



VOLUME 72 ISSUE 1
Jan. 2021

PPRAA Club Officers

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

* In final year of 2-year term

+ One year officer position

All officers can be contacted at: boardmembers@ppraa.org

Monthly Ham Breakfast

Omelets Etc, 1337 Interquest Pkwy
Saturday, 6 February 2021
8 – 9:30 AM



PPRAA General Membership meeting (13 January) 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 December 7, 2020

In Attendance: Jason K0WTF, Mike WV7T, Don N6JRL, Jerre, WA0BCM, Joe, KE0TPW, LD W0XLD, Dennis N0ABC, John KD0SFY, Dick W5UDM, **Steve KT0DX**, Doug N7LEM, Anthony Mitchel?, Lee W0RLG, Logan KE0KZA

Meeting Start 6:30 PM Don N6JRL

Welcome introductions; No need.

Silent Keys; No, moment of silence for Pearl Harbor

Vice President; Joe KE0TPW: Auction during general meeting. Bids are through chat and not vocal.

W0XLD: Fox hunt Saturday December 19th. From 12:00 to 14:00pm. LD hasn't done one of these before. Advertising: Reflector and 2 Meter Net. Also wants it on the website. Instead of drinks afterwards, probably socialize on the repeater during the fox hunt. Should we request permission to run a net during the fox hunt? Net on the .345 or the .97. Prizes to hand out for First ham? Youngest Ham? Newest Ham? Maybe a trophy from WV7T. Don might have a few books to donate for the good of the cause.

K0WTF: I move allocate \$200 for prizes for the fox hunt

Joe Seconds

Motion Passes

Treasurer Report , Dick W5UDM;

Expended \$500 for equipment from estate.

Income: \$562.87

Bill from insurance: \$365 for annual. Probably requires a motion.

Dick moved

Don Seconded

Motion passes.

Need to send in \$1000 ARRL. Will need to be voted on by general membership on Wednesday.

Clubhouse Station organization Steve KT0DX – Was present, may be at the Wednesday meeting.

VEC Testing, Dennis N0ABC; Cancelled this month, will probably be cancelled January and February.

Zero Beat Report Jerre WA0BCM; Working on getting the zerobeat out. Internet is back up. Needs information on VE cancellations.

Web Master Report Doug N7LEM; Not a lot to report this month. Monthly updates are posted and VE Sessions are current.

Don went by the club house and had people from the firehouse approach him about the lease. Don to follow up.

Secretary Report; Jason K0WTF: Presented last month's minutes

PPARES Report John KD0SFY;

Not a lot going on. Winlink training session Saturday the 12th. Holiday Christmas Meal volunteers. Thanksgiving Meal went well.

Mega Fest Report Jim KD0NQM; Cancelled

Internet Committee Doug N7LEM; Cancelled

Christmas Party Don N6JRL for 2020 Cancelled

Thursday PPRAA net; 26 Check-ins from the last net. Talked about ground planes and counterpoises. Propose that we cancel the net on the 24th and 31st until January 5th.

QCWA Chapter 58 Mike WV7T Don N6JRL: No one attended.

Additional Business:

Rocky Mountain Ham convention was supposed to be in Colorado. In a meeting in recent history, we're giving up the rotation for 2021 due to COVID concerns and everything else is booked up. Attendance is 500 to 700.

Mike is looking for donations for new hams.

Don received an email from someone who was looking to donate equipment.

Mike wants to talk about a 3 person committee for Field Day.

Motion to Adjourn: Jason moves, Dennis Seconds, Motion passes.

Meeting Adjourn 8:00 PM



PIKES PEAK RADIO AMATEUR ASSOCIATION

Minutes of the General Meeting November 11, 2020

12/9/2020 PPRAA General Meeting

Meeting start: 7:00pm - 43 participants

PLEDGE Don N6JRL

SILENT KEYS: Bob Card AE0W,

INTRODUCTIONS:

NEW HAMS/MEMBERS – N5YAI John Grier from Texas, staying in Manitou at the moment. Karl Hinkle, KF0CHP, Michael Anthony KF0CUO, Bob Piersant K0NAN, Matt Grimes K17ACD, Nathan Fisk

VE Testing Dennis N0ABC - VE Testing for December is cancelled. January and February are tentatively canceled.

