

F E B U R A R Y 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
February 12, 2015
Thursday, 7:00 PM
Gamewell Fire Dept
2806 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

Contests & DXing At February Meeting!

You got your ham license and started participating in public service events and emergency communications and then Field Day introduced you to contests. Now you are ready to learn how to get started the right way with Contesting and DXing. You've been in the hobby a long time and have contacts from around the world; but you still have questions. Join LARC at the February meeting for a guide to Contests and DXing with Rusty Jones K4SAA.



Get updated on Club happenings and the agenda for the future. See you at the February meeting!



President's Message

I have been thinking recently on the impact of the Internet on the world today especially in my job. Software that used to come on CDs now has to be downloaded and tech support that used to only be phone based now has options for chat and email.

According to Wikipedia, the early beginnings of the Internet began in the 1960's when research into packet switching networks eventually led to the creation of ARPANET. The first

two nodes were between UCLA University and SRI International both located in California. More nodes were added totaling 15 in 1971. These links were mostly between educational entities but as development continued in the late 1980's commercial Internet providers took over what was once a very private network. This led to a surge in acceptance and in the 1990's there was rapid growth into homes. ARPANET was officially shut down and the Internet, as we know it today was born! In the next couple decades fast speeds and vast fiber optic networks have replaced 56k modems and copper wire that once tied the country together and most households have some way to get online. Access has transformed from the large desktop to the palm of your hand. The Internet touches many aspects of our life, even our hobbies.

Now many hams may scoff at the introduction of the Internet to the hobby but as a newer ham I feel as though my experience has been quite the opposite. It started when I first began to study for my ticket. I picked up a copy of a tech exam guide and read it. Other hams pointed me to study guides and practice tests online which helped me pass the exam. From there, I browsed eham.net for reviews on radios and other equipment. This information helped me pick out my first handheld and get on the air. Having this valuable resource jump-started me into the hobby at a rapid rate. Resources online are not just for the new ham, but instead they give each of us an avenue to delve deeper into the hobby. Have you been contemplating learning a new mode or building your own antenna? YouTube has many tutorial videos on everything related to radio. Qrz.com has forums where you can ask for help. Hundreds of hams have made their own websites filled with information.

Modern radio equipment is leveraging the power of the Internet to allow us to communicate in new ways. DMR repeaters use the backbone of the Internet to route voice traffic to other repeaters allowing a ham in Virginia to talk to one in South Carolina using a low power handheld. Echolink uses Internet connections to allow hams to talk on repeaters through an app on their smartphone even when they do not have access to a radio. These are two different ways to communicate that did not exist before the Internet!

I am excited to see how the Internet will continue to enhance our hobby. My challenge to you is to use some of the resources mentioned above to learn something new about the hobby in the coming month. I am excited to see where the club is heading! See you next month.

Tanner Greer KK4SZI

DMR Launch in Lenoir Fills Coverage Gap for Foothills & High Country

By Phil Crump KG4BCC

Let's face it. We all love amateur radio. We empty our wallets for gear, spend countless hours in QST and in front of radios, and we even get up early in the mornings to go look at junk several counties away and call it a hamfest! If you took a poll to see why we like our hobby, you would get as many different answers as there are hams. Amateur radio is a diverse hobby. Hams have many different avenues to explore in our hobby; some enjoy local VHF/UHF conversations, some enjoy worldwide HF activities, and others enjoy digital modes or public service. But if you look into the future, where do you see ham radio? One mode I see in the future, and a mode that I enjoy is DMR or Digital Mobile Radio. DMR is a digital VHF/UHF technology much like D-Star or VIPER but built on an open standard, not a proprietary standard (like ICOM D-Star).

I discovered DMR on my job. I work for a power company and we use it to dispatch our line trucks. Motorola mainstreamed DMR. They coined the term 'MotoTRBO' for the European trunking standard. This trunking standard is so robust. It allows repeaters to be linked over IP, GPS locations to be shared, and messages to be shared. It also allows for 2 conversations to occur at the same time on a single repeater; this is called time-slots. The more I learn about it, the more I'm impressed.

Other hams saw the benefits of this technology and started a worldwide 'community' for DMR called DMR-MARC (Digital Mobile Radio- Motorola Amateur Radio Club). By having a global community, we can all set some 'standards' for all hams to follow in the DMR trunking protocol. Regional 'communities' are encouraged to be established, and join the worldwide community.



