RAINBOW CANYONS AMATEUR RADIO CLUB NEWSLETTER

CEDAR CITY, UTAH

Club Websites: www.rcarc.info OR www. rainbowcanyons.com Number 3 – Vol. 5 – May 2021

Club Meeting Information

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

2021 Club Officer's

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CQ, CQ, Happy Mothers Day

Presidents Message

Greetings fellow HAMs!

Hope everyone is having a spring 2021! It was good to see everyone at the April meeting! The renovated senior center looks great! Field Day (end of June) is coming up fast so start making plans to come out to Three Peaks again this year.

In July we will also have a swap-meet think about what radio gear you can sell (so you can buy some more radio gear!). For our May meeting Bruno (KG7VVN) will be giving a presentation on putting together a portable radio "Go Box." This should be a fun talk.

RCARC Club Nets:
7:00 a.m. Breakfast Net - Monday – Saturday – 146.760.
12:30 p.m. Daily – Utah Beehive Net On 7.272.
7:00 p.m. Tuesday's Southwestern Utah Digital Net. Using FLDIGI, FLMSG AND FLAMP – 146.680, 1500/MT63-2KL
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. Wednesday – Morse Code Net- 146.980. - offset. PL 100
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.

Local Repeaters:
146.980 MHz – Tone 100.0 Hz
146.940 MHz – Tone 100.0 Hz
146.760 MHz – Tone 123.0 Hz
147.160 MHz + Tone 100.0 Hz.
448.800 MHz – Tone 100.0 Hz
146.680 MHz – Tone 100.0 Hz

Remote Bases:
449.500 MHz – Tone 100.0 Hz
449.925 MHz – Tone 100.0 Hz

ILRP/Echolink
449.900 MHz – Tone 100.0 Hz

Save The Date

May 11, 2021

RCARC Club Meeting.
7:00 pm. Cedar City Senior Center, 489 E. 200 South. Bruno (KG7VVN) will be giving a presentation on putting together a portable radio "Go Box."

June 8, 2021

RCARC Club Meeting.
7:00 pm. Cedar City Senior Center, 489 E. 200 South. Program to be determined.

July 13, 2021

RCARC Club Meeting.
7:00 pm. Cedar City Senior Center, 489 E. 200 South. Program to be determined

August 10, 2021

RCARC Club Meeting.
7:00 pm. Cedar City Senior Center, 489 E. 200 South. Program to be determined

President's Message
With the nicer weather I hope you can get outside and play, share, and have fun on the radio! I also hope that you are learning new things so that you can share them with your fellow HAMS! If you are interested in giving a talk or presentation, please let me know! We all have strengths and weaknesses but we are all interested in radio communications and can benefit from each other.

If you are interested in any aspect of HAM radio, please explore the topic, experiment, and share what you have done with the group! That is what makes this such a fun hobby! Don't be shy, we are all friends here!
In service,

Fred Govedich (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. Check out their website at: www.cedarcitypastrypub.com

Happy Birthday and Anniversary to those celebrating in May

Happy Mothers Day

Breakfast & Friendship Net Awards

Breakfast Net		Friendship Net	
First Place	**Second Place**	**First Place**	**Second Place**
KB7UMU - Sylvia	KI7LUN - Scott	KI7WEX - Bonnie	KB7UMU - Sylvia
N7SND - Larry	**Third Place**	KI7TPD - Fred	**Third Place**
KC6WFI - Tony	KG7PBX - Linda	KJ7OZI - Paul	KA7J - Lance
K7ZI - Dick	KI7WEX - Bonnie	KI7SXJ - Isaiah	N7TCE - Merlin
KI7LUO - Melody	**KI7TPD - Fred**	N7WWB - Darlene	
	KI7LUI - Tom	K7HDX - Ron	
	K7DVP – Vernile	W6DLW - Dennis	
		KI7LUM - Bruce	
		K7ZI - Dick	

ARRL Learning Network Webinars

Visit the ARRL Learning Network (a members-only benefit) to register, check on upcoming webinars, and to view previously recorded sessions.

HF Noise Mitigation -- ARRL Northwestern Division Director Mike Ritz, W7VO, on Thursday, May 6 at 3:30 PM EDT (1930 UTC)

An educational seminar to help both new and experienced HF operators who find themselves plagued with noise. We'll learn what "noise" is, discuss the various noise sources, and talk about how to mitigate those noises using a variety of techniques.

Continued next column

W1AW Antenna Farm -- W1AW Station Manager Joe Carcia, NJ1Q; Tuesday, May 18, at 1 PM EDT (1700 UTC)

Experience a bird's-eye view and description of the antennas used by W1AW for the station's scheduled transmissions and visiting operator activity. All the antennas used at W1AW are single-band Yagi's. Viewers will also see the 5 GHz antennas that are part of W1AW's AREDN system.

These Learning Network presentations are sponsored by Icom.

ARRL members may register for upcoming presentations and view previously recorded Learning Network webinars. ARRL-affiliated radio clubs may also use the recordings as presentations for club meetings, mentoring new and current hams, and discussing amateur radio topics.

The ARRL Learning Network schedule is subject to change. End.

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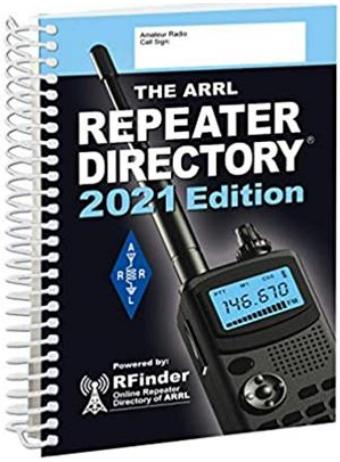
RCARC April Meeting Book Giveaway

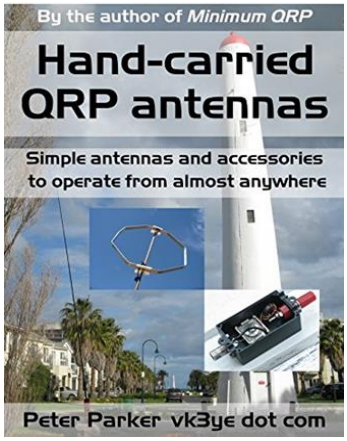
The book shown below will be awarded to one of our RCARC members at our club meeting on May 13, 2021.

