



VOLUME 72 ISSUE 4  
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## 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

Rudy's Little Hideaway, 945 S 8th Street Saturday, 1 May 2021  
8 – 9:30 AM



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

– There will be an online meeting via Zoom.

### **PPRAA General Membership meeting (14 April) 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.



## PIKES PEAK RADIO AMATEUR ASSOCIATION

Minutes of the Board Meeting March 8, 2021

Meeting Start 6:30 PM

KOWTF – Jason, KD0KQL – Jim, KTODX – Steve, KE0WJL - Daniel, KD0NQM – Jim, KD0SFY – John, N0ABC – Dennis, KE0TPW – Joe, KE0KZA - Logan , N7LEM – Doug, KD0KQM – Jim, W5UDM – Dick, W0XLD – LD, WV7T – Mike, WA0BCM - Jerre

Welcome introductions;

Silent Keys; none.

Vice President; Joe KE0TPW – Guests for the zoom meetings or the in person meetings. Would love to have any ideas. Looking for ideas. Don has several presentations on DXPeditions to share.

Treasurer Report , report Dick W5UDM; Not much to report. Largest expense was 3 year renewal of domain and website hosting. \$75 and change from Amazon Smile to Scholarship Fund. How do Amazon Smile funds get allocated? Donations: Several kinds of donations. Board voted for Amazon Smile and King Soopers funds to go directly to the scholarship funds. Should donations that come from equipment sales go towards the general donation fund or the scholarship? Don: Half should go to general and half should go to scholarship (was discussed about a year ago or so.) 1\$ rent for the station rent still needs to be resolved? Don: Has stopped by and sent emails. They want to have a meeting but there's still no traction on that front. Jim: Talked to Ed on Saturday. The Fire Chief was out there, LD talked to him briefly.

Asset manager: Mike WV7T

Clubhouse report Steve KTODX: Took the support for the doublet antenna down. Will need a new support. Will probably need around 40 feet of collared pipe. Icom station is together out there and was used over the weekend. FT8 isn't quite working right. Computer clock is off. Cleaned out the station.

Any loose equipment is in boxes and totes in the storage area. New shelving unit where the 857 is. Will probably redo the power on the 857 with Anderson Power Poles. Station Committee: Mike, LD and Jim. KD0NQM JP\_rader@msn.com Volunteering to help out with pickup logistics

VEC Testing, Dennis N0ABC; Good news / Bad news. We were set to have our first VE session in quite a while, however the high is supposed to be about 32 degrees and expecting snow. There is no snow removal in county parking lots over the weekend. Will play it by ear with regards to the weather.

Zero Beat Report Jerre WA0BCM; In a presentable fashion. Will be up the next day or two.

Web Master Report Doug N7LEM; Renewals are paid up, so we're good there. VE sessions are updated.

Secretary Report; KOWTF: Dick moves to approve the minutes. LD Seconds, Motion passes.

Update on 97 Repeater: Dennis N0ABC: Saturday early afternoon, mobile rig was set up for testing purposes. Once the repeater was put online, things weren't as great. Approx. a 6db drop in transmit power and the receive side was not performing as anticipated. Could be a duplexer issue.

PPARES Report John KD0SFY; Not a lot going on with Pike Peak ARES at the moment. Reaching out to some folks they've supported in the past. Two ARISS contacts in the Denver area. Keeping an eye on the weather.

Mega Fest Report Jim KD0NQM; This year is still cancelled. Next year might be able to do something. Might put a list together with regards to prizes from this year that could be sold to recoup some costs.

Internet Committee Doug N7LEM; There's no "cheap" solution. Would incur a cost between 40 and 50 dollars a month. Maybe work something out with the fire department. Has anyone tried hotspots? Yes. It doesn't work out well. Daniel has hotspot antennas if we want to give a shot. Dennis: Will want to be a NEMA enclosure with some POE or something.

Thursday PPRAA net; Nets have been going pretty well. Over 20 people. Lots of new people too! Thanks to LD for volunteering to be net control for 3 times this month. LD: Probably want to expand the pool of net control stations.

QCWA Chapter 58 Mike WV7T Don N6JRL: May be meeting the last Saturday of the month.