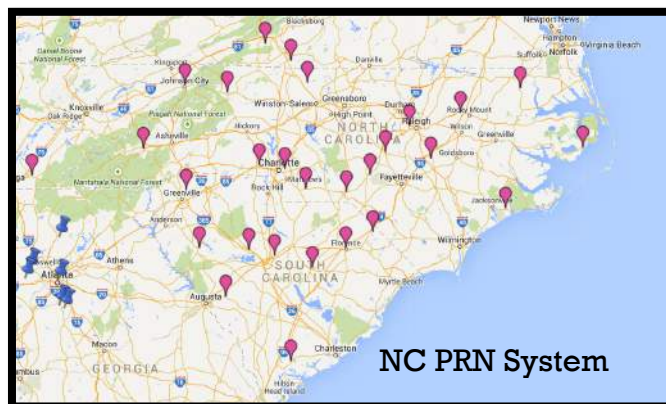
Worldwide



United States

Our local community is called the NC-PRN. NC-PRN is from the group of guys who brought us the 440net linked repeater system across the Carolinas. They are moving into the digital world by linking digital repeaters across the Carolinas.

Let's look at how DMR technology works. When you use a radio to communicate with a local repeater, you have to designate who



you want to talk to. You do this by using a 'talkgroup'. You can talk to just locals on a 'local' talkgroup (just on that repeater), or you can talk to everyone in the Carolinas using a regional talkgroup (since the local repeater is linked to other repeaters). One can use other talkgroups within the NC-PRN or DMR-MARC networks to talk locally, regionally, nationally, or worldwide. Remember each repeater can carry 2 simultaneous conversations that are totally independent.

Let's look at an example. Let's say we have a digital DMR repeater on Hibriten Mountain in Lenoir. Imagine one ham carrying on a conversation with someone in China on timeslot 1 through the linked network. Meanwhile, another ham is having a party conversation with 5 local hams around Lenoir on time slot 2 (just like an analog repeater); all at the same time on the same repeater, but unknown to each other. That's the power of DMR!

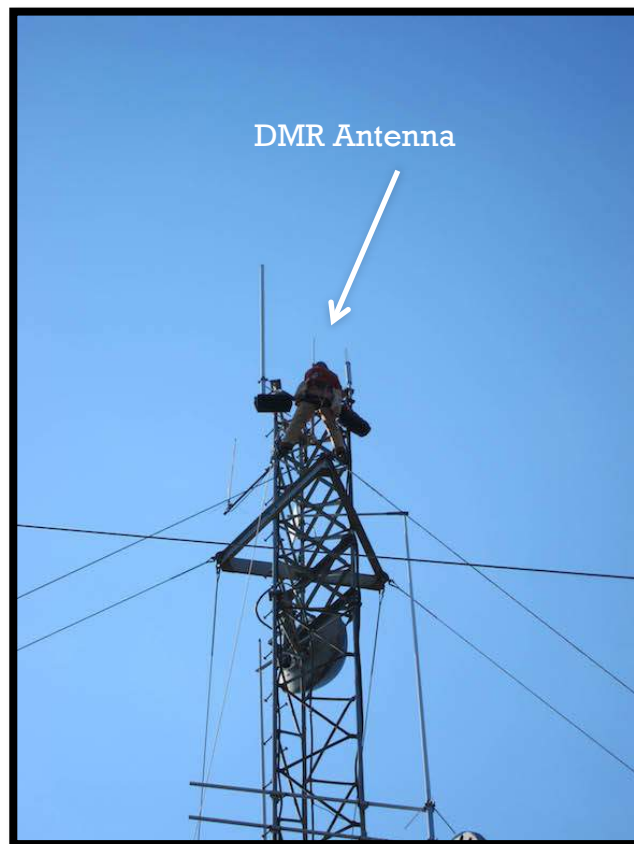
Needless to say, I'm sold on the technology. I've been very verbal in my support of the technology and wanting a digital repeater in Lenoir. Since I own the Hibriten VHF repeater, it made sense to sponsor a digital repeater on Hibriten as well. My problem was money. A complete system would cost around \$5,000 if you do it right. I simply couldn't afford such a substantial investment on my own. I spoke with Marv Hoffman (WA4NC) from the Watauga Amateur Radio Club, and he put me in touch with some awesome guys in the NC-PRN network. I must say what happened next was nothing short of Divine intervention!

