

RAINBOW CANYONS AMATEUR RADIO CLUB NEWSLETTER

CEDAR CITY, UTAH



Club Websites: www.rcarc.info OR www.rainbowcanyons.com Number 2 – Vol. 8 – August 2020

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. **On Hold UFN. COVID-19**

2020 Club Officer's

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CQ, CQ, Happy August Everyone



Presidents Message

Greetings fellow HAMs!

It has been a busy month with the 4th of July and Pioneer Day! I hope you have had a chance to get out and play on the radio a bit between the holidays. We had a great Field Day in July and had quite a few more contacts than last year! Digital and CW were had the highest numbers. Phone was tough, but we still were successful despite the difficult conditions. This month (August 8th and 9th) the a virtual QSO Today Ham Expo (qsotodayhamexpo.com) is going to be held. This is a great opportunity to attend some classes and learn something new. They are also going to have a virtual swap meet so you might even be able to pick up some new gear.

We have two upcoming volunteer opportunities. The Fire Road Race on August 15th and the Half Marathon on September 12th.

Continued on page 2

RCARC Club Nets:

7:00 a.m. Breakfast Net - Monday – Saturday – 146.760.
12:30 p.m. Daily – Utah Beehive Net On 7.272.
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.
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.
7:00 p.m. Thursdays – RCARC CW Net on 146.980.

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

August, 11, 2020

RCARC Club Meeting.

Radio meeting

September 11, 2020

RCARC Club Meeting.

Radio meeting

October 13, 2020

RCARC Club Meeting.

Radio meeting.

**Meetings start at 7 pm.
on the Iron Mountain
Repeater - 146.760,
minus offset with a PL
of 100.**

**Also available through
Echolink – KG7PBX.**

Contact Ron K7HDX if you are interested in helping out. I hope everyone has an opportunity to get out and play on the radio! We have our local nets as well as opportunities to participate on HF contests so get out there, have fun, and play on your radio. Remember if you need help with setting up your radio, software or other equipment please ask your fellow HAMs for help. Part of the fun is helping others! Remember you can always pick up the mic and see who is listening! As always, I would like to thank everyone who makes our meetings great by participating and asking questions. I would also like to thank all of our net controls for the nets and everyone who participates! Our next meeting will be on the air on August 11th. I am working on a potential speak so stay tuned!

Stay safe and healthy!

Cheers!

Fred (K17TPD)

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 August**



Wild Fires - Check out this URL for Utah Wild Fire Information

<https://utahfireinfo.gov/> - **See additional Public Fire Information Website on page 8**

Field Day 2020 is Shaping Up to be One for the Record Books

ARRL Contest Program Manager Paul Bourque, N1SFE, reported this week that ARRL has received more than 8,700 online Field Day entries, and paper-only entries have started arriving too.

"As many participants chose to operate from home this year, and given the 2020 rules waivers, we have seen a tremendous increase in entries over last year's event," Bourque said. "Most of the entries received have been through the online [web app](#), and Headquarters staffers have begun processing the paper entries this week." The 2020 waivers allowed individual club members to attribute their scores to their clubs.



Participants who submitted entries online are encouraged to check the Field Day [entries received](#)

page to verify that their entries are marked as complete, and that the club name entered is correct. Entries with a status of "pending" are incomplete entries that are missing one or more items, and these need to be completed for an official entry.

Share your stories and photos using the ARRL [soapbox](#) page or via social media, such as on the ARRL [Field Day Facebook group](#).



Breakfast & Friendship Net Awards

Breakfast Net		Friendship Net	
First Place	Second Place	First Place	Second Place
KG7PBX - Linda	KI7SDA - Jerel	KI7WEZ - Darlene	K7ZI – Dick
KI7WEX - Bonnie	K7ZI - Dick	KI7TPD - Fred	K7NKH - Lee
KI7TPD - Fred	KK7ZL - Ed	K7HDX - Ron	KI7LUM - Bruce
N7SND - Larry	Third Place	KI7WEX - Bonnie	Third Place
K7ZZQ - Johnny	K7DVP – Vernille	W6DLW - Dennis	KA7J - Lance
KI7LUI - Tom	KB7UMU - Sylvia	KG7VEJ - Jack	N7TCE - Merlin
	KE6ZIM - Johnny		
	KF7WIY- Denice		

Some Ham Humor

Two elderly hams had been friends for many decades.

Over the years they had shared all kinds of activities and adventures on the ham bands.

Lately, their activities have been limited to meeting a few times a week to play cards.

One day they were playing cards when one looked at the other and said,

"Now don't get mad at me, I know we've been friends for a long time but I just can't think of your name and your call.!"

I've thought and thought, but I can't remember them.

Please tell me what they are."

His friend glared at him.

For at least three minutes he just stared and glared at the gray-haired old man.

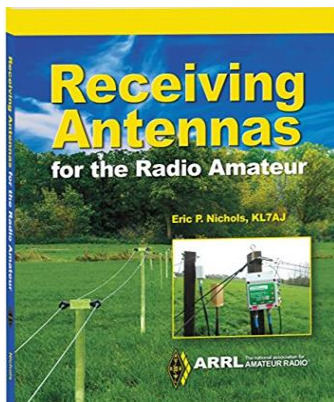
Finally, he said,

"How soon do you need to know?"

