



VOLUME 70 ISSUE 5  
May 2019

## PPRAA Club Officers

<b>President</b>	<b><u><a href="#">Jim Bishop, KD0KQL+</a></u></b>
<b>Vice President</b>	<b><u><a href="#">Don DuBon, N6JRL</a></u></b>
<b>Secretary</b>	<b><u><a href="#">Jay Winterton, KD0VRB+</a></u></b>
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<b>Ø-Beat Editor</b>	<b><u><a href="#">Jerre Redding, WAØBCM</a></u></b>
<b>Webmaster</b>	<b><u><a href="#">Douglas Nielsen, N7LEM</a></u></b>
<b>Past President</b>	<b><u><a href="#">Rich Milligan, ADØNP SilentKey</a></u></b>
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<b>Board</b>	<b><u><a href="#">Virgil Yost, N0XRS*</a></u></b>
<b>Board</b>	<b><u><a href="#">Raleigh Holcomb, N4HYF</a></u></b>
<b>Board</b>	<b><u><a href="#">Jim Goodwin, KD0SFP</a></u></b>
<b>Board</b>	<b><u><a href="#">Jim Rader, KD0NQM*</a></u></b>
<b>Board</b>	<b><u><a href="#">Mike McLaughlin, K0JT</a></u></b>
<b>Board</b>	<b><u><a href="#">Ray Uberecken, AAØL*</a></u></b>
<b>Board</b>	<b><u><a href="#">Mike Anderson, WV7T</a></u></b>

\* In final year of 2-year term

+ One year officer position

All officers can be contacted at: [boardmembers@ppraa.org](mailto:boardmembers@ppraa.org)

## Monthly Ham Breakfast



*La Tartine, 1420 Kelly Johnson Blvd*

*8 AM Saturday, June 1, 2019*

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



## May PPRAA Club Meeting

The May 8th 7PM club meeting will be at the Golden Corral on Palmer Park and Powers Blvd (just east of Powers Blvd).

1970 Waynoka Rd, Colorado Springs, CO 80915 (719) 591-9870

# April 2019 Board Meeting Minutes

4/8/2019

CTO @ 6:30 PM by KD0KQL (Jim)

In Attendance:

WV7T (Mike Anderson), KD0SFP (Jim Goodwin), K3ILC (Jim Madsen), KD0JAX (Terry Kift), KE0TWK (Michael Walter), WA0BCM (Jerre Redding), W5UDM (Dick Kohlhaas), AA0L (Ray Uberecken), KD0VRB (Jay Winterton), KD0SFY (John Bloodgood), N7LEM (Doug Nielsen), KD0KQL (Jim Bishop), KD0NQM (Jim Rader), N6JRL (Don DuBon), N4HYF (Raleigh Holcomb), K0JT (Mike McLaughlin)

Old Business:

- SK's: None
- ZeroBeat Report by WA0BCM
- Report on publicizing our Megafest by N7LEM – \$86 in tickets have been sold already for our Megafest. These were sold at the Adams's County Hamfest. Also spoke of the upcoming ARRL Rocky Mountain Division Convention planning meeting. N7LEM motioned that we pay \$250 for the Rocky Mountain Division Convention, KD0NQM Second. *All in Favor.*
- ARES Report by KD0SFY, SKYWARN Training 4/27, Basic SKYWARN class 3/26 6-8 PM at Falcon Division CSPD police station. 7850 Goddard St. Advanced Course at El Paso County Emergency Services Building at the Mark Dabbling Building on 4/27.
- Megafest Report – N6JRL - 7/27 at the high school. A complete list of names of volunteers is requested so we can produce a certificate of recognition for each volunteer.
- N6JRL - He is pricing t-shirts with the club logo on it. Banquet room idea for Christmas Party in Black Forest was presented. Don's youth team DX to Curacao and ticket sales for a radio (IC-7300) \$5 or 5 for \$20. Only selling 200. There is an application online for the DXpedition. Talk to Don if you know of anyone who is interested. 7/14-7/19. 3-4 youth+ and 2 team leaders. N7LEM motioned \$200 be given to the DXpedition. KD0VRB second. *All in favor.*
- WV7T – no other donations. All club stuff is now out in Ellicott.
- KD0NQM – King Soopers changed their program. Now you go to their website, register your card with them, anytime you buy something and they scan your card we get credit for the sales. The Megafest will be listed by the ARRL.
- VP Report, KD0KQL – he has been having a hard time logging into the website. Doug explained some issues that may have caused that to happen.
- Regarding the inventory at Ellicott, KE0TWK has taken on that duty. He and others will start a new excel spreadsheet for the inventory.
- Sam and Juanita went to some prospective locations for future meetings. Golden Coral is a great option for future club meetings. We will try meeting at Golden Coral in April.
- N6JRL – he wants to try something different for the raffle prizes and put the prizes in bags so people don't know what they are grabbing.
- KD0NQM motioned that we spend \$25 for admission to LARCFest to spread publicity of our hamfest. Second by KD0VRB. *All in favor.*
- KD0VRB moved that February and all past meeting minutes be accepted by the board. N4HYF second. *All in Favor*
- WV7T back on board? Vote on in club meeting.
- Secretary's Report by KD0VRB - K5UDM confirmed that payment has been made for the club sponsored scholarship

