



VOLUME 72 ISSUE 7  
July 2021

## PPRAA Club Officers

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<b>Vice President</b>	<b>Joe Gage, KEØTPW+</b>
<b>Secretary</b>	<b>Jason Taylor, KØWTF+</b>
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<b>Webmaster</b>	<b>Douglas Nielsen, N7LEM</b>
<b>Past President</b>	<b>Jim Bishop, KD0KQL</b>
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<b>Board</b>	<b>Dennis Major, NØABC*</b>
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<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

**Big Train, 808 Garden of the Gods Rd Saturday,  
7 August 8 – 9:30 AM**



## **PPRAA Board Meeting (12 July) will be virtual**

– There will be an online meeting via Zoom.

## **PPRAA General Membership meeting (14 July) will be virtual**

– There will be an online meeting via Zoom. 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](#).



## **PIKES PEAK RADIO AMATEUR ASSOCIATION**

### **Minutes of the Board Meeting July 7, 2021**

Board Meeting Start 6:30 PM

Welcome introductions;

In Attendance: N6JRL, K0WTF, KD0KQL, W0XLD, KE0TPW, W5UDM, WA0BCM, KE0WJL

Silent Keys; K0BBB Johnathan Ellis

YDXA N6JRL

Vice President; Joe KE0TPW – Might not make the meeting due to prep for a medical procedure. DX Engineering will be giving the presentation.

Treasurer Report , report ARRL Scholarship Dick W5UDM; A bit of income, a few expenditures

Dick moves to re-imburse Dennis for VE expenses ~\$40

Joe Seconds

Motion passes

Dick moves to pay the rent for the PO Box \$118

Jason Seconds

Motion Passes

Asset manager: Mike WV7T

Field day need coordinator / Field day is cancelled.

Clubhouse report Steve KT0DX – Not in attendance

VEC Testing, Dennis N0ABC; - Not in attendance

Zero Beat Report Jerre WA0BCM; - What about having club meetings in person again? Not next month due to Bob Heil being in attendance virtually.

Web Master Report Doug N7LEM – Not in Attendance

Secretary Report; K0WTF – Minutes were posted yesterday. Let me know if there are any questions!

Dick moves to approve the minutes

John Seconds

Motion Passes

Up date on 97 Repeater Don wa9wws – Couldn't make the meeting.

PPARES Report John KD0SFY; Nothing significant to report, Section Manager Robert Warram ran unopposed, so he has been re-elected. Term beings October 1.

Colorado Springs Sesquicentennial – Need the insurance certificate with the City of Colorado Springs as an additional named insured

Mega Fest Report Jim KD0NQM; Not in attendance. No Megafest this year. Did receive an email from the boy scouts asking if they could assist and setup for the breakfast.

Internet Committee Doug N7LEM; Not in attendance

Thursday PPRAA net; - Doing pretty good. 20 to 24 people on the 2 meter net.

QCWA Chapter 58 Mike WV7T Don N6JRL – No announcement and no meeting.

Amateur Radio Car Show: What's it look like to get funding? // Dick will Email John and LD the insurance certificate.

Meeting Adjourn 8:00 PM

Dick Moves

LD Seconds

Motion Passes



## PIKES PEAK RADIO AMATEUR ASSOCIATION

### Minutes of the General Meeting July 9, 2021

PPRAA General Meeting 6/9/2021

36 people in attendance

Meeting start: 7:00pm

PLEDGE Don N6JRL

SILENT KEYS:

Son of Kate WB9BAH Johnathan Ellis K0BBD

INTRODUCTIONS:

NEW HAMPS/MEMBERS? KFOFQP –

Curtis

N7NBJ

KFOFOD

KFOFOE KFOFOF

KFOFOC

W1SLM

WOXLD / KOWTF car show

Colorado Springs Sesquicentennial Event / Special Event Station 1x1 / NEED

VOLUNTEERS (both to work the call and to work the booth.)

