RAINBOW CANYONS AMATEUR RADIO CLUB NEWSLETTER

CEDAR CITY, UTAH

Club Websites: www.rcarc.info OR www. rainbowcanyons.com Number 4 – Vol. 4 – April 2022

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. Down Stairs.

2022 Club Officer's

President:
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CQ, CQ, Happy Easter

Presidents Message

Dear Fellow Amateur Radio Operators,

Hope everyone is having a great start to spring and that you are looking forward to some fun events over the next few months including our club swap meet in May and Field Day in June! We had a great meeting last month with S and K antennas showing off some of their equipment. So far, I have been happy with the one that I picked up and will probably bring it out to Field Day to give it a real test! So far, we have had some great weather so I hope everyone is taking advantage of it when it is here!

We have a good batch of students in our Tech class so we may have some new HAMs needing our help of the upcoming months so please make sure to introduce yourself and offer a friendly hand! We have an Elmer night planned for our May meeting so this will be a great opportunity. Next month, by popular demand, Bonnie (KI7WEX) and I (KI7TPD) will have a presentation on some of our experiences in Australia.

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 0n 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

April 12, 2022

RCARC Club Meeting.
7:00 pm. Cedar City Senior Center, 489 E. 200 South. Fred (KI7TPD will present "Australia" to the attendees.

May10, 2022

RCARC Club Meeting.
7:00 pm. Cedar City Senior Center, 489 E. 200 South. Elmer Night

June 14, 2022

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

July 12, 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.

We lived in Melbourne, Vic. for eight years and will bring some cool photos (not much for radios, but still should be fun). I encourage you all to play, share, and have fun on the radio! We will have some newly minted HAMs in a few weeks so let's show them what they can do! 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.

Save the Date

1. **April 12, 2022 at 7:00 pm. Fred (KI7TPD) will present Australia to the attendees at the RCARC Club meeting**
2. **May 10, 2022 will be an "Elmer Night" at the RCARC Club meeting. Starts at 7:00 pm.**
3. **May 21, 2022 will be the RCARC club Swap Meet at the Main Street Park (Small Gazebo by Hermie's) Set up at 9:00 am. Start time 10:00 am.**

Happy Birthday and Anniversary to those celebrating in April

Happy Easter

Breakfast & Friendship Net Awards
April 2022

Breakfast Net		Friendship Net		
First Place	**Second Place**	**First Place**	N7SIY - Sylvia	
KI7TPD - Fred	KK7ZL - Ed	K7HDX - Ron	KJ7LTQ - Brant	
KI7WEX - Bonnie	**Third Place**	N7WWB - Darlene	KK7CEE - Bruce	
K7ZI - Dick	K7ZI - Dick	K7NKH - Lee	**Second Place**	
N7SND - Larry	KG7PBX - Linda	KI7TPD - Fred	K7ZI - Dick	
K7DVP - Vernile	KI7SCX - John	KI7WEX - Bonnie	KI7LUM - Bruce	
KC6WFI - Tony		K7WEP - Paul	**Third Place**	
KE6ZIM - Johnny		KA7J - Lance	N7TCE - Merlin	
N7SIY - Sylvia		KG7VEJ - Jack		
		W6DLW - Dennis		

Rainbow Canyons Amateur Radio Club
Treasurer Report as of March 8, 2022

Bank Statement has not been received yet so this report has not been reconciled but agrees with bank balance

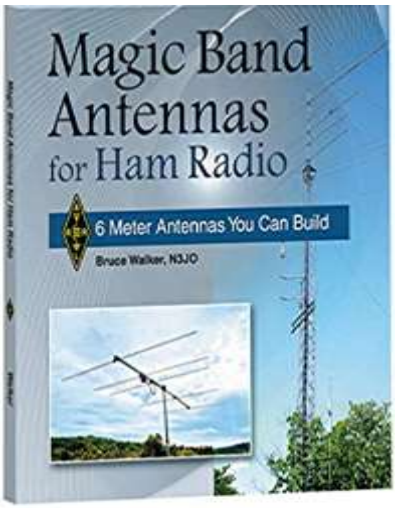
Bank balance January 31, 2022 (Reconciled)	$ 2,295.49
Checks/expenses	
Rocky Mountain Power	- 21.11
Income	
Memberships	+ 85.00
Bank balance (not reconciled) March 8, 2022	$2,359.38
Check to be cashed - Flowers for Terry Lee	- 74.34
Available bank balance	$2,285.04

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

In This Issue

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

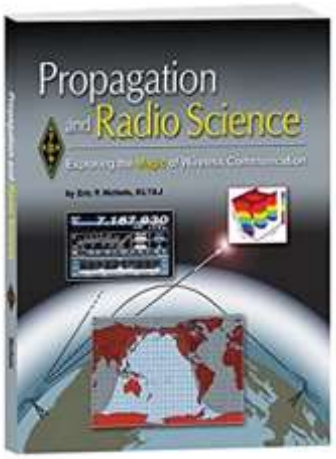
Shown below is the book that will be given away at the April 12, 2022 meeting.



RCARC Book Giveaway Winner.

The winner of the March 8, 2022 book giveaway (pictured below) is:

Lee (K7NKH)



Congratulations

Lee

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.

Thank You

Notice

At the April 12, 2022 RCARC General Meeting Fred (KI7TPD) and Bonnie (KI7WEX) will do a presentation on their time in Australia.

Please come and join us for what should be a very informative presentation.

Cedar City Senior Center – 489 East 200 South.

Meeting starts at 7:00 pm.

Buzz's April Safety Tip(s)

As each new season arises, the elements of the weather and the traditions of the

season leave us with different safety precautions and tips to consider. Although it may seem that the greater risks are behind us as we move away from the potentially dangerous weather we had faced in winter, spring has its own set of conditions to consider. Checkout the following 14-point spring safety tips and best practices.