TREASURER REPORT: DICK W5UDM - \$16k in the bank. \$562 in income, \$508 in expenses, Net profit of \$54 W5UDM moves, KE0TWP seconds, motion passes.

SECRETARY REPORT: K0WTF Jason -

ZEROBEAT: JERRE WA0BCM – Could not attend meeting.

WEBMASTER REPORT; DOUG N7LEM - Website is up to date, Zero beat posted and VE sessions are current.

PPARES REPORT; John Bloodgood KD0SFY - Salvation Army holiday meal is still planned to go on. Talked to Fred KE0TKR, has enough volunteers. This coming Saturday @ 1600: Winlink training. You do not need to have a TNC to participate, you can utilize an internet connection. KD0SFY@ARRL.NET if interested in training. There will most likely be a backup session.

MEGA FEST REPORT: Jim Rader KD0NQM – Not in attendance. Megafest is cancelled for next year.

KT0DX Steve Clubhouse Management - Feels the club station should be the jewel in the crown for the club. It doesn't get used very often. Proposed committee to handle the maintenance and upkeep of the club station. Please send comments to KT0DX as to improvements or reasons it's not being utilized. KT0DX is going to "long term loan" one complete station to add to the existing station. Would optimally have three functional stations. Rotator is functional, second rotator is pending install. If interested, please email Steve at kt0dx@q.com.

VICE PRESIDENT Joe KE0TPW AUCTION -

Item	Winning Bid	Winner
Kenwood TS450S Station	400	KE0YAK James
MFJ Versatuner II	60	KE0YAK James
MFJ Versatuner II	60	KE0RGP Craig
LDG Z-100 Plus Autotuner	80	KD0KQL Jim
Kenwood TH-K2 HT	No bid	No Bid
Antenna Switch	5	W5UDM Dick
Uniden 980 SSB CB Radio	No Bid	No Bid
Uniden Scanner BC365CRS	20	N0ABC Dennis
Kenwood 2 Meter TR7800	25	W5UDM Dick
Realistic Pro 2021 Scanner	25	KD0SFY John
Cobra 2 Amp Power Supply	No Bid	No Bid
Kenwood KPS 7 Amp Power Supply	10	N0CTV Bob
MFJ 1236 Dual Rig Controller	No Bid	No Bid

QCWA CH. 58 Report Mike WV7T or Don N6JRL - No one attended. Will attend in January.

PPRAA ; Thursday night net - KE0TWP: 18 to 25 people checking in. Tech topics have been fairly lively. Pretty good nets. Probably going to have our last net the 17th of December due to holiday conflicts. First meeting of next year should be January 7th. Also plugging the 10 meter and the 6 meter net.

Christmas Party; update Don N6JRL - Cancelled due to covid concerns.

Scholarship Vote – For the past few years we've given \$1000 to a scholarship. This year we're doing this through the ARRL for distribution in 2021. W5UDM moves. KD0KQL Seconds. Motion passes.

Fox Hunt - W0XLD is hosting a fox hunt on December 19th From 1200 to 1400. Will convene on the CMRG 147.345 107.2hz tone repeater. Fox frequency will be announced on the net. 3 prizes available: First to find, Newest Ham, Youngest Operator. W0xld@w0xld.com. Will be in VHF 2 Meter band.

MEETING ADJOURN: 9:00PM OR Before K0WTF Jason moves to Adjourn, N0ABC Dennis seconds. Motion passes. Adjourned at 2012.



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**Easy installation
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Durable construction
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Please forward this article to those you feel would be interested.

GETTING AN HF ANTENNA TO WORK - PART 5

In the last 2 previous articles Inductive and Capacitive reactance were described. These values have something to do with a resonant circuit. What is it?

Besides a reactance, other things go on in the 2 components inductor and capacitor). When an Alternating electrical source is applied to an inductor, the voltage and current have a little argument. They argue, who is first. In this case the voltage wins and it leads the current by 90 degrees. In other words the voltage and current which normally have waves that are in phase, separate. So when the voltage reaches its peak and starts on its way down, the current starts increasing from 0 to its peak behind the voltage.

