

September, 2020

LARC NEWS & VIEWS

N4LNR



Lenoir Amateur Radio Club Newsletter

Events

LARC Meeting

Thu. Oct. 08, 7:00 pm
Webex Online Meeting
Speaker: Vic Misenheimer
Emergency Management Coordinator
EMCOMM in Caldwell County

15th Annual ARRL Online Auction

Thu. Oct. 08- 22
<http://www.arrl.org/arrl-on-line-auction>

Next LARC Meeting

Thu. Nov. 12, 7:00 pm
Webex Online Meeting

JOTA-JOTI Scouting Jamboree

Fri. Oct. 16- 18
<https://www.jotajoti.info/>

Peak to Creek Marathon

Sat. Oct. 24, 8:00 am - 2:00 pm
Jonas Ridge, NC
<https://runsignup.com/Race/NC/JonasRidge/>
PeaktoCreekMarathon



FCC's RID

At last month's Lenoir Amateur Radio Club meeting, **Brian Harrison (KN4R)** gave a presentation on The FCC's Radio Intelligent Division (RID) in WWII. Brian is a collector of uncommon radios with a good story. He presented a very interesting bit of history in Amateur Radio Communication and how our nation's Hams played a crucial part during war time.



The presentation was about Amateur Radio Operators recruited to become RID Agents to listen and spy on enemy radio communications during World War II.

WANTED!
RADIO OPERATORS
TO WORK for UNCLE SAM!

Civil Service Jobs Open
\$1620 to \$1800 a Year!

Now is the time to show Uncle Sam that his faith in us has been justified. The U. S. Civil Service Commission is receiving Applications for positions from qualified applicants. These positions are of two ratings — \$1620 a year and \$1800 a year.

Vacancies will be filled by the F.C.C., the C.A.A. and other branches of the Civil Service.

The requirements vary according to the rating but necessitate handling code traffic at 25 words per minute or over, 5 years valid operator's license, U. S. citizenship, etc. Duties include standing watch for transmission and reception of radio messages, being responsible for maintenance and operation of equipment, etc.

Additional information, Application Forms, etc. may be obtained at any first- or second-class post office or any U. S. Civil Service office. Ask for **Announcement 93, Radio Operator.**

NDO and RID positions

- ◆ NDO = National Defense Operations
- ◆ Evolved into the RID = Radio Intelligence Division
- ◆ Radio Operator \$1800/yr
- ◆ Ass't Monitoring Officer \$2400/yr
- ◆ Monitoring Officer \$3200/yr



FCC's RID (cont.)

In June of 1940 all Hams were required to cease international contacts, and in September of 1940 the National Defense Operation Section (NDO) was created. By October all licensed Hams had to submit a photo, fingerprinted, and required to have proof of citizenship. By March of 1942 there were 15,000 Amateur Radio Operators in the military.

RID Charter

- ◆ Investigate and monitor airways
- ◆ Train military personnel and intelligence agents in radio intelligence, monitoring and radio direction finding techniques
- ◆ Support military radio intelligence efforts

For more information go to:

<https://fccid.io/blog/2020/01/23/fcc-radio-intelligence-division/>

<http://www.61thriftpower.com/riradio/pdf/ridhist.pdf>

Here are some examples of equipment and devices the RID used.



SSR-201
Aperiodic receiver
"Watch Dog"

DATA SUMMARY
Organisation: OSS
Design/Manufacturer: OSS personnel (believed)
Year of Introduction: Late WWII
Purpose: Wide-band surveillance receiver
Circuit Features: Aperiodic circuit (AM R/T and CW)
Frequency Coverage: Wide-band, estimated 10kHz to >30MHz
Valves: 1G4, 6SQ7, 6J5, 6G6 (2x), 6SL7 (2x), 6V6, 6G5, VR105 (2x)
Additional Data: The set has a distinct civilian appearance
Power Supply: 110V AC mains or external 6V DC vibrator HT power unit
Size (cm) and Weight (kg): Height 13, length 25, width 43, weight 8.4
Antenna: Length of wire



