



VOLUME 71 ISSUE 4  
April 2020

## PPRAA Club Officers

<b>President</b>	<b><u><a href="#">Don DuBon, N6JRL+</a></u></b>
<b>Vice President</b>	<b><u><a href="#">Tom Oliphant, K0BUL+</a></u></b>
<b>Secretary</b>	<b><u><a href="#">Jay Winterton, W0WJ+</a></u></b>
<b>Treasurer</b>	<b><u><a href="#">Dick Kohlhaas, W5UDM+</a></u></b>
<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="#">Jim Bishop, KD0KQL</a></u></b>
<b>Board</b>	<b><u><a href="#">John Bloodgood, KDØSFY*</a></u></b>
<b>Board</b>	<b><u><a href="#">R, Lee Glazer KE0YSE</a></u></b>
<b>Board</b>	<b><u><a href="#">Dennis Major, N0ABC</a></u></b>
<b>Board</b>	<b><u><a href="#">Logan Perry, KE0KZA</a></u></b>
<b>Board</b>	<b><u><a href="#">Anthony Mitchell, KE0LQK</a></u></b>
<b>Board</b>	<b><u><a href="#">Mike McLaughlin, K0JT*</a></u></b>
<b>Board</b>	<b><u><a href="#">Michael Walter KE0TWK</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

### **PRAA club meals and meetings are temporarily cancelled due to the Corona virus outbreak**

## March 2020 Board Meeting Minutes

3/9/2020

CTO @ 6:15 PM by N6JRL (Don)

In Attendance:

N6JRL (Don Dubon), K0BUL (Tom Oliphant), W0WJ (Jay Winterton), W5UDM (Dick Kohlhaas), WA0BCM (Jerre Redding), N7LEM (Doug Nielsen), KD0KQL (Jim Bishop), KE0YSE (Lee Grazier), N0ABC (Dennis Major), KE0KZA (Logan Perry), KE0LQK (Anthony Mitchell), KD0SFY (John Bloodgood), WV7T (Mike Anderson), KOJT (Mike McLaughlin), KE0TWK (Michael Walter)

Old Business:

- SK's: None
- Treasurers report by W5UDM, Dick
- ZeroBeat Report by WA0BCM, Jerre
- Webmaster report, N7LEM, Doug o Mentioned Hamcon Colorado 2020 held on August 7-9, 2020. See <http://www.hamconcolorado.com> for more information.
- Secretary's Report – KD0VRB, Jay
- PPARES Report by KD0SFY, John o SKYWARN training program 4/25 o Other ARES events coming up
  - o Facebook request for digital presentations at the club meetings  Megafest

Follow-up - KD0NQM, Jim – Not present.

- Internet Committee - N7LEM, Doug – No progress or reasonable solution.
- Robin Adair will present on Wednesday
- Thurs. 10 m net – we're all invited to participate, 2 m net – we had 21 participants. We've changed our tech questions so they aren't as difficult.
- QCWA Chapter 58, WV7T, Mike – We only need 2 more members to start the chapter of the QCWA.
- KD0KQL, Jim Motioned that we move money from Amazon Smile to the scholarship fund account. N0ABC 2<sup>nd</sup>. Motion carried
- W5UDM, Dick – Moving scholarship to ARRL. Can be done after the March board meeting. Let's
- Bylaws – N6JRL, Don – All board members take a look at the bylaws and pencil in changes and go over these changes together at the next board meeting.
- WV7T, Mike – Asset labels presented
- FAR Scholarships – Move it to ARRL or another organization instead of FAR. Moved by KOJT, Mike, 2<sup>nd</sup> by K0BUL, Tom. Need to bring up adding another \$1000 scholarship to the club membership later.

- Bylaw discussion
- KD0SFY, John
  - o Sesquicentennial Celebration for the City of Colorado Springs
  - o Territory Days – 5/25 – Cost of \$255
- N0ABC, Dennis – WOMCT Doc's callsign to be used as our official call sign. Permission by the family granted. Doug is the trustee for the club station call sign.
- KD0KQL, Jim
  - o Mentioned an elderly ham with Parkinson's that needs an elmer. Jim will send out information on him to the board.
  - o Earl Watkins is going to school full-time and working full-time. He needs a replacement on the board. WV7T, Mike is volunteering. We can bring it forward to the club at the next meeting.

