



VOLUME 72 ISSUE 8  
Aug. 2021

## PPRAA Club Officers

<b>President</b>	<b>Don DuBon, N6JRL+</b>
<b>Vice President</b>	<b>Joe Gage, KEØTPW+</b>
<b>Secretary</b>	<b>Jason Taylor, KØWTF+</b>
<b>Treasurer</b>	<b>Dick Kohlhaas, W5UDM+</b>
<b>Ø-Beat Editor</b>	<b>Jerre Redding, WAØBCM</b>
<b>Webmaster</b>	<b>Douglas Nielsen, N7LEM</b>
<b>Past President</b>	<b>Jim Bishop, KD0KQL</b>
<b>Board</b>	<b>John Bloodgood, KDØSFY</b>
<b>Board</b>	<b>R, Lee Glazer WØRLG*</b>
<b>Board</b>	<b>Dennis Major, NØABC*</b>
<b>Board</b>	<b>Logan Perry, KEØKZA*</b>
<b>Board</b>	<b>Anthony Mitchell, KEØLQK*</b>
<b>Board</b>	<b>LD Steiner, WØXLD</b>
<b>Board</b>	<b>Michael Walter KEØTWK</b>
<b>Board</b>	<b>Daniel Burtis, KEØWJL</b>

\* In final year of 2-year term

+ One year officer position

All officers can be contacted at: [boardmembers@ppraa.org](mailto:boardmembers@ppraa.org)

## Monthly Ham Breakfast

**Omelets Etc, 1616 South 8th Street Saturday,  
4 September 8 – 9:30 AM**



## **PPRAA Board Meeting (8 Sept.) may be virtual**

– There will be an online meeting via Zoom.

## **PPRAA General Membership meeting (11 Aug.) will be at Billy's Old World Pizza at 308 S 8th St #E**

– There will be both an online meeting via Zoom and in the restaurant. The business meeting starts at 7 PM, but get your dinner and beverage of choice and check in any time after 6 PM for a social hour. Club members check your email for info or email [Officers](#) to receive the Zoom information.

### **PPRAA Mobile Radio Car Show**

– Saturday, 14 August 2021 1000-1300  
– Pikes Peak Makerspace, 735 E Pikes Peak Ave

### **PPRAA World Amateur Radio Day Fox Hunt"**

– In celebration of World Amateur Radio Day on April 18, the PPRAA hosted a fox hunt across

the north side of Colorado Springs.

– The “fox,” Jason (K0WTF), was soon found transmitting from Fox Run Park. The first team to find him was Derek (N0DCW) and his friend Jerry (soon-to-be-licensed), who found the fox in 19 minutes.

– Many finishers showed off hand-built Yagi antennas, a variety of attenuators, and triangulation techniques. Participants from Colorado Connections and Rocky Mountain Ham provided a display of their radio direction finding van, complete with a doppler tracking station.

– Thanks to Jason (K0WTF) for his work as the fox and net control, and Cheyenne Mountain Repeater Group for the use of their 147.345 repeater for the socializing net.

### **Postponed to 2025: 2020 ARRL Rocky Mountain Division Convention – Hamcon Colorado 2020**

– More info [here](#).

## **ARRL Learning Network Webinars**

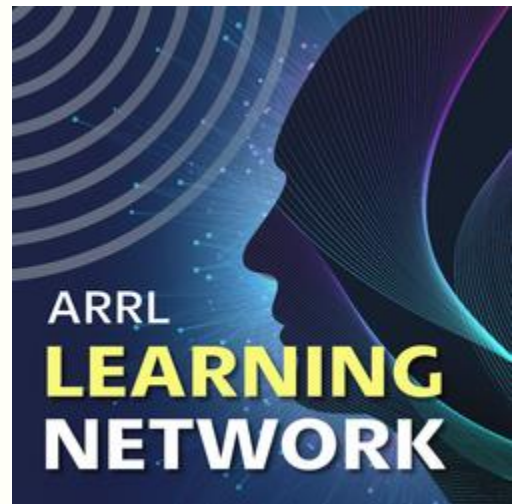
Visit the [ARRL Learning Network](#) (a members-only benefit) to register, check on upcoming webinars, and to view previously recorded sessions.

Introduction to DMR and Digital Voice -- Tim Deagan, KJ8U / Thursday, September 9, 2021 at 3:30 PM EDT (1930 UTC)

An introductory overview of digital voice (DV) technologies for ham radio. This presentation will focus on DMR with notes on System Fusion, D-STAR, and more. Included will be a description of DV architecture and components, and the interesting opportunities and challenges that DV presents.

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

The [ARRL Learning Network](#) schedule is subject to change.



It is with great pleasure that I announce that a new repeater system has been installed and is operational on Raton Pass. The system is sponsored by the Cheyenne Mountain Repeater Group. Raton Pass is located on I-25 at the Colorado/New Mexico border. The repeater system consists of:

VHF Repeater

145.430 MHz (-) PL 107.2 Hz

This linked to the CMRG repeaters

147.345 Colorado Springs

147.360 Wilkerson Pass

145.295 Salida

146.790 Pueblo (provided the Pueblo Amateur Radio Club

UHF Repeater

449.600 MHz (-) PL 107.2 Hz

Local Repeater

UHF D-STAR Repeater

446.775 MHz (-)

KDØRDI-B

900 MHz P-25

927.875 MHz out, 902.025 MHz in

Linked with other 900 MHz P25 systems in CO

VHF APRS Digipeater

RATON

A dozen volunteers from several clubs in Colorado Springs and Trinidad worked on two separate Saturdays to clean and repair the building, upgrade electrical, install internet service, install antennas, and move and install the two equipment racks. CMRG thanks all who volunteered their time and talents to get the site work completed and the repeaters installed. All the repeaters are open for all amateurs to use.