General Safety Tips

General safety is the first thing to consider heading into spring. Here are some great spring safety tips to keep yourself and your family safe as your transition into the new season:

- Removing any old paint cans and paint thinners, in addition to old newspapers and magazines. Your local dump station should have a place for hazardous material drop off to dispose of these chemicals safely.
- Consider your smoke alarms. Do you have enough in your residence or workplace? Change the batteries each spring to be sure you are properly prepared for an emergency.
- Clean the dust covers of carbon monoxide detectors.
- Review your emergency escape plan with each member of the family in the event of a fire.
- Clean or replace your furnace filter.
- Grease can accumulate on your stove hood. Properly cleaning this is one way to keep flames from spreading should a fire break out.
- Check all fire extinguisher needle indicators and dates to be sure they are working.
- Clean around your dryer. Pay close attention to any ducts or dampers to be sure that lint has not accumulated and blocked this space. Accumulation of lint can lead to a fire.

Continued on page 6

Spring into Safety

- Check all chords to prevent an electrical fire. Make sure they are not frayed and wires are not visible.

Outdoor Safety Tips

It is also important to have an outdoor emergency plan for your family.

- Practice ladder safety. If you plan on climbing a ladder, you should do so accompanied by someone who can help in the event of an emergency. Be sure ladders are placed on level spaces and they have been secured.
- Check outdoor cords for frays and damage.
- Check any gas-operated equipment to be sure all fuel lines are safe.
- Do not store gasoline in an open space. Be sure all equipment used for lawn equipment and outdoor purposes has been properly fueled outdoors to eliminate the risk of inhalation.
- Keep all dangerous options liquids or chemicals from children, especially those that can become flammable.

Although you might not have considered following these Spring emergency procedures, they are important to the safety of your family. Talk to your local emergency personnel about what steps you can take to prevent any potential emergencies from arising.

Share in the excitement and importance of ham radio - from tossing an antenna wire into a tree allowing you to talk to the world, to the importance of ham radio operators in time of disasters with hosts Bob Heil, Gordon West, George Thomas, Don Wilbanks, Valerie Hotzfeld, Amanda Alden, and Dale Puckett.

Access through the following URL:
https://twit.tv/shows/ham-nation

Records live every Wednesday at 9:00pm Eastern / 6:00pm Pacific / 7:00 pm Mountain/ 01:00 (Thu) UTC.

Iron County Office of Emergency Management (OEM) E-Comm. Unit participates in Southwest Utah Healthcare Coalition Quarterly Exercise.

The Southwest Utah Healthcare Coalition Exercise is a communications exercise for Emergency Support Function 8, Public Health & Medical Services, and the Southwest Utah Healthcare Coalition. The purpose of this drill is to practice and validate emergency communication capabilities among healthcare facilities, emergency management, and other key partners in the Southwest Region of Utah.

On Thursday March 10, 2022 E-Comm. members staffed the Radio Communication Room at Cedar City Hospital to assist in the exercise.

Brad Biedermann monitored and was active in the digital portion of the exercise and Dennis West (W6DLW) monitored the VHF Radio Communications.

The exercise dealt with a Cyber-attack.

RADIO NEWS
H. GERNSBACK—Editor
ROBERT E. LACAULT—Associate Editor
Vol. 3 APRIL-MAY, 1922 No. 10-11

Is Radio a Fad?

WE are often wont to hear at the present time the remark made that Radio is nothing but a fad, and that while the public at large has gone wild about everything connected with Radio, it will soon wear off, like all other fads. That Radio is not a fad, but on the contrary that it is here to stay permanently, and grow into undreamt of proportions can be easily proven in dozens of different ways.

In the first place, a Radio entertainment, broadcasted as it is, by our various stations now, is life itself. When you go to a moving picture show, or when you listen to a phonograph concert, you are always conscious of the fact that neither is alive. Radio, on the contrary, is pulsing life itself. Why do more people use the telephone than the telegraph? One reason is that the telephone is a live instrument, while the telegraph is not. You can converse with your friend by telephone, you can hear his voice, and you can talk with him almost in the same way as if you were face to face. You cannot do this over the telegraph. This is one of the reasons the Radio telephone will never be a fad, but it will become dearer and closer to us as the years go by.

One of the greatest attractions of the radio broadcast to-day is that it is not only absolutely free without any cost whatsoever to the listener, but the entertainment is convenient as well, for the reason that we do not have to transport our bodies in order to listen to the entertainment, as we must do when we go to the theatre or concert.

In these days, of hectic rush, when our lives are so complex, people prefer to stay at home evenings and listen to the entertainments there, and that is precisely why Radio has taken such a tremendous hold upon the popular imagination. That Radio is taking on undreamed of proportions might perhaps best be shown in a rather unexpected way.

In one of the dramatic periodicals of the month we find the amazing statement that the managers of two of the best known theatrical chains will dismiss any and all singers, actors, or actresses who give Radio entertainments over the broadcasting stations! In other words, our vaudeville and moving picture houses are afraid of Radio to such an extent that they already see ruin staring them in the face because the managers think that everybody will stay at home instead of frequenting their theatres. Of course, this is all pure nonsense and the theatrical managers should be the first ones to realize it. It was proven, for instance, recently when one of the Broadway musical comedies was broadcasted by Radio, that the attendance the week after was greater than ever, thousands of people being turned away because they could not buy tickets.

Why? Exactly for the same reason that when Douglas Fairbanks and Mary Pickford stay at a hotel no matter in what town, there will be a rush to see them in the flesh. It is exactly so with the radiophone. When they hear an actor's or an actress' voice over the radiophone, it certainly creates a desire among a great majority of the people to hear the performer in person. The broadcasting stations, therefore, do more to succes advertise the performance than all the handbills and the newspaper advertisements combined.