Boehme tape machine



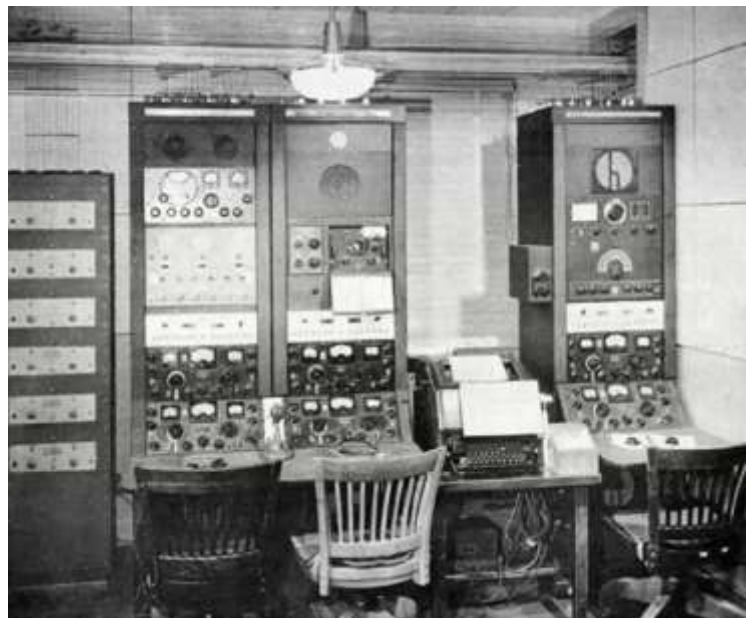
SX-28 receiver

FCC's RID (cont.)

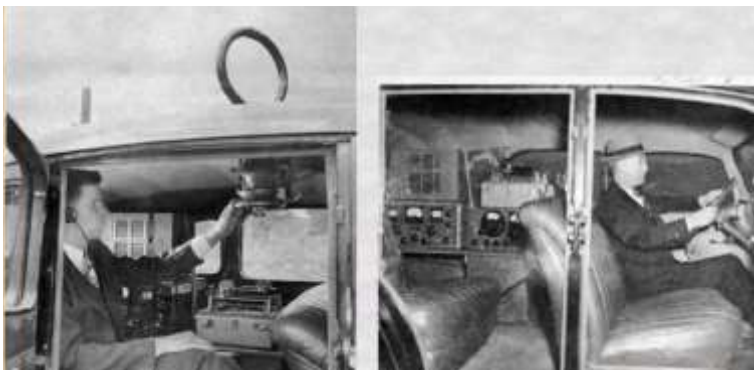
At the end of the presentation, the Club had the opportunity to watch a short movie called "Patrolling The Ether". The film is about a young Amateur Radio Operator who is recruited to RID and it depicted the work of the agents in the field. https://drive.google.com/file/d/1zYlxJzxd5q_KBkbl2ritSII_4yocLfIM/view



Adcock direction finder



Mobile Surveillance Unit inside vehicle.

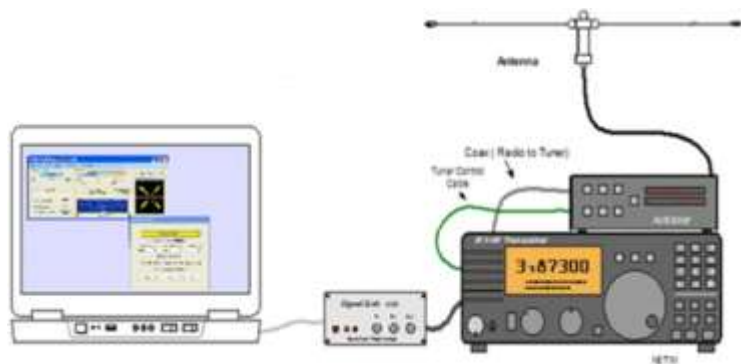


What is Winlink?

Winlink is *Winlink Global Radio Email* also known as the *Winlink 2000 Network*. It is a worldwide messaging system using a network of Amateur Radio and authorized government-licensed stations. Basically email via radio. The system is built and administered by Amateur Radio volunteers and is supported by the Amateur Radio Safety Foundation, a non-profit organization. It supports email with attachments, position reporting, weather and information bulletins, emergency and disaster relief communications, and message relay. The system came from maritime roots. Since it uses radio frequencies UHF, VHF, or HF, it is completely operable where the internet is not available. The system also provides separate parallel radio email systems for the Military Affiliate Radio System (MARS) and the United States Department of Homeland Security SHARES (SHARED RESOURCES) HF network among other users.