Feel free to forward this on to other amateur radio distribution lists,

Thanks and 73's

Dave

Dave Novotny, WA6IFI

Chairman, Cheyenne Mountain Repeater Group, Inc

719-439-9077



## PIKES PEAK RADIO AMATEUR ASSOCIATION

### Minutes of the Board Meeting July 12, 2021

Board Meeting Start 6:41 PM

KOWTF, KD0SFY, KD0KQL, KE0WJL, N6JRL, KD0NQM, N7LEM, N0ABC, W5UDM, Anthony Mitchell

Welcome introductions;

Silent Keys; Virgil Yost NOXRS

Vice President; Joe KE0TPW: Did not attend.

Report on Mining Museum event:

7 or 8 volunteers working the tent, had a IC-7300 on site making contacts via FT8 and SSB. All solar-powered. There were some really neat demos on the site!

Report on budget for Aug 14 car show event: \$400 est for prizes and supplies.

LD Moves

W5UDM Seconds

Motion Passes

Special Event Station: We have about 10 folks volunteering to work contacts the week leading up to the COS105

Door Prizes: Plan on going up to HRO for some door prizes. (NQM also helped clean out Virgil's ham shack and has a lot of books that would be suitable)

Treasurer Report , report ARRL Scholarship Dick W5UDM

ENT Interest was much lower than anticipated. \$53 net profit.

As of right now, 248 Members.

Monthly Breakfast: Is starting to pick up a little bit. 3 people last month.

Jason Moves to approve

LD Seconds

Motion Passes

Field day cancelled due to no coordinator. Does not require a lot of experience. No one stepped up to coordinate this year, and this has caused some strife within the club.

Wednesday morning, Joe, Don and Jim will be meeting up at a restaurant to see if it's suitable for an August membership meeting. (Billy's Old World Pizza)

Clubhouse report Steve KT0DX: Did not attend.

VEC Testing, Dennis NOABC; 3 Applicants, all were upgrades.

Zero Beat Report Jerre WA0BCM; Did not attend.

Web Master Report Doug N7LEM; Nothing serious report. Minutes are posted.

Secretary Report; K0WTF:

Dick Moves to approve with correction.

Dennis Seconds

Motion Passes.

Up date on 97 Repeater Don wa9wws: Did not attend. They're still moving stuff around so the signal reports are up and down.

PPARES Report John KD0SFY; Pikes peak cycling hill climb, Also APEX Mountain Biking Event (last year was a 4 day event, more to follow!)

Mega Fest Report Jim KD0NQM; Nothing new to report right now. In a month or two will have to get together and set a budget and a date for the 2022 megafest.

Internet Committee Doug N7LEM; May be working on a point to point link.

Thursday PPRAA net; 20 people or so. K0ATV is net control this coming week.

QCWA Chapter 58 Don N6JRL: No meetings for a few months. Dick is good to host on Saturday the 31<sup>st</sup> at noon. Decided to not have a meeting in July due to a conflict with the Colorado Springs Sesquicentennial.

Jim Rader has a list of things to sell from Virgil Yost's estate.

Jim Rader moves to adjourn.

Doug Seconds

Motion carries.

Meeting Adjourn 1930



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Motion carries.

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## Interactive LightCube Satellite Set to Launch in Late 2022

\* NASA has selected [LightCube](#), along with 13 other small research satellites, to fly as auxiliary payloads aboard rockets launching between 2022 and 2025. The launch opportunity is provided through NASA's CubeSat Launch Initiative. Being designed, built, and tested by an interdisciplinary team of students, advisors, and



engineers across multiple organizations, LightCube is a microsatellite educational mission that aims to produce a light visible to the naked eye of observers on Earth. The spacecraft's two xenon flashtubes will be triggered via amateur radio.

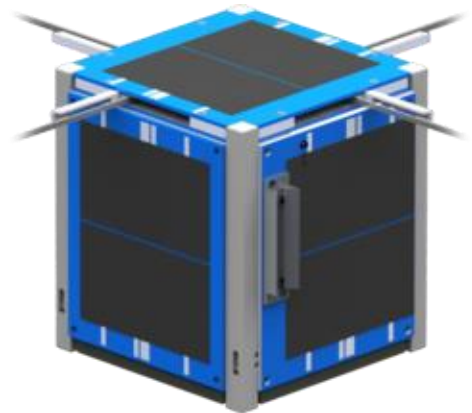
\* When the light beacon is activated, the 1U CubeSat will be visible momentarily -- each flash will take 8

microseconds -- from the ground, with a brightness similar to the International Space Station (ISS). Following ISS deployment, LightCube will orbit Earth for approximately 2 years before safely deorbiting.

\* The LightCube mission is a collaborative project between Arizona State University's (ASU) Interplanetary Initiative, the ASU Ira A. Fulton Schools of Engineering, Vega Space Systems, and CETYS (Centro de Enseñanza Técnica y Superior) Universidad. ASU designed and built the satellite.