This book is being donated by Linda Shokrian (KG7PBX).



RCARC Book Giveaway Winner.

The winner of the April 13, 2021 book giveaway. Hand-carried QRP antenna's is Riki Kline (K7NJ).



Congratulations Riki

Contact Us.

Mailing Address:
195 E. Fiddler's Canyon Road #3.
Cedar City, Utah 84721

Club E-mail:
cedarcity.rcarc@gmail.com

Newsletter E-mail:
rcarcnewsletter@gmail.com

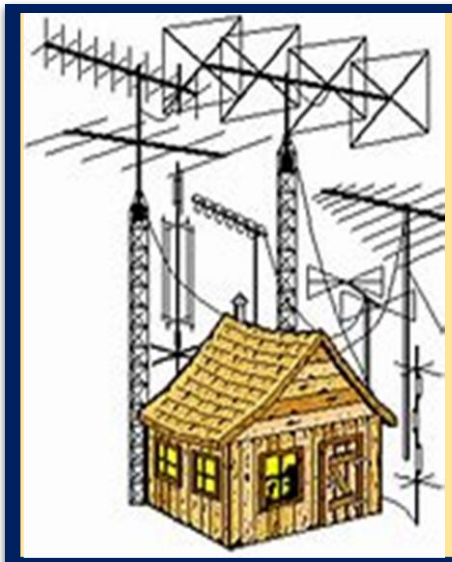
Website
www.rcarc.info
www.rainbowcanyons.com

Face Book Page:
https://www.facebook.com/groups/440325486875752/

To Join RCARC or Pay Dues:

Go to 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.



We can only dream!

Buzz's May Safety Tip(s)

May is National Water Safety Month:

Tips for Staying Safe this Summer

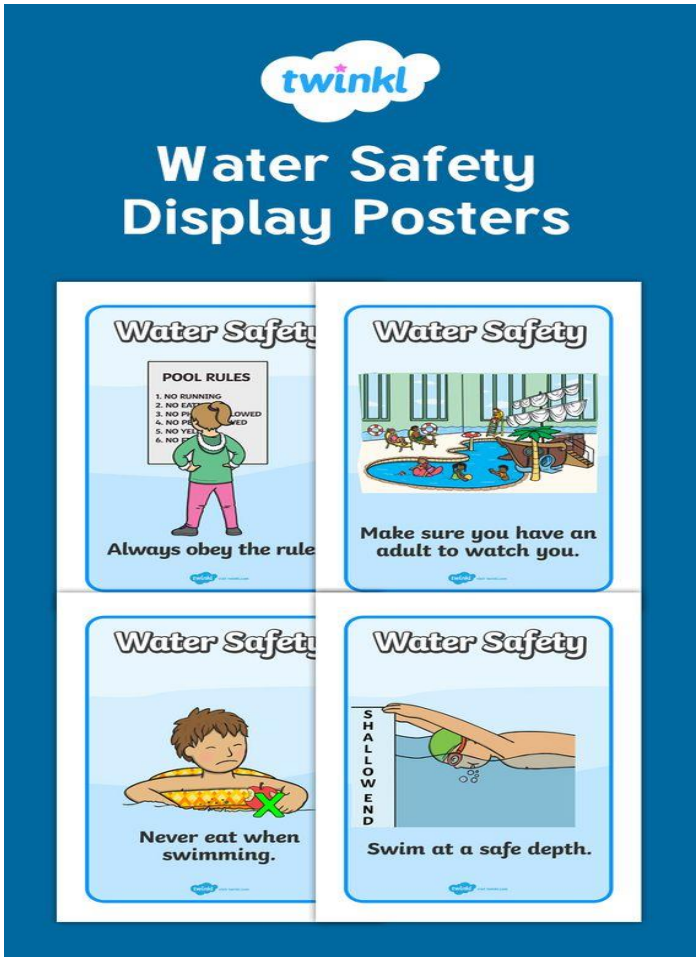
Summertime is on the way, meaning pool, lake and beach time for many children and adults. In recognition of National Water Safety Month, parents and swimmers should practice safety when in or around the water.

All children and adults should practice the following safety tips when in and around the water:

- Only swim when and where there is a lifeguard on duty; never swim alone.
- Adults should constantly and actively watch their children.
- Inexperienced or non-swimmers should wear a Coast Guard-approved life jacket.
- Parents or guardians of young children should be within an arm's reach.
- Children and adults should not engage in breath holding activities.
- Install 4ft or taller fence around pool and spa with self-latching gates. If house serves as side of fence, install an alarm to door that enters to pool area.
- Teach children water safety & swimming tips as early as possible.
- Install and use a lockable safety cover on your pool & spa.
- Designate a "safety seat" or safe place in pool area where children can sit until they are allowed in the water. Teach young children that they must be invited into the water by an adult.
- Appoint a "designated watcher" to monitor children during social gatherings at or near pool.

Continue Next Column

- Appoint a "designated watcher" to monitor children during social gatherings at or near pool.
- Install a poolside phone, preferably a cordless model, with emergency numbers programmed into speed dial.
- Post CPR instructions & learn the procedures.
- Keep a first aid kit poolside.
- Do not use floatation devices as a substitute for supervision. Never allow a young child in a pool without an adult.
- NEVER prop the gate to a pool area open.
- Understand/learn the basics of lifesaving so that you can assist in a pool emergency.



