



VOLUME 70 ISSUE 4
April 2019

PPRAA Club Officers

President	<u>Jim Bishop, KD0KQL+</u>
Vice President	<u>Don DuBon, N6JRL</u>
Secretary	<u>Jay Winterton, KD0VRB+</u>
Treasurer	<u>Dick Kohlhaas, W5UDM+</u>
Ø-Beat Editor	<u>Jerre Redding, WAØBCM</u>
Webmaster	<u>Douglas Nielsen, N7LEM</u>
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Board	<u>Terry Kift, KD0JAX*</u>
Board	<u>Virgil Yost, N0XRS*</u>
Board	<u>Raleigh Holcomb, N4HYF</u>
Board	<u>Jim Goodwin, KD0SFP</u>
Board	<u>Jim Rader, KD0NQM*</u>
Board	<u>Mike McLaughlin, K0JT</u>
Board	<u>Ray Uberecken, AAØL*</u>

* In final year of 2-year term

+ One year officer position

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

Monthly Ham Breakfast



Rudy's Little Hideaway

945 S 8th Street Saturday, 4 May 2019

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



April. PPRAA Club Meeting

The April 17th 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

March 2019 Board Meeting Minutes

3/11/2019

CTO @ 6:30 PM by W0CEC, Curtis

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)

Old Business:

- SK's: WB0TUB
- W0CEC, Curtis is moving to Texas in March and so will be stepping down as club president immediately.
- VP Report, KD0KQL, Jim
 - Treasurer's report with W5UDM, Dick's absence
 - 192 members currently
 - Who's been making the scholarship donation?
 - 2/16 KC0ELC – Needs help taking down Jim Harris' tower and antennas
 - Thursday night net -officers and club members – not many are checking in. Petition to the board to please attend the net and check in.
 - K3ILC, Jim will update the instructions for connecting to the remote. He approves club member requests for access.
 - N6JRL, Don will be on standby for Wednesday's meeting presentation in case the individual who we had lined up falls through.
- N7LEM, Doug – Swapfest this Sunday at Adams County Fairground. We will have a club table on location. We hope to have tickets to sell. If they are not available yet we'll at least be letting hams know about the prizes available.
- N7LEM, Doug - 2020 is our year to host ARRL Rocky Mountain Regional Convention (Hamcon Colorado). 3/2 is the first planning meeting. Afterwards, it is every second Saturday. Talk to Doug if you'd like more information. Asking for seed money from the clubs to pay for expenses. More information on that later.
- ARES Report by KD0SFY, John – He is trying to get the annual SKYWARN training class scheduled with NWS. This is usually held the first Saturday in April but it probably isn't going to work out on that date this year. John mentioned that he will probably need some more mission coordinators soon.
- Megafest Report – KD0NQM, Jim – We got approval from the school district for 7/27 for our club Megafest to be held at the high school. We are in the process of ordering raffle tickets right now. Jim hopes to get those tickets to Doug by Saturday. A complete radio station is the main prize. N6JRL, Don – prior to the prizes being given we'd like to have the prize chairmain, cochairs for Megafest committee, President, VP, people who helped set up tables, and others who helped out for the Megafest recognized with a printed certificate (with signatures). He suggests that it'd be a good idea to give such certificates for future service as well. Recognition is often very appreciated when service is rendered.
- N6JRL, Don – need about 2 more youth and a club donation for the DXPedition in late July or August that he's planning.

