



**N4LNR**

**MARCH 2016**

# News & Views



**Serving Amateur Radio  
In Caldwell County**

**P. O. Box 3276**

**Lenoir, NC 28645**

## **Next LARC Meeting**

Thursday, March 10  
7:00 PM

Gamewell Fire Dept.  
2806 Morganton Blvd SW,  
Lenoir

## **LARC Weekly Net**

Friday, 9:00 PM  
146.625 Minus 94.8  
Alt 147.330

## **Caldwell ARES Net**

Sunday, 9:00 PM  
147.330 Plus 141.3

## **DMR UHF Digital Net**

Tuesday 8:00 PM Lenoir  
Local DMR

## **Next WPARC Meeting**

Monday, March 14  
7:00 PM  
Foothills Community Wkshp  
10 Falls Ave  
Granite Falls

## An APRS Lesson at LARC March Meeting

Postponed from the January meeting, Phil Crump KG4BCC will discuss "everything you ever wanted to know about APRS." APRS (Automatic Packet Reporting System) is an **amateur radio**-based system for real time tactical digital communications of information of immediate value in the local area. In addition, all such data are ingested into the APRS Internet System and distributed globally for immediate access.

Along with messages, alerts, announcements, and bulletins, the most visible aspect of APRS is its map display. APRS is used in many Club events such as, bike rides and disaster drills. Santa brought Ro K4HRM a new Yaesu VX-8DR APRS HT shown in the photo above.



A brief business meeting will follow, including planning for upcoming events, equipping the communications trailer, and the Charlotte Hamfest. Bring a friend!

# President's Comments: A Call to Serve



Coming up is one of my favorite times of year. I have never been one that enjoys the cold weather; instead I spend most of winter cooped up inside my house wishing for the spring and summer months. We are getting close to spring and the weather is beginning to start warming up. Soon the air will be filled with pollen and school kids will begin to start talking about their summer breaks. Part of the reason that I enjoy the warmer parts of the year is the nicer weather. This weather allows me to get outside and do the hobbies I love which all seem to have an outdoor aspect.

Ham radio is one of my hobbies that seem to flourish in the summer. Many of the activities that I participate in happen in the middle part of the year. I enjoy getting out with my fellow hams, enjoying everyone's company, and usually demonstrating the hobby or helping out the community.

Community involvement is a big part of ham radio and one that I greatly enjoy. Since I have been a member, our club has always been a strong proponent of helping when the community called us, partly to keep our skills sharp and partly to help introduce the hobby to those who might not experience it any other way. In fact, the very first ham radio event I participated in was the bridge-to-bridge bike race that went from Lenoir to the top of Grandfather Mtn. It was so exciting to be able to help in such a meaningful way picking up bikers who had equipment trouble or just those who could not finish the race.

Our club is already planning to do several events this year including the cycle to serve bike race, the hibriten hill run, and several others. I am excited to be able to answer the call again and I encourage you to join the club's efforts to help when we are needed. There is always a need for more people and the organizers appreciate our work as we provide much needed communication in areas where traditional means just cannot reach. If you can't help with our club or you just live a great distance away, I encourage you to find a club around your location and join them in helping with local events. If they are not participating in those activities be the encourager that gets them going.

When disaster strikes, these events will help us be ready to re-establish communication quicker and with more efficiency. If you need more information or you just want to help please come by our club meeting next month. We will be making plans for our coming events and you can get involved!

Until next month, Tanner KK4SZI

# Thirty Years Ago: March 1986...

“OUCH!!! It had to happen sooner or later...my personal funds to keep the newsletter going have just about dried up.” This opening line of the Newsletter alerts local hams that without 20 subscribers at \$.55/newsletter, the newsletter would end.



Now, the good news was that the QST magazine was returning for sale on local newsstands after having been removed from newsstands and made available only from ARRL -- free with the \$25 member fee. In putting QST back on newsstands, ARRL said “By spreading the word of the wonders of Amateur Radio to a greater public audience, we’re helping to ensure Amateur Radio’s health and vitality for years to come.”

And, the news gets even better! At the Breakfast Club meeting (March 1), those attending decided unanimously to pursue establishing a ham radio club in Lenoir. A meeting was set two weeks later to begin planning – the birth of “good old-fashioned ham radio fellowship and direction of purpose...”