\* A radio amateur with a handheld transceiver will wait until the satellite is roughly overhead, as determined by a smartphone or computer app. The user will transmit a predefined number code, and if LightCube is charged, it will flash. The satellite then requires 30 seconds to recharge the capacitor that fires the xenon light tubes. At this point, no frequencies have been coordinated for LightCube.

\* The idea itself is not novel. As the LightCube sponsors note, FITSat in 2013 used high-power LEDs to transmit Morse code. EQUisat in 2016 could produce a beacon visible to the naked eye.



## ARRL Learning Network Webinars

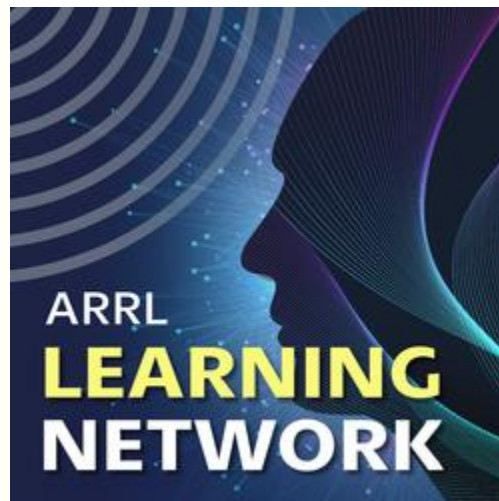
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### **Isotron 80**

Get ready for the fall season. The easiest way to operate 80M.

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

**EASY INSTALLATION  
EXCELLENT PERFORMANCE  
DURABLE CONSTRUCTION**

## **CC&R FRIENDLY (XYL ALSO)**

### **The Nano Vector Analyzer - Part 2**

The last article showed how to set up the VNA to measure the SWR of your antenna. The graph shows the SWR value across the spectrum of band that was chosen. Hopefully you "Saved" the calibration.

If the minimum point of the curve is not on the screen, then you can expand the spectrum by changing the "Stimulus" setting until you see it. At this point you will concentrate on setting the resonant point where you need it.

Having the minimum within the original spectrum you set, will measure the frequency it is at. However, you may notice that it may appear to be unstable and the SWR read out is also jumping around. This is due to the VNA measuring minute changes in SWR that are normal.

To stabilize the reading select "Marker" on the menu. Then "Search". Then "Minimum" and "Tracking". Now the SWR will follow the minimum SWR reading. If you want to measure up or down on the spectrum you will need to take off "Tracking".

To measure how close the antenna is to 50 ohms at resonance, go to "Display" on the main menu. Then "Trace". Select "Trace 2 (green)". You may want to remove "Trace 1 (blue)". It does not apply to this test.

Be sure Trace 0 (yellow) is highlighted on the main screen. Both traces should read SWR. Now we are going to change Trace 0. Go to "Display". Then "Format". Then select "Smith".

Now you will see two graphs. Trace 0 (yellow) is the Smith Chart. Trace 2 (green) is the original SWR graph ("Minimum" and "Tracking" are still activated). You will see a reading that will be unlabeled if it is below 1,000. This is the impedance of your antenna at resonance. Your goal is 50 ohms at the minimum SWR frequency or resonant point. How did you do?

Now you can take a hammer to your antenna and adjust it to perfection.

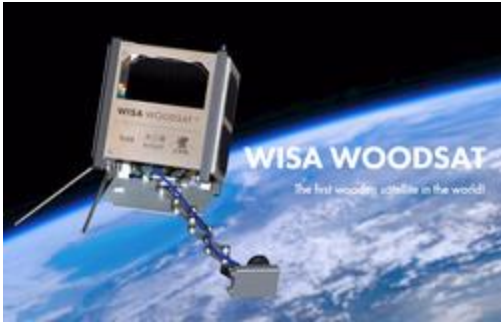
73,  
Ralph WD0EJA

Aug. 2021

**Bilal Company**  
137 Manchester Dr.  
Florissant, Co. 80816 U.S.A

## WISA Woodsat Successfully Completes Stratospheric Test Flight

The world's first wooden CubeSat successfully completed a test flight into the stratosphere earlier this month. [WISA Woodsat](#) is constructed using birch plywood panels in a 1U configuration measuring 10 centimeters squared. Nine small solar cells will power the satellite, which will orbit at an altitude of 500 - 550 kilometers. The novel spacecraft will carry several amateur radio experiments, as well as photo downlinking, including selfies. A goal of the project is to determine how well wood products will perform in space.



During the recent test, a functional model of the WISA Woodsat climbed 19 miles into the sky tethered to a weather balloon. The satellite's camera captured a selfie video of the balloon bursting. A parachute deployed to take the nanosatellite back to Earth, where it was recovered

intact, lodged in a spruce tree.

The test satellite and a duplicate "spare" version, were manufactured at UPM Plywood's Savonlinna, Finland, factory. The company sells its construction-grade panels under the WISA trademark. The panels were thermo-vacuum dried and processed on a CNC machining center. The wooden satellite is based on a basic, versatile CubeSat format, Kitsat, which is designed with educational use in mind.

As the sponsor quipped, "WISA Woodsat will go where no wood has gone before. With a mission to gather data on the behavior and durability of plywood over an extended period in the harsh temperatures, vacuum, and radiation of space in order to assess the use of wood materials in space structures."