#### New Business:

- SK's: None
- N6JRL, Don – Read letter we sent to Juliet Brooks, acknowledging donation of equipment and what was sold.
- Treasurers report by W5UDM, Dick
  - o ARRL Scholarship information, \$1,000 each year
    - Name (PPRAA Memorial Scholarship Fund), where it goes to (a ham, college student from Colorado or attending school in Colorado), applicant must pursue studies in STEM at in a 4-year bachelors program.
- N6JRL, Don mentioned that we need to have special board meetings for time sensitive issues. He proposes a special board meeting or even a smaller committee to meet just on the bylaws.
- N0ABC, Dennis – Discussion regarding the bylaws. He suggests a committee of 4. WV7T, N7LEM, N0ABC, W5UDM, KD0KQL all volunteered.
- PPRAA already has a vanity callsign. We cannot have another. AF0S to WOMCT discussion for the club. QCWA could be the group that uses WOMCT.
- ZeroBeat Report by WA0BCM, Jerre
- WV7T, Mike – He made 2 selections of asset tags.
  - o We need a board member to step up as the activities coordinator. We don't have anybody for field day yet. We need a single person to take care of all of this. We could also use a myriad of other people to assist with other events (picnic coordinator, Christmas party, etc).
  - o Will the club support the QCWA with a banner?
- Webmaster report, N7LEM, Doug
- Secretary's Report – WOWJ, Jay
- PPARES Report by KD0SFY, John
  - o SKYWARN training program for ham radio operators, 4/25. Information is forthcoming.
    - o Gearing up for future events. Garden of the Gods 10 mile is coming up.
    - o Anthony and John got together to discuss getting information out to local elected officials. Also starting to work on declarations. As field day gets closer to us they'll be doing press releases and other PR efforts.
- N6JRL, Don – We should all have something written up and in a binder to hand off. Take some time to outline what we do and who our contacts are.
- Megafest - KD0NQM, Jim – July 11<sup>th</sup> Lewis Palmer HS. Setup on Friday at 7:30 PM. Dinner first then set up at gymnasium. List of raffle prizes is available. The budget was \$3300, spent \$2750. Total prize package is about \$3800. More prizes to be added to the pot.

- o He has had contact with a company that prints raffle tickets. Hopefully he'll have the price on the raffle ticket order.
- o N6JRL will be out of town. His wife will be out of town as well.
- o They need lots of help on Friday night to set up. They also need help on Saturday. o N7LEM, Doug mentioned that we'll need \$25 for a table at LARCFest. WOWJ, Jay motioned that we pay for this table. 2<sup>nd</sup> by KD0NQM, Jim. All in favor.
- Internet Committee – No update.
- K0BUL, Tom
  - o Wednesday we will have Don Frasier from PPFMA. They will give us some history and information on their repeaters, clubs, etc. Ask him questions as you'd like.
  - o Thursday evening nets were all held.
  - o Door prizes aren't paying for door prizes. K0BUL motioned for an injunction of \$150 be taken out of the treasury and put towards door prizes. 2<sup>nd</sup> by KD0NQM. All in favor.
- WV7T motioned that up to \$300 be spent on QCWA banners. 2<sup>nd</sup> by KD0KQL. All in favor.
- WV7T motioned that up to \$300 be spent on the barcode style asset labels. 2<sup>nd</sup> by K0BUL. All in favor.
- KD0KQL, Jim – Radio gear donated and to be sold to the club and then at Megafest.
  - o Lonnie has been a ham for quite a long time. One of his friends put up a mast and a G5RV. It has blown over. Jim, Mike and Lonnie will go out and put it back up for him.
  - o More hacked emails from Jim. Don't open them.
- Steve – Suggests ZeroBeat spotlight on a club member.
  - o He's willing to help out on field day, but not take charge on setup of antennas. He'd like to do this earlier rather than later. We'll make a plea at the club meeting for help.
- K3ILC, Jim – he found a tax-exempt status barcode for Home Depot.
- Upcoming events – KD0SFY, John o World Amateur Radio Day, 4/18

Motion to Adjourn @ 7:54 PM by N6JRL, Don  
 Second by KD0NQM, Jim  
 All in Favor.

## March 2020 Club Meeting Minutes

3/11/2020

CTO @ 7:00 PM by N6JRL, Don

In attendance: 36

- Pledge of Allegiance – Lead by N6JRL, Don
- SK's: None
- Introductions

Old Business:

- New hams – a new radio was given to one of our newest club members, Phil, who just got his license on Saturday.

- Treasurer's Report: W5UDM, Dick
- Secretary's Report: KDOVRB, Jay
- ZeroBeat Report: WA0BCM, Jerre – Final version of ZeroBeat coming out soon.
- N6JRL, Don – feel free to grab a club card on your way out tonight. Also, we have door prizes that you can purchase raffle tickets for. A youth DX Adventure is planned by N6JRL. He's selling tickets for a radio. He's also selling \$5 DX Adventure pins. All proceeds for the pins and the raffle tickets for the radio go towards the Youth DX Adventure to Curacao. Club pins are \$5. Proceeds from the club pins go to the youth scholarship.
- Webmaster Report: N7LEM, Doug – January minutes are on the website. HAMCON will be in Colorado, Aug 7-9. For more information please see the website:  
<http://www.hamconcolorado.com>
- PPARES Report: KD0SFY, John
  - o 25<sup>th</sup> of April – SKYWARN training
  - o 20<sup>th</sup> of June Mountain Top Cycling Club event
  - o Ascent Marathon – August
  - o Others to follow in later meetings
- KE0TWK, Mike – Business cards to pass out to publicize our club.
- N6JRL, Don
  - o Vote was held led by Don to make KE0TWK, Mike as a board member.
  - o Vote was held to make KE0YSE, Lee and K0PQ, Botten a board member. KE0YSE, Lee wins. Lee is the new board member.
- Megafest Report: KD0NQM, Jim
  - o All prizes have been purchased for this event.
  - o Application has been submitted to Lewis Palmer HS for our Megafest. No date has been received yet.
  - o We will get the raffle tickets and flyers printed as soon as we know the dates that we can use.
- KD0NQM, Jim – Discussed King Sooper's cards and Amazon Smile to fundraise for the club.

