

January, 2020

THE VOICE OF LARC

N4LNR



Lenoir Amateur Radio Club Newsletter

Events

Winter Field Day

Sat. Jan. 25, 2:00 pm
Shuford Mill
10 Falls Ave
Granite Falls, NC

HAM License Exam

Sat. Feb. 1, 10:00 am
Foothills Community Workshop
141 N Main St.
Granite Falls, NC

Next LARC Meeting

Thu. Feb. 13, 7:00 pm
Gamewell Fire Dept.
2806 Morganton Blvd. SW
Lenoir, NC

Charlotte Hamfest

Fri. Mar. 13
Concord, NC
www.charlottehamfest.org

Raleigh Hamfest

Sat. Apr. 11
Raleigh, NC
www.rarsfest.org

Catawba Valley Hamfest

Sat. Apr. 25
Morganton, NC
www.cvhamfest.com

Farewell 2019! Happy New Year 2020!

We ended 2019 with a Eatin' Meetin' at the Mayflower Restaurant. We had a fun Dirty Santa gift exchange! A Good Time was had by all.



New Year, New Leaders

Lenoir Amateur Radio Club welcomes its new leadership of 2020.



**President
(KN4AYD)**

Mitch Mast is a resident of Granite Falls, NC. He joined the Lenoir Amateur Radio Club in 2017. He is a US Army Veteran who served 23 years of service and is experienced in the field of Communications. He enlisted in the Army in 1988 as a Radio Operator – Maintainer (MOS 31C) where he supervised, installed, operated, and performed maintenance checks on radios. During his time of service, he has worked with telecommunications systems and networks, including radio, switching, cable, and automation equipment. He was an instructor and trainer of frequency hopping, AM, FM, HF, and UHF radio systems. He was involved in coordinating the communications within Army operated Signal systems and networks, and between Army, Joint, Defense and commercial telecommunications activities. He currently holds a Technician license.



**Vice President
(W5TWR)**

Ed Crowell is a resident of Taylorsville, NC. He has been an Amateur Radio Operator since 1953 as WN9DNK. He discovered amateur radio through his Dad, a neighbor, and his dad's friend who all were radio operators. He updated to Technician and General in 1954. In 1969, he passed the Advanced license and then the Extra Class. He was given W5TWR in New Mexico while serving in the USAF at Kirtland AFB in 1972. He was the Vice President of the Caravan Amateur Radio Club, and President of the Winona Amateur Radio Club (Minnesota), and The Villages Amateur Radio Club (Florida). He built a Heathkit AT-1 and bought a Hammarlund HQ-129X. Over the years he has built most of the Heathkit line and operated the Ham Bands. He had AM, CW, FM, ATV, Packsats, digital modes (PSK-31, RTTY, Winlink, D-Star) and was a Sysop for D-Star Node, W4VLG. He left the Node in The Villages and it is still in operation in Ocala, FL. His interests include Packet Radio, FL NTS Nets, and BB-Mesh. He was DEC of West Central District, FL. He has been a regular participant in Skywarn, and ARES. He is a member of ARRL and QCWA (66 YRS). He is a VE and License Instructor.



**Treasurer
(K4HRM)**

Roberta "Ro" Maddox is a resident of Hickory, NC and has been a LARC member since 2011, serving as Treasurer in 2016 and 2017, Newsletter Editor 2013 until 2019, and assists with public relations for Club events. Ro began her career as a untrained radio operator in central complaint in the Escambia County (FL) Sheriff's Dept. During her second week on the job, she was covering the radio while her trainer was at lunch and a jail break happened. She earned her badge in calmly handling the dispatch of units later capturing the escapees. That experience began her long fascination with radio. She obtained a novice license in 1976, but life got in the way and she later returned to radio in 2001. She currently holds a General class license.

Ro was a university administrator with the Florida Board of Regents, the governing body for 12 universities. In her 30+ years, she has broad experience in finance and budgeting, construction, information systems and employee relations, having responsibility for a \$4.3 billion annual operating budget, \$900 million construction budget, systemwide data systems, and chief negotiator and policy for 90,000 employees. She designed public-private financing packages for stadiums, dormitories, and hospitals.

She also was a legislative lobbyist and wrote numerous bills enacted into law. During any emergency affecting Florida (i.e., hurricanes) she was relocated to the Florida Emergency Operations Center as liaison for all of education in Florida with the state EOC, ensuring resources (personnel, space, facilities) were available or recovery.

