

Coming Events

Volunteers Needed

- Oct 20 Fox Hunt & Picnic
- Oct 27 Western Branch Area 12 Meeting
- Nov 30 Christmas Parade Lenoir

Collins Collector Rigs ~ October Meeting

Dick Blumenstein K0CAT will give a program at the October meeting about *Arthur Collins, Collins Radio and the 'S-Line'*. He will discuss why he chose to purchase the S-Line for his shack when he came back into ham radio. Why in the world would someone buy ancient vacuum tube "boat anchors"—as some would call them?

Following the program, there will be a brief business meeting to discuss status of Club projects and upcoming events.



2019 LARC Officer Nominations

It's that time again! A few good persons will step up and take the reigns of the Club for the following year. Begin now thinking about who should be the Club's next leaders and come to the October meeting prepared to make or support officer nominations. You may even begin now encouraging someone you want to nominate to put his or her name in the hat for 2019.

Next LARC Meeting:
Thursday, Oct 11, 7:00 PM,
Gamewell Fire Dept.
2806 Morganton Blvd SW,
Lenoir

LARC Weekly Net:
Friday, 9:00 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



Caldwell ARES/AUXCOMM

Activation September 15, 2018



As the winds and rains of Hurricane Florence pounded coastal Carolina, Caldwell County emergency officials prepared for what was building up to be a catastrophic event. With the storm track projected to come over or near the County, preparations were made well in advance for high winds, downed trees, loss of power, and FLOODING – the plague of the mountainous areas. ARES/AUXCOMM was put on standby early the week of September 9, and activated to full 24/7 status on September 15. In anticipation of activation, Tom KA4HKK (ARES/AUXCOMM Coordinator) tested equipment and attended emergency planning sessions.

At 0800 September 15, a combined ARES and Skywarn Net was activated and operated continuously until 1100 September 17. The purpose of the Net was to provide information on downed trees, downed power lines, hail, tornadoes or funnel clouds, heavy rainfall, and flooded streets to emergency officials at the Caldwell EOC. Thirty-two local hams checked into the Net.

Caldwell County was spared a direct hit by the then Tropical Storm Florence as she slid over the northeastern section of the County. While flooding still remained a problem as the heavy rains drained down from the mountains, damage from downed trees and power lines were moderate.

Thanks go to Dick K0CAT, Ro K4HRM, Tom KA4HKK, and Josh N4JDE for operating Net Control; to Mark K9FWA, Buck N4PGW N8VRS, John AG4ZL, Angel, James N4NIN and Josh N4JDE for operating at the West Caldwell High School Shelter. Special thanks go to all those who checked into the Net and assisted as “eyes on the ground”



LARC Picnic/Fox Hunt Set For October 20

A fun fox hunt and picnic has been set for 2:00 PM on October 28 for the members the Lenoir Amateur Radio Club as well as any interested area hams. The event will be held at the Yadkin Valley Community Park, 2450 NC – 268, Lenoir. Planning is underway and volunteers are needed to help this event be a grand success.

The Club will provide BBQ, drinks and paper products. Members are asked to bring side dishes and desserts. Contact Frank KN4ACU afgordon@hotmail.com if you can help.

What is a fox hunt? Transmitter hunting (also known as T-hunting, fox hunting, bunny hunting, and bunny chasing) is an activity where participants use radio direction finding techniques to locate one or more radio transmitters hidden within a designated search area. A video demonstrating fox hunting is at <https://youtu.be/eQSiTqH9Dzw>



Western Branch ARES/AUXCOMM Meeting

The ARES/AUXCOMM NC Western Branch (Area 12) will hold it's annual meeting on October 27, 8:00 AM until Noon, at the Caldwell County Public Library, 120 Hospital Ave NW, Lenoir. All Caldwell ARES members or any amateur operators interested in becoming CARES members are invited to attend. Please let Tom KA4HKK ka4hkk@arrl.net know if you plan to attend.