Another Novice class graduated and Susan Bradshaw got her license along with 4 other new hams. License exams were being offered at the upcoming Charlotte Hamfest and many of the recently licensed hams were looking to attend and test for upgrades. Everyone was looking forward to attending the Charlotte Hamfest to see lots of ham and computer equipment. The Charlotte Hamfest is coming March 12, 2016, and it’s a great way to spend a day!

With renewed interest in ham radio, folks were beginning to reconnect on the “air.” “How many other hams are out there in the “inactive tree” that would fall out if we only took the time to shake the branches. Try the buddy system – call up someone you know that is inactive and encourage him/her to join us on the hambands!” This suggestion holds true today. Make some calls; bring a friend to the next LARC meeting.

Twelve local hams attended the second Breakfast Club meeting and a third meeting was set for April. The Newsletter added a section of “classifieds” where local hams could share items “wanted” or “for sale”.

I’m a little sad that this is the last 1986 newsletter that still smells of mimeograph fluid and is the final newsletter of the “Lenoir Ham Radio Newsletter. What’s ahead? Stay tuned as we continue our look back at the birth of our Club.

Note: You can read the March 1986 newsletter at [N4LNR.org](http://N4LNR.org), Newsletters.

# Carl's Quiz

By Carl Hayes NN5I

**Question:** We all learned in high school physics that the speed of light is about 186,300 miles per second. *Do radio signals always go this fast?*



**Answer: NO!**

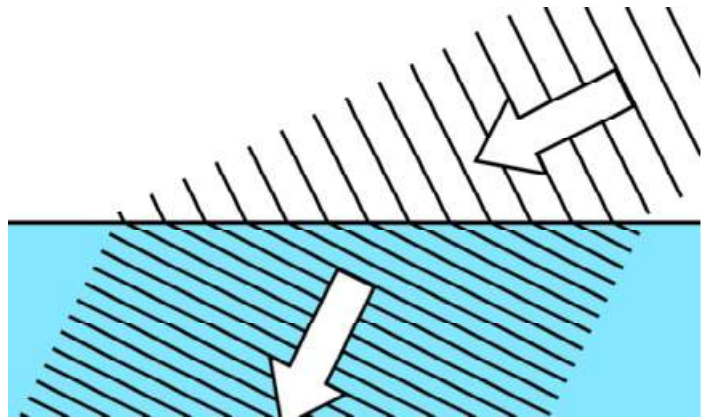
Light and radio waves go slower through matter (such as glass or air) than they do in a vacuum. Radio waves inside most kinds of coaxial cable are slowed to only 2/3 of their speed in empty space. This is sometimes very important. The slowdown ratio, about 66% for most coax, is called the velocity factor, and is essential knowledge when calculating, say, the length of a quarter-wave section of cable. For visible light traveling through transparent materials, this same factor is called index of refraction.

We learned that the speed of light is about 186,300 miles per second. This is true for light (and radio waves) in the vacuum of space; but these waves actually go slower through matter (such as glass or air) than they do in a vacuum. Radio waves inside many kinds of coaxial cable are slowed to only 2/3 of their speed in empty space. This is sometimes very important. The slowdown ratio, about 66% for most coax, is called the velocity factor, and is essential knowledge when calculating, say, the length of a quarter-wave section of cable. The velocity factor is always equal to, or less than, 1.0.

For light traveling through transparent materials such as glass or air, or radio waves traveling through anything, this slowdown can also cause a change of direction, called refraction, when the wave crosses a boundary at an oblique angle. The index of refraction of a transparent medium is the inverse of the velocity factor, and is always equal to, or greater than, 1.0.

Consider a radio wave traveling along the surface of the Earth. It is in atmosphere, which gets thinner with increasing altitude. The upper part of our wave is in thinner air than is the part near the ground, and will go faster.

This causes the wave to bend downward instead of going in a straight line, and the result is that the wave can sometimes follow the curvature of Earth's surface. That is an example of refraction, and can be useful for radio communication.



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## Time to renew your LARC membership

Mail your check to the Club address or  
see Ro K4HRM to pay your dues



**Western Piedmont Amateur Radio Club**  
meets at Foothills Community Workshop (10 Falls Ave, Bldg 10B, Suite 1, Granite Falls) on the 2nd Monday of each month at 7 PM. VE exams are available at FCW on the 2nd Monday of each month at the WPARC meeting.