- K3ILC - Ellicott disconnected cable. New switch installed. Wanted to check SWR on multiple bands for each antenna. Perhaps we should post photos of the antennas to the website. Adapter had a short from multimeter check. Where are we going as a club?
- KD0SFY – he's getting some help with PR from AC1EG (Keith Thompson). Weather forecast 5PM Wednesday windy and gusty 40-60 mph winds.
- KD0NQM - we now have a fox for doing fox hunts. WE0EM sold his to the club for \$40.
- WV7T - antennas, EMP, work day needed at club station, field day station assignments announced, idea to do our own field day kind of thing outside of field day dates, Rocky Mountain HamCon convoy idea
- KD0SFP – looking for special event station ideas. Let him know if you have any please.
- Treasurers report by W5UDM - list last names on minutes too (at beginning), start paid club members out as new if they have been inactive (ie. unpaid) for very long.
- KD0KQL – W0EM, Jim Harris still has a lot of stuff for sale. KD8EQ Has a Tarheel screwdriver antenna for sale. Was \$600, now \$400.

#### New Business:

- SK's: K5LKT, Billy - W0TOM, Father Tom
- Treasurers report by W5UDM, Dick
- N7LEM, Doug \$31.47 was needed to pay for last minute printed flyers, KD0VRB motioned that we accept this expense, KD0NQM, Jim 2<sup>nd</sup>. *All in Favor*
- Webmaster report, N7LEM, Doug
- Secretary's Report – KD0VRB, Jay – KD0KQL, Jim will reach out to K0MAX, Neal regarding doing a Fox Hunt on field day.
- N6JRL, Don – 8/24 picnic date at Black Forest Regional Park. N7LEM, Doug and W5UDM, Dick have credit cards to make the reservation (they also have mail box keys). Make decision Wednesday night about doing Christmas party at Golden Coral. KD0VRB, Jay moved that we spend \$100 on the reservation, KD0NQM, Jim 2<sup>nd</sup>. *All in Favor*.
- N4HYF, Raleigh moving to Albuquerque and stepping down immediately as board member. WV7T, Mike is a great option for a club member who's willing to serve on the board. We will ask the club membership in our Wednesday meeting that follows. N6JRL, Don wants to have 2 meeting nights a year with a theme.
  - Theme 1: homebrew night and Don will present certificates. Historically, this has been held in January. Another theme could be an auction night. We could potentially do this in November after the elections.
- N6JRL, Don spoke with his friend from the civil air patrol about doing Wednesday's presentation.
- KD0NQM, Jim – Megafest Report – Everything is purchased and in place. N7LEM, Doug sold \$267 in tickets recently. KD0KQL, Jim has been selling tickets as well.
- WV7T, Mike and KE0TWK, Mike inventory out at Ellicott has been completed. KE0OKO, Larry and KE0SSH, Janet (photographer) helped. Ideas on how to be more accountable for the equipment out there. What items will be sold? Inventory to be put into excel first.
- WA0BCM, Jerre reserved pavilion #2 at Black Forest Regional Park.
- WA0BCM, Jerre – Remote access difficulties. Problems with ISP, potential upgrade needed for the data line coming from the fire station in the underground conduit.

- CCARC Meeting on 5/4 – N7LEM, Doug - Treasurer and Vice Chairman and Frequency Coordinator positions are available. Meeting in Boulder. Presentation on the Rocky Mountain Ham Network.
- KD0KQL, Jim – Membership meeting at Golden Coral on Wednesday.
- W5UDM, Dick will be out of pocket for the next few months tending to family needs.
- K0JT, Michael – Thursday evening 2m net participation by club officers is low and needs to improve.
- N7LEM, Doug – Hamcon Colorado meeting also upcoming on Saturday. Needs POC for UCCS to bring to meeting.
- ARES Report by KD0SFY, John - Skywarn training 4/27 EPC location. Events coming up. Contact on Facebook site regarding somebody trying to generate interest in Harvey Houses On The Air. Weather net to start pack up in May. New web page up for Pikes Peak ARES.