Rainbow Canyons Amateur Radio Club
Treasurer Report, April 13, 2021

Bank statement balance - March 1, 2021	$1,944.25
*Dues received	60.00
Rocky Mountain Power	- 16.11
Bank statement balance March 31, 2021	$1,988.14

*Dues received $60
Individual payments of $15 - received from
K6NPA, KE6ZIM, KI7WEW, KJ7LTQ,

Activity since bank Statement Date - amounts are not included above and will be reflected in next month's bank statement and treasurer's report

Dues received April to date (KJ7WBH, KG6TGC)	30.00
Bills paid to date - Hanover Club Insurance	- 200.00
Accounts payable due 4/15/2021	- 15.47

There is a automatic monthly deduction to Rocky Mountain Power to pay for the electricity used by the 98 repeater up on Iron Mountain

Funds available as of 4/13/2021	$ 1,802.67

Dues can be mailed or dropped off to me at address below. There is a membership form to include in the newsletter. In person meetings start April 13, 2021 at the Cedar City Senior Center. Dues can also be paid in person at that time.
I have the print out of all dues paid in 2021 if you want to see if you have already paid or not.

Submitted by Linda Shokrian KG7PBX, 2021 RCARC Treasurer
435-867-5914
2438 W Carmel Canyon Dr., Cedar City, UT 84720

FT8 Accounts for Nearly Two-Thirds of HF Activity

Since zooming to prominence after its debut in mid-2017, the popular FT8 digital protocol has become the mode of choice for some 60% of HF operators, according to Club Log's latest activity report compiled by Michael Wells, G7VJR. FT8 is one of the protocols in the *WSJT-X* suite of free programs. Wells says FT8 activity level sits at nearly 85% on 6 meters. The dramatic FT8 upswing has come at the expense of phone, CW, RTTY, PSK, and other modes. Over the same period, the number of FT8 contacts logged each year per active call sign has continued to climb to about 60% between 2015 and 2021, with the most dramatic increase being nearly 29% in the past year. The use of all other modes has continued to flutter downward since the advent of FT8, which occupies vastly less spectrum than the more traditional ham radio operating modes.

Between 2015 and 2020, the number of contacts logged per day by Club Log users has trended steadily upward, regardless of mode. The report draws on data of more than 84,000 logs uploaded to the Club Log site -- some 730 million contacts in all.

Wells reported that in 2025, the "typical call sign" logged 620 CW contacts, 558 SSB contacts, and 372 data (digital) contacts. Five years later, the statistics were 500, 300, and 1,700, respectively.

ARRL's Logbook of The World (LoTW) does not typically report this level of detail as far as mode usage is concerned, but the statistics available certainly confirm FT8's increasing popularity. The rocketing usage of FT8 over the past few years may be demonstrated most dramatically by a comparison in contacts-by-mode statistics between March 2017 and March 2018, when FT8 contact numbers in the hundreds shot to some 2.6 million contacts by the following year -- an increase of nearly 1 million percent.

Continued next column

From mid-2019 to mid-2020, FT8 usage appears to have slumped slightly to 50% before climbing back to 60%. FT8 usage peaked at just over 65% in late 2020 and has held steady at 60 - 65% since.

The same period saw SSB usage dip by 15%, CW activity by 10%, and RTTY by 29%. Introduced later, FT4, the contest mode of FT8, also showed an initial fast upward trajectory, before steadying at 5 - 8%.

Named after its developers, Steven Franke, K9AN, and Joe Taylor, K1JT, FT8 indicates the mode's eight-frequency shift-keying format. Tones are spaced at 6.25 Hz, and an FT8 signal occupies just 50 Hz. End

Can You Answer These Riddles Correctly?

1. There is a house with four walls. All the walls are facing south. A bear is circling the house. What color is the bear?

2. What is the difference between a jeweler and a prison guard?

3. Name the next letter in the sequence:
   J F M A M J J A S O N?

4. How do you make a number one disappear?

5. I am an odd number. If you take away one of the letters in my name. I become even; what Number am I?

Find answers on Page 17

RCARC E-Comm Group Participates in the Southwest Utah Great Shake Out

Exercise

On Thursday morning April 15, 2021 at 10:15 a.m. Brad Biederman (WA7HEE) activated the RCARC E-Comm group due to a large Earthquake that just occurred in Cedar City.

Brad then using Amateur Radio (also known as ham radio) conducted a roll call. Those members that acknowledged were asked to submit to the Iron County Emergency Operations Center (EOC) Planning Section a Damage Assessment Report (DAR) and to send a picture of the damage in their area.

At this point E-Comm members began to compile and format the requested information using the Fldigi and FLAMP Software used for sending these types of requests over the air through ham radio.

The DAR askes a number of questions related to the given emergency to give First Responders an idea of what the status is in their community.

Some of the questions on the DAR report:
Are there injured people, deceased and or trapped persons, are there fires burning, gas leaks, water leaks, chemicals leaking, electrical problems, collapsed or damage buildings, road conditions, access to the area and the same for animals.

Once this information is compiled and sent to the EOC) it gives the Emergency Managers a quick snapshot of the current situation in the city. This then allows Emergency Resources to be sent to the areas with the greatest impact.

Continued next column

The E-Comm Group are all volunteers and live in Cedar City or surrounding areas. These members train in using the Fldigi and FLAMP Software throughout the year and participate in exercises such as the Utah Great Shakeout.

RCARC Members participating in the digital exercise were Brad Biederman (WA7HHE), Bill Stenger (K6QOG), Bruno DeBacker (KG7VVN), Ron Shelley (K7HDX), Jack Coulter (KG7VEJ), Ken Richter (KR7KR), Gene Phillips (W1EEP) and Dennis West (W6DLW).

E-Comm. members that participated by checking in to the voice roll call demonstrating their availability if this were a real disaster.

