



VOLUME 73 ISSUE 9  
Sept. 2022

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\* 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

**La Tartine, 1420 Kelly Johnson Blvd  
Saturday, 1 October**

**PPRAA Board Meeting (Sept. 12) at IHOP 3090 N  
Chestnut St, Colorado Springs, CO 80907.**

**PPRAA General Membership meeting (Sept 14) will  
be at King Buffet located at 801 N Academy**

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

### **BARCfest**

- Sunday, 2 October 2022
- Boulder County Fairgrounds, Longmont, CO
- More info [here](#).

### **ARRL Rocky Mountain Division Convention**

- 7-9 October 2022
- Archer Event Center, Cheyenne, WY
- More info [here](#)

# **My PPRAA Field Day 2022**

**By Derek / K0ATV**

It was a dark and stormy night... No, actually that's not how it started at all. Although that might be a tad bit of foreshadowing.

Friday morning I arrived onsite at Northrop Grumman, between the COS airport and the new Amazon Megaplex, at approximately 9am. Ken / K0KWH was already there landing the mothership (his super huge 5<sup>th</sup> wheel RV) and a few others were onsite starting to get our vehicles staged and the layout finalized. Kyle / KD0TRD had made a breakfast burrito run that morning to ensure that we had fuel in our tanks for the activities to come. The name of the game was to get all our RVs staged along the transition from parking lot to the field where the antennas would go, set up antennas and feed lines, radios, and our version of "tent city" to house the eating and information tables. It was sunny with a few small puffy clouds and very seasonable. We knew what was to come, and embraced our future destiny full of lightning and rain.

Setting up the antennas and radios was a straightforward affair. Having had a prior summer field day and a winter field day under my belt (and a few POTA and SOTA activations) I felt quite at home with the guys getting everything set up. We knocked it out and moved forward to the next tasks. I did a little testing with my radio in LD's / W0XLD trailer on FT8 and SSB and realized that for once, I had not forgotten anything. Best feeling in the world. Lesson #1, in hindsight, one must listen to Jim / KD0KQL when he says "I'm going to put some sunscreen on" and take that as sage advice to be heeded. I got a little too much sun from the day's activities! Later, a little bit of standard issue afternoon wind kicked up and we realized that our anchoring system for "tent city" needed beefed up. Trucks were moved into position, straps put in place, and various lengths of rope utilized. Lesson #2, if you use a pop up canopy in Colorado you better be sure how you deploy it can withstand some winds. Rope and cargo straps are a must! Saturday morning was still looking pretty dang sweet. Partly cloudy and nice. We chowed down on some of the left over breakfast burritos, coffee, and other necessities. I had slept in my pop up tent trailer, felt great, and was fully ready for Summer Field Day 2022. Soon after breakfast the winds started up again and there was an increased number of clouds. Yeah, it's coming eventually. We had quite a time getting Dave's / AD0QD carport tent set up for the Boy Scout's merit badge class shelter. I believe we had 6 or so guys fighting for our lives to keep that thing on the ground while we were putting the roof on as it was trying to fly to Pueblo. We got it handled and secured the structure to Dave and Ken's trucks. Another checklist item completed! John Bloodgood / KD0SFY got his go box and other informational goodies all set up, banners were hung, Doug / N7LEM got the kitchen all sorted out and staged. Things were looking good and on track.

12 noon was upon us! The official start for the event. We had my radio running out of LD's trailer, Ken's radio in his RV along with Jim / K3ILC and his rig (set up for heavy CW action), as well as Dave's radio set up as a GOTA station. We were running as 3A, which is three stations on emergency power. Generators and solar were utilized. We started off mic's and paddles blazing and had lots of folks willing to jump in and operate. It was truly a team effort from everyone who showed up. We had veteran operators, new operators, and even folks who had never even operated at all. Lesson #3, LD's laminated print outs of the contest exchange, section map, etc were absolutely invaluable. It is so easy to try and give your own callsign while we are supposed to be using AF0S, the club call. I do it too sometimes and those sheets help greatly.

Shortly after start up we were all loaded up with an outstanding lunch provided by Doug's efforts. Burgers, brauts, chips, and a slew of other goodies. If anyone onsite was hungry it was their own dang fault. If anyone thought lunch was good, they were wow'd again with supper. Some fantastic brisket and some member provided potluck items sealed the deal. Oooh, and those mini cupcakes! I immediately realized that it would take some serious operating to burn off those meals!

Remember that nasty weather that was slated to be in our futures? It arrived shortly after dinner. The winds kicked up, the sky gave rain, and lightning was dancing around our location. Pretty much everyone had their phones on some sort of weather / radar site at all times. Luckily no lightning came to visit us directly. That was a fantastic perk. We could see that the folks up in Monument and Pueblo were getting absolutely hammered, we got lucky. What do you do when it's raining and windy but the show must go on? Be very thankful that you have RV's to hide out in and keep going! LD and Ken's mobile abodes were cranking well into the wee hours. I packed it in at around 12:30pm and had callsigns dancing in my head until I finally drifted off to sleep. CQ CQ CQ This is AF0S, We are 3A in Charlie Oscar, AF0S, AF0S...

Sunday morning! It started off ok, and then the drizzly cold rain kicked in. When it wasn't raining, it was a horizontally driven thick wet mist. Weather happens and we still have an event to finish up. In chatting with Ken that morning apparently Jim had been cranking away on CW all night long. That man is a machine, and our final numbers would show it. Plus, CW contacts have a x2 multiplier which greatly helped our showing. Lesson #4, I saw this at the prior summer field day I was a part of as well. CW operators are the backbone of your field day points. Want to be a hero? Be a CW operator on field day. We continued rotating out operators and keeping the mic's hot until the final bell rang. Everyone then gathered in the "tent city" and we exchanged the attaboys and motivational speeches that were truly earned due to our efforts. After a group sigh of relief, we all jumped onto the next task and the site teardown was fast and furious. We were all cold, tired, and it was time to pack it in. While taking down the telescoping masts Kyle found that they were full of water, all the way to the top. Seems we got quite a bit of rain! I think it was around 2pm that I pulled chocks and started heading home.