Upon retirement, Ro volunteered full-time for 6 years with the Jefferson County (FL) EOC and the Capital Area Red Cross. She was the ARRL EC for Jefferson County and designed the amateur radio station in the new EOC facility. She was a Director of Disaster Services in the Red Cross volunteer system and was responsible for direct supervision of recovery response in 8 coastal counties.



Jeff Tickle is a resident of Lenoir, NC. He has been a HAM since 2014. He currently works in IT Infrastructure at Appalachian State University. Following in the footsteps of his father and his great grandfather, he would like to advance in amateur radio. He is interested in learning more about digital communications and analog electronics. He currently holds a Technician license.

**Secretary
(KM4AYW)**

Marvin Hoffman



Early January during our first meeting of the year, LARC had the pleasure of meeting Marvin Hoffman (WA4NC), the new North Carolina ARRL Section Manager. He is a resident of Boone, NC and a member of the Watauga Amateur Radio Club. In April he is to succeed incumbent Section Manager Karl Bowman, (W4CHX,) of Raleigh, NC.



President's Comments

Mitch Mast (KN4AYD)



Hello everyone,

It is 2020 a new year. I am excited and honored to be elected as the Lenoir Amateur Radio Club's President for this year. I look forward to doing everything I can to continue to make LARC an exciting, relevant, and forward thinking organization.

Hobbies are wonderful and time consuming and as many members have already discovered can lead to securing relationships for life. They also can lead to financial stability as in a job or extra spending cash for the hobby itself. They only continue if there are new members joining and carrying on the hobby and this can only be accomplished by having a fun engaging educational mentoring program. This is the area that I want to focus on this year. In order to do this we will have to take care all of the previous things that the club has brought up and to have a long term plan drafted and approved. We have an excellent group of experienced officers which I will be looking to lead the club to greater heights. We have a solid foundation that has been given to us by our predecessors making it more concrete is one of the goals of the newly appointed officers.

Thank you for all the support you have given LARC and I look forward to working with all of you to expand the hobby, making it fun and exciting. KN4AYD 73

Mitch Mast

Technician License Prep Class

LARC held a Technician License Prep Class Jan. 11 - Jan. 25 at Foothills Community Workshop in Granite Falls, NC. The study included subjects in FCC rules, radio operations, wave propagation, antennas, electrical principles, and safety. The students were required to practice the phonetic alphabet and use it to say their own name. They also had the opportunity to view the inner-workings of various equipment and saw a live demonstration of getting on the air by LARC members.

We had a great turnout and the instructor Gary Schwartz (K3OS) did an excellent job in keeping the audience attentive. Remote students not able to attend class in person were able to live stream the sessions. A word of thanks goes to Scott Hunt (K4SEH) for his expertise. He helped set up the equipment and connection to make the live streaming possible.

The course sessions were recorded. The materials, web addresses, and sample exam sites are free and available for download. Please contact Gary Schwartz [**garysch69@gmail.com**](mailto:garysch69@gmail.com) if you are interested. *An exam session will be held at Foothills Community Workshop Saturday February 1 at 10AM for all license classes.*



The Tale of Voltage Drop

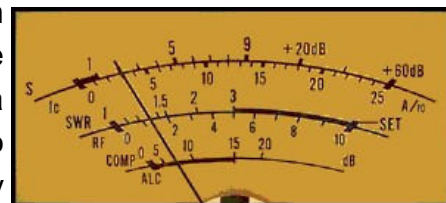
How Easy It is To Be Fooled

By Gary Schwartz (K3OS)



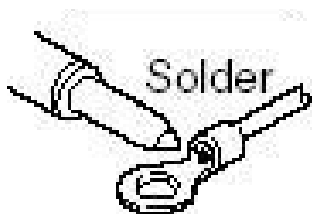
I just got home from the Cycle to Serve and decided to dig into the issue of my mobile rig not operating properly on just the battery. The engine had to be running. Yes, I had taken the easy way out running the power lead from the internal fuse block instead of directly to the battery. I had automatically assumed that this was the culprit. Grabbing the voltmeter and the SWR from the work bench, the car was backed out of the garage and the trouble shooting begun.