Once in orbit, Woodsat will be able to extend its selfie stick to capture photographs of the wooden box as it hurtles through space at 40,000 kilometers per hour (24,800 miles per hour). This will allow the mission leaders to monitor the impact of the environment on the plywood.

The satellite would downlink its telemetry and images from two cameras using amateur radio frequencies. In addition to testing plywood, the satellite will demonstrate accessible radio amateur satellite communication; host several secondary technology experiments; validate the Kitsat platform in orbit, and popularize space technology.



**The WISA Woodsat balloon bursts as the satellite reaches its maximum altitude. The image was taken using the spacecraft's selfie stick.**

## Are you ready for the new RF exposure evaluation regulations?

By Dan Romanchik, KB6NU

On Tuesday, April 27, Dan, W1DAN, ARRL Eastern Massachusetts Section Technical Coordinator, gave a Zoom presentation on the latest FCC regulations on RF exposure evaluation. These are spelled out in FCC-1926A1 (<https://www.fcc.gov/document/fcc-maintains-current-rf-exposure-safety-standards>), "Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields; Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies." The document is as long as the title might suggest—159 pages—but W1DAN boiled it down, focusing on what these changes mean for radio amateurs.

A recording of the presentation can be viewed by going to [https://drive.google.com/drive/folders/1\\_qIGZhHyMrha-axJt87Dcu0UZuJO0t8F](https://drive.google.com/drive/folders/1_qIGZhHyMrha-axJt87Dcu0UZuJO0t8F).

After explaining how RF exposure can be harmful, Dan explained how the rules are changing: The biggest change, he notes, is that amateur radio's categorical exclusion has been eliminated. What this means is that now every radio amateur will have to perform an RF exposure evaluation of their stations. This now includes mobile and portable stations, including HTs, SOTA/POTA stations, and Field Day and special event stations.

He noted that you must be able to prove that your station is safe. This includes not only performing the evaluation, but also documenting these evaluations, should this data be requested by FCC personnel.

One thing that's not changing are the maximum permissible exposure (MPE) limits. These are spelled out in FCC OET Bulletin 65 ([https://transition.fcc.gov/Bureaus/Engineering\\_Technology/Documents/bulletins/oet65/oet65.pdf](https://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65.pdf)), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields." The FCC published this document in August 1997, but it's still the Bible when it comes to RF exposure. If you don't have a copy, or have never taken a look at it, you really should do so.

Be careful, though, when reading it. It contains a table (Table 1 on p. 21) that contains a list of output powers at various frequencies. If your station exceeded those limits, then you were required to perform an RF evaluation. Now, however, all amateurs (and other radio services, for that matter) must perform RF exposure evaluations if their output power exceeds 1 mW. We are no longer categorically excluded from performing these evaluations.

OET Bulletin 65 goes on to give guidance on how to calculate or measure exposure levels. Explaining how to do this is outside the scope of this article, but again, you'll want to refer to the bulletin for more information.



Besides the elimination of the categorical exclusion for amateur radio stations, what else is new is the dates on which amateur radio stations must perform evaluations. They are:

- **May 3, 2021(!)** for new and modified stations
- May 3, 2023 for stations that complied under the old rules.

Having said all that, the ARRL's RF Exposure page (<http://www.arrl.org/rf-exposure>) has a lot of resources to help you understand this topic and perform your own RF exposure evaluations:

- An RF-exposure FAQ (<http://www.arrl.org/files/file/Technology/RFsafetyCommittee/RFXFAQ.pdf>) to help hams understand the new rules.
- "Learning to Live with RF Safety" ([http://www.arrl.org/files/file/protected/Group/Members/Technology/tis/info/pdf/QST\\_Mar\\_2009\\_p70-71.pdf](http://www.arrl.org/files/file/protected/Group/Members/Technology/tis/info/pdf/QST_Mar_2009_p70-71.pdf)), *QST* March 2009 pp. 70-71.
- RF Safety at Field Day (<http://www.arrl.org/files/file/Technology/tis/info/pdf/9906048.pdf>) *QST*, June 1999, pp. 48-51. A case study of Field Day with NSRC in a public park
- RF Exposure Station Evaluation and Exemption Worksheets ([http://www.arrl.org/files/file/Technology/tis/info/pdf/rfex1\\_2.pdf](http://www.arrl.org/files/file/Technology/tis/info/pdf/rfex1_2.pdf))
- *RF Exposure and You* (<http://www.arrl.org/files/file/Technology/RFsafetyCommittee/RF%20Exposure%20and%20You.pdf>). This 8 Mbyte PDF file contains the text of the entire book by Ed Hare, W1RFL.
- Chapter 5 References (<http://www.arrl.org/files/file/Technology/tis/info/pdf/RF%20Exposure%20Chapter%205.pdf>) needed for filling out worksheet.

There are also links to FCC web pages with information on RF exposure.

I'm sure we'll all be hearing more about this in the days ahead. Hopefully, someone will come out with a simple way to do the modeling or make the calculations. As always, play safe.

=====

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog ([KB6NU.Com](http://KB6NU.Com)), the "No Nonsense" amateur radio license study guides (<https://KB6NU.Com/study-guides/>), and often appears on the ICQPodcast (<https://icqpodcast.com>). When he's not RF exposure evaluations, he teaches online ham radio classes and operates CW on the low end of the HF bands.