All in all, weather included, this PPRAA Summer Field Day was an absolute blast. We had equipment challenges to overcome, insanity level weather, familiar faces, new faces, Boy Scouts earning merit badges, amazing food, a new location, as well as hard and fast radio operating. I can think of few better ways to spend a weekend, I absolutely love field ops. As I write this we don't yet have our final numbers for the event. That matters (it is a contest of sorts after all!), but the experience and hanging out with my friends and fellow club members will be what sticks with me in my memories, and was why I was there in the first place. I can't wait for Winter Field Day in January. It's going to be EPIC.

PS: There were a great many of folks who contributed to making this awesome event happen. I can't list everyone but here's a few extra shout outs to Craig / KE0RGP, Jon / KJ0CFW, Tom / KF0FOF, George KE0QCC, James / KN4UDV, and to anyone and everyone who came out to learn, operate, support, or just stop in to say hi. Thank you all!

73

Derek / K0ATV / PPRAA VP

# My first Colorado 14er Summits on the Air event

August 5<sup>th</sup> – August 8<sup>th</sup> 2022

It all started with an evening phone conversation with Ray KD8EQA back in late June or possibly somewhere on the front end of July. As some of you may know he is very motivated in the direction of all things SOTA and I've had the pleasure of doing a couple of activations with him. Being that he had already lit the fire under me to start doing summit activations his latest plan sounded like great fun. He began by telling me about this cool event that happens annually where a bunch of amateur radio enthusiasts get out and activate like crazy over the course of a couple days on summits. SOTA, but A LOT of SOTA. Well, that sounds awesome. Ray knows about my physical limitations and has been really gracious into taking that into account on which summits we choose to do together. They aren't all 14ers and there are some for everybody! The event doesn't require that you be on a 14er either, any legitimate SOTA summit is valid.

**The plan:** There are two summits in very close proximity together called the Pumas. There's Little Puma W0C-SP-128 and Puma Peak W0C-SP-065 and there's a nice saddle between the two that you can transverse to hit both mountains. As a reference the Pumas are a little way to the southeast of Terryall reservoir. One has the option to activate one mountain then shoot over and do the other.

**Plan in action:** It turned out that myself KOATV, Ray KD8EQA, Kyle KD0TRD, and LD W0XLD were able to coordinate this trip together for the dates listed above. With it being the event weekend we were bound to make some great contacts and have some good fun. Friday morning at 6am Kyle met up at my house and we hit the road towards our destination. My oldest son Brock was along for the adventure as well as my two dogs. It took us about two-ish hours to make it to Tarryall and switched from pavement to the dirt. There is a nice section of dirt road in the beginning, then it gets interesting. Once you enter the wooded section it's time to fold down or take down your rooftop antenna. Lots of overhanging branches. It is also time to park your car or stock ride height truck at the bottom and hike in (more on that later). Next you encounter a series of the wildest switchbacks I've ever seen. It was quite a challenge getting up there towing my overland trailer! Once you get to the end of the road at the saddle everything levels out and there was a super sweet area to park and set up camp. Kyle, Brock, and I quickly got our camp setup and even picked up a "chaser contact" while driving in.

**Getting the group together:** Since Kyle and I were the only two with "trail rated" trucks we had to still get Ray and LD up there to complete our SOTA posse. Ray arrived that night and I drove back down to the bottom to scoop him up at a nice parking spot before the road/trail became too wild for his ride. Before I left Kyle decided to activate the park. It's in Pike National Forest as well K-4404 so might as well! By the time I

returned he had gotten it knocked out. Good job and it counted as a "Late Shift" activation since he started after 0000 UTC. Once back at camp Ray got his tent set up and everyone turned in for the night.

**Saturday morning:** Even though the event spanned 4 days, we decided to put our efforts into Saturday. Kyle and I summited Puma Peak, while Ray and Brock shot off to Little Puma. Ray had previously put a spot up on the SOTA website and there was even an APRS tag for our activation on google.fi. Kyle and I kicked things off at approximately 13:30 UTC after we got his IC-705 set up with a end fed half wave and both of our HT's. I had brought my Arrow Yagi but for whatever reason decided not to take it up the mountain. In hindsight I kind of wish I had, was just being lazy. Regardless, the 2m contacts started rolling in. Tons of S2S (summit to summit) and chasers abound. Folks were using 146.49, 146.55, and 146.58. You can usually pick up SOTA activators on 146.52, but with it being known that there would be folks everywhere activating summits it was pre-designated that the main action would be on the three simplex frequencies I just listed. I got most of my information about the event from KONR.com. Even spread out amongst the three it was pretty wild for a few hours! As we were deep in the action LD chimed in and said that he was on his way hiking up the road/trail to come join us. As he was hiking in he was making chaser contacts all along the way. That completed our planned group. One way or another everyone made it! Once Kyle and I had mostly dried up the 2m contacts that we could get with our existing HT antennas we switched over to 20m HF. We scooped up a couple on there as well. A little bit after noon local time we both felt like we had our fill and packed up. Even using a GPS we still found a way to get ourselves off track on the way down the mountain. Sometimes those rock outcroppings can dictate where you go. There was no trail to speak of but as far as bushwhacking goes it was totally doable from my perspective. Please be prepared if you go out into the backcountry.