#### New Business:

- Welcome to new hams
- QCWA
  - o N6JRL, Don presented a certificate to N3TQU, Sandra for her 25<sup>th</sup> year as a ham.
- N6JRL, Don read a letter that we sent to Juliet Brooks regarding her donation to the club. We sent this so she could have it for tax purposes.
- WV7T, Mike – Kenwood station was also recently donated.
- K0BUL, Don - Jeff Becko donated a HP oscilloscope, Hy-Gain antenna and a server rack cabinet.
- WV7T – QCWA chapter 58 is getting recreated. If licensed 25 years ago and you want to join, you can. Doc's call sign might be able to be assigned as a station to this group/club. They may just have quarterly meetings and will have some Associate Members who are not at 25 years yet. Fee will be \$25 for the members and very small for an Associate Member.
- N6JRL, Don – asking for help on Field Day 2020.
- Board formed a committee for adjustment of the bylaws. After adjustments have been decided on, we'll present these to the general membership and then later they will be voted on by the club membership.
- Treasurer's Report: W5UDM, Dick
  - o Scholarship discussion: We used to send our money to FAR for the scholarship program.  
We are proposing sending money as the PPRAA Memorial Scholarship into the ARRL to a 4-year STEM program. Donation amount will remain at \$1,000. Motion to move forward with this by KD0KQL, Jim. 2<sup>nd</sup> by K0BUL, Tom.

- Secretary's Report: W0WJ, Jay
- ZeroBeat Report: WA0BCM, Jerre –ZeroBeat sent out.
- Webmaster's Report: N7LEM, Doug – Website is all up to date with Megafest info, HamCon Colorado (Regional ARRL Convention) and board member information. Flyers for Hamcon Colorado are available for pickup at the club meetings.
- N6JRL, Don – Many events may get canceled the near future due to the current Coronavirus Pandemic.
- Christmas Party – We'd like to do the same thing at the same place as last year. Ie. Black Forrest Community Center. We're going to invite some of the other smaller clubs in the area.
- PPARES Report: KD0SFY, John
  - Remember CDPHE – Colorado Division of Public Health and Environment for reliable local information on Coronavirus. President Trump just cancelled travel to Europe for the next 30 days (except the UK).
  - What can we do? Wash with soap and water at least for 20 seconds or use 60% alcohol hand sanitizer. If you have to cough or sneeze do it into a Kleenex, throw it away and then wash your hands. Don't touch your face, eyes, mouth. Keep your distance from sick people. Give doctors and hospitals a heads up if you think you have it. There are no race or ethnicity filters on this virus. If you get sick the biggest dangers are complications like pneumonia. Kids don't see as being affected by it. They could be carriers though.
  - 25<sup>th</sup> of April – SKYWARN training at 8 AM
- N6JRL, Don won't be at the Megafest because he'll be at Curacao for the Youth DXadventure. He's also selling \$5 DX Adventure pins. All proceeds for the pins and the raffle tickets for the radio go towards the Youth DX Adventure to Curacao.
- Megafest Report: KD0NQM, Jim
  - July 11<sup>th</sup> is the date. Information on the club website for prizes, etc. ○ Tables and chairs will be set up the night before. Volunteers are needed.
  - Volunteers are also needed for the day of Megafest.
- WV7T, Mike – Hands on training at his place this summer. If you have coax connectors to donate please bring them by.

Program: History & Future of Pikes Peak FM Association by Don, WA9WWS

Adjourned @ 8:41 PM by N6JRL, Don

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This article will also appear on our web site.

### **HOW DOES COAX WORK?**

Coax cable is for the purpose of transferring RF energy from the transmitter to the antenna.

Many are familiar with Ladder Line. 2 wires in parallel from the transmitter to the antenna. If the 2 wires are spaced very carefully with little variation, one side will be of a positive value (voltage or current) and the other will have a negative value exactly equal. The two RF fields cancel each other. This does not take away the RF energy, but keeps it from radiating into the atmosphere and follow the wires. In affect it makes a very high resistance to the atmosphere and a low resistance along the Ladder Line.