Another novel point in the trend of th s was recently shown when certain music publishers ba themselves together and declared that the radiophor oadcasting stations, when sending out copyrighted mus re violating the copyright! We would not be surprised soon to have special copyright notices printed on all new musical selections somewhat as follows: "This selection must not be used over the radiophone without special permission of the owners." We can see where the composers will derive the same swollen incomes from the radiophone as they derive from the phonograph records.

A recent newspaper clipping from Philadelphia reports the fact that many new houses are now being equipped with aerials, one for each tenant. We wager that within five years houses will give a free antenna with every apartment. This will be a big factor to rent houses more quickly, once the shortage has been corrected.

In the New York *Times* of Sunday, March 19th, we read where the Alexandria Hotel Co. has called for bids on radio equipment for its new hotel at Long Beach, L. I. This hotel will have 600 rooms and there will be 600 radio receiving sets, one for each room! It is claimed that it will cost $150,000 to put the plan into effect, and of course in a case of this kind, it would not do to string 600 separate aerials on the roof, unless we design a new architecture for radio hotels, to which, however, we have not come as yet. So the Alexandria will probably have loops in every room, with which the guests can play to their hearts content. We wager right now that the hotel will be a "howling" success, especially if the amplifiers get out of tune and howl as they sometimes are wont to do.

We have stated before in these columns that Radio is here to stay. With all the millions of dollars of capital being poured into the new industry, it will be readily understood why radio will never be a fad. We are now in exactly the same position as the automobile was when it first made its debut. The Radiophone is in practically the same position to-day as was the automobile when people said that it was only a fad, as the bicycle was, and would die out sooner or later. The Radio industry soon will rival the automobile industry and this is only a modest prediction.

H. GERNSBACK.

Notice

Due to the fact that we are now printing an editon which is almost five times as large as that printed four months ago, we have fallen behind in our schedule and for this reason the present issue is the April-May number, we having combined two issues together. *The next number will, therefore, be the June number.*

In order that no one will be the loser, we have advanced all subscriptions on record for one extra month to take care of the change.

THE PUBLISHERS.

RCARC March 8, 2022 General Meeting Pictures

Member's conversing before meeting

Ron (K7HDX) setting up for Zoom access

Fred (KI7PD) conducting meeting business.

Continued next column

Members reciting Pledge of Allegiance

George Gallis (AL7BX) updating the members on the area repeaters

Ken Flowers (S&K Antenna's) with Ken Richter (KR7KR) looking at the Array of antenna's Ken brought for the Presentation.

RCARC Breakfast Pic's at the Pastry Pub

Members enjoying their breakfast

Members conversing across the aisle.

Additional Picture of members at breakfast.

How to Clean Up after a Battery Leak

Many hams have had the unfortunate experience of old batteries leaking in a piece of gear or a flashlight, creating a mess. Business technology news site ZDNet recently offered its procedure for cleaning it up. The brief online presentation recommends taking some precautions about coming in contact with the white discharge -- specifically potassium hydroxide in the case of alkaline cells, a caustic irritant.

An old toothbrush or something similar can start the projects, along with a small scraper, and cotton swabs dipped in water. Start by removing and properly disposing of the bad cells and then brushing out the worst of the material -- preferably outdoors or over a container to catch the remnants.

The article advises against using any sort of acid such as vinegar or lemon juice, lest it cause corrosion problems of its own. It suggests a fiberglass scratch brush for scrubbing the battery compartment contacts clean, although other tools may work as well. Deoxit D5 or similar contact cleaner also comes in handy, with a tiny dab of dielectric grease or silicone paste as a finishing touch to inhibit future corrosion if a leak occurs. Other tips to head off problems down the road include using only name-brand batteries, avoiding mixing old and new batteries, removing batteries from devices not in use.

A Quick-Disconnect Balanced Line Antenna Connector

Step 1
Buy a two-wire ac plug and socket.

Step 2
Drill two holes in the plastic covers to allow the wires access to reach the terminals.

Step 3
Slide the cover on the individual leads of the line.

Step 4
Wrap the window line solid copper wire clockwise around the screws, tighten the screws, and reassemble the connectors. If your window line wire is stranded, it would be best to tin the wires first. You may also want to use some anti-oxidant compound on the connections.

Step 5


Finally, slide the covers back on and reattach them to the plug/socket bodies. Put the socket on the station end and the plug on the antenna end of the feed line. I also have a large alligator clip/jumper wire connected to my station ground rod, which I clip across the antenna connector blades to eliminate static buildup when the antenna is not in use. You might also consider purchasing a second ac socket, shorting both terminals together, and connecting these shorted terminals to your station ground. When the antenna is not in use, unplug the antenna from the station feed socket and plug it into the ground socket.

Now I have a quick disconnect for my window line to further protect my station (see the lead photo). And as reassurance, a recent ice storm caused a large branch to fall across the feed line and all it did was pull the line apart at the plug. There was no damage to my house attachment point or to the antenna.

All photos by the author.

Charlie Liberto, W4MEC, was first licensed in 1968 as WN4MEC/WB4MEC, though his electronic career started at age 9 when he shocked himself with a homemade Jacob's Ladder. His ham radio interest led to 38 years in aviation-related electronics. Now retired, Charlie enjoys restoring vintage and military AM/CW/SSB and RTTY equipment, as well as restoring the radio gear for the B-17F "Lucky Thirteen" aircraft being rebuilt in Asheville, North Carolina (**www.hangarthirteen.org**). You can contact Charlie at **w4mec@arrl.net**.

"You know our motto, sir. We fix the set in your home or no charge."

June 25-26, 2022

ARRL Field Day is the single most popular on-the-air event held annually in the US and Canada. On the fourth weekend of June of each year, thousands of radio amateurs gather with their clubs, groups or simply with friends to operate from remote locations. Field Day is a picnic, a campout, practice for emergencies, an informal contest and, most of all, FUN! It is a time where many aspects of Amateur Radio come together to highlight our many roles. While some will treat it as a contest, other groups use the opportunity to practice their emergency response capabilities. It is an excellent opportunity to demonstrate Amateur Radio to the organizations that Amateur Radio might serve in an emergency, as well as the general public. For many clubs, ARRL Field Day is one of the highlights of their annual calendar.

