



The **RADIOGRAM**

When All Else Fails ~ Amateur Radio Works

~ Official Newsletter of the Portage County Amateur Radio Service, Inc. ~

PCARS - the 2018 Hamvention® Club of The Year

January 2024 - Volume 19 Number 01



PCARS K8BF

The Club that puts the FUN in Ham Radio!





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President Mike, KP4VZ Vice President Ken WA8LRW Treasurer Greg, KA8TOA



1 Yr Trustee Chuck, W8PT 2 Yr Trustee Mike, KB8TUY 3 Yr Trustee Gene, W8NET



Past President Nick, AC8QG Secretary Paul, KE8EGF



From the President



Mike, KP4VZ
PCARS President



Being elected as the President of the Portage County Amateur Radio Service Club (PCARS) for the year 2024 is truly an honor and privilege.

First and foremost, we express our gratitude to Nick, AC8QG, for his outstanding contributions as President over the past three years. We would also like to extend our thanks to Jim, AC8NT, for his remarkable contributions as Vice President. We greatly appreciate their unwavering support as we strive to lead this exceptional club towards continued success.

I am filled with excitement and anticipation for the year ahead. Allow me to formally introduce myself. My name is Michael Gonzalez (KP4VZ) and I am happily married to Rosa (WP4MWB). I am also a proud father to my beautiful daughter Ashley (WP4PLR) and my son Michael A. After dedicating 28 years of my life to the U.S. Army, I retired in 2017 from my last assignment as the University of Akron ROTC Professor of Military Science. It was at this point that I decided to prioritize spending quality time with my family after years of long hours and deployments.

Regarding my ham radio experience, I obtained my Novice class ham radio license in 1993 and later achieved my Extra class in 2012. I became a member of the ARRL Volunteer Examiners in 2012. In 2014, I joined the Military Auxiliary Radio System (MARS) during my overseas tour in Fort Buchanan, PR. From the summer of 2014, until I relocated to Ohio in May 2015, I had the privilege of being assigned as the Puerto Rico MARS Director. After enjoying some well-earned free time, I chose to become a part of the local ham radio community. In the year 2023, I joined PCARS and soon after, eagerly volunteered to contribute towards the enhancement of the PCARS webpage. Additionally, I joined the esteemed PCARS VE team.

As mentioned by Nick (AC8QG) during our December Dinner Party, both Ken (WA8LRW) and I are enthusiastic and eager to begin working on our elected positions. On January 3, 2024, we will have our first PCARS Board meeting where we will go over and finalize the club's calendar for the upcoming year. To find out about our upcoming events in 2024, including FYAO, Field Day, OSPOTA, Amateur Radio Cruise-In, and the OH BBQSO Party, simply head over to our club's website at https://www.portcars.org/wp/Calendar_PCARS.html. You'll find our complete schedule of events there!

I would like to express my gratitude to all the exceptional leaders of our club who have already pledged their support to the new club leadership. Each of the SIG leaders has volunteered to continue leading their respective committees for another year.

Gene (W8NET) has offered his time to lead the new HF WAS & DX Nets SIG, and we truly appreciate his dedication. The first HF SIG meeting is scheduled for February 6, 2024, and will continue on the first Tuesday of every even month thereafter.

Chuck (W8PT) has already mapped out a whole year's worth of exciting contesting activities for all of us to enjoy.

Meanwhile, Tony (WA8AR) is diligently analyzing our performance during the 2023 field day. He is identifying areas where we can make improvements for the upcoming year, 2024.

On the other hand, Rick (K8CAV) is already working closely with Portage County leaders to coordinate the necessary communication assistance for the 2024 solar eclipse. As Portage County will be on the edge of the eclipse's path, the event is expected to last from noon to 4 p.m. on April 8, 2024. Rick will provide an update on the requirements to support this endeavor in our PCARS February meeting.

I am hopeful to witness a renewed dedication from our experienced members and witness the enthusiasm in the eyes of our new members as they participate in our monthly meetings, SIGs, and outdoor events.

I am eagerly looking forward to meeting you, so please don't hesitate to come up to me and greet me if you spot me at any of our meetings.

Wishing you a joyful New Year and may the Almighty keep showering blessings upon the wonderful PCARS community.

From the Vice President



Ken, WA8LRW
PCARS Vice President



Welcome!

January: Carole Perry will be presenting an update on her work getting youth interested in ham radio.

February: EMA Director Ryan Shackelford or EMA Deputy Director Brett Lee and Rick Kruis will be presenting with the Topic: Portage County Office of Homeland Security Management and Coms Unit; Communications Support Operations for 8 April Total Eclipse

Looking to see everyone at the January Meeting.

From the Treasurer

Greg, KA8TOA
PCARS Treasurer



I would like to wish everyone a Happy New Year and a very Merry Christmas. The club finances are in great shape, and we have some new officers and others who are taking new positions. Please give all of them some wiggle room and your support. Trust me there is a learning curve involved. Dues have been collected and we did lose some members which is unfortunate, but I understand the current economic situation and the age factor. So that being said we did pick up some new members in the last 4 months. We have a great club and good people running it, along with members willing to help others out and the club. I would like to thank Nick AC8QG and Jim AC8NT for their dedication to our club. Jim and his wife have donated time and money to keep the club site maintained. So, make sure you say thanks to them for their service over the years.

2023 President's Awards

Nick, AC8QG



As the PCARS president, one of my privileges is to select the annual recipients of the President's Award. This year, I was very happy to select Mike KP4VZ and Ken WA8LRW!

Mike and Ken both contributed to PCARS in significant ways throughout the year. They actively participated in SIGs, Field Day, and other club events. They volunteered and stepped in as leaders whenever we needed help. And, of course, they also stepped up big when we needed club officers for 2024!



Congratulations, Mike and Ken, and thank you for everything you've done and continue to do for PCARS!



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Happy Birthday PCARS Members

PCARS members having their birthday in **January**:

KB8ZWT	Jeff	KE8NNC	Brian	KE9BFA	Janice
N8GIE	John	KE8TEJ	Roger	K8JJM	Jeffrey
KB8SZI	Peggy	K8MSH	Mark	N8NB	David
N1CJW	Christopher	NR8W	Russell	NX8G	Rex
KE8KBJ	Mara	KD8SOP	Eddie	AJ8Q	Christopher



Schedule of Events

- January 3rd - PCARS Board Meeting at PCARS Club Site – 7 pm
- January 8th - PCARS meeting at the Kent American Legion - 7 pm
- January 20th - PCARS ParkPediton – Wingfoot Lake State Park

Special Interest Groups at the Club Site

- First Tuesday Odd Months - **Digital Special Interest Group** - Moderator: Rick, K8CAV
- First even Tuesday - **HF WAS & DX Nets Special Interest Group** - Moderator: Gene, W8NET
- Second Tuesday - **Portable Ops Special Interest Group** - Moderator: John, WG8X
- Third Tuesday - **Antenna Special Interest Group** - Moderator: Bob, N8QE
- Fourth Tuesday - **DX & Contest Special Interest Group** - Moderator: Chuck, W8PT
- Fifth Tuesday - **Could Be Anything Special Interest Group** - Moderator: Rick, KD8WCK

Fourth Thursday - Net Night at the Club Site - 6:30 pm - Moderator: Tom, WB8LCD



PCARS Custom Coffee Cups - Limited Edition - Get One NOW

PCARS has obtained a **limited** number of special, custom made coffee cups that are available only to members.



Supply is limited. If you are a current (PAID) member of PCARS you get one coffee cup for **FREE** !! The only catch is you have to claim it from the **Treasurer - Greg, KA8TOA.**

Greg has a list of current members and will check off your name when you get your **FREE** PCARS coffee cup.



There are a *very limited* number of extra coffee cups for sale at \$5.00 each.

Contact Greg for all of the details: Treasurer@portcars.org

ARRL 10 Meter & CQWW CW Contests

Gary, WB2RPW



Hello fellow PCARS member. One of the PCARS members remote from New Jersey here.

I participated in CQ-World-Wide CW contest held last November 25-26th. I had a good contest with 31 out of a possible 48 hrs. 'In the Chair'. Managed to make 517 QSOs into 122 CQ Zones and 348 Countries. I worked all bands 10 through 160 meters using CW.

My submitted score of 682,910 points is the best I've ever done - it's a new record for me.

I finally got the Winkeyer to work properly with the N1MM logging software that was a plus. I think this increased my logging speed about seventy percent which was another plus.

I also operated the 10-meter contest. My Elmer and I originally were going to enter as a Multi-Single he was going to operate phone and I was on CW. As it turned out, the band was dead at the beginning of the contest. We thought the contest was a bust. I ended up entering as a Single-Op Assisted, as I used the DX cluster. It was an interesting experience because I began the contest hearing nothing on 10 meters then 4 hours later the band would be crawling with signals. I took a nap in my recliner between band openings. I ended up operating 3 out of a possible 36 hours and I ended up with 30 Q's and quite a few multipliers. I finished with a total score of 2,880 points It was a new experience that was interesting.

Hope to catch a QSO with you in future contests!!

Thank You PCARS

N5VLZ
DARYL J.D. STOUT
5301 Larch Road
Little Rock, Arkansas 72209
PULASKI COUNTY



Daryl, WX4QZ / N5VLZ

Calllog with							Per QSL Trac
STATION	MODE	VE	TIME	REPORT	MODE		

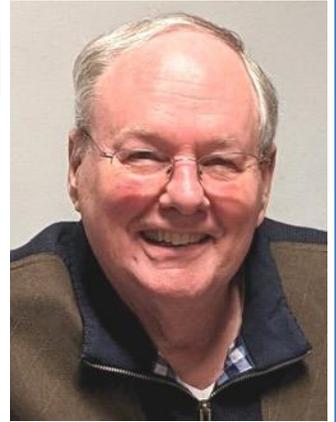
I wanted to note a big THANK YOU to the PCARS members who sent well wishes and "get well soon QSL cards", in the aftermath of left hip replacement surgery that I underwent on Nov. 13. Prior to the surgery, it was nearly impossible to walk or move around, even with a walker, and the pain level was at a 9. Now, it has decreased to around 1-2...and while I'm still on mobility restrictions, it feels good to move around without pain.

I am still limited on travel, because what I get on disability each month doesn't go very far. I'm thankful I was able to travel up to Ohio in 2007 shortly after my XYL passed away, to meet several PCARS folks...but as noted, finances won't let me take long trips anymore.

Even though I operate "internet only" (I have congestive heart failure), my license isn't just a sheet of paper, and I'm on the air daily or nightly with nets...although Thursday is my "night off" from running nets...so I get to check into the PCARS Net and a few others.