**Back at camp:** Once back at camp we grabbed some lunch. Ray and Brock showed up from their activation on Little Puma shortly after. Ray had just done a 14er the day prior and Kyle / myself were not much feeling like switching over and doing the other mountain so we called it good there. No need to push it past the fun zone. Both groups got it done, activated our respective peaks multiple times over, and had an absolute blast. As an aside, my son Brock decided to run up Puma Peak just because he's a teenager and oh how easy it is at that age. He gets the double peak badge for the day but doesn't have his license yet so it was just for fun on his end. Kyle set up his IC-705 with a Yaesu ATAS antenna and LD banged out a couple more contacts so that he could also count his trip a POTA activation. Might as well! A little later in the afternoon we said goodbye to Ray and LD and they hiked back down to their respective vehicles. Most

SOTA activators try and get off the peaks before the afternoon storms and lightning begins in the summer. By mid-afternoon it had mostly dried up from what we could pick up with our gear.

**Close it out:** Kyle, Brock, and I stayed over for another night and boogied out the following morning. Before I get my logs all sorted out I figured I'd do this write up of the trip. We are already talking about trying to do another group outing for next year's event. This was a grand adventure and something any of us had ever done prior. Another case of "playing radio outside wins again". We could have done more. We could have done less. We did do enough to have a good time and get out there. In my opinion that's perfect for me. I hope that perhaps next year we can make some contacts with you on the mountain you're on! I'm definitely doing this again.

'73

Derek / KOATV



**PPRAA**  
Pikes Peak Radio Amateur Association

All,

June 11, 2022 PPRAA VE Session

Applicant Name    Prev Call    Result

=====

Granted: Upgrade to Amateur Extra

Granted: Upgrade to General

Granted: Upgrade to General

Granted: New Technician

Granted: New General

Granted: New General

Granted: New General

Granted: New Technician

June 11, 2022 PPRAA VE Session

Applicant Name    Prev Call    Result

=====

Granted: Upgrade to Amateur Extra

Granted: Upgrade to General

Granted: Upgrade to General

## AARRL Clean Signal Initiative on the horizon

By Dan Romanchik, KB6NU

In recent message to his Northwest Division membership, Mike Ritz, W7VO, described a new program that he's gotten the ARRL to take on—the Clean Signal Initiative. He writes:

“After a few months gathering support from the amateur community for the project, the ARRL Clean Signal Initiative (CSI) is finally getting off the ground. The Board's Programs and Services Committee approved the concept several months ago, and since then I have been canvassing some of the best known RF engineers in amateur radio to get their support and input. As a result, the team will be conducting our first Zoom call next week to lay out the next steps for the project. All I can say at this time is that there are some amateur radio “heavy hitters” behind this, and I believe will be a game changer for the ARRL.

For those that may be unaware of this project, here is a synopsis (or at least my vision):

1. The CSI gets the ARRL formally in the “technical standards” business. (Other technical organizations already do it: IEEE, UL, ASTM, and SAE, and others.) The ARRL currently tests new products to informal standards, with no real hard benchmarks for manufacturers to meet, other than the minimal standards outlined in FCC Part 97.307.
2. Creates and incorporates documented “best practice” standards and testing methodologies to ensure commercial amateur radio transmitters and amplifiers meet not only minimum FCC requirements for signal cleanliness, but push the envelope.
3. These new standards can be “home grown”, or passed through the IEEE, but I think it's important they be also branded as “ARRL Technical Standards.”
4. Test new commercial transceivers and amplifiers against these standards.
5. Certify the transmitters and amplifiers that pass the standards: “CSI certified by the ARRL.”
6. Work with manufacturers to ensure compliance of those that don't. (Market pressure will drive this.)
7. Market the program to the amateurs through QST.
8. Work with manufacturers and social media experts to create training materials to teach hams how to set up their equipment to ensure the cleanest transmitted signals. (This education part is key!)”

Rob Sherwood, NC0B, of Sherwood Engineering, who is most well-known for his [ranking of receiver performance](http://www.sherweng.com/table.html) (<http://www.sherweng.com/table.html>), is part of this effort. You can see a video of a talk that he gave recently to the Sutton & Cheam Radio Society by going to <https://youtu.be/IioApKRecrI>**Error! Hyperlink reference not valid.**

Based on my knowledge of how IEEE standards committees work, I stressed that the initiative should make every effort to get as many stakeholders—including manufacturers and users—involved as possible. Involving so many people may be cumbersome at times, but standards require consensus for them to be effective, and the only way to do that is to get everyone involved. I'd suggest that if you feel that you have something to contribute that you contact Mike directly. His email address is [w7vo@arrl.org](mailto:w7vo@arrl.org)**Error! Hyperlink reference not valid.**

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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 (<https://KB6NU.Com/study-guides/>), and often appears on the ICQPodcast (<https://icqpodcast.com>). When he's not worry about how clean his signal is, he operates CW on the HF bands and teaches ham radio classes.

## Apply for a grant from the ARRL or ARDC

By Dan Romanchik, KB6NU

In our division director's September missive to the membership yesterday was this nugget:

ARRL IS CURRENTLY OFFERING GRANTS to fund amateur radio projects. This program, sponsored by the ARRL Foundation, is specifically for organizations and aimed primarily for education, licensing and support of ham activities. A special focus is on youth-related plans. We are now entering the last phase of this year's grant cycle, so the opportunity exists for your club or organization to submit a grant request. You can find the full details on the grant page of the ARRL web pages, check: <http://www.arrl.org/amateur-radio-grants>.