The contest part is simply to contact as many other stations as possible and to learn to operate our radio gear in abnormal situations and less than optimal conditions. We use these same skills when we help with events such as marathons and bike-a-thons; fund-raisers such as walka-thons; celebrations such as parades; and exhibits at fairs, malls and museums — these are all large, preplanned, non-emergency activities.

But despite the development of very complex, modern communications systems — or maybe because they ARE so complex — ham radio has been called into action again and again to provide communications in crises when it really matters. Amateur Radio people (also called "hams") are well known for our communications support in real disaster and post-disaster situations. End

S&K Antenna Systems

Ken Flowers from S&K Antenna's attended the March's RCAR Club meeting and gave an update and demonstration of the company's antennas. See Pic. below

Pictured is the 10-80 M Adjustable Dipole

Price list

Porta Pole $65.
Collapsible J-Pole 2M 70 cm.

HF Adjustable Dipole Base $65 Add whips/coils as needed for 10-80M. **Wolf River Silver Bullet Mini $55**
Wolf River Silver Bullet $75
102-inch Collapsible Whip $25

Popular Configurations

40 Meter Vertical Add-on $ 80 Includes Silver bullet mini and 102 whip Add to Porta Pole base.
80 Meter Vertical Add-on $100 Includes Silver bullet and 102 whip.
Add to Porta Pole base.
10-40M Adjustable Dipole $225 Includes 2 SB minis 2 Whips and dipole base.
10-80M Adjustable Dipole $265 Includes 2 SB 2 Whips and dipole base.
Platinum Upgrade / per coil $100 Up to 500W SSB: 300W CW:
100W Digital. End
Visit https://www.facebook.com/skantenna/ for more information.

Emergency Communications Trailers Aren't Just for Emergencies

In 2021, the Rural Radio Preparedness Association, an ARRL affiliated club and sponsoring organization of Santa Rosa County (Florida) ARES, was donated funds to purchase a cargo trailer for use in emergency communications. Several members of the ARES team donated time and money to outfit the trailer.

In addition to emergency communications, one of the main goals was to use the trailer for public education of amateur radio and on February 18-20, operators had that opportunity at Pensacon. Founded in 2013, Pensacon is the premiere comic book and pop culture convention serving Pensacola and the Gulf Coast. The event draws 10,000 or more people each year with guests lining up for hours for a chance to meet their favorite writer or celebrity.

Recently the ARES group was donated a 50′ pneumatic mast that was installed on the trailer to get height for antennas. Operators attached a dual-band J-pole antenna as well as a 60′ end-fed long-wire antenna for HF operations. Inside the trailer is an Icom IC-7100 transceiver connected to a laptop. Over the course of the 3-day event, operators had the opportunity to show visitors how email can be sent without a local internet connection by utilizing Winlink. Visitors were amazed that this capability existed, and many were interested in learning more.

Setting up at conventions, festivals, and other events is a great way to help promote amateur radio in your community as an avocation and for emergency communications. If your club or ARES team has resources available, reach out to event organizers to see if you could set up a booth or your team's communications trailer. Most events allow volunteer organizations to set up for free. While you're at it, see if their event could benefit from volunteer communicators. Before committing, be sure that you have enough volunteers to support the event.

Continued next column

he easiest way to find opportunities is to get in touch with your local area chamber of commerce. Many chambers have event calendars and some even have monthly meetings you can attend to connect with organizations having events. Not only is this a great way to connect with other local organizations but it also might connect you with opportunities to help other served agencies in your area. -- *Arc J. Thames, W4CPD, ARRL Northern Florida Section Emergency Coordinator End.*

March 2022 VE Testing

Kenneth Rubio taking Extra Class License test at the March RCARC Meeting. Passed with a 100 percent score. Congratulation Kenneth. See Pic below:

Ken passed his Technician Class on February 8, 2022 with RCARC. Passed his General Class in Mid-February with the Dixie Amateur Radio Club and then the Extra Class March 8, 2022 with RCARC.

FYI, Letters: Clubs Need to Work Together

Several area radio clubs are small and lack critical mass to adequately do much more than their ARES-related tasks, which many of them accomplish in a role-model way.

Continued on Page 18

So That's How Broadcasting Began!

KDKA begins to broadcast 1920

On Christmas Eve, 1906, wireless operators on ships off the New England coast wondered if they'd had a religious experience. Out of the midst of Morse code dots and dashes beeping through their headsets came the sound of a voice reading the Christmas story from the Gospel of Luke and a violin playing "Silent Night." The voice wished them a merry Christmas, and then the dots and dashes started up again.

In 1920, Westinghouse, one of the leading radio manufacturers, had an idea for selling more radios: It would offer programming. Radio began as a one-to-one method of communication, so this was a novel idea. Dr. Frank Conrad was a Pittsburgh area ham operator with lots of connections.

Photo: Beginnings of KDKA, with entire staff of four

The voice was that of Reginald Fessenden (1866-1932), an inventor and engineer who had been working on producing voice radio since Marconi's first wireless broadcast across the Atlantic. After his Christmas experiment, Fessenden continued working to make voice radio practical. In 1907, Lee de Forest invented a new radio tube called the Audion. It soon made transmitting sound modulations much more effective and became standard radio equipment. The radio tube was gradually improved upon by other inventors, to increased clarity and power.

For 15 years or so, voice radio was the purview of engineers and hobbyists called hams. To most people it seemed amusing, but a novelty that would have no practical application. One obstacle to radio's acceptance was that the equipment was cumbersome and required a fair amount of knowledge and attention.

