NCARC Tri-Bander

Volume 7, Number 9 October 2026

From the NCARC President

Joe Hawley KDØTYU
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We had an excellent club picnic, with an estimated 40 to 50 people joining us—the largest turnout we've ever had! Thank you to everyone who attended. It was a wonderful opportunity to catch up, enjoy each other's company, and celebrate our Northern Colorado Amateur Radio Club community.

We also recently held a General licensing class, and three participants earned their General licenses. Mitchell Ragsdale, Joe Forman, and Mary Dale. Congratulations to all three on this accomplishment! Upgrading takes time and effort, and we look forward to hearing about your experiences as you explore your new operating privileges.

Looking ahead, we plan to work with Ham Radio School and use its curriculum for future licensing classes. Our club will continue to manage the classes, using their instructional materials to support our students. Ham Radio School also offers an online course, and we plan to help students taking that course as well.

Thank you for being part of the club and helping make these activities a success. Whether you're attending an event, upgrading your license, or helping someone get started, your participation keeps our amateur radio community growing.



NCARC Club Meeting

October 17, 2026

8:30 am Golden Corral opens- breakfast and socialize, **9:00 am** club meeting

In Person and online

Join Zoom Meeting

Join and take notes

Meeting chat link

Meeting ID: 840 7186 9254
Passcode: 155924

You choose what you feel comfortable doing: attend in person or online.

Topic:

Open Ham Clock

Christopher Hetherington, KØCJH

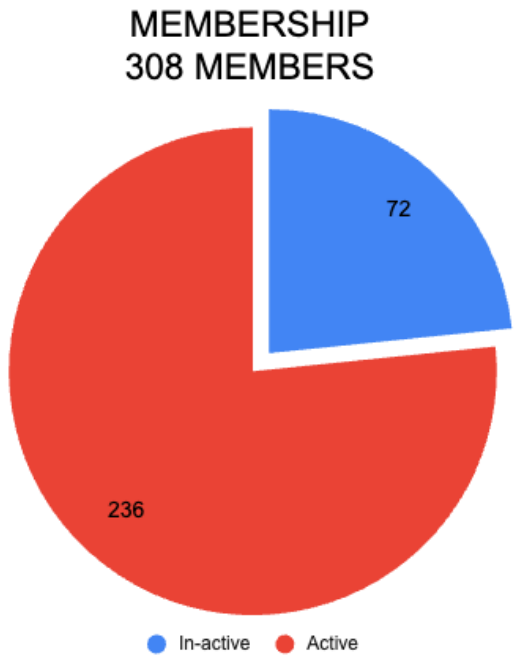
Location:
The Golden Corral
1360 Sculptor Dr, Loveland CO 80537

Treasurer's Report

Pete Robbins WØRCR
treasurer@ncarc.co

Here are some highlights for September:

- **Membership**: Our new membership portal is live and we have converted all our Family Members into full members, bringing our total membership up to 308. Thank you to Jim Nelson KFØYNL for helping us get the new membership portal live!
- **MailChimp**: Shortly we will be sending communications via MailChimp, which is linked to the new membership portal. So be sure to keep your email up to date at https://www.ncarc.co



Finances

Opening Balance	$15,312.10
Incoming	$238.65
Outgoing	$326.40
Ending Balance	$15,224.35

Income:	**Expenses**
• Membership dues • Event venue refunds	• Event expenses • Storage • Test equipment

Please welcome our newest club member:

KO6ICR

Membership Renewal Reminder

The club recently approved changes to our Bylaws regarding membership terms, and we are currently updating the club website to support this new system.

Here is how your upcoming renewal date will work:

- Existing Members (Paid for 2026): If you paid your annual dues between September 1, 2025, and December 31, 2025, your next renewal date is January 1, 2027.
- Rolling Memberships (Paid in 2026): If you paid or joined on or after January 1, 2026, your membership will now renew exactly 365 days from the date you last paid.

Please Renew Your Membership!

It's quick and easy.

Click here!