First, the SWR of the antenna was checked. It turned out to be fine on both 146 and 440 Mhz. Slipping the meter leads into the quick release power connectors, the problem became instantly apparent. There was a two volt drop. Without the car running, the transmit voltage dipped to 10.8VDC, way too low for decent operation. With the motor running barely 12V was present. Time to put it on the bench.



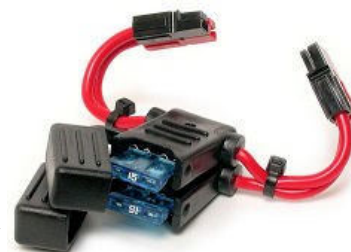
There was a three-foot cable with three in-line fuses and an automotive-style quick disconnect. Also, in the wires were two fuses in the positive lead and one in the negative. The rig is a decades old Yaesu FT-5200 dual bander. The power leads were typical of that era. Connected to the bench power supply regulated at 13.8VDC, the power output measured 40 watts on two meters. A bit low, but it's old. Then came the voltage measurements. The same two-volt drop was found on the three-foot cable! Yikes.

I gripped the PTT and held it for 90 seconds while I sensed the cable, fuses, and connectors for any heat. Sure enough, the old automotive disconnect was getting warm. All the connections were crimped and looked OK, but since I had switched to Power Poles, that disconnect wasn't needed. It was clipped out and the wires spliced with automotive crimps. Another transmit for 90 seconds found a section of wire getting warm. Out it went. Testing revealed some heat on the negative lead fuse holder. I ripped it apart, sprayed DeOxit cleaner on the fuse and the holder and reassembled. It still got warm under transmit. The fuse connections were crimped and to my eye, were very clean. Perhaps a broken wire, as wires can become "work" distraught and break inside the insulation. A couple of sections were cut out to no avail.