Continued next column

After World War I, prosperity and technological advances -- some the offspring of the war effort -- brought more appliances into the home and created more technologically minded people. Radio companies formed to build and sell ready-made machines.

In 1920, Westinghouse, one of the leading radio manufacturers, had an idea for selling more radios: It would offer programming. Radio began as a one-to-one method of communication, so this was a novel idea. Dr. Frank Conrad was a Pittsburgh area ham operator with lots of connections.

He frequently played records over the airwaves for the benefit of his friends. This was just the sort of thing Westinghouse had in mind, and it asked Conrad to help set up a regularly transmitting station in Pittsburgh. On November 2, 1920, station KDKA made the nation's first commercial broadcast (a term coined by Conrad himself). They chose that date because it was election day, and the power of radio was proven when people could hear the results of the Harding-Cox presidential race before they read about it in the newspaper.

KDKA was a huge hit, inspiring other companies to take up broadcasting. In four years, there were 600 commercial stations around the country. To keep up with the cost of improving equipment and paying for performers, stations turned to advertisers. In August 1922, the first radio ad, for a real estate developer, was aired in New York City. Networks of local stations developed to share programming and became big business. In 1926, RCA (Radio Corporation of America) formed the first national network, called NBC (National Broadcasting Company). Their first nationwide broadcast was the 1927 Rose Bowl football game from Pasadena. The burgeoning industry made the airwaves so jammed and chaotic that the Federal Radio Commission was established in 1927 to assign frequencies to broadcasters.

The entry of mass communication into American homes meant, among other things, the development of a mass culture. The same songs were heard across the country, news travelled fast, and heroes like Charles Lindbergh or Joe Louis were, in a new way, accessible to all. Technological refinements in radio continued. Early in the 1920s, headsets were replaced with speakers. In 1929, FM radio became available. The development of the transistor in the late 1940s paved the way for the transistor radio's appearance in 1952. Stereophonic sound and personal stereos would continue radio's evolution. End

New Amateur Radio License Applications Fee to Become Effective April 19, 2022

A Public Notice released by the Federal Communications Commission (FCC) on March 23, 2022, in **MD Docket No. 20-270**, announced that new application fees for Wireless Telecommunications Bureau applications will become effective on April 19, 2022.

The new fees, mandated by Congress, apply to applications for Amateur Radio licenses including those associated with filing Form 605, the Amateur Operator/Primary Station Licensee Application.

Effective April 19, 2022, a $35 fee will apply to applications for a new Amateur Radio license, modification (upgrade and sequential call sign change), renewal, and vanity call signs.

Anticipating the implementation of the fee in 2022, the ARRL Board of Directors, at its July 2021 meeting, approved the "ARRL **Youth Licensing Grant Program**. Under the program, ARRL will cover a one-time $35 application fee for license candidates younger than 18 years old for tests administered under the auspices of the ARRL Volunteer Examiner Coordinator (ARRL VEC). Qualified candidates also would pay a reduced exam session fee of $5 to the ARRL VEC. ARRL is finalizing details for administering the program.

ARRL had filed comments in opposition to imposing a fee on Amateur Radio license applications. The FCC initially proposed a higher, $50 fee.

In a Report and Order (R&O), released on December 29, 2020, the amount was reduced -- the FCC agreeing with ARRL and other commenters that its proposed $50 fee for certain amateur radio applications was "too high to account for the minimal staff involvement in these applications."

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ARRL Volunteer Examiner Coordinator (ARRL VEC) Manager Maria Somma, AB1FM, explained that all fees are per application. "There will be no fee for administrative updates, such as a change of mailing or email address. The fees will be the responsibility of the applicant regardless of filing method and must be paid within 10 calendar days of FCC's receipt of the application. For applications filed by a VEC, the period does not begin until the application is received by the Commission, a ULS file number assigned, and an email sent by the FCC directly to the applicant."

VECs and Volunteer Examiner (VE) teams will not collect the $35 fee at license exam sessions. New and upgrade candidates at an exam session will continue to pay the $15 exam session fee to the ARRL VE team as usual, and pay the new, $35 application fee directly to the FCC by using the CORES FRN Registration system (**CORES - Login**).

When the FCC receives the examination information from the VEC, it will email a link with payment instructions to each successful candidate who then will have 10 calendar days from the date of the email to pay. After the fee is paid and the FCC has processed an application, examinees will receive a second email from the FCC with a link to their official license or explanation of other action. The link will be good for 30 days.

Somma also explained that applications that are processed and dismissed will not be entitled to a refund. This includes vanity call sign requests where the applicant does not receive the requested call sign. "The FCC staff has suggested that applicants for vanity call signs should first ensure the call signs requested are available and eligible for their operator class and area, and then request as many call signs as the form allows to maximize their chances of receiving a call sign."

Further information and instructions about the FCC Application Fee are available from the ARRL VEC at **www.arrl.org/fcc-application-fee**. Details for the ARRL Youth Licensing Grant Program will be similarly posted there, when available. End.

Santa Cruz ARES Runs Another Successful S.A.F.E. Event

By Allison Hershey, KM6RMN

Santa Cruz (California) area ARES organizers ran their fourth SAFE (Scavenge Around Field Exercise) on January 9, 2022. Designed in the early days of the pandemic with social distancing in mind, this event allowed participants to get outdoors and communicate with a multi-location incident command team while honing their emergency radio skills.

The first three SAFE events were run in 2020 and early 2021. Any local licensed radio operators interested in emergency preparedness were invited to participate. At event start time, participants checked in to a resource net. Once checked in they were directed to one of two tactical nets to receive a series of assignments to drive to locations and report specific information about them. The observation questions were simple, such as, "what color is the welcome sign at this particular address," and the assessment could be done without leaving the vehicle. Upon completion of their assignments, participants returned to the resource net to demobilize, drove home, and contacted the resource net one more time to report safe arrival. A few field operators' locations were tracked through APRS, bringing a new dimension to the event. This aspect of the exercise will be covered next time, as more participants will learn this technology in the coming year.