Motion to Adjourn @ 7:35 PM by KD0NQM

Second by KD0VRB

*All in Favor.*

## April 2019 Club Meeting Minutes

4/17/2019

CTO @ 6:45 PM by KD0KQL, Jim

In attendance: 38

Old Business:

- The board donated \$200 to Caribbean Youth DX Adventures to help fund this year's trip.
- KD0NQM stated that there are new procedures in place for King Soopers purchases. You must go to the King Soopers web site to register your card.
- The annual PPRA picnic will be in August.
  - The picnic will be either on Saturday, August 17 or August 24.
  - Lisa volunteered to reserve a date and space with El Paso County Parks.
- Technical education:
  - Mike, WV7T, is looking for a group of volunteers to meet one time a month, to come up with ideas on how to respond to emergency situations.
  - For instance, what would you do if we experienced an extended blackout?
  - New amateur-radio licensing students should contact Jim KD0KQL or Raleigh N4HYF to schedule training.
  - Input is requested to create a new "tips for techs" sheet for people who just received their license.
- We need to schedule a workday to perform housekeeping in Ellicott.
- UCCS is forming an amateur radio club.

New Business:

- SK's: Billy, K5LKT - Father Tom, W0TOM

N6JRL – W5LFL, Owen Garriott also recently passed away.

- New hams: Who talked you into becoming a ham, or why did you decide? (pick out a couple of new hams) Response from Barbara: Nobody
- KD0KQL, Jim read the letter from Rich's widow, Annette.
- Treasurer's report - W5UDM, Dick
- Motion to accept the treasurer's report by N6JRL, 2<sup>nd</sup> by KD0VRB. *All in favor.*
- May 4<sup>th</sup> 8 AM is the work day out at Ellicott
- N4HYF, Raleigh move that we accept the secretary's minutes as published. 2<sup>nd</sup> by NG0I, Jon. *All in Favor.*
- ZeroBeat Report: WA0BCM, Jerre
- Motion to accept the the ZeroBeat by Raleigh, 2<sup>nd</sup> by KD0VRB. *All in favor.*
- Skywarn training for hams on 4/27 at County EOC on Mark Dabling.
- KE0TWK, Mike status of equipment at Ellicott (inventory). If you have any club equipment please let the club know so it can be inventoried if it has not already been inventoried.
- K3ILC, Jim – Status of remote radio. It's been up and down again. Network problems due to the fire station disconnecting our CAT5 cable during payroll. If any questions about the remote ask him later.
- KD0NQM, Jim - Question about the King Sooper's cards. The cash cards for \$5 that we can put money on no longer goes to the club. The card that you run through at the scanner is the one that you register and gives a percentage to the club. You can register an old card. This can be done through their website through a Community Partners link. Type in "Pikes Peak Radio..." as the organization.
- N6JRL, Don – April Fools Prank on morse code tests for existing hams. Hihi
- N6JRL, Don - QSO card to his brother, N0ZUQ
- Who likes Golden Coral as the venue and who would prefer to go back to IHOP. Golden Coral wins!
- N6JRL, Don - Club Picnic at Black Forest Regional Park on 24<sup>th</sup> of August
- KD0KQL, Jim – hams in Minnesota that replied to the board on the reflector about the Honda 2200W generators and a safety recall. Jim brought his down there and the repair places are fixing many of these.
- N4HYF, Raleigh is leaving the board, WV7T, Mike KE0QCC nominated KE0SSH, Janet 2<sup>nd</sup>. *All in favor.*

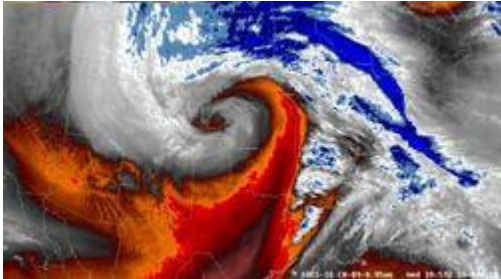
Program – N6JRL, Don –Dave Kalter Youth DX Adventure (YDXA) 2018 – Curacao

Motion to Adjourn @ 8:22 PM by N6JRL, Don, 2nd by N4HYF, Raleigh

*All in Favor.*

## Colorado ARES Volunteers Muster for "Bomb Cyclone" Winter Storm

Amateur Radio Emergency Service® (ARES®) volunteers in Colorado stepped up as a mid-month "bomb cyclone" winter storm struck the state, with heavy rain shifting to heavy snowfall. The storm affected several states and led to significant flooding in Nebraska. Parts of Colorado recorded winds of nearly 100 MPH and record-low barometric pressure readings. ARES teams in Colorado began preparations a day ahead of the so-called "bombogenesis" weather event.