WA7GTU Don Blanchard
WA7HHE Brad Biedermann
KB7PBX Linda Shokrian
KI7SCX John Higley
K6QOG Bill Stenger
AL7BX George Gallis
KR7KR Ken Richter
KG7VEJ Jack Coulter
N7SND Larry Bell
K7HDX Ron Shelley
W6DLW Dennis West
N7TCE Merlin Mackay
KG7YIB Carolyn Bauer
N7WWB Darlene Shelly
K7ZI Dick Parker
KG7YIC Ken Bauer
KG7VVN Bruno DeBacker
W1EEP Gene Phillips
K7DVP Vernile Prince
KC6WFI Anthony Karbowski

While we know that not all E-Comm. members were able to participate for many reasons a great big thanks goes out to everyone for just being an E-Comm. volunteer.

The Rainbow Canyons Amateur Radio Club (RCARC)
is Sponsoring an Amateur Radio

Technician Class

Beginner Level for Ham Radio

Dates: Thursdays - May 6, ** 20, 27, June 3, and June 10th,
with the test, Thursday June 17, 2021

Time: 6:00 pm - 9:00 pm

Where: Cedar City Senior Center
489 E 200 South, Cedar City, UT 84720

** May 13th class has been cancelled - see new dates above

Class Cost: Free

Study Manual: Free Download
Please bring to class
http://www.ad7fo.com/media/TechLic2018.pdf

This class will be presented live, in person at Cedar City Senior Center, live on Zoom (connect info will be sent out before first class) and a recording will be available on rcarc.info. You may attend however fits your schedule but must be present in person for testing on June 10th. If you cannot make the 10th, other arrangements can be made.

Contact to register:

Linda Shokrian KG7PBX
435-867-5914 or
email: Lgshokrian@gmail.com

There is a $15 ARRL Test Fee

RADIO NEWS
H. GERNSBACK—Editor
ROBERT E. LACAULT—Associate Editor
Vol. 2 MAY, 1921 No. 11

NEW RADIO LEGISLATION

IN his first message to Congress, April 12th, President Harding said as follows:

"Practical experience demonstrates the need for effective regulation of both domestic and international radio operation, if this newer means of intercommunication is to be fully utilized. Especially needful is the provision of ample radio facilities for those services where radio only can be used, such as communication with ships at sea, with aircraft, and with out-of-the-way places. International communication by cable and radio requires co-operation between the powers concerned. Whatever the degree of control deemed advisable within the United States, Government licensing of cable landings and of radio stations transmitting and receiving international traffic seems necessary for the protection of American interests and for the securing of satisfactory reciprocal privileges."

Evidently the powers that be in Washington have come to realize that Radio will be one of the coming pillars of the nation. As such it goes without saying that it will be subjected to many forces from various powerful interests. Radio no longer is a plaything. It has come to be recognized as one of the surest and best means for communication, and while radio will never entirely supplant the cable, there is no question that within a very appreciable time, it will dwarf all cable communication as it exists now.

This means naturally that there must be some sort of regulation, and we must not blind ourselves to the fact that sooner or later new radio legislation will be brought about, for at the present time there are many flagrant cases where radio communication is seriously hampered by the lack of co-operation between the various interests concerned.

Following close upon the President's message, Mr. White of Maine, introduced H. R. 4132, a new radio bill, which on account of its importance is printed elsewhere in full. This bill, coming so close upon his message to Congress, our readers may feel certain that President Harding knew about it when he spoke before Congress, and therefore there is every reason to believe that he sponsors it. Knowing that sooner or later new radio legislation is going to come about, we may as well make up our minds that we have to face the music at some time, and we might as well face it now, particularly if the music is agreeable.

As perhaps everyone knows, the writer has always, ever since the inception of amateur radio, fought for the amateurs' rights, and he is doing so now when he actually endorses H. R. 4132. The writer expects that in some quarters, there will be opposition to this bill by certain amateurs who are short-sighted enough, and who are so misguided that they think they can go on with their Q. R. M. until doom's day. The sooner these amateurs come to realize that other people have rights besides themselves, the better it will be for the radio art. We must all co-operate together, amateurs as well as the commercial interests and the Government, or we will get nowheres.

As to H. R. 4132, we have strong reasons to believe that it will pass and become a law. We believe it should become a law. It will be best for all concerned. The writer has been prompted in his decision by long and careful weighing of all the facts as presented in the new bill, and he believes that if there must be a change, we might as well accept H. R. 4132, because there probably will never be a bill fairer to the various interests than the one in question.

The previous radio bills introduced from time to time by the Navy, or its sponsors, were all opposed vigorously by the writer because nearly every one of them was antagonistic—at least in spirit—to the amateur and to the free development of the radio art as well.

We have no quarrel with the Navy—quite the contrary, for the Navy has helped us amateurs a lot. But the Navy in operating its coast stations and its ships has thought right along that it wanted nothing short of a universal monopoly of the ether. With this, of course, the writer was not in accord, and he knows the amateurs were not.

The new bill H. R. 4132, however, is distinctly a different matter. In the first place it leaves radio amateurs under the influence of the Secretary of Commerce, and nine years of dealings with this department has convinced the amateur that the Department of Commerce not only was more than fair in all its dealings with us, but often went out of its way to help the amateurs, which is well known. It will be noted that an advisory committee is to be created consisting of seven members of whom one each shall be designated by the Secretary of War, the Secretary of the Navy, the Postmaster General, and the Secretary of Commerce to represent these departments respectively. One is to be designated by the Secretary of Commerce from the Bureau of Standards and two persons not otherwise employed in the Navy service, of recognized attainment in radio communication, are to be designated by the Secretary of Commerce. We believe that with such a Board, we shall fare much better than if, for instance, the Navy or any other Department by itself were to make changes as it saw fit at any time such a department desired to do so. If the bill is read carefully from start to finish, it will be found that it is fair to all interests, and we are of the opinion that if it becomes a law tomorrow, the amateur will enjoy exactly the same privileges as he does today. There will, however, be trouble for the Q. R. M. fraternity, but no doubt they will not fare a great deal worse than today, except that they probably will be deprived more quickly of their licenses, if they do not mend their ways.

Of great interest is Section 11, where it says in speaking of various fines: *"Providing,* that this section shall not apply to the use of radio telefone stations regularly licensed for public service."

