

From the NCARC President

Joe Hawley KDØTYU

president@ncarc.net

I want to thank Darren and Dick, who did most of the cooking for our picnic this year. It was great seeing everybody at the picnic since we couldn't hold it last year. I'm guessing we had 50 or 60 people there and somewhat, I think, set a record for what we've done in the past.

A couple of new items have somewhat been put on hold for our Grover tower project due to a family emergency with our contact at Weld county. We were hoping to get everything installed before the snow flies, but it does not look promising. The project will still go on, but it may be early spring before we get a chance to install the equipment. I'll keep everyone up to date as we progress.

I just signed the contract with Larimer County to have our Hamfest on January 15th, 2022. We have some new, and we hope improved, ideas for this year's event. Table sales will open in the next few days, and I hope if you have something to sell, you'll get a table. This is usually one of the largest Hamfests in the state. This event is not to be missed if you are new to Club; more information to come as we get closer to the event.

Public Affairs Office

Dave Winnett WØDDZ

pao@ncarc.net

Numbers as of October 12, 2021

YouTube

Views (last 28 days): 4,011

Watch time (hours, last 28 days): 766.5

Subscribers: 2,109

New Subscribers (last 28 days): 44

Facebook

Members: 471

New Members: -2



Club Meeting and Speaker

Next Meeting

Saturday, October 16, 2021

9:00 am socialize, **9:30 am** club meeting, followed by our speaker:

LIVE and IN PERSON at
The Golden Corral
1360 Sculptor Dr, Loveland CO 80537

PLUS

Zoom streaming
All members will receive a link to the online broadcast

If you don't receive a link by Friday before the meeting, please email treasurer@ncarc.net

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

Speaker:

Still to be confirmed! It will be a surprise!

Repeaters! Repeaters! Repeaters!

For information on the NCARC repeaters visit <http://ncarc.net/?q=node/2>. You'll be amazed at all the resources available to us. If you would like to see what's happening at the repeaters, in almost real time, check out these pics: <http://ncarc.net/?q=node/547>

For information about other area repeaters, check out <http://ncarc.net/?q=node/39>. Lots of groups and individuals have/sponsor repeaters up and down the Front Range!

Treasurer's Report

Darren Kalmbach KCØZIE

treasurer@ncarc.net

October 2021 Account Balances

Account	Checking	Raffle	Savings	PayPal	Total
Beginning Balance	\$612	\$2,081	\$1,069	\$8,073	\$11,836
Deposits	\$0	\$0	\$0	\$26	\$26
Transfers	\$400	\$0	-\$400	\$0	\$0
Withdrawals	\$433	\$0	\$0	\$1	\$434
Ending Balance	\$579	\$2,081	\$669	\$8,098	\$11,428
Outstanding Items	\$0	\$0	\$0	\$0	\$0
Net Balance	\$579	\$2,081	\$669	\$8,098	\$11,428
Net Change	-\$33	\$0	-\$400	\$25	-\$408

Expenses: Storage, Buckhorn

Revenue: Memberships

Membership Activity:

October 2021: 260 Members (5 new)

October 2020: 261 Members

Can You Help? (Yes, this is a repeat request!)

The Rosin Corps is a hands-on learning session for soldering. We need help in finding a place to hold this event. The location should have a solder-safe flooring, enough electricity for several soldering irons, room for tables and places for participants. Please contact Joe KDØTYU president@ncarc.net if you have a possible location.

Tech Report

James Cizek, KIØKN

techchair@ncarc.net

October 2021

We are still waiting on final approvals from Weld and Morgan counties for the Grover and Sterling project installations. Weld county approved the modified plan on Wednesday and is very close to being all sealed up. We are waiting on the Morgan County town attorney to OK our agreement with them and then can move forward at that site as well. We still hope to have this installed before the winter sets in, but it's getting close!

After months and months of the continuing "chip shortage", our Buckhorn PTZ (Pan, Tilt, Zoom) camera came in! We'll be installing that camera at Buckhorn East soon and will make sure that image is updated on the NCARC webpage shortly thereafter!

We still have plans on making progress with the Rattlesnake Ranch Voter Hotel to help improve the receive capabilities, especially on 2 meters. This is another one we are hoping to squeeze in before winter locks us out!