With a capacitor, the current wins the argument and leads the voltage 90 degrees.

Why be concerned about this argument?

Connect an inductor and capacitor in series. One end of each component is connected together. The other side of the inductor is connected to your electrical source and the same for the capacitor.

When the frequency hits that amazing point where the 2 reactance's are equal, we have resonance. Because of the described phasing and being connected in series, the circuit develops a minimum resistance at resonance. At resonance, this resistance looks just like a regular resistor. No phasing argument. As you move up or down in frequency away from resonance, then the reactance starts to kick in and will increase.

Actually the resistance this circuit produces is really termed **IMPEDANCE - Z**. The definition of Z is, the total opposition to an alternating current. RESISTANCE is related to a direct current or a device that creates no Reactance - X, such as a carbon resistor - R.

From this point on **IMPEDANCE** or **Z** will be the terminology for alternating sources.

Resistance that is caused by the reactance of an inductor or capacitor, is termed **REACTANCE** or **X**.

Resistance that is caused by a non-reactive device such as a carbon resistor, is simply termed **RESISTANCE** or **R**.

This Series Resonant configuration is the same configuration of dipoles, verticals and (huh?), Isotrons.

Since this applies to most of the antennas used, we will continue on this configuration next.

73,

Ralph WD0EJA

Jan 2021

If you have questions about the product or articles feel free to contact me.

Bilal Company

137 Manchester Dr.

Florissant, Co. 80816 U.S.A

PH/FX: 719/687-0650

wd0eja@isotronantennas.com

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 Ω 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>

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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.

Major Events

PPRAA Megafest has been cancelled

**Postponed until 2021 – the 2020 ARRL Rocky Mountain Division Convention
Hamcon Colorado**

- Postponed until 2021
- Location: Parker, CO
- More info [here](#).

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

January 1982:

Smitty WBØLTV does a nice article on how to install PL-259's onto coax. Many comments from members on how enjoyable the Christmas party was last month. WBØSJR Warren and NØDV Dave are teaching theory and code at the classes held at North Jr. High. CCARC meets this month in Fort Collins. The winners of last month's Home Brew Night were Ray AAØL for a satellite TV system, Les WDØGTA for a collapsible 2m quad, Steve NØST for an OSCAR satellite locator program, and Dave WBØTAQ for a 5W 80m transmitter. Karl K4DQ volunteered to be a citizen's advisor on the Cablevision Advisory Committee to provide input for the city's cable TV. Bylaws are currently being retyped. Board president Smitty WBØLTV hands in his resignation letter.

ARRL Outgoing QSL Bureaus

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.

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 parkerradio.org

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



PPRAA VE EXAMS

**(MONTHLY) JANUARY and 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 Dabling Blvd, Colorado Springs, CO 80907, USA

Organizer: 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, 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 or call (719) 687-8758.

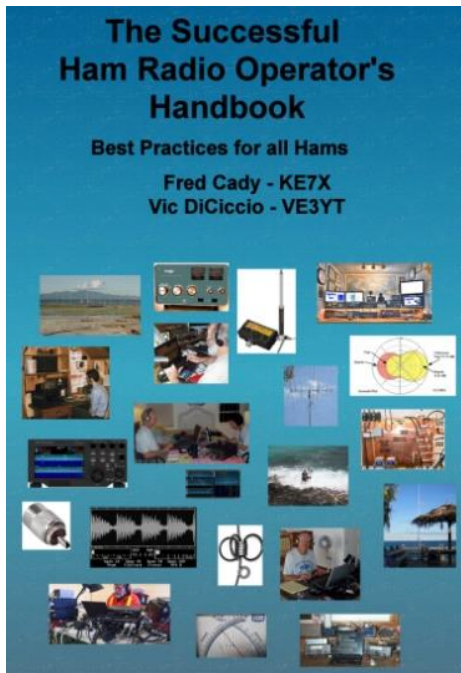
If attending, please BE SURE to bring the following items to the session:

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 to keep up-to-date on book news and to be notified of book discounts at 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 to keep up-to-date on book news and to be notified of book discounts at 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