**Water vapor imagery of the March 13 "bombogenesis" weather event.  
[National Weather Service image]**

[Pikes Peak ARES](#) alerted its personnel via email and a regularly scheduled Tuesday net and coordinated with the Special Communications Unit (SCU), a special cadre of radio amateurs in the Pikes Peak Regional Office of Emergency Management (OEM). Most SCU members also belong to ARES, but when called up by the OEM, they wear their SCU hats. The SCU planned to deploy to the Emergency Coordination Center (ECC) on March 12 and be ready to operate first thing in the morning.

At the time, the Red Cross did not anticipate needing Pikes Peak ARES support, so the ARES district planned to undertake weather spotting for the National Weather Service (NWS) office in Pueblo and relay status information to the ECC. By the morning of March 13, however, the storm's timing had changed, and the Red Cross requested ARES operators in four shelters, creating a problem with recruiting and deploying sufficient volunteers in time. Three ARES volunteers were identified, but by then the weather was so severe that only one was able to get through, amid difficulties.

At the request of NWS Pueblo, a formal weather net was called up and ran for more than 10 hours, even though the primary and back-up net control stations lost power for several hours. Some 70 operators provided reports during the storm and its aftermath. An informal net continued for another 16 hours until the SCU operators were released from the ECC.

"While the net started out as a weather net, it quickly became a common way for operators to report stranded motorists, requests for assistance, abandoned vehicles, Good Samaritan rescues -- important so that the ECC could clear police, fire, rescue, and National Guard units from responding -- shelter status, and requests about road conditions," said John Bloodgood, KD0SFY, Pikes Peak ARES Emergency Coordinator and Public Information Officer (PIO). The storm stranded more than 1,000 motorists in El Paso County.

Neighboring Douglas and Elbert counties also took proactive measures on March 12, opening emergency operations centers (EOCs) in anticipation of the storm. Both counties count on ARES of Douglas and Elbert Counties (ARESDEC) radio to support communication in



emergencies. Before the heavy rain turned to snow, the two counties had already begun to open shelters. The ARES team's operations staff closely followed weather forecasts and knew this activation would be different.



**Frank Watervoort, AB0WV (left), and Rand Reynard, W0RDR, at the Douglas County Emergency Operations Center. [Ron Coffee, KD0TRY, photo]**

"Our preferred procedure is to keep our operational periods to about 8 hours," ARESDEC Operations Chief Denny Phillips, W0DDP, explained. "However, we knew that once our people were in place, especially on the eastern plains, that providing relief would not be possible. Our people would have ride out the storm in the shelters."

As the storm progressed, it became clear to county officials that additional shelters would be needed. ARESDEC operators assisted the Red Cross in setting up shelters and organizing and managing food service.

By the end of the storm, more than 1,100 people were hosted in eight shelters across the two counties.

ARESDEC deployed 17 radio operators. Emergency

Coordinator Jim Rooney, N4JJR, praised the volunteers' performance, saying, "Our team performed well above expectations due to their commitment to training and willingness to serve."

Colorado Section Emergency Coordinator Robert Wareham, N0ESQ, oversaw and took part in the overall response. -- *Thanks to Pikes Peak ARES EC and PIO John Bloodgood, KD0SFY, and ARESDEC PIO Ron Coffee, KD0TRY*

## AMSAT, ARRL Comment in FCC Orbital Debris Mitigation Proceeding

AMSAT [has told the FCC](#) that several proposed rule changes related to the mitigation of orbital debris would have an extremely detrimental effect on both the Amateur Satellite Service and AMSAT's ability to launch and operate new satellites, including AMSAT's upcoming GOLF satellites. AMSAT filed comments on April 5 on an FCC *Notice of Proposed Rule Making* in IB Docket 18-313. AMSAT argues that amateur satellites often have longer mission lifespans than other small satellites and that the FCC should take a mission duration of 5 to 10 years into account when determining whether or not an amateur satellite will meet the orbital debris regulations, either by transferring to a parking orbit or re-entering the atmosphere within 25 years of mission completion. Current practice is to assume a "zero-year" mission and to require that amateur satellites meet the debris regulations.

AMSAT also urged the Commission to consider alternatives to a proposed rule that would restrict to altitudes of 650 kilometers or less satellites in low-Earth orbit that plan to meet the orbital debris mitigation guidelines through atmospheric re-entry. AMSAT noted that, had this rule been in place, it would not have been permissible to deploy AO-



85 and AO-91 in their current elliptical orbits with apogees of approximately 800 kilometers, even though both will re-enter within 25 years due to their low perigees.

Additionally, AMSAT noted that current plans for the GOLF-1 satellite are to meet orbital debris mitigation guidelines through atmospheric re-entry by deploying a drag device that will ensure re-entry within 25 years, despite deployment at an altitude higher than 1,000 kilometers. This proposed rule would prohibit GOLF-1's deployment at that altitude.

