

# RAINBOW CANYONS AMATEUR RADIO CLUB NEWSLETTER

CEDAR CITY, UTAH



Club Websites: [www.rcarc.info](http://www.rcarc.info) OR [www.rainbowcanyons.com](http://www.rainbowcanyons.com) Number 4 – Vol. 7 – July, 2022

## Club Meeting Information

The RCARC meets at 7:00 p.m. on the 2<sup>nd</sup> Tuesday of each month at the Cedar City Senior Center, 489 E. 200 South. Down Stairs.

## 2022 Club Officer's

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CQ, CQ, - Happy 4<sup>th</sup> of July



## Presidents Message

Greetings Everyone,

It has been a busy month with a wonderful field day! Field Day was a great success with 453 contacts (we had 323 last year), 204 CW on 80 and 40 meters, 89 phone on 40, 20 and 2 meters and 160 digital contacts on 40, 20, 15, and 10 and 6 meters! The weather was good this year (a little wind, but no rain) and everything seemed to go well. We also had some of our new HAMs come out to play on the radio! It is great to see everyone helping out our new members. A big Thank you to everyone who participated by helping with set up and clean up, and by manning the radios and making contacts. Overall, I hope everyone had a great time and I hope you can take the enthusiasm forward and play on the radio more!

Continued on Page 2

## RCARC Club Nets:

7:00 a.m. Breakfast Net - Monday – Saturday – 146.760.  
12:30 p.m. Daily – Utah Beehive Net On 7.272.  
8:30 p.m. Tuesday's - ORCA Digital Net. Using FLDIGI, FLMSG AND FLAMP – 3.581 +, 1500/MFSK32.  
8:00 p.m. Wednesday – Panguitch Net – 147.160.  
7: pm. Thursday– Morse Code Net- This is a Zoom Meeting.  
8:30 p.m. Thursday's - WDN Digital Net. Using FLDIGI, FLMSG AND FLAMP – 3.581 +, 1500/MFSK32.  
8: p.m. Saturdays – SSTV – 449.925.  
9:00 p.m. Daily – Friendship Net – 146.760.  
11: a.m. Saturdays (Mtn. Time) QCWA – 160 Net, Utah Chapter,  
12: p.m. Freq. 7.272.  
7:30 pm. Sunday's – New Harmony Valley Net – Bumblebee Repeater. – 146.680 with a minus offset – PL 100.

## Local Repeaters:

### Iron Mountain

146.760 MHz – Tone 123.0 Hz  
146.980 MHz – Tone 100.0 Hz  
448.800 MHz – Tone 100.0 Hz  
449.500 MHz – Tone 100.0 Hz  
448.400 MHz – Tone 100.0/FM & DMR

### Intermountain Intertie:

146.940 MHz – Tone 100.0 Frisco.  
146.800 MHz – Tone 100.0 Blow Hard  
147.200 MHz + Tone 100.0 Tod's/Hatch  
146.820 MHz – Tone 100.0 Utah Hill

### Bumblebee/New Harmony:

146.680 MHz – Tone 100.0 Hz

### Rowberry:

449.925 MHz – Tone 100.0 VHF Remote

### Dutton:

147.160 MHz + Tone 100.0 Hz.

## Save The Date

**July 12, 2022**

### **RCARC Club Meeting.**

7:00 pm. Cedar City Senior Center,  
489 E. 200 South. Program: [Coaxial  
Connection Types and uses.](#)

**August 9, 2022**

### **RCARC Club Meeting.**

7:00 pm. Cedar City Park at 200 N  
and Main Street in large covered  
Pavilion. [Annual club BBQ.](#)

**September 13, 2022**

### **RCARC Club Meeting.**

7:00 pm. Cedar City Senior Center,  
489 E. 200 South. [Program to be  
determined.](#)

**October 11, 2022**

### **RCARC Club Meeting.**

7:00 pm. Cedar City Senior Center,  
489 E. 200 South. [Program to be  
determined.](#)

## **President's Message**

**Continued from page 1.**

I hope everyone has been getting out on the radio! We have our local nets as well as opportunities to participate on HF contests and 6 meters has been opening up so get out there, have fun, and play on your radio. Remember if you need help with setting up your radio, software or other equipment please ask your fellow HAMs for help. Part of the fun is helping others! Remember you can always pick up the mic and see who is listening! As always, I would like to thank everyone who makes our meetings great by asking questions. I would also like to thank all of our net controls for the nets and everyone who participates!

Cheers!

Fred (KI7TPD)

## **RCARC Club Breakfast**

Come join us the first Saturday of every month at 9:00 a.m. for breakfast at the Pastry Pub located at 86 W. Center Street, Cedar City.

## **Save the Date**

### **RCARC Annual BBQ**

**When:** Tuesday August 9, 2022.

**Where:** Main Street Park, N. Main Street @ 200 N. In the Large Pavilion at the Southeast corner of park by Lin's.

**Time:** 5:00 pm to 9:00 pm.

Stay tuned for additional information as we get closer.



Happy Birthday and  
Anniversary to those  
celebrating in July



# Happy 4<sup>th</sup> of July



## Breakfast & Friendship Net Awards June 2022

Breakfast Net		Friendship Net		
First Place	Third Place	First Place	Second Place	
KE6ZIM - Johnny	K7DVP - Vernile	K7HDX - Ron	KI7LUM - Bruce	
N7SND - Larry	KI7LUO - Melody	N7WWB - Darlene	KA7J - Lance	
N7SIY - Sylvia		KK7CEE - Bruce	K7WEP - Paul	
		W6DLW - Dennis	N7SIY - Sylvia	
		KJ7LTQ Brant	Third Place	
Second Place			N7SND - Larry	
KG7PBX - Linda			KG7VEJ - Jack	
			KJ7OGZ - Ann	

### Rainbow Canyons Amateur Radio Club Treasurer Report as of June 14, 2022

Bank balance (reconciled) May 1, 2022	\$2,179.96
Checks/expenses	
#112 Linda Shokrian	- 110.00
for 3 Peaks Field Day & (2) Main St Park Reservations	
Swap Meet & August BBQ	
Rocky Mountain Power	- 20.83
Income	
Memberships	+ 205.00
 Funds in bank as of 5/31/2022	 \$2,254.13
Outstanding Payment	
Rocky Mountain Power due 6/15	- 22.48
 Funds available after June 15, 2022	 \$2,231.65

Submitted by  
Linda Shokrian KG7PBX  
2022 RCARC Treasurer  
435-867-5914



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## RCARC July Book Giveaway. Books are donated by Linda Shokrian (KG7PBX)

Shown below is the book that will be given away at the July 12, 2022 meeting.