Preparation for SAFE IV was started in the fall of 2021. After Santa Cruz ARES members expressed interest in repeating the exercise, Santa Cruz County DEC John Gerhardt, N6QX, recruited volunteers to form a core organizing committee that met online and exchanged emails. Many of the materials were already created in previous events and kept in a shared Google Drive folder: ICS (Incident Command System) Forms 202, 205, 214 for instruction and reporting, vetted participant assignments, scripts, radio protocol pointers, and the all-important Exercise Location and Tracking Sheet.

Continued next column

This shared Google spreadsheet was created by JoMarie Faulkerson, KM6URE, to be the "whiteboard" of central operations, displaying the progress of every participant to the core team in their virtual incident command center. Entries made by any team scribe (spreadsheet editor) would be displayed instantly.

There were a dozen planners involved, but the core Incident Command team during the event involved six people. Alex Hays, AJ6QY, and John Kienitz, NS6K, ran the resource net on the WB6ECE 70 cm repeater.

The resource net opened the exercise, checked in radio operators, and directed them to the tactical nets for assignments. At the close of the exercise, they received check-outs and home-safe communications. Bill Tyler, AJ6CQ, and Stephen Betita, KM6NEP, ran Tactical Net A on the K6BJ/KJ6FFP repeater. Bruce Hull, KN6DBR, and JoMarie Faulkerson, KM6URE, ran Tactical Net B on the WR6AOK repeater. Tactical nets fielded subsequent communications with radio operators, gave and tracked assignments, received and logged reports, transmitted periodic reminders, and solicited wellness reports. Each net partnership consisted of a radio operator and a scribe. It was up to each team as to whether the players stayed in assigned roles or switched role's part way through the exercise. All three teams opted to take turns for a more rounded experience. DEC Gerhardt was present as observer and advisor during the operation, while Allison Hershey, KM6RMN, observed and took notes.

Several features of the event would seem counter to good planning. But in this case, net control operators were being trained to set up emergency nets and field all the problems that might occur in an emergency situation and circumstances. So, there was no prior registration for field participants. (Net traffic and operators being unpredictable in a disruptive event.) Also, any amateur radio operators, not just ARES members, were allowed to take part, simulating the untrained operators rushing to their radios during an emergency.

Field participants were instructed to check in as soon as they could sense an opening at start time. (Net control operators needed to sort out pileups as efficiently as possible.)

Continued on page 16

RCARC March Technician Class

Thursday March 10, 2022 RCARC hosted the first of seven Technician Class License classes. The first session covered Sub-Elements **T1** - A, B, C and D with Bill Stenger (K6QOG).

Sub Elements **T1** - E, F & **T2** – A, B and C with Dick Parker (K7ZI).

The second session covered Sub-Elements **T3** – A, B, C & **T4** – A, B with Dennis Porter (KA7QJN). Sub-Elements **T5** – A, B, C, D with Ken Richter (KR7KR).

The third session covered Sub-Elements **T6** – A, B, C, D with Gavin Hollinger (KC7IHE). Sub-Elements **T7** – A, B, C, D with Lance Jackson (KA7J). The remaining classes are scheduled for March 31, April 7 and Testing on April 14, 2022. **See Pic's below.**

Ron (K7HDX) welcoming attendees to the class and providing an overview of what's to come.

Attendees listening to Ron's (K7HDX) overview.

Continued next column

Fred (KI7TPD) standing left introduced himself as President of the RCARC and then introduced Bill (K6QOG) standing right as the first instructor.

Gavin Hollinger (KC7IHE) presenting Sub-Element **T6 -** A, B, C and D.

Attendees taking notes during Gavin's (KC7IHE) presentation.

Santa Cruz ARES Runs Another Successful S.A.F.E. Event - Continued from page 16

The secondary tactical nets were not assigned, but chosen at the field operator's discretion, risking crowding on one channel and inactivity on the other. (A one-off experiment to see how the distribution would fall.)

The event was highly organized in other ways, with scripts and instructions honed over the last 2 years. All field assignments were grouped by general location, codified, numbered, had reference photographs, and were easily accessed by the team online. The Exercise Location and Tracking Sheet (a Google spreadsheet refined over several exercises) was technically in two sections: one side filled out by the resource net team, the other by the tactical net teams. Yet its information was instantly available to everyone on the command team. It was constructed in such a way as to require all participant field operators to check-in through the proper channels before they could receive an assignment. Standard ICS forms were also used so that all participants would gain experience in gathering and disseminating information in a way most useful to emergency services.

Check-in time was 1:00 PM. Twenty minutes prior to check-in, the net operators connected from their homes via Zoom in their virtual command center. Exercise frequencies were monitored on home radios.

Though an operator's Zoom mic was muted during transmissions, Gerhardt and the net control operators talked freely between transmissions to correct or instruct as the exercise went on. They practiced using clear language conventions learned in ARES meetings and nets, such as phonetic spelling of names when requested, careful parsing of numbers, keeping messages brief, and using efficient call and response methods with field operators.

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The expected pileup was sorted out in the first 20 or 30 minutes, but straggling check-ins continued to the end of the first hour of the two-hour event. Field operations went fairly smoothly, with a few minor mishaps in execution as expected. After all, it was a training exercise. Eighteen participants checked in, completed tasks, and checked out. Almost all of them remembered to notify the resource net when they arrived home safely, an improvement over previous SAFE event.

The core team learned a few lessons as well. One was that allowing participants to pick their own tactical net without guidance caused extremely lopsided distribution. Net controls on K6BJ fielded most of the calls, while those on WB6AOK had very few. This was due to participants being more confident in one repeater than the other, as well as some reception issues in the area's mountainous terrain.