RCARC July Meeting Book Give Away

The book shown below will be awarded to one of our RCARC members at our club meeting on August 11, 2020.

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

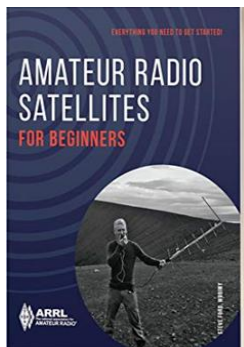


The meeting start time is 7:00 PM. You have to be there to win. See you there.

RCARC Book Give Away

The winner of the July 14, 2020 ARRL Amateur Radio Satellites for beginners Book give-away is:

Merlin (N7TCE).



Congratulations Merlin

Contact Us.

Mailing Address:

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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/>

Please send your correspondence to the above address or should you have any questions or concerns please e-mail us.

Thank you

QSO Today Virtual Ham Expo Announces Full Lineup of Speakers

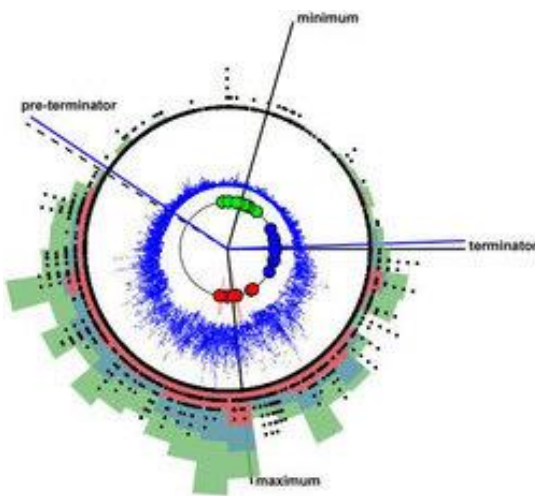
The first QSO Today Virtual Ham Expo, which takes place the weekend of August 8 - 9, has confirmed what it's calling "a packed lineup of over 70 great speakers" for the ARRL-sanctioned event. Attendance is free and registration is open.

Please see article on page 17.

Researchers Use 200 Years of Sunspot Observations to Create "Sun Clock"

Researchers in the UK and the US have developed a new "sun clock" that quantifies extreme space weather and pinpoints distinct on/off times of high solar activity and space weather. The sun clock will assist in planning to protect space and ground-based infrastructure that is sensitive to space weather.

The [study](#), "Quantifying the solar cycle modulation of extreme space weather," was published in *Geophysical Research Letters*. It explains that the sun clock uses the daily sunspot number record available since 1818 to map solar activity over 18 solar cycles to a standardized 11-year cycle or "clock." "Extreme space weather events can significantly impact systems such as satellites, communications systems, power distribution, and aviation," a Warwick University [news release](#) said, noting that these events are driven by solar activity.



Multiple solar cycles are mapped onto a regular solar cycle clock with increasing time reading clockwise. Circles indicate the cycle maxima (red), minima (green), and terminators (blue). The 10.7-centimeter solar flux (blue) and GOES satellite X-, M-, and C-class solar flare occurrence is plotted. Extreme space weather events on Earth seen in the aa geomagnetic index are shown as black dots arranged in concentric circles.

"By devising a new, regular 'sun clock', researchers have found that the switch on-and-off of periods of high solar activity is quite sharp."

Continued next column

The researchers' analysis shows that while extreme events can happen at any time, they are much less likely to occur during quiet intervals. The sun clock is aimed at helping scientists to determine more precisely when the risk for solar storms is highest and to plan the impact of space weather on space infrastructure. This gains importance as Solar Cycle 25 is imminent.

According to the researchers, no two solar cycles are the same, but using a mathematical technique known as the Hilbert transform, they were able to standardize the solar cycle for the first time. The clock revealed sharp transitions between quiet and active periods of solar activity.

"Once the clock is constructed from sunspot observations, it can be used to order observations of solar activity and space weather," the university said. This includes the occurrence of solar flares and the 10.7-centimeter solar flux that tracks solar coronal activity.

The researchers determined that once past on/off times are obtained from the clock, the occurrence rate of extreme events when the sun is active or quiet can be calculated.

"Scientists spend their lives trying to read the book of nature," lead author and Professor Sandra Chapman of the University of Warwick's Centre for Fusion, Space, and Astrophysics, said. "Sometimes, we create a new way to transform the data, and what appeared to be messy and complicated is suddenly beautifully simple."

International Space Station

Radio amateurs and others may listen for ham radio activity from the International Space Station (ISS) by monitoring 145.800 MHz.