The draw back with Ladder line is it is affected by nearby objects. Something close to the Ladder Line will unbalance it. Therefore coax was developed to reduce that problem.

Coax is doing the same thing as Ladder Line electrically. The center conductor has one polarity while the shield has the opposite. The same principal of cancellation is taking place. The shield is not really a shield in that RF is contained inside of it. There is just as much RF energy on the shield as the center conductor.

Due to the physical shape of the coax, the shield can be kept at a zero voltage in respect to your grounding. So if you had an RF volt meter you would in theory measure 0 voltage from the shield to your grounded installation such as radio chassis, tower or mast, walls of your home and so on. Now a nearby object has little affect on the balance of the coax.

At times this balance can be disrupted slightly. The result is RF feedback, interference to other electronic equipment, common mode currents or voltages, higher than normal SWR readings and more.

The problems with coax is not severe. Most of these problems can be corrected relatively easily. We will offer more information in the future on this.

73,  
Ralph WD0EJA

April 2020

**Bilal Company**  
137 Manchester Dr.  
Florissant, Co. 80816 U.S.A  
PH/FX: 719/687-0650  
[wd0eja@isotronantennas.com](mailto:wd0eja@isotronantennas.com)

## How the National Bureau of Standards helped make “radio”

This was originally published as “NIST’s Role in the Early Decades of Radio (1911-1933)” on the National Institute of Science and Technology’s blog, *Taking Measure*.....Dan

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Even if you weren’t able to watch the recent Super Bowl on TV, you could still listen to the play-by-play commentary on the radio. But radio does more than just broadcasting sporting events or playing music. It plays a major role in emergency response, navigation and science.

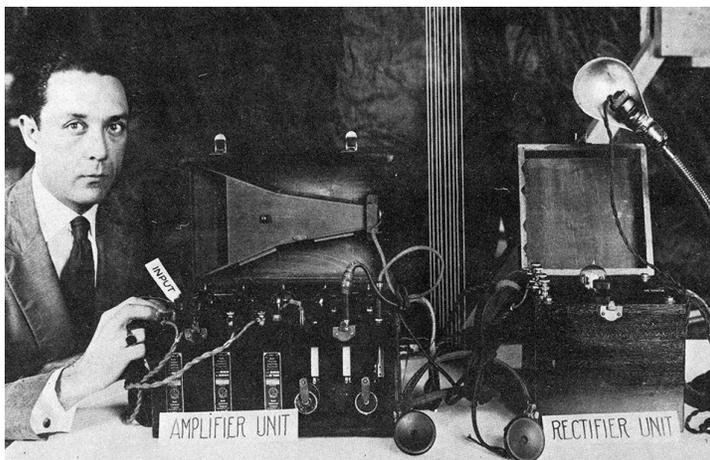
The word “radio,” however, didn’t become part of our regular vocabulary until 1911, and it happened thanks in part to J. Howard Dellinger, a radio scientist at the National Bureau of Standards (NBS), the agency that became the National Institute of Standards and Technology (NIST). This came about when the second International Radiotelegraph Conference was being planned in London, and a professor sent Dellinger a paper that he was going to present to the conference for review.

At the time, “wireless” was used as the term for radio communication, especially by the British. However, NIST was charged with revising standards in preparation for the conference, and Dellinger suggested that the professor use “radio,” which was already becoming a popular word in the U.S., instead of “wireless.” The professor agreed, and the word “radio” went on to become the universally accepted term.

Dellinger not only played a role in popularizing the word “radio,” but he also played a role in the first radio work done at NIST. A commercial company asked NIST to calibrate a wavemeter, a device developed by one of its engineers that measures electromagnetic waves like those of radio. Dellinger was known as the wireless expert and took on the project of calibrating the first radio instrument at NIST.

### A New Type of Radio Receiver

But for radio to become mainstream, it first had to be commercialized, which began with its introduction into households. However, the challenge was building a radio set that used the electrical current, called alternating current (AC), which powered lights, fans and kitchen appliances when plugged into wall sockets.



The predecessor to this technology was developed and patented by two researchers, Percival D. Lowell and Francis W. Dunmore, at NBS in 1922. They called their invention the “mousetrap.”

The “mousetrap” was a receiver for a radio amplifier that could run on AC. This was considered a breakthrough because at that time radios were only able to be powered by direct current (DC) provided by batteries. These batteries were bulky and heavy, had to be charged from time to time and were considered dangerous because of the acid used in them. The researchers’ prototype meant the radio could be used in homes without causing damage and with the same performance quality.

Lowell and Dunmore filed two more patents together for other innovations, and for the “mousetrap” they sold the rights to the Dubilier Condenser Corporation. Little did they know that, because there was no uniform policy on patents issued to government employees, their actions would result in more than a decade of litigation over who legally had the rights to the patent.

While they were tied up in court, the Radio Corporation of America (RCA) developed its own model of the AC radio in 1926. Its model later became the first AC-powered radio sold to consumers.

