it was stronger than 20 DB/S9 -- making HF unusable.

Now, my search had to move outside. First, I researched RFI noise, finding articles on electric fence noise and potential solutions. Even though the "my" noise wasn't the typical pulsing described for electric fence, I figured the process described to track it down would apply.

A QST article (November 2014) on Direction Finding described a custom-build loop. Since it described how to build the loop, I made one centered around 7 MHz from some icemaker copper tubing, PVC pipe, and an air variable cap from my junk box.

This is a tuned loop with a very narrow bandwidth and is highly directional. The attenuator prevents receiver overload when close to the source. Without it, the signal was too strong to find a null within 100 yards or so.

I also built a 6 element UHF Yagi (search Google "cheapyagi" for details) from a piece of $\frac{3}{4}$ " PVC pipe, some aluminum ground wire, some #10 copper wire, and a BNC connector.

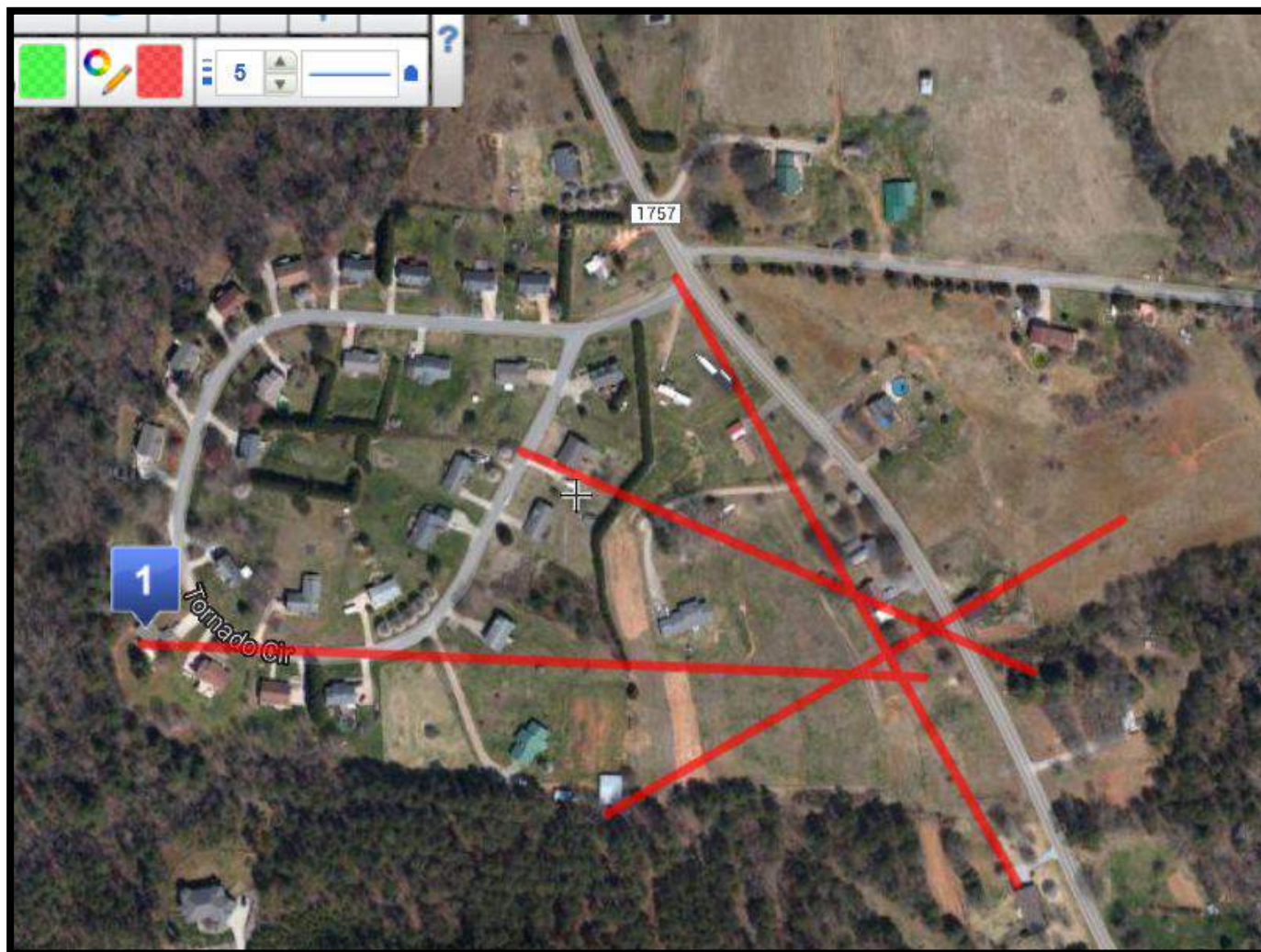


Then, I charged a battery was ready to put the trusty Yaesu FT-817 to work.

I put on an orange safety vest to prevent being shot, grabbed the FT-817, hooked up the HF loop and off I went.

