



VOLUME 70 ISSUE 1
Jan. 2019

PPRAA Club Officers

President	<u>Curtis Cookson, W0CEC+</u>
Vice President	<u>Jim Bishop, KD0KQL+</u>
Secretary	<u>Jay Winterton, KD0VRB+</u>
Treasurer	<u>Dick Kohlhaas, W5UDM+</u>
Ø-Beat Editor	<u>Jerre Redding, WAØBCM</u>
Webmaster	<u>Douglas Nielsen, N7LEM</u>
Past President	<u>Rich Milligan, ADØNP</u>
Board	<u>John Bloodgood, KDØSFY</u>
Board	<u>Terry Kift, KD0JAX*</u>
Board	<u>Virgil Yost, N0XRS*</u>
Board	<u>Raleigh Holcomb, N4HYF</u>
Board	<u>Jim Goodwin, KD0SFP</u>
Board	<u>Jim Rader, KD0NQM*</u>
Board	<u>Mike McLaughlin, K0JT</u>
Board	<u>Ray Uberecken, AAØL*</u>

* In final year of 2-year term

+ One year officer position

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

Monthly Ham Breakfast



Milt's Coffee Shop

2314 E. Platte Ave.

Saturday, Feb. 2, 2019 8-9:30 AM

(719) 266-0555

All are warmly invited to come on down and join us!



Feb. PPRAA Club Meeting

The Feb. 13th 7PM club meeting will be at the IHOP on Stetson Hills Blvd
(just west of Powers Blvd). 5749 Stetson Hills Blvd.

PIKES PEAK RADIO AMATEUR ASSOCIATION TREASURER'S REPORT

Period: 10 Dec 2018 through 6 Jan 2019

ASSETS		\$
Ent Checking Acct		5527.80
Ent Savings Acct		3799.95
Wells Fargo Checking Acct		3851.55
Paypal		63.21
	TOTAL	13242.51
LIABILITIES & EQUITY		
CO QSO Party Awards		374.78
Scholarship Fund		363.00
Unrestricted		
Equity		12504.73
	TOTAL	13242.51
INCOME		
Membership Dues		158.00
	TOTAL	158.00
EXPENSE		
Donation to Annette Milligan		300.00
Other		11.33
	TOTAL	311.33
	NET PROFIT (LOSS)	-153.33

NOTES: Scholarship Fund 2018: Outgo \$1000, Income \$1321.59
(King Soopers \$865.59, other \$456.00)

Respectfully submitted:
Richard Kohlhaas, W5UDM
Treasurer

December 2018 Board Meeting Minutes

CTO @ 6:30 PM by W0CEC, Curtis Cookson

Old Business:

- Treasurers Report by Dick Kohlhaas, W5UDM
 - \$5k budgeted to 2019 Megafest
 - \$600 for laptop purchase in August
 - Level of detail for in-meeting Treasurer's Report: Broad, details in written report
 - Motion by KD0NQM, Jim Rader for \$50 for Quickbooks license, 2nd by N4HYF, Raleigh Holcomb. *Board Approved.*
 - Motion by N4HYF, Raleigh Holcomb for \$22 rubber stamp purchase, 2nd by KD0NQM, Jim Rader. *Board Approved.*
 - Motion by N4HYF, Raleigh Holcomb for \$5 overage on PC's, 2nd by KD0VRB, Jay Winterton. *Board Approved.*
- ARES Report by KD0SFY, John Bloodgood
 - With recent fires in CA a reminder to club members to be wary of scams. Give only to known organizations (usually money is what is requested) and only requested items if requested by the same organizations.
 - SKYWARN Recognition Day – Dec 1st, 2018 – Come visit the site in Pueblo, CO
 - Winlink Exercise Report
- Megafest 2019 Report by N6JRL, Don DuBon
 - Feedback /suggestions on prizes is appreciated. This information will be requested at the upcoming club meeting.
- Motion by KD0KQL, Jim Bishop for \$400 to be spent on Christmas party (December meeting) door prizes. 2nd by N6JRL, Don DuBon. *Board Approved.*
- KD0KQL, Jim Bishop checked to see if IHOP was available for our Christmas party (December meeting). It was scheduled for our use and Jim mentioned that we will need to start scheduling on the 1st of January for 2019 club meetings.
- Secretary's Report/Business by W0CEC, Curtis Cookson
 - 2nd Raffle license holder still needed
 - WB7T will purchase the radio (as approved for \$450) conditional on positive testing.
 - The club donated a radio to a needing ham and he was very happy. WV7T will attempt to find out his call sign for club records.
 - WV7T doesn't have any certificate templates to send to W0CEC. Past certificates were generated on-the-fly and unsaved.
- President's Agenda
 - Increase new license/member participation
 - Promote club more at test center
 - Testing report from N0ABC
 - New member report from W5UDM
 - Understand why new licensee's chose to obtain their license
 - Create club events around new member feedback
 - Create teams to operate in different areas (POTA, SOTA, JOTA, Portable, ETC)
 - Create Radio Kits that can be checked out by teams to operate in those arenas.