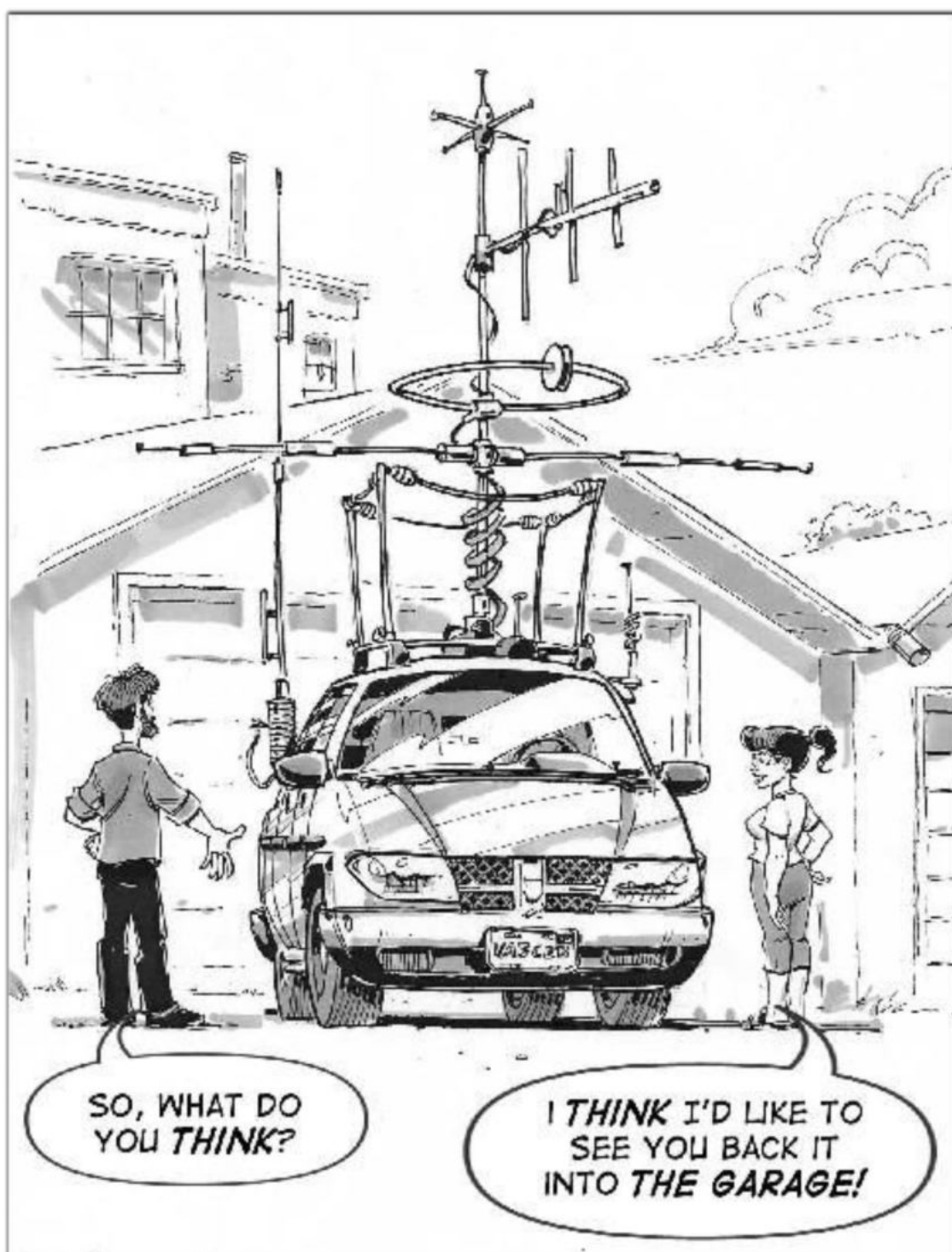


There was only one more thing to do, which was to solder the crimp connections. Bingo! The voltage drop went down to a few tenths and there was no more heating, the power output increased to 45 watts and the front panel light didn't dim on transmit. What apparently had happened is that over the years the crimp connections had corroded due to, most likely, the dissimilar metals, i.e., copper and aluminum. That corrosion acts exactly like a resistor.

Dissimilar metals aside, this is not the first time I have encountered heating in fuse holders. Todd Sutherland, (KI4FVO) had the same issue with his Kenwood HF rig. A previous owner had installed an in-line fuse holder that didn't have sufficient power rating for the radio. It heated up just like mine. It was not the amperage rating of the fuse, but rather the wire size used in and out of the fuse holder. Unfortunately, it couldn't be soldered, but the local automotive supply store had one that would carry the current, and the problem was solved.



The lesson learned is that one can never take things for granted just because they look good.



Communication Trailer

In 2019, the club had a couple of work parties to get the communication trailer ready for upcoming Field Day. James (N4NIN) arranged for a great deal at Sun 'n Fun in Florida for the club to acquire a new 7000-watt generator.

Previously, the club had relied upon James' own personal generator or Caldwell County's large generator for special events. James' generator was really a bit small, especially during cold weather when the wall strip heater would be needed. The club wanted its own so we didn't have to always depend on the availability of the County's generator.

Hence, our first work session centered on installing the ramps that Dick (K0CAT) had built up, so that we could roll the generator up into the trailer. We also had to devise a method to securely hold the generator in place during transit.



Dick was down on the concrete floor with one (bare) knee to feel where the steel understructure was so that we could avoid drilling into it when installing the floor D-ring hold downs.

During this process, Dick got quite a surprise. A shock! Electricity jolted him when he touched the metal frame!

After much wire tracing, it was determined that some "idiot" had installed a receptacle box and reversed the hot lead with neutral in the garage Mitch (KN4AYD) was renting.

Dick luckily only received about 30-40 volts AC; just enough to make life really interesting! He then became the suggested "test subject" as further ground/wiring testing proceeded!

Here's the generator in its "home" position ready for transit.



Here's the comm trailer's breaker box area and the RF ground copper tubing.



Gary (K3OS) concentrated on checking and helping out rewiring some of the AC breaker box and other issues. Gary volunteered to be the one to try to pull a muscle to get into the cramped power area and then to turn his head at the same time as using tools. Not easy! It's one thing to crawl into that position, but absolutely different to then twist your body, lift your head and then use both arms to work over your head. Dick tried it, but then was pulling a muscle. That's when Gary slid in there and figured out how to do it without visiting a chiropractor.



Gary and James considered different AC supply options to the trailer for the 240VAC needed for the wallboard strip heater. James used his RV experience and Gary his boating experience to guide us on lower cost AC supply options for the future. These RV/Marine type cords are very expensive, especially when you are considering 240VAC.

Another work session was resumed in January of 2020. We now have the strip heater working in the trailer and we're ready for Winter Field Day!