With the FT-817 set to 7.000 MHz AM, I tuned the loop for maximum noise. I began walking around the area taking directional readings with compass and loop. The reception pattern of the loop has a strong null perpendicular to the loop face. A 10 over S9 signal would disappear completely when the loop faced the noise source!

When I got back home, I overlaid the directional readings onto the map. The lines generally converged in an area about a quarter of a mile east.



Now, it was time to search the area where the lines converged. As we walked around the woods to the right, the noise was so strong that it appeared to be coming from all directions. I switched in some attenuation to prevent the receiver from being overloaded and discovered a pasture with six beautiful horses grazing. Around that pasture was an electric fence. I switched to the Yagi and set the FT-817 to 435 MHz AM and was able to identify several "live" spots on the fence line. One was a simple splice. When we got close, we could see and hear the arcing! Another spot was where the wire had broken through its insulator and was arcing to the rusty corner post.

So, now what? We had identified the problem area, but we needed to see if the fence owner would either repair the fence or let us try to do it.

A couple of days later, armed with a copy of an old ARRL article, I knocked at the farmhouse door and explained that I thought their fence might be causing static on the radio and left the article, with my home phone and call letters on the front page. About two hours later, a gentleman called and asked if I was the one who left the information on his door and if I really thought that his fence, over a quarter of a mile away, was the problem.

"I believe it is", I said. He asked if I was near the radio and I was and tuned it to 40 meters on AM and held the phone to the speaker. He unplugged the fence power supply and most of the noise disappeared. "Yup" he said, "I'll get my son to walk the fence line and fix the problem spots".

It's great to have friendly neighbors!

Three days later the majority of the noise was gone. There is still a strong hiss that sometimes reached S8-9, but on CW with a narrow bandwidth filter in use I can still have fun with 75 watts and chat half way around the world!

73 Gene K1AVE

For additional information, see:

November 2014 ARRL QST: Locating RF Interference at HF

April 1996 ARRL QST: Electric Fence Interference—A Case History



FCC Eliminates Amateur Radio Vanity Callsign Regulatory Fee

On May 22nd, the FCC announced it is eliminating the regulatory fee to apply for an amateur radio vanity call sign; however, this will not take effect until the required congressional notice has been given. For further information, see

<http://www.arrl.org/news/fcc-eliminates-amateur-radio-vanity-call-sign-regulatory-fee>



LARC Supports Rotary Cycle To Serve Race

The Lenoir Amateur Radio Club provided communications for the Rotary Cycle To Serve Challenge on Saturday, May 9, 2015. The Challenge gave participants the choice of riding 25 miles, 40 miles, or 62.25 miles, entirely within Caldwell County. Proceeds from the bicycle ride are used for the Rotary Club's charitable program.

Tom KA4HKK, Tanner KK4SZI and Phil KG4BCC operated Net Control for the event from the Caldwell EOC using VHF, VIPER and DMR, using an interoperability link. This link allowed operators access to all modes. Ted KF4FLY, Irv W4IWK, Shirley CERT, and Josh N4JDE provided communications at the Aid Stations, in sweep vehicles, and with the road marshals. 156 riders participated in the event.



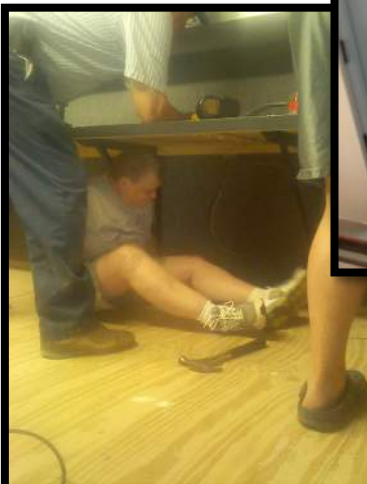
Trailer Work Continues

Major progress has been made in recent days on the Communications Trailer build-out! The “hammers” have installed the electrical and DC wiring, flooring, heater and baseboards. The trailer exterior has been cleaned in preparation for the wrap that identifies it as LARC.

Future workdays will involve station grounding and other items essential for its use at Field Day 2015.

Radio and support equipment needs are being identified and will be presented to the Club members for approval to purchase.

Be a part of the progress! Join the “hammers” on the scheduled workdays!



Field Day 2015 is June 27-28, 2015



Mark your calendars, dust off your equipment and make plans to join LARC in a 24-hour public demonstration of amateur radio skills and readiness for disaster response. Tom KA4HKK is coordinating this event. Please contact Tom and volunteer to assist in setup/take down of stations/antennas, station operation, overnight operations, and food service. Help make this event a success!

Field Day is filled with fun--setting up antennas and stations, operating thru the night, plenty to eat and fellowship galore. You think about going to Field Day, but don't want to try your hand in the Field Day contest because you are new to the "sport" or just a little rusty. Well, that's what Field Day is all about—a chance to get your feet wet and build your skill. Here are some suggestions for jumping in headfirst!