What do you need to start using Winlink?

- A computer - with software such as Winlink Express.
- A terminal node controller (TNC) - a packet controller device with a modem to convert base band digital signals to audio tones. Or a sound card interface device such as a Signalink USB.
- A radio - needs to have a data port (1200/9600), or microphone and speaker connections (1200 only).



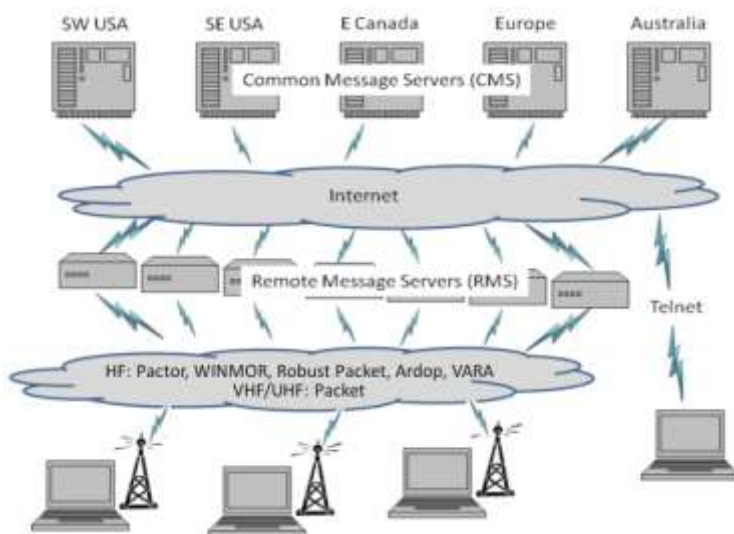
How does the Winlink system work?

Hierarchical levels of the Winlink system:

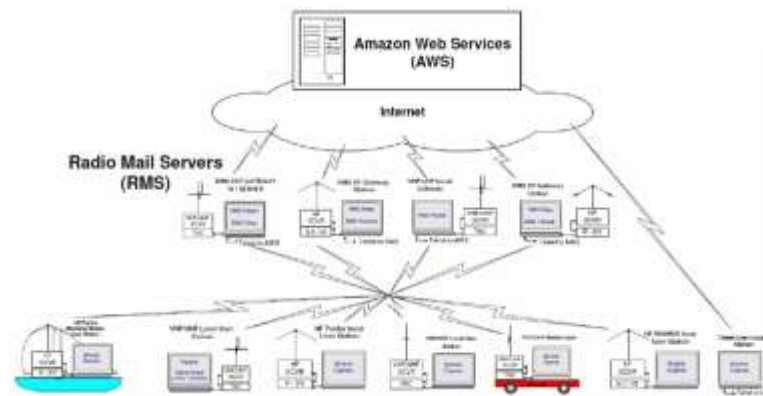
1. **Client system** –Radio, computer with Winlink software (Winlink Express), TNC (or soundcard) and you, the end-user
2. **Radio Message Server (RMS)** –Radio gateway between the client (end-user) and the Winlink system backbone.
3. **Common Message Servers (CMS)** – The Winlink backbone. The system used to employ multiple central message servers around the world for redundancy, but in 2017–2018 upgraded to *Amazon Web Services (AWS)*

that provided a geographically-redundant cluster of virtual servers with dynamic load balancers and global content-distribution.

The Old system of CMS



The New system with AWS



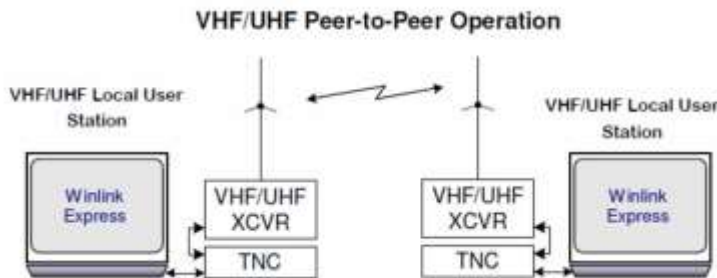
There are four pathways for client computers to connect to the Winlink system:

- Via HF radio to one of the RMS hubs.
- Via VHF/UHF radio to a local RMS hub.
- Via the Telnet protocol over the Internet.
- Via Winlink WEBMAIL over the Internet.