## RCARC Book Giveaway Winners.

The winners of the June 14, 2022 book giveaway (pictured below) are:

Ken Wells (KK7FLP) and Chris Badger



Congratulations Ken & Chris

See Pic's on page 10

## Contact Us.

### Mailing Address:

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### Newsletter E-mail:

[rcarcnewsletter@gmail.com](mailto:rcarcnewsletter@gmail.com)

### Website

[www.rcarc.info](http://www.rcarc.info)

[www.rainbowcanyons.com](http://www.rainbowcanyons.com)

### Face Book Page:

<https://www.facebook.com/groups/440325486875752/>

### To Join RCARC or Pay Dues:

Go to [www.rcarc.info](http://www.rcarc.info) select "Club Info" and then "Join " RCARC. Follow the instructions on the template.

Make check payable to RCARC.  
Please write call sign on check.

Thank You

## Top 5 Tips for New Ham Radio Operators (Beginners)

If you are new to Ham Radio and are looking for some timely tips, please check out the URL below.

<https://www.youtube.com/watch?v=2lbGGDNvr5U>



## Buzz's July Safety Tip(s)



The start of summer is the perfect time to gather with family and friends for good food and fun times. This year, celebrate the adoption of the Declaration of Independence in a safe way. Our July 4th safety tips cover a few key summer safety topics to keep you and your family safe this Independence Day.

## Sparkler and Fireworks Safety

More than 50,000 fires are caused by fireworks every year. Take the proper precautions when operating fireworks.

- Never disassemble or try to make your own fireworks.
- Don't point sparklers, or fireworks at yourself or others, especially while they're being lit.
- Only light fireworks on the ground and in areas that are dry and fire-resistant.
- Don't attempt to ignite fireworks at the same time.
- Never allow young children to handle fireworks or sparklers to prevent firework-related injuries.
- Always keep a portable fire extinguisher close by. Also, keep a water hose or buckets of water nearby to put out fires.
- If fireworks malfunction, don't relight them! Douse and soak malfunctioning fireworks with water then [throw them away](#).
- Resist the urge to bring your dog to a fireworks display. The [safest place](#) for them is at home where it's familiar, quiet and not crowded.

## Water and Pool Activity Safety

As July is one of the hottest months of the year, many families turn to water activities to beat the heat. However, even fun water activities have serious risks if the proper precautions aren't taken.

- Review safe boating practices.
- Never consume alcohol while driving a boat.
- Before boating, always check that there are enough life preservers on hand for every passenger.

**Continued on page 6**

- Set water safety rules for your family, especially if there's a young child.
- Keep a first aid kit near the pool.

## Grilling Safety

July is one of the peak months for grilling fires. Enjoy grilling your favorite meals this summer while also keeping your family safe.

- Check gas grill hoses for cracks, holes and leaks.
- Keep children away from grills. Gas leaks, blocked tubes, and propane tanks can be a cause of grill fires and explosions.
- Never grill indoors, in the garage, in any enclosed area or on a surface that might catch fire.
- Keep the grill at least two feet away from decks, siding, branches and any outdoor equipment that can catch fire quickly.

If you follow these simple 4ths of July safety tips, your entire family will be sure to have a safe and memorable holiday weekend. End.



## California Rescue via Ham Radio

### Amateur Radio Helps Rescue Injured California Outdoorsman

A relaxing weekend of camping and fishing did not go as planned in April 2022, when a member of a California outdoors club fell and broke his hip.

The Old Goats Mountain Club (OGMC) had worked their way along an old Forest Service road into a rugged, off-grid location in the foothills of the Cascade Mountains. Dave Johnson, KL7DJ, said his friend slipped and fell while trying reel in a catch. The injury was so severe that the man could not be moved safely on a trip that could take at least 2 hours over the rough terrain.

Johnson is the only licensed amateur radio operator in the group, and using

the California Amateur Radio Linking Association (CARLA) system, he was able to call for emergency help from this vehicle. Greg Stramback, KD6VEN, located in the San Francisco Bay area, responded and contacted the Shasta County EMS which dispatched a REACH 5 rescue helicopter from their base in Redding, California.

The entire rescue took about 1 hour and before the helicopter landed, a local ambulance company arrived and was able to stabilize the injured camper. After surgery and 3 days in the hospital, he is now recovering at home.

Johnson's wife, Linda, KL7ISN, helped coordinate getting their friend's vehicle

back to Redding. Using pre-planned contact schedules for Friday and Saturday, and after several makeshift autopatches, the car was driven to a nearby highway where two other club members were able to take the car safely back home.

But the weekend was not over for amateur radio helpers. While the rest of the group was making their way out of the mountains on Sunday, they were flagged down by a stranded motorist. His car's gas tank had been punctured and his cell phone would not work. He was taken to a small community along the way where there was a landline, and he was able to call for help.





# RADIO NEWS

H. GERNSBACK—Editor  
ROBERT E. LACAUULT—Associate Editor

Vol. 4

JULY, 1922

No. 1

## The Radio Business

IN our March, 1922, issue, we said as follows:

"The question which the writer is most often asked today is, how long will the boom last? When will the storm of prosperity flow over, leaving everyone prostrate with huge stocks on his hands?"

"It is our opinion that the present conditions will last for at least another year and that the radio business will be a very healthy one for several years to come. There will probably be the usual summer slack—although much less pronounced—and then a great rush for the fall and winter. Indications are that within the next six months there will be enough apparatus to go around. Tremendous efforts are being made by manufacturers to meet the situation, and with all the new capital being poured into the business, we estimate that within six months at the most the supply will exceed the demand. In other words, everyone, unless he buys carefully, will be overstocked, and the usual hardships will follow."

"This not only holds true for the dealer who will find himself loaded with material on his shelves that he cannot move rapidly, but for the small manufacturer as well, who will have all his money tied up in merchandise for which the sale is not as brisk."