- KD0NQM, Jim – His games manager license expires on 5/10/2020. He does not intend to renew. (2) people would be good in case somebody is sick. Need some club members to step up for this at our next club meeting.
- Secretary's Report by KD0VRB, Jay – Still need a Field Day Coordinator. We will bring this forward at the Wednesday club meeting as well.
- N4HYF, Raleigh – Discussion about solidifying a location for our club Christmas party and the club picnic. Nothing solidified although some ideas were mentioned. This needs to be discussed in our club meeting. Some potential possibilities: Big church, VFW, American Legion.
- N4HYF, Raleigh will be unavailable for the 2m net on 2/21. We'll ask in the club meeting who can serve as net control. If nobody, KD0NQM, Jim will do it.
- N7LEM, Doug – Ham breakfast – new location needed for these as the prior used location has closed.
- WWV centennial special event station coming up 9/28-10/2. Hams can be on air and contact them or go to Ft. Collins and work the station for them.
- WA0EM – Jim Harris – has a Bionics Microfox for foxhunts for sale. KD0NQM, Jim motioned that the club look into purchasing. Second by KD0VRB. *All in Favor.*
- WV7T, Mike – Recognition plaque example presented as a suggestion for those who have given exceptional service to the club. Current donation items at his house are now his to do as he pleases with (he will attempt to sell some of them and give the club the money). A larger venue is probably needed for future test sessions. An after-test session information session is to be given after test sessions to passing candidates. This will present new hams with helpful information that they likely unaware of.
- N6JRL, Don willing to be VP. We will present his name to the club on Wednesday for approval.
- KD0SFY, John – his SSTV ISS images shown to the board members– if you have digital things you can send to him to post on social media please do so.
- WA0BCM, Jerre – Photos great for ZeroBeat too. Send him an email if there's any special content you want in there as well. The 7/27 date for Megafest is to be put into there soon.
- K3ILC, Jim – remote is down again. He'll go out soon to troubleshoot.
- K3ILC, Jim – Amazon Smile issue putting money in the account. They got everything straightened out on the phone.

New 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 - Jim Harris still has a lot of stuff for sale. KD8EQ Has a Tarheel screwdriver antenna for sale. Was \$600, now \$400.

Motion to Adjourn @ 7:52 PM by N7LEM

Second by KD0NQM

All in Favor.

March 2019 Club Meeting Minutes

3/20/2019

CTO @ 7:00 PM by KDØKQL, Jim

In attendance: 43

Old Business:

- Treasurer was not present for treasurer's report.
- ARES Report by KDØSFY, John
 - PPRAA General Meeting was delayed 1 week due to severe weather.
 - During the blizzard, there over 70 operators contributing to the weather net.
 - SkyWarn training dates for the general public are accessible at weather.gov/pub
 - ARES SkyWarn training will be April 27 at Stetson Hills Police Department (open to all amateurs). Session begins at 8 AM.
- Webmaster's Report by Doug, N7LEM
 - The Larkfest will be on April 6. PPRAA will have a table there.
 - Initial planning has begun for the 2020 Rocky Mountain Convention. This year's convention will be in Utah.
 - Club website issues have been corrected. Links have been updated that were locked out. When you log in, your userID (call sign) is case sensitive. If you forgot your password, send an email to the webmaster to have it reset.
- Secretary's Report by K3ILC, Jim
- Remote status by K3ILC, Jim
 - The network supporting the remote may be down occasionally, because the ISP does not have enough bandwidth.
 - The antenna is not functioning well on 10, 15, and 17 meters.
- Megafest:
 - KDØNQM has the raffle tickets for the Megafest, which will be held on Saturday, July 27, at Lewis Palmer HS.
 - N6JRL is the co-chairman.
- Mike, WV7T, has taken care of all the donated equipment.
- Because of ongoing problems with service at IHOP, the next general meeting will be at the Golden Corral at Powers and Palmer Park. The board meeting will continue to be held at IHOP.

New Business:

- The board donated \$200 to Caribbean Youth DX Adventures to help fund this year's trip.
- KDØNQM 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 KDØKQL 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.

Program – N6JRL, Don –Youth DX Adventure (YDXA) 2010 – was cancelled because the video wouldn’t play.

Motion to Adjourn @ 7:59 PM by KDØNQM, Jim

Second by KØSDG, Larry

All in Favor.

PIKES PEAK RADIO AMATEUR ASSOCIATION

TREASURER'S REPORT

Period: 11 Mar - Apr 7
2019

=====		
ASSETS		\$
	Ent Checking Acct	5274.74
	Ent Savings Acct	3801.20
	Wells Fargo Checking Acct	2876.37
	Paypal	0.21
	Undeposited Funds	26.00
		=====
	TOTAL	11978.52
LIABILITIES & EQUITY		
	CO QSO Party Awards	-206.49
	Scholarship Fund	-267.00
	Unrestricted Equity	12452.01
		=====
	TOTAL	11978.52
=====		
INCOME		
	Membership Dues	40.00
	Interest	0.32
	Swapfest Admissions	20.00
	Swapfest Table Rentals	36.00
	Swapfest Reffle Tickets	86.00
		=====
	TOTAL	182.32
EXPENSE		
	Donation to Youth DX Group	200.00
	Seed money - Hamcon Colorado	250.00
	Equipment-Fox hunt transmitter	40.00
	UNKNOWN	81.36