The Commission's proposed rules would further require that Amateur Satellite licensees indemnify the government against any claims made against the US due to the operation of a satellite. AMSAT believes this proposal would end the ability of AMSAT, or any other entity in the US, to launch and operate amateur satellites and urged the FCC to consider alternatives.



In [separate comments](#), ARRL said it supports "reasonable efforts to mitigate orbital debris" but that the FCC "must tailor its regulations for the Amateur Satellite service" and "not inadvertently impair the service's continuing vitality by applying rules crafted for commercial satellite services."

In this regard, ARRL supports AMSAT's positions, which suggest that "the nature of the modifications needed [should] achieve the Commission's expressed regulatory objectives without needlessly impairing the Amateur Satellite service."

ARRL said the FCC should exempt amateur satellites or otherwise ameliorate its proposed indemnification requirement and said that only telemetry "used to command onboard propulsion systems" should be subject to encryption.

ARRL also said amateur satellites proposed for disposal by atmospheric re-entry should not be restricted to orbital altitudes of 650 kilometers or lower, and that the longer duration of amateur satellite missions should be factored into the time required for a satellite to naturally de-orbit or be transferred to "a parking orbit."

Interested parties may file reply comments by May 5 via the FCC Electronic Comment Filing Service ([ECFS](#))



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## LIGHT EMITTING DIODES

The production of Light Emitting Diodes (LED) has soared. Especially since the technology has advanced to where we have high intensity white diodes. It has revolutionized the lighting industry. It would certainly humble Edison.

How does this diode make light?

It is quite a chemistry. It is still a diode, a P and an N material. It still conducts an electric current in one direction. The junction of the P and N material is where the light is emitted. The older diodes had a compound at the junction of gallium arsenide (GaAs) or gallium phosphide (GaP). Or putting the two together will vary the color (GaAsP). This is basic, LED's have advanced much further.

With the development of color, the uses have soared from indicator lights, to medical treatments, lasers to parking lot lighting.

How do you select a LED?

Colored LED's are rated in wavelength. It will be given in nanometers (nm). A nanometer is 1 billionth of a meter. This wavelength is an electric current oscillating so quickly that the wavelength is extremely short.

For example, a 600 nm wavelength will produce a red light. A 500 nm will produce green and a 400 nm a blue. You can get many variations of red blue and green desired.

What is needed to use an LED?

One, a direct current. It needs to be forward biased. The electric current needs to be within the specifications of the diode. A common value is 20 milliamps. Therefore, a power source is best to be current regulated. This way you can connect several LED's in series and have them all light up properly. The current regulator will vary the voltage to maintain the correct current.

The development of so many wavelengths has put LED's into medical treatments. A pulsating LED at a high frequency is focused on a sore joint. Does it feel better, or is this quackery? Well, if a veterinary uses this on your duck's sore leg it improves. Well, how about your dog or cat getting stiff joints as they age. Many times they will come bounding into the house from a visit. Did your pet just think it helped?

LED's have revolutionized what we can do with lighting and has done it with much less power consumption.

Below is Ken's, K0KS experience with early LEDs.

73,

Ralph WD0EJA

May 2019

## Volts from Light with LEDs

Light emitting diodes have drastically changed information displays and household lighting but LEDs are still diodes. They rectify AC and are one way valves for DC. But did you know that most diodes, including LEDs are bilateral devices and will convert light to a voltage. As a hands-on experiment connect any LED to a DVM then shine a bright light on the LED. The voltage is impressive but the amount of current available is quite small so we won't see LED arrays on rooftops supplying our household demand for power. My choice for a detector for an AM Modulated laser beam is an LED. The source is a red pointer type laser diode assembly and the receiver is a commonly used red display LED. Using a red receiver filters out much of the light noise from lighting. A high impedance amplifier input is required because the LED won't supply very much current.

55 years ago, when 2 meter repeaters were emerging on the Ham scene, the Identifying was done with Morse code generated by a diode matrix. The diode count of a matrix can be drastically reduced using Karnaugh Mapping, which I did for several machines. One machine would occasionally send garbage and the matrix was suspected. We had a large supply of clear glass signal diodes which were screened for low leakage. Eventually it was discovered that the Ident failed only when the equipment door was open and the fluorescent light turned out to be the culprit. The clear glass diodes were light sensitive.

We didn't discover the wheel because most diodes were already being put in black glass or plastic but it sure caused some confusion for a few weeks.