The ARRL accepts grant requests three times a year:

- February 1 – February 28
- June 1 – June 30
- October 1 – October 31

Since this is September 1, you have two months to get your request in. As I've written before, our club was awarded \$1,500 to help us put up a tower for a club station at the Ann Arbor Hands-On Museum. The money is available. Go get it!

## Get money from ARDC, too!

You can also get a grant for amateur radio projects from Amateur Radio Digital Communications (ARDC), the outfit I'm currently working for. ARDC grants money for projects that fall into one of the following three categories:

- Support and growth of amateur radio,

- Education, and
- Technical innovation.

ARDC has, for example, awarded grants to:

- An amateur radio club in Wisconsin (<https://www.ampr.org/grants-old/grant-chippewa-valley-arc-emergency-trailer-and-equipment/>) for upgrading their repeater systems and building an emergency communications trailer that they will also use to promote amateur radio in their area.
- A California high school (<https://www.ampr.org/grant-incorporaing-constructivism-and-the-maker-mentality-at-california-high-school/>) whose computer science teacher will use the funds to purchase microcontrollers and transform his classroom into a maker space. With this equipment and facility, students will learn computer science by building their own projects.
- The M17 Project (<https://www.ampr.org/grant-m17-open-protocol/>), whose goal is to develop a new, open-source digital radio protocol by hams, for hams, and that is easy to understand and build on.

To be eligible for an ARDC grant, an organization must be a 501(c)(3) public charity or be sponsored by a 501(c)(3) public charity. Other eligible organizations include government entities, schools or universities, and international charities or nonprofits.

For more information on ARDC and how to apply for an ARDC grant, go to <https://www.ampr.org/apply>**Error! Hyperlink reference not valid.**

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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 (<https://KB6NU.Com/study-guides/>), and often appears on the ICQPodcast (<https://icqpodcast.com>). He recently joined ARDC as their Content Manager. Among his responsibilities is spreading the word about all the cool things ARDC is doing for amateur radio.

EDITORS:

You can find an image of the ARRL Foundation logo at <https://www.kb6nu.com/wp-content/uploads/2019/07/arrl-foundation-425x174.png>**Error! Hyperlink reference not valid.**

An image of the ARDC logo is at <https://www.ampr.org/wp-content/uploads/square-512.png>



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### **RESONANCE IN A PARALLEL CIRCUIT**

The last article described a Series Resonant circuit. At resonance the voltages across the inductor (L) and capacitor (C) cancelled. This caused the voltage to be minimum and the current maximum. At resonance the series resonant circuit dissipates maximum power.

The parallel resonant circuit reacts opposite of the series circuit.

When a variable frequency source of constant voltage is applied to a parallel circuit there is a resonance affect similar to the that in a series circuit. However, in this case the applied current is smallest at the frequency for which the inductive ( $X_L$ ) and capacitive ( $X_C$ ) reactance are equal (or resonant). At that frequency the current through L is exactly cancelled by the out of

phase current through C, so that only a current taken by a resistance (R) flows in the line. R is normally quite high in a parallel circuit.

At frequencies below resonance the current through L is larger than that through C, because the reactance of L is smaller and that of C higher at low frequencies. At frequencies above resonance the reverse is true.

Where is the parallel resonant circuit used?

In our radio equipment it is used where a high resistance is needed at resonance. Such as the input and output of an amplifier stage. To block a specific frequency from affecting a circuit.

What about an antenna?

Most antennas are series resonant circuits. However, not all are. There are a variety of loop antennas. Some small and some very large. In either case the impedance of the antenna at resonance looks like a pure resistor, but with a maximum value. It can be in the thousands of ohms.

This condition does not directly match the 50 ohms of our radios. Therefore, a matching circuit is needed to use it as an antenna. Since the parallel or loop type antennas operate at maximum voltage, losses can be incurred easily. If you are aware of this, the loss may be avoided.

Another common area that the parallel resonant circuit is used is in our series resonant antennas. "Traps". Multi-band antennas can use a parallel resonant circuit at a specific distance in the dipole or vertical to block a frequency. Usually the one you want to use. This makes the antenna look shorter for that frequency electrically.

The series and parallel resonant circuits give us a variety of ways we can use resonant circuits in our equipment and antennas.

73,  
Ralph WD0EJA

08-15

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

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## THE RESONANT POINT - August 2022

### RESONANCE - SERIES AND PARALLEL

Our radios are packed full of resonant circuits of both kinds. Our antennas are resonant circuits of both kinds. To understand a few basic characteristics of these circuits will give us a good understanding of how our stations work.

#### RESONANCE IN SERIES CIRCUIT

Consider a resistor, capacitor and inductor (coil of wire) connected in series with a source of alternating current (RF). One side of the AC source is at the inductor (L), the other side at the resistor (R) and the capacitor (C) in the middle. The frequency can be varied over a wide range.

At some low frequency, the capacitive reactance  $X_C$  (resistance of the capacitor) will be much greater than the resistance R. R normally is low because it is mainly the resistance of the wires in the circuit. The inductive reactance  $X_L$ , will be low compared to the  $X_C$ . On the other hand, at some high frequency  $X_C$  will be very low and  $X_L$ , will be very high. R stays the same. Either extreme the current will be low (little power consumption), due to the net reactance being high.

At some intermediate frequency, the  $X_C$  and  $X_L$  will equal and the voltage drops across the coil and capacitor will be equal and 180 degrees out of phase. Therefore, they cancel each other completely and current flow is determined wholly by R which is normally very low. At that frequency the current has its largest possible value. This means that power consumption is at maximum. At this point where  $X_C=X_L$  is said to be resonant.