Fox Hunt Prizes: Jim Rader might have something from the Megafest items. Maybe a bookshelf antenna (mag mount and a cookie sheet) Maybe a mag mount antenna. Jim Rader had two items: 24th edition of the ARRL Antenna book. And ARRL Handbook. Don: Still has a lot of handbooks and kits and whatnot in storage near the club station.

QSL Cards: If any QSL Cards come into the PO Box to let LD know. Who is in charge of QSL Cards? Give them to operator and let them sort it out? Dick: Design QSL Card for the club? Trustee for AFOS is Raymond Uberecken Maybe solicit club members for pictures for QSL Cards (maybe for Colorado Springs 150th anniversary special event station.)

Restaurant meetings: Daniel has some friends with a restaurant in Calhan that can accommodate up to 200.

Meeting Adjourn 7:40 PM Dick moves to adjourn Joe seconds to adjourn Motion passes



## PIKES PEAK RADIO AMATEUR ASSOCIATION

### Minutes of the General Meeting March 10 2021

Meeting start: 7:00pm 35 participants

PLEDGE Don N6JRL

SILENT KEYS: No SK's I

INTRODUCTIONS: Allen Beauchamp, Kyle Damon, Patrick Misnick, Craig Seay, Derek Williams, Roger Oakey, Lee Raider, Steve Shepherd KF0DOZ, Craig Walker

NEW HAMS/MEMBERS?

WOXLD / KOWTF fox hunt April 18th at 10am. Will be car friendly.

AE2RW Satellites: If you're interested, titaniumblades@gmail.com Arrow Antenna, Dual Band HT. TH D72 is preferred due to it's Full-Duplex nature. 785-639-1717

VE Testing Dennis N0ABC: Finally going to be resuming this Saturday pending the weather. 10AM planned start time.

TREASURER REPORT: DICK W5UDM: Plenty of money in the bank. Paid for Website for 3 years. 75.48 from Amazon Smile. Sign up at smile.amazon.com

PPFMA Report: Turned off the power supply and unplugged it. Good contacts with the mobile radio with antenna. Once the repeater was plugged in, Losing about 6db of signal. Going to troubleshoot to see what's going on.

SECRETARY REPORT: KOWTF Jason – Dick moves to approve, Joe Seconds, Motion passes. Z

EROBEAT: JERRE WA0BCM – Zero beat is up. Very last minute submissions made it in (namely a picture from this last weekend at the club house)

WEBMASTER REPORT; DOUG N7LEM – Zero beat is up, placeholder for the VE Session. We got an invite from the Western Museum of Mining and Industry for being an exhibitor on June 12.

PPARES REPORT; John Bloodgood KD0SFY: Still in a pretty quiet spell for PPARES. Trying to get annual skywarn training scheduled (will probably be virtual again.) Dates are pending. Will probably use the CMRG for this weekend's weather events. There were two ARISS events in Colorado in the Denver Area.

MEGA FEST REPORT: Jim Rader KD0NQM Not going to have the Megafest this year due to COVID.

VICE PRESIDENT Joe KE0TPW Presentation Jeff - K0RM. Rocky Mountain Ham Radio. Founded in 1993. Built a trailer for operating in rare grid squares, was popular with ARES and National Security interests. Sold the first trailer to the State of Wyoming. Built a second trailer for the State of Utah. Learned that you didn't need to heat it. Third generation of trailer, All of the equipment is in the nose-cone where all of the equipment resides. Now RMHAM is a microwave linked network with DMR repeaters. Colorado Connection is back hauled on the RMHAM Network. Once a month, RMHAM University has been a popular event. Also have several ex-television trucks for contest usage. And a Satellite truck! Statewide DMR network (and into New Mexico too!) There's also a YouTube Channel at <https://www.youtube.com/channel/UCRuSRYj9vD5YhghiWqAkILQ/videos> If you want to help out, Join! If you're into Direction Finding in the Colorado Springs area, let Jeff know! [K0RM@arrl.net](mailto:K0RM@arrl.net)

QCWA CH. 58 Report Mike WV7T or Don N6JRL: A slight miscommunication, but trying to get together at the end of the month.

PPRAA ; Thursday night net: Slowed down, but picked up again. A lot of new call signs! New folks are coming around. 23 to 25 people. Good comments and good tech topics. Need some more net control operators.