"We will then witness the next cycle: price cutting, when real competition will begin in earnest. This condition, however, is at least six months distant, and perhaps a little further. It is due to come, however, at any time, for some of the supplies."

The prediction is rapidly coming true, and as a matter of fact the eastern section of the country is already experiencing a phase of over-production. Millions upon millions of dollars have been poured into all sorts of radio enterprises, and several hundred new manufacturers have sprung up, all feverishly turning out goods to full capacity.

It is now possible to obtain merchandise almost everywhere and there is little actual shortage of any instrument at the present time. As we also predicted, the summer slack has already set in for some sections of the country, as for instance in the east, where the usual decline in the radio business is already apparent. To those who have been in the radio business for many years, this was foreseen. They know that in the summer time, the interest in radio matters is not as keen for the reason that many people are leaving the city, going on vacations. Also in those localities where evenings are uncomfortably warm, people do not care to stay home as much and work on their outfits, as during the cooler months.

All this was expected by those who knew, and only newcomers in the business who thought fortunes could be made almost overnight feel keenly disappointed. This is true mostly of the dealers who have little business at the present time, but not of the manufacturers who are still behind in filling their orders. If all this sounds pessimistic, we have no intention of its being so construed. We merely wish to point out to those newcomers that as far as the writer can remember—he himself having started in the radio business as far back as 1904—there was always the summer slack.

It is thus with many lines of business which are seasonal, and it will probably be always thus. Take for instance the phonograph business, which is always slack during the summer despite the heroic efforts of the dealers as well as manufacturers to change the trend of the public. So far, they have not succeeded and it is not likely that they ever will.

The most dangerous phase that the radio business is now confronted with is poor merchandise. It seems that every man in the country who has had a few thousand dollars lying loose has suddenly contracted the radio fever and has become a manufacturer somewhere,

in an up-to-date loft, or in an attic. These people know little or nothing of radio matters, and as a rule take the word of some amateur that he has a world-beating invention that will revolutionize the radio business. Many such people are beginning to manufacture and many of them are turning out goods that are apt to take away all confidence of the public that is buying radio instruments.

There are at present a number of radio outfits on the market which violate every principle of sound radio engineering and each one of these outfits will kill a dozen sales of good instruments. When an innocent buyer, not at all versed in radio matters, buys one of these atrocities and promptly throws it into the nearest ash-can in disgust, he will not talk well of radio and his friends will believe him. It is this phase that is of tremendous importance at the present time. Not only are most of these goods designed incorrectly, but they are assembled in such a careless manner that even if the design were fair, it will hardly work.

There is still another important phase of which the new radio manufacturer knows absolutely nothing. The backbone of public radio is now, and probably will be for a long time, the radio amateur. Usually, when a man buys a radio outfit, he has some friend who knows something about radio, or who was a radio amateur at one time or another. It is well known by every radio dealer that a radio instrument, no matter what its description, is made or killed within a month of its appearance, by the radio amateur. If the radio amateurs—those who know—do not take to an instrument no matter how well designed, the manufacturer can make up his mind that it will not sell. If this statement is doubted, ask any radio dealer who has been in business for a number of years; but do not ask a new radio dealer, who has had no experience along these lines, because he would not know.

Before a manufacturer puts out a new instrument, and spends a great deal of money for patents and materials, he should make it his business to show a working model to a number of radio people who know the game. Then he should show it to reputable dealers of long standing experience. If he abides by their verdict, he will rarely make a mistake.

There is also to be considered the patent situation. Many circuits such as, for instance, the Armstrong regenerative circuit, nearly all crystal detectors and practically all vacuum tubes are patented articles. This phase should be carefully investigated by the new manufacturer because it will give him continuous trouble if his products infringe on these patents, as most of them doubtless do.

As to radio business in general, there is no question that there will be a very great mortality of dealers as well as manufacturers during this summer, due mainly to inexperience, and also to insufficient capitalization. Only those new concerns, whether manufacturers or dealers, having sufficient capital, will be able to survive, due to the fact that the radio business, as we have before mentioned, is always slack during the summer.

We are, however, emphatic in stating—and this may not be taken as a prophecy but as a positive fact—that from all indications the radio business, commencing this fall, will be even larger than that which we have just experienced. Let those concerns which are becoming discouraged take heart and try with all their resources to stay in business, even if they lose money, as many will do during the summer. Their reward will come after September 15. Those newcomers who say that radio is a fizzle and is petering out, are only voicing their ignorance in radio matters. The radio business is here to stay, and from present indications there will be over \$100,000,000 worth of radio goods sold during the next radio year starting September 15.

H. GERNSBACK.

## Important Notice

In accordance with the above editorial, the publishers have decided to open a free advice bureau for Radio manufacturers. Any manufacturer who is bringing out a new radio instrument or a new radio apparatus is invited to send in a sample of the actual product to the Editors. We will, beginning with the next issue, list articles which have been tested. Only such articles as our experts consider to be sound in all respects will be published, and no announcements

will be made of apparatus which is not meritorious. Such apparatus will be returned to the makers with our advice as to how the devices can be bettered to make them marketable. This new departure does not only hold good for new manufacturers, but any manufacturer who desires can send in his apparatus for test, if he so elects.

THE PUBLISHERS.



# RCARC June 2022 General Meeting Pictures.

The June meeting program feature **Fox Hunting** with direction finding equipment.

**Fox hunting** can be done on any band in the amateur radio spectrum. **Fox hunts** can be a local thing that our club does where everyone is on foot, it could be a little bigger like encompassing a whole city or even be on HF and cover a few states or a large 100-mile radius. The size and scale of **fox hunting** is limited only by your imagination.

See Meeting Pic's below:



Fred (KI7TPD) discussing the FD meals with the cooking crew before meeting start.



Red (KI7TPD) conducting meeting business with attendees. **Continued next column**



George Gallis (AL7BX) giving a repeater update.



Ron (K7HDX) updating the attendees on the upcoming events the club will be participating in.



Ricky Kline (K7NJ) informing the group on the process he used to locate his high RF noise near his home.