Tech Tips – Length of a Dipole Antenna

Jim, AC8NT

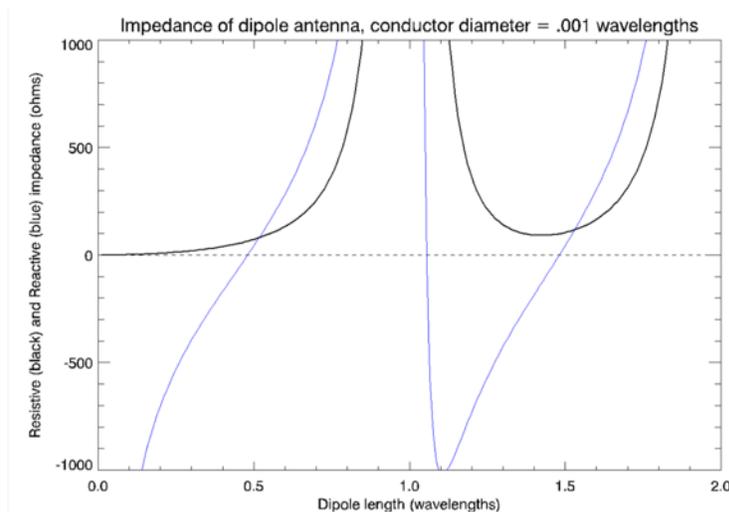


I had a question show up on one of my tutor boards that is also relevant to ham radio. The question was why isn't a true half wave antenna resonant? This is a great question. If you can remember your technician class material, you will remember the formula used to compute the length of a dipole at a given frequency (in MHz) is $143/f$ in meters or $468/f$ in feet. Let's look at an example. Consider an antenna for 145 MHz which is equivalent to 2.07 meters in wavelength. A half wave antenna would be 1.04 meters. However, using $143/f$ we get .986 meters. Why?

I start with a little basic theory. First, an antenna is a transmission line. We want that transmission line to match the characteristic impedance of our feed line (usually 50 ohms). Second, we can develop equations that show the feed point impedance given the antenna length. These are not easy equations to develop, let alone plot, but most transmission line class students, including me, have had to do just that. Below are the equations for the real (resistive) and imaginary (reactive) parts of the feed point impedance.

$$R = \frac{Z_m}{2\pi \sin^2(kL/2)} \left\{ \gamma + \ln(kL) - \text{Ci}(kL) + \frac{1}{2} \sin(kL) [\text{Si}(2kL) - 2\text{Si}(kL)] \right. \\ \left. + \frac{1}{2} \cos(kL) [\gamma + \ln(kL/2) + \text{Ci}(2kL) - 2\text{Ci}(kL)] \right\}$$
$$X = \frac{Z_m}{4\pi \sin^2(kL/2)} \left\{ 2\text{Si}(kL) + \cos(kL) [2\text{Si}(kL) - \text{Si}(2kL)] \right. \\ \left. - \sin(kL) [2\text{Ci}(kL) - \text{Ci}(2kL) - \text{Ci}(2ka^2/L)] \right\}$$

Don't worry, you will never need to develop these equations. It is a lot easier to look at the plot of these equations. MATLAB produces the following plot which appears in Wikipedia.



Note that at the .5 wavelength the black (resistive line) is 73 ohms and the blue (impedance) line is +j43 (inductive). If the antenna is a little bit shorter, the blue line will get to zero and the resistive line will be about 70 ohms. Zero impedance is the resonant point. Victory! We have cut our antenna to be resonant and close to our 50-ohm coax impedance. It is shorter than a calculated half wavelength, but resonant. Some points of interest:

1. This is why it is not possible to get an exact SWR of exactly 1:1 in a resonant dipole. The impedances are close but not equal. It will, however, be very close to 1:1.

2. A key variable in these equations is the element diameter (wire diameter). Recalculation will be required at bands below 20 meters.
3. Note the point at 1.5 wavelengths, we have similar values to .5 wavelengths. Again, if we cut our antenna a little shorter, we can get it to resonate. However, the resistive component will be higher creating a greater mismatch to our feed line. This is why your SWR on 15 meters using your 40-meter dipole is worse.

I hope you found this interesting. If you have any questions that you would like answered, please send them to me. If I can't answer your question, I have a lot of resources that maybe can get you an answer.

A Change For Symbol Rate Limitations

J.C., KC8JC

Saying Goodbye to 300 Baud

Anyone who has taken or studied for the General Class license exam knows that there were questions about the symbol rate limit for data communications on the HF bands for digital modes. If you aren't an operator who dabbles in the digital side of the hobby and you don't have an interest in emergency communications, you might have "filed" the answers to the questions right after the test. For those of us who use and experiment with such things, the rules were a bit frustrating.



The original rules that governed digital communications set a limit of 300 baud for communications. For those who remember using phone lines and modems to access other computers this isn't the fastest way to exchange data. The more puzzling bit, however, is that the rules were made around how many symbols could be transmitted rather than the bandwidth that the signal required. It is quite possible to send data faster than 300 baud without taking up additional bandwidth and that would appear to matter more.

Perhaps the most frustrating piece of all was that during emergency response situations where time is critical, the FCC would have to grant an exception so that operators serving their communities during times of crisis could send information at a rate higher than 300 baud.

On November 13, 2023, the FCC decided to eliminate the baud rate restriction on HF and instead limit the bandwidth of a data signal to 2.8 kHz. This provides much needed relief not only for disaster situations but also for digital experimenters across the hobby. There are additional discussions underway to apply the same rules to 2200-meters, 160-meters, VHF, and UHF. Hopefully, the conclusion for those bands will be the same.

The Federal Register entry for this issue can be found in full here:

<https://www.federalregister.gov/documents/2023/12/07/2023-26770/amateur-radio-service-rules-to-permit-greater-flexibility-in-data-communications>

The ARRL did a good amount of lobbying to get this resolved. Their statement can be found here:

<http://www.arrl.org/news/arrl-hails-fcc-action-to-remove-symbol-rate-restrictions>

This is a big win for operators in the United States. It will allow for continued experimentation, innovation, and more effective emergency response. The change goes into effect on January 8th, 2023 and the now out of date questions on the test will be removed.

PCARS IO Group

Members are reminded that PCARS has a IO Group site dedicated to PCARS. It's a great site to sign up for and get on the mailing list for important PCARS information.

Check out the PCARS IO Group at:
<https://groups.io/g/PCARS>

Two things every member should do.

1. Check the PCARS web site every day, maybe a couple of times a day, to see new info that's posted.
2. Join the PCARS IO Group. That's a great place to post message when you are looking for information or have a question about something. Try it - you just may like it!!

Hamfest Calendar

Here are the current listings of local hamfests. Please note that all are **subject to change**. Stay current by checking the sponsoring club's web page before making your travel arrangements.



03/10/2024 - Northern Ohio Amateur Radio Society Hamfest - Location: Lorain County Community College - 1005 N. Abbe Rd. - Elyria, OH 44035 - Website: <http://winterhamfest@noars.net> - Sponsor: Northern Ohio Amateur Radio Society - Talk-In: 146.70 (110.9) - Public Contact: Carl , W8KRF - 3821 West 152nd Street Cleveland, OH 44111 - Phone: 216-256-9624 - Email: w8krf@w8krf.net

03/17/2024 - Toledo Mobile Radio Association Hamfest and Computer Fair - Location: Owens Community College - 30335 Oregon Road - Perrysburg, OH 43551 - Website: <http://www.w8hhf.org> - Sponsor: Toledo Mobile Radio Association - Talk-In: 147.27/87 103.5 - Public Contact: Brian Harrington , WD8MXR - 4463 Holly Hill Drive Toledo, OH 43614 - Phone: 419-385-5624 - Email: wd8mxr@gmail.com

05/16/2024 - Four Days In May - Location: Holiday Inn - 2800 Presidential Drive - Fairborn, OH 45324 Website: <http://qrparci.org/fdim> - Sponsor: QRP Amateur Radio Club International - Public Contact: David Cripe , NM0S - 118 Hilltop Dr. NE Mount Vernon, IA 52314 - Phone: 319-651-5879 - Email: nm0s@nm0s.com

05-17/18/19-2024 Dayton Hamvention 2024 - Greene County Fairgrounds, Xenia, OH - website: <https://hamvention.org/>

08/18/2024 - Warren Hamfest - Location: Trumbull County - Fairgrounds - 899 Everett Hull Rd. - Cortland, OH 44410 - website: <https://www.w8vtd.com/> - Sponsor: Warren Amateur Radio Association - Talk-In: 146.970 - (100hz normally off) - Public Contact: Andrew Juchnowski , AB8MO - PO Box 809 Warren, OH 44482 - Phone: (234) 238-2312 - Email: hamfest@w8vtd.com





John, WG8X



Confessions of a POTA Hoarder

Hi everyone, I guess I could also call this month's column "what to do during the Christmas season when you're 95% done with your 'quest', no time for road trips, and you need to find something to write about".

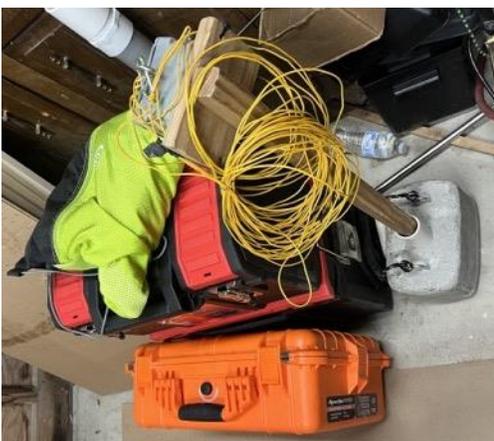
As of this writing, there are 273 references on the Ohio POTA list. I've travelled to and activated 256 of them. I need to get back on the road and finish off the remaining 17 locations. But the Christmas season tends to get so busy that I've suspended my road trips for the rest of the year. It doesn't help that most of the items on my need list are no less than 2 hours away from home. I've decided that the best way to finish this quest is to make a multiple day trip out of it. So, a 2-3-day trip is being planned for some time in January.

Since activating is not likely this month, I decided a couple weeks ago to clean out my truck and set it up to carry passengers again. The truck has back seats, but for the last several years, they've stayed folded up so I could carry POTA gear, and other miscellaneous items. There have been occasions where it would've been great to be able to use the back seat room for passengers, but it was just too much trouble.

My first step was to totally clean everything out of the backseat and take inventory. I was surprised at how much stuff I was carrying on the off chance that I might need to build an antenna on site or repair a radio in the middle of the woods.

I started by purchasing one of those cloth rollup tool bags off of Amazon. It's a hoarder's worst nightmare since they only provide room for the basics. After loading up the tool bag, I emptied out everything else from the BRT, or Big Rolling Toolbox that normally rides behind the front seat. While unloading the BRT, I found not one, but two soldering guns, some Penatrox (no, not the musical group), lots of zip ties, contact cleaner, solder wick, Teflon tape, grounding braid and numerous power pole adapters. You get the idea. It was time for me to simplify!