Danny Hampton, Steve Koone, and David Haas (from the NC-PRN) stepped up and offered to help us get a DMR repeater on the air in Lenoir. They have graciously agreed to lend us a complete system (minus site, antenna, coax, and Internet connection). Just having a site and Internet access isn't enough folks. It takes many resources to make these digital repeaters happen.



One thing we are in immediate need is a better antenna. Several of you have asked if you could help out with the expenses of this project. A new antenna would cost around \$1,000. The new antenna would double or triple the effective coverage of the Hibriten repeater while being better built to withstand the lightening strikes and wind on top of a mountain. I'm not asking for donations by any means, but if you would like to help, feel free to use Paypal gift - philcrump@gmail.com or simply write a check. I promise 100% of the funds will go toward: 1. an antenna, and 2. our own digital repeater.

With that being said, I'm proud to announce that the loaner repeater will be on the air Thursday, January 29, after some tower work and a site visit! You will need to update your DMR radios with the latest codeplug to add the frequencies and talkgroups for Lenoir. Simply bring your radio to the next club meeting for an update.



"Welcome to the PRN system! The addition of a DMR repeater in Lenoir fills the coverage gap for the foothills and high country. I applaud Phil Crump for stepping up and moving this installation forward," said Marv Hoffman WA4NC, trustee of the Boone DMR repeater and early advocate of DMR technology. "This is a great public service to amateur radio and the Caldwell community and its usefulness will be demonstrated over and over in emergencies and in its daily use."

If you do not have a DMR radio, start researching this new digital mode. With a 4 watt handheld, you can communicate around the world. It's simple to use, and sounds great. The DMR-MARC website is a great place to start. Their network has around 500 repeaters already linked! Take a look at the repeater maps; they are impressive. In my humble opinion, this isn't a propriety D-Star system, this is the future of ham radio technology.

Check the LARC website (<http://n4lnr.org/fw-prn-system-updates/>) and come to the next meeting (February 12th at Gamewell Fire Department) for more information. For additional information about getting started in the NC PRN wide-area digital network, go to dmr-marc.org and <http://ncprn.net>.



New Member Profile: Chris "Wolfman" Molles

Howdy, folks. My name is Chris Molles (pronounced "mo-lay") but everyone calls me "Werewolf" or "Wolfman", or just plain ole "Wolf." I live in Lenoir with my wife Lindsey and my three beautiful girls, Isabella, Sofia, and Francesca.

I work full-time for the NC Army National Guard as a diesel mechanic at the regional maintenance shop behind West Caldwell High School and I am an NCO currently assigned to the 626th Maintenance Company in Hickory. I started out on active duty as infantry and dismounted air defense back in 1997, made my into Army Aviation as a Apache helicopter weapons technician and avionics repairman, and transferred to ground maintenance in 2011. I went to Iraq with the 1-130th Attack Reconnaissance Battalion out of Raleigh

in 2009-2010. I am a life member of the Veterans of Foreign Wars - Table Rock Post 5362 (Morganton). I'm a fairly outgoing guy, but I do tend to circle the herd and evaluate groups from the perimeter before diving completely in, so don't mistake my lack of participation as disinterest. I'm just ornery.



The main way I get my radio fix on a daily basis is through my main hobby, which is my semi-professional military-simulation paintball team. I have been heavily involved in the regional paintball community for about 15 years. I currently command a team called The Full Moon Freqs (Team FMF), who are affectionately referred to as "The Freq Show". We are a communications team that specializes in providing scenario commanders and other paintball team captains with reliable and skilled radio operators in the field (using Baofeng UV-5Rs), while providing real-time battlefield

intelligence through the use of forward observation teams. We even have a dedicated electronic warfare team using old Radio Shack Pro-97s and SDR (thanks to Mr. Crump's wonderful presentation at January's meeting) to do some serious snooping on our opponents.



On a more practical side, I am interested in ham radio and studying to become a licensed operator so that I can set up a shack at my house and stay in contact with my close friends and family that are spread out from Hillsville, Virginia to Stanfield, North Carolina, especially during emergency situations. I truly believe that ham radios and their operators are invaluable tools in an emergency and I want to be prepared. Over the course of my years in the military and throughout my civilian shenanigans, I have been exposed to, and become familiar with, many different types of communications equipment. Ham radios have so far eluded me up to this point, however, and I hope my participation in the LARC will rectify that.