Joe moves to adjourn. LD seconds. Motion passes.



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**THE BEST WAY TO OPERATE HF**

**EASY INSTALLATION  
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## **Bandwidth and Interference**

With the HF bands being in a slump for so long, many have found it advantageous to increase the power output of their station. This increase in power is normally appreciated by the receiving station.

This has made a disturbing situation. Regretfully there are a number of operators that drive their amplifiers much too hard. How can you determine this?

I have heard conversations where one or both parties have a slight distortion on their audio. The two in QSO seem to be oblivious of it. I imagine that the poor quality of digital audio as with cell phones have made this common place. However, on the air it is unacceptable. Why?

It is not only unpleasant to listen too, it causes severe interference to other stations trying to use the same band.

Most transceivers will not allow this to happen. However, if you add an amplifier it can happen quite easily. Most amplifiers do not have the capability to determine distortion. The ALC function will not do this. It is up to a good operator to determine the limits on driving the amplifier from the transceiver.

A linear amplifier basically takes a signal from the transmitter and amplifies it producing the same signal out, only stronger. The linear amplifier can only handle a certain amount of drive power from the transmitter. If you stay within this parameter, your signal will be stronger, but have a good quality to it and produce little IMD's.

What are IMD's? "Intermodulation-distortion".

What does this do? It will increase the bandwidth of your signal. In most cases it will not increase your signal strength. You have already saturated to that point.

In practical terms, we should be able to be 3 KHz's away from another station with no interference (IMD). However, over driving can cause an increase in IMD's. This means the signal produced will have audio fluctuations that far exceed 3 KHz. If a station is set at 14.300 MHz, it will interfere with stations far beyond 14.303 and 14.297 MHz. Some stations are so badly distorted that you can not use a frequency 10 KHz from the offending station.

Using an amplifier requires being responsible to operate it properly. It will produce severe IMD's. With the increase in better propagation coming, we will find the bands less usable if this distortion is a practice among operators. There are operators that do not care. It does little good to advise them. However, those that want good operating practices need to be informed so their signals will be clean and allow more room on the band for others to operate.

73,  
Ralph WD0EJA April 2021

**BILAL COMPANY**  
137 MANCHESTER DR.  
FLORISSANT, CO. 80816 U.S.A  
PH/FX: 719/687-0650

## Bandwidth and Interference

### 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



## How to prevent ESD damage

By Dan Romanchik, KB6NU

Here are some tips from Keysight Technologies, one of the leading electronic test equipment companies, on how to prevent ESD from damaging your electronics.

- **USE A GROUNDED WRIST STRAP** whenever you are handling equipment or boards. Using a grounded wrist strap prevents your body from building up charge and causing damage when this built-up charge discharges into your equipment or test boards. Make sure to connect that alligator clip to ground!
- **USE GROUNDED WORK SURFACES OR MATS** for your boards. Do NOT use static generating or insulating materials as a work surface. Non-grounded mats and static generating/insulated materials can inductively charge boards, especially exposed ones. When connecting a charged board to equipment, the board can cause damage by discharging into the equipment's inputs.
- **KEEP CHARGED MATERIALS AT LEAST 0.3 METERS FROM EXPOSED ASSEMBLIES.** This includes plastics, foam, or other materials that can build up charge. Having a charged material near an exposed assembly can inductively charge the assembly. The assembly can then discharge into the equipment's inputs.
- **DISCHARGE YOUR CABLES BEFORE CONNECTING THEM TO YOUR EQUIPMENT.** Electrostatic charges can build up on test probes and test leads, so it's important to discharge them before connecting them to your test equipment:
  - Ensure your device is off.
  - Connect your cable to your device.
  - Attach a 50  $\Omega$  shunt to the open end of the cable.
  - Remove the shunt and immediately attach your device to your equipment. This prevents the center conductor of your cable from discharging stored charge into your equipment. A charged assembly can charge connected cables.
- **USE BOARD STANDOFFS AS NEEDED.** In some situations, you need board standoffs to provide extra insulation for your exposed assemblies. This prevents your grounded

mats from making unwanted connections on your board.