May 20, 2021  
Pikes Peak Radio Amateur Association

c/o Dick Kohlhaas, W5UDM  
P.O. Box 16521  
Colorado Springs, CO 80935

## (Not Yet) Collecting \$35 Application Fee

The majority of the FCC's revised Part 97 rules (adopted in December 2020) establishing new application fees become effective on April 19, but the new amateur radio application fees will *not* become effective on April 19. The FCC announced on March 19 that the amateur radio application fees, including those associated with Form 605 filings, would not become effective until the "requisite notice has been provided to Congress, the FCC's information technology systems and internal procedures have been updated, and the Commission publishes notice(s) in the *Federal Register* announcing the effective date of such rules."

The \$35 fee, when it becomes effective, would apply to new, modification (upgrade and sequential call sign change), renewal, and vanity call sign applications, as well as applications for a special temporary authority (STA) or a rule waiver. All fees will be per application. Administrative updates, such as a change of mailing, email address, or name, are exempt.

It is expected that such fees will not become effective before summer 2021. The FCC has stated that amateurs will have advance warning of the actual effective date, because it will publish such date in the *Federal Register*.

ARRL Volunteer Examiner Coordinator ([VEC](#)) Manager Maria Somma, AB1FM, said VECs and Volunteer Examiner (VE) teams will not have to collect the \$35 fee at exam sessions. Once the FCC application fee takes effect, new and upgrade applicants will pay the \$15 exam session fee to the VE team as usual, and pay the \$35 application fee directly to the FCC via the [Fee Filer System](#) or [License Manager System](#). Somma said this information was provided in a [VE Newsletter](#) distributed this past week. "Further news and instructions will follow when we have them," she said

Everyone,

Please see below. Ernie is having a garage sale, with ham goodies available for purchase. If you have a chance on Friday or Saturday, please stop by and peruse.

-----  
-----  
"Garage Sale with numerous ham radio objects, mostly antenna related, some hardly ever used. Coax cable, ladder line etc., Several wire dipoles for 20 meters and 40 meters.

When: Friday, August 13th and Saturday, August 14th.

Time: 0800 to 1530 each day.

Address: 4260 Loch Lomond Ln, Colorado Springs, CO 80909, near Maizeland Rd and N Murray Blvd.





Hosted by Ernie, AF1RM and Jan Spillane

In addition to ham radio stuff, there are gardening tools, other miscellaneous tools, and, of course plenty of household items and clothing."

## Celebrating 10 Years of Summits On The Air in Colorado

Bob Witte, KØNR

bob@k0nr.com

The Summits On The Air (SOTA) program originated in the United Kingdom but has propagated to most countries around the world. The program came to Colorado on May 1st, 2010 with Steve/WGØAT sending a CQ from Mount Herman, just west of Monument. Today, the SOTA program in Colorado (called WØC-SOTA) is very active with roughly 180 activators that operate from Colorado summits.

To celebrate our 10th Anniversary, [WØC-SOTA](#) is organizing a **10-10-10 Event** with a challenge for Activators and Chasers alike. (Activators operate from summits, Chasers try to contact them.)

**Activator challenge:** Activate **10** (or more) **10K** feet (or higher) summits (in Colorado/WØC) within **10 days**.

**Chaser challenge:** Chase Activators on **10 different** (or more) qualifying WØC summits (**10K** or higher) within the **10 days**.

**Event Date:** We will kick-off the event in conjunction with the [Colorado 14er event](#) on August 7th, 2021 and conclude on August 16th.

Everybody is invited to participate, either as an Activator or a Chaser. Block off these days in your calendar now and start planning for how you can participate. Feel free to operate as much or as little as you would like. It is all about having fun messing around with radios. Any HF, VHF or UHF band can be used for making SOTA contacts, with the most popular ones being 40m (CW & SSB), 20m (CW & SSB) and 2m (FM).

There will be a leaderboard on the [WØC-SOTA](#) website showing all participants who meet one of the challenges. More details will be announced on the WØC-SOTA Website as soon as they are hashed out.

For more information on the SOTA program in general, see the [worldwide SOTA website](#).

*Full Disclosure: May 1 is actually the 11th Anniversary, but the COVID-19 Pandemic interfered in 2020, so we are catching up.*



Figure: Steve/WGØAT operates HF phone from a SOTA summit in Colorado.

# PIKES PEAK RADIO AMATEUR ASSOCIATION **AFØS**



Radio \_\_\_\_\_ Confirming QSO \_\_\_\_\_, \_\_\_\_\_ UTC  
 Mode \_\_\_\_\_ Frequency \_\_\_\_\_ MHz Your sigs: \_\_\_\_\_  
 Transceiver: \_\_\_\_\_ Antenna: \_\_\_\_\_  
 Operator: \_\_\_\_\_ Grid: DM78tt  
 Mailing address: PO Box 16521, Colorado Springs, CO 80935  
 Station Location: Ellicott, CO PSE QSL TNX  
 Email: [station@ppraa.org](mailto:station@ppraa.org)

## **Major Events**

### **PPRAA Awards Program**

I have been the Awards/Recognition committee chair for almost 20 years. Awards have been issued when applied for. I just reviewed my logs and found I qualified for the VUCC award with 116 grid squares worked on 6 meters.

If folks will let me know what they have qualified for and fill out an excel log data sheet I will print out a very nice certificate.