Commonly used indicator LEDs will generate a voltage from light and are, of course, most sensitive to a light of the same color as the lens. Clear ones are most sensitive to room lighting and when observed on an oscilloscope will show definite 60Hz patterns from fluorescent and incandescent lighting. Room lighting LED light-bulbs contain active circuit drivers and won't work and the extremely bright ones used in automobiles actually use a laser action and won't convert light either. That still leaves millions of them to experiment with.

Ken Shubert, K0KS

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## World Scout Jamboree Gearing Up for Significant Amateur Radio Presence

Amateur Radio will be a part of this summer's 24th World Scout Jamboree in West Virginia, the first World Jamboree held in North America since 1983. The Jamboree has chosen the theme "Unlock a New World." Thousands of Scouts and Scout leaders from some 200 countries are expected to attend. The Jamboree's Amateur Radio Exhibit will use the call sign [NA1WJ](#) -- **North America's 1st World Jamboree**. It will be on the air during the event, July 22 until August 2, at the Summit Bechtel Reserve, hosted by Canada, Mexico, and the US. Amateur Radio testing is expected to begin as early as July 14. Operating frequencies will be posted in real time via [Facebook](#) and [Twitter](#) or via an [NA1WJ email group](#).



"The goals of the Amateur Radio station at the World Scout Jamboree are to introduce Amateur Radio to Scouts and Scout leaders through hands-on participation in two-way communication with other stations across the globe. This activity will also serve as the Amateur Radio voice of the Jamboree," the [World Scout Jamboree Amateur Radio Exhibit Operational Vision document](#) states. Other facets of Amateur Radio at the Jamboree will include Amateur Radio direction finding (ARDF), Amateur Radio satellite contacts, and a scheduled Amateur Radio on the International Space Station (ARISS) contact with an ISS crew member.

"We also expect to launch one or two balloons with Amateur Radio payloads and track them as they cross the Atlantic," the vision document continues.

Organizers are encouraging radio amateurs around the globe to get on the air during the World Jamboree to help NA1WJ demonstrate Amateur Radio for Jamboree visitors.

The 2019 World Scout Jamboree operation at the Summit Bechtel Scout Reserve will take advantage of lessons learned by the K2BSA Amateur Radio operation during the 2013 and 2017 USA National Jamborees. It will also take advantage of the existing infrastructure, which includes three VHF/UHF repeaters installed by Icom America, as well as the utility poles for installing antennas. K2BSA ham gear stored in West Virginia includes antennas, rotators, and cables.

Evening operation from NA1WJ will involve at least two operators using the buddy system. VHF/UHF repeaters will offer full coverage of the Jamboree area via handheld transceivers, facilitating networking as well as emergency communication. The exhibit will include an Amateur Radio station with the special event call sign W8J.

The demonstration station will include multiple operating positions offering a variety of modes. These include six stations with 100 W HF transceivers, computer logging software, and large



screen computer displays; two VHF/UHF stations for demonstrations and repeater monitoring, and two satellite communication systems. The antenna farm will include two HF directional antennas, three HF dipoles, three HF vertical antennas, VHF/UHF verticals and satellite antennas with azimuth and elevation control, a trailer-based crank-up tower, a five-band Yagi, a 40-meter rotatable dipole, and a 6-meter Yagi.

Each station will be able to accommodate four participants at a time, plus one control operator. The goal is to give each participant up to about 10 minutes of operating time.

## BYONICS PicCon Foxhunt Controller



The PicCon can turn any transceiver into a hidden transmitter. It sends tone sequences and Morse code messages at user-programmed times and is configured and remote controlled with DTMF tones. A radio/power cable is required to interface to the radio mic/PTT and ear/speaker jacks, and to a 12V power supply. Radio cables and wiring diagrams can be found [here](#).



[PicCon Manuals](#) - User & Assembly Manual for the PicCon version 2.08



Add to cart

**PicCon** - \$66

Built and tested. Does not include [radio/power cable](#).



Add to cart

**PicCon Kit** - \$42

Kit version of the PicCon. All parts are through-hole. Does not include [radio/power cable](#).

## ARISS Seeks Hosts for Ham Radio Contacts with Space Station Crew Members

Starting on April 1, Amateur Radio on the International Space Station ([ARISS](#)) will accept applications from US schools, museums, science centers, and community youth organizations (working individually or together) interested in hosting contacts with orbiting crew members on the International Space Station (ISS). Contacts will be scheduled between January 1 and June 30, 2020.

Each year, ARISS provides tens of thousands of students with opportunities to learn about space technologies and communications through Amateur Radio. The program provides learning opportunities by connecting students to astronauts aboard the ISS through a partnership between ARRL, AMSAT, and NASA, as well as other Amateur Radio organizations and worldwide space agencies. The program's goal is to inspire students to pursue interests and careers in science, technology, engineering, and mathematics (STEM) and Amateur Radio.