Next came the antennas which seem to multiply on their own. Since they're my link between the radio and the atmosphere, I must carry at least one. My go-to antenna is the Yaesu ATAS-120A, which works perfectly with my FT-891. I also carry my End-Fed Halfwave, which was built by a friend. This included the 20lb chunk of concrete that acts a base for the End-Fed. I pushed the limits on antennas, however. While 2 antennas are fine; I carried 6. Most were useful but hadn't seen use in a millennium. The Sotabeams Band-Hopper III is one of those. It's a link dipole which covers 20-30-40. Unfortunately, it hadn't seen the light of day since I discovered the End-Fed Half Wave antenna.



Likewise, the Hamsticks. I counted them as one antenna, but I have one for almost every band. They haven't really been used much since picking up the ATAS-120A. But they're pressed back into service when I use one of the QRP rigs, such as the G106, or the QCX-Mini. I'm kind of a glutton for punishment that way.

Digging deeper, I discovered the center-loaded wire vertical that I built specifically for a Lake Erie islands trip. I think it's built using the WB8ERJ design (<https://mikestechblog.com/build-a-shortened-40-meter-vertical-for-pota-sota-activations/>). It worked fine, but now it'll go into the Junk box in order to be repurposed someday.

Finally, there's the Wolf River Coil Take-It-Along special (<https://www.wolfrivercoils.com/index.html>). I bought this at Hamvention 2022, then replaced the whip (With the new & improved 213" whip) at Hamvention 2023. It's very easy to store if you don't count the whip. I like it for the rare occasions when I do a Hike-In activation. So, I'll find a storage place for the whip.

Once finished, I had my gear re-packaged into a grab and go format that resides in the workshop. I can carry passengers, but still be ready for a POTA road trip in a matter of moments.

While inventorying the truck, I wondered to myself, "How many radios are needed for a 1-2-day activation"? Well, apparently that number is three. This is based on the number of radios I found in the truck. In addition to the Yaesu FT-891, I was also carrying my Xiegu G106, and the QRP-Labs 40M QCX-Mini. Luckily, they travel light, and will fit nicely into the "repackaged" BRT.

One last thing is the portable operating desk for my truck. We'll talk about that in a month or two once it goes through a much-needed re-design. Maybe someday I'll do a YouTube of the BRT, and the rest of the gear that comprises my rolling POTA shack.



With the truck cleaned out, I was hoping for a few extra Miles Per Gallon, but that wasn't to be. It'll be interesting to see how long the new configuration lasts.

Check in next month to see how the January road trip turns out, and whether I can still carry passengers in my rear seat.

73 DE WG8X



Total Solar Eclipse



Rick, K8CAV

Northeast Ohio, including most of Portage County, will be experiencing a once-in-a-lifetime event on Monday, April 8th 2024, with the coming of the Total Solar Eclipse. The duration of totality is expected to be up to 4 minutes and 27 seconds, depending on exactly where an observer is located. Both the rarity and uniqueness of this event is expected to bring large numbers of outside visitors to communities along the path of totality, which includes Portage County. This large influx of visitors is expected to impact traffic and parking in Portage County, and Communications systems, especially cellular telephone and cellular internet service, are also expected to be impacted. Almost all fire departments and emergency medical service departments in Portage County, along with many other police department and other public safety forces, are using the MARCS radio system for communications.

Ryan Shackelford, the Director of the Portage County Office of Homeland Security/Emergency Management (PC OHS/EM), is creating an Incident Action Plan to aid Fire and EMS first responder agencies in Portage County that will address anticipated problems. One potential area of concern is failure of part or all of the MARCS radio system.

Ryan has directed Rick Kruis (K8CAV), Communications Unit Leader (COML), to establish a plan to staff all eighteen Fire/EMS departments, the Emergency Operations Center (EOC), and select county 911 call centers with amateur radio operators who will provide back-up communications in the event of MARCS radio system problems. The Communications Unit (Coms Unit) of PC OHS/EM currently has eight active members who are also licensed amateur radio operators. This is far short of the total number of amateur radio operators needed for this event, so I am looking for amateur radio operators who would like to volunteer to staff this event.

The current plan for radio communicators is to staff each point with a mobile radio capable of operating on both 2 meters and 70 centimeters FM, at a power level of 40 or more watts, in the operator's own vehicle.. Auxiliary antennas on a mast of 15 or more feet are recommended, especially if simplex communications become necessary. Primary communications will take place on the K8IV UHF repeater, secondary communications will be on the K8IV VHF repeater, and tertiary communications on a simplex frequency. Radio communicators should plan for a twelve-hour operational period as traffic may impede the ability to reach the communicator's assigned location. Logistical support is currently being planned.



The COML of the Coms Unit will conduct several training events for radio communicators. In addition, an Operations Order (OPORD) will be published to guide all radio communicators, and temporary credentialing will be provided to each radio communicator. Unless a communications failure occurs, operations will consist periodic radio checks on the net, and radio communicators should have ample opportunity to observe the eclipse event.

I welcome all amateur radio operators who would like to help with this event. Portage County does not have an ARES organization so your volunteering is the only way I can adequately staff this event. If you would like to help, please contact me at k8cav.coms@gmail.com.

Mt. Union University Club

Jim, AC8NT

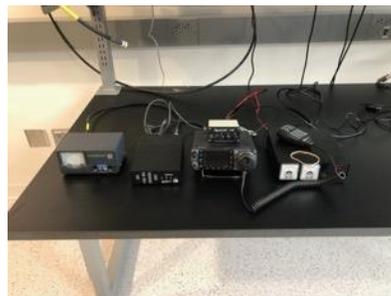


We have made some serious progress with this club station. The antenna has been mounted on the roof of Tolerton and Hood Hall. Coax has been installed from the antenna to one of the engineering labs where the station equipment has been installed and tested. We needed to make some mechanical changes to the antenna, so it has been taken down for modification. It will be reinstalled after the Christmas break.

We had the help of our faculty advisor Glauco Fontigalland and our club president Cooper Timmons.

Training of the club members will start immediately after the break. We currently have 7 club members. Mt Union is supplying a computer dedicated to the station for digital operations. The antennas system will allow them operations on 4 bands (40, 20, 15, and 10). Supplied equipment will allow them to operate up to 100 watts using all modes allowed.

Everyone is anxious to get licensed and on the air. More to come next month.



Swap-N-Shop

FOR SALE WANTED FOR SALE WANTED FOR SALE

WANTED: Yaesu FT-900 or FT-890AT. Any condition.

FOR SALE: Very good condition **Hustler 4BTV**. Includes mount, SO238, NEW spider assembly (will include the old one for spare). Also , includes the spider for changing it to a 5BTV - you supply the 75m or 80m resonator! \$100 firm. Will assist expert installation (have installed many!) within 30mi.

Contact **Gene, W8NET** at 330-619-9194 or w8net@me.com [03/24]

FOR SALE: Palstar: LA-1K solid-state H.F. amplifier (\$3000); **Elecraft K-3 SDR Transceiver, P-3 Panadapter, SP-3 External Speaker, D-104 Microphone** (\$3000); **National HRO-500 C Receiver** 0 to 30 MHz & speaker (\$1500); **Kenwood SM-220 Scopes** one with BS-8 panadpter (\$200) and one without (\$150), 2 spare CRT's; **Bird 4362 (Ham-mate)** wattmeter 140-180 MHz (\$100); **Various RG-8X** coax cables with silver PL-259's (\$5 to \$25); **ELAD ASA15** antenna splitter/amp (100); **Palstar MW-550P** Active Pre-selector / Tuner(\$200); **Heil Sound PRAS-EQ** with Behringer MX-400 Mixer, Lepai LP2020TI 20 watt amp and Dayton Audio B-652 speakers as a set (\$200); **Home Patrol-1** Scanner with a snap stand and belt clip case to carry around (\$200); **Alpha-Delta** Model Delta-4C console type antenna switch (black) (rare) (\$200); Current "gray" desk switch (\$100); Standard flat gray 4 position antenna switch (\$100) **Sony XDR-F1HD** F.M. & A.M. with HD high performance tuners (\$200)

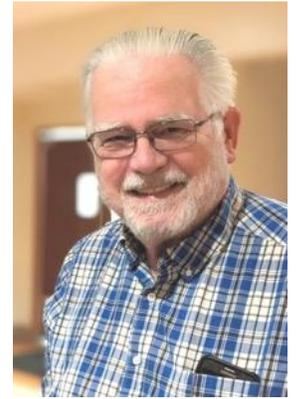
Contact **Jeff, WA8SAJ** - call home phone (440) 951-6406 for more info [02/24]

For Sale or Want Ad policy reminder: This is a PCARS *members only benefit*. Please don't ask to list items for a friend, relative or SK estate unless they are/were a member of PCARS. Requests come in from all over the USA (and beyond) to list items for sale or wanted items and we just cannot dedicate that much space to non-members. Listings are good for 3 months unless canceled or changed earlier.

The date listed after the contact information tells you when the ad expires - example: [01/24] indicates the ad will run until the end of January 2024.

New Amateur Extra Class VE Question Pool

Tom, KB8UUZ
PCARS VE Team Liaison



The National Conference of Volunteer Examiner Coordinators (NCVEC) Question Pool Committee (QPC) has released the 2024 - 2028 Extra-Class FCC Element 4 Question Pool and Syllabus to the public. The new Extra-Class Question Pool is effective from July 1, 2024, through June 30, 2028.

The 2024 - 2028 pool is available as a Microsoft Word document and as a PDF. The 10 graphics required for the new Extra-Class Question Pool are available within the documents or separately in PDF and JPG file formats.

ARRL VEC Manager Maria Somma, AB1FM, and member of the NCVEC QPC, said, "The new pool incorporates significant changes compared to the 2020 - 2024 version. We carefully went over the pool for technical accuracy, relevancy to today's amateur radio practices, syntax, grammar, style, format, and clarity and redundancy within and between the pools. With these goals in mind, 82 new questions were created, and 101 questions were eliminated, resulting in a reduction [of] the number of questions from 622 to 603. Over 350 questions were modified. We considered a question modified when the knowledge being tested was not changed but wording was improved, or answers or distractors were replaced."

Somma advised that "the newly revised pool must be used for Extra-class license exams starting July 1, 2024. New test designs will be available to ARRL Volunteer Examiners (VEs) on that date. The ARRL VEC will supply its officially appointed, field-stocked VE teams with new Extra-class exam booklet designs around mid-June."

Extra-class examination candidates preparing for their exams using the 12th edition of The ARRL Extra Class License Manual or the 5th edition of ARRL's Extra Q & A are encouraged to test on or before June 30, 2024.

New editions of ARRL licensing publications will be available in May for exams taken on or after July 1, 2024.

Portable Ops Special Interest Group

John, WG8X
Portable Ops SIG Coordinator



Next SIG meeting will be Tuesday January 9th at 7:00 PM

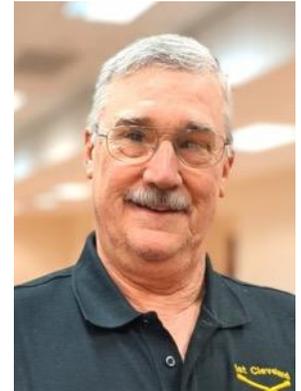
One obvious item on the agenda will be the upcoming PCARS ParkPediton at Wingfoot Lake SP (Oak Tree Shelter). You'll hear more about that in Brandon's article. The ParkPediton will coincide with POTA's Winter SYP weekend.