Most antennas react as a Series Resonant Circuit. Therefore, you want to cancel the reactances ( $X_C$  and  $X_L$ ) to resonate the antenna. This commonly applies to most varieties of dipoles, verticals and the Isotron (had to throw that in). The 2 values,  $X_C$  and  $X_L$ , are good to know to understand our antenna systems.

If your antenna is in a tight location, or is not as straight as it should be, one or both of the reactances will change. This means the antenna will not tune like it should. Can it be fixed?

Yes, quite easily. You will need to know the 2 values,  $X_C$  and  $X_L$  of the antenna. Without coax, you can use most analyzers at the antenna to get this reading. With coax connected, you can use a Noise Bridge at the antenna to find these values. Once you know, it is a simple matter of adding or reducing the value of one of the reactances to make it equal at the frequency you want. Lengthen the antenna to increase  $X_L$  and lower  $X_C$  or shorten the antenna and lower  $X_L$  and increase  $X_C$ . Or, you can add the component (capacitor or coil) to the circuit or antenna to equalize the reactance.

Knowing these values can allow you to get an antenna to work in tight and restrictive locations. Much of this compensation can be done at the radio. This is basically what a tuner is doing. Keep in mind that most of the correct values should be at the antenna. The Tuner can be used to make a reasonable adjustment. You can also add the values needed at the antenna if you know what they are.

Next article will be on the parallel configuration.

73,  
Ralph WD0EJA  
Aug. 2022

06-15

**PLEASE FORWARD THIS ARTICLE TO THOSE YOU FEEL WOULD BE INTERESTED.**

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From ECHOLINK website:

What can I do with EchoLink?

EchoLink allows licensed Amateur Radio stations to connect to one another over the Internet. You can use EchoLink to connect your station (or your computer) over the Internet to other amateurs using the same software, and carry on a voice QSO. This greatly enhances the range and utility of mobile and portable VHF/UHF-FM stations, and also allows computer-equipped hams to access distant repeaters directly.

You can access EchoLink either with a radio or a computer. If you are in range of an FM repeater or simplex station equipped with EchoLink, you can use DTMF commands from your radio to access the EchoLink network. If you are a licensed amateur with an Internet-connected PC, you can access EchoLink stations directly from your PC.

How do I get started using it?

First, download the software from this Web site. Then, install the software on your PC, be sure you have a good Internet connection, and start it up to register your copy of the software. The final step is to provide proof of license so your callsign can be added to the system; see Validation for details. Then, you're ready to go.

Is EchoLink available for any platform other than Windows?

EchoLink is designed specifically to run under Microsoft Windows. Currently, there are no plans to offer versions of EchoLink for other platforms (except as noted below).

Is EchoLink available for smartphones and tables, such as an iPhone or an Android phone?

Yes! An edition of EchoLink for the Apple iPhone and iPad is available, free of charge, at the App Store. For Android devices, please install EchoLink from Google Play.

73

KF00TE





## Colorado Repeater Association Swap List

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You can submit listings, updates, or any questions about the swaplist to

[craswaplist+owner@groups.io](mailto:craswaplist+owner@groups.io)

You can also hear the latest swaplist and submit listings during the CRA net on Sunday mornings.

Subscribe to the weekly swaplist newsletter by sending an email to

[craswaplist+subscribe@groups.io](mailto:craswaplist+subscribe@groups.io)

Please include the following information when you submit a listing: Name, call sign, telephone number including area code, and email address if desired.

Edit your subscription to the craswaplist by going to groups.io and setting up an account.

For information about the Colorado Repeater Association, go to [www.w0cra.org](http://www.w0cra.org), send an email to [cra@w0cra.org](mailto:cra@w0cra.org), or call (303) 840-4CRA (303-840-4272).

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Upcoming hamfest--

Sunday, August 28, 9 a.m. to 1 p.m., Denver Radio Club Hamfest, Adams County Fairgrounds, 9755 Henderson Road, Brighton. Admission \$6, free admission for children with adult. Tables \$13 in advance, \$20 at the door. VE testing at 10 a.m. Talk-in on 145.49 or 448.625 MHz 100 Hz. For more information, go to [W0TX.org](http://W0TX.org) or contact Cathy, N0CRZ, at [drcfest@w0tx.org](mailto:drcfest@w0tx.org).

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For sale--

Johnson Adventurer 80 to 10 meter tube transmitter, serial number 84545, includes manual, 35 watts out on 7.029, recapped, has Johnson

122 VFO mod, \$225;

Johnson Adventurer 80 to 10 meter tube transmitter, unreadable serial number, includes manual, 25 watts out on 7.029, rough note with some trace of filtering (i.e., RST = 594), had old recap but wants another, has Johnson 122 VFO mod, \$175;

Johnson Adventurer 80 to 10 meter tube transmitter, no manual, serial number 084173, no case, oscillates but no RF output, has Johnson 122 VFO mod, \$90;

Hammarlund HQ-110c 160 to 6 meter receiver with clock and matching S-100 speaker, includes manual, has SO-239 antenna connector, does receive but would enjoy a going-through, \$250;

Hammarlund HQ-110c 160 to 6 meter receiver with clock (missing knob) and matching S-100 speaker, includes manual, does receive but would enjoy a going-through, \$225;

Yaesu FT401b 1975-era 80 to 10 meter tube transceiver, serial number 126412, approximate CW RF outputs into antenna at 80m = 130W, 40m = 450W, 20m = 75W, 15m = 230W, 10m = 350W, works but would enjoy a recap, \$400;

Allied Knight-Kit Star Roamer 1965-era receiver, includes manual, for parts or restoration, \$60;

Allied Knight-Kit Star Roamer 1965-era receiver, no manual, for parts or restoration, \$40;