Other	1.43
	=====
TOTAL	572.79
	=====
NET PROFIT (LOSS)	-390.47

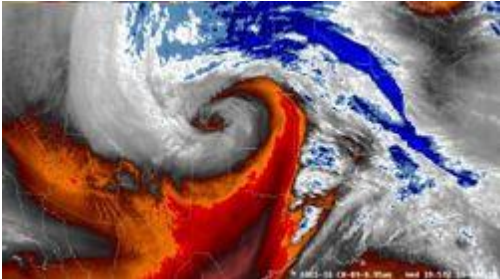
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NOTES:

Respectfully submitted:
Richard Kohlhaas, W5UDM
Treasurer

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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ZENER DIODES

The last article was about conventional diodes. There are many applications for various types of diodes. What they have in common are that they are made up of only two materials, a P (+) and a N (-) material. Depending on the composition, a diode can be made to do a variety of functions.

The Zener diode. These have been used for a long time. They are very effective in regulating voltage.

How does it work? Again, you can get as complicated as you want, but I am not up to that.

A diode allows current to flow in one direction only. A zener will do the same. However, if you use a zener in the reverse direction, it will not conduct current until you reach a specified voltage, then it will avalanche in conductivity.

Therefore, If you have a zener rated at 7 volts. It will not conduct current until you reach 7 volts. It will maintain the 7 volts very steady.

This is also a reason zeners are rated not only in voltage, but wattage. When the zener conducts it can not exceed the power of the diode. A 1 watt diode rated at 7 volts can not exceed .14 amps.

Therefore, your circuit design can not exceed this current because the zener will offer close to a short (near 0 ohms) when regulating.

Zeners are available from 1/4 watt to 50 watts. They come in a large variety of voltages. You can use two in series to obtain a higher regulating voltage. If you have a 7 volt and a 5 volt in series, they can be used as a 12 volt regulator.

Keep in mind that zeners regulate by shorting the circuit. Therefore, the circuit design has to be able to handle the short and so does the zener.

Common applications are regulating biasing voltages for amplifiers. It is common to see zeners in linear amplifiers for regulating the needed bias.

Zeners can be used in voltage dividers, transient protection (spark plug noise) and RF clamping to prevent over load of a sensitive RF amplifier.

If you want to try out a zener or want to know the unknown value, it is quite easy.

Connect a zener in series with a 1,000 ohm resistor. Apply a reverse bias. One lead to the zener and one to the resistor. Use a variable DC power supply. Measure the voltage across the zener only. You will see the voltage increase to the value of the zener and no more.

Zeners are a small inexpensive device with a large variety of applications.

73,
Ralph WD0EJA

April 2019

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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



PicCon - \$66

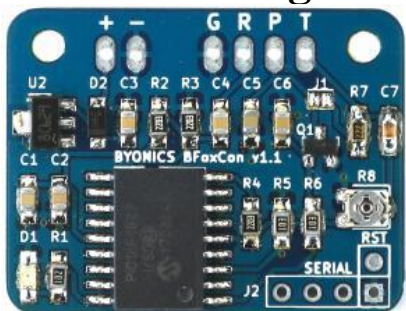
Built and tested. Does not include [radio/power cable](#).



PicCon Kit - \$42

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

BFoxCon Baofeng Foxhunt Controller



The BFoxCon is a foxhunt controller designed to pair with the inexpensive Baofeng UV-5R to create a hidden transmitter for driving hunts. It mounts to the back of the radio in place of the belt clip and can be powered from the UV-5R battery (BL-5L 3800mAh recommended). It can be configured with the optional USB-2.5 cable, or remote configured and controlled with DTMF tones. A DIY version is available for use with any amateur radio.



[BFoxCon User Manual](#) - v0.2



[MicroFox Config Program](#) - Windows Configuration Program v1.95



BFoxCon - \$55

Includes assembled PCB, wired and ready to be connected to UV-5R mic jack and BL-5L battery, plus USB interface cable.



BFoxCon DIY - \$45

Includes assembled PCB without radio or power cables, as shown to the right. This can be user wired to any handheld or mobile radio to create a DTMF controlled fox transmitter. Includes USB interface cable.