Of course, we'll also be talking about any manner of subjects near & dear to the hearts of Portable operators. Drop in at PCARS World Headquarters. The address is 705 Oakwood St, Ravenna, OH.

We will also be available remotely, but that info will be sent out after January 1st.

Digital Special Interest Group

Rick, K8CAV
Digital SIG Coordinator



Next SIG meeting will be Tuesday January 2nd at 7:00 PM

The next Digital Special Interest Group meeting will take place on Tuesday January 2nd at 7:00 PM at the PCARS club site. Note that due to a possible conflict with this month's PCARS Board Meeting, the date and/or time may be changed. A confirmation QST email will be sent to all members several days before the meeting with finalized details. This email will also contain the Zoom and/or Google information for the on-line portion of this meeting. Beginning this year, the Digital Special Interest Group will only be meeting six times a year, on ODD numbered months.

The topic for this month's meeting will be setup and use of the Winlink 2000 radio email system. In addition to the presentation, we will be sending actual emails using Winlink 2000. I hope to see you there!

HF WAS & DX Nets Special Interest Group

Gene, W8NET
HF WAS & DX Nets SIG Coordinator



Next SIG meeting will be Tuesday, February 6th at 7:00 PM

I'm pleased to announce the creation of the **HF WAS & DX Nets SIG** for PCARS! This SIG will be held every other month – every **EVEN** month – on the first Tuesday. The ODD first Tuesday will be the Digital SIG, hosted by Rick, K8CAV. This is the schedule for 2024 HF WAS & DX Nets SIG (with tentative topics):

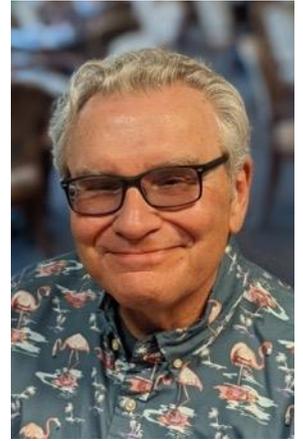
February 6	Introduction/Logging QSO's/OMISS
April 2	3905 Century Club/Focus on MOBILE!
June 4	HHH/Focus on DX!
August 6	YLISSB/Remote operation (and YOU can do that!)
October 1	SPECIAL event (more details later)!
December 3	TBD

Each SIG meeting will be held at 7:00 PM at PCARS club site in Ravenna. For the first 45 minutes we will discuss a net, how to confirm contacts, what "tools" you can use, what kind of awards the net has, and many other topics. After discussion, on most meetings we will check in to a net – in person or at home on Zoom!

HF nets are a great way to meet fantastic people all over the world on the air, work to achieve your "Worked All States" certificate, and contact many DX entities. Some examples the nets are: 3905 Century Club, OMISS, YLISSB, NATA Traffic Net, HHH Net, and others. Most have websites that explain their schedules, procedures, etc. I will send more information before each meeting. Hope you will join us for BIG FUN!

Antenna Special Interest Group

Bob, N8QE
Antenna SIG Coordinator



Next Antenna SIG meeting will be on January 16th - 7 pm

The next meeting of the PCARS Antenna Special Interest Group will be held January 16, 2024 at 7:00 PM. We will be in-person at the PCARS club site, and on Zoom or Google Meet (TBD). A PCARS QST will be sent out before the meeting with the appropriate link.

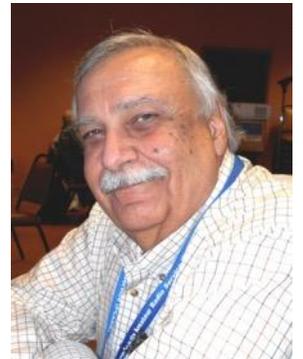
The Antenna SIG meetings are open to all PCARS members and guests. All ham radio operators or anyone interested in Amateur Radio are also welcome to attend.

We will be discussing all aspects of antenna design, construction, test equipment, and experimentation. Everyone is welcome to join the discussion, and talk about their antenna related projects with the group.

Looking forward to another exciting year for the PCARS Antenna Special Interest Group.

DX & Contesting Special Interest Group

Chuck, W8PT
DX & Contesting SIG Coordinator



Attention PCARS DXers & Contesters

Well, 2024 is here and we need to set out our contest schedule for the year. I have made a preliminary schedule but I need input from those who will be wanting to participate. So we will have our first **DX/Contesting Special Interest Group** meeting on January 23, at 7PM at the World Famous PCARS clubsite.

We will make a firm list of contests that we would like to enter as **K8BF**, and will announce our choices by way of a QST email and also put it on the website.

As always, ZOOM will be available for those who cannot attend in person.

I hope to see many of you there or attending by ZOOM.

Event: DX/Contesting Special Interest Group meeting

Topic: 2024 Contest Schedule

Time: January 23, 2024 at 07:00 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://us02web.zoom.us/j/85790426465?pwd=YVBtUnhMaXVwNTN5amxsQnU0RnhDdz09>

Meeting ID: 857 9042 6465

Passcode: PCARS2022

Could Be Anything Special Interest Group

Rick, KD8WCK
Could Be Anything SIG Coordinator



5th Tuesday Could Be Anything SIG: January 30 Replay for Kids Session

Please plan to join us any time at your convenience from 5pm to 9pm on Tuesday January 30, 2024 for a hands-on toy repair session. We will have tools, parts and toys for repair starting at 5pm. Come on in any time as we hope to work on repairs until 9pm.

In addition to your mechanical and electrical troubleshooting skills feel free to bring people skilled in sewing and painting, as I have asked for toy repairs that might need those skills too!

Watch for QST messages close to the date for details. As of now the only question would be if weather is too awful for Replay for Kids to get to our site, so keep your fingers crossed.

Replay for Kids is a non-profit organization that among other things places toys that have been modified for children with severe disabilities, with service agencies. As the toys get damaged and broken through use, they collect the toys and sponsor repair sessions where volunteers can spruce up the toys again so they can go back to the kids. PCARS has done repair sessions several times and it has been fun and rewarding.

Please join us if you can!

From Around The World...

Links from Here, There, and Everywhere

The Largest Solar Flare in 6 Years Disrupts Radio Communication: The Sun emitted a strong solar flare, peaking at 12:02 p.m. EST, on Dec. 14, 2023. NASA's Solar Dynamics Observatory, which watches the Sun constantly, captured an image of the event.

<https://blogs.nasa.gov/solarcycle25/2023/12/14/sun-releases-strong-solar-flare-8/>



AO-73 Back In Transponder Mode: After a year long period of 'battery management', AMSAT-UK and AMSAT-NL have restarted the transponder on AO-73.

<https://amsat-uk.org/2023/12/13/ao-73-back-in-transponder-mode/>

The Art of DX Pileup Busting: Listen, listen, listen.

<https://www.amateurradio.com/the-art-of-dx-pileup-busting/>

NASA Highlights Ham Radio on ISS: the first and longest running educational outreach program on the space station is ISS Ham Radio.

<https://www.nasa.gov/missions/station/science-on-station-november-2023/>

Getting To Know OLIVIA: Olivia, a Multi-Frequency Shift Keying (MFSK) radioteletype digital mode, is an amateur radioteletype protocol designed to work in difficult (low signal-to-noise ratio plus multipath) propagation conditions on shortwave radio (i.e., high-frequency, or HF) bands. <http://www.oliviadigitalmode.org>

A great video can be found here: <https://www.youtube.com/watch?v=kds4RCQQ8a0>



PCARS
www.portcars.org



Freeze Your Acorns Off

Saturday
March 2nd
Fred Fuller
Park in Kent



Set up 9 am
on-air until
3 pm

BE THERE

**Let's show Mother Nature we're tough....
Wear your Hawaiian shirt**

PCARS Members and Friends of PCARS:

As almost all of you know, at the beginning of the past 18 years, we have held a Special Event that we call, **Freeze Your Acorns Off**. Normally it is held the second weekend in February to assure that we have snow and cold temps. That hasn't always been the case but we do have fun.

This year there was a conflict in the scheduling of the shelter house at Fred Fuller Park in Kent. So the event, our 19th Annual, will be held on March 2. We will try to get back on schedule for 2025.

We have had a lot of fun in the past with various members, either alone or with a team, participating by setting up stations in tents, travel trailers, their vehicles or even in the shelter itself. It has turned into a contest of sorts, but it has always been an event with the object of making QRP contacts with as many stations as possible. And the individual who chooses to use our club call, K8BF, makes it possible for whoever contacts them to get a QSL from the club to commemorate the contact.

Since we meet in the shelter house, we started to bring food so that we could have something to munch on. The food that was being brought got progressively more like dinner meals and that is when we decided to have a Best Recipe Contest in conjunction with the event. We have done that now for several years and I have to say that we have all benefited from the various great food offerings that have been brought. This year will not be different.

So if you are available on March 2, 2024, please attend PCARS Signature Special Event and consider setting up a station so you can, **FREEZE YOUR ACORNS OFF**. One more thing – as an added piece of fun, many of wear a Hawaiian or Aloha shirt simply to thumb our noses at Ohio's Winter. If you have such a shirt, be sure to wear it.

PCARS Thursday 2 Meter Nets

Greg, KA8TOA
Net Control Coordinator



Net report: I have a few items of interest, please keep an eye out for emails regarding the schedule. I am still hoping to find two more operators to help us out. Anyone who thinks they have 10 consecutive check-ins please let the operator know and he will mark the log. Everyone have fun, safe holiday weeks.

January	
4	KA8TOA
11	KD8WCK
18	KE8ARB
25	KE8BWA

February	
1	KD8WCK
8	KE8WVV
15	WB8LCD
22	N8QE
29	K8CAV

March	
7	KD8WCK
14	N8QE
21	KE8ARB
28	N8WCP



The PCARS net is **BIG Fun** - tell your friends to check in via RF or EchoLink!

PCARS Patches & Stickers



PCARS logo patches (*iron on*) & stickers (stick on) are now available!!

Put the patch on your hat, your shirt, your jacket and show off that PCARS logo!! The patch is about 3". The embroidery on the white patch is in Red, Black and Blue. Cost for a patch is only \$2.00 each and can be obtained at any PCARS meeting. There are 2 types of stickers available - a 4" x 6" oval and a 3" x 10" bumper sticker.



Stickers are \$1 each. Show your pride in PCARS - Wear a patch, use the stickers! See the club Treasurer: **Greg, KA8TOA** or e-mail him at: Treasurer@portcars.org

PCARS T-Shirts, Polo Shirts, Jackets, Hats, etc. can be obtained from:

Villager Business Solutions - attention Michelle Zivoder
8088 Main Street
Garrettsville, OH 44231
michelle@villagerbusiness.com 330-472-7304



Hamvention® 2024 Announcements



Jim, AB8YK
Hamvention® General Chairman 2024



The 2024 Hamvention® General Chairman Jim Storms, AB8YK and the Hamvention team are pleased to announce the ARRL will be holding its National Convention at Hamvention in May 2024!