#### Flying by Radio

During the early years of flight navigation, NIST was doing research to assist pilots while they were flying and landing. Pilots needed three things to get their bearings when flying “blind,” meaning it’s foggy, too dark or too cloudy to see. They needed to know the longitudinal position, altitude and speed of the aircraft, which were all achieved by various beacons installed in the plane. The remaining issue was that there were two frequencies the pilot constantly had to switch between the frequency that the Department of Commerce used to send weather information to planes and ships, which sometimes caused interference for pilots, and the frequency the radio beacon operated on, which gave altitude and other information.

Dunmore created a prototype, but Harry Diamond, a radio engineer who joined NIST in 1927, completed the device, called the radio guidance system. Diamond solved the problem by developing a separate device that allowed for voice communication to the pilot without receiving any outside interference from ships’ radios.

A Curtiss Fledgling, a trainer aircraft developed for the U.S. Navy, was equipped with the device, and flight tests were performed between NIST’s experimental air station at College Park, Maryland, and Newark Airport in New Jersey in foggy weather. After a series of successful tests were performed, the device was turned over to be used by the Department of Commerce in 1933.

### **Praise From a Famous Inventor**

While mostly intended for serious users, some of NIST’s journals and publications were popular with the public. One such book, titled *The Principles Underlying Radio Communication*, covered topics such as elementary electricity, radio circuits and electromagnetic waves and was also published as a textbook for soldiers in the U.S. Army. The famous inventor Thomas Edison received a copy from NIST and wrote a

letter thanking the first director, Samuel W. Stratton, for publishing it, saying it was “the greatest book on this subject that I have ever read.”

As these and other examples show, NIST had a significant influence on radio research between 1911 and 1933. However, NIST’s radio work didn’t end with the first blind landing. NIST would continue to contribute to the field leading up to and during World War II, and research continues to this day in areas such as 5G, public safety communications and spectrum sharing.

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### **ABOUT THE AUTHOR**

Alex Boss is a general assignment writer in the NIST Public Affairs Office and covers standard reference materials (SRM). She has a B.S. in biology from Rhodes College and an M.A. in health and...



## New Amateur Extra-Class Question Pool Released

The new Amateur Extra-class license examination question pool, effective from July 1, 2020, through June 30, 2024, has been released and is available at the National Conference of Volunteer Coordinators ([NCVEC](#)) website.



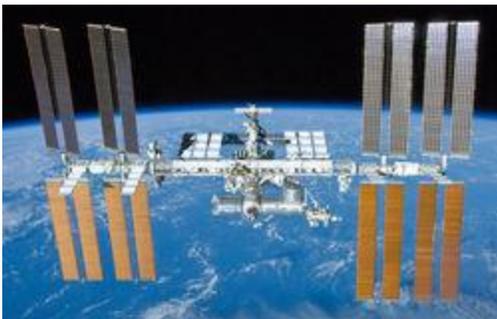
The [2020 - 2024 Extra-class pool](#) incorporates significant changes compared to the current 2016 - 2020 question pool, which

expires on June 30. The number of questions in the pool was reduced from 712 to 622. The result was 239 modified questions, 49 new questions, and 139 questions removed due to changes in what was felt to be an abundance of outdated questions, while areas of new technology and subjects were added.

In addition, an effort was made to balance the difficulty level, removing or replacing some questions deemed too easy or too difficult compared to the rest of the pool.

The 2020 pool has 10 diagrams, which have been renumbered because the new question pool has two fewer than the 2016 question pool.

## International Space Station Resupply Mission to Carry New ARISS Ham Radio Gear



The scheduled March 7 (UTC) SpaceX CRS-20 mission to the International Space Station (ISS) will include the initial Amateur Radio on the International Space Station (ARISS) Interoperable Radio System (IORS) flight unit, which is listed as a primary payload. The IORS is the foundation of the ARISS next-generation amateur radio system on the space station. Once at the space station, the IORS will be stowed for later installation.

The ARISS hardware team built four flight units, and the first will be installed in the ISS *Columbus* module. A second flight unit expected to be launched on a later 2020 cargo flight will be installed in the Russian Service Module. NASA contracts with SpaceX to handle ISS resupply missions.

The IORS represents the first major upgrade of on-station ARISS equipment. The package will include a higher-power radio, an enhanced voice repeater, and updated digital packet radio

(APRS) and slow-scan television (SSTV) capabilities for both the US and Russian space station segments. The IORS consists of a custom-modified JVCKenwood TM-D710GA transceiver, an AMSAT-developed multi-voltage power supply, and interconnecting cables.

The ARISS hardware team remains busy on IORS development and final certification. While the initial unit has been certified for launch and stowage on ISS, the team is still deep into the final certification of the IORS for flight operations, and construction of a second flight unit is in progress.