Buzz's August Safety Tip

TIPS FOR DRIVING IN A THUNDERSTORM



No matter how big or how small, all thunderstorms are dangerous because they produce lightning, which should never be underestimated. Sometimes, they can also be accompanied by strong winds, heavy rain, or hail. If you're driving on a highway and find yourself in the middle of a thunderstorm, your best options are to:

- Find a safe place to exit the roadway.
- Park with your hazard lights on and windows up.
- Turn off the engine, and sit with your hands in your lap until the storm passes.
- Do not park next to trees, utility poles, or other objects that may either attract lightning or fall on your vehicle if struck.
- Avoid the base of steep or unstable slopes and low areas prone to flooding.
- ***Did You Know?***
- The reason your vehicle is generally a safe place to be in a lightning storm is not your rubber tires – it's the metal frame of the vehicle, which can act as a [faraday cage](#), directing the electric current around the outside of the vehicle.

Continued next column

The majority of vehicles today are made with enough metal throughout the frame that you will be protected from lightning should it strike your vehicle, provided you are not touching interior components like door handles, gearshifts, electronics, or the steering wheel.

If your vehicle is struck by lightning, wait until the storm has passed before exiting the vehicle. Check your tires and vehicle for damage before attempting to drive as tire damage and electrical system malfunctions are common after a lightning strike.

Click on the below URL to see a video in regards to severe weather driving.

<https://www.youtube.com/watch?v=hgYE2hZNwEO>

Hints & Hacks

Gripping Coax Connectors

It is usually best to finger-tighten the threaded shells of coaxial connectors, so they can be easily removed.

That's good advice, until you need to unscrew an especially stubborn shell.

Even a shell that's been finger tightened can become difficult to remove over time.



An inexpensive rubber jar-opening pad is ideal for dealing with overtightened connectors as shown above.

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Ham Radio Reconnects Boyhood Friends after 60 Years

Two radio amateurs who were in school together in Austria decades ago have reconnected via VoIP ham radio. One of the two had moved to the US, and they lost touch. On June 15, Arnold Huebsch, OE1IAH, heard a call via Echolink from Albin Ennsthaler, KK9HAM, near Spokane.



Arnold Huebsch, OE1IAH.

"At first, I did not want to respond as I was working on a program. But as I know that usually nobody responds here to calls in English, I answered," [recounted](#) Huebsch, who is also KN6EYB and fluent in English.

As it turned out, they chatted for some 20 minutes. Because each was familiar with the geography on both sides of the contact, they had a lot to talk about. Huebsch learned that Ennsthaler was born in Austria and had relocated to the US years earlier. "He pronounced the local city names in perfect German but asked to run the QSO in English, as he felt more comfortable to do so," Huebsch said.

A few minutes after the contact ended, Huebsch turned his attention to serving as the net control station of a daily net on a local repeater in Vienna.

Continued next column

"I mentioned the contact with KK9HAM and noted that his name was Albin, a name not common in Austria. That caught the ear of one of the locals, Gerhard Weissenboeck, OE1WED, who recalled someone named Albin from school in Styria about 60 years ago, but had lost touch with him. Weissenboeck wondered if it could be the same person.

"I initiated contact via email between them, as I knew Albin had come from that area of Austria," Huebsch said. "They found out that they had shared a desk in school." KK9HAM and OE1WED arranged a sked via Echolink for a few days later.

"It was an intense, very emotional, funny QSO in a wild mixture of English and German," Huebsch said. "Without our hobby, these two former school friends would never have had a chance to meet again."

Ennsthaler later emailed Huebsch. "I am still speechless about this get-together with Gerhard and *Fahrdienstleiter* [traffic controller] Arnold and other members of the group," he said. "What a memorable day."



Someone has too much time on their hands!

Chance to Volunteer



September 12, 2020

The 11th annual running of the Cedar City Half Marathon down Cedar Canyon will feature plenty of pleasant surprises and one of the most spectacular downhill closed-canyon runs ever. Whether it's the sound of Coal Creek, breathtaking views, enthusiastic aid station volunteers, or energy-pumping music with crowds urging you to finish strong—the focus of the "Cedar Half" has always been on a quality runner experience over quantity. It's rare to run a half marathon or a canyon without worrying about traffic. You'll have the roads and trails to yourself in the Cedar Half. On race day, Cedar Canyon is closed to all vehicles, and at the mouth of Cedar Canyon all runners will transition onto Cedar's magnificent trail system all the way to the finish line.

Cedar City Fire Road 100K August 15, 2020

Starting in Cedar City, Utah, you'll climb over 7500' to vistas overlooking Zion National Park with giant aspen groves and Kolob Reservoir. About 85% dirt and 15% pavement. 100K and 60K options.



The RCARC has been asked to assist in these two events. Please come join us and help provide race communication.

If you are interested in joining other club members please contact:

Ron Shelley (K7HDX) at
ronald.shelley@gmail.com.

Hints & Hacks

Gripping Coax Connectors

Continued.

My solution is to use one of those rubber pads that are intended to help open ultra-tightened food jars and bottles.

They go by many names and are available at many grocery stores. The grippy rubber pads are inexpensive and are ideal for loosening difficult connectors. They also came in handy when it was time to attach a connector, allowing you to finger-tighten with the best of them. 73 Cameron Baily, KT3A. kt3a@arrrl.net.

Public Fire Information Website

InciWeb

<http://inciweb.nwccg.gov>

InciWeb is an interagency all-risk incident information management system. The web-based program provides information for wildland fire emergencies and prescribed fires, but can also be used for other natural disasters and emergency incidents such as earthquakes, floods, hurricanes, tornadoes, etc.