ARISS says enthusiasm sparked by a school contact has led to an interest in ham radio among students and to the creation of ham radio clubs in schools. Some educators have even become radio amateurs after experiencing a contact with an ISS crew member.

ARISS is looking for organizations capable of attracting large numbers of participants and integrating the contact into a well-developed, exciting education plan. Students can learn about satellite communications, wireless technology, science research conducted on the ISS, radio science, and any related STEM subject. Students learn to use Amateur Radio to talk directly to an astronaut and ask their STEM-related questions. ARISS will help educational organizations locate Amateur Radio groups who can assist.

The deadline to submit proposals is May 15. Proposal webinars for guidance and questions will be offered on April 11 at 7 PM EDT (2300 UTC) and on April 16 at 9 PM EDT (0100 UTC on Wednesday, April 17). [Advance registration](#) is required. [More details](#), such as expectations, proposal guidelines, and the proposal form, are on the ARISS website.



**Astronaut Chris Hadfield, VA3OOG, speaks to students from NA1SS in 2013.**

## 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/>

## Major Events

### **Museum Ships Weekend Event**

- Saturday June 1, and Sunday June 2, 2019
- On Air
- More info [here.](#)

### **Field Day**

- Saturday/Sunday June 22-23, 2019
- Club Station, Ellicott, CO
- More info under Field Day tab above

### **PPRAA Megafest**

- Saturday July 27, 2019
- Lewis-Palmer High School, Monument, CO
- More info under Megafest tab above

### **2019 ARRL Rocky Mountain Division Convention**

- Friday August 8 thru Sunday August 10, 2019
- Weber State University Union Building
- West Campus Drive, Ogden, UT 84201
- More info [here.](#)

### **Denver Radio Club Hamfest**

- 18 August 2019

- Jefferson County Fairgrounds, Golden, CO
- More info [here.](#)

### **PPRAA Annual Picnic**

- Saturday, 24 August 2019
- 1000-1500 MDT
- Food served around 1230
- Pot Luck (Bring a salad, side dish, or dessert)
- Club provides burgers, brats, drinks
- Location: Pavilion 2 Black Forest Regional Park

### **Colorado QSO Party**

- Saturday August 30, 2019

### **WWV Centennial Special Event Station**

- 28 September – 2 October 2019
- On Air and Fort Collins, CO
- Operators needed
- More info [here.](#)

### **BARCfest**

- Sunday, 6 October 2019
- Boulder County Fairgrounds, Longmont, CO
- More info [here.](#)

### **JOTA-JOTI – Jamboree-on-the-Air/Internet**

- 18-20 October 2019
- More info [here.](#)

### **TechFest – 2019**

- Saturday November 2, 2019
- More info [here.](#)

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### **PPRAA 75 years Special Event Station**

### **PPRAA Veterans' Day Special Event Station**

### **PPRAA Pearl Harbor Day Special Event Station**

- QSL to:

PPRAA

PO Box 16521

Colorado Springs, CO 80935-6521

- No need to send a SASE, we will send cards to all confirmed contacts.



**Subject:** WWV Centennial Celebration and special event amateur radio station

**Date:** Jan 22, 2019 5:29 PM

1/22/19

Pikes Peak Radio Amateur Association, AF0S

To whom it may concern,

The Northern Colorado Amateur Radio Club (NCARC) is planning a special event amateur radio station to commemorate the 100th anniversary of radio station WWV. The National Institute of Standards and Technology (NIST) lists their celebration for October 1, 2019 (see attached press release). NCARC plans to operate a multi-station, multi-modal 24-hour effort for 5 days from September 28 through October 2, 2019. NIST and NCARC have been in collaboration but had to suspend planning when the government shutdown starting December 22, 2018.

Our committee decided we needed to reach out on our own; there appears to be no end in sight. We look forward to an eventual resolution, returning to planning this event with NIST, to their own press release, and to putting on a wonderful celebration of a major technological and historical milestone at the end of September 2019.

The enormous effort will require a large number of hams. While we will have some of our club members as operators, we know this effort is way more than we can do on our own. It would be our pleasure to share this experience with other clubs and amateurs who may have an affinity to WWV.

We plan to have an open application period, beginning mid to late February, no later than March 1. We will post the most current information on the Operators page of our website. Application instructions and requirements will be posted as soon as they are available.

We encourage you to consider a beautiful fall visit to Fort Collins and Wellington, Colorado! It will be a serious operating event, we think potentially akin to a DXpedition, but also should be a huge amount of fun and something to be proud of and remember.