ARISS will mark 20 years of continuous amateur radio operation on the space station in November.



## Dayton Hamvention Officials Keeping an Eye on Coronavirus Situation

### Dayton Hamvention Cancelled

#### Refund Information

Due to unfortunate cancellation of Hamvention 2020, we know that tickets, inside booth spaces and flea market spaces have been purchased. These purchases have been made by online credit cards, mail order checks and purchased from our outside vendors. All refunds will be through the same method of purchase. All credit card sales will be refunded to the original card used to make the charge. All check and cash sales will be refunded by check. We anticipate all refunds completed as soon as possible but not later than August 1.

**We are offering the following options.**

1. Obtain a refund.
2. Obtain a 2021 ticket instead. (to be mailed around January 1, 2021) Hamvention 2021 May 21-23
3. Donate to Hamvention (no refund)

For all general admission (not inside or flea market) online and mail orders, email [tickets@hamvention.org](mailto:tickets@hamvention.org) with your preference. Emails already received will be processed as indicated. Inside booth holders please email [exhibits@hamvention.org](mailto:exhibits@hamvention.org) with your refund preference. If you opt for the hold until 2021 they will contact you to verify.

Flea Market staff will be contacting each flea market space holder personally concerning refund of space(s). For those who purchased tickets at Hamvention in Orlando, please send your ticket (keep a copy for your records) and last four of credit card for credit card refund (if purchased by card) otherwise it will be by check mailed to you.

Hamvention Hamvention forum ticket winners, please email [tickets@hamvention.org](mailto:tickets@hamvention.org) with your ticket number and address information. We will send you replacement 2021 tickets early next year.

If you purchased a ticket at one of our outside vendors then please return to the place of business and they will handle your refund.

Mail correspondence to:  
Hamvention Tickets - 2020 refunds  
PO Box 1446  
Dayton, OH 45401-1446

## ARRL Reshapes Podcast Offerings for 2020

In conjunction with the launch of its new [On the Air](#) magazine, which is aimed at those just beginning their journey in amateur radio, ARRL is reconfiguring its podcast lineup.

Heading up the new schedule will be a free companion podcast to the bimonthly *On the Air* magazine. The monthly *On the Air* podcast will take a deeper look into select features and projects from the magazine. Each month, host and *On the Air* Editorial Director Becky Schoenfeld, W1BXY, will offer additional resources, techniques, and hints to help less-experienced radio amateurs to get the most from the magazine's content.



In addition to the podcast, ARRL Product Development Manager Bob Inderbitzen, NQ1R, will curate a free *On the Air* blog featuring content from the communicators and makers who are the driving force of amateur radio today. The blog will highlight opportunities and activities available to new licensees. The *On the Air* blog is intended as an entry point into the world of amateur radio for those seeking original voices and perspectives. Readers will be [invited](#) to take part in the conversation by sharing their stories and experiences.

Upcoming events in the Rocky Mountain Division: (more info @ [ARRL.org](#): click on "hamfests")

LARCFest

04/04/2020

Location: Boulder County Fairgrounds  
9595 Nelson Road  
Longmont, CO

Type: ARRL Hamfest

Sponsor: Longmont Amateur Radio Club

Website: <http://www.w0eno.org>



**UTAH VALLEY HAMFEST  
& DISASTER COMMUNICATION 2020**

# The hamfest is now canceled.

We've had several people ask us to consider their registration fee as a donation, but we will also give refunds as requested. Please send refund requests to [refunds@utahvalleyhamfest.com](mailto:refunds@utahvalleyhamfest.com) by March 31.

Website: <https://utahvalleyhamfest.com>

Sponsor: Utah Valley Amateur Radio Club

Talk-In: 146.780- (PL 100.0)

Public Contact: Caryn Alarcon , KG7UUR

PO Box 1288 Orem, UT 84059

Phone: 562-965-6079

Email: [k7uva@arrl.net](mailto:k7uva@arrl.net)

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ARRL Rocky Mountain Division

Director: Jeff Ryan, KORM

[k0rm@arrl.org](mailto:k0rm@arrl.org)

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## Major Events

### **LARC Fest CANCELLED**

- Saturday, April 4, 2020 (0800-1400)
- Boulder County Fairgrounds
- Longmont, Colorado
- More info [here](#).

### **2020 ARRL Rocky Mountain Division Convention Hamcon Colorado 2020**

- Thursday, 6 August 2020: DX University
- Friday August 7 thru Sunday August 9, 2020
- Location: Parker, CO
- 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.

### **Unraveling the Mystery of 1 × 1 Call Signs**

The [1 × 1 Special Event Call Signs](#) system offers a way for clubs, groups, or even individuals to use a short call sign of special significance to the amateur community. These 1 × 1 call signs are [reserved](#) in

advance for use in conjunction with short-term special events and commemorative operations. The FCC does not assign 1 × 1 call signs, so they are not "official."