**Continued on page 11**



## FCC Proposes Record \$34,000 Fine for Alleged Interference and Unauthorized Transmissions During Idaho Wildfire

The Federal Communications Commission (FCC) has proposed a \$34,000 fine against Jason Frawley of Lewiston, Idaho, for allegedly interfering with radio operations of the U.S. Forest Service during firefighting activities for the Johnson Creek Fire near Elk River in July 2021. The FCC issued a *Notice of Apparent Liability for Forfeiture* ([NAL](#)) on June 8, 2022 to Frawley. The FCC states in the NAL that Frawley holds an Extra-class Amateur Radio Service license, WA7CQ, and is the owner/operator of Leader Communications LLC, licensee of eight microwave licenses and one business license.

The FCC alleged in the *NAL* that "On July 17, 2021, using his amateur hand-held radio, Frawley transmitted five (5) times, and on July 18, 2021, Frawley transmitted three (3) times on frequencies allocated and authorized for government use, apparently causing harmful interference with his apparently unlawful transmissions."

The frequencies with which Frawley is alleged to have interfered were being used to coordinate firefighting crews from the U.S. Forest Service and Idaho Department of Land to fight the 1,000-acre Johnson Creek Fire, including the communications between fire suppressant aircraft and ground crews.

The *NAL* includes details of the Forest Service's complaint and the FCC's investigation.

**Continued next column**

On July 18, 2021, the Johnson Creek fire operations section chief drove to the Elk River airstrip and hanger where Frawley, who had disclosed his location, was found holding a radio next to a banner that read, "Leader Communications." Frawley admitted to transmitting on government frequencies and identifying himself as "comm tech." He argued that he was not trying to cause interference but instead was transmitting to provide information to the fire fighters.

"[A]t no time was I trying to disturb any other communications or air traffic. I was honestly just giving them information I had since I have been working on the butte since the early 90's . . . " wrote Frawley in his October 15, 2021 response to a Letter of Inquiry from FCC Special Counsel Laura Smith.

The FCC however concluded that "Frawley's admitted unauthorized transmissions on frequencies for which he did not have a license had the potential to cause substantial harm to life and property."

The FCC held that Frawley, by his own admission, apparently willfully and repeatedly violated the Commission's rules when he made eight separate radio transmissions on a frequency for which he did not have a license. The FCC stated that unauthorized transmissions on frequencies licensed to public safety entities using those frequencies to respond to emergencies also constitutes a violation of Section 333 of the Communications Act of 1934, as amended.

A [news release](#) from the FCC states that the fine is the largest of its kind proposed. "The Communications Act prohibits such interference with authorized radio communications and the Commission takes very seriously any interference with public safety communications," said the FCC.

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## FCC Proposes Record \$34,000 Fine.

Continued from page 9

In a separate [statement](#), FCC Chairwoman Jessica Rosenworcel added, "You can't interfere with public safety communications. Full stop. So today we propose the largest fine of its type for this interference that put fire suppression and public safety itself at risk." End.

### Save the Date

#### **RCARC Club BBQ**

**August 9, 2022 at Main Street Park.**

#### **Cedar City Fire Road Race**

**August 20, 2022**

#### **Cedar City Half Marathon**

**September 10, 2022**

[More info to follow as it becomes available](#)

### RCARC Book Giveaway Winners for June 2022



Ken Wells (KK7FLP)



Chris Badger

## Attention

### New Technician Question Pool Released, Effective July 1, 2022.

01/05/2022

The National Conference of Volunteer Examiner Coordinators ([NCVEC](#)) Question Pool Committee ([QPC](#)) has released the [2022 – 2026 Technician Class FCC Element 2 NCVEC Question Pool Syllabus & Question Pool](#) into the public domain.

It's available as a *Word* document or PDF. The three graphics required for the new Technician question pool are available within the documents, or separately as PDF or JPG files.

The new pool incorporates some significant changes compared to the 2018 – 2022 pool. Its 257 questions were modified slightly to improve wording or to replace distractors; 51 new questions were generated, and 62 questions were eliminated. This resulted in a reduction of 11 questions, bringing the total number of questions in the pool from 423 to 412. The difficulty level of the questions is now more balanced, and the techniques and practices addressed have been updated.

The new 2022 – 2026 question pool is effective July 1, 2022 – June 30, 2026, and *must* be used for Technician-class license exams administered on or after July 1, 2022. — *Thanks to NCVEC Question Pool Committee*

### FYI, the 2022 ARRL Rocky Mountain Division Convention

The 2022 ARRL Rocky Mountain Division Convention is coming up on Oct 7th-9th 2022 in Cheyenne, WY. Please mark your calendars now! This year's convention is hosted by the Shy-Wy ARC and Sweetwater County ARC and will feature technical forums, prizes and a banquet on Saturday evening. Registration is now available at the website: <https://wyhamcon.org/site/>

After a two-year hiatus, it will be great to get together again for a good old-fashioned convention. I'm looking forward to seeing everyone in Cheyenne!!

73,

ARRL Rocky Mountain Division  
Director: Jeff Ryan, KORM  
[k0rm@arrl.org](mailto:k0rm@arrl.org)

# HACK

## Copper Adapter for Brass Rods

Hams have been making VHF and UHF antennas out of SO-239 coaxial connectors for decades. These ground-plane antennas use a single vertical conductor to radiate the signal, and four horizontal wires known as radials. These radials create the ground return to complete the electrical circuit and allow the antenna to radiate signals as efficiently as possible.

I prefer to use a brass rod for the vertical conductor, but attaching it to the center pin of an SO-239 connector can be a challenge. The SO-239 pin doesn't solder well to brass, and you need a good connection at the pin in order for the antenna to work properly.

I found a 1-1/4-inch length of 5/32-inch hard drawn copper tubing at a hobby store. This tube is common, and it really accepts a 1/8-inch brass rod. The copper solders much easier to the brass rod as well as the center pin of the SO-239, although you will probably need to use a torch or a high heat soldering iron.

Utilizing a V-shaped file, I made a notch 5/16-inch from the bottom of the copper tube for access when soldering the rod end to the center pin of the SO-339 to ensure a good connection. This allows the tube to slip snugly into the center pin (see Figure 1 below). Then I soldered the other end of the tube to the brass rod to complete the vertical conductor.