Ham Bits & Pieces

From **Todd KI4FVO**: This may not qualify as a "cool QSO", but I made my very first successful HF contact. It was on 80 meters at 3.830 LSB. August 14, 2018 at 2200 hours local time. Station worked was our very own Gary K3OS. He gave me a great signal report and I was able to return the same to him.

From **Irv W4IWK**: I read the following blog post and I was unaware of their guideline on stretching electrical tape until it's width narrows to 75%. Credit to Waytek Inc. Wired2Serve Blog posted by G. Christianson 8/14/2018:

“While manufacturers continue to advance the features of electrical tape, the wrapping techniques OEMs and upfitters use remain the same:

1. Always apply a minimum of 2½ half-lapped layers to insulate electrical components.

What is a half-lapped layer? While a single layer technique aligns the edges of tape to create one single layer, a half-lapped layer technique overlaps the edge of tape at one-half the width to create a double layer.

2. Create effective electrical insulation by stretching tape between 75% of its width to just before the breaking point. This helps ensure proper

adhesion to withstand elements and eliminate voids in critical areas of wiring.

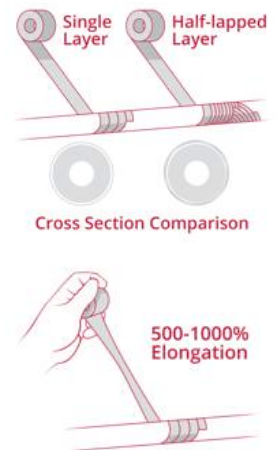
These two techniques for wrapping electrical tape will help create secure adhesion and provide effective electrical insulation.”

From **John AG4ZL**: John will be the guest speaker at the Fairview Presbyterian Church Senior's Group on October 3, where he will talk about the activities of LARC, how to become an amateur radio operator, and severe weather.

From the **Asheville Radio Museum**: The Asheville Radio Museum is closing its offsite storage unit and selling all remaining contents at bargain prices. The sale will occur in Asheville on Saturday, November 10 from 9 AM until noon at the storage unit, located at 192 Swannanoa River Road. To see a list of ham and home radio items in the sale and other information, please visit www.avlradiomuseum.org/2018-storage-unit-sale

From **ARRL ARES E-Letter, September 19, 2018**: There is a FEMA Independent Study course, *IS-1160 Damage Assessment Operations Training*, available [here](#).

From the **FCC**: Enforcement Advisory 2018-03, Public Notice September 24, 2018, Re: Two-Way VHF/UHF Radios. A copy of this public notice is included at the end of the newsletter as information to owners of radios, including the BaoFeng UV-5R.



Please send your “Ham Bits & Pieces” to the newsletter editor so they can be shared with all!

Ham Language

Ok, you have your license, you bought a nice radio, and you have erected an antenna that will hit the local repeaters. So, you turn on the power and tune into the 147.330 MHz repeater, and it happens you hear a couple of hams talking. Or, you think they are talking, but you are unsure because although you can hear words, and you think it is English they are speaking, you have no idea what they are saying.

Do not worry. This is a common problem, not only with new hams, but with anyone trying to enter a new area. Whether you are a novice radio operator, a doctor, lawyer, teacher, or engineer every profession and hobby, for that matter has its own language. Until you learn or master it (to a degree) you are an outsider. Once you have learned the lingo peculiar to that field, however, you are one of the group. Consider it as one of those rites of passage or initiation fees.

So, to help ease you into the amateur radio fraternity (or sorority), here is a short list of some of what you may hear on the air.

By way of introduction, many of these come from the days when CW or Morse code dominated amateur radio. Then, brevity was key, because while sending Morse code at 25 words per minute is very fast, it is nonetheless, very slow if spoken or read. Abbreviations and codes were, thus, developed to condense a lot of words and meaning into a few standard letters.