On the matter of special event call signs, the FCC says, in Section 97.3(a)(11)(iii) of the Amateur Service rules: "The call sign is selected by the station licensee from a list of call signs shown on a common database coordinated, maintained and disseminated by the amateur station special event call sign data base coordinators. The call sign must have the single letter prefix K, N, or W, followed by a single numeral 0 through 9, followed by a single letter A through W or Y or Z (for example K1A). The special event call sign is substituted for the call sign shown on the station license grant while the station is transmitting."

The FCC also says in Section 97.119 (d): "Additionally, the station must transmit its *assigned call sign* at least once per hour during such transmissions." This requirement tends to be widely flouted, however.

A 1 × 1 Special Event Call Sign aids other radio amateurs by calling attention to the special event or other occasion. 1 × 1 call signs may be used for a variety of purposes, such as conventions, festivals, dedications, anniversaries, commemorations, and ARRL Field Day. Even local events qualify.

There are 750 1 × 1 Special Event Call Sign possibilities, and radio amateurs of any license class may reserve one as far as a year in advance to use for up to 15 days. Of course, 1 × 1 Special Event Call Signs are recycled. It's first come, first served. See the [Frequently Asked Questions](#) page for more information. The FCC has selected coordinators to approve and post 1 × 1 Special Event Call Sign reservations to a [searchable database](#). -- *Thanks to The Radiogram (Portage County Amateur Radio Society newsletter)*

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

## PPRAA VE Session

Monthly on the second Saturday

Pikes Peak Regional Office of Emergency Management  
3755 Mark Dabbling Blvd, Colorado Springs, CO 80907, USA

Organizer: ve@ppraa.org

## 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 1981:

Dave Gieskieng, WØFK, gave the March presentation on his DL antenna. He also wrote an article for this month's Ø Beat describing the antenna and how it works. New novice classes will begin on April 7th at 7:30 pm at North Jr. High.

The restaurant used for the Saturday morning breakfasts has been closed down – need to find a new restaurant! There's a technical article on coax attenuation, velocity factor, etc. this month. The April meeting will be by Bob Poirier KØDJ on traffic handling.

## 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.

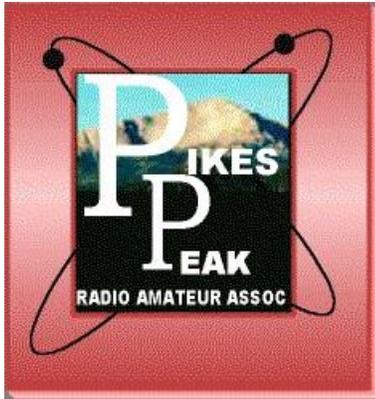
We'll see you on the air!

73,

KØPRA Your Friends at the Parker Radio  
Association

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

[@ParkerCORadio](https://twitter.com/ParkerCORadio)



# PPRAA VE EXAMS

**(MONTHLY) APRIL and MAY sessions CANCELLED**

PPRAA VE session has relocated and will be held at 10:00 am on the second Saturday of the month at Pikes Peak Regional Office of Emergency Management  
3755 Mark Dabbling Blvd, Colorado Springs, CO 80907, USA

Organizer: [ve@ppraa.org](mailto:ve@ppraa.org)

**TESTING IS FREE.** Applicants will need the following items at the session:

1. A valid **PHOTO ID**, driver's license preferred (if you do not have a valid photo ID, please call for alternative identification requirements).
2. Your **FRN NUMBER** (Please obtain in advance of the session).
3. A copy of your **amateur radio license** (if any).
4. The **ORIGINAL** of any relevant **CSCEs** you have **AND** a **PHOTOCOPY** for the VE Team to keep.

PPRAA VE Team policy, as with many VE Teams, is to not allow same day retests on failed exams. Anyone passing their Technician Class examination at a PPRAA test session will receive a free year's membership to the Pikes Peak Radio Amateur Association.

Jim Bishop [kd0kql@hotmail.com](mailto:kd0kql@hotmail.com), 719 332-5283

Dennis Major NOABC, PPRAA VE Contact



# MARC VE EXAMS

(January, March, May, July, September, November)

The Mountain Amateur Radio Club (MARC) VE Team conducts VE exam sessions in Woodland Park every odd month at 10 am on the first Saturday in the Community Meeting Room of the Woodland Park Library, 218 East Midland Avenue. The MARC VE Team is affiliated with the ARRL/VEC and examinations for all classes of license will be offered.

Full information, including driving directions to the Woodland Park Library, is available under "VE Sessions" on the MARC website at <http://www.nx0g.org/ve.html> or contact Wes Wilson (KØHBZ) at [k0hbz@arrl.net](mailto:k0hbz@arrl.net) or call (719) 687-8758.