Silent Key

Ann Trudeau, KAØZFI, died August 20, 2026. She was a Ham operator for over 35 years, and active in Amateur Radio Emergency Service. Please **visit her obituary here** for more information. Her husband, Ben Baker, KBØUBZ, is facing financial challenges that may make it difficult for him to remain in the home they shared together for so many years. That home holds a lifetime of memories, and being able to stay there would mean so much to him during this difficult chapter of his life.

A GoFundMe has been established to help Ben with his financial needs and, hopefully, give him the opportunity to remain in his home while he begins to navigate life without his wife.

If you are able, please consider making a donation—no matter how large or small. Every contribution can make a difference, and together, as a club and as a community, we may be able to give Ben some peace of mind and help him hold onto this special home. If you cannot contribute financially, simply sharing the GoFundMe page with others is also a wonderful way to help. Let's show Ben that his NCARC family is here for him.

Our thoughts and prayers are with Ben and his family during this very difficult time.

Northern Colorado Amateur Radio Club

WINTER 2027 HAMFEST

Colorado's First Hamfest of the Year!
Bigger and Better Than Ever!

SATURDAY, JANUARY 16, 2027

The Ranch | 5280 Arena Circle, Loveland, Colorado

OPEN TO THE PUBLIC
8:00 AM – 1:00 PM
Admission: $7

FREE EXAM SESSIONS

TABLE RESERVATIONS
(8-Foot Tables)

Basic table $20
Powered table $23
Outside table $25
Each includes 1 admission

GREAT PRIZES

AMATEUR RADIO PRESENTATIONS

EXHIBITS & DEMONSTRATIONS

NEW & USED EQUIPMENT



RAFFLE PRIZES

(Details to be added later)

SPONSORS

(Information to be added later)

Looking for Interviewers!

By Joe Hawley KDØTYU

We're exploring a new project that may involve interviewing people on the air, and we're looking for members who might be interested in helping.

If you have experience conducting interviews—or if you'd like to learn—and would be interested in working with us on this project, please send me a note. Let me know a little about your background, any interviewing experience you may have, or simply what interests you about the opportunity.

We'll be in touch with those who are interested and share more details about the project.

WWV Remembered

The 100 year celebration of WWV was a few years ago and NCARC had the rare opportunity to tour the facility. John Wells KBØNE, with Joe Haberer KD5ORX, has "smushed together" (his words!) video from the tour and is sharing it with us. Click here to view on YouTube!

NCARC Elmer Group: The Northern Colorado Amateur Radio Club is looking for volunteers to become part of our new **Elmer Group**. **By Joe Hawley, KDØTYU**

One of the greatest strengths of amateur radio is experienced operators helping others learn and grow. We are building a team of volunteers who are willing to share their knowledge and lend a hand to both new and returning hams.

As an Elmer, you might help members with:

- Choosing the right radio or antenna for their needs.
- Installing radios, antennas, and related equipment.
- Programming handhelds and mobile radios.
- Learning new operating modes such as DMR and other digital technologies.
- Answering general amateur radio questions and providing encouragement.

Whether you're helping someone get their first station on the air or assisting a longtime operator who wants to explore something new, your knowledge and experience can make a real difference.

If you're interested in volunteering, please let me know. You can send me an email, give me a phone call, or stop me before or after one of our meetings. I'd be happy to answer any questions.

Red Feather Trail Jamboree

By Bill Beach and Brad Bishop

Gnar Runners held three trail races in the Red Feather Lakes area, with start/finish each day at the Ben Delatour Scout Ranch. Races were 50 miles (Friday), 50 km (Saturday) and a half marathon (Sunday).

I helped on Friday at the Deadman Aid Station (North Lone Pine Trailhead), which was about 20 miles into the race. That's me, Bill Beach KØUT, standing with the volunteer who was recording split times. I was backing him up with my own paper log, which came in handy later.

Of the 57 runners who started the race, all made it through Deadman Aid Station, that is, no drops up to that point. Of the 57 runners, 49 completed the race.