The system was developed with two primary missions:

- Provide the public a single source of incident related information; and
- Provide a standardized reporting tool for the Public Affairs community.

Official announcements include evacuations, road closures, news releases, maps, photographs, and basic information and current situation about the incident.

RCARC Assembly in the Park



RCARC members enjoying the Main Street Park ambience as they listen to Fred (KI7TPD) conduct our monthly RCARC meeting over the radio. Photo by Terry West



Another picture of the attendees at the park.



Dennis (W6DLW) checking in with Net Control.

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RCARC Assembly in the Park

Continued



This picture was taken from the park looking west towards the Summit Fire on the Nevada and Utah Borders as the sun set. (photo by Terry West)



Additional picture taken from the park looking west towards the Summit Fire on the Nevada and Utah Borders as the sun set. (photo by Terry West)

Foundations of Amateur Radio

What's the point of this hobby?

One of the recurring questions in this hobby, technically outside this hobby, asked by people who've not yet, or have only just been bitten by the bug, is: "What's the point of this hobby?"

In some ways I too have asked this question, though for me the answer came within a few months of learning that amateur radio exists. In response to others asking this I've also made meagre attempts to answer this question with varying degrees of success and satisfaction.

The typical responses are things like: there's a thousand hobbies inside amateur radio, it's about the communication, about the camaraderie, about climbing and hiking, about technology, science, physics, electronics. The truth is that this is just a fly-over view of what it means to have this as your hobby.

It occurs to me, having now been licensed for a little while, I can actually express a little more clearly what this hobby has given me.

At a basic level, I now know what the front of a TV aerial is and how Wi-Fi is attenuated by walls, how line of sight works and why you can talk to the International Space Station with a hand-held radio. I've learnt about sunrise and sunset and how they affect propagation, the grey line and how the ionosphere is broken into layers that are affected by solar radiation. I've learnt about sunspots and how they change over time, that there are cycles, that there is a thing called the Maunder Minimum and that propagation is a fickle beast. I've learnt about the Ionospheric Prediction Service and about band planning in contests, about dealing with pile-ups and making contacts, about voice-keyers and computer-controlled radios, about contesting software and logging, about contest scoring and contest rules.

Continued next column

I've learnt about gain and about loss, about how 75 Ohm coax differs from 50 Ohm coax, how connectors work, about soldering and crimping, how to use a crimper and what connectors to use with which coax. I've learnt about path-loss and about bouncing signals off the moon, about Sagittarius A*, a bright and very compact astronomical radio source at the Centre of the Milky Way and about inclination and ascension, about galactic coordinates and observation windows, about programming in Python and the astropy library.

I've learnt about how radio signals are used to encode information, the seemingly infinite supply of digital modes and how a radio signal can be described in three dimensions. I've learnt how maths can describe amplitude modulation and how side-bands can be described, about signal to noise ratios and decibels.

I've experienced the joys of making a rare contact, to places like Amsterdam Island, Prince Edward & Marion Island, Heard Island, Micronesia, Cuba, Kiribati, and many more. I've learnt more about geography, about maidenhead locators, learnt new phrases and started learning new languages.

I've gone out camping more times than I can count, spent nights under the stars making contacts across the globe. I've set-up my station in parks and on peaks across the country, made life-long friends locally and abroad, tested my patience and my endurance.

I've learnt about the pioneers and inventors who came before me, about their successes and failures, their enduring legacies and their inventiveness. I've gained insight into Apollo radio communications and distance measuring, global positioning before there was GPS, about satellite dishes and radio during disasters, about emergency communications and temporary set-ups with just enough to get the job done.

I've written software, made charts, learnt how to use GNUPlot, written articles, recorded podcasts, interviewed amateurs, published books, produced, presented and transmitted amateur news broadcasts, built amateur radio websites, chaired meetings, raised funds, contributed to club committees and helped as I was able.

Continued on page 12

Foundations of Amateur Radio – Continued from page 11

What's the point of this hobby?

I've helped organize a national amateur radio conference, learnt how to teach others and created a weekly radio net for new and returning amateurs. I've acted as a point of contact, offered life advice and acted as a shoulder to cry on when the going got tough for some of my fellow amateurs.

I've built more, tested more, explored more, learnt more and done more in the past decade than I have in the 40 years before that.

When I look back over the 472 podcast episodes I've written so far, that massive list is only just scratching the surface and it only just begins to describe how deeply affected I've been by this hobby. It only barely describes the width and depth of this hobby and I've only been here for a little while.

I must point out that I did all these things because I could, because I had radio amateur friends who prodded and poked, who helped and asked, who gave and received. My exposure over this decade was only possible because there are others who share my interests and stopped to take a moment to express that.

Next time you're asked about how amateur radio is relevant, how it relates to the world, how it affects you and your life, what it's given you, or what you can gain from it, consider, even just for a moment, just how much is possible within this massive hobby.