Hamvention Organizers and ARRL leadership have been busy working out joint activities. There will be more information about this joint venture soon.

We are pleased to unveil our 2024 logo and theme. The theme is ‘**Expanding our Community**’. This is in support of the growth of Amateur Radio worldwide.

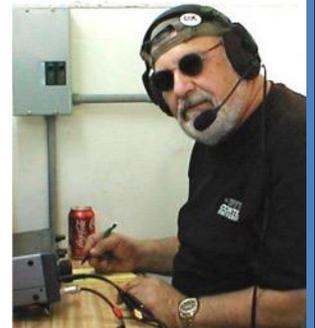
It is time to submit award nominations, Amateur of the Year, Technical Achievement, Special Achievement, and Club of the Year. See the website for details.

We want to remind everyone to purchase their tickets and make their room reservations early to avoid the rush.

Please reference the Hamvention website for more information. www.hamvention.org.

Charlie the Tuner’s HF High-Lites

Chuck, W8PT
a.k.a. “Charlie the Tuner”



Greetings DXers

Charlie the Tuner’s DX High-Lites for January 2024!

And Happy New Year!! I hope that all you PCARS members found something for your HAM shack under your Christmas tree. Do you have any operating goals for the new year? I’m not talking about resolutions, but something that you will work on this year. Maybe you decided that this year you will enter more state QSO parties. Hopefully, some of you will decide to participate in some or all of our K8BF contests from the club site.

It would be great to see some new faces sitting in the opposition chairs this year. I encourage you to come out and have some fun with your fellow PCARS members.

Keep in mind that for those who participate in contest from your home QTH, you don’t necessarily have to try and beat the big guns. All you have to shoot for is to do better than you did last time you played in a particular contest. If you keep doing that, you’ll find that will be amassing a very respectable score and just might score big in your chosen class.

Well, enough for now about contesting. This is supposed to be a DX column. And we do have some DX coming up in the next few months. So let’s see what is going on.

Thanks to W1AW, W3UR & The Daily DX, DL5ON & The DX News Letter, DXNews.com, DX-World.Net, I1JQJ/IK1ADH & 425 DX News for the following DX information.

I'm using the same disclaimer as last year. This report "could" contain "Pirate/SLIM" operation or more likely a "BUSTED CALLSIGN". As always, you never know, so... - "**Work First, Worry Later**".

PLEASE NOTE: The fact that donation requests, from various DXpeditions, are at times included in this column does not mean that PCARS or this HAM approves or disapproves of donating to the DXpeditions listed. I am only providing information for you to make up your own minds as to whether or not to donate.

January...

3B9, RODRIGUES IS. 3B9AT Team will be active from Rodrigues Island, IOTA AF - 017, 27 December 2023 - 6 January 2024. Team - Luca, IV3JVJ and Ivan, IK3ZAQ. They will operate on 40 - 10m, SSB, CW, FT8. QSL via IV3JVJ, LOTW.

5R8, NOSY FALY IS. F4EZG will be active as 5R8VE from Nosy Faly Island, IOTA AF - 057, Madagascar, into January 2024. He will operate on 10, 12, 15, 17, 20m, SSB, FT8. QSL via home call, LOTW, eQSL.

7O2, YEMEN. Vladimir, OK2WX will be active as 7O2WX from Socotra Island, IOTA AF - 028, Yemen, 25 January - 12 February 2024. He will operate on HF Bands with focus on 160, 80 and 40m, including activity in CQ WW 160m Contest. Working condx - ELECRAFT K4X ICOM 7300, PA Expert 1K3, Monoband Verticals 160, 80, 40, Spiderbeam 5 Band. QSL via IZ8CCW.

7Q, MALAWI. REMINDER - Don, K6ZO is QRV as 7Q6M from Embangweni and is here for six months while on work assignment in a hospital. Activity is in his spare time on the HF bands and 6 meters using CW, SSB, FT8, and EME. QSL via LoTW.

DU3, LUZON IS. DU3/W6QT. Mike, W6QT will be active as DU3/W6QT from Luzon Island, IOTA OC-042, until 31 January 2024. He is active on 80 - 10m various modes. QSL via home call.

FK, NEW CALEDONIA. Jean-Louis, F5NHJ is QRV as FK/F5NHJ from Grande Terre, IOTA OC-032, with side trips to nearby Ile des Pins, also IOTA OC-032, until January 14, 2024. Activity is on 80 to 6 meters using CW and SSB. QSL to home call.

HS, THAILAND. Brad, VK2BY will be QRV as HS0ZNR from the Nam Yuen district from December 6 to January 14, 2024. Activity will be on 160 to 10 meters. QSL direct to home call.

J79, DOMINICA IS. David, F8AAN will be active as J79AN from Dominica Island, IOTA NA - 101, 17 - 24 January 2024. He will operate on HF Bands, CW, SSB, Digital modes. QSL via ClubLog OQRS.

J79, DOMINICA IS. Laurent, FM5BH will be active as J79BH from Dominica Island, IOTA NA - 101, 17 - 24 January 2024. He will operate on HF Bands, CW, SSB, Digital Modes. QSL via ClubLog OQRS.

JD1, MINAMI TORISHIMA. Take, JG8NQJ will be active again as JG8NQJ/JD1 from Marcus Island, IOTA OC - 073, Minami Torishima, starting Mid January 2024. He will operate on HF Bands CW, FT8. QSL via JA8CJY

P40, ARUBA. Mat, DL4MM will be active again as P40AA from Aruba Island, IOTA SA - 036, 19 - 31 January 2024. He will operate on HF Bands, CW, SSB, FT8, including activity in CQ WW 160m CW. He will operate in Single Operator Assisted Category. QSL via ClubLog OQRS.

PJ2, CURACAO IS. Jeff, K8ND will be active PJ2ND from Curacao Island, IOTA SA - 099, until 31 January 2024. He will operate on HF Bands. QSL via home call, LOTW.

T88, KOROR IS. Mike, JA6EGL will be active again as T88SM from Koror Island, IOTA OC - 009, Palau, 12 - 18 January 2024. He will operate on 160 - 6m, CW, SSB, Digital modes. QSL via home call direct only. JR6DRH, JH6WDG as well as JA6KYU are planning separate operations at the same time.

TX, CLIPPERTON IS. TX5S Team will be active from Clipperton Island, IOTA NA - 011, January 18 to February 2, 2024. Team - Jacky ZL3CW, Dave K3EL, Steve W1SRD, Ricardo PY2PT, Gene K5GS, Heye DJ9RR, Laci HA0NAR, Walt N6XG, Rob N7QT, Glenn KE4KY, Chris N6WM, Arliss W7XU, Philippe FO4BM, Dave WD5COV, Andreas N6NU, Nodir, EY8MM, Allan, EA3HSO. They will operate on 160 - 6m, CW, SSB, Digital Modes, including 60m Band. QSL via M0URX, OQRS. QTH Locator - DK50jh.

VK0, DAVIS STATION ANTARCTICA. Dave, VK2DS is active as VK0DS from Davis Station, Antarctica, until November 2024. He will operate on HF Bands, plus 6m and EME 2m and 23cm. QSL via home call.

Look Ahead & Reminders...

4S7, SRI LANKA. Peter, DC0KK will be active again as 4S7KKG from Sri Lanka, IOTA AS - 003, until 30 March 2024. He will operate on 20 - 6m, CW, Digital modes. QSL via home call, LOTW, OQRS ClubLog.

7P8, LESOTHO. 7P8EI Team will be active from Lesotho, 19 - 30 March 2024. They will operate on 160 - 10m, CW, SSB, Digital modes. QSL via M0OXO.

CN, MOROCCO. Yannick, F6FYD is QRV as CN2YD until March 15, 2024. He will also be active as CN2YD/p from Agadir Island, IOTA AF-065 during this time. Activity is on the HF bands. QSL to home call.

FH, MAYOTTE. Marek, FH4VVK is here until June 2024 and QRV on the HF bands and 6 meters using SSB and FT8. He may soon be active using RTTY. QSL to home call.

FP, MIQUELON IS. Eric, FP/KV1J will be again active from Miquelon Island, IOTA NA-032, starting 2 July 2024. He will operate on 80 - 6m SSB, RTTY, CW, FT8 and FM Satellites. He will operate also in some contests. QSL via home call, LOTW.

H40, TEMOTU PROVINCE. H40WA Team will be active from Temotu Province, IOTA OC - 065, Solomon Islands, 22 February - 7 March 2024. Team - N7QT, N6PSE, VE7NY, OE1JUN/JH4RHF, DJ9RR, HA0NAR, W7XU, N6XG. They will operate on 160 - 10m, CW, SSB, FT8. QSL via M0URX, LOTW, OQRS.

HR5, HONDURAS. Gerard, F2JD will be again active as HR5/F2JD from Honduras, until 21 March 2024. He will operate on HF Bands plus 6m, CW, SSB, Digital modes. QSL via F6AJA.

J38, GRENADA. J38W Team will be active from Grenada Island, IOTA NA - 024, 4 - 16 March 2024. They will operate on 160 - 10m, CW, SSB, RTTY, FT8, FT4. More information will be available later.

PJ7, SINT MAARTEN IS. Tom, AA9A will be active again as PJ7AA from Sint Maarten, IOTA NA - 105, 2 - 30 March 2024. He will be active on 40 - 6m CW, FT8, FT4. QSL via home call direct, LOTW, ClubLog OQRS.

TX5, AUSTRAL IS. Haru, JA1XGI will be active as TX5XG from Austral Islands, IOTA OC - 050, 25 March - 3 April 2024. He will operate on 160 - 10m, CW, Digital modes. QSL via home call, LOTW.

TY, BENIN. TY5C Team will be active from Benin, 1 - 30 March 2024. Team - F5RAV, F5NVF, 7X2TT. They will be active on HF Bands, CW, SSB, FT8 and also via satellites. QSL via F5RAV direct.

V5, NAMIBIA. Gunter, DK2WH is QRV as V51WH from Omaruru until the end of April 2024. Activity is on 160 to 10 meters, including 60 meters. QSL to home call.

VP2, MONTSERRAT IS. Tjaore, W2APF will be active as VP2MDX from Montserrat Island, IOTA NA - 103, 11 January - 11 April 2024. He will operate on 80 - 10m, CW, SSB. QSL via W2APF, LOTW.

VP9, BERMUDA IS. Darrell, AB2E will be active as VP9/AB2E from Bermuda Islands, IOTA NA - 005, 14 - 19 February 2024. He will operate on 160 - 10m Bands, including activity in ARRL DX CW Contest.

ZD, SAINT HELENA IS. Oliver, W6NV will be active as ZD7W from Saint Helena Island, IOTA AF-022, in ARRL DX CW Contest, 17 - 18 February 2024. He will operate in SOAB Category. QSL via W6NV.