LOTS of small upgrades and maintenance have been done recently, and I will upgrade all the firmware for security on everything one more time before we settle into the "winter freeze" period (pun intended!!) where minimal changes are made to sites that are hard to get to in the winter months!

The search for a suitable Red Feather repeater site continues. Several members have offered property (Thank you!!) but sadly, none of them are able to see our other sites to be able to link them in. We will win this battle eventually!

We've had generally pretty good performance from most of the repeaters in our system. There have been reports of the Lee Hill 447.750 repeater becoming stuck in transmit and also having a buzz in the audio. I am currently investigating both of those and will have more info at a later date.

No interference has been reported.

From the ARRL: \$30 fee postponed

<http://www.arrl.org/news/fcc-application-fees-unlikely-to-go-into-effect-until-2022>

"The schedule of FCC amateur radio application fees likely will not go into effect before 2022. FCC staff confirmed during a recent virtual meeting with Volunteer Examiner Coordinators (VECs) that the agency is still working on the necessary changes to the Universal Licensing System (ULS) software and other processes and procedures that must be in place before it starts collecting fees from amateur applicants. Earlier this year, the FCC said it would not start collecting fees from amateur applicants before this summer. The new estimate is that the fees won't go into effect until early next year."

Want to learn, listen, practice on the air?

Here are a few of the regular nets available to everyone!

<http://ncarc.net/?q=node/5>

Net Name	Day	Time (MT)	Frequency
NCARC Tech Net	Monday	18:00	447.275 MHz
NCARC Club Net	Wednesday	18:30	447.275 MHz
ARES R1D1 Weekly Net	Thursday	19:00	447.275 MHz
Horsetooth 4 Wheelers	1 st and 3 rd Tuesday	18:30	447.275 MHz
NCARC Simplex	Thursday	19:30	147.420 MHz (simplex) 144.390 (APRS)
CW Round Table	Tuesday	20:00	7.118 MHz LSB
ARES Statewide VHF Net	Sunday	20:00	145.310 MHz
ARES HF Net	Sunday	08:00	~3810 kHz LSB
BeamSpinners 2 Meter SSB	Monday	20:00	144.220 MHz USB
Central Colorado Traffic Net	Daily	19:00	145.310 MHz 123 hz tone
CSU ARC	Monday	17:30	449.850 Mhz
Columbine Net	Daily	20:00	~3989 kHz LSB
Wyoming Cowboy Net	Weekdays	00:45 UTC	~3923.5 kHz LSB
High Noon Net	Daily	12:00	7240 kHz LSB

Amateur Radio Volunteers Assist in Major US Cycling Event

09/30/2021 <https://www.arrl.org/news/amateur-radio-volunteers-assist-in-major-us-cycling-event>

On September 11, some 115 amateur radio volunteers from five states provided communication support for LoToJa, the longest single-day USA Cycling (USAC)-sanctioned bicycle event in the country and now in its 39th year. Starting in Logan, Utah, the 203-mile course ends in Jackson Hole, Wyoming, taking cyclists through northeastern Utah, southeastern Idaho, and western Wyoming in the process. The race attracts thousands of applicants, and upward of 2,000 are selected to compete. Some 1,700 competed this year. The event generates more than \$2 million a year for Huntsman Cancer Foundation. Hams participate from multiple clubs in Utah, including Goldman Spike Amateur Radio Club (GSARC), Ogden Amateur Radio Club (OARC), and Utah Valley Amateur Radio Club (UVARC). The race deploys four command centers and multiple repeaters.

Prior to the event, Race Director Brent Chambers told the *Cache Valley Daily* that “This year’s race will have 600 course volunteers, which includes 150 ham radio operators [and helpers] from the Bridgerland Amateur Radio Club. They provide uninterrupted communication throughout LoToJa’s mountainous and remote terrain.

“We take two portable repeaters to the top of mountains, and we deploy multiple APRS [Automatic Packet Reporting System] digipeaters,” explained Kevin Reeve, N7RXE, who is the coordinator of amateur radio operators and communications systems for LoToJa. “All ham vehicles run APRS, and we have APRS and a radio operator with the race director and race official. Our goal is the help the cyclists, their support crews, and their families have a safe and enjoyable event.”