Hack provided by Manual Alvarez, KB8ITC



Figure 1. The short copper tube accommodates both the center pin of the SO-239 connector and the brass rod, and solders easily to both. The horizontal radial wires attach at the corners and the coaxial cable connector screws on the bottom

## RCARC June 2022 General Meeting Pictures.

Continued from Page 8



Fred (KI7TPD) showing a homemade tape measure antenna used for direction finding.



Fred (KI7TPD) discussing the L L Series Little L- Per Portable Direction Finder with Merlin (N7TCE) not in picture.



Members trying their skills at direction finding as they look for the mini transmitter.



# Reverse Beacon Network Launches Updated Website

At 0500 UTC (1 AM EDT) on Thursday, June 16, the Reverse Beacon Network (RBN) launched their updated website ([www.reversebeacon.net](http://www.reversebeacon.net)). The intent of the revised website was to replace the original and beta websites and to include a Secure Sockets Layer (SSL) to enhance security for users of the site.

The RBN is a network of stations that listen to the bands and report what stations they hear, including when and how well. The website's database of past spots allows operators to instantly find what stations (from any given country or zone) have been heard, at what times, and on what frequencies. Operators can also see when they have been spotted, who spotted them, and how loud the contact was.

There is an option to compare your signal with those of friends and competitors, in near real time, or look at historical data of previous transmissions. If you wonder how your signal compared to others' during a previous contest, the website's Signal Comparison Tool will provide real, quantitative data. For an instant report, query what stations you want to compare, based on signals heard by a given reverse beacon on a certain band at a certain time.

In 2009, Pete Smith, N4ZR, and Felipe Ceglia, CT7ANO, worked to get the first version of RBN online. The work of Mark Glenn, K7MJG, on the website and Dave Pascoe, KM3T, on connecting the servers, contributed to RBN as a resource for listening and tracking signals. The new version is the first major upgrade for the site.

A guide to the website's new features is available on the beta site, as well as on the new site under the 'about' tab. -- *Thanks to Pete Smith, N4ZR*

## RCARC EComm Group Meets

At 5:30 pm. on Thursday June 16, 2022 RCARC EComm members met at the Cedar City Heritage Center. Brad Biedermann (WA7HHE) brought the meeting to order.

Iron County Human Resources (HR) was on hand to assist in the getting new members registered with the County's Volunteer Services.

The main topic of discussion centered on the upcoming full scale Air Craft Crash Exercise at the Cedar City Airport in August. Stay tuned for more information as it develops.

See meeting pic's:



Brad Biedermann (WA7HHE) calling the meeting to order.



Brad (WA7HHE) updating the members on the current exercise information.

## FEMA Regions 4 and 6 Winlink Exercise -- A Major Success for At Risk Areas

The states in adjacent FEMA Regions 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee) and 6 (Texas, Arkansas, Oklahoma, and New Mexico) jointly participated in a communications outage exercise on May31/June 1 with a cyber-attack scenario run in four major metropolitan areas: Charlotte, North Carolina; Dallas, Texas; Miami, Florida; and Little Rock, Arkansas.

In addition to Winlink, with CISA SHARES and amateur radio operators providing Field Situation Reports to be exercised by the states in the two FEMA regions, were the following additional emergency communications systems: FNARS (FEMA National Radio System), NAWAS (National Warning System), MSAT G2 (Multi-State Satellite talk groups), and multi-State linking of P25 statewide trunking networks.

The mission of the Winlink exercise was for operators/observers to send "ground truth" information in a Winlink Template report form called "Field Situation Report" to three separate destinations via Winlink HF/VHF/Telnet depending on the originator's location. RF (no Internet) only was to be used in the four communications outage (affected) areas listed. Steve Waterman, K4CJX, DHS CISA SHARES Auxiliary Communications and FEMA Region 4 Regional Emergency Communications Coordination Working Group auxiliary communications committee chair, said "for the US amateur radio operator, in a real-life event, we want to preserve the small and precious RF space for those who have no other choice. So, when we do have Internet, we should use Telnet. However, as an exercise, the choice of delivery was left to the individual operator."

**Continued next column**

The scenario and task for Winlink operators was direct and simple: The cities in the two regions were picked to suffer communications outages. Affected emergency management agencies needed "ground truth" situation report information from everywhere within the two FEMA Regions from the users of the Winlink Radio Email Network System, regardless of the location within the Regions, or the reasons for the outages. There were two separate sets of instructions for operators: If an operator was NOT in the affected cities, the operator configured and reported on specific configuration data for the Field Situation Report and sent the report by using RF (over the air) modem protocols or Telnet. If the operator was located within the affected cities, the operator was tasked with reporting any outages on the Field Situation Report by using RF only.

### Results Speak for Themselves

There were a whopping 997 responses from operators in the field, which provided adequate information regarding the locations of the cyber communications issues. [View the distribution of responses here](#). The State governments of South Carolina and Arkansas provided Dashboard information.

Waterman reported that there was a myriad of organizations involved, including ARRL, SHARES Regional Coordinators and others, all working together in executing this exercise. "This was an excellent exercise, and I thank all for the extraordinary work from those who provided input into this entire process, including and especially all the visuals -- sizzle matters," he said.

Waterman said there were lessons learned, and after-action discussion will be forthcoming. But, "we have already made some major enhancements in [Winlink Express](#) regarding statistical information from resulting input from our mappable forms.

**Continued on page 14**

## FEMA Regions 4 and 6 Winlink Exercise -- A Major Success for At Risk Areas. Continued from page 13

More importantly, we can always improve our functionality, accuracy, etc., but getting any incentive for improvement in what we do, and how we do it will depend on the level at which each agency views resiliency, and their acceptance of Winlink and volunteer resources at the tail-end of their PACE plan. Extensive feedback from areas under investigation is a critical component of any disaster," he said. End.

### RCARC Survey

Would you be interested in having a Fox Hunt sometime in September or October of this year?

#### What is Fox Hunting or Low Power Transmitter Hunting?

Transmitter Hunting or Fox Hunting is a popular way to combine outdoor activity with the amateur radio hobby. The "Fox" hides a hidden transmitter, and the hunters use direction finding equipment and techniques to locate it.

The RCARC Board would like to hear from you. Please let them know if you would be interested in such an event and which month is best for you.