ZD, SAINT HELENA IS. Elvira Simoncini, IV3FSG will be active as ZD7Z from Jamestown, Saint Helena Island, IOTA AF - 022, 16 January - 4 February 2024. She will operate on 160 - 6m, SSB, CW, RTTY, FT8, FT4. QSL via IK2DUW direct, LOTW, ClubLog OQRS.

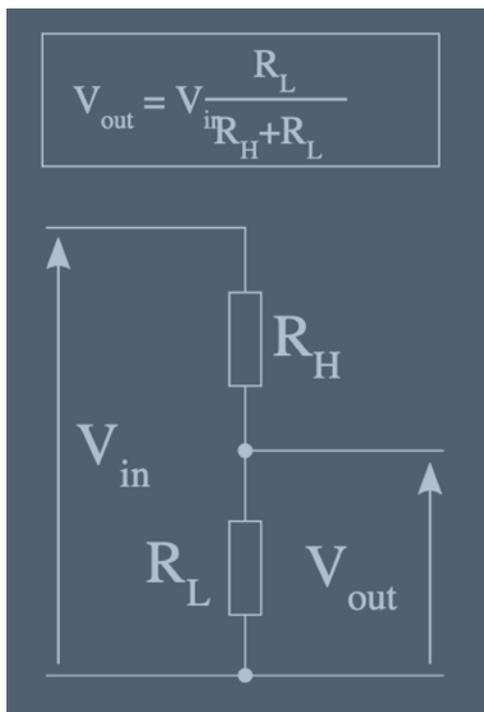
ZF, CAYMAN ISLANDS. Stan, K5GO will be QRV as ZF9CW until February 15, on the HF bands, using mostly CW, with some SSB. QSL direct to K5GO.

My usual disclaimer: Keep in mind that these DX events can change due to various reasons that sometimes are out of the hands of those who are doing the planning. Keep the either wobbling.

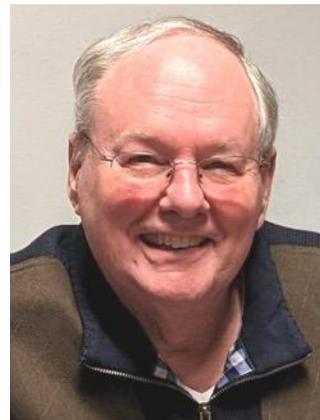
**Get on the air and work some DX!!
73 for now....**

**Chuck W8PT
aka Charlie the Tuner**

A Useful Tool



Jim, AC8NT



You can find many calculators online. However, often these calculators aren't of much practical use. One example is a calculator to calculate a voltage divider resistor network. The problem with most of these calculators is they don't use resistors that can be purchased. Resistors can only be purchased in certain values. If you read my resistor article in the February 2018 RadioGram on page 27, you will see how resistor values were determined based on tolerance bands.

I came across a very use tool for calculating voltage dividers developed by Damien Douxchamps that computes voltage dividers based on the "E" values of resistors. It even computes the tolerance of the resulting voltage divider. Now this is a useful tool. A link to the calculator is shown below. Take a look at this great tool and thanks to Damien for taking the time to develop it.
<https://damien.douxchamps.net/elec/resdiv/>

POTA: Support Your Parks in January

Brandon, KE8ARB



What: Support Your Parks Weekend

When: Jan, 20 2024

Time: 10am - 4pm

Where: Oak Tree Shelter, at Wingfoot Lake State Park K-3516

Address: 993 Goodyear Park Blvd. Magadore, OH 44260

Pavilion Location: 2J9Q+M6H Suffield, Ohio (First parking lot on your left immediately after you enter the park)

QRP Please

Come out and help K8BF activate Wingfoot Lake State park. Whether you're a seasoned POTA activator, this is your first attempt, or you want to learn more about portable operations this will be a fun gathering. There are several trees to hang your antenna, and there is plenty of open grass if you have a vertical or mast you'd like to put up. The parking lot is right next to the pavilion.

As usual, you can expect some hot food and drinks to be served at this outing! There is power available in the pavilion and we will have wind breaks and heat. If the weather dips too cold there will be a family sized tent with heat going in it so you can thaw out, or possibly operate. The restrooms have been confirmed to be available as well! Look for us to be setup there having BIG FUN!

It would be helpful to know who's coming, so please RSVP to bmerc@euton.com Feel free to reach out with any questions you have as well.

Looking forward to seeing you there!



December PCARS Meeting and Holiday Dinner



Young Ham Lends a Hand Contest - 2024



Carole Perry, WB2MGP
Director RCA, Youth Activities



We want to reward a young ham who has volunteered to help an elderly person, a military person, his or her community somehow, or a young ham actively involved with recruiting other young people into ham radio. There's no red tape; it's just me and my RCA Youth Activities evaluating the application forms. You will smile to know that we have had high caliber and terrific young hams who get nominated every year.

I am accepting nominees for this contest to encourage volunteerism in our young hams. Forms may be submitted up until April 1, 2024. The winner is usually announced at the Hamvention® Youth Forum. A \$100 stipend is awarded to the winner.

This is sponsored by Radio Club of America. Please contact me with any questions. All forms should be submitted to: wb2mgp@gmail.com by **April 1, 2024**.

=====
Young Ham Lends a Hand Contest
Carole Perry WB2MGP wb2mgp@gmail.com

Please submit the following requests for information about your nominee for this year's contest.

Information about your nominee: Name and call sign - Age - Address - Home Number and Cell number

Please fill in YOUR name, relationship to the candidate and contact info.

Please describe reasons why this nominee is deserving of the award that looks for a young ham who gives back to the community by participating and helping in local events, assisting the elderly, assisting military personnel, or is instrumental in recruitment and/or training of more young hams.

=====
Youth Activities Program

The Youth Activities program is chaired by RCA Director Carole Perry WB2MGP and has Richard Somers, Ernie Blair, Stan Reubenstein, Gordon West and Charles Kirmuss as committee members.

A major event for the committee is to moderate and to sponsor the annual Dayton Youth Forum where RCA Young Achievers, age 18 and below, give presentations highlighting their technical abilities and enjoyment of radio.

The RCA Young Achiever is a youngster 18 and below who has demonstrated technical excellence and creativity in wireless communications. We are always interested in receiving nominations for these talented young people. Please contact Carole at wb2mgp@gmail.com to nominate someone as a Dayton Hamvention® presenter or as a student deserving the RCA Young Achiever award.

We are also always interested in supporting schools, scout groups, and museums that incorporate radio/technology in their programs. Support can be in the form of books, equipment, or curriculum. Please contact Carole at wb2mgp@gmail.com for further information.

The Youth Activities members travel across the country to speak at radio conventions, to moderate Youth Forums, and to vet large organizations enlisting our help in motivating and supporting young hams and in introducing wireless technology to school curriculum.

Tax deductible donations specifically to RCA Youth Activities can be made through the Richard G. Somers Youth Scholarship Fund. Please contact Carole at wb2mgp@gmail.com for further information.

PCARS Ham Radio License Plates Wanted !!! PLEASE !!

Dig out that amateur radio call sign license plate (with your present call sign), clean it up and bring it to be permanently affixed to the wall in the PCARS club station.

We have 80 PCARS member's ham plates now, **but we can use more.** Don't have ham radio call plates on your vehicle? Well for those of you in Ohio, you can get the plates sent to you by going to any License Bureau office and filling out the special plate registration form. Have a copy of your current FCC license when you apply. The official form to obtain your Ohio Amateur Radio license plates is on the PCARS IO Group site. Then you'll have an old plate to bring in to get hung up as a *permanent part of PCARS history.*



From the Ohio BMV:

General Information: Owners or lessees of motor vehicles who are residents of Ohio and hold an unrevoked and unexpired official amateur radio station license issued by the Federal Communications Commission may apply for these plates. The official call letters will be the license plate numbers.

Registrant Eligibility: Owner must submit a copy of the un-revoked and unexpired official amateur radio license issued by the Federal Communications Commission. (FCC).

Title Requirements: Ohio Certificate of Title issued in the same name as the FCC license, either singly or jointly, or the name on the FCC license is the same name on the lease agreement.

Vehicle Information: These plates may be issued to passenger vehicles, non-commercial trucks, recreational vehicles, house vehicles and non-commercial trailers.

Type of Plates: Plates will be manufactured with the FCC license.

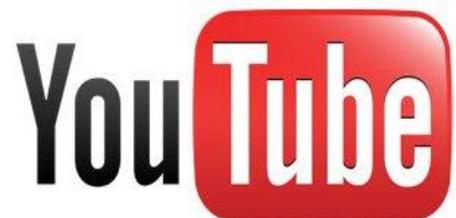
Issuance Information: Amateur Radio plates cannot be issued with system assigned, reserved, or personalized plate formats.

Renewal of plates can be done at your local Deputy Registrar or by mail using their renewal notice. **Amateur Radio License Holders must provide a copy of their current unexpired and unrevoked official amateur radio license issued by the Federal Communications Commission (FCC) at the time of any type renewal transaction.**

All plates will be mailed directly to the address on your registration card unless customer requests otherwise. The deputy will issue your registration card, stickers and provide you with a permit which will allow you to operate your vehicle while your plates are being manufactured. Special license plate applications are available at all Deputy Registrar license agency locations. These plates cost an additional \$10.00 annually plus the normal registration fees. The fee is determined by Ohio Revised Code section 4503.14.

PCARS is on YouTube

That's right - PCARS is on YouTube. So, what does that mean? Hey, we have a place to put all kinds of videos that are about PCARS for the world to see.

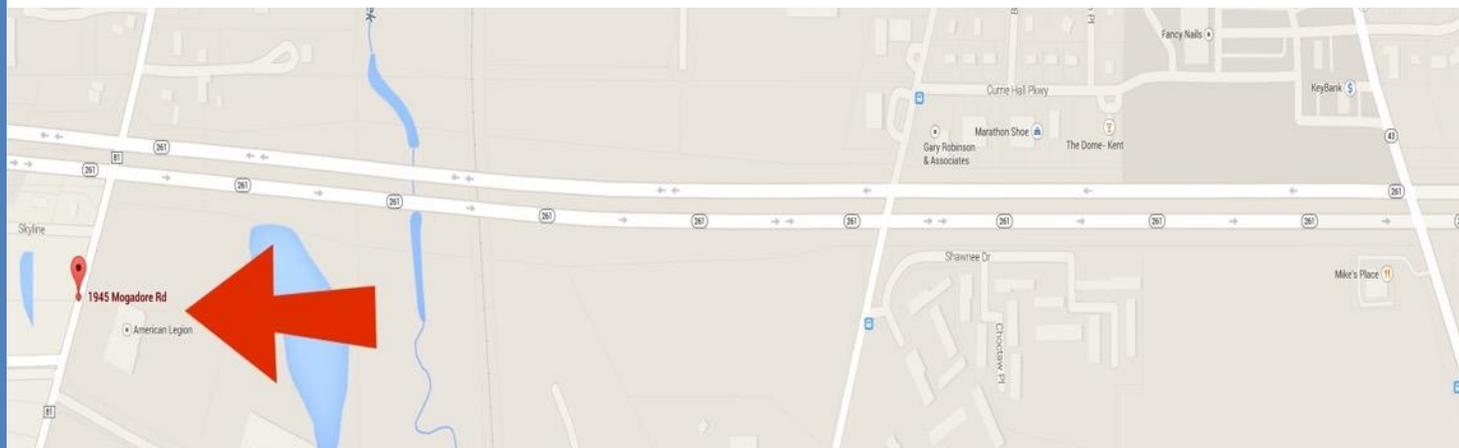


PCARS Meetings

The Portage County Amateur Radio Service (PCARS) in-person meetings are held the **2nd Monday** of each month and start at 7:00 pm.