- **NEVER USE “PINK” PACKING MATERIAL FOR BOARD TRANSPORT OR AS A WORK SURFACE.** While many people think pink packing material is ESD safe, in most cases it easily builds up unwanted charge. Unless continuous, thorough testing is done, treat pink packing materials as charged.
- **CAP UNUSED EQUIPMENT INPUTS** to avoid accidental ESD and physical damage. Damage often occurs by accidentally contacting equipment inputs. Capping unused inputs protects them from incidental ESD damage.
- **USE ESD-SAFE BAGS WHEN TRANSPORTING BOARDS.** This protects boards from ESD damage while moving between ESD-safe locations.
- **DO NOT OVERDRIVE EQUIPMENT INPUTS.** Start your testing at the least sensitive input setting and zoom in on your signal. Additionally, observe the maximum input levels for your specific equipment. The least sensitive setting is the most resilient, so starting there ensures that your inputs are at safe operating levels

After I posted this to my blog, Dave, N8SBE offered some further tips. He writes:

- Grounded heel straps also help reduce static charge. Test them with a floor tester every time you put them on. The floor needs to be somewhat conductive—not metal, that’s a safety hazard—so use conductive wax on tiles, or conductive carpet to drain of electrostatic charges.
- Keep materials, such as styrofoam cups, that form electrostatic charges easily away from your workspace. A styrofoam cup can generate thousands of volts.
- Keep the humidity up in the workspace. That helps to keep static generation down as well.

I like to think that I follow ESD-safe procedures, but there are a couple of things here that I hadn’t thought about before. For example, I’d never really thought about discharging test equipment cables before connecting them. I think that’s a good tip

To learn more, go to <https://www.keysight.com/find/PreventESD>

=====

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the “No Nonsense” amateur radio license study guides (KB6NU.Com/study-guides/), and often appears on the ICQPodcast (icqpodcast.com). When he's not worrying about electrostatic discharge, he teaches online ham radio classes and operates CW on the HF bands.



When it snows some people are unconventional



I found this speaker jack on the outside wall of IHOP.

## Major Events

### PPRAA Field Day 2021

**Who:** PPRAA encourages members to work from home as a Class D or E station to support social distancing. A very limited number of hams (priority to club members) are invited to participate from the Ellicott club station if they do not have equipment to participate from home. Anyone interested in operating from the club station should contact a Club Officer to coordinate a time.

**When:** 1800Z, Jun 26 - 2059Z, Jun 27 Entries due: 2059Z, Jul 27

**Where:** Ellicott Fire Station  
75 N Ellicott Hwy, Calhan, CO

Talk In: 146.460 simplex. We will also monitor repeater 146.970-



### Computer Program:

N1MM ([Get it here.](#))

Note: Full Field Day Rules can be [found here.](#)

Rule waivers for 2020 can be found [here.](#)

## 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)



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

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

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

## **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**

**April 1982:**

**Don KBØKQ writes an article on how to exchange QSL cards. The PPRAA net on 17m, 28.845 MHz is meeting with little success. Seems no one really wants to do a ten-meter net. The April meeting program will be on transmitter hunting, by Doug WBØMHP and Al ADØZ. Jake NØCYR and Rosie WAØMNL will be cooking the food at the swapfest coming up on April 18. Jake will be doing his specialty. The old club records are now in the hands of Mark KAØJXW, who has agreed to sort through them. The board will decide what to keep and what to throw away.**

## 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

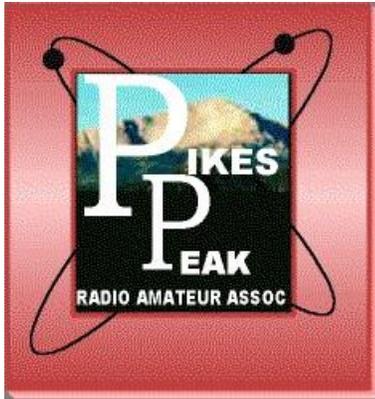
[www.facebook.com/parkerradioassociation](http://www.facebook.com/parkerradioassociation) [parkerradio.org](http://parkerradio.org)

[@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.



# PPRAA VE EXAMS

## (MONTHLY) FEBRUARY EXAMS HAVE BEEN CANCELLED

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 [k0hbz@arrl.net](mailto:k0hbz@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.



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

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

Follow us on [www.facebook.com/KE7XBOOKS](http://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](http://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\*\*](#).

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**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