So, here is a short list of some of the more common abbreviations:

YL – young lady

OM – old man

XYL – wife

7 3 – goodbye

K – over

KN – over and I will respond only to the person I am talking to

SK – end of contact and I will not reply

88 – hugs and kisses (not used very often)

Q Codes: The Q code is an extensive list of words and phrases that radio operators use frequently that are condensed into a three letter Q code. For example, QTH means “my location is ___”. If an operator wanted to know the locations of the other operator he or she would send “QTH?” Which means, what is your location? The response would be “QTH Lenoir.”

The beauty of the Q codes is that operators can thus “talk” with one another even though they do not “speak” the same language. A German operator can send, for example, “QTH?” to a French speaker who would understand what was asked, although perhaps in French, and would respond “QTH Paris” or wherever he lived.

The military, needing more specifically tailored code to the demands of the armed forces developed a similar “Z code” that replicates a lot of what the Q codes covered but that system finds little or no use in amateur radio.

So, here are some of the common Q codes used by hams:

QTH – my location is ____
QSL – I acknowledge your last transmission
QRZ – I am calling you
QSY – change frequency to ____
QRM – manmade noise
QRN – naturally made noise
QRP – I am using low power
QRS – send slower (used with CW)

Prowords: Similar to the Q code, prowords are used to capture a lot of meaning in a few words. Here are a few of the commonly used ones in amateur radio:

Roger – I understand
Wilco – I understand, will comply
Affirmative – yes
Negative – no

The Phonetic Alphabet: The phonetic alphabet helps communications when the bands are noisy and/or signals are weak. They have value largely because they are commonly understood words for letters of the alphabet. Thus, if the band is noisy and all you hear is “pha” you can reasonably deduce that the sender said “alpha” because alpha is the accepted word used for the letter A. This also helps with clarity when the bands are noisy from QRN or QRM because the letter “A” may be misunderstood as “K,” or “T” for “B,” “E” or “Z.” It would not be confused if the sender said “Alpha,” or “Tango.”

The problem, of course, arises when operators, unsatisfied with the standard words, substitute their own, such as Germany for Golf, Zanzibar for Zulu, or Sugar for Sierra. And the list goes on with creativity quickly rendering their phonetics useless.

There is real value in using the standard phonetic alphabet. So, here is the list:

Alpha	Golf	Mike	Sierra	Yankee
Bravo	Hotel	November	Tango	Zulu
Charlie	India	Oscar	Uniform	
Delta	Juliet	Papa	Victor	
Echo	Kilo	Quebec	Whiskey	
Foxtrot	Lima	Romeo	X-ray	

10 Codes: Police and other first responders will often use the “10 codes” in their work. It is largely, as might be expected, focused on emergency work, which often involves crime scenes and bodies. Amateur radio, as a general rule, does not use this system preferring instead to stick with the Q codes.

Note: Reprinted with permission. Tallahassee Amateur Radio Society, *The Printed Circuit*, September 2018.



K1CE For a Final: My Project of the Month

DC power management has become a sub-hobby for me: I have two 100 W solar panels on the roof of my shack, two 31 A/hr gel cell batteries, a heavy duty 60 A power supply, a VHF FM radio and an HF transceiver, all fed by wires terminated with Powerpole® connectors, and managed/connected by a high power (40 A) routing/battery charging device. I changed all of my connectors to the now-ubiquitous Powerpoles years ago and never looked back.

Two aspects of 12 V power management systems are often overlooked by amateurs, admittedly including myself: length and gauge of wires. Power is saved when runs are kept as short as possible, and of a high (lower number) gauge (AWG). The power supply wire should be heavy gauge (#10) and kept as short as possible. The same applies to the batteries, which should also have a fuse in the positive lead directly at the battery's positive terminal.

I spent a morning recently replacing all of my 12 V cables with shorter, larger gauge ones. I fused the positive battery terminal and had fun reorienting myself to installing the Powerpole connectors. There is a wealth of information available online, and I used West Mountain Radio's information repositories:

www.westmountainradio.com/calculators

www.westmountainradio.com/capacity_calculator.php

I also placed quick, simple and inexpensive volt/ammeters with Powerpoles at all connections. I bought them from Quicksilver Radio [here](#).