Brad Bishop: Hams were a key part of our race operations, providing essential communication between remote checkpoints that wouldn't otherwise have been possible. They helped us track every runner through every checkpoint and ensure their safety en route, as well as provide a forum to answer questions when unexpected situations inevitably come up. Special thanks to team lead & Net Control Mike NØTQ as well as the whole team!





Microwave Band Testing at Rattlesnake Ranch

By Greg Ella NØEMP

I did some testing on one of our microwave bands, 13 centimeters, at 2304.1 MHz, from my property (Rattlesnake Ranch) at 7,500 feet, down to Art, W0BA, in Cheyenne, 35 miles away.

I was using a whopping 8 milliwatts of power from a software defined radio into a grid dish antenna, and worked Art with both CW and Upper Sideband voice. Bart, NØNYY and Mark, NØIGD came along and used their Icom IC-9100 and Icom IC-905 on 23 cm and 13 cm. We did initial testing on Sep 5th and then went back and operated again on Sep 12th during the ARRL VHF+ Contest.





Learn to Use Your NanoVNA with Confidence!

Have a NanoVNA but aren't sure how to use it? This hands-on class is for you!

Join us as we learn how to set up, calibrate, and use a NanoVNA for practical amateur radio applications.

🔧WHAT YOU'LL LEARN

- **How to set up your NanoVNA**
- **Proper calibration techniques**
- **How to make measurements**
- **Understanding SWR and antenna measurements**
- **How to use your NanoVNA to troubleshoot antennas and feed lines**
- **Tips and techniques to get the most from your NanoVNA**

🛠️BRING YOUR OWN NANO VNA!

If you own a NanoVNA, please bring it with you!

📅CLASS INFORMATION

October 24, 2026, 9:00 AM

Front Range Community College

609 W. Harmony Rd.

Fort Collins, Colorado

🎓HANDS-ON • PRACTICAL • AMATEUR RADIO FOCUSED

Whether you're new to NanoVNAs or have one sitting on your bench that you haven't quite figured out yet, come learn how to put this powerful little instrument to work!

Presented by the Northern Colorado Amateur Radio Club

To sign up for the class (CLICK HERE)

MeshCore Room Server Available!

By Jason Fellingham KW5USA

A new experimental MeshCore room for NOCO Hams is available. There is also an opportunity to learn more about MeshCore within the link below. I hope you find it useful. **>> Go to the NOCO*HamChat* Info Page <<**

MeshCore is a multi-platform system for enabling secure, text-based communications utilizing LoRA radio frequencies and hardware. It can be used for off-grid communication, emergency response & disaster recovery, outdoor activities, tactical security including law enforcement, private security and also IoT sensor networks.

MeshCore is great for building large-scale, stable, and high-performance networks due to its battery-saving and efficient, repeater-focused architecture, superior scaling, and reduced network congestion. It is designed for, as one user on r/meshcore described it, a smoother UI, better efficiency, and more stable, long-range communication than Meshtastic.

MeshCore (LoRA) is open to everyone. You don't need a license to participate.

By the way - **MESHCORE IS ALIVE AND WELL IN COLORADO!** View Node Map

How to Get Started with MeshCore - It's probably easier than you think. Further information and resources:

My Repeater

- RPT1 FNL-LVLND-WDWRD-RE-C3B4

Manufacturers / Resellers

- Atlavox
- Heltec Automation
- Muzi Works
- Rokland
- Seeed Studio

Organizations

- MeshCore - The one and only!
- ColoradoMesh
- Denver Mesh Community
- RegionMesh

Off the Beaten Path...

- MeshCore Open - Alternative client software

* Must use a Chrome-based browser, not Brave.

Tools

- MeshCore Map
- MeshCore Flasher *
- Let's Mesh Analyzer
- MeshCore Web App *
- MeshMapper
- Range Check
-

Etc...

- Liam Cottle - A key contributor to the MeshCore project
- Scott from Ripple Radios - Another key contributor
- A Blog post from official MeshCore Team: Meshcore.io - Why The Split?

Did You Know?