The liberal interpretation of this, of course, is that in the future radio telefone stations, even if used by amateurs, will not be apt to be scrutinized so closely as are the present time spark stations. Now this is exactly along the lines upon which the writer has been preaching for many months, even as late as in his Editorial in the March issue entitled: "Amateur Radio Telefony."

Sooner or later we will all be forced to give up our spark stations and operate on CW, and this is as it should be. The sooner the amateurs realize this, the better it will be for us, and when this happens radio laws will become as superfluous as laws about telefone cables are today.

H. GERNSBACK.

Tuned radio frequency receiver.

By Dennis L. West (W6DLW)

Last month my wife (Terry) and I ventured out on a day drive to Panguitch where we had a great lunch at the Cowboys Smokehouse Cafe and then on to Bryce Canyon.

After some site seeing we stopped at the Bryce Canyon Lodge.

While walking around in the lodge I came across a restored circa 1925 “Tuned radio frequency receiver” on display in the lobby.

A **tuned radio frequency receiver** (or **TRF receiver**) is a type of radio receiver that is composed of one or more tuned radio frequency (RF) amplifier stages followed by a detector (demodulator) circuit to extract the audio signal and usually an audio frequency amplifier. This type of receiver was popular in the 1920s. Early examples could be tedious to operate because when tuning in a station each stage had to be individually adjusted to the station's frequency, but later models had ganged tuning, the tuning mechanisms of all stages being linked together, and operated by just one control knob. By the mid-1930s, it was replaced by the superheterodyne receiver patented by Edwin Armstrong.

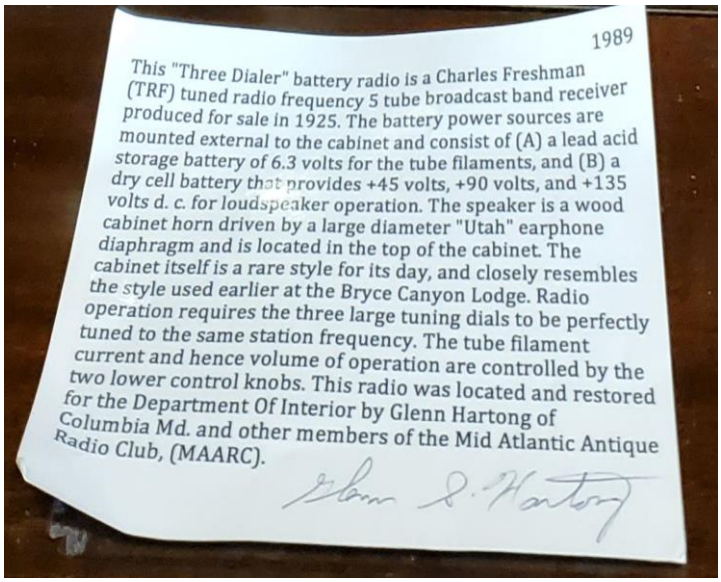
Please see below a few pictures of the radio on display and a copy of the narrative attached to the radio.

Lodge guest sitting around the radio.

Continued next column

TRF Radio on display in the lobby at Bryce Canyon Lodge.

Closer look at front panel.



1989

This "Three Dialer" battery radio is a Charles Freshman (TRF) tuned radio frequency 5 tube broadcast band receiver produced for sale in 1925. The battery power sources are mounted external to the cabinet and consist of (A) a lead acid storage battery of 6.3 volts for the tube filaments, and (B) a dry cell battery that provides +45 volts, +90 volts, and +135 volts d. c. for loudspeaker operation. The speaker is a wood cabinet horn driven by a large diameter "Utah" earphone diaphragm and is located in the top of the cabinet. The cabinet itself is a rare style for its day, and closely resembles the style used earlier at the Bryce Canyon Lodge. Radio operation requires the three large tuning dials to be perfectly tuned to the same station frequency. The tube filament current and hence volume of operation are controlled by the two lower control knobs. This radio was located and restored for the Department Of Interior by Glenn Hartong of Columbia Md. and other members of the Mid Atlantic Antique Radio Club, (MAARC).

Glenn L. Hartong

Verbiage attached to the TFR radio on display.

Continued on page 13

APRIL Coffee at the Pastry Pub Pictures

Club members enjoying breakfast

Looking good Ya" all

Caught off Guard

2006 Jay Leno (Tonight Show) Ham Radio Skit.

Access the below URL to watch the video.

https://www.facebook.com/BenefactorNRA/videos/807498500141241

Powerful landslide sweeps homes into the sea

Powerful landslide sweeps eight houses into the sea in the Norwegian Arctic. No injuries were reported, and a dog that was washed into the ocean was able to swim back to land safely.

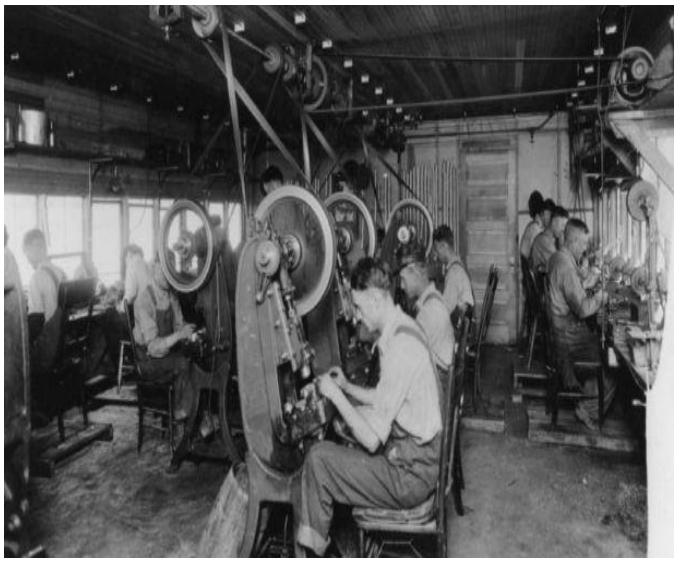
There will be an advertisement before the video starts.

https://abc30.com/6232984/

Tuned radio frequency receiver.