- “It is in my opinion that if we can do a better job of understanding our new members we can build programs that will be appealing to them.” -W0CEC, Curtis Cookson
 - Understand ARES’ long term goals and see if PPRAA can serve them better
 - Visit with KD0SFY and his ARES team to learn what they would like to accomplish within the next year or two.
 - Review our committees and make needed adjustments.
 - Tighten up some loose ends with club inventory
 - It has been mentioned several times that club inventory is not being recorded properly. “The donation of radio equipment from an operator in Palmer Lake and how it was handled validated every concern I had heard.” - W0CEC, Curtis Cookson
- KD0VRB, Jay Winterton to let officers know in October 2019 about Club ARRL Affiliation renewal.
- Update on AD0NP, Rich Milligan
- Winter Field Day, January 26/27, 2019 -some members will be operating out at the club station in Ellicott.
- KD0NQM, Jim Rader mentioned that we could fund the scholarship on the checks the club receives from King Soopers Card use. This will be promoted more to club membership at upcoming club meetings.
- KD0SFP, Jim Goodwin will send out Dropbox invitations to club officers and board members.

New Business:

- SK’s: AD0NP, Rich Milligan
- Jim VP Report
 - Annette Milligan (Rich’s widow) – Regarding his antennas and radios, the club could take and sell them to pass the money onto her. Rich is to be cremated but not until payment is received. We would like to get donations from the club and club members in the general membership meeting on Wednesday. Annette also has the club screen and a computer (WV7T, Mike doesn’t remember giving him one though). Jim will bring envelopes for check/cash donations for Annette to the club meeting on Wednesday.
- Treasurer’s Report emailed out
 - Treasurer is the only one who can sign checks, it would be a good idea to have second signer though
 - We re-register with the Colorado Secretary of State every year and designate a registered agent. We will put KD0KQL, Jim Bishop’s name on it.
 - Emails have been going out when people’s membership dues were past due. The board discussed what to do when they aren’t paid. This is something that possibly a club membership committee could decide how to handle. Since we do not presently have a club membership committee the board may decide how to handle it.
 - Treasurer’s report is typically produced and sent out just prior to the board meeting and is recommended to continue this way.