What is Winlink? (cont.)

Radio-Only Operation

- **Peer-to-peer** direct radio connection between end-users.
- The Internet is not used, all communication by radio.
- Only the two client stations are involved.
- 100% error-free transmission and file attachments.



The Winlink Development Team at Winlink.org is having a Twelve-Week Workshop Series through Zoom online meetings. Though the Workshops are in progress and weeks 1-5 have completed, the meetings were recorded and are available along with reading materials to view and download. If you are interested in learning how to use Winlink, here are the links to the website where you can get the Workshop videos and materials:

<https://www.winlink.org/>

https://www.winlink.org/content/winlink_online_workshop_update

The Workshops are held each Thursday at 0100Z on Zoom.

WK1 – Winlink Basics: Initial Setup and Basic Operation

Viewing: <https://vimeo.com/441219236>

Download: <https://vimeo.com/user107547861/download/441219236/920160e538>

Documents: <https://www.dropbox.com/sh/fwaejzwx0zkcid0/AAAx9GnWhPs9XMBHFptEG0ya?dl=0>

WK2 - Winlink Basics: Peer-2-Peer Operations; VARA FM and UZ7H0 on VHF

Viewing: <https://vimeo.com/443288476>

Download: <https://vimeo.com/user107547861/download/443288476/1281494e61>

Documents: <https://www.dropbox.com/sh/x9uaq9zvdxj5jmu/AABhLhp-7JvqfzJZh1ciGRbxa?dl=0>

WK3 - Winlink Advanced: Gateways; VHF and HF Operations

Viewing: <https://vimeo.com/445460664>

Download: <https://vimeo.com/user107547861/download/445460664/7dcc8ac971>

Documents: <https://www.dropbox.com/sh/pm44njgw9nq753b/AADZQ21U8Pki1fDjUaFceqgXa?dl=0>

WK4 - Winlink Radio Soundcard Interface: DRA Radio Interface products

Viewing: <https://vimeo.com/447856794>

Download: <https://vimeo.com/user107547861/download/447856794/e9841991dd>

WK5 - Winlink Workshop: VARA HF-VHF

Viewing: <https://vimeo.com/449979332>

Download: <https://vimeo.com/user107547861/download/449979332/bead43b67b>

Documents: <https://www.dropbox.com/sh/ubr2e10le6g6qkn/AACnJC-jJ7V53eDqoZt-zPO4a?dl=0>

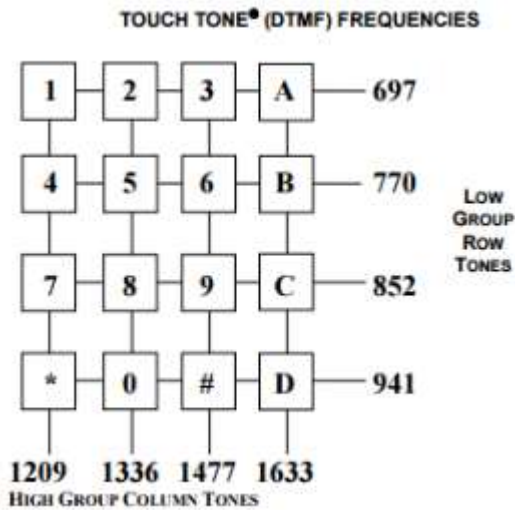
Join the SEC-ARES group for announcements and discussions: <https://groups.io/g/SEC-ARES>

Please be sure to include your name and call sign when registering on SEC-ARES.

DTMF

Dual Tone Multiple-Frequency, DTMF was developed by the American company Bell Labs owned by Nokia. It was called Touch-tone as a registered trademark of AT&T. Touch-tone replaced the system for telephony that was built on the impulse system, with a rotary dial.

When pressing buttons on a phone, every click sends two tones on two different frequencies, a “Row” tone and a “Column” tone. Every number has their own, frequencies. Number 1 consists of the tones 697 and 1209 Hz for example.



In the early days of DTMF phones, there were six extra buttons on a phone. There used to be an A, B, C, and D button on a touch tone phone. The engineers at AT&T had envisioned telephones being used to access computers and automated response systems, so after consulting with companies the # (pound) and * (asterisk) buttons were added. The A, B, C and D buttons were later removed.