I look forward to becoming more involved with the club and will see you'ns at the next meeting.

Werewolf, out.



Interested in MESH NETWORKING?

A free e-book entitled, Wireless Networking in the Developing World is available at <http://wndw.net> You can read book to help understand concepts and technologies of wireless networking and how to set up your own mesh network. The use of mesh networking in emergencies is growing and specialized firmware for ham use is now available, see <http://www.broadband-hamnet.org>.



Time to renew your LARC membership.
See Phil KG4BCC to pay your dues.



Communications Trailer Work Gets Jump Start



A lot of progress was made this month on the Club communications trailer. During the three Saturday work days, interior build-out plans were developed, measurements made and materials acquired. James N4NIN made a mount for the spare tire to fit upright on the trailer tongue and cut and began welding on the supports for the radio desk that will be roughly 12 feet long when completed. Tanner KK4SZI, Josh N4JDE, David KC4HOE, James N4NIN, Scott KC4SWL and Ted KF4FLY got the light support created and the lights attached. Work on the radio desk is underway.



James N4NIN has installed a large commercial heater in the work area that makes it nice and comfortable. Scott KC4SWL brought a cool LED strip powered with a 9-volt battery to demo how efficient and bright LED lighting can be on minimal power.

Be a part of the progress join the “hammers” on the scheduled workdays! Help is always appreciated.



New Member Profile: David Wooten K3DW



My name is David Wooten and I'm 59 year old. I have the greatest wife ever, Terri, and we have been married 40 years. We have a son, David III, a beautiful daughter-in-Law Kristin, and two beautiful grand children Kylie 5 and Lukas 2

I retired with 22 years in the Fire Service as a Battalion Chief. I am currently employed by The Print Path as the production manager. The Print Path is a large format digital printing company.

I enjoy shooting, reloading, amateur radio, wilderness camping and barbecuing. I also make my own vinegar base BBQ sauce and usually give away more than I keep. I really enjoy DIY projects especially building my own antennas.

I got my Novice in Florence, SC in 1986 and worked my way up to Extra by 1988. My mentor was N4JJ, Jack Jackson in Florence. Jack was a big inspiration. One of the most gratifying events in the hobby was when I, along with a couple of other operators set up a field station in Florence in 1989 to assist with urgent and emergency traffic during hurricane Hugo. A few months later I received an ARRL certificate and letter of appreciation for the help we rendered to others after the hurricane. To this day I have no idea how they even knew we did this.

My worst experience in the hobby was my first shock from stray RF. It was a quick lesson in grounding! My most memorable contact was my first HF contact. It was on a DIY antenna and it was in Wolver Hampton, England. I was new to the hobby so it was like magic! I thought about it for days!

I lost touch with the hobby when I relocated my family for the employer I was with at the time. My work responsibilities changed and I eventually sold most of my equipment. Bad mistake. I was out of the hobby for more than 12 years but I never let my ticket expire. I have since found a renewed interest so I am buying equipment all over again.

With my renewed interest I decided to take a look at a vanity call (man I hate that term). My interest in a new call really peaked when I discovered that K3DW was going to be available. My initials! I contacted W5YI and they pretty much told me the likelihood of getting it was slim to none. There would be dozens if not hundreds going for that 1x2 call she said, there will be so many folks after it that the FCC will do a lottery for the call. I really just

wrote it off; no way I would get it. Well, 3 weeks later my new call comes in the mail. Lucky? I guess. Anyway my old call was KC4HOE and my current call is K3DW.

I'm currently looking for an HF rig and weeding through all of the features of the new radios to decide what is needed and what is just bells and whistles is difficult. My current radio inventory is all 2 meter. An IC-2GAT, IC-V80, IC-V8000 and an IC-228H.

I'm really enjoying being a part of LARC and look forward to helping out where I can.

Google Earth Pro Is Free!

Over the last 10 years, businesses, scientists and hobbyists from all over the world have been using [Google Earth Pro](#) for everything from planning hikes to placing solar panels on rooftops. Google Earth Pro has all the easy-to-use features and detailed imagery of Google Earth, along with advanced tools that help you measure 3D buildings, print high-resolution images for presentations or reports, and record HD movies of your virtual flights around the world.