*The meetings are held at The American Legion, Post 496
1945 Mogadore Road - in Kent. (Just South of Route 261)*



The American Legion Post 496 is located on the southeast corner of State Route 261 and Mogadore Rd. The driveway is on the south side of the building and as you enter you will pass through a parking lot on the south side of the building. Please do not park in this lot but instead continue on to the parking lot on the east side of the building which is near the rear entrance into the Post 'Canteen'. As you enter the post from this entrance you'll see a bar to the left and a dining area to the right. The meeting area we'll be in is on the right, to the rear of the dining area.



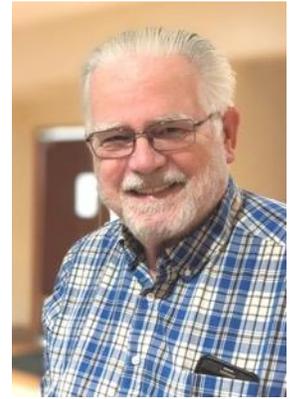
*The picture on the left shows
The American Legion Post 496
as viewed from Mogadore Road.
(looking East)*

The menu consists of your basic burger / dog / chicken sandwiches, wings, fries, onion rings, and salads. There is also an appetizer selection as well. Adult beverages are available and costs are in line with what you would expect at most bar-restaurant facilities.

If you are a member of the The American Legion, The American Legion Auxiliary, or the Sons of The American Legion, bring your ID card as you get a substantial discount on adult beverage pricing.

PCARS VE Testing Information & News

Tom, KB8UUZ
PCARS VE Team Liaison



Future Dates in 2024:
February 3rd, April 6th, June 1st, August 3rd, October 5th, December 7th
***** Check the website for the latest information *****

If you have any questions, don't hesitate to contact me at KB8UUZ@gmail.com On behalf of the VE team at PCARS, we all look forward to seeing you at the PCARS club site in Ravenna so you can take your license test. Face masks are not State/County mandated at this time, but you are always welcome to wear one.

PCARS VE sessions are scheduled for **10:00 am** on the first Saturday of every even numbered month at the PCARS club site in Ravenna.

QUICK FACTS

- **Yes**, PCARS VE test Sessions are held at the club site in Ravenna starting at 10 am - see schedule.
- **Walk-Ins are accepted.** Would appreciate an email to KB8UUZ@GMAIL.COM if you plan on attending.
- You **MUST** have an **FRN Number** (SSNs no longer accepted)
- You **MUST** have a **valid e-mail address** for the FCC to be able to contact you.
- **Picture ID required**
- **Original and Copy of your valid FCC license** and originals of any applicable CSCE
- **Taking Technician Test?** - You **MUST** apply for your **FRN** and get it prior to testing
- **VE fee is \$15** - Cash or Check payable to "ARRL-VEC"
- **FCC License Fee \$35** - payable after FCC sends you a link. **DOES NOT APPLY to upgrades**
- **17 years old or younger? VE Fee is \$5** per the ARRL reduced CE fee Youth Program
- **17 years old or younger? ARRL will reimburse you the \$35 FCC Fee**

Okay - now all the Details:

- If you are sick, have a cough, a high temperature or have been exposed to COVID-19 or someone that has been infected - please, *do not* come to the club site. *Use of masks is optional.*
- No food or snacks allowed.
- Ensure you have the following:
 - A picture ID such as a valid Driver's License, State ID, School ID, or US Passport.
 - If you are under 16 years of age, a parent or guardian must be able to vouch for you and you need a copy of your birth certificate (you do not have to give us a copy, we just have to see and verify).
 - **If you are upgrading to General or Extra - You MUST bring your original valid amateur radio license and a copy of your valid amateur radio license to turn in with your Form 605.**
 - Bring your own pencils and pens.
 - Calculators are okay to use (if you need one) as long as the memories are cleared.
 - NO cell Phones allowed

Any questions? Contact KB8UUZ@gmail.com



Additional Information - What to Bring to the Testing Session

- If you've already passed a test: The original (and one copy) of any document that you will use to prove you've already passed a test element.
These documents may include:
 - An unexpired Certificate of Successful Completion of Exam (CSCE) indicating the credit(s) earned.
 - Original and copy of a pre-March 21, 1987 Technician license (this provides credit for the Element 3 [General] exam) - you **must** be currently licensed to get this credit.

Expired License? **Original and a copy** of your expired Amateur Radio License - you must take and pass Element number 2 to re-instate your license.

ARE YOU GOING FOR YOUR TECHNICIAN LICENSE? READ THIS IMPORTANT INFORMATION

First-Time Exam Applicants **MUST Obtain FCC Registration Number BEFORE Taking Exam**

As of **May 20, 2021**, all amateur examination applicants are **required** to provide an FCC Registration Number (FRN) to the Volunteer Examiners (VEs) **BEFORE** taking an amateur exam. This is necessary due to changes the FCC has made to its licensing system. Applicants will create an FCC username and account, respond to the verification email from FCC, and then register for the FRN. Register on the FCC's Commission Registration System (CORES): <https://apps.fcc.gov/cores/>

Email Addresses **REQUIRED**

As of **June 29, 2021** all applications will be required to contain an email address for FCC correspondence. Applicants will receive an email direct from the FCC with a link to the official electronic copy of their license whenever a license is issued or changed. ARRL VEC suggests that those without access to email to use the email address of a family member or friend. Licensees will be able to log in to the ULS using their FRN and password to download the latest version of their license at any time. The FCC no longer provides paper license documents.



FCC - \$35 Amateur Application Fee

The Federal Communications Commission (FCC) staff has clarified in response to an ARRL request that the new \$35 application fee will **not apply** to most license modifications, including those to **upgrade an amateur radio licensee's operator class and changes to club station trustees**. The FCC staff explained that the new fees will apply only to applications for a new license, renewal, rule waiver, or a new vanity call sign. As previously announced, the new fees took effect on April 19, 2022.

VECs and Volunteer Examiner (VE) teams will not collect the \$35 fee at exam sessions. New applicants will pay the \$15 exam session fee to the ARRL VE team as usual and pay the \$35 application fee directly to the FCC by using the CORES FRN Registration system.

When the FCC receives the examination information from the VEC, it will email a link with payment instructions to each successful candidate. The candidate will have **10 calendar days**, from the date of the application file number being issued, to pay. After the fee is paid, and the FCC has processed an application, examinees will receive a second email from the FCC with a link to their official license. The link will be good for 30 days.

Additionally, the FCC stated that applications processed and dismissed will not be entitled to a refund. This includes vanity requests where the applicant does not receive the requested call sign. However, returned applications that are missing information will not require an additional fee, if the missing information is given to the FCC within the proper amount of time.

Youth Licensing Grant Program

The ARRL Youth Licensing Grant Program, in effect since April 19, 2022, will cover the one-time \$35 application fee for **new** amateur radio license candidates **17 years old or younger** for tests administered under the ARRL Volunteer Examiner Coordinator (VEC) program.

The \$35 Federal Communications Commission (FCC) application fee will be reimbursed after the ARRL VEC receives the completed reimbursement form and after the new license has been issued. The reimbursement check will be mailed to the fee payer. Also, candidates 17 years old or younger would pay a reduced exam session fee of \$5 to the ARRL VEC team at the time of the exam. The \$5 fee is for all candidates 17 years old or younger, regardless of the exam level taken. Proof of under 18 status is required.

Visit the ARRL website for the program instructions and reimbursement form at www.arrl.org/youth-licensing-grant-program.

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The Federal Communications Commission (FCC) retired the [Legacy version](#) of its **COMmission REgistration System (CORES)** on July 15, 2022. CORES is the FCC's public-facing database that enables and tracks certain types of FCC and FCC applicant actions, including amateur radio applications and licenses. Its implementation has enabled routine amateur applications and licenses to be issued overnight instead of over weeks, as was the case with earlier methods. The [updated version of CORES](#) is now available.

(<https://apps.fcc.gov/cores/userLogin.do>)

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INFORMATION ABOUT THE FCC APPLICATION FEE AND VEC FILED APPLICATIONS

The FCC application fee was implemented on April 19, 2022. Here's what we know so far...

1. MAKE SURE EXAMINEES UNDERSTAND THEY MUST PAY WITHIN 10 DAYS.

Examinees do NOT have to wait for the email from the FCC to pay the fee. As soon as an the application file number is issued by the FCC, they can pay by logging into the CORES Payer FRN System (easier to use but only temporarily available) or the CORES FRN Registration system (CORES - Login).

Application File Number search using an FRN: FCC Application File Number Search

CORES payment system background information and instructions: Information.

CORES step-by-step payment instructions: FCC Application Fee Instructions

2. The FCC help center stated there is a known issue with individuals paying the \$35 application fee via a smart phone or tablet. This is not a new issue and they haven't been able to help troubleshoot the issue at the support center. Encourage candidates to login and pay the FCC application fee from a computer.

3. Examinees should NOT amend any applications that a VEC submits on their behalf, especially NEW license applications.

Amending VEC filed applications will cause the application to be dismissed without action in the FCC system and potentially require the applicant to pay another \$35 fee. If there is a minor mistake on the application, either call us and we can correct and resubmit the application, or the individual can pay the fee, be issued the call sign, and then log back in and make corrections.

4. Individuals should review their application BEFORE paying the fee. If there is a major error on the application, such as the licensee's name or license class earned is incorrect, or the answer to the felony question is wrong, DO NOT PAY the fee. Call the VEC (ARRL) immediately.

5. When in doubt, call the VEC! (ARRL) Even if you think you shouldn't bother us with your question, call us anyway.

PCARS
ARRL Volunteer Examiners:
serving the Amateur Radio community
First Saturdays 10:00 am
at the club site in Ravenna
February, April, June, August,
October, December

Printing Your FCC License

Print an Official or Unofficial Copy of Your Amateur Radio License

Information provided by Anthony Luscre, K8ZT

As of February 17, 2015, the FCC **no longer routinely issues paper license documents** to Amateur Radio applicants and licensees. The Commission has maintained for some time now that the official Amateur Radio license authorization is the electronic record that exists in its Universal Licensing System (ULS). The FCC will continue to provide paper license documents to all licensees who notify the Commission that they prefer to receive one.