Continued from page 9

The TFR Radio has a wood cabinet horn driven by a large diameter “Utah” earphone diaphragm and is located in the top of the cabinet.



Utah Inventions: The birth of the modern headphone.

The beginning of the earphones we know wasn't really that long ago. Sure, earphones were being used in the 19th century as telephone receivers and tools to tune into theater performances in London. However, we owe a man of Mormon pioneer stock for the conception of modern headsets: Nathaniel Baldwin.

Nathaniel Baldwin was born in Fillmore on December 1, 1878, where his parents settled after converting to The Church of Jesus Christ of Latter-day Saints.

Baldwin loved to learn — especially about the sciences.

Baldwin was determined to get a good education, something which wasn't really available in Fillmore at the time. So, he walked about 100 miles to Provo's Brigham Young Academy. In Provo, he lived in an adobe hut, which people called "Baldwin's Castle."

Continued next column

It was even furnished with his own hand-crafted furniture. From there, he went on to Logan to study at Utah State Agricultural College and then to Stanford to study physics and electrical engineering.

After finishing his education, he taught physics and theology at Brigham Young University. Later, he labored as an electrician and air compressor operator at Mountain Lake Mine. After that, he worked at the Knight Power Company operating their power plant on Snake Creek. Two years later Utah Power and Light Company took over, at which time he was moved to the hydroelectric plant in Mill Creek Canyon.

Credit for the creation of his first sound device goes to the LDS general conference. While attending the event in the Salt Lake Tabernacle, he couldn't always hear the church leaders' talks. He resolved to amplify sound.

To amplify sound, Baldwin attached a tube of compressed air to a valve. He then attached this contraption to a telephone — but the voice wasn't strong enough to activate the valve through it. So, he got to work amending the phone receiver.

It has been said that one day a man was walking through Mill Creek Canyon when he was awed by booming voices. Well, it turned out to be none other than Baldwin testing the device.

By spring 1910, Baldwin had invented the earphone receivers that would make him so successful. The earphones had two very sensitive sound receivers attached to a headband. In each ear piece was a mile of copper wire and a mica diaphragm. The reception was as precise as could be at that time.

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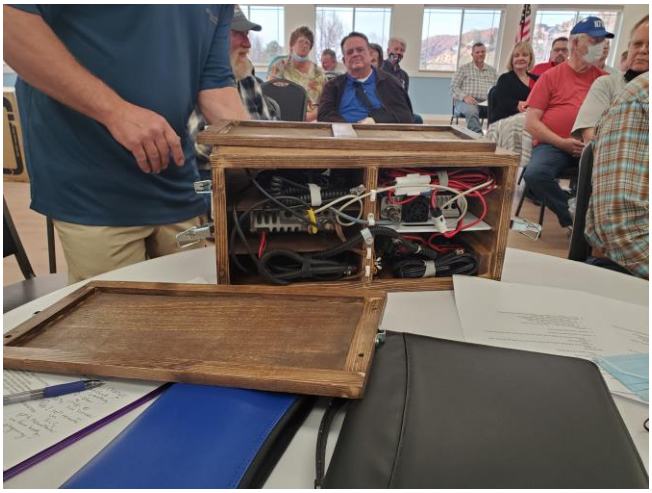
RCARC April Club Meting Pictures

Pledge of Allegiance.

Members listening to Fred (KI7TPD) as he conducts meeting business.

Fred (KI7TPD) starting is presentation on how to program your radios using CHIRP.

Bruno (KG7VVN) showing the members his radio to go box that he built.



A look at the back side of the box.

Tuned radio frequency receiver.

Continued from page 11

However, no one would take this invention — not even the Smithsonian Institution. But the Smithsonian did send him to someone who would: the U.S. Navy. Baldwin wrote a letter to the organization on blue and pink paper — using purple ink — and sent a pair of headsets with it. Through testing, the Navy realized just how much better this headset was than their current radio operators. So, they asked for more to test.

The Navy worked with Baldwin to improve the headsets even more, making them more comfortable and compact. The Navy wanted lots of them. But Baldwin was building them in his kitchen!

Of course, Baldwin certainly couldn't build headsets fast enough in his kitchen. When the Wireless Specialty Apparatus Co. heard what was going on, they helped Baldwin construct a building in Salt Lake along Mill Creek.

This was just the beginning. Baldwin left the power plant to focus on building his headsets. To produce power for his plant, he built a water wheel generator on Mill Creek using bicycle wheels and a piano wire belt.

The generator often broke, but it must have been fairly efficient because it took out most of Baldwin's son's hair.

Baldwin also created radio speakers, like the Master-Baldwin Throatype Clarophone. Apparently, it was shaped like Enrico Caruso's throat. Baldwin even made hearing aids and phonograph horn loudspeakers.

Continued next column

Business kept growing, so in 1915 Baldwin erected another building and in 1916 he bought more land.

Baldwin's employees reportedly loved him. Although he was shy, he would go through the factory to talk to his employees, getting ideas from them for increasing efficiency. Then, there was the fact he paid $4 each day.

In 1922, things were going splendidly. Baldwin's products were known all over the world, and his headsets worked so well that they were always being ordered —despite their high price. By the middle of the year, the workers were laboring 24-7 in three shifts, making 150 headsets each day.

Eventually, someone wanted to buy the company for $1 million. But Baldwin refused. He didn't want the business to leave the state, making his employees jobless.

Unfortunately, his factory could not meet the demands. When a fire burned one of his shops, he built a big brick building. But this wasn't enough and he had to sign a contract with other companies.

In 1924, things began going downhill. A number of factors may have contributed, but to make a long story short, deceitful associates convinced him to start a stock company — and then proceeded to produce misleading advertising.