Please share the press release with your club members, and do check on the event website, WWV100.com <<http://wwv100.com/>>, WWV100.org <<http://wwv100.org/>>, or WWV100.net <<http://wwv100.net/>>, often. It may take some time for the government to return to normal when it does re-open, but we will report any updates as we learn about them and can make them public.

Thank you and 73,

Dave Swartz, W0DAS

WWV Committee, NCARC

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

# Amateur Radio Emergency Links Info

Amateur Radio and Emergency Communications

<https://alertfind.com/amateur-radio-and-emergency-communications/>

Disaster Preparedness on a Budget

<https://couponfollow.com/research/disaster-preparedness-on-a-budget>

## From the annals of PPRAA history

**April 1982:**

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

# 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.

## Parker Radio Association

PPRAA Team,

Be sure to join us for our weekly nets Monday and Tuesday evenings!

First, Monday, at 8:30pm, on D-Star XRF223B, the PRA holds its D-Star net. There is plenty of conversations from everything digital to the latest projects and devices... from DStar / DMR / Fusion / Brandmeister / Hotspots, and even CW. This can be accessed via your local hotspot. Also, many have linked via the WOCDS 2M repeater as well. Considering our KOPRA repeater is being relocated, using the WOCDS 2M side would be best (please follow common/courteous practice when linking).

Second, at 8:00pm on Tuesday, is the PRA weekly analog net on the WOCFI 448.675 – (100Hz) repeater. This is a great way to catch up on the happenings of the PRA and is a great environment to ask any question related to the hobby or to give yourself some bragging rights on a recent license, upgrade, or new piece of equipment.

We'll see you on the air!

73,

KØPRA

Your Friends at the Parker Radio Association

[www.facebook.com/parkerradioassociation](https://www.facebook.com/parkerradioassociation)

[parkerradio.org](http://parkerradio.org)



## 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 CSEs** 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 N0ABC, PPRAA VE Contact, 719-213-1109

Jim Bishop [kd0kql@hotmail.com](mailto: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](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).



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](http://www.facebook.com/KE7XBOOKS) to keep up-to-date on book news and to be notified of book discounts at [www.lulu.com](http://www.lulu.com).

This book has 267 pages, 211 figures and diagrams, and 53 tables of data to make understanding the sometimes complicated ham radio operations much easier. The book follows KE7X's philosophy of presenting material in several forms to accommodate people with different learning styles -- reading, visualizing, hands-on -- with the many figures and text explanations and there are hands-on exercises throughout the book that can help you learn more about your particular radio.

Follow us on [www.facebook.com/KE7XBOOKS](http://www.facebook.com/KE7XBOOKS) to keep up-to-date on book news and to be notified of book discounts at [www.lulu.com](http://www.lulu.com).

One instructor for new and advanced ham classes has said, "This book is exactly what is needed. I've seen some other books targeting the new hams that are less than satisfying both technically and in content but this one is right on the mark and covers so much information that I so often get asked about, during and after teaching classes."

Here are more details on the content:

- With nearly 110 years of ham radio experience between them, the authors are still excited about the challenges this wonderful hobby offers. *The Successful Ham Radio Operator's Handbook* will guide you when exploring some of these.
- Its goal is to help new operators and returning old-timers learn about the breadth of exciting ham radio activities and challenges available today.
- It answers the question "Why is ham radio relevant in the Internet age?"
- It covers a wide range of topics, helping the reader to understand the excitement of different facets of ham radio and to choose a challenging and exciting activity to pursue.
- It helps the reader better understand how the radio works. Many hams only use a small fraction of the features of their radio. For example, if you understand how a noise blanker or a roofing filter or the AGC works, you will be able to more easily use these, and other, features of your radio to your benefit.
- It provides exercises designed to apply the knowledge to cement your understanding of how your radio works without being radio-specific. It is good for all makes and models.
- It helps the reader get enough background to understand much of the jargon hams who pursue special activities, such as the various digital modes, VHF contesting and moon

bounce. It quickly takes the novice reader to higher level of understanding and provides URLs and websites that help the reader go deeper into new interests.

- Antennas remain a key area where all hams can still successfully experiment and create a key part of their station. This book provides information to help new hams get started cutting their own verticals and dipoles. It explains why some popular multiband antennas may have compromises that impact performance.
- It gives practical guidelines about choosing transmission lines and building and using baluns and chokes.
- Digital modes such as RTTY, PSK and the new WSTJ modes are explained. The computer-to-radio connections needed for these modes are discussed and illustrated.
- Many hams are motivated by public service and emergency preparedness. This book describes typical local emergency organizations and national networks.
- Hams who like to operate while traveling will find practical information on reciprocal international agreements and how to get permission to operate legally.

## Online Practice Test Sites



Study for your Amateur Radio License exam:

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

[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