- As a matter of clarification, the primary list of club members is located on the club website. The treasurer is to update this list. He will send out notifications when membership is past due.
- Regarding the raffle, we are to submit the proceeds within one year. We have built up about \$3k after buying next summer's prizes. Doug is still configuring the laptops (educational purposes expense). Have they been officially purchased by the club yet? Aug./Sept. meeting minutes may show more about 2017 educational expenses for raffle sales.
- Sales tax exemption restrictions – purchasing tangible property with club money that may be transferred for personal use should include sales tax. W0CEC, Curtis Cookson will get clarification from accountants at work on this.
- ARES Report, John KD0SFY
 - Skywarn Recognition Day went well. Information regarding the Salvation Army Christmas Dinner
- Megafest Report, N6JRL, Don Dubon and KD0NQM, Jim Rader
 - They have gone to HRO in Denver and purchased a whole HF station for the main Megafest prize
 - Recommendation to have the president of the club introduce himself at the start of raffle drawing of Megafest. It is good to put faces with names and call signs.
 - They have applied for the gymnasium at the same location. Dates applied for are the 13th and 20th of July. We should know by the first or second week of January which date and if we will be able to hold our Megafest there.
- KD0NQM, Jim Bishop suggested leaving our old QST magazines at Dr's offices with club business cards on them. This may help boost involvement in amateur radio.
- We have all of the prizes for this year's Christmas Party (on Wednesday night). We should take time that evening to promote King Sooper's cards. We have 5 left and can get more.
- New business: It has been suggested that a list of authorized people be given to the fire department and new police substation out at the club station location in Ellicott. WV7T, Mike Anderson suggested making a numbered name badge.
- WV7T, Mike Anderson has donations that need to be inventoried and submitted to the board for decisions on what to do with them. He will hold donations for 60 days.
- WV7T, Mike Anderson is going to take flowers and a card out to Rich's widow, Annette. *Motioned by KD0VRB, Jay Winterton. Second by KD0KWL, Jim bishop.*
- W0CEC, Curtis Cookson suggested that at the January meeting we discuss and put a donation plan in place.
- KD0KQL, Jim Bishop brought up how we need to complete the Special Service Club registration (a 2 year plan is needed)
- KD0SFY, John Bloodgood mentioned the Facebook group, that people can sign-up but admins need to approve joining the group. The group is public, so everyone can see what is posted. John is willing to train somebody on how to be an admin for the Facebook group. Larry's wife, Janet, could be a good person for managing the Facebook group page. We might consider also creating an Instagram account, as well as Twitter, etc. These are a great resource for the public and offer the club tremendous publicity. We could also contact news media and let them know about upcoming events to add publicity.

- Jim Bishop, KD0KQL will be a registered agent for the club
- Jim Rader, KD0NQM will be an additional signer. He and W5UDM, Dick Kohlhass will meet at the bank sometime after Christmas to add him as an additional signer for checks.
- Jim Rader, KD0NQM – 7 PM for Christmas Party

Motion to Adjourn @ 7:37 PM by KD0VRB, Jay Winterton
 Second by KD0NQM, Jim Rader
 All in Favor.

December 2019 Club Meeting Minutes

CTO @ 7:00 PM by W0CEC, Curtis Cookson

SK's: AD0NP, Rich Milligan

Donations for Annette, Rich's wife

In attendance: 59

Treasurer's Report

Old Business:

- Per the 3 new hams in our club:
 - What inspired you to get your technician's license?
 - No CW requirement and had the time to dedicate to the hobby
 - Emergency interest/prepping
 - What operating style do you like?
 - No operating style in particular was reported by either of the 3 new hams, but one expressed interest in going for his General class license and learning to improve his radio setup.
- ARES Report by KD0SFY, John Bloodgood
 - With recent fires in CA a reminder to club members to be wary of scams. Give only to known organizations (usually money is what is requested) and only requested items if requested by the same organizations.
 - SKYWARN Recognition Day – Dec 1st, 2018 – Come visit the site in Pueblo, CO
 - Winlink Exercise Report
- Megafest 2019 Report by N6JRL, Don DuBon
 - Feedback /suggestions on prizes? *None received.*
 - Everybody seemed fine with the possibility of an IC-7300.
 - July 13th or 20th are the proposed dates for Megafest 2019.
 - We are still needing volunteers for assisting with setup and other Megafest preparations.
- Secretary's Report by KD0VRB, Jay Winterton
- Motion by W0CEC, Curtis Cookson to accept meeting minutes. 2nd by WA0BCM, Jerre Redding. *All in Favor.*
- KD0NQM, Jim Rader promoted King Soopers Card use. \$5 to purchase, you get the money back when you spend at King Soopers. He also mentioned that we could fund the scholarship on the checks the club receives from King Soopers Card use.
- Club was notified that the board is discussing a change in the scholarship amount.
- NOABC will pass the number of new hams from test sessions along to the club.