Baldwin was sentenced to five years in the McNeil Island Federal Prison. He was able to keep working on his inventions, but his company failed. After just two years, he was able to go home. However, he never made his way back up. He died Jan. 19, 1961, at his son's Salt Lake City home.

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Tuned radio frequency receiver.

Continued from page 13

It's a sad ending to such a tale of triumph. However, with what he was able to do, Baldwin still influenced much. A small town changed, Utah found itself right in the middle of the sound world, and modern people can always be plugged into amplified sound — without bothering anyone else. So, every time you put in your ear buds, thank Nathaniel Baldwin and remember him for his amplified influence. End.

Upcoming Technician Class Instructors Meeting Pic's

Great minds hard at work organizing the Technician Class starting May 6th.

FCC Issues Enforcement Advisory

On April 20, the FCC's Enforcement Bureau issued a new Enforcement Advisory, repeating the admonishments contained in a January Advisory that no licensee or user of the Amateur or Personal Radio Services may use any radio equipment in connection with unlawful activities of any nature.

The Commission specifically cautioned that individuals found to have used radios in connection with any illegal activity are "subject to severe penalties, including significant fines, seizure of the offending equipment, and in some cases, criminal prosecution."

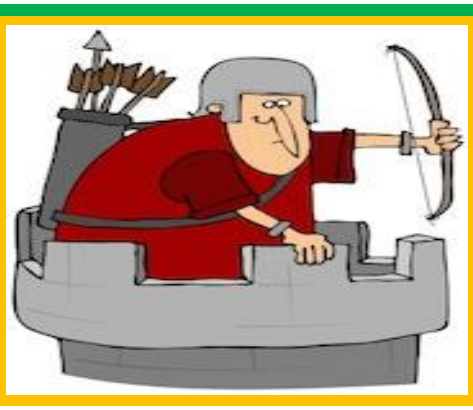
In addition, licensees should be aware that illegal operation in any service or band, including completely outside the amateur allocations, could potentially disqualify a person from holding any FCC license in any service, not just the Amateur Radio Service.

Any amateur observing suspicious activity that might be of an illegal or criminal nature should report it to their local law enforcement office or the FBI. End

A Great big thanks goes to:
Fred Govedich
KI7TPD

Fred thank you for the great "How to program your radio with Chirp" presentation at last month's RCARC Club meeting.

Great Presentation



Rare illustration of the first man who perfected the technique for lobbing a string over a tree.

Save the Date

RCARC Swap Meet coming July 10, 2021 @ 9:00 A.M.

Main Street Park in the Pavilion

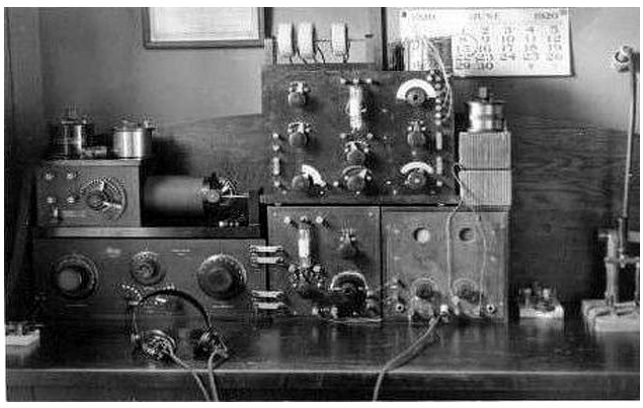
Answers to:
Can You Answer These Riddles Correctly?

From page 7.

1. **White. If all walls of the house are facing south, the house must be on the North Pole. So, the bear is a polar bear.**
2. **A jeweler sells watches, and a prison guard watches cells!**
3. **D. The sequence contains the first letter of every month, in order.**
4. **Add the letter G and then presto _ it is gone.**
5. **Seven. (Take away the S).**

Fun Facts about May

- It is the third and last month of the season of spring.
- The birthstone of May, the emerald, symbolizes success and love.
- May in the Northern Hemisphere is similar to November in the Southern Hemisphere.
- May was once considered a bad luck month to get married.



Early 1900's Ham Shack

April's E-Comm Meeting at the Heritage Center Pictures.

Brad updating the group on the mornings Utah's Great Shakeout exercise and other items. Not in picture at far right is Ron (K7HDX)

Another view. Ron (K7HDX) is behind Larry (N7SND).

Reminder:

Summer Field Day is approaching.

Last weekend in June

Updated Radio Frequency Exposure Rules Become Effective on May 3.

The FCC has announced that rule changes detailed in a lengthy 2019 Report and Order governing RF exposure standards go into effect on May 3, 2021. The new rules do not change existing RF exposure (RFE) limits but do require that stations in all services, including amateur radio, be evaluated against existing limits, unless they are exempted. For stations already in place, that evaluation must be completed by May 3, 2023.

After May 3 of this year, any new station, or any existing station modified in a way that's likely to change its RFE profile - such as different antenna or placement or greater power - will need to conduct an evaluation by the date of activation or change.

The Report and Order can be found online in PDF format at, https://docs.fcc.gov/public/attachments/FCC-19-126A1.pdf .

"In the RF Report and Order, the Commission anticipated that few parties would have to conduct reevaluations under the new rules and that such evaluations will be relatively straightforward," the FCC said in an April 2 Public Notice. "It nevertheless adopted a 2-year period for parties to verify and ensure compliance under the new rules."

The Amateur Service is no longer categorically excluded from certain aspects of the rules, as amended, and licensees can no longer avoid performing an exposure assessment simply because they are transmitting below a given power level.

"For most amateurs, the major difference is the removal of the categorical exclusion for amateur radio, which means that ham station owners must determine if they either qualify for an exemption or must perform a routine environmental evaluation," said Greg Lapin, N9GL, chair of the ARRL RF Safety Committee and a member of the FCC Technological Advisory Council (TAC).

Continued on page 19

Updated Radio Frequency Exposure Rules Become Effective on May 3.