Allied Knight-Kit Star Roamer 1965-era receiver, no manual, for parts or restoration, \$40;

Hammarlund S200 speaker, for larger HQ-170 style receiver, \$100;

Ameco PT-3 160 to 6 meter RF signal preamp with manual and AMPT3RA second-receive-antenna add-on, \$100;

Autek QF-1a active AF filter with manual, features peak, notch,

low pass, variable frequency and selectivity, \$75;

B&W FL-10/1500 TVI filter, 1.5 to 30 MHz, 1000W, 52 ohm, \$15;

Kenwood AT-230 antenna tuner, \$225;

KLM PA10-70b 2-meter amplifier, 13.5VDC, 6 amps, \$100;

Radiowavz 160DBZ Double Bazooka coaxial dipole for 160 meters, 246 feet long, \$100;

Ringo AR-2 antenna, includes manual, \$10;

Ringo ARX-450b antenna, includes manual, \$10;

Homemade 2m copper pipe J-pole, no manual, \$20;

RC5A-2 rotator control unit, no manual, no case, control unit only, no rotator, \$10;

Heathkit HD-10 Morse code keyer, \$20;

Assorted RG213 coaxial cables, various lengths and prices;

Wanted--

Twenty to 40 feet of Rohn 25, including the top section and rotor plate;

Changing health, had bought to restore but now downsizing. Located in Franktown, east of Castle Rock.

Woody WØUI 303-660-1616 [w0ui@arrl.net](mailto:w0ui@arrl.net)

5-1-22

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For sale--

One M2 2 meter HO loop with M2 Mag Kit (mast and mag mount) accessory, \$125;

One pair (2) of 2 meter (144-146 MHz) loop antennas and a matching

phasing harness, can be mounted on a mast pipe or mounted right to the side of Rohn 25 tower, no tower offset required, email for more specs, new in box, never installed, \$200;

Located in Arvada.

Glenn AEØQ [ae0q@arrl.net](mailto:ae0q@arrl.net)  
5-1-22

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For sale--

Two VHF Engineering TX432 transmitters and two VHF Engineering RX432C receivers, circa 1970s, originally intended for a two-way link between two repeaters, each inside an enclosure and fully wired, can send pictures and brochure scans, make an offer, please;

Don WDØGCK [don.hillger@colostate.edu](mailto:don.hillger@colostate.edu)  
4-10-22

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Wanted--

A good set of used 2 meter duplexers, 140-150 MHz, any leads appreciated;

John NØGIO 970-883-2606 [johnball419@gmail.com](mailto:johnball419@gmail.com)  
4-10-22

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For sale--

National NC-173 resurrected older vacuum tube receiver, covers broadcast band through 6 meters, although not too usable on 6 meters, fully functional with speaker, no National emblem on the speaker, make offer but would like to see it go to a good home that appreciates vintage gear, pick-up only near the south end of Carter Lake in south Larimer County, no shipping;

Dave WØLEV 970-367-5222 (between 1000 and 1700 local time, or leave message) [WØLEV@ARRL.net](mailto:WØLEV@ARRL.net) also monitor 447.275 Fort Collins repeater  
3-27-22

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For sale--

Kenwood TS-480SAT, includes cables with ferrites, 500Hz CW filter,

TCXO high stability crystal oscillator, and all manuals, used only at one indoor location, \$500;

Wouxun KG-UV9D+ UHF/VHF HT, includes programming cable, \$100;

Elk 2m/440 L5 log periodic antenna with N-connector, includes 10 foot cable with N-connector on one end and SMA connector on the other, \$120;

GE Superadio 3, model 7-2887, high performance AM/FM radio, for AM band DXing, \$50;

Kenwood HS-5 radio communication headphones, 8 ohm impedance, \$40;

Hank KEØCU 303-916-9229 SE Aurora  
3-20-22

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For sale--

Retevis RT-9000D, brand new in the box, was told that I could use this for 2M/70cm but turns out I can't, \$90;

Jeff KFØDUT 901-857-1547  
3-13-22

-----  
For sale--

Press-die for punching accurate holes in sheet metal, useful for chassis and ground straps, punches range from 1/16 to 3/8 inches, to use place the sheet between the plexiglas and the matching steel plate, align the holes and then set the appropriate punch in the guide hole and give a whap with a hammer, includes box and sliding cover, lower quality Harbor Freight press-die is \$40;

Two cross-vises, can move a part in x or y directions, not the most accurate but could be useful to somebody, listed at \$25 each at Harbor Freight;

Located in Lakewood. Payment by check or cash. Shipping possible with extra cost.

Ralph WBØJKV 240-285-3643

3-13-22

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\*\*\*Beware if a buyer requests funds be sent via Western Union or wire transfer (very unsafe and used by scammers); or if the buyer offers to send you a cashier's check or payment greater than the price of your item (another common scam); or if the buyer mentions a "shipper's agent," it is almost definitely a scam.

\*\*\*Listings last for approximately 60 days, but you can ask for an extension or re-submit them after deletion.

\*\*\*The CRA Swaplist is a free service for the listing of amateur-radio-related equipment and services. For non-commercial use only. Individuals may post ads for used radio equipment and computer equipment intended to be used in amateur radio. Ads for new equipment, manufactured items, or used equipment in quantity are subject to deletion as commercial posts.

The CRA reserves the right to delete any content without notice.

\*\*\*Please notify us promptly when an item has been sold or obtained.

\*\*\*Copying of the CRA Swaplist must be done in its entire form.

## 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. 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



# PPRAA 2 Meter Net Script

Version date: 2021-10-17

## At 1955 hours (7:55 pm), announce:

The Pikes Peak Radio Amateur Association 2 meter net will start in five minutes, at twenty hundred hours. This is *[your call sign]*.