- Winter Field Day, January 26/27, 2019 -some members will be operating out at the club station in Ellicott. KD0JAX, Terry Kift is leading the initiation of this activity for the club.
- Christmas party (December meeting) will be at IHOP during the regular club meeting date and time.

New Business:

- Treasurer's report
- Secretary's Report – Review of meeting minutes from the last club meeting.
- ARES Report - Skywarn Recognition Day went well. Information regarding the Salvation Army Christmas Dinner
- Megafest Report by Don
 - Complete HF station for the Megafest main prize (includes an IC-7200)

Motion to accept meeting minutes by N6JRL, Don DuBon. Second KD0KQL, Jim Bishop. *All in favor*
KD0KQL, Jim Bishop \$1003 already donated this evening. He will bring a check by for Annette Milligan (Rich's widow).

N4HYF, Raleigh Holcomb suggested that the club donate the remaining \$297 needed for Rich's cremation to Annette Milligan. Second by KD0KQL, Jim Bishop. *All in favor.*

Motion by N6JRL, Don DuBon for all club donations over the next month to be donated to Annette as well. Second by KD0KQL, Jim Bishop. *All in favor.*

Program – None

Motion to Adjourn @ 7:59 PM by KD0NQM, Jim Rader

Second by KD0KQL, Jim Bishop

All in Favor.

Hi all –

I hope everyone had a nice Christmas and New Year's celebration.

I went out to Ellicott today, because I had been notified by one of the remote users, that it was down.

- I got the Remote back up and running again. I found that the PC was turned off. Looking at the event viewer, the PC had improperly shut down (AKA “crashed”) on Dec. 28. I could not find any specific reason why this happened – there were a number of errors in event viewer around that time, but they didn't seem to have anything to do with the crash (or maybe I didn't understand them). When I started the PC up again, there were a few errors in event viewer, so, I rebooted it again, and it seems to be doing OK now (we'll see). Ed Corn was out there, and I suggested there might have been a power outage, but we tested the UPS, and it kept the PC running when we cut power. Ed said before the UPS would run out of juice, their emergency backup generator would have kicked in. Ed also said that their internet connection hadn't been working that well lately.
- I also backed up the remote's server settings files on my thumb drive, so if we ever need to use a different PC, that hopefully, I wouldn't need to spend a year or two trying to figure out how to configure everything.
- I did Windows Updates on all the PCs, including the one I couldn't get to complete last time.
- Before I left, I checked different things – the DC voltage coming from the solar panel storage batteries seemed to be kind of high (14.7 to 14.8 volts). I emailed Ed Corn (he had left), and he replied “**I will check the solar tomorrow. The cut off voltage for the charge controller is 14.5 volts. Might be a meter error that meter has a long history and not the best of treatment.**”
- The refrigerator door was open again, because a lot of the soda can contents had frozen, causing them to explode. One exploded, so violently, that the top of the can was halfway across the trailer. I got a trash bag, and loaded up **all the cans** and the frozen hunks of soda from the floor, and carted them all off to the dumpster. The refrigerator and floor tiles near the fridge need cleaned. **I recommend that if we have any more of those carpet tiles, that we just replace the ones with the most spillage, rather than trying to clean them. Also, recommend that we put a sign on the top of the fridge, warning people not to store sodas in there (or inside the trailer) during freezing weather, because they will explode. BTW, all the bottled water out there also froze, but the bottles are all still in perfect shape.**
- Ed said something about workers digging a trench for cables out there in the near future. It didn't register in my mind how it would affect us, but he said he would probably email the board about this in the near future.
- The prefab buildings have been moved to their final resting place. They also have a new double-wide trailer out there – it is in the southeast corner of their property (very far away from our trailer).