**FOR SALE:** TEN TEC Jupiter HF 100 W Transceiver includes microphone and fan blower. Like new. \$475. Vern Dyer  
[W5VM@arrl.net](mailto:W5VM@arrl.net) (828) 963-4430

Interesting article on radio interference, see ***The End of Ham Radio?*** By VA3BD at <http://qrznow.com/the-end-of-ham-radio-by-va3bd/>



**Ham Radio Answers!** by Dave Casler KE0OG on YouTube covers many of the topics of interest to a new amateur. In addition, there are videos on operating a variety of different pieces of equipment such as VHF/UHF HTs, HF transceivers and antenna tuners as well as explaining different modes of communication, including digital, satellite, CW, SSTV and Phone. KE0OG also has a good series to help you study for the Technician, General and Extra Class license exams.

## February Meeting Notes...

**Attendees:** Tanner KK4SZI, Josh N4JDE, Ro K4HRM, Robert KM4UAC, Dave KK4AYW, James N4NIN, Scott KC4SWL, Phil KG4BCC, Michelle KD4YTU, Jeet KK4CCA, Mark K9FWA. Guests: Gary N4GDG, Richard K0CAT, Dalton WZ2M, Jeff KM4DOR.

**Program:** Michelle KD4YTU talked about the use of small computers (Ardino and Raspberry Pi) in amateur radio and displayed a variety of “shields” and explained their cost and use.

**Equipment Committee:** James expressed concern of putting equipment into trailers until undercover protection had been secured. Report on recommended equipment at April meeting.

**Insurance:** After discussion, the members approved acquiring general liability insurance for the Club.

**Trailer Storage:** Tanner KK4SZI reported that contact would be made with the Sheriff and a report at next meeting.

**LARC Net:** The LARC Net will be moved to Friday nights effective February 12.

**Public Service Events:** Volunteers will be needed to work the following events: Hibriten Hill Run – April 9; Catawba Hamfest – April 16; Rotary Cycle to Serve – May 7; Fire and Life Safety Festival – June 4.

**Training:** Michelle KD4YTU reported that a workshop will be held at Foothills Community Workshop on March 3, 4, 10 and 11 to prepare for Amateur Extra upgrades. The time will be either 6 or 7 PM, Check their website <http://fcwhack.com> for exact time.



# Ham Happenings...

**March 11-12, 2016** Charlotte Hamfest at 4551 Old Airport Rd. 4571 Hwy 49 North, Concord NC sponsored by Mecklenburg Amateur Radio Society, see <http://www.charlottehamfest.org>

**April 2, 2016** 44rd Annual RARSfest/North Carolina State Convention at 1025 Blue Ridge Rd, Raleigh NC, sponsored by the Raleigh Amateur Radio Society, see <http://www.rars.org/rarsfest>

**April 9, 2016** Hibriten Hill Run. LARC Volunteers needed.

**April 16, 2016** Catawba Valley Hamfest, Burke County Fairgrounds, Morganton, see <http://cvhamfest.com>

**May 7, 2016** Rotary Cycle To Serve Bicycle Race. LARC Volunteers needed.

**June 4, 2016** Fire and Life Safety Festival. LARC Volunteers needed.

**July 9, 2016** 31th Annual Firecracker Hamfest at 315 Martin Luther Jr. Ave S, Salisbury NC, sponsored by the Rowan Amateur Radio Society, Salisbury, see <http://www.rowanars.org>

**July 16, 2016** Mid-Summer SWAPFEST, Cary Amateur Radio Club, Cary  
<http://www.qsl.net/n4nc>

**September 3-4, 2016** 60th Annual Shelby Hamfest/ARRL Convention, Shelby Amateur Radio Club, Shelby

## LARC 2016 Officers



Tanner Greer  
**President**  
KK4SZI



Josh Edwards  
**Vice President**  
N4JDE



Tom Land  
**Secretary**  
KA4HKK



Ro Maddox  
**Treasurer**  
K4HRM

**Send comments concerning the Newsletter  
to Ro Maddox K4HRM [hrmaddox@nettally.com](mailto:hrmaddox@nettally.com)  
Suggestions and articles are appreciated.**