Starting February 1, even more people will be able to access Google Earth Pro: Google is making it available for free. To see what Earth Pro can do for you—or to just have fun flying around the world—[grab a free key](#) and [download Earth Pro today](#). If you're an existing user, your key will continue to work with no changes required

FCC Takes Amateur Radio License “Paperless”



Starting February 17, the FCC no longer will routinely issue paper license documents to Amateur Radio applicants and licensees. Licensees will access their current official authorization (“Active” status only) via the ULS License Manager. The FCC will continue to provide paper license documents to all licensees who notify the Commission that they prefer to receive one. Licensees also will be able to print out an official authorization — as well as an unofficial “reference copy” — from the ULS License Manager.

Some Thoughts About Ham Radio

by Phil Ashler N4IPH

One of the first sections I check when I receive my ARRL QST magazine in the mail. Yes, I still like to look through the “*paper version*”. The QuickStats found near the back of the issue was of particular interest to me, and the August 2012 had some interesting stats. One stat that hit home was: “*How Were You Introduced To Amateur Radio?*” Several months ago I wrote a short article on this subject in the newsletter based on this article found in QST. In this stats list, the **top three** influences for those polled that brought them into the hobby were:

1. *Through a friend*
2. *By listening to a scanner or shortwave radio*
3. *Through a family member.*

At the low end of the scale were; *through a website* at **1%** of those polled, *radio, TV and newspaper* at **1%**, *seeing hams operate at a public event* at **3%**. Those *not listed as an option* comprised **21%**. Are we encouraging new Hams to enter the hobby in the most efficient way? We advertise our classes & events on “websites” and in the local newspaper but are we really only reaching just the **1%** of our area’s potential Amateur Radio operators? If the stats from the ARRL are correct - we need to “talk up” Amateur Radio to our family and friends, maybe then we could reach the **18% - 32%** cache of potential hams.

In an earlier article in the August 2012 edition of QST - a young ham, Anthony, KB3DVS, was concerned about his dad was living in a remote area of Alaska. The dad had neither access to phone nor Internet service and was encouraged by his son to study and earn his Amateur License in January of 2002. Today Amateur Radio is an important part of his dad’s life. Pete, KL1HB (the “dad”), decided to write a short article for QST entitled “**Why Are We Hams ?**”



Pete discusses his real need for communication a number of years ago when he lived in a remote 16' x 20' cabin. His only access for communication with his family was a telephone in the nearest town which included a 130 mile round trip in the bargain. It took him nearly 6 years and constant pressure from his son to convince him to earn his General Class license, including the then required Morse Code element.

Read more about Pete and his remote cabin location at <http://kl1hbalaska.wordpress.com/about/>

I know this is just one story of how a friend or family member encouraged another potential ham to work on his/her license, but I'm sure (if you think back) you had a friend or family Member to thank for your introduction to the hobby—or, a friend or family member has *you* to thank. Today, with the proliferation of so many new and powerful modes of communication and so many added distractions it is even more of a challenge to encourage someone to earn an Amateur license. A number of young people would rather “text” or use programs like Skype to talk around the world on their phones. Using “old fashioned” technology like radios is nearly an alien concept to them. Even more foreign to their thoughts is what would happen if the *cell system* or the Internet went down!

Hopefully we still have a chance...

de Phil, N4IPH philashler@comcast.net

Article reprinted from *The Printed Circuit*,
the newsletter of the Tallahassee Amateur
Radio Society, September 2012.



Topics of Interest

Have an idea you would like to share with your fellow hams? Interested in one of the new exotic digital modes and would like to get others interested in it too? Found a blog somewhere that you think others would find interesting?

All those receiving this Newsletter are encouraged to submit items of interest for publication. Submitted articles (are suggested) to be no more than a page in length and may be edited for content and grammar. The Newsletter editor reserves the right to determine which items will be included in *News & Views*. The deadline for publication is the 28th of the Month. The Newsletter will be distributed at least one week prior to the next LARC meeting.

Pictures, too. If you've taken pictures at an event and would like to submit them for possible inclusion in the newsletter, forward them to the newsletter editor. Please send action shots, if possible. Faces are often preferable over the backs of heads.



Ham Bites

Do you know what this is?
How was it used and why is
it important in amateur
radio history?

From The January Meeting

Attendees. Tanner KK4SZI, Tom KA4HKK, Josh N4JDE, Phil KG4BCC, Ted KF4FLY, Irv W4IWK, Susan N4OJN, James N4NIN, Shawn KI4ZKP, Ruby KC4CLI, Ro K4HRM, Scott KC4SWL, Will WB4Y, Michelle KD4YTU, David Wooten KC4HOE, Chris “Wolf” Molles.