If you need to contact me, send me a separate email, since I no longer receive emails addressed to the board.

73

Jim Madsen
K3ILC



**ISOTRON 20/15/10
SO SIMPLE AND SO RUGGED!**
www.isotronantennas.com

This article will also appear on our web site.

A REMOTE COAX SWITCH

It is common to have more than one antenna on the mast or tower we use for our station. It is a savings cost to use only one feedline to all the antennas rather than running a feedline for every antenna. It also makes the installation less complex.

A remote antenna switch makes this possible. There are commercial units made and will work well. It consists of the switch box at the antennas and a control box at the station. The commercial units operate the control box through the coax going up to it. However, some may be interested in building their own.

The schematics below show the Switch box, Control box and Relay connections.

REMOTE SWITCH BOX. This design is for four outputs. It consists of four relays, four output connectors (SO-239) and four common diodes.

There are three connections to operate four relays (1, 2 and Common). If the common is a negative polarity and 1 positive, it will turn on Relay 1 only. Reverse polarity and Relay 2 will turn on. Switch from connection 1 to 2 and you can control Relays 3 and 4 in the same manner.

A weather proof box is needed to house the relays. This can be acquired at an electrical supply.

The four outputs can be on the top of the box and the one input on the bottom inside the box. The coax from the station can go through a hole in the bottom of the box to make the connection.

Mounting the box can be from its side to the mast or tower leg.

CONTROL BOX. Real simple. If you are using 12 volt relays, you will need a 12 volt power supply. This will feed Switch 1 the DPDT switch. This switch reverses polarity. Switch 2 is a SPDT and selects between connection 1 and 2 on the remote relay box.

RELAYS. My preference is a DPST. I found it to work better if the shield and center conductor are switch out. Most commercial units switch out only the center conductor. This works fine unless the coax out of the switch box is long. This could affect the tuning of the other antennas selected.

The DPST relays is connected to each of the four connectors (SO- 239) on one side. The other side is connected to a single input connector that receives the main feedline.