Can Indoor Antennas Work? Yes!

By Dan Romanchik, KB6NU

Recently, a reader asked:

I am studying your “No Nonsense” book as I prep for the Technician test. I am also learning CW. I am going to buy a Yaesu FT 450D as my first radio, and I want to use an indoor antenna as my first antenna. What do you recommend for CW?

I replied:

To be honest, I’ve never had a lot of luck with indoor antennas. Don’t let that dissuade you, though. I have worked many hams with indoor antennas. Just recently, for example, I worked a guy who was using a Buddipole (<http://www.buddipole.com/>) inside his apartment.

If you have an attic, you could easily install a dipole up there. The ARRL web page on indoor antennas (<http://arrl.org/indoor-antennas>) notes:

“Attics are great locations for indoor antennas. For example, you can install a wire dipole in almost any attic space. Don’t worry if you lack the room to run the dipole in a straight line. Bend the wires as much as necessary to make the dipole fit into the available space.

....

“Ladder-line fed dipoles are ideal for attic use—assuming that you can route the ladder line to your radio without too much metal contact. In the case of the ladder-line dipole, just make it as long as possible and stuff it into your attic any way you can. Let your antenna tuner worry about getting the best SWR out of this system.”

There are plenty of remote tuners now, too. You could install a doublet with elements as long as you can make them, connect them directly to the remote tuner, and then run coax to your shack.

I have also worked guys who have used Slinky antennas inside a house. The advantage of using a Slinky is that it is electrically longer than a wire of the same length.

An attached garage might also make a good location for an indoor antenna. VE3SO, who I've worked several times, uses a magnetic loop antenna installed in his garage (<https://www.kb6nu.com/magnetic-loop-antenna-at-ve3so/>).

If you do a web search for “indoor amateur radio antennas,” you'll get many more ideas. Here are a few that looked promising to me:

- Indoor antenna for 7 Mhz (<http://www.iw5edi.com/ham-radio/37/indoor-antenna-for-7-mhz>)
- An Indoor Reduced Size Rectangular Loop (<http://hamuniverse.com/kl7jrindoorloop4010.html>)

Another option might be to load up your gutters! I've worked a couple of guy who use gutter antennas, including WA8KQQ (<https://www.kb6nu.com/operating-notes-gutter-antenna-rac-contest-161-countries-worked/>) and K3DY (<https://www.kb6nu.com/operating-notes-computer-virus-club-net-gutter-antenna/>).

This blog post garnered a couple of interesting comments. *K2MUN wrote*, “For many years I've used an attic mounted off-center fed 40 meter dipole. With an automatic antenna tuner and a 4:1 balun I've worked lots of dx with both qrp and, more easily, 100 watts! Certainly, outdoors is much superior but an attic is a nice location in bad weather making playing with your antenna a pleasure :-).

John, KD0JPE, said, “If you have an attic available, check out the following 6-band coax trap-based antenna: <http://degood.org/coaxtrap/>. I constructed one of these 9 years ago and have had great results with it.

The bottom line is that indoor antennas can definitely work. They may take more work to put up than outside antennas, but as the saying goes, “Any antenna is better than no antenna.”

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.

Mailed 3-18-19
Received 4-3-19

Hello!

First allow me to ask your understanding to forgive me for not being able to take care of the matters I have found to be at hand. Matters I have never had to deal with before.

First, I have bought and commented on several 'Thank you' cards but could not send you thoughts of someone else, bought and paid for. Being from the South, my mother taught me to get that 'Thank you' card immediately in the mail and get it ~~was~~ crossed off my list.

However, some things don't work that way. They are just too special as was my husband and all of you.

Rich was so very special in so many ways. He didn't care for crowds of people, yet he worked tirelessly in any way to be with and help Hams. He sat on his radios for days at a time just for the joy all of you brought him. It was especially hard for him that the cancer took his voice and he could no longer participate on his radios.

After all the horrors of the following

days, people started calling and showing up at my house; I recognized names, but not faces. They were here to help! There were Jimo, Jimo, Jimo, and more! Just almost as many Larry's! Rhoda and Jan, and some I cannot remember. Even a Mike - You were all wonderful people!

I would have never been able to do what all of you could do. There are no words to express my feelings to all of you. There is so much that is not yet settled, but ^{what} all you have done for Devin and I cannot be equalled - ever!