Licensees also will be able to print out an official authorization — as well as an unofficial “reference copy” — from the ULS License Manager.

I've created a set of instructions on how you can request an “official” printed copy of your license* [Click here to download the instructions](#)

Class	Issue Date	Expiry Date	Print Date	Expiration Date
None	01/01/2015	01/01/2018	01/01/2018	01/01/2018
File Number	Operator Privilege	Status	Print Date	
00000000	Advanced	PRIVATE		

THIS LICENSE IS NOT TRANSFERABLE

John Q. Amateur
(Licensee's Signature) FCC 001 - May 2017



Portage County Amateur Radio Service, Inc.



PCARS - K8BF

19th Annual

"Freeze Your Acorns Off" (FYAO) Special Event Station



*Where: Fred Fuller Park - 497 Middlebury Rd., Kent, Oh
at the Roy Smith Shelter House*

*When: Saturday - March 2, 2024
Set up: 9 am*



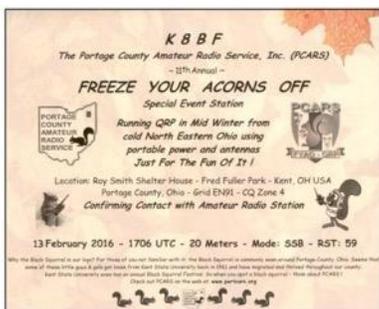
Operating Time: 10 am - 3 pm ET

We will be active on CW & Phone in the General areas of the 6, 10, 15, 20, 40 and 80 meter bands (Repeater & Echolink on the K8BF echo link node for a certificate) and anything else we can get working. Club Call Sign **K8BF** for a certificate. Other participating stations will be using their own callsign/FYAO, or calling "CQ FYAO" (only stations at the Freeze Your Acorns Off event should use the /FYAO designator). Yes, we'll be braving the cold weather of North Eastern Ohio to set up

QRP stations using portable power and antennas.

Uniform of the day: Aloha or Hawaiian Shirts

So, from the comfort of your warm radio shack - give us a contact while we're out freezing. We'll need all the contacts we can make to help keep us warm. Your support will be very much appreciated!



QSL for Card and Certificate via QRZ.com address for K8BF



Check PCARS out on the web at: www.portcars.org



Questions? Contact Chuck, W8PT at chuckw8pt@gmail.com



Thanks & 73

J.C., KC8JC
New PCARS Newsletter Editor



Greetings all! I'm J.C. KC8JC and I will be your new *Radiogram* Editor. For those who haven't met me just yet, I was licensed in 2017 as KC3JXQ in the Philadelphia area and joined PCARS in the same year. Having moved home to Kent in 2020 I find myself pursuing a lot of Parks On The Air using digital modes or CW (nice and slow, please!). I spend most of my operating time outdoors at parks or with my family when we're camping. My family is very active in Scouting and we're almost always on the move. But when I am sitting still, it's usually near a QRP rig.

I will start by saying that these are big shoes to fill. Parky has done a fantastic job serving PCARS as the Editor of the *Radiogram* since the very beginning. He has produced this Award Winning Newsletter month in and month out with the highest quality articles for the Portage County ham radio community and beyond. I'd be kidding you if I didn't admit that it's a little daunting. But if this issue is any indication, I'm in good hands with this crew.

This newsletter isn't much more than a club calendar without the inputs from our members. So if you take on an interesting project or try something new related to ham radio, send it in to me! If you're an expert in something, share that with the club! Send us pictures of your shack whether it's at a desk in a basement or at a picnic table in a park or in your vehicle. It is a well-known fact that ham radio experiences are always better when they're shared. Don't be shy. Write up a little bit about what you're doing on the air or at your workbench and take a few pictures. Send them my way at KC8JC@portcars.org and you will find yourself in the great company of our many and varied newsletter contributors.

To that end, I'd like to thank all those who sent their inputs in early for this month's issue:

AB8YK, AC8QG, AC8NT, K8CAV, KA8TOA, KB8UUZ, KC8JC, KE8ARB, KD8WCK, KP4VZ, N8QE, W8NET, W8PT, WA8LRW, WB2MGP, WB2RPW, WG8X, WX4QZ, and the World Wide Web.

As Parky always says, With *YOUR* continued help, *WE* can keep making this a *GREAT* newsletter!



The Portage County Amateur Radio Service, Inc. (PCARS) - Ohio

~ The Hamvention® 2018 "Club of the Year" ~



PCARS meets the second Monday of each month at the **Kent American Legion Post 496**, 1945 Mogadore Rd. - just South of Rt. 261 - Enter the rear of the building for the meeting room.

Meeting starts at 7:00 pm - All are welcome to attend ~ Stop in and say hello!

PCARS uses the **K8IV** repeater: **146.895 MHz PL 118.8** in Sugar Bush Knolls ~ EchoLink Node: **K8BF-L**

Check PCARS out on the web: www.PORTCARS.ORG -or- www.K8BF.ORG



~ 2024 Officers ~	2023 PCARS Appointments & Committees		
President – Mike Gonzales – KP4VZ Vice President – Ken Hall – WA8LRW Treasurer - Greg Ash - KA8TOA 1 Year Trustee – Chuck Patellis – W8PT 2 Year Trustee Mike Ryan – KB8TUY 3 Year Trustee – Gene Marsh – W8NET Past President – Nick Wagner – AC8QG	ARRL Awards - DXCC	W8KNO	Joe Wehner
	Club Site Manager/Liaison	K8CAV	Rick Krus
	Contest Coordinator	W8PT	Chuck Patellis
	EchoLink	AC8NT	Jim Wilson
	Field Day Chairman, 2023	WA8AR	Tony Romito
	FYAO Chairman	W8PT	Chuck Patellis
	K8BF Callsign Trustee	N8QE	Bob Hajdak
	K8BF QSL Manager	N8QE	Bob Hajdak
	Membership Chairman		
	Net Control Coordinator	KA8TOA	Greg Ash
	Newsletter Editor	KC8JC	J.C. Wilson
	OSPOTA Chairman	KB8UUZ	Tom Parkinson
	PCARS Photographer		
	Public Information Officer		
	~ Meetings & Net ~	Secretary	KE8EGF
2nd Monday of each month, 7pm Thursday night Club Net at 8 pm on 146.895	Social Media	N8WCP	Mike Szabo
	Tech, Gen & Extra Class Mgr.	AC8NT	Jim Wilson
	Volunteer Examiner Liaison	KB8UUZ	Tom Parkinson
	Webmaster	KP4VZ	Mike Gonzalez
	POTA Coordinator	KE8ARB	Brandon Mercer

 Active PCARS Volunteer Examiner Team Members	KB8UUZ	Tom Parkinson
	AC8NT	Jim Wilson
	AC8QG	Nick Wagner
	N8QE	Bob Hajdak
	KA8TOA	Greg Ash
	WA8CCU	Al Nagy
	N8FUM	Dan Torchia
	KC8JC	James "J.C." Wilson
	W8EC	Mark Haas
	K8IG	Fred Freer
	W8HFZ	Tim McLeod
	K8PJW	Phil Weiss
N8XTH	Deron Boring	
K8IV	Ed Polack	
N8AMY	Amy Leggiero	
W8PT	Chuck Patellis	
KP4VZ	Mike Gonzalez	

THE RADIOGRAM

PCARS Incorporated
Nov. 1, 2005

First Meeting
Nov. 14, 2005



ARRL Affiliation
April 20, 2006



Special Service Club
March 22, 2010

The RADIOGRAM copyright ©2024, is the official newsletter of the Portage County Amateur Radio Service, Inc. (PCARS) - Hamvention® 2018 Club Of The Year. The RADIOGRAM is an Award Winning newsletter: ARRL Ohio Section Newsletter - Third Place 2015, 2022 - Second Place 2014, 2016, 2020 - First Place 2012, 2013, 2017, 2018, 2019, 2021, 2023. ARRL Great Lakes Division Newsletter - Second Place 2013 - First Place in the 2017, 2020 and 2021.

Articles are the opinion of the authors and not necessarily those of PCARS. Or, better yet, let me express it this way: "These are my opinions and only my opinions, unless you share them as well, which would make them our opinions, but I am not of the opinion that I can express your opinion as my opinion without your prior expression of said opinion, and then my re-utterance of that opinion would, in my opinion, be foolish unless I were expressing agreement to your opinion, and then it wouldn't be my opinion but your opinion to which I only agree." **GO AHEAD - STEAL THIS NEWSLETTER!** You have our permission to post, e-mail, copy, print, or reproduce this newsletter as many times as you like, but please do not modify what you use. If you use material in this newsletter, all we ask is that you give credit to PCARS along with the author of the article. Caution - some of the articles in this newsletter maybe covered by copyright - please do not copy and use the ones that have by-line information unless you obtain permission from the original author. If you're not sure, drop an e-mail to KC8JC@portcars.org. The RADIOGRAM always obtains written permission for reproducing copyright material. The RADIOGRAM comes out the first day of each month (usually), please have inp uts submitted by 8 pm ET on the last Friday of each month. ARES® (Amateur Radio Emergency Service®) is a program of, and both logos are registered trademarks (used with permission) of the American Radio Relay League, Inc. ARRL, the National Association for Amateur Radio™. Why the Black Squirrel in our logo? For those of you not familiar with it: The Black Squirrel is commonly seen around Portage County, Ohio. Seems that some of these little guys and gals got loose from Kent State University back in 1961. They have migrated and thrived throughout our county. Kent State University even has an annual Black Squirrel Festival. So when you spot a black squirrel – think PCARS!

The RADIOGRAM is published every month and only sent to subscribers. If you would prefer not to receive this newsletter, we understand. We'll try not to take it personally. It's not you saying you don't like us, but maybe you just don't have the time to look at all this hard work we've done just for you. Hey, that's cool. But if your heart is truly set on making sure you no longer receive this newsletter, even though we promise to one day reveal the meaning of life in it and you're going to be really upset when you miss out on that, we can take you off the e-mail list. Send your newsletter inputs (in .TXT format) along with in-focus pictures (not small 50 kb photos) to the newsletter editor: KC8JC@portcars.org

By attending PCARS in-person activities, you are acknowledging that an inherent risk of exposure to COVID-19 exists in any public place where people are present. By attending PCARS in-person activities, you voluntarily assume all risks related to exposure to COVID-19 and covenant not to sue and agree not to hold the Portage County Amateur Radio Service (PCARS) or any of their directors, officers, contractors, vendors or volunteers liable for any illness or injury. While PCARS implements preventative measures to reduce the spread of COVID-19 in accordance with Federal, State and Local guidelines, we cannot guarantee that attendees will not become infected with COVID-19 as a result of attendance.

Portage County Amateur Radio Service (PCARS)
705 Oakwood Street - Box 12
Ravenna, OH 44266 USA



NLC