Certificates can be printed for regular achievements or a goal you set for yourself.

Mike WV7T

Wv7t@aol.com

**I am cutting back on my ham radio activities as other matters have arisen I must concentrate on.**

**These I will be available to provide:**

Technician and General class license tutoring

Hands on skills

Ham equipment and accessories

Club asset manager

Award-Recognition program chairperson (We do have an awards program in PPRAA)  
Lots of advice

I can be contacted at 719-229-8610 or [wv7t@aol.com](mailto:wv7t@aol.com)  
Mike WV7T



This was 2001 when PPRAA was 50 year ARRL affiliation.  
This year 2021 is 70 year PPRAA affiliation.  
Nice job folks.



July 25, 2001

Pikes Peak Radio Amateur Assoc  
1420 North Gate Rd  
Colorado Springs CO 80921-3025

Dear Sidney: *W 7/28/01*

Congratulations on 50 years of affiliation with the ARRL! We have prepared a special certificate to commemorate this achievement. The certificate will be mailed to you directly, or sent to your Division Director. If a certificate is not enclosed with this letter, your Division Director, or another League Official, will present it to your club. The League Official selected for presenting the certificate to your club will contact your Club President or ARRL Liaison to make arrangements.

The League's affiliated clubs have been the backbone of organized Amateur Radio for more than 80 years. Amateur Radio classes, TVI committees, equipment exchange and camaraderie are just a few benefits offered to club members. Your club, the League, and Amateur Radio as a whole have grown during our long association. Who knows what's in the future? We do know, however, that clubs like yours will continue to meet and shape the challenges and opportunities the Amateur Radio Service encounters daily.

We hope the next 50 years of affiliation will be as enjoyable and beneficial as the first 50!

73,

*Margie Bourgoin, KB1DCO*  
Margie Bourgoin, KB1DCO  
Club & Educational Correspondent

**AMERICAN RADIO RELAY LEAGUE**

ADMINISTRATIVE HEADQUARTERS • 225 MAIN STREET • NEWINGTON, CONNECTICUT, USA 06111-1494  
TELEPHONE 860-594-0200 • FAX 860-594-0259 • INTERNET: [hq@arri.org](mailto:hq@arri.org) • WWW: <http://www.arri.org/>

2021 is the 70<sup>th</sup> year of PPRAA ARRL affiliation.  
That is a long time!

# ***You shop. Amazon gives.***

I'm somewhat dismayed that there are only 18 households contributing via their King Soopers accounts. Seems that many people had obtained the KS gift cards several years back, before they changed it to simply being a selection on their account.

Perhaps we should try to make it clearer just how it's done.

- 1) Go to [kingsoopers.com](http://kingsoopers.com).
- 2) Log in to your account.
- 3) Scroll down to, and select Community Rewards.
- 4) Search for and Add 'Pikes Peak Radio Amateur Association Inc.' (Organization Number MK867) as your target.

That's all it takes.

It shows (me) that I contributed \$18.85 last quarter. So, I guess mine made up slightly more than 10% of the total.

(Of course, maybe some PPRAA members could be directing contributions to another organization.)

Dennis

## **Amateur Radio Emergency Links Info**

Amateur Radio and Emergency Communications

<https://alertfind.com/amateur-radio-and-emergency-communications/>

Disaster Preparedness on a Budget

<https://couponfollow.com/research/disaster-preparedness-on-a-budget>

## From the annals of PPRAA history

**August 1982: Al Bailey ADØZ writes an article alluding to the fact that computers are going to become a part of every ham shack. Period. At the July meeting Ken Morey of Hewlett Packard presented a program on electronic components. The business meeting followed the program. Seven or eight hams are needed to support the Pikes Peak Rodeo Parade on August 3. Dick, WBØDUL, from the Mountain Amateur Radio Club, announced their upcoming hamfest at Red Rocks Campground. Talk-in on the MARC repeater on 145.16. The board considered a motion to lower the dues, but it was eventually decided to leave them at the then-present level. Mark (call?) was arranging a public service announcement tape from the ARRL to be aired on KKTV and KOAA. A motion was passed to purchase a club generator. Les WDØGTA volunteered to add a "The Way it Was" column to the Ø Beat. The August program will be by Ed Means WØVO on satellites.**

## Parker Radio Association

PPRAA Team,

Be sure to join us for our weekly nets Monday and Tuesday evenings!

First, Monday, at 8:30pm, on D-Star XRF223B, the PRA holds its D-Star net. There is plenty of conversations from everything digital to the latest projects and devices... from DStar / DMR / Fusion / Brandmeister / Hotspots, and even CW. This can be accessed via your local hotspot. Also, many have linked via the WOCDS 2M repeater as well. Considering our KOPRA repeater is being relocated, using the WOCDS 2M side would be best (please follow common/courteous practice when linking).

Second, at 8:00pm on Tuesday, is the PRA weekly analog net on the WOCFI 448.675 – (100Hz) repeater. This is a great way to catch up on the happenings of the PRA and is a great environment to ask any question related to the hobby or to give yourself some bragging rights on a recent license, upgrade, or new piece of equipment.

We'll see you on the air!