(note: To use a 1x1 you have to ID as your own call periodically)

Mobile Radio Car Show / August 7<sup>th</sup> or 14<sup>th</sup> / There will hopefully be prizes!

Field Day Cancelled

No one to coordinate field day, so our club activities for field day are cancelled.

VE Testing Dennis N0ABC

Next session is coming up this Saturday. Don't have the figures from the last session. Will be letting more people in for this session.

TREASURER REPORT: DICK W5UDM

Not much to report. A bit of membership dues, almost no expenses. A few dollars from Amazon Smile.

SECRETARY REPORT: KOWTF Jason

N6JRL Moves

K0TER Seconds

Motion Passes

ZEROBEAT: JERRE WA0BCM Did not attend.

WEBMASTER REPORT; DOUG N7LEM

GoDaddy migrated us to a server with SSL certs. Event Calendar and Contest Calendar are both back!

PPARES REPORT; John Bloodgood KD0SFY

Nothing new to report. A few events scheduled for later in the year. Section Manager Robert Warram (sp?) was unopposed in the section management election, so he's re-appointed as Section Manger for the state of Colorado.

MEGA FEST REPORT: Jim Rader KD0NQM

Did not attend

VICE PRESIDENT Joe KE0TPW Presentation, Mining Museum

DX Engineering had a scheduling conflict, conversation pivoted to the potential for inperson meetings. Dick W5UDM is pinch-hitting with a presentation on the early days of Satellite reconnaissance!

QCWA CH. 58 Report Mike WV7T or Don N6JRL

There was no meeting last month. Don and Mike were both out of town.

PPRAA ; Thursday night net

20ish people per week.

KT0DX – Club Station News

There's a Tentec radio that needs a cap replacement. There may be some traction on station key situation.

MEETING ADJOURN: 9:00PM OR BEFORE N7LEM Moves

KD0KQL Seconds

Motion Passes

## 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.

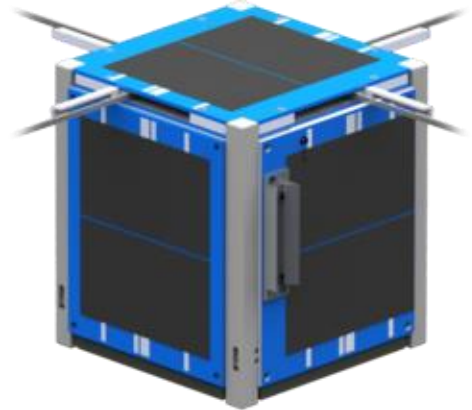


- \* When the light beacon is activated, the 1U CubeSat will be visible momentarily -- each flash will take 8 microseconds -- from the ground, with a brightness similar to the International Space Station (ISS). Following ISS deployment, LightCube will orbit Earth for approximately 2 years before safely 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.





May 20.2021

Pikes Peak Radio Amateur  
Association c/o Dick Kohlhaas,  
W5UDM P.o. Box 16521  
Colorado Springs, CO 80935

Dear Friends,

On behalf of the ARRL Foundation Officers and Board, I am pleased to announce the 2021 recipient of The Pikes Peak Radio Amateur Association (PPRAA) Memorial Scholarship in the amount of \$1000.

David Bolt, KEØYJO, Colorado Springs, CO has been selected for The Pikes Peak Radio Amateur Association (PPRAA) Memorial Scholarship from an outstanding group of applicants. Scholarship recipients were recently notified of their awards, and we have already had many replies conveying their excitement and appreciation.

Scholarships through the ARRL Foundation would not be available without the support of thoughtful and generous sponsors such as you. Thank you for making The Pikes Peak Radio Amateur Association (PPRAA) Memorial Scholarship possible, and for aiding a student Amateur Radio operator in his/her pursuit of their higher education. I am confident that these young people will be successful in their future careers, and in representing Amateur Radio as well.

Again, many thanks for your support of this award. If you have any questions, please contact ARRL Foundation Secretary Melissa Stemmer, KA7CLO at ARRL ([mstemmer@arrl.org](mailto:mstemmer@arrl.org)\* or 860-594-0348).