I'm **Onno VK6FLAB**

NAB offers tools for stations to celebrate 100 years of radio milestones

The **National Association of Broadcasters** is counting down the 100 days to the centennial anniversary of the first commercial radio broadcast, which took place on November 2, 1920.

As part of the online and on-air #Radio100 campaign, NAB released today the #Radio100 toolkit to help stations celebrate this incredible milestone.

The toolkit features a celebratory video, social media assets, scripts and other content for radio stations to use in advance of the anniversary. Listeners are encouraged to post their favorite radio memory on social media using #Radio100.

"For a century, broadcast radio has been a free and local service keeping America's communities informed, entertained and connected," said NAB President and CEO Gordon Smith. "NAB is excited to lead thousands of local stations in a celebration of this historic milestone and to honor radio's enduring legacy and bright future."

Starting on Sunday, July 26, NAB will count down the 100 days by highlighting a landmark moment in radio's history each day. The moments will be featured on NAB's social media channels on Twitter and Facebook, as well as WeAreBroadcasters.com/Radio100.

The first commercial radio broadcast took place on KDKA in Pittsburgh, Pa., on November 2, 1920 with the broadcast of the election results between Warren G. Harding and James M. Cox.

About NAB

The National Association of Broadcasters is the premier advocacy association for America's broadcasters. NAB advances radio and television interests in legislative, regulatory and public affairs. Through advocacy, education and innovation, NAB enables broadcasters to best serve their communities, strengthen their businesses and seize new opportunities in the digital age. Learn more at www.nab.org.

<https://www.webwire.com/ViewPressRel.asp?ald=261612>

Happy August Everyone

Continued next column

Vintage Ham Radios Pic's



Hiram Percy Maxim, founder of the American Radio Relay League and the "father of Ham Radio."



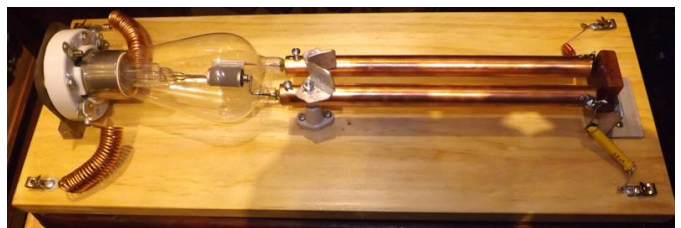
Hallicrafters S-19 "Sky Buddy" was one of the first in a line of hobbyist communications receivers made by the Hallicrafters Company of Chicago, IL.



This 1939 vintage 20-Watt CW transmitter, manufactured by the Thordarson Transformer Company, utilizes a 6L6-G as the RF oscillator/RF output tube, along with a Type 80 full-wave rectifier. Following full restoration, the unit was recently placed on the air for a demonstration, and it still kicks out a mean little signal for its size.



This is an example of an early 1920s style amateur radio receiver that was built from an ARRL Radio Amateur's Handbook article using authentic components of the era.



A working model of the oscillator, described in the ARRL 1938 Radio Handbook.

Reality Check - Things we should have passed on to the next generation

1. You will not be rewarded for bad behavior.
2. Being told no is part of life, get over it.
3. You are free to make your choice, you are not free of the consequences.
4. Life is not fair.
5. You are not the boss.
6. The world does not revolve around you.
7. Respect is earned, it is not just given.
8. The world owes you nothing - Work for it!
9. Fits and tantrums will get you nothing, stop wasting your time.
10. Shut your mouth and open your ears.

Submitted by Vernile (K7DVP).

Author unknown.

Congratulation To:

Paul Wolden (KJ7OZI)

Paul passed his Technician & General Exams at our last testing session.

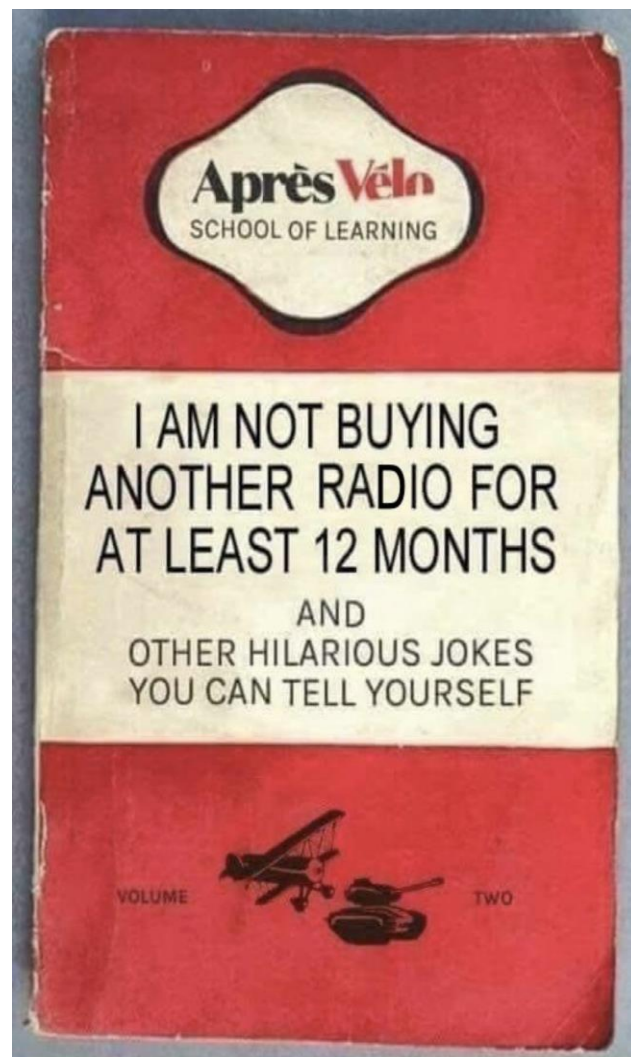
Welcome aboard Paul

"How to get pictures from the International Space Station via Amateur Radio."