Reply to: [cedarcity.rcarc@gmail.com](mailto:cedarcity.rcarc@gmail.com)

**BE KIND TO  
EVERYONE YOU MEET.**



**THEY MAY BE  
STUDYING TO BECOME  
A HAM.**

## A Snap Shot back in time

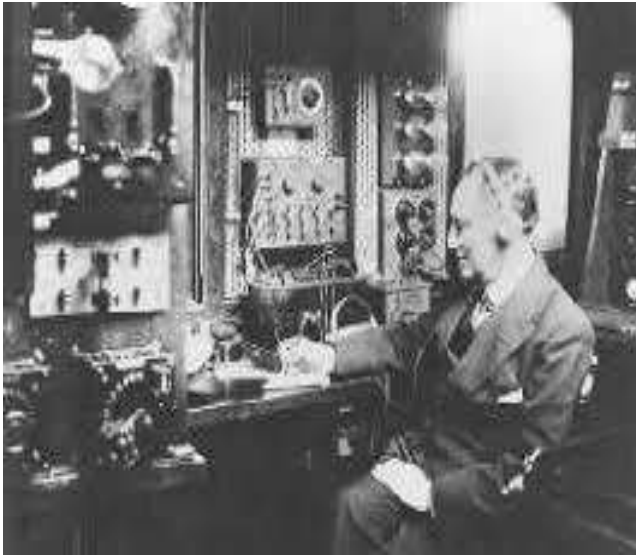
### Ham radio operators given worthless frequencies

In the early days of radio, commercial, government and amateur stations all shared the same radio spectrum, using spectrum-hogging spark-gap transmissions to send Morse code. Essentially, amateurs were those who were not professional operators staffing commercial and government stations. There was so much interference in those early days that the government stepped in to assign specific bands to each type of radio user in 1912. At the time, amateurs were pushed to frequencies higher than 1.5 MHz, which was considered worthless for long-distance use.

While the start of the regulation of amateurs, who began using [government-issued call signs](#) in 1913, there was a slight decline in activity, however, it picked up again and there were as many as 6,000 licensed hams by 1917. However, World War I kept hams off the air well after the war's end until late 1919 because the Navy refused to relinquish control of radio operation in the United States. The ban was only lifted after amateurs put pressure on Congress to allow them back on the air. End.



## Vintage Radio Pic's from the past



An amateur radio set installed in a car by Alfred H. Grebe, a radio manufacturer of New York in 1919, who is shown speaking into the microphone.



Sister- Loretta Ensor, W9UA trustee, 1930s.



Continued next column



## RCARC Field Day Pictures The Setup



Fred (KI7TPD) right and Brody (K7VXV) discussing the 4 new trailer stabilization jacks that were just installed.



Jack (KG7VEJ) and David (W6FJN) reading the antenna elements to attach to the tower.

**Continued next column**



Fred (KI7TPD) prepping and explaining the process to several new members. A good training moment.



Dave (W6FJN) and Larry (N7SND) moving the elements in to mounting position on the tower



Dave (W6FJN) and Larry (N7SND) attaching the elements to the tower.

**Continued on page 21**



Whether you are a seasoned Ham (No pun intended) or just getting started the following information is a good guideline to follow the Editor.

## HAM Radio Best Practices

HAM Radio is a whole new world for you, and you want to jump into it ASAP, however you are bound to make mistakes on occasion and that's alright. Play nice with everyone you speak to. Here are a few tips and even unwritten **rules in Ham Radio** to help you avoid pitfalls and maybe some embarrassing situations:

### On the air:

- After pressing your [PTT](#) button, wait about ½ second before speaking, especially if you're communicating through a repeater. The repeater takes a second to "catch up" with you.
- When speaking into your microphone, keep the microphone a little bit away, don't talk into it like you see in the movies. This will make sure you don't sound bloated on the air.
- Place your hand microphone about four to six inches from your mouth when transmitting. Speak clearly and use your voice without yelling in to the mic.
- When announcing your call sign along with that of another ham, the rule is to put yourself last, as in "KI5LMR, this is KI5WTR" if your call sign was KI5WTR.
- While it's customary to call out CQ on HF bands, it's best practice on the 2-meter and 70-cm bands to announce your call sign instead, especially on a repeater.

- If another ham points out a problem with your transmission ("you're sounding a little scratchy"), always assume the problem is with you (location, orientation, power too low, etc.) or your equipment first, and always admit your mistakes
- If you'd like to jump into an ongoing conversation, avoid using the word break; instead, say your call sign between their transmissions. Usually, they will acknowledge you and allow you to speak.
- After your contact releases his PTT (Push-to-talk) button, wait one to two seconds before you press yours, in case another person wants to join the conversation or has an emergency.
- Avoid "[kerchunking](#)", which is repeatedly pressing and releasing your PTT button without announcing your call sign; it's not only illegal, but irritating to others, especially those listening on a repeater. Remember...good practices!
- When speaking through a repeater, try and keep your conversations to under a few minutes. Most repeaters will have a time out. The repeater I use times out every two minutes. Don't sweat it, you will get used to this. Remember, this is all new to you right now.

### Personal:

- While it's not always possible, try and make your conversations positive and upbeat; sounding positive attracts friends, while negative comments tend to turn other hams away from you, even if well-intended.
- Don't get offended just because another ham can't remember your name or call sign, most likely until later on, you will have the same issue. People will eventually get to know you around your area. I used a pen and paper to write down call signs and names when I was on the radio to help me remember who I talked to.

Continued next column

Continued on page 18



- If another ham does offend you, let it go; don't retaliate or try and belittle the other ham for it; be the adult in the encounter, even if you're a kid. This is not a place to troll others. Save that for Facebook!
- Be considerate of your contact's time, and minimize dead-air time by at least thinking of what you're going to say before keying up.
- Avoid making insulting or disparaging remarks about others on the air; what people hear you say about others, they'll also believe you'll say about them. You are trying to make new friends here after all.
- If you feel you must correct the behavior of another ham, do so off-air, tactfully, and out of earshot of others.
- Within reason, avoid burping, coughing, sniffing, clearing your throat, smacking your lips, and making other bodily or disgusting noises on the air. Why? It's just gross...EWWWW!
- Whenever possible try not to engage in political or religious conversation. These are too hot topics that can easily get out of hand due to varying feelings on the matters. There are thousands of other subjects you can talk about.
- As far as practical, keep your radio equipment clean; you might never know when you'll need to share your microphone with somebody else, and keeping your controls clean will help ensure that they'll work for you the next time. You paid for it, take care of it! End.