One final note, and it's an important one: Be Careful! Any short in the battery wire, connector, or load can cause a fire and battery explosion. People almost never think of 12 V batteries as dangerous, but they are. Use the utmost of care when wiring your 12 V management system!

One more final note: Have Fun! After rewiring everything, I grabbed a cup of coffee, stood back and admired my handiwork: short, heavy, fused wires, organized and neat. Yes, us hams are easily amused, aren't we?! -- *K1CE*

A composite photo of the position and phases of the moon over 28 days, each photo taken at the same time each day at the same exact place.
(photo by Georgina Hofer Photography in 2017)



**Volunteers are needed for
upcoming event!**

LARC Fox Hunt/Picnic – October 20

Please step up and join in the fun!

Upcoming Hamfests: Mark Your Calendar

October 14: **Maysville Hamfest**, Maysville Hamfest Association, Maysville, NC, for further information, contact bhighland at nc dot rr dot com.

November 18: **JARSFest**, Johnston Amateur Radio Society, Benson, NC, <http://www.jars.net>

January 5, **Winston-Salem FirstFest**, Forsyth Amateur Radio Club, Winston-Salem NC, for further information see www.w4nc.org

March 18, **NC Section Convention/Charlotte Hamfest**, Mecklenburg Amateur Radio Society, Concord NC, see www.charlottehamfest.org

CQ CQ

Have you made a cool QSO and want to brag a little? Send an email to the Newsletter Editor with the “callsign, location, and date” and it will be published for all to see!

LARC 2018 Officers



John Crowe
President
AG4ZL



Tom Land
Vice President
KA4HKK



Frank Gordon
Secretary
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Dick Blumenstein
Treasurer
KOCAT

Send comments concerning the LARC NEWSLETTER to hrmaddox@nettally.com

Suggestions and articles are appreciated.

To unsubscribe from the Newsletter, send an email to the above address.



PUBLIC NOTICE

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

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DA 18-980

September 24, 2018

Enforcement Advisory No. 2018-03

FCC ENFORCEMENT ADVISORY

TWO-WAY VHF/UHF RADIOS MAY NOT BE IMPORTED, ADVERTISED, OR SOLD IN THE UNITED STATES UNLESS THEY COMPLY WITH THE COMMISSION'S RULES

OPERATORS MUST ALSO COMPLY WITH FCC RULES

The Enforcement Bureau (Bureau) of the Federal Communications Commission (FCC) has observed that a growing number of conventional retailers and websites advertise and sell low-cost, two-way VHF/UHF radios that do not comply with the FCC's rules. Such devices are used primarily for short-distance, two-way voice communications and are frequently imported into the United States. These radios must be authorized by the FCC prior to being imported, advertised, sold, or operated in the United States.¹

Many of these radios violate one or more FCC technical requirements. For example, some can be modified to transmit on public safety and other land mobile channels for which they are not authorized, while others are capable of prohibited wideband operations.² Such radios are illegal, and many have the potential to negatively affect public safety, aviation, and other operations by Federal, state, and local agencies, as well as private users. Because these devices must be, but have not been, authorized by the FCC, the devices may not be imported into the United States, retailers may not advertise or sell them, and no one may use them. Rather, these devices may only be imported, advertised, sold, or used only if the FCC first has approved them under its equipment authorization process (or unless the devices operate *exclusively* on frequencies reserved for amateur licensees or they are intended for use exclusively by the federal government). Moreover, with only very limited exceptions, after being authorized, the devices may not be modified. Anyone importing, advertising or selling such noncompliant devices should stop

¹ 47 CFR § 2.803(b)(1). Importing, advertising and selling are three aspects of "marketing" under the Commission's rules. Specifically, marketing "includes [the] sale or lease, or offering for sale or lease, including advertising for sale or lease, or importation, shipment, or distribution for the purpose of selling or leasing or offering for sale or lease." 47 CFR § 2.803(a).