## Begin the net at 2000 hours (8:00 pm):

Calling all radio amateurs. This is the Pikes Peak Radio Amateur Association Thursday evening 2 meter net. Tonight's net control station is *[your call sign]* and my name is *[your first name]*.

The PPRAA 2 meter net meets each Thursday evening at 20:00 hours [20 hundred hours] local time on the CMRG repeater, 147.345 MHz, positive offset, CTCSS tone of 107.2 Hz. In case of repeater problems or failure, the net will move to the 146.970 PPFMA repeater using CTCSS tone of 100 Hz, negative offset.

All amateurs are warmly invited to check-in and participate in this net. This is a directed net, so please go through Net Control to contact another station.

The purpose of this net is to announce PPRAA club business, upcoming events and activities, to discuss technical topics, to disseminate general information of interest to the amateur radio community and to practice formal net procedures. Please listen closely and follow the net control station's instructions.

When checking into the net, please give your call sign, your name, your location and if you have traffic for the net. Please speak slowly and clearly, Use correct ITU phonetics. It helps to repeat your call sign at the end of your check-in. Please be patient as net check-ins usually have a few doubles.

## Take check-ins:

PPRAA Club Officers and Board Members please check-in now. *[Acknowledge all check-ins.]*

Portable stations and mobiles please check-in now. *[Acknowledge all check-ins.]*

Now, stations with suffixes starting with Alpha through Foxtrot. *[Acknowledge all check-ins.]*

Stations with suffixes starting with Golf through Lima. *[Acknowledge all check-ins.]*

Stations with suffixes starting with Mike through Romeo. *[Acknowledge all check-ins.]*

Stations with suffixes starting with Sierra through Uniform. *[Acknowledge all check-ins.]*

Stations with suffixes starting with Victor through Zulu. *[Acknowledge all check-ins.]*

Now all stations, with suffixes starting with Alpha through Zulu. **[Acknowledge all check-ins.]**

This is the PPRAA Thursday evening two-meter net, with **[your call sign]** as net control. Now we'll go to stations with traffic. **[Call on stations with traffic and lead discussion.]**

Are there any additional stations wishing to check in? Please call now. **[Acknowledge all check-ins.]**

### **Round-robin discussion:**

This part of the net is for round-robin discussion. We will take comments from each station in turn, and we'd like to hear: have you been doing anything on the air, or working on any ham projects? Or perhaps you've heard some amateur radio news, or watched a YouTube video, you'd like to share with the net? Tell us what's new in your ham shack. **[Call all checked-in stations in turn.]**

**[At least once every ten minutes:]** This is the PPRAA Thursday evening two-meter net, with **[your call sign]** as net control.

Does anyone have any questions, comments, or requests for the net? Please call now. **[Direct discussion.]**

### **Wrap-up:**

Last call for late check-ins, please call now. **[Acknowledge all check-ins.]**

You are invited to attend the PPRAA club meetings on the second Wednesday of each month. Social hour begins at 1800 (6:00 pm); the meeting begins at 1900 (7:00) pm. You may attend online on a Zoom meeting, and the online invite is emailed out to all members, or you may now attend in person, at Billy's Old World Pizza, 308 South 8<sup>th</sup> Street in Colorado Springs. That's on the southwest corner of US-24 and 8<sup>th</sup> Street, and we look forward to seeing you there.

In addition, the PPRAA has an Amateur Radio Operator's breakfast meeting on the first Saturday of each month, at a location posted on the PPRAA.org website.

PPRAA VE exams are held on the second Saturday of each month. Location is the Pikes Peak Regional Office of Emergency Management building located at 3755 Mark Dabbling Blvd. Testing is at 1000 hours and the tests are currently free to take.

Our net control operator for next week will be **[call sign of following week's net control]**.

The Pikes Peak Radio Amateur Association wishes to thank all the stations that joined us this evening, and the CMRG for the use of their 147.345 and 448.100 repeaters. I hope to hear you all next Thursday evening at 2000 hours (8:00 pm) for our next PPRAA two-meter net.

This is **[your call sign]** closing the net at **[time]** with a total of **[number]** check-ins. We are now returning the repeater to regular amateur use. 73 everyone! **[Your call sign]**, clear.