## Ham Radio from years past.

Please check out the below URL's

**1939 Ham Radio Video on you tube**

<https://www.youtube.com/watch?v=1BPcpQMbUPE>

**Skip the add.**

**Old Ham Radio QSL's from 1920-1940**

<https://www.youtube.com/watch?v=wkewlY5ygd4>

**Amateur Radio Video 1955**

<https://www.youtube.com/watch?v=PNIsINPTg8g>

### Equipment:

- Make sure your radio is programmed with an appropriate frequency list before you stash it away, but be sure to accompany it with a card or sheet to remind you of what the frequencies or channel names are for. If your radio has an SD card as a backup, this will save you a lot of grief later if something happens.
- Learn how to manually program your radio; you might not know when you need to travel through a location where there is no cell signal available for your phone or tablet
- Join a regularly held net, which will give you weekly practice on your radio, to keep you acquainted with your equipment operation and limitations.

**Continued next column**

## Summer Field Day



Kevin (K2MFK) was a real trooper, his shoes started coming apart so he duct taped them back together and kept on working.

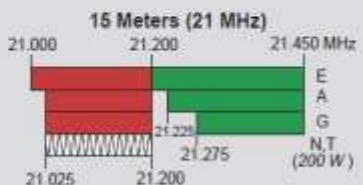
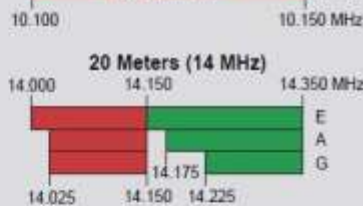
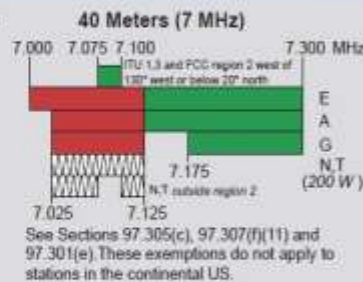
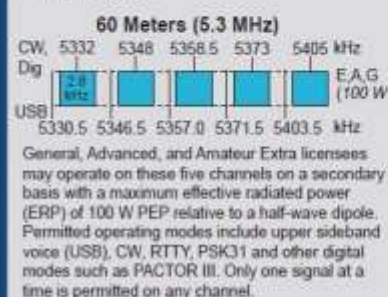
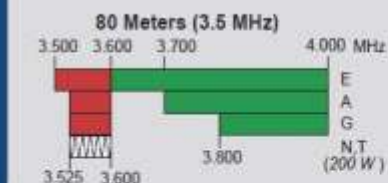
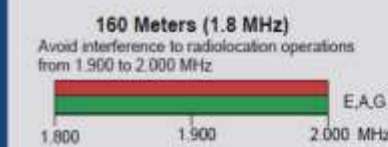
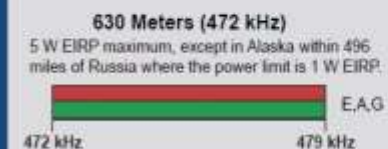
# US Amateur Radio Bands

**US AMATEUR POWER LIMITS — FCC 97.313** An amateur station must use the minimum transmitter power necessary to carry out the desired communications. (b) No station may transmit with a transmitter power exceeding 1.5 kW PEP.

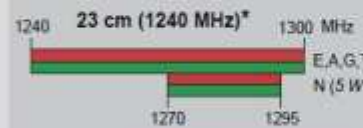
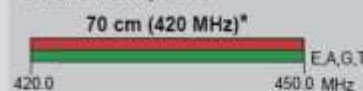


**ARRL** The national association for AMATEUR RADIO®

Amateurs wishing to operate on either 2,200 or 630 meters must first register with the Utilities Technology Council online at <https://utc.org/pic-database-amateur-notification-process/>. You need only register once for each band.



\*Geographical and power restrictions may apply to all bands above 420 MHz. See The ARRL Operating Manual for information about your area.



All licensees except Novices are authorized all modes on the following frequencies:

2300-2310 MHz	10.0-10.5 GHz ‡	122.25-123.0 GHz
2390-2450 MHz	24.0-24.25 GHz	134-141 GHz
3300-3500 MHz	47.0-47.2 GHz	241-250 GHz
5650-5825 MHz	76.0-81.0 GHz	All above 275 GHz

‡ No pulse emissions

**KEY:**  
CW operation is permitted throughout all amateur bands.

MCW is authorized above 50.1 MHz, except for 144.0-144.1 and 219-220 MHz. Test transmissions are authorized above 51 MHz, except for 219-220 MHz.

= RTTY and data  
 = phone and image  
 = CW only  
 = SSB phone  
 = USB phone, CW, RTTY, and data  
 = Fixed digital message forwarding systems only

E = Amateur Extra  
 A = Advanced  
 G = General  
 T = Technician  
 N = Novice

See ARRLWeb at [www.arrl.org](http://www.arrl.org) for detailed band plans.

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Exams: 860-594-6300 email: [vox@arrl.org](mailto:vox@arrl.org)

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If the above image is a bit confusing...see below:  
U.S. Amateur Radio Frequencies

**70CM** – 420 – 450MHz  
**2M** – 144 – 148MHz  
**10M** – 28 – 29.7MHz  
**12M** – 24.89 – 24.99MHz  
**15M** – 21 – 21.45MHz  
**17M** – 18.068 – 18.168MHz

**20M** – 14.0 – 14.35MHz  
**30M** – 10.1 – 10.15MHz  
**40M** – 7.0 – 7.3MHz  
**60M** – 5MHz region  
**80M** – 3.5 – 4MHz  
**160M** – 1.8 – 2MHz