DTMF is not only used in telephones, but various devices that use push button numbered keys such as code entry security systems, and of course radios.



In amateur radio there is several things that you can do with DTMF. Probably the most common use of DTMF is remote control. On some repeaters, you can remotely program them to do different things. You can turn the repeater itself on and off, turn the CTCSS tone on and off, change the repeater tail or tail length. Some repeaters the only way you can program them is over-the-air, and others you have to do on site.

Another way you can use DTMF is autopatch. Some repeaters have autopatch built in. When you access a repeater's autopatch function, a dial tone comes on the air. Then you may dial a phone number, using the numeric keypad on your radio or microphone. The tones feed through the telephone system, which dials the number and connects you. Autopatch can come in handy if your mobile phone's battery goes out or the service network malfunctions. Some people use it to call 911 to report an accident on the road. You can even call a store or order a pizza. But there are limits. You may not conduct business because it is using Amateur Radio over the air and communication is not private.

DTMF is a way to send information over vast distances. DTMF isn't interruption sensitive and is considered reliable. You may want to use an encoder to “Store and Forward” DTMF code so that you may quickly send entire DTMF code as one complete string of numbers and characters.



Did you know that the SpectroMagic parade of lights at Disneyland and Disney World use DTMF tones? The costumes for the parade contain metallic sections lined with LED lights. Each costume also contains a battery pack and a RF transmitter unit for syncing the costume's lights to the audio track to change colors. Each unit has on-board audio that's synced to an under-liner that's played along the parade route on what's known as “zone” speakers. The units have specialized tones, character voices, special effects audio, and unit audio that are contained in a separate track per each. These tracks, and various other tracks used in the parade, are all synced using DTMF tones that send packets of time-coded data to the units, which is then used to sync the audio, lighting and special effects.

A Ham's Life

ED (KB2KHR) is having fun or struggling...or a whole lot of both while driving his new grounding rod at his QTH for his radio system.

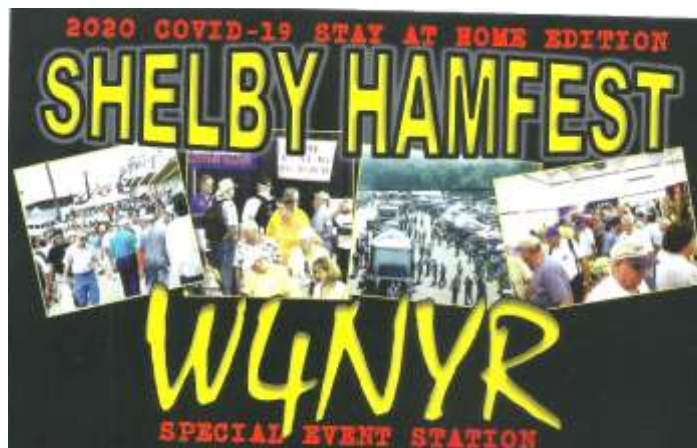


Ed is well on his way to finishing the job. He's using KN4AYDs Demolition Hammer to drive the rod into the ground in under 3 minutes



The finished product, leaving it out high enough to be seen. Ed still needs to get clamps and grounding straps.

We all missed going to Shelby this year, as it was canceled due to restrictions. The Shelby Amateur Radio Club coordinated a Special Events Station W4NYR during Hamfest weekend and operated several bands and modes during the time period. **Todd (KI4FVO)** was able to work the station on Saturday afternoon on DMR - PRN via the Lenoir Hibriten 443.1875 repeater from his base station in his shack. They mailed him a nice QSL card for the contact.



W4NYR SARC CLUB
SHELBY AMATEUR RADIO CLUB

PO Box 2206
Shelby, NC 28151-2206
www.shelbyhamfest.org
www.sh4nyrc.org

TO RADIO	DATE			UTC	BAND	MODE	RST
	DAY	MONTH	YEAR				
KI4FVO	2020	09	05				
Time: 19:57	Bnd: 70	443.913					
Mode: DMR	RST: 599						
TNX FOR CONTACT W/ WG4Z OP							

In 2020 we cancelled the 64th Annual Shelby Hamfest due to the COVID-19 Virus Pandemic restrictions. Please join us in 2021 Sept 3-5 (every Labor Day Weekend) for the "Granddaddy of Them All" Shelby Hamfest in Shelby, NC at the Cleveland County Fairgrounds and is sponsored by Shelby Amateur Radio Club since 1967.