There were a few cases of perceptual disconnect between apparent map distances and travel time. Tactical net controls had been instructed to make a participant's later assignments close to their initial ones to reduce driving distances. But some locations that appeared close together were difficult to traverse -- the maps did not show uncrossable canyons and gated roads. There was also an APRS issue during the exercise.

The biggest learning opportunity occurred when two radio operators checked in separately while riding in the same vehicle. The tactical net control operator didn't realize this and gave them separate assignments far apart. Not immediately informed of the issue, the command team experienced some confusion about the companion's whereabouts until one net control operator recognized the two were connected. This was discussed afterwards, and suggestions taken how to prevent this kind of misunderstanding in the future.

Continued on page 19

A New World Distance Record at 134 GHz

On March 2, 2022, Michael Kuhne, DB6NT, and his son Matthias, DK5NJ, established a new world distance record at 134 GHz by making contact using CW over 157 kilometers (98 miles) between the summits of two mountains in Germany.

Michael Kuhne's, DB6NT, portable station at the top of Fichtelberg mountain. [Michael Kuhne, DB6NT, photo]

The portable microwave stations were located on Schneekopf mountain in the Thuringian Forest and atop Fichtelberg mountain near Oberwiesenthal. Check out the **video** of the record-breaking contact. End

FYI, Letters: Clubs Need to Work Together – **Continued from page 18**

One club president noted that the clubs need to work together for larger activities and so a channel for dialogue was created to foster communications about activities, projects and questions. Also, there are many active area hams that are looking for avenues of dialogue even though they are not members of any club. Bringing them into the information loop can be good for all concerned.

groups.io/g/GGAR is the Gulf Gateway Amateur Radio channel for communication about amateur radio. Clubs and individuals everywhere are welcome to participate. The group would gladly add others as moderators. -- *Gordon Beattie, W2TTT*, *Live Oak, Florida*

Ham Payload Going to the Chinese Space Station

The International Amateur Radio Union (IARU) satellite frequency coordination panel reports that an application has been submitted for an amateur radio payload to be hosted on the Chinese Tiangong space station. The coordination request states:

An amateur radio payload may be launched to the Chinese Tiangong space station late this year.

"CSSARC is the amateur radio payload for Chinese Space Station, proposed by Chinese Radio Amateurs Club (CRAC), Aerospace System Engineering Research Institute of Shanghai (ASES) and Harbin Institute of Technology (HIT)."

The first phase of the payload is capable of providing the following functions utilizing the VHF/UHF amateur radio band:

1) V/V or U/U crew voice

2) V/U or U/V FM repeater

3) V/V or U/U 1k2 AFSK digipeater

4) V/V or U/U SSTV or digital image

The payload will provide resources for radio amateurs worldwide to make contacts with onboard astronauts or communicate with each other. It will also play a role to inspire students to pursue interests and careers in science, technology, engineering, and math, and to encourage more people to get interested in amateur radio.

The planned launch from Wenchang is scheduled for the third quarter of this years. - *Thanks to AMSAT UK. End.*

Santa Cruz ARES Runs Another Successful S.A.F.E. Event - Continued from page 18

Two problems they prepared for didn't happen. The net operators kept paper versions of all forms and a hard copy of the Exercise Location and Tracking Sheet, instructed to "use them as best they could" if internet connections were interrupted. In an emergency event, lack of internet access would be a real possibility. Similarly, if a repeater went down, operators were instructed to move to one of the other repeaters and carry on. Neither glitch occurred, which Gerhardt seemed to find mildly disappointing--a lost learning opportunity.

Was the exercise a success? Yes. Was it fun? Yeah! Those in the field enjoyed their adventures exploring Santa Cruz County. Net control operators were pleased to master a few more radio wrangling skills. Organizers improved their lesson plans and added another feather to their collective cap. It looks like SAFE will be a regular event going forward, even as pandemic restrictions ease. [*The author is Santa Cruz County, California Public Information Officer and Assistant Emergency Coordinator*] End.

Spring is in the Air

Spring is in the air and on the air for all of us with the ham radio bug. That means that Hamfest are happening and for the first time in a couple of years, hams are starting to come out and meet others. Like Rip Van Winkle, many feel like they are waking from a long nap.

The idea that we can meet people in person seems so foreign. It's important to follow health guidelines and you must do only what is safe for you. If you can, get out and participate in a Hamfest.

I know that I love to browse a good flea market. Public service events are happening, and there is always the opportunity to activate a park or a mountain top.

Continued Next Column

The fun of amateur radio, at least to me, is the idea that I can get with a few of my friends and go out on a Saturday morning and work from a spot that we have not worked from before.

Before Covid-19 there were a couple of Dunkin Donuts-fueled excursions that allowed me to use my FT-817 and a portable antenna. I want to do that again and I might soon. I consider myself lucky because I work in a job that revolves around ham radio.

Of course, it is still a job, but I tend to talk and think about the many aspects of the hobby most of the day. Right now, I am working on a small, portable digital rig to go with my QRP radio. The smaller the better, as long as it's still be functional for a guy that wears bifocals.

It is never too soon to start planning for Field Day. Is your club doing Field Day in the field this year? This has always been my favorite weekend of the year. I want to work many of you on the air and help you get Connecticut in your log. Get out and have some fun! End.

Top Ten Ways You Know You Just Might Be Married To a Ham

10) His favorite superheroes are Marconi and Tesla.

9) His sense of wellbeing is tied to the sunspot cycle.

8) His electric shaver has a backup diesel generator.

7) He shows you his PL-259 connector.

6) For a romantic honeymoon, he chooses Dayton over Tahiti.

5) He rates your love making in S units.

4) He buys you an HT for your anniversary.

3) He attaches a mag mount antenna to the baby's stroller.

2) When whispering sweet nothings in your ear, he ID's every few minutes.