Winter Field Day 2020

Each January, the Lenoir Amateur Radio Club and area radio operators gather in a public location to demonstrate emergency communications capabilities and disaster readiness. Winter Field Day takes place regardless of weather conditions because emergencies don't pick the pretty days. This year's event was held in the shadow of the ruins of the Old Shuford Mill, the scene of a devastating fire in Granite Falls a couple years ago. This location provides a setting to remind our radio operators and visitors that disasters don't just happen some place else. For a 24-hour period beginning at 2 pm, Saturday, January 25, members of LARC participated in Winter Field Day operating amateur radio attempting to contact other amateurs throughout the US and Canada.



The Site

The old Shuford Mill



The Set Up
Early Morning Site Prep

The Beginning

Ready... Tech... Go...





First Shift

Made great contacts (eye contacts).

Night Crew

Made use of the night sky.

Sat Com achieved!

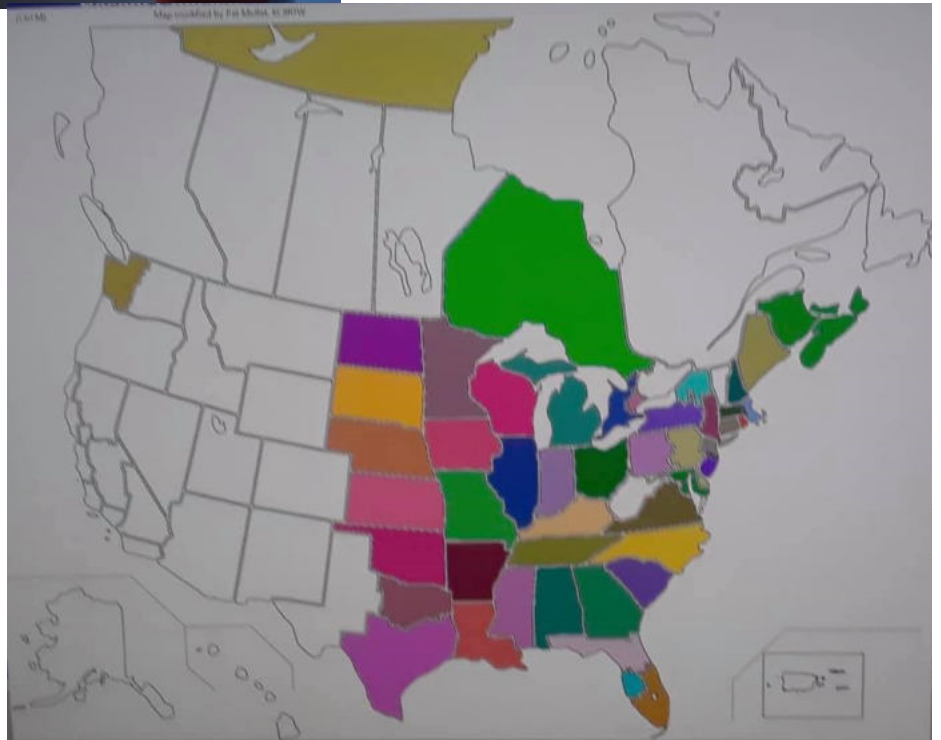


The Next Day



Awesome progress in the last hours.

*N3FJP was on the air.
We thanked this creator of the
tracking software.*



Frequencies

146.625- 94.8

Club Repeater (N4LNR)

147.330+ 141.3

Hibriten Mountain Repeater
(KG4BCC)

145.535

Simplex

29.6

Simplex FM

28.374

Simplex USB

Nets

LARC Weekly Net

Tuesday, 7:00 PM

146.625 Minus PL 94.8

Alt. 147.330 Plus PL 141.3

Caldwell ARES Net

Sunday, 9:00 PM

147.330 Plus PL 141.3

DMR Digital Net

Tuesday, 8:00 PM

Lenoir Local DMR

Lenoir Amateur Radio Club, Inc

P O Box 3276

Lenoir, NC 28645

N4LNR.org

Serving Amateur Radio In Caldwell County Since 1986

Become a member or renew your membership

Pay your dues in person to the Treasurer or by mail

Full Member \$15/year

Family Member \$25/year

Ask about our Life Time memberships

Send comments concerning the LARC NEWSLETTER to

Lisa KN4AYE kn4aye@gmail.com

Suggestions and your articles are appreciated.

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