73,

Dr. David Woolweaver, GRAV  
President  
ARRL Foundation



**Isotron 40**

**It has been manufactured for 42 years.**

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

**The best way to operate HF.**

**Easy installation  
Excellent performance  
Durable construction  
CC&R friendly (XYL also)**

# The Nano-Vector Network Analyzer

Many have purchased these analyzers. They come in a variety of models depending on your needs. They can do a simple to quite extensive analyses of your antenna or network system.

Of course, I am focusing on the simple.

Many of us have these to check our individual antennas. Looking for the resonant point and why possibly the SWR is not as low as we would like it at resonance. The VNA is capable in determining this in most cases.

## Setting Up the Analyzer.

The VNA comes with some hardware. Three terminations, open, shorted and load. It also has two short lengths of RG/405 coax and a coupler.

You will need to acquire adapters if you are using UHF or other connectors than SMA. One adapter is at the VNA side and another at the end of the coax you are using.

For a common antenna installation Port 1 (S11) or output port will be the only one to use. Port 2 (S21) is a receiving port.

Connect one RG/405 to Port 1. This will eliminate a strain on the VNA connector.

Put the adapter you need for your coax on the RG/405. Connect your coax. The antenna end of the coax should be open or not connected.

Put another adapter on the end of your coax.

Now you can turn the VNA on.

With the stylus touch the right side of the screen to bring up the menu. Select "Stimulus".

Select "Start". A numbered key pad comes up. Select the lowest frequency you are testing. For example, if you are testing a 40 meter antenna, you may want to select 7M. This is 7 MHz. Then touch "OK". You will see 7.000 MHz on the bottom left screen.

Back to the menu. Select "Stop". Enter 7.3M, then OK. You will see 7.300 MHz on the right bottom of the screen. You can expand or reduce the span as needed.

On the end of your coax, put the "Open" terminator on. Open your menu. Go back one step so you can see "Cal" and select it. "Calibrate" is on the next window, select it.

Next menu will have "Open" at the top. Select it and wait until it is finished.

Exchange the "Open" terminator for the "Shorted" one. Select "Shorted" Do the same.

Exchange the "Shorted" terminator for the "Load". Select "Load". Do the same.

Go back in the menu. Back again. Select "Recall/Save". Then select "Save". Save your data in one of the "Save files (0 - 4)". This way if you turn your VNA off you will not lose your calibration.

Return back to the main menu and select "Display". Select "Format". Select "SWR".

Now you can connect the antenna. The SWR graph of the antenna under test will display. It is measuring values of the antenna using that specific length and type of coax. How did you do? Need to see or do more? In a future article there will be more information.

73,  
Ralph WD0EJA  
July 2021

**Bilal Company**  
**137 Manchester Dr.**  
**Florissant, Co. 80816 U.S.A**  
**Ph: 719/687-0650**  
**[wd0eja@isotronantennas.com](mailto:wd0eja@isotronantennas.com)**

## **Members and Friends of the Cheyenne Mountain Repeater Group,**

The weather is getting better and it is time to start working on mountain top repeaters. CMRG has been working through the winter on overhauling the repeater system on Raton Pass. This is the most complex repeater system CMRG has ever built. When installed, the system will have:

- VHF Repeater on 145.430 MHz
- VHF repeater linked to Cheyenne mountain 147.345 via Allstar
- UHF backup link to Cheyenne Mtn
- UHF Repeater on 449.600 MHz
- UHF D-STAR repeater
- 900 MHz P-25 repeater linked to the CO 900 system
- APRS Digipeater (RATON)
- LinkCommunications RLC-4 repeater controller with remote control
- Triplite 2200 watt UPS with remote monitoring and external batteries

The repeater system (2 cabinets) will be installed on Raton Pass (CO/NM border) at the transmitter site of KCRT. The repeater will be in the former generator building. The building requires some cleanup and electrical work before we can install the repeaters

The current plan is to do the installation in two trips

June 5, 2021 - . This first trip will be to clean out the building and make it ready for the repeaters. This includes removing a concrete blob, doing some electrical work, patching a hole in the building, running the fiber optic cable between the buildings, and installing a pipe for two antennas.