1) When the moment is right, he is on the radio.

Some Amateur Radio Definitions

For those new to ham radio, here are some useful definitions, pertaining to antennas and DX-ing.

- S.W.R. -- A term, applied to any part of the antenna system, which means: "Savings-to-Watt Ratio". Based on the inverse relationship of dollars in the bank and effective radiated power.

  Characteristic Impedance The usual reaction of your spouse when told about the proposed antenna system.
- Traps -- Devices installed in antennas to collect rain-water, to keep it from running further down the antenna.
- Wind Loading -- The measure of how much more awkward it gets to handle a big beam as you ascend the tower.
- Balun -- (Pronounced: "balloon" by many). An anti-surveillance device, installed in coaxial lines at the antenna, to prevent nosy neighbors from eavesdropping on you through their TV sets.
- Trans match -- A device mistakenly believed to decrease S.W.R. The premise is that this device allows you to load up into a mis-matched antenna. Unfortunately, it the cost of one that lowers your S.W.R.
- House Bracket -- A device which secures the house and the tower together. It lets the tower do double-duty by holding up the house during severe windstorms.
- Rotator Control Box -- A device which is designed to let you monitor antenna "windmilling".
- Windmilling -- A technique whereby prevailing winds are allowed to rotate the antenna, enabling the operator to "scan" the radio horizon.
- Dummy Load -- A measure of the stress exerted on a tower by a ham who climbs the tower without a safety belt.
- Coax -- (Usually mis-pronounced as two syllables). A term applied to the maneuvering of a piece of transmission line through the attic or walls of a house.
- Db's Gain -- A bunch of yellow-jacketed wasps found a great place to build their nest, at the bottom of the rotator housing on my tower.

Continued next column

- Db's Loss -- Fortunately, lightning struck the tower and the wasps were totally destroyed.
- Vertical -- A much-maligned antenna, said by some critics to "radiate equally poorly in all directions". This is not true, as many who have built one know. In fact, the vertical can have directional characteristics, and not radiate at all in some directions. I hope this clears up that myth once and for all!
- Sloper -- A variation of the vertical, where high winds have affected thin-walled aluminum tubing used in the construction.
- Inverted Vee -- A clever, but inferior, reverse adaptation of the true, "upright Vee", which allows the use of a single support instead of the usual two.
- Dipole -- Another modification of the true "Vee", and used where it is not possible to get the center feed point close to the ground.
- Ground Plane -- Usually, an array of 1/4-wavelength arms extending from the base of some verticals (or "slopers"). These arms are not recommended unless a rotator is also used, to take advantage of their directional features.
- Directional Coupler -- A device inserted into the transmission line which monitors the environment outside the shack, by utilizing the antenna as a remote sensor. For example, when the antenna responds to weather conditions such as severe icing or heavy winds, the coupler will produce indications of these responses. A special directional coupler has even been designed, presumably, to tell you when BIRDs are sitting on your antenna!
- Smith Chart -- An alias, to be used when you don't want people to know what chart you really used to design your antenna.
- Long Path -- The direction you are told to aim your antenna, to work a rare DX station, as suggested by the other fellows in the pileup.

Continued on Page 21

Some Amateur Radio Definitions

Continued from Page 20

- Element Spacing -- A critical antenna design factor which is optimized to place the tunable traps on a beam as far out of reach as possible, from the tower.
- Diversity Effect -- A property in which the quad-type antenna far excels over the Yagi-type antenna. It relates to the number of directions an antenna can collapse into, under heavy winds.
- Selective Fading -- A quirk of propagation, whereby a signal arrives at a distant point by multipath, and where the different signal components arrive with varying phase relationships. This causes the signal to be "cancelled out" at some points. This wonderful effect helps eliminate some of the QRM from distant DX stations when you are trying to copy the pileup.
- "Off the back of the Antenna" -- A technique used by more experienced DX-ers, where the antenna is pointed away from the station being contacted. This creates a challenge similar to running QRP.
- QRP -- Restricting final input power to the transmitter to anything less than 500 watts, on 20 meters.
- Speech Processor -- A "state of the art" device which permits one to communicate with as many others at the same time as possible. However, beginner operators need to learn how to use one properly, to expand the signal beyond a narrow, 3 KHz bandwidth.
- "IMOKINCALLBK" -- An expression used in a CW QSO, to say: "you send me your QSL card first, turkey, and then I'll send you mine".
- IRC -- An economic instrument, administered by the Postal Service, to control the balance-of-trade deficit.
- Parasitic Element -- A person who takes lists for DX-stations.
- LISTS -- A method of making DX contacts, where some self-appointed person takes a list "on the air" (aka: his buddies on 2-meters) of people who wish to "work" a person in some DX location. This makes it easy for hams who do not have the patience or time to learn real DX skills to get a quick, easy contact. In fact, if you can't hear the actual report from the foreign station, the list-controller will often help ("...OK, there, WB6xxx, did you hear Jose give you a '59' signal report?").

Continued next column

- QSL Manager -- The station you worked in Juan De Nova tells you to send a "Green Stamp" to a ham in Germany who is called a "QSL Manager". It is his duty to send your card to a ham in California, who then (after holding it for 8 months) sends you a QSL card. **END**

Some Fun Humor

Sherlock Holmes and Dr. Watson were going camping. They pitched their tent under the stars and went to sleep. Sometime in the middle of the night Holmes woke Watson up and said: "Watson, look up at the stars, and tell me what you see." Watson replied: "I see millions and millions of stars."

Holmes said: "and what do you deduce from that?"

Watson replied: "Well, if there are millions of stars, and if even a few of those have planets, it's quite likely there are some planets like earth out there. And if there are a few planets like earth out there, there might also be life."

And Holmes said: "Watson, you idiot, it means that somebody stole our tent."

"We gotta get it fixed by noon, Charlie, or we'll have to eat lunch without music!"