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

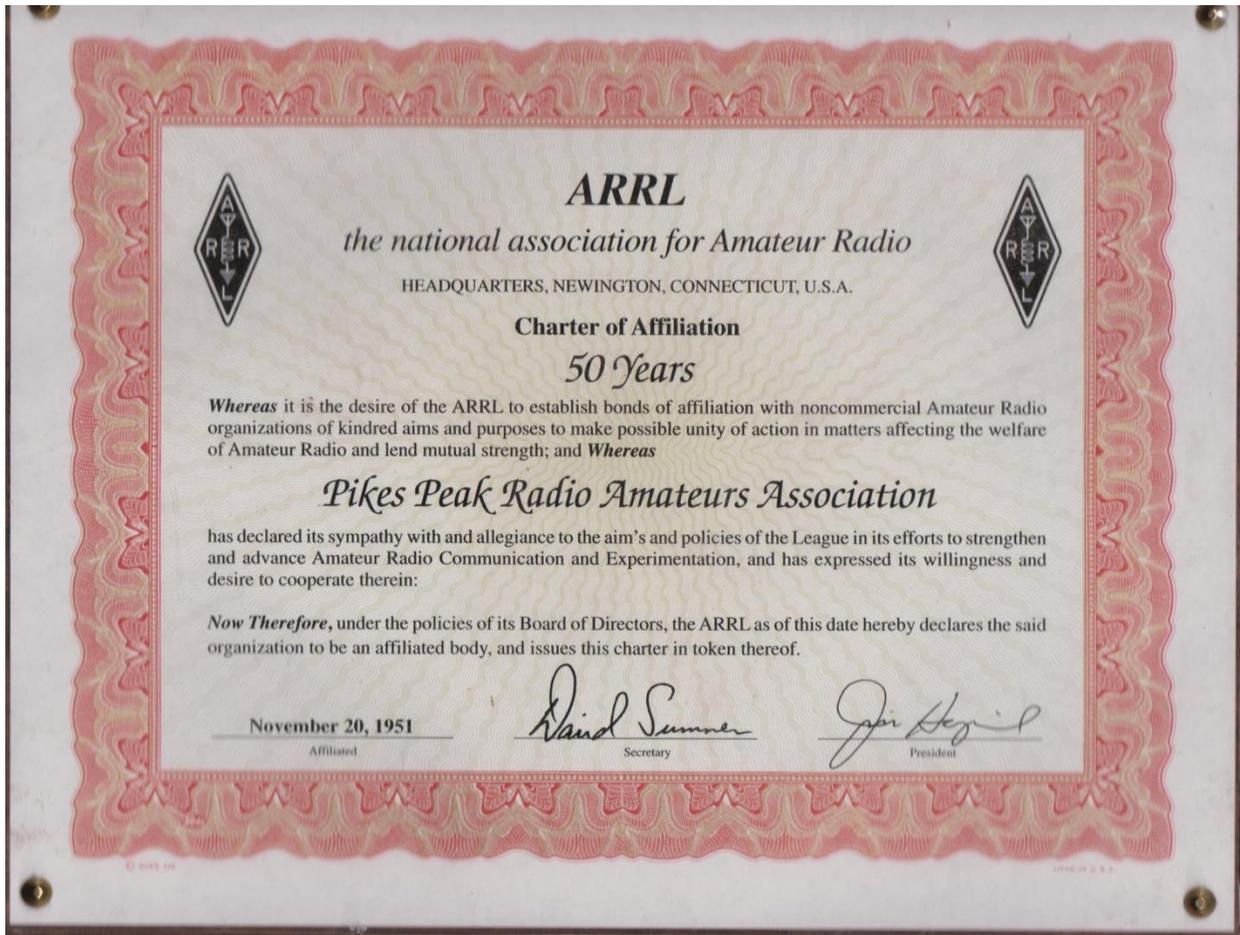
Club asset manager

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.



JIM HAYNIE  
WSJP, PRESIDENT  
JOEL M. HARRISON  
W5ZK, FIRST VICE PRESIDENT  
KAY C. CRAIGIE  
W7SP, VICE PRESIDENT  
JOHN C. KANODE  
N4MM, VICE PRESIDENT  
RODNEY J. STAFFORD  
W4RO, VICE PRESIDENT  
INTERNATIONAL AFFAIRS  
JAMES E. McCOBB  
W1LU, TREASURER  
DAVID SUMNER  
K1ZZ, EXECUTIVE VICE PRESIDENT  
SECRETARY  
BARRY J. SHELLEY  
N1VXY, CHIEF FINANCIAL OFFICER



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.
- 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

September 1983:

Thirty-five members were present at the August meeting. The club submitted the ARRL Special Services Club application to the ARRL representative Darla Richardson in Denver. Coffee funds are low, so all members are asked to contribute 25 cents for coffee or donuts. Novice classes are scheduled to begin on September 20. Hammy is missing! Anyone know where it is? The club decided to continue to meet at the Palmer House Motel despite the increase costs to \$20 per meeting. Dave NØDV is looking for volunteers for the Woodland Park Enduro on Sept 18, and Don KBØKQ is looking for help at the Academy Run on Sept. 10. Charlie and Oak gave a good presentation on amateur TV at the August meeting. Carl Smith ARRL vice president; Lys Carey, Rocky Mountain Division Director; and Marshall Quiat, Vice Director, will be at the September meeting to give a program on a variety of subjects. Due to lack of interest in the Woodland Park Enduro, the club asked the Mountain ARC to support it this year. Les KCØNC is coordinating the Balloon Classic this year

## 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 WOCD5 2M repeater as well. Considering our KOPRA repeater is being relocated, using the WOCD5 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://www.instagram.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 March 12, 2022 VE session.**

Our next session will be on Saturday April 09, 2022.

March 12, 2022 PPRAA VE Session - 10 Applicants:

6 New Technician  
2 Upgrade to Extra  
1 New Extra  
1 Unsuccessful  
--  
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 Dabling 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



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

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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 \_\_\_\_\_ Nickname \_\_\_\_\_

Email address \_\_\_\_\_ Address \_\_\_\_\_

Telephone \_\_\_\_\_

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

Call Sign \_\_\_\_\_ License Class \_\_\_\_\_

Are you an ARRL Member? " Yes " No

Additional family members residing at same address

Name \_\_\_\_\_ Call \_\_\_\_\_ Class \_\_\_\_\_ ARRL: "Y "N

Name \_\_\_\_\_ Call \_\_\_\_\_ Class \_\_\_\_\_ ARRL: "Y "N

Name \_\_\_\_\_ Call \_\_\_\_\_ Class \_\_\_\_\_ ARRL: "Y "N "

" Full Membership \$15/yr

" Family Membership \$18/yr

" Full Membership - over age 65 \$10/yr

" Family Membership - all over 65 \$12/yr

" Free - VE Signature required \_\_\_\_\_

Mail to: PO Box 16521, Colorado Springs, CO 80935, with check or money order or Scan and email to treasurer@ppraa.org, and pay with Paypal on www.ppra.org or Deliver to PPRAA Treasurer in person