The Contact

The first thing you have to do is make a contact—whether you are working voice, CW or digital. There are two ways of making contacts: "running" and "search and pounce." "Running" is simply sitting on an open frequency and calling CQ. It is the most efficient because the other stations come to you. Start out with "search and pounce" which is just searching the frequencies for someone calling CQ. When you find someone calling CQ, just give your callsign once, using standard phonetics, and listen to see if they come back to you. If not, try again.

The Exchange

The main thing about a Field Day contest is the exchange. After the other station has come back to you and probably given his exchange, you should give your exchange. For Field Day, the exchange is the "Entry Category" and "State". So you would say "4 Alpha North Carolina". And you are done.

Log the Contact

Now you log the contact in the Field Day logger and move on to the next one.

It is Really That Simple! To summarize:

1. Find a station calling CQ: "CQ Field Day, CQ Field Day. This is Whiskey 2 Alpha Bravo Charlie Calling CQ Field Day"
2. Call him: "November 4 Lima November Romeo"
3. He answers: "Kilo 4 Sierra Bravo Zulu, 3 Alpha New York"
4. You give your exchange: "4 Alpha North Carolina"
5. He responds: "November 4 Lima November Romeo, Thank You. This is Whiskey 2 Alpha Bravo Charlie"
6. Log the contact

But Wait!

This is the Field Day. Everyone is going to want to work YOU. You can't effectively use "search and Pounce" when you are the fox and they are the hounds. They will be using the "search and pounce" technique. You almost have to RUN. Don't worry... It is also easy. You just sit there and wait for them to come to you.

Calling CQ

First you need to find an open frequency. Once you do, say, "Is this frequency in use?" and pause. When you find an open frequency, hold on to it. Don't pause for too long in between CQs or exchanges. Any longer than 30 seconds and you are likely to lose the frequency.

You simply call, "CQ Field Day" a couple of times and give your callsign phonetically. Pause a little, and then call again until someone calls you. If things get hot, you may only have to say it once and give your call twice before waiting. Sometimes, it is good practice to add a CQ at the end for someone who is just tuning by: "CQ Field Day. This is November 4 Lima November Romeo, November 4 Lima November Romeo, calling CQ Field Day".

The Contact

When you hear someone give their callsign on your frequency, simply give them the Field Day exchange "4 Alpha North Carolina". They should come back with their "entry class" and "state". When they have finished giving their exchange, you need to say thank you, log your contact, and move on to the next contact. Hopefully, you will have someone else already waiting to work you. This is called a pile-up. If you don't, then start calling CQ.

Come out to Field Day 2015! Be an operator or contact logger. You are NEEDED!



From The May Meeting



Attendees. Tom KA4HKK, Josh N4JDE, Susan N4OJN, James N4NIN, Ro K4HRM, Scott KC4SWL, Irv W4IWK, Phil KG4BCC, Shawn KI4ZKP, Blair KM4DOQ, Michelle KD4YTU, Robert Wood WR4LW Guest, Dustin Garnes KK4PRT Guest, John Crowe N4LBX Guest.

Program: Irv Kanode W4IWK did a presentation on solar powering a ham station.

Membership: The following were approved: Blair Hanvey KM4DOQ renewing, Dean Norman WA4SLI new, Daniel Wilcox KM4EVJ new, and John N4LBX and Adelia Crowe new.

Public Service: Tom KA4HKK reported on the Hibriten Hill Run, Rotary Cycle to Serve Race, and the Catwaba Valley Hamfest events supported by the Club. He asked for volunteers for the NC Blackberry Festival on July 11 and noted the Fire & Life Safety Festival and the Lenoir BBQ Festival are coming up. Tom discussed preparations for Field Day 2015, including the use of the Caldwell EOC Emergency Shelter. He encouraged all to participate either in setup/takedown, feeding, operating and logging.

Communications & Antenna Trailers: Work is continuing at a good pace with plans to have both operational at Field Day 2015.



Places to be...People to see... Mark Your Calendar

June 13: Winston-Salem Hamfest, Forsyth Amateur Radio Club, Winston-Salem, NC, see <http://www.w4nc.com>

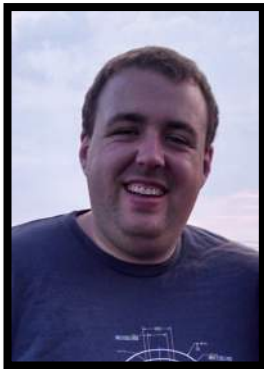
July 11: 30th Annual Firecracker Hamfest, Rowan Amateur Radio Society, Salisbury, NC, see <http://www.rowanars.org>

July 18: Mid-Summer SWAPFEST, Cary Amateur Radio Club, Cary, NC, see <http://www.qsl.net/n4nc>

July 25: WCARS Hamfest 2015, Western Carolina Amateur Radio Society, Waynesville, NC, see <http://wcars.org>

September 5-6: 59th Annual Shelby Hamfest/Roanoke Division Convention, Shelby Amateur Radio Club, Shelby, NC, see <http://shelbyhamfest.org>

LARC 2015 Officers



Tanner Greer
President
KK4SZI



Tom Land
Vice President
KA4HKK



Josh Edwards
Secretary
NAJDE



Phil Crump
Treasurer
KG4BCC

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