² The maximum allowed operational bandwidth for such radios, with limited exceptions, is 12.5 kHz, which is considered "narrowband." See 47 CFR § 90.209(b)(5) n.3.

immediately, and anyone owning such devices should not use them. Violators may be subject to substantial monetary penalties.³

What Should You Know?

The Bureau has noted an increase in the manufacturing, importation, advertising, and sale of two-way VHF/UHF radios that are not authorized in accordance with the Commission's rules.⁴ Generally, electronic devices that intentionally emit radio waves are required to be certified by the FCC or an authorized third-party certification entity (Telecommunications Certification Body) prior to importation, advertising, sale, or use.⁵ Two-way VHF/UHF radios require FCC certification to show compliance with our rules, unless they qualify for a limited exception (see *Amateur Radio Exception*, below, and Federal government exception at footnote 4).

This certification requirement ensures that equipment complies with technical requirements to avoid causing interference to federal government operations, private licensed operations, and other authorized operations or equipment.⁶ **Equipment that does not comply with the technical requirements cannot be certified and thus cannot be imported, advertised, sold, or used.**⁷

Amateur Radio Exception. There is one exception to this certification requirement: if a device is capable of operating *only* on frequencies that the FCC has allocated for use by Amateur Radio Service licensees, it does not require FCC equipment authorization,⁸ and an amateur licensee may use his or her license to operate such radios. However, many two-way radios that purport to operate on amateur frequencies also operate on frequencies that extend beyond the designated amateur frequency bands.⁹ If a two-way

³ See, e.g., *Amcrest Industries, LLC, d/b/a Baofengradio.US*, Citation and Order, DA 18-801 (EB-SED Aug. 1, 2018) (issuing citation); *Pilot Travel Centers, L.L.C.*, Notice of Apparent Liability, 19 FCC Rcd 23113 (2004) (*Pilot NAL*), Order and Consent Decree, 21 FCC Rcd 5308 (2006) (\$90,000 settlement); *CB Shop & More, LLLP Loveland, Colorado*, Forfeiture Order, 23 FCC Rcd 4688 (EB-WR 2008) (imposing \$7,000 forfeiture); *Love's Travel Stops and Country Stores, Inc. Oklahoma City, Oklahoma*, Forfeiture Order, 21 FCC Rcd 10798 (EB-SCR 2006) (imposing \$25,000 forfeiture).

⁴ See, e.g., Letter from David Smith, President, and Mark Crosby, Secretary/Treasurer, Land Mobile Communications Council, to Michael O'Rielly, Commissioner, FCC at 2 (June 7, 2018) (stating that the "distribution of non-compliant radio devices . . . reaches 1,000,000 units annually."), <http://lmcc.org/wp-content/uploads/2018/06/LMCC-Letter-ORIelly-re-NonComDev-060718.pdf>.

⁵ 47 CFR §§ 2.803, 2.805, 2.907, 15.201. The equipment authorization rules apply to the manufacture, import, sale, offer for sale, shipment or use of devices capable of emitting radio frequency energy. See 47 U.S.C. § 302a(b). These rules apply to all radio frequency equipment advertised or sold to non-Federal U.S. customers regardless of the equipment's origin, including equipment manufactured overseas and imported for subsequent sale to non-Federal U.S. customers or shipped directly from overseas to non-federal U.S. customers. These rules do not apply to equipment used by Federal Government agencies. See 47 U.S.C. § 302a(c), 47 CFR § 2.807(d).

⁶ 47 CFR §§ 2.907, 15.201.

⁷ Frequently, these devices are also not accompanied by required disclosures concerning FCC licensing requirements. See, e.g., 47 CFR § 95.653(b)(4). Marketing without these disclosures is also prohibited. 47 U.S.C. § 302a(b).