Program: (The program will be first item of the agenda during 2015,) Phil KG4BCC provided an overview of Software Defines Radio (SDR) and demonstrated its operation. He explained the equipment and operating setup, including handouts.

New Members: Approved membership applications from David Wooten KC4HOE, Chris Molles, and Ruby Rodgers KC4CLI (Returning)

Repeater Upgrade. Approved addition of mount and cable supplies to costs of tower climb, and Phil KG4BCC to coordinate Hibriten tower work with Club repeater work.

Trailer Work: Work has slowed due to cold weather. A workday was set for Jan 17 for the communications trailer.

Trailer Storage Location: Members were asked to be on the lookout for a possible place to store the communications and antenna trailers under cover.



Gift Card Raffle: Tom KA4HKK donated a \$25 Wal-Mart gift card after insufficient ticket sales and held a drawing to give the card to those who had purchased tickets.

Club Logo Patch/Apparel: Irv W4IWK brought the remaining supply of Club logo patches and shirts. Patches will be given to new members and sold for \$3.00 each. Shirts are \$10. Tanner KK4SZI will explore a

source for Club logo apparel.

Events Calendar: Tom KA4HKK distributed an events calendar which will continue to be developed and placed on the Club website. He reminded of the upcoming CERT classes.

Club Membership Dues: Members were reminded that Club Dues should be paid to the Treasurer as soon as possible.



The LARC President is asking you for ideas and interests that YOU want to talk about and/or see hands-on demonstrations at future Club meetings. Nothing is off the table, so send your thoughts directly to the top – tannergreer@bellsouth.net



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

February 7: FRS/GMRS Training for CERT members, 10 am til 2 pm, Caldwell EOC, being taught by Tom KA4HKK. LARC members asked to attend/assist.

March 1: The **NC QSO Party** will hold its 45th annual event this Sunday. The QSO party starts at 1500 UTC (10:00 AM Eastern local time) and runs for 10 hours through 0059 UTC (8:00 PM Eastern local time). Complete details can be found at the NCQP website: <http://rars.org/ncqsoparty/>

March 13-14: The **Charlotte Hamfest/North Carolina Section Convention**, Mecklenburg Amateur Radio Society, Concord, NC, see <http://www.charlottehamfest.org>

March 28: 25th Annual **Down East Hamfest**, Down East Hamfest Association Inc., Kinston, NC, email: bhighland@nc.rr.com

April 4: 43rd Annual **RARSfest/North Carolina State Convention**, Raleigh Amateur Radio Society, Raleigh, NC, see <http://www.rars.org/rarsfest>

April 9: VIPER Radio Training for CERT members, 6 pm til 8 pm, Caldwell EOC.

April 10: If you are in the AUXCOMM database (completed ICS 100, 200, 700 and 800) you are invited to attend the **Command Rally** in Greensboro on Friday, April 10. If you want to attend, register at www.nccommandrally.com let Tom KA4HKK know.

April 18: 18th Annual **Catawba Valley Hamfest**, McDowell Amateur Radio Association, Morganton, NC, see <http://cvhamfest.com> LARC is a sponsor of this event. Tom KA4HKK is asking for volunteers to work the LARC booth.

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>

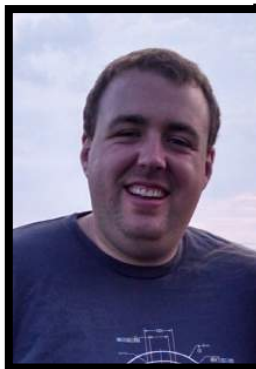
July 25: WCARS Hamfest 2015, Western Carolina Amateur Radio Society, Waynesville, NC, see <http://wcars.org>

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



LARC has approx. 75 feet of used TCOMM 400 Cable from Times Microwave Systems in excellent condition that came with the pneumatic antenna. This cable is listed on eBay at \$4/foot. The Club is asking \$100 “as is, where is” with shipping additional. View product sheet at <http://www.timesmicrowave.com/documents/resources/TCOM-400.pdf>
If interested, contact Ted KF4FLY @ ted.manuel@alexlee.com

LARC 2015 Officers



Tanner Greer
President
KK4SZI



Tom Land
Vice President
KA4HKK



Josh Edwards
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