Rich was proud of "his club" and his work as a Mom. Therefore, Devin & I are proud also.

I sincerely hope you recognize my heartfelt appreciation for all of you and your efforts.

God Bless Each of you,

Annette & Devin
Milligan

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/>

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 TBD, 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.](#)

PPRAA Annual Picnic

- TBD August 2019
- 1000-1500 MDT
- Food served around 1230
- Pot Luck (Bring a salad, side dish, or dessert)
- Club provides burgers, brats, drinks
- Location: TBD

Denver Radio Club Hamfest

- TBD August 2019
- Jefferson County Fairgrounds, Golden, CO
- More info [here.](#)

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

- TBD 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.](#)

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

March 1982:

Spring Novice class will start in mid-March at North Jr. High at 7:30. Al ADØZ reports the hamfest this year will be on April 18, with a backup date of April 25. Tables will cost \$5. Greg will write the letter requesting the hangar at Peterson Field. The PPRAA will resurrect the club net on 10 meters instead of 2 meters. Meet on 28.845 MHz and 146.52 MHz; Novices can monitor on 28.125 MHz. Still need to work out the details. Greg KAØFOZ gave the program on radio astronomy. Membership dues remain at \$12 for single, \$15 for family. Irvin Ebel WØKWV passed away this month. Irv was a strong supporter of the club. Dave NØDV writes a short article on ham radio education, and all the benefits in geography, science and math. And it's fun! Fox hunt on March 13. The board passed a motion to clean the club's typewriter and reimburse Don KBØKQ. Les reviewed the old bylaws and presented a rough draft for discussion.

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

ARRL affiliated-club stations may use the service when submitting club QSLs for its members in bulk ("pooling" their members cards together in one package) by indicating the club name inside the package. Club secretaries should check club affiliation on the ARRL web site to ensure that their affiliation is current. In a "pooled" package, each club member using this service **must also be an ARRL member**. Cards should be sorted "en masse" by prefix and a proof of membership should be enclosed for each ARRL member. QSLs for unaffiliated club calls may also be sent via the outgoing bureau to foreign destinations if the trustee of the club call is a member in good standing. The trustee's proof of membership must be included with the club call-QSLs.

Parker Radio Association

PPRAA Team,

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

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

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

We'll see you on the air!

73,

KØPRA

Your Friends at the Parker Radio Association

www.facebook.com/parkerradioassociation

parkerradio.org



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, 719 332-5283



MARC VE EXAMS

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

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

Full information, including driving directions to the Woodland Park Library, is available under "VE Sessions" on the MARC website at <http://www.nx0g.org/ve.html> or contact Wes Wilson (KØHBZ) at k0hbx@arrl.net or call (719) 687-8758.

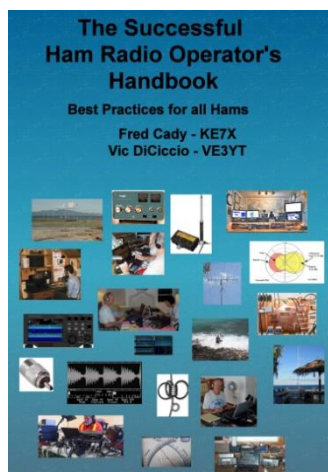
If attending, please BE SURE to bring the following items to the session:

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

1. Your FRN NUMBER (now required – this includes children).

2. Your **ORIGINAL** amateur radio license (if any) **AND** a **PHOTOCOPY** for the VE Team to keep.
3. The **ORIGINAL** of any relevant **CSCEs** you have **AND** a **PHOTOCOPY** for the VE Team to keep.
4. **Cash, Check or Money Order for \$15** (standard ARRL VE Fee). Checks and money orders should be made out to MARC and covers all the different exams you wish to take at the VE session.

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



The Successful Ham Radio Operator's Handbook

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

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

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

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

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

Follow us on www.facebook.com/KE7XBOOKS to keep up-to-date on book news and to be notified of book

discounts at www.lulu.com.

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

Follow us on www.facebook.com/KE7XBOOKS to keep up-to-date on book news and to be notified of book discounts at www.lulu.com.

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

Here are more details on the content:

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

Online Practice Test Sites



Study for your Amateur Radio License exam:

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

[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