⁸ See, e.g., *Pilot NAL*, 19 FCC Rcd at 23114 ("[R]adio transmitting equipment that transmits *solely* on Amateur Radio Service ('ARS') frequencies is not subject to equipment authorization requirements prior to manufacture or marketing.") (emphasis added).

⁹ For example, the Bureau has observed two-way radios that apparently operate on frequencies 136-143 MHz, 400-419 MHz and/or 451-520 MHz, all of which are outside of the authorized amateur radio service bands. 47 CFR

VHF/UHF radio is capable of operating outside of the amateur frequency bands, it cannot be imported, advertised, sold, or operated within the United States without an FCC equipment certification.¹⁰

Even if a two-way VHF/UHF radio operates solely within the amateur frequencies, the operator is required to have an amateur license to operate the device and must otherwise comply with all applicable rules.¹¹ The Bureau will take very seriously any reports of failures of two-way radio operators to comply with all relevant rules and requirements when using devices in the amateur bands.

What Happens If Manufacturers, Retailers, or Operators Do Not Comply with the FCC's Rules?

Violators of the Commission's marketing rules may be subject to the penalties authorized by the Communications Act, including, but not limited to, substantial monetary fines (up to \$19,639 per day of marketing violations and up to \$147,290 for an ongoing violation).¹²

What Should You Do?

The FCC rules governing two-way VHF/UHF radios are designed to minimize interference to all authorized spectrum users, including important government and public safety operations. Manufacturers, importers, retailers, and radio operators should take the time to learn the FCC rules governing equipment authorization and comply with them. When manufacturing, importing, advertising or selling two-way radios and accessories that either are electronic or have electronic components, manufacturers, importers and marketers should ensure that such devices or components are properly certified and labeled as FCC-compliant and cannot be easily modified to operate outside its grant of certification.¹³ Prior to purchase or operation, individuals should ensure that a device is either labeled as FCC-compliant or operates solely within amateur frequencies.¹⁴

Need more information?

For additional information regarding equipment marketing and amateur radio rules, please visit the FCC website at <https://www.fcc.gov/engineering-technology/laboratory-division/general/equipment-authorization> and <https://www.fcc.gov/wireless/bureau-divisions/mobility-division/amateur-radio-service>, respectively. Media inquiries should be directed to Will Wiquist at (202) 418-0509 or will.wiquist@fcc.gov.

To file a complaint, visit <https://consumercomplaints.fcc.gov> or call 1-888-CALL-FCC.

§ 97.301(a) (listing amateur frequencies).

¹⁰ See, e.g., *New Generation Hobbies*, Citation, 26 FCC Rcd 9468, 9471 n.23 (EB 2011) ("[W]hile amateur radio service equipment is exempt from the FCC's equipment certification requirement, it is a violation of the Commission's regulations to market in the United States a transmitter that is designed or intended to operate on frequencies outside of the authorized amateur radio service bands if such equipment has not been issued a grant of equipment certification.").

¹¹ See, e.g., 47 CFR §§ 97.5, 97.113, 97.215.

¹² See 47 U.S.C. § 503(b)(2)(D); 47 CFR §§ 1.80(b)(7), (b)(9) (reflecting adjustments for inflation).

¹³ A label indicating compliance may be located on the surface of the product, within a user-accessible non-detachable compartment (such as the battery compartment), on the packaging of the device, and/or within electronic menus if the device has an electronic display.

¹⁴ Moreover, any type of authorized equipment that requires a license should not be operated without the appropriate license. Many commercially-available two-way radios, depending on operational frequencies, require a license to operate. See, e.g., 47 CFR Part 95 (Personal Radio Services).

To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (TTY). You may also contact the Enforcement Bureau on its

TTY line at (202) 418-1148 for further information about this Enforcement Advisory, or the FCC on its TTY line at 1-888-TELL-FCC (1-888-835-5322) for further information about the aviation radio rules.

Issued by: Chief, Enforcement Bureau