The European Space Agency (ESA) has released a [new video](#), "How to get pictures from the International Space Station via Amateur Radio." The video features radio amateur David Honess, 2E0XDO (ex-M6DNT). An [article](#) on the same topic, "Pictures from space via ham radio," appeared last year in *The MagPi*, the Raspberry Pi magazine.

Click on the new video above or access it through the below URL below.

https://www.youtube.com/watch?time_continue=2&v=HtC-BPcMruA&feature=emb_logo



Submitted by Johnny K7ZZQ

Thousands of Radio Operators Band Together to Practice for The Worst



Rash Contributor

[Consumer Tech](#)

Wayne Rash is a technology and science writer based in Washington.

For twenty-four hours over the weekend of June 27 and 28, 2020, thousands of amateur radio operators across the United States and Canada set up temporary emergency communications centers where everything had to be done without external services. This meant they had to erect their own temporary antennas, provide their own emergency power and operate their equipment in temporary locations. Their goal was to prove that they can communicate with each other in times of an emergency when there's no infrastructure available.

These amateur radio operators, also known as hams, devote seemingly endless hours preparing their radio equipment, computers, cables and antennas required to conduct radio communications in today's demanding environment.

Continued next column

What's more, these radio operators volunteered their time, provided their own equipment and transported it to a remote site without electrical power, frequently without shelter and with only the supplies they could carry. And this time, they were doing it in the middle of a pandemic where they met crowd size requirements and social distancing laws.

FEMA Involvement



FEMA - Federal Emergency Management Agency.

"They do this for the same reason we always exercise," said former FEMA Administrator Craig Fugate. "It's better to have it break in practice than break for in this case, the radio operators were having to work around Covid-19 requirements, but Fugate thinks that's a good thing.

"One purpose is to practice making contacts under really difficult conditions," he explained. "Finding clear channels is hard. These are some of the problems you find in an emergency." While the conditions the radio operators were working in only simulate a real emergency, they can be unpleasant. Fugate pointed out that ham radio operators are essential to communications such as hurricanes in the south or wildfires in the west.

Continued on page 14

Thousands of Radio Operators Band Together to Practice for The Worst

“It’s a good practice to make sure I can get my station set up, and that I can make contacts on a lone radio with a long wire,” Fugate said. He pointed out in a recent op-ed in [The Hill](#) newspaper that when there’s an emergency, amateur radio may be your only choice.

“A lot of this is doing stuff in emergency conditions,” he said. “You’re going to work with whatever you’ve got.”



The logo of the Federal Emergency Management Agency (FEMA)
MANDEL NGAN/AFP
via Getty Images)

Fugate pointed out that in a real emergency, your normal channels of communication may not be there when you need them. “When all else fails there’s amateur radio,” he said. “We saw what Hurricane Michael did to cellular networks in the Florida panhandle. One county didn’t have any contact with the state emergency operations center until a ham got there.”

“That’s the environment that ham radio excels in,” Fugate said.

Continued next column

Field Day

The weekend event, known as Field Day, is sponsored by the [American Radio Relay League](#), a national organization that supports amateur radio and helps watch over its interests, especially in Washington.

“Field Day started in 1953 as an annual event for the amateur radio community as an exercise for their communications emergency capability,” said Bob Inderbitzen, a spokesperson for the ARRL. He noted that it’s called “Field Day,” because it’s a time when amateur radio operators take their equipment out into a field, or perhaps a public park or picnic shelter, and test their ability to assemble and operate an emergency communications center. The exercises include contacting as many hams as possible in the U.S. and Canada, passing simulated emergency message traffic, communicating with emergency services and explaining the effort to local officials and first responders.

Fugate said that while he was FEMA Administrator, he decided to try to contact every state EOC without the use of the telephone network, reasoning that in a true emergency, the phone network would likely be unavailable. “The only solution was ham radio,” he said.

**Check out the QSO
Today Virtual Ham Expo.
Information on page 17.**

QSO Today Virtual Ham Expo Announces Full Lineup of Speakers

The first [QSO Today Virtual Ham Expo](#), which takes place the weekend of August 8 - 9, has confirmed what it's calling "a packed lineup of over 70 great speakers" for the ARRL-sanctioned event. Attendance is free and [registration](#) is open.

Presentations will cover a range of topics, with two tracks focused on providing hands-on, practical advice for those just getting started in amateur radio. Steve Johnston, WD8DAS, will demonstrate basic soldering techniques for repairing equipment and building projects.