73, KØPRA Your Friends at the Parker Radio Association

[www.facebook.com/parkerradioassociation](https://www.facebook.com/parkerradioassociation) [parkerradio.org](http://parkerradio.org)

[@ParkerCORadio](https://www.facebook.com/ParkerCORadio)

# ARRL Outgoing QSL Bureaus

[www.arrl.org/outgoing-qsl-service](http://www.arrl.org/outgoing-qsl-service)

ARRL affiliated-club stations may use the service when submitting club QSLs for its members in bulk ("pooling" their members cards together in one package) by indicating the club name inside the package. Club secretaries should check club affiliation on the ARRL web site to ensure that their affiliation is current. In a "pooled" package, each club member using this service **must also be an ARRL member**. Cards should be sorted "en masse" by prefix and a proof of membership should be enclosed for each ARRL member. QSLs for unaffiliated club calls may also be sent via the outgoing bureau to foreign destinations if the trustee of the club call is a member in good standing. The trustee's proof of membership must be included with the club call-QSLs.





Here are the statistics from our July 10, 2021 VE session. The file containing all of the specifics is attached (particularly for the Treasurer).

July 10:

4 applicants

3 Upgrade to General One was from expired General

1 Administrative action (address change) from one of the VEs

0 unsuccessful

There were no new licensees.

I was quite surprised that there were only three (3) upgrade applicants (and only two of those testing). It's been quite a while since we had a session without testing for Element 2 - Technician, if ever!

--

73

Dennis Major, N0ABC

Laurel ARC VEC, Regional Coordinator #10 / Ø

(CO, IA, KS, MN, MO, ND, NE, SD)

Pikes Peak Radio Amateur Association VE Team Leader

# PPRAA VE EXAMS

## (MONTHLY)

PPRAA VE session has relocated and will be held at 10:00 am on the second Saturday of the month at Pikes Peak Regional Office of Emergency Management  
3755 Mark Dabbling Blvd, Colorado Springs, CO 80907, USA

Organizer: [ve@ppraa.org](mailto:ve@ppraa.org)

**TESTING IS FREE.** Applicants will need the following items at the session:

1. A valid **PHOTO ID**, driver's license preferred (if you do not have a valid photo ID, please call for alternative identification requirements).
2. Your **FRN NUMBER** (Please obtain in advance of the session).
3. A copy of your **amateur radio license** (if any).
4. The **ORIGINAL** of any relevant **CSCEs** you have **AND a PHOTOCOPY** for the VE Team to keep.

PPRAA VE Team policy, as with many VE Teams, is to not allow same day retests on failed exams. Anyone passing their Technician Class examination at a PPRAA test session will receive a free year's membership to the Pikes Peak Radio Amateur Association.

Jim Bishop [kd0kql@hotmail.com](mailto:kd0kql@hotmail.com), 719 332-5283, 000PPRAA VE Contact



# MARC VE EXAMS

(January, March, May, July, September, November)

The Mountain Amateur Radio Club (MARC) VE Team conducts VE exam sessions in Woodland Park every odd month at 10 am on the first Saturday in the Community Meeting Room of the Woodland Park Library, 218 East Midland Avenue. The MARC VE Team is affiliated with the ARRL/VEC and examinations for all classes of license will be offered.

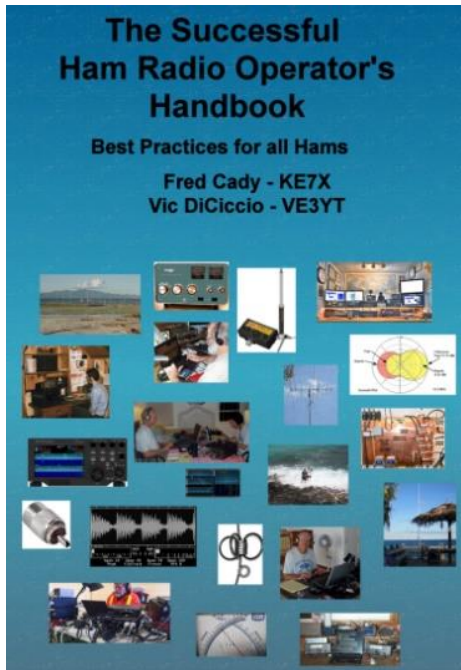
Full information, including driving directions to the Woodland Park Library, is available under “VE Sessions” on the MARC website at <http://www.nx0g.org/ve.html> or contact Wes Wilson (KØHBZ) at [k0hbx@arrl.net](mailto:k0hbx@arrl.net) or call (719) 687-8758.

If attending, please BE SURE to bring the following items to the session:

**A valid PHOTO ID**, driver's license preferred (if you do not have a valid photo ID, please call for alternative identification requirements).

- 1. Your FRN NUMBER** (now required – this includes children Please obtain in advance of the session).
- 2. Your ORIGINAL amateur radio license** (if any) **AND a PHOTOCOPY** for the VE Team to keep.
- 3. The ORIGINAL of any relevant CSCEs** you have **AND a PHOTOCOPY** for the VE Team to keep.
- 4. Cash, Check or Money Order for \$15** (standard ARRL VE Fee). Checks and money orders should be made out to MARC and covers all the different exams you wish to take at the VE session.