Continued from page 18

"Ham stations previously excluded from performing environmental evaluations will have until May 3, 2023, to perform these. After May 3, 2021, any new stations or those modified in a way that affects RF exposure must comply before being put into service," Lapin said.

The December 2019 RF Report and Order changes the methods that many radio services use to determine and achieve compliance with FCC limits on human exposure to RF electromagnetic fields.

The FCC also modified the process for determining whether a particular device or deployment is exempt from a more thorough analysis by replacing a service-specific list of transmitters, facilities, and operations for which evaluation is required with new streamlined formula-based criteria.

The R&O also addressed how to perform evaluations where the exemption does not apply, and how to mitigate exposure.

Amateur radio licensees will have to determine whether any existing facilities previously excluded under the old rules now qualify for an exemption under the new rules. Most will, but some may not.

"For amateurs, the major difference is the removal of the categorical exclusion," Lapin said, "which means that every ham will be required to perform some sort of calculation, either to determine if they qualify for an exemption or must perform a full-fledged exposure assessment. For hams who previously performed exposure assessments on their stations, there is nothing more to do."

The ARRL Laboratory staff is available to help amateurs to make
these determinations and, if needed, perform the necessary
calculations to ensure their stations comply. ARRL Laboratory
Manager Ed Hare, W1RFI, who helped prepare ARRL's RF Exposure and
You book, explained it this way.

Continued next column

"The FCC did not change any of the underlying rules applicable to amateur station evaluations," he said. "The sections of the book on how to perform routine station evaluations are still valid and usable, especially the many charts of common antennas at different heights." Hare said ARRL Lab staff also would be available to help amateurs understand the rules and evaluate their stations."

RF Exposure and You is available in PDF format for free download from ARRL at, http://www.arrl.org/files/file/Technology/RFsafetyCommittee/28RFSafety.pdf

ARRL also has an RF Safety page on its website at, http://www.arrl.org/rf-exposure .

The ARRL RF Safety Committee is working with the FCC to update the FCC's aids for following human exposure rules - OET Bulletin 65 and OET Bulletin 65 Supplement B for Radio Amateurs. In addition, ARRL is developing tools that all hams can use to perform exposure assessments. End.

Radio Amateur Helps Rescuers to Locate Lost Hiker

The keen and practiced eye of ARRL member Ben Kuo, AI6YR, helped to guide rescuers to a hiker stranded on a mountainside on April 12. Hiker Rene Compean, 45, had spent the night in a remote region of the Angeles National Forest after getting in a tough spot. After a concerned friend reported Compean missing on Monday, the Los Angeles County Sheriff's Department dispatched search-and-rescue (SAR) teams.

Sheriff's Department dispatched search-and-rescue (SAR) teams. Although amateur radio played no direct role in the rescue, Kuo cited his enthusiasm for technology and ham radio satellites and for Summits on the Air (SOTA) for helping him to develop the skills he needed to guide searchers to the most appropriate area.

Radio Amateur Helps Rescuers to Locate Lost Hiker. Continued from page 19

"This is actually very applicable to being a SOTA activator -- map, navigation skills," Kuo told ARRL. "Also, understanding RF propagation was key to this. The SAR teams were searching the other side of the mountain, where there is no cell signal." Kuo knew that from having hiked there before. As Kuo described it, Compean was found between four SOTA peaks.

SAR teams were deployed in the Mount Waterman area of the San Gabriel Mountains to find the hiker. According to the LA Sheriff's Department, a low-flying helicopter team spotted him Tuesday afternoon between Triplet Rocks and the east bump of Twin Peaks in the San Gabriel Mountains, and he was airlifted to safety with no serious injuries. Kuo pointed the rescuers to the likely search area by matching satellite images Compean had transmitted over Twitter.

Kuo told the *Los Angeles Times* that he has an odd hobby of looking at photos and determining where they had been taken. He was able to employ his skill to determine the hiker's likely location using a tiny photo the hiker posted on Twitter that shows his legs and the valley below. As the newspaper reported on April 15, "When [Kuo] saw the photo posted by the Sheriff's Department, he set to work pulling publicly available satellite images and matching them to the vegetation and terrain below the hiker's legs."

Continued next column

Kuo's eye was good. He sent authorities the GPS coordinates of the most likely area, and the rescue team found Compean less than a mile from that location.

As the *LA Times* reported, the area where Compean was located on steep slopes and very difficult to access, requiring advanced climbing skills. The Sheriff's Department credited Kuo with saving them hours of fruitless searching. Kuo said this was the first time he'd been involved in a rescue like this one. End.

WEATHER REPORTS BY RADIO.

The United States Weather Bureau has arranged with the Department of Science of St. Louis University for the latter to send broadcast by radio-telefone twice each day the official weather forecast for Missouri and Illinois, and also the reports of the water stages of the Mississippi, Missouri and Illinois Rivers and their tributary streams.

This service will start on April 15 and the weather forecasts will be sent out at 10:00 a. m. and 10:00 p. m. of each day from the powerful wireless station of the University, which until the completion of the Government wireless station at the Chain of Rocks also was used to direct the aerial mail between St. Louis and Chicago. In that servce, however, the key was used, and in the Weather Bureau Service the radio telefone, to which anyone with a proper receiving apparatus can "listen in," will be the medium of communication.

The arrangements for the service were made by Montrose Hayes, Chief of the Weather Bureau of St. Louis, of which the St. Louis University Observatory is a co-operating unit and with the approval of the Department in Washington. The service will send the official Government forecasts, and the Department of Agriculture requests the newspapers and the Chambers of Commerce of the various cities and the Farmers Organizations within a radius of at least 150 miles in every direction from St. Louis, to make preparations to take advantage of the service, which St. Louis University will give gratuitously for the benefit of the public of that section of the United States.

The Department of Science of the University will be glad to receive any suggestions from individuals or organizations who are willing to co-operate in the service, and who will look after the local distribution or publication of the wireless reports.

Above article was in the May 1921 "Radio News Magazine"