Marcel Stieber, AI6MS, will offer an overview of common battery types, discussing the pros and cons of each -- including battery chemistry, common uses and misuses, and everyday application tips.

For experienced operators, topics will cover new techniques, equipment upgrading, 3D printing, and more. Glenn Johnson, W0GJ, will attempt to answer the question, "Is 3 dB Worth a Divorce?" and cover a wide range of antenna topics.

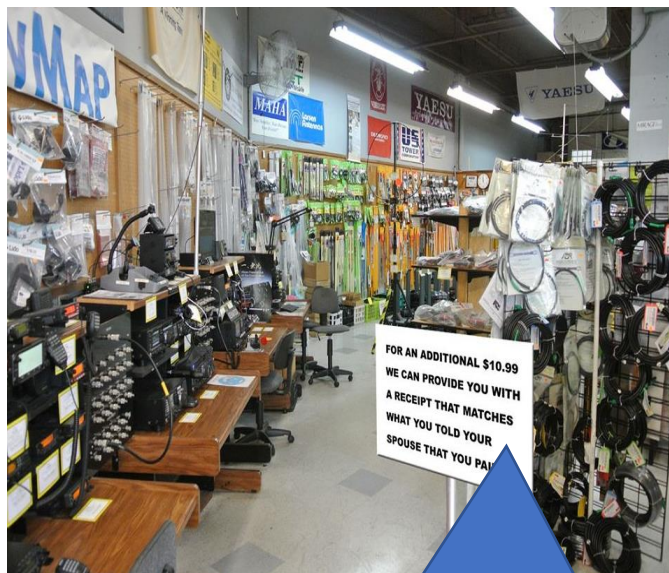
Jim Veatch, WA2EUJ, will explain how to build a QRP radio. In his presentation, "The Slot Antenna - Undiscovered Country for Most Hams," John Portune, W6NBC, will demonstrate how a satellite TV dish can be "slotted" to make an effective outdoor 2-meter or UHF antenna for use in antenna-restricted neighborhoods.

Continued next column

Prominent youth educator Carole Perry, WB2MGP, will moderate a lineup featuring amateur radio's future leaders. Audrey McElroy, KM4BUN, will speak on "Getting Girls Involved in STEM, Specifically Amateur Radio!", while hot-air ballooning will be the focus of a talk by Jack McElroy, KM4ZIA, "Highly Flying Kids with HAB."

QSO Today's Eric Guth, 4Z1UG, says that one challenge to any ham radio convention, whether in person or virtual, is keeping the content of presentations from becoming overly complicated and overwhelming. "For our inaugural virtual Expo, we've made sure that there are great speakers for both beginners and experienced hams," Guth said. "We've asked all of our speakers to be laser focused on their topics while providing hands-on, practical advice." Each presentation will wrap up with a live question-and-answer session.

For more information or to register, visit the [QSO Today Virtual Ham Expo](#) website. Attendance is free, and there are early bird prize incentives for registering by July 24.



Sign reads:

For an additional \$10.99 we can provide you with a receipt that matches what you told your spouse you paid.

PREPAREDNESS



In an Emergency: Let There Be Light



By Carolyn Nicolaysen

We have all seen them and hopefully we all have a few in our 72 hour and other kits; glow sticks. What are they really and why should we have them?

Chemicals are housed separately in a plastic tube fitted with an additional small glass vial inside. Both contain chemicals that when mixed create a temporary chemical glow. When the glow stick is bent, and the small vial is broken, the chemicals combine. The chemicals are not harmful and make glow sticks perfect for both a child's and adult use.

Once activated the glow cannot be shut off and will last from two to twelve hours depending on the glow sticks purchased.

Why do we want them?

Glow sticks do not spark or create heat so they are safe to use where open flames or sparks would be dangerous such as after a natural disaster or terrorist attack when gas leaks may be present.

The sticks are waterproof and thus can be used underwater.

Glow sticks can be seen up to and even beyond a mile.

The wind has no effect on a glow stick so it can't be extinguished like a candle.

Glow sticks are safe around children.

Glow sticks can be stored in hot areas where flashlight batteries may explode. However, it is always better to store in a cool, dry place.

They are inexpensive.

Glow sticks have a long shelf life.

How can they be used?

*Mark a path. Place glow sticks along a path or hang in trees to mark a path. This is crucial when camping or evacuating outdoors and a path to a port-a-potty or outhouse needs to be marked for midnight trips

*Mark the edge of a hazard. During the day a hazard may be marked using a rope to cordon off an area. At night hang glow sticks on the rope to protect those walking around.

Ham Gear for Sale or Free

2 towers, free

1- 3 ele 10-15-20 beam, free

1- 3 ele 12-17 beam free

6-meter beam, Make offer

80m vert free

Some new LMR 400 and 600 on spool. Make offer

Yasue Ft 897 with built in power supply \$200

AI 82 Amp. Make offer

AI 811h make offer

Plus, lots of other misc. equipment.