A regular contribution from Bob Schmid, WA9FBO

Decibels: From Telephone Lines to Ham Radio

The decibel shows up everywhere in radio. We talk about antenna gain in dB, feedline loss in dB, amplifier gain in dB, receiver sensitivity in dB above the noise floor, and signals measured in dB above S9 on an S-meter. Yet the decibel did not originate in radio—it came from a problem faced by early telephone engineers over a century ago.

The telephone company's measurement problem

In the early 1900s, engineers at Bell Telephone Laboratories, the research arm of the American Telephone and Telegraph Company (AT&T), were trying to build long-distance telephone networks. Signals traveling through many miles of copper wire were weakened by resistance and other losses, and engineers needed a way to describe how much signal was lost.

They could have used ordinary ratios. For example, a signal might emerge from a cable at one-tenth of its original power. But telephone systems contained many stages of loss and gain. A signal might pass through miles of cable, several repeaters, and switching equipment. Determining the total effect meant multiplying one ratio after another—a tedious process.

Since logarithms turn multiplication into addition, engineers could simply add logarithmic values instead of multiplying ratios (for a refresher, see "A Quick Word About Logarithms" at the end of this article). So around 1924 Bell Labs engineers introduced the Transmission Unit (TU), a logarithmic unit for comparing power levels. It was later renamed the bel in honor of Alexander Graham Bell.

The bel and the decibel

The bel measures the ratio between two power levels: bels = $\log_{10} (P_1/P_2)$. But engineers soon discovered that a bel was too large a unit for everyday use. A typical circuit might have only a fraction of a bel of gain or loss. So, they began using one-tenth of a bel, which they called the decibel: 1 bel = 10 decibels.

The decibel quickly became the standard unit and has survived long after the early telephone systems disappeared. That's because it proved useful in many other fields, including radio, audio, and radar. The bel itself is rarely used today.

Why we still use decibels

The decibel is still popular for several reasons. First, gains and losses can be added. If a feedline loses 3 dB and an amplifier adds 10 dB, the net gain is (10 dB – 3 dB) = 7 dB. Without logarithms, we would be multiplying ratios instead.

Second, decibels compress very large ranges of numbers. In radio work we often deal with signals that vary over millions or even billions of times in power. Expressing huge ratios in ordinary numbers would be awkward, while decibels shrink them into manageable values. For example, 2x power = 3 dB, 10x power = 10 dB, 100x power = 20 dB, and 1000x power = 30 dB. So, instead of saying a signal is 1000 times stronger, we simply say it is 30 dB higher.

Third, the decibel loosely matches the way humans perceive sound. Our ears respond roughly logarithmically to changes in sound intensity, which is why decibels also became the standard unit in acoustics and audio engineering.

10 log vs. 20 log

The decibel was originally defined for power ratios: $dB = 10 \log_{10} (P_1/P_2)$. It makes sense because power was what telephone engineers cared about—the amount of signal energy that reached the listener.

But in many circuits we measure voltage or current, not power, and the formula changes to $dB = 20 \log_{10} (V_1/V_2)$ or $dB = 20 \log_{10} (I_1/I_2)$. Why 20 instead of 10? Because power is proportional to voltage squared ($P = V^2/R$) or current squared ($P = I^2R$). The logarithm introduces a factor of 2, so the formula becomes 20 log instead of 10 log.

The decibel in everyday radio work

Some quick dB rules every ham learns:

- +3 dB doubles the transmitter power.
- -3 dB of feedline loss cuts the power in half.
- +6 dB of antenna gain concentrates four times as much power in the favored direction.
- +6 dB also represents double the voltage.
- +10 dB means ten times the power.

S-meters

An S-unit represents a change of 6 dB. Why six? Because a change of about 6 dB corresponds to a doubling of voltage in a receiver circuit. Early receiver engineers found this to be a convenient step size for measuring signal strength.

A Quick Word About Logarithms

The decibel formula uses logarithms, so it helps to know what a logarithm is. You don't need much math to use one.