Ted McArthur, AC7II, heads the communication infrastructure team for the LoToJa hams. In all, nine repeaters and several simplex frequencies are used throughout the event, and APRS plays an important role.

“With [an increase in] the number of mobile vehicles needed to meet a growing event, Net Control Stations were spending a lot of radio time asking for position reports,” McArthur said. “We needed the airtime for real traffic, like helping cyclists, emergencies, and other critical traffic.”

“LoToJa is such a great event for amateur radio operators to participate in,” said Tyler Griffiths, N7UWX. “It is the ARES [Amateur Radio Emergency Service] radio operator’s dream event. We know where it starts, we know where it ends, but everything that happens in between is different from year to year.”

Basic Current for Amateur Radio Operators

By Kerry Miller, NØWIQ

Bio: In 1970 I started earning a paycheck from Hewlett Packard in Loveland. HP was a manufacturing place of technical equipment and my job was to correct flaws in manufacturing and test the manufactured equipment.

Amateur radio operators should know some basics of current. One basic of current is how NOT to burn down your home.

Ohm's Law is a ratio that I learned some 70 years ago. I am sure symbols have changed over the years¹. In the mathematics world there are a lot of symbols for different physical phenomena.

$$I = E/R$$

I = current (ampere, A)

E = the electrical potential difference for a current (volt, V)

R = the resistance to the current (ohm, Ω)

There is one more equation especially for Amateur Radio Operators.

$$P = E*I$$

P = the power dissipated by a circuit (watt, W)

E = the potential for current (V)

I = the current in a circuit (ampere, A)

You really can't separate Ohm's Law from Power when thinking about a Transceiver (one box that contains both a Transmitter and a Receiver).

Current flows in a loop from current source to current load and back to current source. This loop must be continuous. Current is what makes things move in an electrical control circuit. Now to make things a little more difficult.

There is DC (Direct Current) and there is AC (Alternating Current). Most multi-meters will measure the volts potential, the resistance, and the current with a little intuition from the operator.

Sometimes it is easier to think in power instead of getting bogged down in Ohm's law. For instance, a transceiver with a 100 W output will usually require a 200 W source supplied to it. These numbers indicate a 50% efficiency in the output amplifier. And the truth is designing an amplifier for general use like the transmitter output usually comes out 50% efficient.

The three-pronged outlet you have in your home will supply at least 10 amperes of current at 120 volts AC.

$$120 \text{ V} * 10 \text{ A} = 1200 \text{ W}$$

A good chance the transceiver like my ICOM IC-7100A requires 12 V regulated DC power.

$$200 \text{ W}/12 \text{ V} = 16.7 \text{ A}$$

The wires for the transceiver are heavy enough to carry current for the transmitter power amplifier.

There is a whole set of Ohm's law relationships getting from the wall outlet to the transceiver. The transmitter output power is way more than what the receiver takes and you don't transmit and receive at the same time.

A statistical average for a transceiver is 70% listen and 30% talk and this figure is used to manage power dissipation for a transceiver.

¹ Editor's note: The International System of Units (SI) agrees with Kerry's symbols.

Upcoming Ham Radio Events

Blue Sky Trail Marathon: Oct 16, 2021. Contact Darren KCØZIE at kc0zie@ncarc.net

Colorado Marathon: Oct 24, 2021. Contact Marty KCØ0QOK at kc0qok@gmail.com

Colorado AuxComm Class: Nov 5 to 7, 2021. For all Colorado ARES Members. Space is limited, sign up soon. Contact: sec@coloradoares.org

For info and sign-up: https://www.train.org/colorado/course/1068547/live_event

NCARC Hamfest: Jan 15, 2022, Loveland, CO



The NCARC Annual Club Picnic was held on Saturday, September 18, 2021 at Fossil Creek Park in Fort Collins. It was a rousing success!

Darren and Dick grilled up some great meats, lots of potluck dishes were shared and almost 60 people attended!

From the Editor

Ann Donoghue KØARD

newsletter@ncarc.net

I welcome Bill Beach *KØUT* to the Newsletter Committee! He has volunteered to help with the Newsletter – THANKS!

Please send us your articles, your ideas for articles, and thoughts on how the *Tribander* can serve your needs.

Our club continues to grow; it's exciting to see new members every month.