Contact Info below:

Jeff Pedersen

Red Cliffs Photography

(435) 590-2391

- *Signal rescuers. Place glow sticks in an open area with universal signals recognized by all rescuers. Float glow sticks in water if an open area is not available. Glow sticks will sink so place them in an empty plastic water bottle before placing them in the water or tie to a rope that has been secured on the shore. This is also a great technique to mark an area for a nighttime swim.
- *Follow the leader. For a few years we took a group to hike Half Dome at Yosemite National Park. We had to begin the hike while it was still dark. To keep track of everyone we attached a glow stick to backpacks.
- *Fishing. Fish are attracted to light and glow sticks are waterproof. Place in water but be sure to attach a string to the hook-on top of the glow stick or they will sink.
- *Keep track of the kids. Hang them around the neck of children or hook them to backpacks when visiting an amusement park at night or in an evacuation center.
- *When the lights go out. During a power outage use glow sticks in bathrooms and hallways as nightlights, saves batteries and calms children. During the aftermath of hurricane Katrina, the power went out in church being used as an evacuation center fifty miles from New Orleans. Glow sticks were hung in hallways at night. Since the restrooms had no windows, glow sticks were hung in them night and day.
- *Protect the family from injury. Place a glow stick in every room in the house. Hang on the back of doors or place in drawers so you can easily grab one in case of a power outage, you don't want to get injured feeling around for a light source in the dark.
- *Place next to each bed in case of a nighttime emergency. In case of a fire or earthquake at night family members can activate their glow sticks and see to escape or be seen by rescuers.
- *Light up your car when stranded or broken down. If you are stranded, a glow stick will allow oncoming cars to see you without running down the car battery. It will also provide light for rescuers to see you.
- *Make a lantern. Activate the glow stick, cut open and pour into a glass container. Add water and seal. This intensifies the light and is great to use on a table to play games or read.
Or you can just place the stick in a bottle of water for a brighter light.
- *Use them on the back of a bike for a nighttime ride.
- *Place on the ground or hang on the car at the rear and side when changing a tire in the dark.
- *Light up a tent when camping.
- *Place on tent stakes and ropes so you don't trip at night.
- *Attach to dog collar to keep track of them at night.
- *Keep kids safe on Halloween. A great way to rotate your stash.
- *Send with someone going to seek help when stranded. Glow sticks can be seen at great distances and used as a signal at night. You can signal by attaching a chord to the glow stick and swinging it around over your head. The person going to find help can signal you and you can do the same with a second glow stick leading them back to your location.
- *Attach to the end of an item you are transporting in the back of a truck when it extends beyond the truck bed.
- *Direct traffic at an event or when you come upon a traffic accident.
- *Use to "replace" a burned out tail light until you can get to a repair shop.
- *Use as pool toys to retrieve during a nighttime swim. They will sink.

Remember you will want to calm children, and yourself, during a crisis so plan for some fun activities during these stressful times.

- o Create nighttime games. Cut open a glow stick after it has been activated. Pour a little of the liquid on a Frisbee for a game in the dark. An extended power outage after a weather disaster or failure of the power grid or power line down can quickly cause cabin fever so get outside and have some fun!
- o Bubble fun. Pour a little of the activated liquid from a glow stick into a bottle of bubbles, glow in the dark bubbles. This is fun if you are in an evacuation center because the kids can't hurt anyone but can still have fun and entertain others as well.

- o Light a path to your front door when having a party or for Halloween visitors. Since glow sticks are waterproof, they can be placed in a water bottle or other container or hung on a string. **Continued on page 20**
- o Signal rescuers. We just saw thousands stranded in their home in the flooding in Texas. Rescuers were out in boats but when the power was out victims had difficulty signaling the rescuers. A glow stick being swung will be easily seen as an obvious call for help.
- o Light a path to your front door when having a party or for Halloween visitors. Since glow sticks are waterproof, they can be placed in a water bottle or other container or hung on a string.

Like any other product there are various grades of glow sticks from low quality to the more expensive military grade. The lower quality sticks may have a reduced glow time and the plastic casing may be thinner. I have found the less expensive ones to be just fine and have never had one leak. But, compare as there is inexpensive and there is cheap. Purchase sticks that are four inches long to use for pets and to hang around a child's neck to keep track of them. Purchase six inch or larger glow sticks for all other uses. Always purchase white or yellow glow sticks as they will give you the brightest light. Check the description and purchase only sticks that will last eight hours or longer.

Store in a leak proof container, a plastic bag or box, just in case of a leak. Don't worry if they leak, the chemicals are not dangerous. Again, I have never had one leak but it's better to be safe and protect the rest of your kit or your storage area. Place a copy of this information in your binder to help you remember all the ways you can take advantage of your stash.

Glow sticks are an important part of any emergency preparedness plan. Get a few. Better yet, get many!

Suz Roam

SW Utah MRC Coordinator in

Emergency Preparedness at SWUPHD

620 South 400 East #400

St George UT 84770

435-986-2556

<https://swuhealth.org/mrc/>

Applesauce Zucchini Bread Recipe



This recipe was submitted by Dick Parker.

Access the URL below for recipe.

<https://lovelylittlekitchen.com/applesauce-zucchini-bread>

When page opens scroll down to the recipe.