A logarithm simply tells you the exponent needed to produce a number using powers of ten. For example:

$10^1 = 10$, $10^2 = 100$, and $10^3 = 1000$

The logarithm answers the question: *"What power of ten gives this number?"* So:

$\log_{10}(10) = 1$
$\log_{10}(100) = 2$
$\log_{10}(1000) = 3$

Most calculators have a **LOG** button that calculates base 10 logarithms automatically. For example:

$\log_{10}(2) \approx 0.301$

$\log_{10}(0.5) \approx -0.301$

That last example shows that logarithms can be **negative** when the number is less than one. In decibel calculations, this simply indicates a **loss** instead of a gain.

Now look at a simple decibel example. Suppose a signal becomes twice as strong. The power ratio is 2:1. Using the decibel formula:

$$dB = 10 \log_{10}(2)$$

A calculator gives:

$$\log_{10}(2) \approx 0.301$$

So:

$$10 \times 0.301 \approx \mathbf{3\ dB}$$

That is why doubling the power produces an increase of about 3 decibels.

Free Amateur Radio License Testing Available

The Northern Colorado Amateur Radio Club is committed to helping new and existing amateur radio operators earn or upgrade their licenses. That's why we offer free amateur radio testing sessions by appointment.

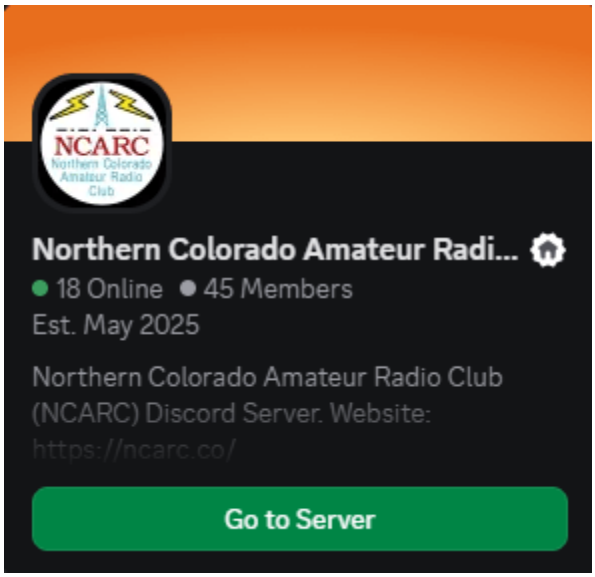
If you are ready to take your Technician, General or Amateur Extra exam, our Volunteer Examiners can often arrange a testing session at a time and location that works for you. We can meet at a local coffee shop, restaurant, community location, or other suitable venue. In some cases, we may even be able to come directly to your home.

We do ask for a few days' notice to coordinate our exam team, but in most cases, we can accommodate testing requests at almost any time.

Whether you're getting your first license or upgrading to the next level, we're here to help make the process as convenient as possible.

For more information or to schedule a test session, please get in touch with the club president Joe Hawley, KDØTYU, at president@ncarc.co or 970-689-0828.

Join our NCARC Discord Server!



Upcoming Ham Radio Events

Blue Sky Marathon: Oct 17, 2026, Fort Collins, CO. More info here. Contact Ron KØAZA

NanoVNA Training Class: Oct 24, 2026, Fort Collins, CO. To sign up click here.

NCARC Hamfest!: Jan 16, 2027, The Ranch, Loveland, CO. More info here.

Weekly On Air Events

NCARC Tech Net, Mondays, 6:00 pm MT, 447.275 (100 Hz tone)
NCARC Club Net, Wednesdays, 6:30 pm MT, 447.275 (100 Hz tone)

Biweekly Get Together

Martinez-Clarke Luncheon: every other Wednesday, 11:30 am,
(next one Oct 28, 2026) Perkins Restaurant, 2222 W Eisenhower Blvd, Loveland, CO

From the Editor
Ann Donoghue KØARD

I was sorry to miss the Club Picnic this year – it looks like it was great fun!

Hamfest is only 3 months away – have you inventoried your stash of gear and got it ready for sale? Tables are still available!