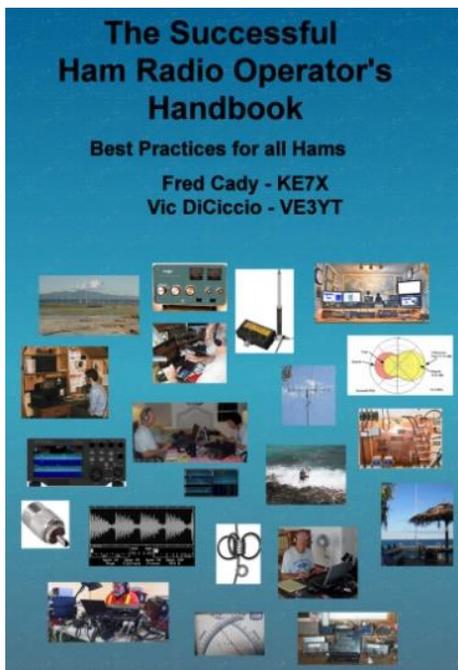
If attending, please BE SURE to bring the following items to the session:

**A valid PHOTO ID**, driver's license preferred (if you do not have a valid photo ID, please call for alternative identification requirements).

- 1. Your FRN NUMBER** (now required – this includes children Please obtain in advance of the session).
- 2. Your ORIGINAL amateur radio license** (if any) **AND a PHOTOCOPY** for the VE Team to keep.
- 3. The ORIGINAL of any relevant CSEs** you have **AND a PHOTOCOPY** for the VE Team to keep.

4. **Cash, Check or Money Order for \$15** (standard ARRL VE Fee). Checks and money orders should be made out to MARC and covers all the different exams you wish to take at the VE session.

MARC VE Team policy, as with many VE Teams, is to not allow same day retests on failed exams. For already licensed hams, MARC members should be monitoring the MARC repeater system 146.820- or 448.650- (both 107.2 Hz) if you need help with talk-in. 73 Dean Buckhouse



## The Successful Ham Radio Operator's Handbook

This new book is aimed at new or returning hams to help them understand the practical aspects of the hobby, how to use their radios, build antennas and baluns, and get on the air successfully. In it you will find explanations of how the various parts of your ham radio - the transmitter and receiver – work, plus how these are being implemented using software defined radio technology. Operating techniques for VHF/UHF repeaters, HF radio DXing techniques, and the new digital modes are covered. Radio propagation, antennas, transmission lines, SWR and the mysteries of baluns are explained. Building your HF station, choosing a radio, connecting your radio to a computer, and mobile and portable operation are extensively covered.

Both the pdf and spiral-bound printed versions are available from Lulu.com, and the print copy is also sold by DX Engineering. You can find them via the links below:

<http://www.ke7x.com/successful/ordering-the-successful-ham-radio-operator-s-handbook>

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

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

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

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

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

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

Here are more details on the content:

- With nearly 110 years of ham radio experience between them, the authors are still excited about the challenges this wonderful hobby offers. *The Successful Ham Radio Operator's Handbook* will guide you when exploring some of these.
- Its goal is to help new operators and returning old-timers learn about the breadth of exciting ham radio activities and challenges available today.
- It answers the question "Why is ham radio relevant in the Internet age?"
- It covers a wide range of topics, helping the reader to understand the excitement of different facets of ham radio and to choose a challenging and exciting activity to pursue.
- It helps the reader better understand how the radio works. Many hams only use a small fraction of the features of their radio. For example, if you understand how a noise blanker or a roofing filter or the AGC works, you will be able to more easily use these, and other, features of your radio to your benefit.
- It provides exercises designed to apply the knowledge to cement your understanding of how your radio works without being radio-specific. It is good for all makes and models.
- It helps the reader get enough background to understand much of the jargon hams who pursue special activities, such as the various digital modes, VHF contesting and moon bounce. It quickly takes the novice reader to higher level of understanding and provides URLs and websites that help the reader go deeper into new interests.
- Antennas remain a key area where all hams can still successfully experiment and create a key part of their station. This book provides information to help new hams get started cutting their own verticals and dipoles. It explains why some popular multiband antennas may have compromises that impact performance.

- It gives practical guidelines about choosing transmission lines and building and using baluns and chokes.
- Digital modes such as RTTY, PSK and the new WSTJ modes are explained. The computer-to-radio connections needed for these modes are discussed and illustrated.
- Many hams are motivated by public service and emergency preparedness. This book describes typical local emergency organizations and national networks.
- Hams who like to operate while traveling will find practical information on reciprocal international agreements and how to get permission to operate legally.

## Online Practice Test Sites



Study for your Amateur Radio License exam:

[Technician \(2018-2022\)](#)

[General \(2019-2023\)](#)

[Amateur Extra \(2019-2020\)](#)

[Other...](#)

### HamExam.org Amateur Radio Practice Exams

Log in using <https://hamexam.org> or click [\*\*register\*\*](#) to create an account. If this is your first visit to the site, please read my brief [\*\*introduction\*\*](#).

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