MARC VE Team policy, as with many VE Teams, is to not allow same day retests on failed exams. For already licensed hams, MARC members should be monitoring the MARC repeater system 146.820- or 448.650- (both 107.2 Hz) if you need help with talk-in. 73 Dean Buckhouse



## The Successful Ham Radio Operator's Handbook

This new book is aimed at new or returning hams to help them understand the practical aspects of the hobby, how to use their radios, build antennas and baluns, and get on the air successfully. In it you will find explanations of how the various parts of your ham radio - the transmitter and receiver – work, plus how these are being implemented using software defined radio technology. Operating techniques for VHF/UHF repeaters, HF radio DXing techniques, and the new digital modes are covered. Radio propagation, antennas, transmission lines, SWR and the mysteries of baluns are explained. Building your HF station, choosing a radio, connecting your radio to a computer, and mobile and portable operation are extensively covered.

Both the pdf and spiral-bound printed versions are available from Lulu.com, and the print copy is also sold by DX Engineering. You can find them via the links below:

<http://www.ke7x.com/successful/ordering-the-successful-ham-radio-operator-s-handbook>

Here is a link that describes the book in more detail:

<http://www.ke7x.com/successful>

Follow us on [www.facebook.com/KE7XBOOKS](https://www.facebook.com/KE7XBOOKS) to keep up-to-date on book news and to be notified of book discounts at [www.lulu.com](http://www.lulu.com).

This book has 267 pages, 211 figures and diagrams, and 53 tables of data to make understanding the sometimes complicated ham radio operations much easier. The book follows KE7X's philosophy of presenting material in several forms to accommodate people with different learning styles -- reading, visualizing, hands-on -- with the many figures and text explanations and there are hands-on exercises throughout the book that can help you learn

more about your particular radio.

Follow us on [www.facebook.com/KE7XBOOKS](https://www.facebook.com/KE7XBOOKS) to keep up-to-date on book news and to be notified of book discounts at [www.lulu.com](http://www.lulu.com).

One instructor for new and advanced ham classes has said, "This book is exactly what is needed. I've seen some other books targeting the new hams that are less than satisfying both technically and in content but this one is right on the mark and covers so much information that I so often get asked about, during and after teaching classes."

Here are more details on the content:

- With nearly 110 years of ham radio experience between them, the authors are still excited about the challenges this wonderful hobby offers. *The Successful Ham Radio Operator's Handbook* will guide you when exploring some of these.
- Its goal is to help new operators and returning old-timers learn about the breadth of exciting ham radio activities and challenges available today.
- It answers the question "Why is ham radio relevant in the Internet age?"
- It covers a wide range of topics, helping the reader to understand the excitement of different facets of ham radio and to choose a challenging and exciting activity to pursue.
- It helps the reader better understand how the radio works. Many hams only use a small fraction of the features of their radio. For example, if you understand how a noise blanker or a roofing filter or the AGC works, you will be able to more easily use these, and other, features of your radio to your benefit.
- It provides exercises designed to apply the knowledge to cement your understanding of how your radio works without being radio-specific. It is good for all makes and models.
- It helps the reader get enough background to understand much of the jargon hams who pursue special activities, such as the various digital modes, VHF contesting and moon bounce. It quickly takes the novice reader to higher level of understanding and provides URLs and websites that help the reader go deeper into new interests.
- Antennas remain a key area where all hams can still successfully experiment and create a key part of their station. This book provides information to help new hams get started cutting their own verticals and dipoles. It explains why some popular multiband antennas may have compromises that impact performance.
- It gives practical guidelines about choosing transmission lines and building and using baluns and chokes.
- Digital modes such as RTTY, PSK and the new WSTJ modes are explained. The computer-to-radio connections needed for these modes are discussed and illustrated.
- Many hams are motivated by public service and emergency preparedness. This book describes typical local emergency organizations and national networks.
- Hams who like to operate while traveling will find practical information on reciprocal international agreements and how to get permission to operate legally.

## Online Practice Test Sites



Study for your Amateur Radio License exam:

[Technician \(2018-2022\)](#)

[General \(2019-2023\)](#)

[Amateur Extra \(2019-2020\)](#)

[Other...](#)

## HamExam.org Amateur Radio Practice Exams

Log in using <https://hamexam.org> or click [register](#) to create an account. If this is your first visit to the site, please read my brief [introduction](#).

QRZ.COM <https://www.qrz.com/hamtest/>

Eham <https://www.eham.net/exams/>

AA9PW.COM

**Membership Application**  
**Pikes Peak Radio Amateur Association, Inc.**  
**P.O. Box 16521, Colorado Springs, Colorado 80935**

Date: \_\_\_\_\_ ☐ New Membership ☐ Renewal

Name: \_\_\_\_\_

E-mail address: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Call: \_\_\_\_\_ License Class: \_\_\_\_\_ Telephone: \_\_\_\_\_

Are you an ARRL member? ☐ Yes ☐ No

Additional Name: \_\_\_\_\_ Call \_\_\_\_\_ Class \_\_\_\_\_ ARRL member? ☐ Yes ☐ No

Additional Name: \_\_\_\_\_ Call \_\_\_\_\_ Class \_\_\_\_\_ ARRL member? ☐ Yes ☐ No

Additional Name: \_\_\_\_\_ Call \_\_\_\_\_ Class \_\_\_\_\_ ARRL member? ☐ Yes ☐ No

- ☐ Full Member - \$15.00
- ☐ Full Member over 65 - \$10.00
- ☐ Free - VE Signature Required:

- ☐ Family Membership (same address) - \$18.00
- ☐ Family Membership (both over 65) - \$12.00