# Ham Radio Glossary Terms

HAM Term	Meaning	How to Use
73	Best wishes, have a good one	73, this is (Your call sign)
Roger	Got it, understood	Roger that
Copy	Understand	Copy that
QSO	Conversation	I just had a QSO with another ham in my area.
Clear	Good-bye/off the air	This is (Your call sign) clear
Mobile	Traveling	(Your callsign) mobile
Monitor	Listen	This is (Your call sign) monitoring.
QSY	Changing frequency	I'm going to QSY over to 62
Double	Talking simultaneously	You two doubled with each other
Step on	Talk over	I apologize, I stepped on you
PTT	Push -To -Talk	Push your PTT button to talk
HT	Handy Talkie	My Radio is an HT
Rubber Duck	Stock antenna that usually comes with HT radio	I'm using a rubber duck
Stand by	Wait / Pause	This is (Your call sign) stand by
Net	On – Air gathering	The net is at noon
In and out	Offline Check In	This is (Your call sign), I'm in an out
Elmer	Ham Radio Mentor	John is my Elmer
Final	Concluding Transmission	I'll be clear on your final
Kerchunk	Keying up silently – Not identifying	All I could hear is someone kerchunking
Picket Fencing	Fluttering Transmission	Your signal is picket fencing
Rag chew	Shooting the breeze	We're just rag chewing right now
Shack	Yor radio room	My shack is downstairs
Silent key / SK	Deceased Ham	My Dad is a silent key
Full Quieting	No background noise	You are full quieting in the repeater.
Relay	Pass a message	Could you please relay?
Key up	Transmit	Key up when you are ready to speak
Unkey	Stop Transmitting	Release the PTT button
Ticket	Ham Radio License	When did you get your ticket

This is, by far, nothing close to the number of terms used in Ham radio, however, these are some of the most used and ones you will hear getting on the air for the first time. Good review for the more seasoned operator.



# RCARC Field Day Pictures

Continued from page 16



Elements attached and the first section of the tower is being raised.



The first section of the tower is up.



The 2<sup>nd</sup> section of the tower being raised.

Continued next column



Tower is up and ready for use.



George (AL7BX) and Craig (KK7BNZ) setting up one of George's portable antennas.



Terry and Bonnie (KI7WEZ) ordering pizza for the troops. While Ann (KJ7GZ) and Brody (K7VXV) look on.

Continued on page 22



# RCARC Field Day Pictures

Continued from page 21



Voice 20-meter station set up and ready to rock & roll.



George (AL7BX) setting up one of the digital stations and checking the logging software.



This is the view we experienced from the Pavilion at Summer Field Day.

Continued next column



George (AL7BX) setting up an additional digital station.

## Potluck Time

Club members have been staffing the radios most of the afternoon trying their best to make contacts with the various modes and bands. Conditions were challenging to say the least. But it is now potluck time and the cooks are busy at the Grill.



Members are starting to arrive for dinner and visting while they wait.



Burgers are on the grill with the Hotdogs to follow.

Continued on page 24

# ARDC Grants Help Fund Elementary and College Projects

The California-based Amateur Radio Digital Communications (ARDC) foundation has issued two grants aimed at helping elementary schoolers and college students learn and experiment with amateur radio.

The first grant going to Science is Elementary (SiE) -- a 501(c)(3) non-profit organization -- will allow for the printing of "Jasmine and José Build a Radio," the next volume in the SiE series of books, which helps students solve problems using science. The grant also includes 2,240 kits for students, an onsite field trip for fourth graders, and all materials to help with the experiments. It is targeted for 7-year-old students and their families, including those with limited incomes, so that everyone can participate.

The "Jasmine and José..." story will find the pair visiting a friend who is an amateur radio operator. Intrigued with what they see and hear, they set out to build a radio of their own.

The kits will be distributed for free to students in Title 1 schools in the San Francisco Bay Area. The book, which is in English and Spanish, will be available for free as an online PDF. The field trips will allow students to work in teams using simple components to build a working radio.

The ARDC says these lessons track the Next Generation of Science Standards (NGSS), setting expectations of what students should know and be able to accomplish.

The second ARDC grant is to Bradley University in Peoria, Illinois. It will allow three recent graduates to complete their work, which will allow amateur radio operators to experiment in the 33-centimeter band.

**Continued next column**

The project is known as the DAEMod-915 and is being developed by Peter Handler, W9PLH; Connor Dickey, KD9LSV, and Philip Pierce, AC9YC. Their work, using digital protocols, will allow amateur radio operators, developers, or other educational institutions to experiment and build hardware or software for their own unique applications.

The 33-centimeter band is a 900 MHz section of the UHF band and is allocated on a secondary basis to amateur radio operators. Non-licensed users known as SIM (science, information, medical) can also use the band to develop applications and hardware for commercial uses.

Once the DAEMod-915 project is complete all the data and software will be available at <https://github.com/DAEMod-915>.

For additional information about ARDC, visit their website at [ampr.org](http://ampr.org) End.

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## Iron Town CERT Trailer

Iron County's, Iron Town Community Emergency Response Team (CERT) Unit under the direction of Terry Meissner brought their new Community CERT Trailer to 2022 Summer Field Day for attendees to see.

See pictures below:



View from back doors of trailer.

**Continued on page 26**



# RCARC Field Day Pictures

Continued from page 22



Dick (K7ZI) and his famous Dutch Oven Potato's.



The food table is being prepped. It won't be long now.



Burgers and Dogs about ready.



It's chow time. Members filling their plates.



Members enjoying dinner and visiting.



Brody (K7XVX) and his daughter Rachel working third party traffic.

Continued next column

Continued on page 25



# RCARC Field Day Pictures

Continued from page 24



Bruno working Digital FT8 on 40 meters.

## Overnight



Ron (K7HDX) logging one of his digital contacts.

## Then came the morning



Brody (K7VXV) and Terry cooking breakfast on the flat top grill.

Continued next column



Just another view of the great breakfast at Summer Field Day.



Time to bring the tower down.



The tower is down and being disassembled.

It was a great and very successful Field Day for the RCARC Club. Thanks to all to who assisted throughout the event. See SFD Statistic in Fred's President's Message. **Next: Winter field Day.**

## Iron Town CERT Trailer

Pictures continued from page 23



Additional view from the rear. Terry Meissner checking out the supplies.



Overall view of the CERT Trailer.



**Happy 4<sup>th</sup>  
of July  
everyone**