KB2KHR QSL Cards



A Ham's Life (cont.)

Here, Buck (N4PGW) and I, Mitch (KN4AYD) are running power for the two radios and Buck wanted to install a power block which is in one of the pictures. We started to install two separate radios in his new vehicle. It took us quite some time to find an opening into the firewall that we could use without cutting another hole into it. One of the most efficient ways to run power and protect the wires at the same time.

Buck had to pull back the installation which had plastic connectors holding it in place. Then run wires behind some already installed stuff along the firewall's interior so that feet won't accidentally damage or grab the wires. Then we zip tied the wires in place so they wouldn't flop around.

We installed one of the radios, and he was going to install the power block, and then install the other radio at a later date. It's always good to have a helping hand when you're trying to set up a Ham station in a vehicle or for your QTH. Another instance of Hams Helping Hams.

We need to do more of this kind of stuff and more often. If you need any help just give a shout out to the newsletter editor or one of the officers or for that matter any of the members of the Lenoir Amateur Radio Club. You'll find not just one individual but several people willing to assist you in getting you set up and / or make improvements to your overall Amateur Radio experience.



Lots of cables and wires and the Ham wants to add a couple of more!

Eureka! We found an opening!



Disconnecting hoses to prepare to make room to work. Very important to take some pictures of where the items are supposed to go back.



More to reconnect later...

A Ham's Life (cont.)

And we are in white coated coat hanger for a fish tape...



Pull as much as possible into the vehicle One side....now the other to follow



Had to pull insulation on firewall back



Power Pole Block



Fuse Block



Filter Box Removed 1st Wire ran



A Ham's Life (cont.)

Another Fuse Block



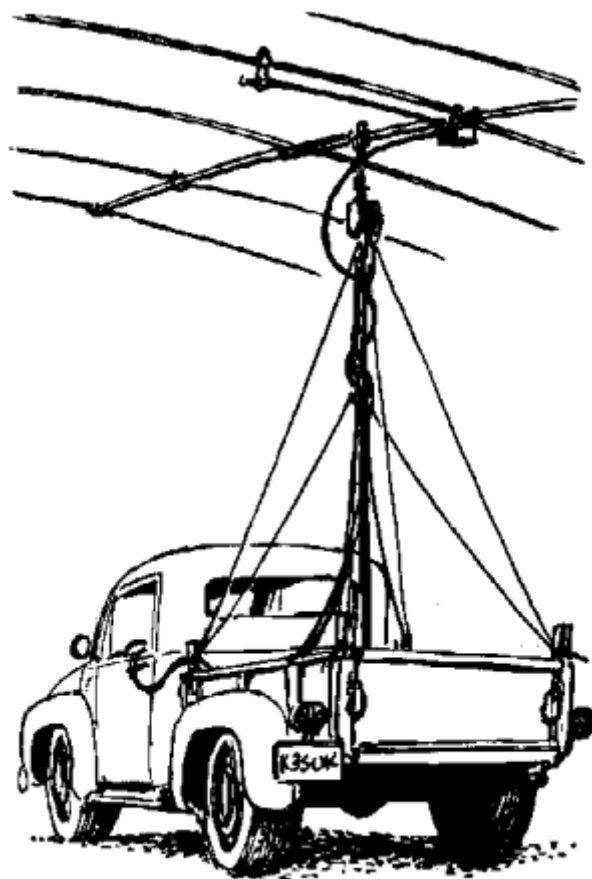
Keeping wires well out of the way of the Driver's feet



Tidying up the power lines



Tell us about yourself. How did you learn about Amateur Radio? Who lead you to the hobby? When did you become a Ham? Show us your rig, ham shack, home station, mobile station, your antenna setup and equipment. Share your knowledge, problems, and solutions. What have you learned or want to learn? Tell us about an interesting contact or event. What is your favorite mode? What part of radio communication do you like and enjoy? Email your submissions to newsletter@n4lnr.com and feel free to include lots of photos along with your story.



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

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