June 19, 2021 - This second trip will be to move the d-star repeater from the transmitter building to our building, install the analog repeater cabinet, install 2 antennas on a 10' pipe, replace 2 antennas on the 20' tower, and connect the UPS system.

We will need 6-8 people for each trip. Most of the work on trip 1 is not technical, but just requires some basic construction skills. On trip 2, we will need some strong backs to help move the equipment cabinets into place and install antennas on a 20 foot tall tower. We can use any manpower we can get.

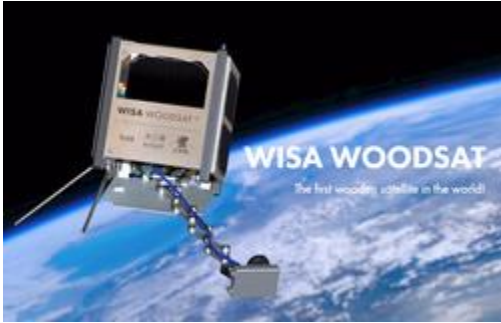
Each trip will be a full-day adventure. The site is just off I-25 at Raton Pass. The access road dirt is not bad and takes about 10 minutes. If you can help out on one or both of the trips, please either reply to this email, send me a direct email ([wa6ifi@gmail.com](mailto:wa6ifi@gmail.com)) or call me at 719-439-9077.

Thanks for considering helping out the group. Please forward this to other ham groups with which you may have contact.

Thanks,  
Dave Novotny, WA6IFI  
Chairman, Cheyenne Mountain Repeater Group, Inc  
719-439-9077

## 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



v

I have the Gap Eagle DX antenna up in my yard to demonstrate. I'd like to trade for some piece of ham STUFF. If I don't get any offers in two weeks I will cut it up for scrap. Hate to do that to a good antenna but I need to reduce my ham acquisitions.

Mike WV7T

## 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](https://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

July 1982:

July 1982: Field Day was a big success. Stations operated using NØST callsign on CW, HF SSB, novice and VHF bands. All had beams and wires. CW logging was done on an HP computer. Despite rain on Friday night, the totals were CW 699, HF 512, novice 168, VHF 18, and a second HF phone got 442. KOAA covered the event on the 5 o'clock news. Jake NØCYR cooked the breakfast with beer pancakes and eggs. Ø Beat editor notes the Ø Beat this month is a little sparse due to lack of articles contributed.

## 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://twitter.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.

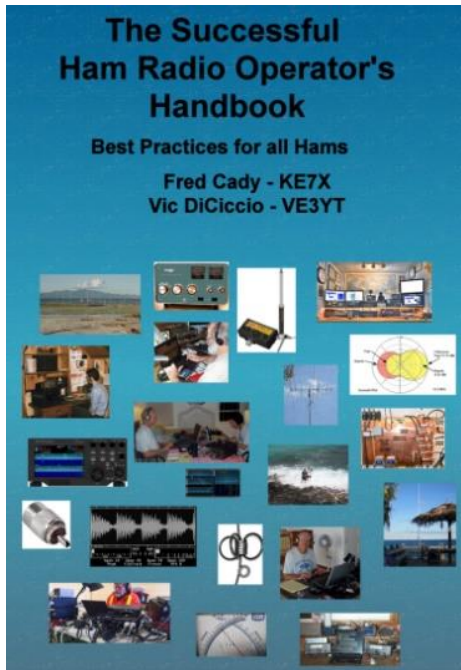
Full information, including driving directions to the Woodland Park Library, is available under "VE Sessions" on the MARC website at <http://www.nx0g.org/ve.html> or contact Wes Wilson (KØHBZ) at [k0hbx@arrl.net](mailto:k0hbx@arrl.net) or call (719) 687-8758.

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.

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

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

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).

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