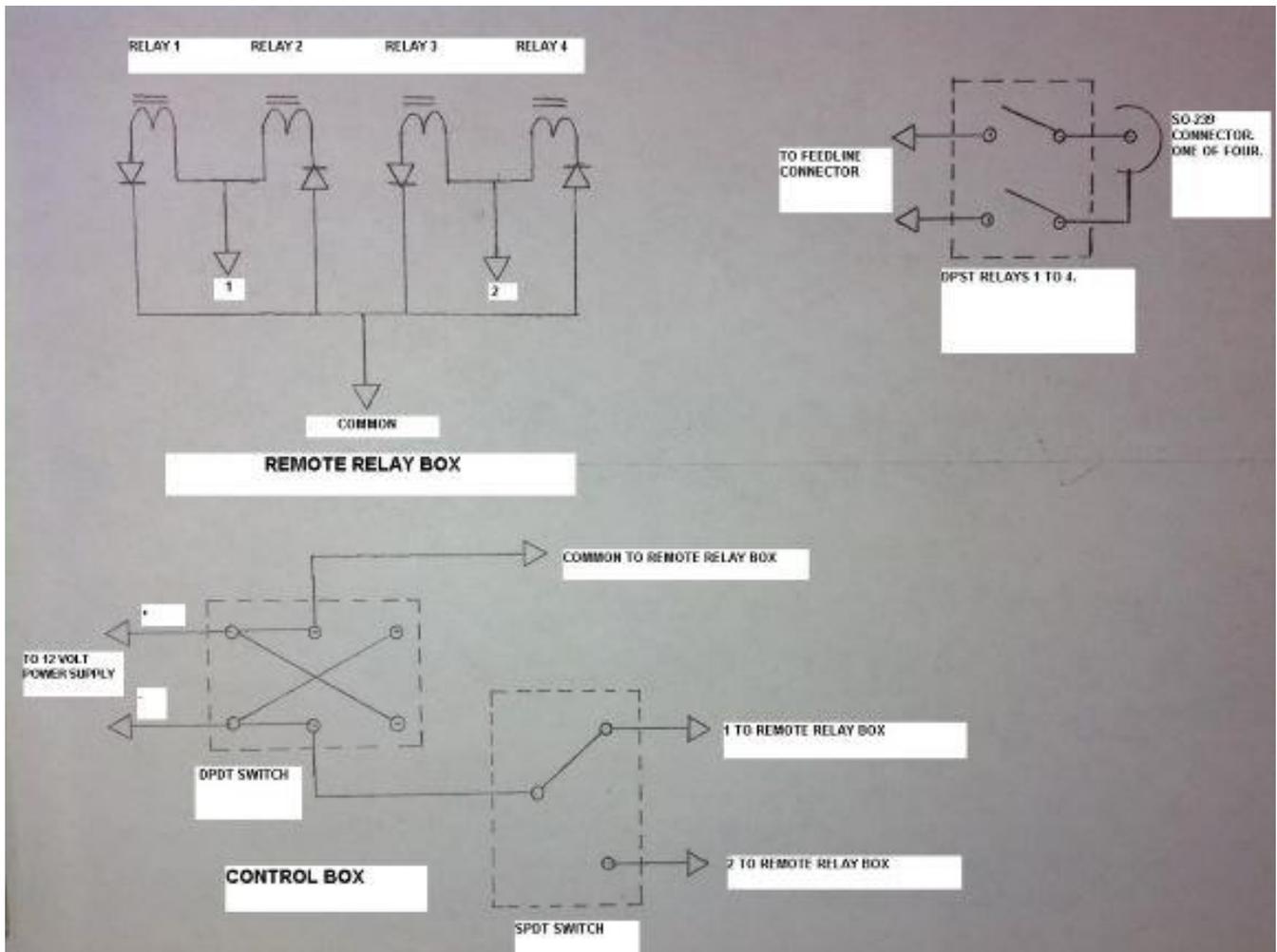
WIRING. The remote switch box should be wired with at least a #12 solid copper wire. Connections should be short and neat. The heavy wire will also aid in the mounting of the relays.

The Control box can be wired with #18 hook up wire. The control line from the Control box to the Remote switch can be lite. Standard telephone wire cable is fine.

It is an easy project and you will find it quite useful.

73,
Ralph WD0EJA

Jan 2019



BILAL COMPANY
 137 MANCHESTER DR.
 FLORISSANT, CO. 80816 U.S.A
 PH/FX: 719/687-0650
wd0eja@isotronantennas.com

Upcoming events

PPRAA Face book

<http://www.facebook.com/pages/PPRAA-Pikes-Peak-RadioAmateur-Association/185833894769325?v=wall>

Contests and Events

WA7BNM contest calendars link

<http://www.hornucopia.com/contestcal/>

IQRP Quarterly Marathon

January 7, 2019, 1:00am – January 13, 2019, 1:00pm



Description: <http://www.hornucopia.com/contestcal/weeklycont.php>

Winter 2019 Hamfest

- Saturday January 19, 2019 (0800-1300)
- Larimer County Fairgrounds
- Loveland, Colorado
- More info [here.](#)

The Swapfest

- Sunday February 17, 2019 (0900-1300)
- Adams County Fairgrounds
- Brighton, Colorado
- 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-qs1-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://twitter.com/ParkerCORadio)



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 **EL Paso OEM, Mark Dabling near Fillmore, Colorado Springs, CO 80908**. This may soon be changing to a different address.

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** (now required – this includes children).
3. 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.

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.

Dennis Major NOABC, PPRAA VE Contact, 719-213-1109

Jim Bishop kd0kql@hotmail.com, 719 332-5283



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 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).

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

Online Practice Test Sites



Study for your Amateur Radio License exam:

[Technician \(2014-2018\)](#)

[General \(2015-2019\)](#)

[Amateur Extra \(2016-2020\)](#)

[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